Lake Champlain Bridge Replacement: One of the 25 Projects of the Year (page 76)

Also Inside:
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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.

TRANSPORTATION & PROJECTS OF THE YEAR

INSIDE APWA
2 President's Message
10 Candidates for the APWA Board of Directors named
14 Technical Committee News
16 Snow Conference focuses on emergencies
18 National Public Works Week 2013 honors public works professionals’ contributions to quality of life
21 Get the Inside Track: Become your APWA Chapter’s Transportation Liaison
22 Close the door on what you think you know about leadership
26 Chicago on the cheap: an opportunity for a Kodak Moment
28 Sneak peak at Chicago’s Congress transportation sessions
30 APWA’s Donald C. Stone Center: It’s all about you!
31 Recognize Your Leaders
32 Honey Hill Road Improvement and Beautification Program, Charleston County, South Carolina
36 Shhh….Listen
76 APWA announces the 2013 Public Works Projects of the Year

FEATURES
48 A traffic safety focus for local agencies
51 Superstorm Sandy NYC MTA Bridges and Tunnels’ road to recovery
54 Transportation challenges demand a fundamental cultural shift
56 The Transportation and Development Institute’s Sustainability Mission
58 2013 transportation safety activities at the Transportation Research Board Annual Meeting and the latest in transportation safety news
60 Alternative intersection design delivers
64 Partnering for success: an improved approach to Florida’s Local Agency Program
66 Safety data and analysis capability: steps to the future
68 High friction surface treatments: a cost-effective strategy that saves lives
71 Green Streets and Porous Pavement: Lessons for sustainability, savings, and success
74 Every Day Counts: FHWA’s initiative to shorten project delivery

MARKETPLACE
104 Products in the News
110 Professional Directory

CALENDARS
5 Education Calendar
112 World of Public Works
112 Index of Advertisers
n July 6, 2012, President Obama signed into law MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141). Funding surface transportation programs at essentially fiscal year (FY) 2012 levels for FY13 and FY14, the law also extends current federal motor fuel taxes through FY16 and ensures two years of solvency for the Highway Trust Fund.

MAP-21, the first highway authorization enacted since 2005, spans only two years and expands the National Highway System (NHS) to incorporate principal arterials not previously included. It includes reforms and consolidates or eliminates about 60 current programs, shifting funding to reflect changes in priorities within the legislation. Performance management is a cornerstone in the law. It provides more efficient management is a cornerstone in the law. It provides more efficient

- Doubles the funding for the Highway Safety Improvement Program, a core federal-aid program requiring a data-driven, strategic approach to improving highway safety on all public roads.
- Restructures core highway formula programs.
- Creates a new program called the Transportation Alternatives

that encompasses most activities funded under the Transportation Enhancements, Recreational Trails, and Safe Routes to School programs under SAFETEA-LU (see table on page 3).
- Enhances innovative financing.
- Encourages private sector investment through a substantial increase in funding for the TIFIA program (Transportation Infrastructure Finance and Innovation Act), which provides federal credit assistance to finance surface transportation projects of national and regional significance.

Through the efforts of the APWA Transportation Committee and Transportation Reauthorization Task Force a number of streamlining provisions were adopted in MAP-21, including a host of changes aimed at ensuring the timely delivery of transportation projects. The changes will improve innovation and efficiency from the development of projects, through the planning and environmental review process, to project delivery. APWA’s advocacy concerning categorical exclusions was pivotal in expanding those currently allowed. MAP-21 extends their usage to a variety of other types of projects, including projects within existing operational right-of-way, and projects receiving limited federal assistance.

The U.S. Department of Transportation will have to undertake many rulemakings to implement MAP-21’s provisions. APWA has already provided comment on a number of provisions and will be

Elizabeth Treadway, PWLF
APWA President
alerting members for opportunities to comment and participate in the future.

The Transportation Reauthorization Task Force has been hard at work on behalf of APWA members since its inception in 2007, two years before MAP-21’s predecessor expired, to get a head start researching and planning recommendations for a new transportation bill. Little did the Task Force members know that they had signed up for a six-year-plus tour of duty! The Task Force’s chief goal for the authorization bill was to ensure increased transportation revenues to keep the Highway Trust Fund solvent. They are in the process of updating APWA’s Reauthorization Position Paper to address MAP-21’s replacement, but their main goal remains the same—to adopt a sustainable funding program for the nation’s transportation system.

Apart from the reauthorization process, APWA has also been engaged in a number of efforts focused on reducing the red tape involved in the delivery of federally-funded transportation projects, in order to save money and make limited project dollars go further. APWA has partnered with the Federal...
Highway Administration (FHWA) on its initiative to deploy innovation aimed at reducing the time it takes to deliver highway projects, Every Day Counts (EDC), an effort that holds promise for improving the delivery process within existing federal laws and regulations. The APWA Transportation Committee has formed a new Project Delivery Streamlining Subcommittee with the goals of continuing to work with FHWA on EDC II, FHWA’s second round of EDC. It also works with FHWA on other opportunities to streamline transportation project delivery through better information for local and state governments on the Local Project Administration (LPA) process, including:

- Getting the word out about FHWA’s new Federal-Aid Essentials for Local Public Agencies, a central online library of informational videos and resources designed specifically for local public agencies.
- Working with the transportation Reauthorization Task Force on review of proposed rules affecting project streamlining and implementation of MAP-21.
- Working with FHWA on interpretation of current rules affecting project streamlining.

If you have not seen FHWA’s Federal-Aid Essentials for Local Public Agencies website, visit http://www.fhwa.dot.gov/federal-aidessentials/. You are in for a surprise. It was launched last August at the 2012 APWA Congress. I am excited that this training and information will prove to be a great asset for our members in delivery of federal aid projects by local governments.

If you are one of the many APWA members whose interest and focus is on transportation, consider participating in APWA at the national level. Opportunities for participation are possible on the Reauthorization Task Force, Transportation Committee, four transportation subcommittees, and our Transportation Liaisons program, a network coordinating communication on transportation issues between the Transportation Committee and APWA chapters. For more information about these and other opportunities, visit the APWA Transportation Committee web page, http://www.apwa.net/technical_committees/Transportation-Committee.
For more information about these programs or to register online, visit [www.apwa.net/Education](http://www.apwa.net/Education). Program information will be updated as it becomes available. Questions? Call the Professional Development Department at **1-800-848-APWA**.

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signed into law a year ago, MAP-21, the two-year, $105 billion federal surface transportation law, made a number of significant changes to programs and priorities of its predecessor, SAFETEA-LU. It created a performance-based, streamlined, multimodal transportation program. It also established policies to improve freight movement, created enhanced innovative financing options, consolidated or eliminated about two-thirds of federal highway programs and streamlined project delivery.

For many project owners and managers at the local level, MAP-21’s provisions to expedite project delivery represent an important step toward reducing unnecessary barriers to delivering projects more efficiently and helping limited project dollars go further, while preserving environmental and other necessary protections. MAP-21 aims to accelerate the project delivery process in several ways. It establishes expanded categorical exclusions, integration of planning and environmental review process, concurrent reviews by federal agencies, deadlines for lead agency decisions and a dispute resolution process among agencies.

The U.S. Department of Transportation (USDOT) has been in the process of implementing these provisions since the law went into effect last year, including those relating to categorical exclusions. Categorical exclusions (CE) refer to actions which do not involve significant environmental impacts and do not require an environmental assessment or an environmental impact statement. Current examples include activities that do not involve or lead directly to construction, such as planning and research activities, or construction of bicycle and pedestrian lanes. For more on the Federal Highway Administration’s categorical exclusions, see 23 CFR 771.117.

One of the first actions USDOT took concerning MAP-21’s categorical exclusion requirements was in February 2013 when it issued a final rule implementing section 1315, which designates the repair of roads and bridges damaged by a disaster as a categorical exclusion. The categorical exclusion applies to the repair or replacement of a road, bridge, tunnel, transit facility or pedestrian and bicycle paths and bike lanes in operation or under construction when damaged. In addition, the repair needs to occur within the existing right-of-way and in a manner that substantially conforms to the original preexisting design, function and location, which may include upgrades to meet existing codes and standards as well as upgrades warranted to address conditions that have changed since the original construction. To be eligible, the repair or reconstruction has to have begun within two years from the date of the declaration. The rule maintains the existing categorical exclusion for emergency repairs.

Another focus of implementation has been on collecting information on categorical exclusions and to establish new ones. Section 1318 of MAP-21 requires USDOT to survey the use of categorical exclusions in transportation projects since 2005 and publish a review of the survey. In addition, it requires the department to solicit requests for new categorical exclusions and issue a rulemaking proposing new categorical exclusions received by the department, to the extent they meet the criteria for a categorical exclusion.

USDOT conducted the survey and published the results in late 2012. More than 500 individuals responded, with local public agencies representing the largest group. The report is posted online at http://www.fhwa.dot.gov/map21/reports/sec1318report.cfm. FHWA is reviewing the survey information and had not published a rulemaking to propose new categorical exclusions when this article had gone to press.

MAP-21 requires USDOT to move three so-called “d-listed” categorical exclusions to the “c-list.” They are (1) highway modernization,
which is resurfacing, restoration, rehabilitation, reconstruction, adding shoulders or auxiliary lanes (parking, weaving, turning and climbing); (2) highway safety or traffic operations improvement projects, including installation of ramp metering devices and lighting; and (3) bridge rehabilitation, reconstruction or replacement or grade separation for existing railroad crossings. C-list actions normally do not require NEPA documentation or FHWA approval. D-list actions may qualify as categorical exclusions if appropriately analyzed, documented and approved. USDOT has not yet issued the proposed rulemaking.

Two other sections call for additional categorical exclusions. Section 1316 requires USDOT to publish a notice of proposed rulemaking to designate projects within an existing operational right-of-way as a categorical exclusion. MAP-21 defines operational right-of-way as “all property interests acquired for the construction, operation or mitigation of a project (as defined in section 101(a) of title 23, United States Code), including the locations of roadway, bridges, interchanges, culverts, drainage, clear zone, traffic control signage, landscaping and any rest areas with direct access to a controlled access highway.”

FHWA published a notice of proposed rulemaking in February. In it, FHWA proposed that the operational right-of-way “includes those portions of the right-of-way that have been disturbed for an existing transportation facility or are regularly maintained for transportation purposes. This area includes the features associated with the physical footprint of the transportation facility (including the roadway, bridges, interchanges, culverts, drainage, fixed guideways, substations, etc.) and other areas regularly maintained for transportation purposes such as clear zone, traffic control signage, landscaping, any rest areas with direct access to a controlled access highway, or park and ride lots with direct access to an existing transit facility. It does not include portions of the existing right-of-way that are not currently being used or not regularly maintained for transportation purposes.”

The second of the two MAP-21 sections providing for additional categorical exclusions, section 1317, requires USDOT to publish a notice of proposed rulemaking to designate as a categorical exclusion projects with limited federal financial assistance, any project “that receives less than $5 million of Federal funds or with a total estimated cost of not more than $30 million and Federal funds comprising less than 15 percent of the total estimated project cost.” The rulemaking proposes the following: “Federally funded projects that do not require Administration actions other than funding, and that receive less than $5 million of Federal funds; or with a total estimated cost on not more than $30 million and Federal funds comprising less than 15 percent of the total estimated project cost.”

USDOT published the notice of proposed rulemaking for both the section 1316 and 1317 provisions with a comment period that closed at the end of April. A final rule had not been published when this article went to press.

At least one categorical exclusion provision concerning multimodal projects does not require a rulemaking. Section 1314 created a process that for multimodal projects allows, under certain conditions, a USDOT modal administration to be a “lead authority” and to apply categorical exclusions designated under the implementing procedures of a cooperating modal administration, subject to certain conditions.

MAP-21 expires at the end of September 2014. Many of MAP-21’s changes, including measures to accelerate project delivery through expanded categorical exclusions and other reforms, will have been implemented only a short time when Congress begins considering new legislation early next year.

Jim Fahey can be reached at (202) 218-6730 or jfahey@apwa.net.
How will changes to the Stafford Act impact emergency management?

Laura M. Berkey-Ames
Government Affairs Manager
American Public Works Association
Washington, D.C.

Following the mass devastation caused by Superstorm Sandy in October 2012, President Obama signed into law the “Disaster Relief Appropriations Act of 2013” (HR 152) on January 29, 2013. The law allocates $50.5 billion in supplemental appropriations to federal disaster assistance programs and strengthens the Robert T. Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-288 as amended) to help states and local governments expedite the recovery process from Superstorm Sandy and other future disasters.

Specifically, the Act aims to streamline environmental review procedures, allow greater flexibility to reduce rebuilding time and lower costs, reduce debris removal costs, provide flexibility for less expensive housing options, improve dispute resolutions to avoid cost overruns, reform individual assistance factors, ensure that tribal communities can direct requests for assistance to the president following a disaster declaration, and directs the Federal Emergency Management Agency (FEMA) to submit recommendations to Congress for reducing the cost of future disasters.

Public works professionals are at the forefront of emergencies—from mitigation and preparedness activities, to response and recovery operations. Accordingly, the specialized capabilities of public works professionals are directly impacted by various Stafford Act provisions. As FEMA takes steps to implement changes to the Stafford Act, these changes will impact emergency management.

Hazard Mitigation
The Disaster Relief Appropriations Act amends the Stafford Act to streamline its hazard mitigation procedures, expediting the allocation of Hazard Mitigation Grant Program (HMGP) funds. FEMA will now be able to provide up to 25 percent of the estimated costs for eligible hazard mitigation measures to a state grantee before eligible costs are incurred.

As communities recover from presidentially-declared disasters, the HMGP provides grants to states and local governments to implement long-term hazard mitigation measures which help communities recover as quickly as possible. The HMGP assists public works personnel in their ability to retrofit infrastructure and facilities.
to minimize damage caused by high winds, earthquakes, floods, wildfires or other natural hazards. It also helps with post-disaster building code-related activities during the reconstruction process and with implementing flood control projects.

**Permanent Work Alternative Procedures and Debris Removal Work Alternative Procedures**

Permanent work grants and debris removal grants, at the option of local applicants, may now be based on fixed estimates, with applicants accepting responsibility for any actual costs above the estimate. While this has the potential to significantly accelerate the distribution of grant funds and reduce administrative costs, it may add some risks for local governments if estimates are incorrect or projects are not carefully managed. Moreover, applicants will be able to retain income from debris recycling without an offset from their grant. Any income retained from recycling debris can be used to improve future debris removal operations. By using a sliding scale for applicants’ debris removal cost share, communities will have the incentive to remove debris in a more expeditious and cost-effective manner.

The Stafford Act as amended now permits the reimbursement of regular time and overtime salaries for applicants’ employees performing debris removal work. Previously, only overtime salaries were reimbursable. In January, APWA submitted formal comments to FEMA supporting the change, stating that this will help state and local governments expedite the disaster recovery process. However, APWA recommended that FEMA provide more flexibility by allowing waivers and extensions to the 30-day debris removal limitation, as debris removal activities for widespread disasters can often take four to six months.

**Tribal Requests for a Major Disaster or Emergency Declaration**

Chief Executives of federally recognized Indian tribes now have the option to request that the President declare the Tribal territory a federal disaster area or state of emergency. However, Tribes can still choose to receive assistance under the state’s declaration rather than apply directly to the President for assistance. This revision of the Stafford Act ensures that Indian Tribes retain their sovereignty and entitle them to the same level of assistance that is provided to a state. The change in declaration policy is intended to strengthen intergovernmental relationships between federal, state, local and tribal governments and improve the way FEMA supports tribal governments before, during and after a disaster.

For further information on changes to the Stafford Act, FEMA, the Congressional Research Service and the Library of Congress have resources to assist you. To read the Sandy Recovery Fact Sheet provided by FEMA’s Online Library, go to http://www.fema.gov/library/viewRecord.do?id=6983. For access to the Congressional Research Service’s analysis of the Sandy Recovery Improvement Act, please visit https://www.fas.org/sgp/crs/misc/R42991.pdf. To read the full text of the “Disaster Relief Appropriations Act of 2013” (P.L. 113-2), go to the Library of Congress’ website at http://www.gpo.gov/fdsys/pkg/PLAW-113publ2/pdf/PLAW-113publ2.pdf.

Laura Berkey-Ames is the Government Affairs Manager and the legislative liaison to the Emergency Management Technical Committee. She can be reached at (202) 218-6734 or lberkey@apwa.net.

Following the devastating tornado of May 20 in Moore, Oklahoma, public works professionals from the Cities of Edmond and Norman worked the following weekend to make street signs for the City of Moore, and began on May 28 to install the signs in the affected areas. Pictured is the Edmond crew working to install signs. “They are receiving encouragement from the local residents because of these actions and we feel it will enable residents, responders, insurance, and deliveries find those in need much more timely,” said Craig Wallace, APWA Oklahoma Chapter President.
Candidates for the APWA Board of Directors named

Seven nominees are on the ballot for election to the APWA Board of Directors in 2013. Two candidates selected by the National Nominating Committee include Larry Stevens, P.E., PWLF, Project Director, HR Green, Inc., Johnson, Iowa, for President-Elect, and Brian R. Usher, PWLF, Director of Public Works, City of Largo, Fla., 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 Region I Director; Harry Weed, II, PWLF, Superintendent of Public Works, Village of Rockville Center, N.Y., for Region II Director; Linda Petelka, B.Sc., PWLF, Independent Consultant, Burlington, ON, for Region V Director; Chuck Williams, PWLF, Municipal Services Director, City of Lenexa, Kans., for Region VI Director; and Ronald J. Calkins, P.E., PWLF, Director of Public Works (retired), City of Ventura, Calif., for Region VIII Director.

The 11-member National Nominating Committee includes two recent APWA Past Presidents and one representative of each of APWA’s nine regions as recommended by the Regional Directors and appointed by the APWA National President. The 2013 committee was comprised of the chair, Past President Larry T. Koehle, P.Eng, PWLF, President, L&N Koehle Consulting Services, Brampton, Ontario.; Past President Diane M. Linderman, P.E., PWLF, Director, Urban Infrastructure & Development, Vanasse Hangen Brustlin, Inc., Richmond, Va.; Eric J. Labelle, P.E., PWLF, Assistant Public Services Director, City of Portland, Maine; David L. O’Brien, retired, Garden City, N.Y.; Mae Bryant, Construction Supervisor, City of Charlotte, N.C.; David D. Griscom, PWLF, retired, DRMP, Inc., Flowery Branch, Ga.; Paul Smeltzer, Principal Consultant, AMEC Environment & Infrastructure, Burlington, ON; Patricia Hilderbrand, MPA, P.E., Division Manager – Coordination Services, City of Kansas City, Missouri; Paul A. Ryckbost, AICP, Privatization Consultant, CH Guernsey, Oklahoma City, Okla.; Robert E. Beamer, PWLF, Senior Project Manager, Calleguas Municipal Water District, Thousand Oaks, Calif.; and Mark A. Schoening, City Engineer, City of Eugene, Ore.

Larry Stevens, P.E., PWLF
President-Elect
Since 1976, Larry Stevens has served in numerous leadership roles, including Assistant City Engineer, City of Grinnell, Iowa; City Engineer, City of Oskaloosa, Iowa; and City Engineer/Public Works Director at Oskaloosa. After serving as the Director of the Iowa Statewide Urban Design and Specifications (SUDAS) Program at the Institute for Transportation at Iowa State University, Stevens joined HR Green, Inc., Johnston, Iowa, as a Senior Project Manager in 2010. He now serves HR Green, Inc., as a Project Director.

Stevens was elected to the APWA Board of Directors in 2007 as the Region VI Director. He currently chairs the APWA Finance Committee, serves as the APWA Board liaison to the Canadian Public Works Association (CPWA) Board of Directors, and is a former APWA Board liaison to the Small Cities/Rural Communities Committee. He was appointed in 2011 by APWA (as a founding member) to the Board of Directors of the Institute for Sustainable Infrastructure. Stevens has served in all of the Iowa Chapter officer positions, including eight years as the Chapter Delegate, and has also been a member of the National Nominating Committee (2005) and the Strategic Planning Task Force (2005). He is a past Chapter President of the Iowa Engineering Society and is a member of the National Society of Professional Engineers.

Brian R. Usher, PWLF
Director-at-Large
Fleet and Facilities Management

As Director of Public Works for the City of Largo, Fla., Brian R. Usher is responsible for the management of the five operating divisions within the Department.
of Public Works: Street & Drainage Maintenance, Facilities Management, Solid Waste, Fleet Management, and Administration. Together these activities account for services on more than 250 miles of street, over 40 public structures, and over 500 City-owned vehicles (including police and fire apparatus). Additionally, the Public Works Department is responsible for the repair and maintenance of 34 facilities with a total area just over 500,000 square feet. Usher has been actively involved in fleet management since 1980, with responsibilities for specification writing, fleet management system development and implementation, and fuel system upgrades for environmental compliance.

Usher has been an active 30-year member of APWA, serving in numerous leadership roles both locally and nationally. He served in all five officer positions with the Chicago Metro Chapter, served as the chapter’s Membership Chair and Education Chair for two years, and served on the APWA Congress Host Committee for the 1994 Chicago Congress. He served on the national Emergency Management Committee for six years (2002-08) and chaired the committee in 2003-04. He also chaired APWA’s Homeland Security Task Force (2002-03) and the Engineering and Technology Committee (2010-11). He is currently serving as a member of APWA’s Finance Committee. Usher was named one of APWA’s Top Ten Public Works Leaders of the Year in 2005.

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
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. Weed was recently selected by New York Governor Cuomo to be the public works representative on the Governor’s response committee for Superstorm Sandy.

Linda Petelka, B.Sc., PWLF Director, Region V
Linda Petelka is currently serving as an Independent Consultant in Burlington, Ontario. Petelka previously worked for the Regional Municipality of Peel, Ontario, as well as for the Regional Municipality of Halton, Ontario, where she played an influential role in guiding the Region through a period of unprecedented industry-wide change and rapid growth. Petelka played a critical role in transforming
the Canadian National Water and Wastewater Benchmarking Initiative partnership into the Canadian standard for water and wastewater best practice development. Petelka served as the Peel leader for the tri-party Public Works Process Benchmarking initiative with the City of Calgary, Abu Dhabi and the Region of Peel.

Petelka was a member of the CPWA Board of Directors in 2009 and 2010. She has been a member of the Ontario Chapter’s Board of Directors since 2000, serving as Chapter President in 2008. She is a past chair of the Membership Committee and Hospitality Committee, and currently serves on the Special Functions Committee. She was on the Advisory Board for CPWA’s partnership to produce the first Canadian Infrastructure Report Card in 2012. Petelka organized the chapter’s response to the St. Bernard Parish volunteer effort for the New Orleans Congress (2008) in support of APWA’s initiative, where her chapter had the most volunteers. She was named one of APWA’s Top Ten Public Works Leaders of the Year in 2009 and was the recipient of APWA’s Community Involvement Award in 2010.

Chuck Williams, PWLF Director, Region VI
Chuck Williams was appointed in January 2010 as the Municipal Services Director for the City of Lenexa, Kansas. 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 is serving as the Chapter Delegate. 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.

Ronald J. Calkins, P.E., PWLF Director, Region VIII
Ronald J. Calkins served as the Director of Public Works for the City of Ventura, Calif., for 17 years, retiring in 2010. 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 is a former member of APWA’s State and Local Advocacy Task Force, and is a former Chapter Delegate for the Ventura County Chapter. He cofounded 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.

Your Vote in APWA Does Count
As an APWA member, you will have the opportunity to vote for members of the APWA Board of Directors between July 5 and August 5, 2013:

• APWA President-Elect;
• At-Large Director in the functional area of Fleet & Facilities Management; and
• Regions I, II, V, VI and VIII Regional Directors (by APWA members in those respective regions)

The ballot will be available for online voting between July 5 and August 5, 2013 on the “Members Only” section of the APWA website. There will also be a voting icon on the home page of our website. If you are not able to vote online, you may request a paper ballot from Cindy Long at (816) 595-5220. Additional reminders of the voting process will be sent through the infoNOW Communities and via e-mail to every member for whom we have an e-mail address.

If you have questions, please contact Cindy Long at clong@apwa.net or (816) 595-5220.
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Focus on transportation

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

The 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.

This year at Congress, the Transportation Committee will be sponsoring or supporting five different sessions: “Features, Advantages & Benefits of High Friction Surface Treatments”; “Local & Rural Road Safety Tools”; “Green Streets and Porous Pavement: Lessons for Sustainability, Savings, and Success”; “MAP 21 – In the Rear View Mirror and the Road Ahead”; and “Common (and Costly) Problems in Delivery of Federal-Aid Local Transportation Projects... And, How to Prevent Them.” For an informative look at the sessions be sure to read “Sneak Peak at Chicago’s Congress Transportation Sessions” by Gary D. Strack, P.E., Transportation Committee Member, in this issue.

This year the Transportation Committee focused on eight goals:

- Streamline Federally-Funded Project Delivery
- Improve Transportation Safety
- Promote Sustainable Transportation
- Support Winter Maintenance Activities
- Coordinate Transportation and Emergency Response Procedures
- Improve Member Communications
- Promote Every Day Counts
- 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 – The 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, winter maintenance 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. The duties and opportunities for chapter liaisons are outlined in the article “Get the Inside Track: Become Your APWA Chapter’s Transportation Liaison” in this edition of the Reporter.

Members of APWA’s Transportation Committee are as follows:
New stormwater rulemaking for transportation agencies

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American Public Works Association
Kansas City, Missouri

When it comes to how new stormwater regulations from the Environmental Protection Agency might affect transportation authorities, it can feel a little like shaking the Magic 8 Ball.

Will there be retention standards? Signs point to yes.

Will there be new permit requirements for transportation agencies? Concentrate and ask again.

At APWA’s 2013 Congress in Chicago this August, you won’t have to rely on a novelty toy to get the answers you seek. The Stormwater Summit, reconfigured for 2013 into a two-day track on Monday and Tuesday, will focus on the rulemaking and potential impacts for public works agencies. Representatives from the Environmental Protection Agency (EPA), the National Association of Clean Water Agencies (NACWA), National Association of Counties (NACo), and American Rivers will participate in a panel discussion on the draft rule on Monday while approaches to compliance along with a series of case studies from public works practitioners take center stage on Tuesday.

The Environmental Protection Agency is scheduled to release new stormwater regulations by June 10, 2013, with a final action by December 10, 2014. Proposed rules include exploring options for establishing specific requirements for transportation facilities. EPA may seek to bring transportation facilities under the post-construction requirements for municipal separate storm sewer systems (MS4s). It’s unclear whether the requirements would potentially apply to new road construction or other kinds of transportation infrastructure.

EPA officials have previously commented that a separate planning or permitting process for highways is also under consideration.

Whether you’re concerned about the cost of compliance, approaches to total maximum daily loads (TMDLs) or how watershed-based permitting might affect your transportation agency, you’ll find tools and resources at the Stormwater Summit. The Summit is hosted by APWA’s national Water Resources Management Committee and features expertise from across the country to help your agency navigate the new stormwater rules. This is news you can use at your agency, your state house or in the public comment period for the rule. You don’t want to miss it!

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Snow Conference focuses on emergencies

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Continuing Education Project Manager
American Public Works Association
Kansas City, Missouri

lowering trees, warm sunshine and blooming pansies greeted APWA’s snowfighters providing a reprieve (albeit brief) from this year’s memories of ice and snow and blowing wind. The beautiful weather did not damper the attendees’ passion for fighting snow and ice.

This year’s North American Snow Conference in Charlotte, N.C., celebrated the role of public works as first responders and focused on the profession’s role in incident management.

“I think the unsung heroes in emergency response are the department of public works. They are not typically viewed as first responders but their role is absolutely integral to the survival of a city in the event of a disaster and many emergencies that we endure in a year’s time—snow emergencies, storm emergencies, weather events—DPW is the primary responder,” boomed the voice of the Beloit, Wis., Fire Chief over the speakers at the General Session Talk Show on Monday at the conference. Whether it’s fighting a snow storm, cleaning up debris, controlling traffic or battling flood waters, public works professionals are first responders.

With an entire education track dedicated to emergency response and a riveting Talk Show on the topic, this year’s Show for Snow was also the Show for Emergencies. There were sessions on how to prepare and anticipate incidents such as “Winter and Emergency Response” and “Using the Incident Command System in Your Snow and Ice Plan.” Sessions on how to react during the emergency included presentations such as “Using Social Media to Communicate Emergency Response”; “Public Works/Dao: Partners in Traffic Incident Management and All-Hazards Emergency Management”; “Federal Snow & Ice Declaration – Are You Ready?” and “Weather & Emergency Alerts – Winter & Beyond” as well as case studies and lessons learned from individual experiences in dealing with emergencies in “Fighting a Historic Flood in a Snow Storm”; “Disaster Anthropology: A Case Study of Blanc-Sablon, Canada, Where Extreme Winter Events are a Common Thing” and “Rebound and Ready, Atlanta Resurges from the 2011 Winter Storm Experience.”

You can’t move snow without a fleet and once again there were numerous sessions on fleet topics. This included numerous sessions on the uses of Automatic Vehicle Locating (AVL), Maintenance Decisions Support Systems (MDSS) and Global Positioning Systems (GPS) for winter maintenance purposes. Sessions also focused on how to investigate equipment accidents; the new CAFÉ standards with “Get a Clue Why it’s Blue”; employee retention and advancement with “Moving up the Ladder from the Shop Floor to Fleet Manager”; and operations with “Is Your Fleet Ready?”

In addition to the emergency management and fleet topics, this year’s education sessions provided a broad spectrum of winter maintenance topics with the major focus on maintenance operations. Since ice storms are such a threat to this part of the country, the sessions dealing with ice control were a big hit.

The practice of blending deicing chemicals is a hot topic whenever, or wherever, snow and ice personnel gather together. Chemical blending has evolved from the needs of
agencies to obtain better performance from their liquid deicing products. All deicing chemicals have distinct properties and freeze points. Blending chemicals can result in a mixture with the best attributes of each product. It can also result in a catastrophe when done incorrectly. The key is learning chemical properties and how they perform, then to choose chemicals that are compatible and blend them precisely. APWA is lucky to have some of the pioneers in blending as members who provided the practices and procedures for mixing liquids correctly.

Some additional sessions that dealt with ice included “How do you Fight Ice” with panelists providing insight on how they deal with ice in North Carolina, Iowa and Kentucky; “Snow and Ice Control 101 – Equipment and Techniques”; “When to Utilize Liquids and Anti-Icing”; “Deicing Science for Non-Scientists – How Do Deicers Work Anyway?”; “Southeast Michigan Municipality’s Experiences with the Advancement of Direct Liquid Applications” and “Street Glaciers: Why They Form and How to Combat.” The Winter Maintenance Supervisor Certificate program was again a huge success on Sunday with 149 winter maintenance professionals earning the certificate.

With more than 131 companies exhibiting in more than 264 booths the exhibit floor was abuzz with activity. The participants poured onto the exhibit floor to kick some tires, talk to sales reps and investigate new products. The conference again offered a chance for exhibitors to showcase their products in the Exhibitor Showcase Theater sessions on the exhibit floor.

You can’t have a conference in Charlotte and not include NASCAR. The North Carolina Chapter paid homage to both their NASCAR tradition and history as a source for fine pottery with their artist-commissioned speaker gifts. The racercar theme extended from the speaker gifts, to the volunteer shirts, to the corn hole games heard reverberating in the lobby from the hospitality area. The Closing General Session speaker was NASCAR legend Jeff Hammond who did an excellent job comparing the world of public works to that of the NASCAR pit crew. The evening culminated in a fantastic event at the NASCAR Hall of Fame. After a snacking on local fare including shrimp and grits, attendees got a chance to test their skills in all manner of racing tasks from changing tires in a pit crew to racing their peers on the track.

Wednesday’s technical tours offered folks the choice of three tours: the Charlotte Street Maintenance Facility tour highlighted the division’s snowfighting equipment, 5,000-ton salt storage building and its highly-effective salt brine manufacturing system with 10,000 gallons salt brine and 5,000-gallon calcium chloride storage capacity; the Freightliner Trucks tour of the Mount Holly facility which was recently able to celebrate the production of its 500,000th vehicle—a freightliner business class m2; or the Michael Waltrip Racing Shop, which encompassed over 11 acres and more than 140,000 square feet of NASCAR excitement.

Next year’s North American Snow Conference will be in Cincinnati, Ohio, May 4-8. See you there!

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The Snow Conference offered outstanding educational sessions at the Charlotte Convention Center.
National Public Works Week 2013 honors public works professionals’ contributions to quality of life

Laura N. Bynum
Media Relations and Communications Manager
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Washington, D.C.

Across North America, the impact of National Public Works Week was again amplified this year through the many communities, cities, towns, counties, states and provinces that celebrated May 19-25, 2013, the week honoring public works professionals with many public outreach events and activities to increase public awareness. Marking the 53rd year of National Public Works Week (NPWW), the theme was “Because of public works…,” as designed by artist Jannie Ho, which depicted the many contributions that public works professionals provide for their communities. At its inception in 1960, NPWW was originally instituted as a public education campaign to increase public awareness of the importance of public works facilities, services, and infrastructure in community life.

Now at its 53rd anniversary, APWA has sponsored National Public Works Week to honor the public works responsibilities of planning, building, managing and operating of public infrastructure to ensure an excellent quality of life in livable communities. Over the years, the observances of the week have included parades, displays of public works equipment, high school essay contests, open houses, programs for civic organizations and media events.

“APWA is pleased to honor the men and women who are key to the sustainability of our communities,” said APWA Executive Director Peter B. King. “National Public Works Week is about honoring the enormous contributions that public works professionals make in serving our communities by providing and maintaining our transportation, water systems, utilities, emergency response operations and other essential infrastructure and services. In both the U.S. and Canada, the National Public Works Week celebrations and events are marked by resolutions and proclamations by governors, provincial premiers, mayors, and other city and county officials.”

This year, the U.S. Senate proclaimed the week with a resolution designating May 19-25, 2013 as “National Public Works Week.” It notes that public works infrastructure, facilities and public services are of vital importance to the health, safety and well-being of the people of the United States. The resolution (S.Res 149) also said that public works professionals who design, build, operate and maintain the transportation systems, water infrastructure, solid waste and wastewater systems, public buildings and other structures and facilities are vital to our communities’ quality of life.

This year’s Senate resolution was introduced by Senate Environment and Public Works Committee Chairwoman Barbara Boxer (D-CA), with three co-sponsors including Senator David Vitter (R-LA), Senator Max Baucus (D-MT), and Senator John Barasso (R-WY). The resolution also recognized that the infrastructure, facilities and public

Pictured in the Iowa Governor’s NPWW Proclamation signing are left to right: Dave McDermott, Terry Cox, Pat Miller, Greg Reeder, John Cunningham, and Governor Branstad in the center.
services “could not be provided without the dedicated efforts of public works professionals, including engineers and administrators who represent state and local governments.” The resolution also mentions the role that public infrastructure plays in protecting the environment, improving public health and safety, contributing to economic vitality and enhancing the quality of every community of the United States.

“On behalf of the over 28,000 public works members, APWA applauds Senators Boxer, Vitter, Baucus and Barasso for introducing the Senate Resolution, as well as all of the U.S. and Canadian Mayors, Governors, Premiers, and the Canadian Prime Minister for recognizing and helping celebrate the vital importance of public works leaders and professionals through National Public Works Week,” said APWA President Elizabeth Treadway, PWLF. “As governmental leaders have noted, the week is about celebrating and honoring the enormous contribution that public works professionals make in serving their communities, in providing and maintaining our transportation, water systems, utilities, emergency response operations and other essential infrastructure,” Treadway said.

In honor of National Public Works Week in the U.S. and Canada, state and provincial proclamations were worked on in conjunction with the APWA chapters, in the creation and implementation of their own celebrations across the country to promote public works professionals and the work they do for public infrastructure. This year featured the most state involvement of many years past, with 35 state proclamations including Alabama, Alaska, Arizona, California, Colorado, Connecticut, Delaware, District of Columbia, Idaho, Illinois, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Washington, West Virginia, Wisconsin, and Wyoming, as well as other special events and celebrations in other regions, cities, towns, counties and municipalities and provinces across North America. Also, five Canadian provincial proclamations, from Premiers and other Ministers, were issued recognizing the week as National Public Works Week in Canada. The provinces where the proclamations were issued were from Manitoba, British Columbia, Alberta, Saskatchewan and New Brunswick. In addition, some cities and municipalities participated as well, such as the Regional Municipality of Wood Buffalo in Alberta, the Village of Keremeos, British Columbia, and the cities of Saskatoon, Prince Albert, No. Battleford, Southey, Yorkton, and Melville in Saskatchewan. Many other proclamations and government recognition letters were declared and issued across both U.S. and Canada.

This year’s NPWW proclamations can be viewed on the APWA website at the following link: http://www.apwa.net/discover/National-Public-Works-Week/NPWW-proclamations.

In conjunction with National Public Works Week, APWA continues to award the Top Ten Public Works Leaders of the Year, to recognize individuals that personify excellence in serving the public interest through outstanding performance in the field of public works. The Top Ten awardees receive one of the most coveted and prestigious awards presented by APWA. The Top Ten Leaders are exceptional public works professionals who have been selected by a committee of peers for their career-long professionalism, expertise, service and personal dedication to improving the quality of life in the communities they serve. This year’s Top Ten list includes a Street Transportation Director/City Engineer, several Directors of Public Works, an Assistant City Manager, and a President of an engineering company, each who represent the best of the public works profession.

The 2013 Top Ten Public Works Leaders Award recipients include: Wylie Bearup, P.E., Ph.D. – Street Transportation Director/City Engineer, City of Phoenix, AZ; Julia Bueren – Public Works Director, Contra Costa County, CA; Christopher B. Burke, Ph.D., P.W., D.WRE, F.ASCE, Christopher B. Burke Engineering, Rosemont, IL; John Edlebeck, P.E. – Director of Public Works/City Engineer, City of Waupaca, WI; Melissa Gentry, P.E., MBA. – Assistant City Manager for Operations, City of Columbia, SC; William Hadley – Public Works Director, Town of Lexington, MA; Donald Jacobovitz, P.E., PWLF – Public Works Director, Putnam County, FL; Howard Lazarus, P.E., PWLF – Director of Public Works, City of Austin, TX; Thomas Montgomery – Public Works Director, City of Hastings, MN; and Allen Persons – Director of Public Works, Village of Plainfield, IL.

The primary focus of the award is on career service to the public works profession rather than on any one single event or project. For more information on the Top Ten Public Works Leaders awards, please visit the APWA Top Ten Awards information online at: http://www.apwa.net/Media/2013/5/1/APWA-Announces-2013-Top-Ten-Public-Works-Leaders.

On the local level, online and traditional news outlets covered the NPWW celebrations and activities, as well as social media such as Flickr, Twitter, You Tube, and Facebook. The NPWW events included many like that in Vallejo, CA, where the newspaper covered the annual Vallejo Public Works Open House that educated visitors about the array of services that public works provides, and included a new mobile and web app that allows Vallejoans to report problems they see around the city. The department also set up a variety of areas to illustrate their department “behind the scenes.” In Chesterfield, MO, the Department of Public Services was covered in a local newspaper during NPWW, in which they acknowledged the efforts of the public works employees to increase public understanding of what they do and gather feedback from residents. In a more traditional annual event, they also send equipment and some public works professionals to the Rockwood School District with a vehicle display.

Other local areas covered by media were Rockville, MD, who listed the activities of their Department of Public Works in a community publication. On the West Coast, the City of Oakland, CA, sent out a press release on the theme “Because of public works…” to help citizens and media members understand how Oakland Public Works plans, builds and maintains the physical and environmental infrastructure making it a sustainable and desirable place to live, work and invest, and visit for residents, businesses and visitors. They included the official resolution and the dedication of the public works staff marked by a display at City Hall, including a special exhibit on the latest Intelligent Transportation System technologies that detect and facilitate traffic flow, and improve safety modes of transportation.

This year, a special National Public Works Week was declared by the Naval Facilities Engineering Command (NAVFAC), in which the Public Affairs staff issued a press release honoring the 10,000 public works professionals worldwide in their command. The NAVFAC Director of Public Works, Capt. Kathryn Donovan, declared the celebration of the week of NPWW in NAVFAC focusing on the public works leadership and delivery of public works projects and services with a sustainable life-cycle performance at the least cost, aligning well with the 2013 theme. The NAVFAC leads the public works officers, and Civil Engineer Corps that lead the 68 Navy and Marine Corps public works departments around the globe. Their celebrations featured photos on Flickr, and a YouTube video of their command events.

For more information about APWA’s National Public Works Week, contact APWA Media Relations Manager, Laura Bynum, at (202) 218-6736, or lbynum@apwa.net, or visit www.apwa.net/npww.
Get the Inside Track: Become your APWA Chapter’s Transportation Liaison

Debbie Hale
Executive Director, Transportation Agency for Monterey County
Salinas, California
Transportation Liaison Coordinator and member, APWA Transportation Committee

Transportation groupies: Do you want to get involved in national APWA issues but can’t seem to get on the inside track? Here’s a secret: Become your chapter’s Transportation Liaison! First, it is absolutely FREE to join the program. Second, you will receive monthly updates on MAP-21, FHWA regulations and upcoming educational opportunities that the APWA Transportation Committee, subcommittees and task forces are working on. Third, you become popular—as APWA’s go-to source for our members, we count on our Transportation Liaisons to pass on valuable information to their chapter members so that everyone has an opportunity to stay informed and make comments on key transportation topics of the day. Sometimes there are special requests; for instance, this year we will be reaching out to our liaisons in Canada for ideas on how to best give the 2014 transportation sessions an international flair (over and above the usual: hockey games, free health care, instructions in French and English, eh?).

Where do you sign up? Contact your Chapter President and express your interest in becoming a Transportation Liaison. Once we receive their e-mail appointing you, you will be added to the list. There are no meetings or conference calls to attend, just one e-mail per month and direct contact with the APWA Transportation Committee Liaisons’ contact.

But there is more….as Transportation Liaisons, we would like to invite you to join the APWA Transportation Committee meeting at the Annual Congress! Join us on Tuesday, August 27, from 11:00 a.m. to 1:30 p.m. Meet our Transportation Committee chair, members, and staff, and find out how you can participate in some of our projects or subcommittees.

For more information on the Transportation Liaisons program, contact Debbie Hale, APWA Transportation Committee Liaison Coordinator, at debbie@tamcmonterey.org, or (831) 775-4410. She is the Executive Director for the Transportation Agency for Monterey County, California, but NOT the Monterey Bay Chapter's transportation liaison—that would be a little too cozy.

Promotional Opportunity: APWA CHAPTER LIAISONS NEEDED

Canada
• Alberta
• Newfoundland & Labrador
• Québec

United States
• Arkansas
• Atlantic Provinces
• Central Pennsylvania
• Chicago Metro
• Hawaii
• Indiana
• Kansas City Metro
• Michigan
• Mississippi
• New England
• New Jersey
• New York
• New York Metro
• North Dakota
• Ohio
• Oregon
• Rocky Mountain
• Southeastern Pennsylvania
• Western Pennsylvania
• Wisconsin

“It is the duty of every cultured man or woman to read sympathetically the scriptures of the world. If we are to respect others’ religions as we would have them respect our own, a friendly study of the world’s religions is a sacred duty.”

Mohandas K. Gandhi (1869-1948), political and spiritual leader of India
Close the door on what you think you know about leadership

Cy Wakeman
Thought Leader and Best-Selling Author
Owner, Cy Wakeman, Inc.
General Session Speaker, 2013 APWA Congress

Cy Wakeman will be a featured speaker at the 2013 APWA International Public Works Congress & Exposition, presenting the keynote address on Tuesday, August 27, 8:30-9:30 a.m. and a deeper dive workshop on the principles of Reality-based Leadership on Tuesday afternoon, 2:00-5:00 p.m. Register for Congress now (www.apwa.net/Congress) and take advantage of this opportunity for learning how to become the kind of public works leader needed for the challenges of today and the future.

Many long-held ideas about leadership have not evolved with the changing world and are no longer effective. From open door policies to problem employees, this article challenges conventional wisdom and provides new ways to think about how to be a great leader.

Leaders are still subscribing to many things they have been told over the years—even though the world around them has changed and those adages have stopped producing good results. Now is the time to ditch the concepts and ideas that are hindering results—particularly the ones below.

Everyone has problem employees

Whether you believe something is possible or impossible, you are absolutely correct. We have resistant employees because we hold the mindsets that it is impossible not to. But, in fact, there are organizations that aren’t entrenched in drama and saddled by problem employees. If you have problem employees, it is because you:

- Hired them
- Rewarded their behavior
- Failed to coach and provide feedback when you observed their problematic behavior or
- Refused to terminate them when the coaching failed

Period.

Think about what you believe about leadership. Break through your own beliefs as a leader and find your personal level of accountability so you can get the results you want in your work environment. Challenge what you believe to be true. It is the beginning of the journey to having a peaceful life at work.

Open door policies are necessary

As a leader, you may have learned that you should be approachable and have an open door policy. Unfortunately, leaders incorrectly deduce that people should be able to approach them with anything they have on their minds.

Let’s be very clear; it is a great quality to be approachable. However, being approachable without coaching and teaching employees during these open door visits is not helpful.

Too many times, open doors are simply portals for drama. Take a moment to think about the people who have come to your office with the infamous question, “Do you have a minute?” Were those visits about the individual standing in your open door at that moment? Probably not. Most of the time, these visits are for employees to:

- Create a triangle where the two of you talk about a third person that is not there
- Safely vent, insist on some sort of anonymity for the situation they vented about, and remove themselves from the responsibility of taking any action
- Feel justified or self-righteous for judging the actions of others (who, again, are not present)

You must help employees understand what things are worth bringing up: information that is valuable to you as a leader or valuable to the workplace in some way. Here is a look at a helpful way to handle one-on-one coaching sessions.

Schedule coaching sessions.

First things first, close your door and schedule almost all of your coaching sessions. If you are meeting with everyone individually, your purpose is to help with his or her development. So, schedule individual staff meetings regularly with your employees as a standard practice.

Let your employees know that you will have time to be completely focused on them in these standard meetings, whereas you will typically be preoccupied with other things if they just randomly stop by with issues.

Remain neutral and redirect the focus. Secondly, your role as the
leader is to remain neutral and help to redirect your employees’ focus to things they can control or have an impact on. In these meetings, allow employees to discuss issues that are barriers for them. If their concern involves such things as someone else’s work attire, start time, or productivity level, redirect the conversation by asking them, “What have you done to help?”

Typically the answer is that they’ve done nothing besides bring the issue to your attention—tattling. Your role is to remind them of the things they should be focused on in order to be an asset to the team. It is also to inform them that tattling is not helpful.

If redirecting doesn’t help, facilitate dialogue with the third party. In very few situations would it be wise to over-manage and take on this issue for the employee. You will very quickly learn how true or important the issues are once you offer to bring the other person into the dialogue. If there is truly a conflict that needs to be resolved, what better way than getting all the parties together for a conversation?

Finally, use these meetings for status updates and to share with each person what they do that is helpful and what they do that hinders. Base each person’s individual goals on the outcomes of these conversations. Call the individual up to greatness and develop their capacity to see themselves as capable people who can take helpful action, not dependent employees who must come to you for every situation that arises.

Leaders should focus on recognition
The carrot philosophy of using rewards to induce a desired behavior is a very effective one when it is used in conjunction with accountability. Recognition is good, but only when you tell employees when they do a good job and when they do something that’s not so great.

If you provide feedback only when they do a good job and reward them simply because it’s been awhile since they were last rewarded, it is likely you will create an environment where they come to expect rewards without doing anything to actually deserve them.

Worse yet, you may create an environment where employees don’t believe you when you praise or recognize them. Why? Because, intuitively, people realize there are areas where they are falling short, and they expect their leader to be the person that helps them overcome those obstacles—to develop them. So, counterbalance your recognition events with amazing coaching and timely performance management.

The next generation is a challenge to manage
We aren’t sure where this thought originated, but there are hundreds of organizations and training programs designed to help leaders learn to work with the next generation of employees. However, the issue is not the next generation; our pain comes because we haven’t changed the way we manage to be effective with the next generation.

When a new generation enters the workforce, conventional leadership wisdom has us working to make them comfortable, catering to them, and working to perfect their circumstances. But, these practices are contrary to the practices that are really helpful.

It is likely true that the newest generation entering the workforce has been over-rewarded and under-coached, but that is no different than any generation before them. Leaders have stepped down instead of stepping up and then made up a story about “this new generation” to validate their inability to lead effectively.

Most of us didn’t commit to our roles until an inspirational leader
role-modeled greatness and insisted on greatness. Stop judging the next generation and become a great leader who coaches regularly so they can find a way to make a difference.

You will have to work hard at this because the next generation has a low tolerance for inefficiency. If you are trying to justify old methods for doing things that don’t work anymore, they will challenge that. Use their feedback to make improvements and stop judging them for being just like you were when you started working.

**Great leaders perfect employees’ circumstances**

Conventional engagement surveys ask questions that suggest leaders need to ensure that employees have a best friend at work, trust in their leadership, and have very clear lines of communication.

Again, in theory, these are good things to strive toward. But once the action plan that was developed to address problems that surface from an engagement survey is over, ask yourself if your results are better. If the answer is “no,” that is likely because engagement without accountability is useless.

Positive psychology—which emerged from the scientific study of what happens when things go right in life and shed light on what enables happiness, engagement, achievement, meaning, resilience, strengths, courage and optimism—asserts that happiness is correlated to taking personal accountability for circumstances, thriving in given circumstances, not necessarily having cushy circumstances. Great leaders understand this and make sure that their people can succeed in almost any situation.

If leaders can provide cushy circumstances, that’s great. But, that is not the reason people succeed or the reason they are happy. It is important that leaders actually challenge mindsets so employees can see their circumstances differently.

It is important to ask, “What would make your life easier?” and “What are you willing to do to get that?” or “How can I support that?” We have to share responsibility with employees to create environments where everyone thrives.

You have a choice: either make people more capable or try to fix their circumstances. More capable people are much more fun to lead. And, helping them become capable will help to keep them from suffering. People have pain because they aren’t prepared for what they are being asked to do. And they aren’t prepared because we aren’t consistently developing them to be more capable.

Capability ensures that in the short run, employees can step up and move through the challenges. Over time, employees end up with lots of great experience that lets them know they can come up with a solution that makes sense. They learn that difficult circumstances are exactly the circumstances in which they must succeed.

**Everyone’s opinion matters**

While it is good to survey employees, it is also important not to treat all employee opinions equally.

It is likely you have certain employees that are less accountable than others. For ease of explanation, let’s call these employees “victims.” From our research, we have learned that by default we end up surveying the victims because highly accountable people likely feel as though their concerns are already being addressed. So, they don’t bring those issues up in a survey, or they refrain from taking the survey altogether.

Consequently, action planning to address survey concerns is a pain because it tends to favor the victims.

Action plans based on surveying all employees without weighting responses for accountability differences end up addressing things like:

- Onsite daycare
- Pay for parking
- Pizza parties
- Jeans days

When organizations include questions in engagement surveys to account for accountability differences, though, action planning lists start to look like this:

- Better equipment to avoid errors
- Different hours to accommodate customers
- More ability to have input into decisions

Action plans based on surveying victims lead to working on things that aren’t directly related to leading teams to success. When weighting results to favor more accountable employees, action plans focus on projects that drive revenue or reduce cost—a winning focus!

**There is no “I” in TEAM**

The original spirit of this statement was to encourage teamwork and prevent people from working in a vacuum. Teamwork is important so
By asking every possible question, posed as a way of resisting change. Some questions are actually the answer to some unanswerable questions. Even months while people try to find forward progress for days, weeks, or even irrelevant ones, progress can be halted.

Leaders sometimes try to justify and give answers to questions like, “Why do things keep changing?” Really? Is there an answer to that? As leaders we have to help people ask better questions. Do not allocate resources to answering questions that don’t lead to better accountability.

Instead help reframe questions and challenge employees to ask themselves things like:

- What can I do?
- How can I help?
- How can I improve my skills so I can contribute more?

Ask employees for three things they could do to get the information they want, build their skills to be more effective or more helpful. Then use your resources to help them get busy on their list.

Change is hard

Change related to such events as divorce, death, or the birth of a child is hard, and we need to give people time to adjust to those types of changes in their lives. Many organizations have employee relations departments and personal assistance programs to help people with those types of issues.

But, organizational change is not as hard as we make it out to be. Actually, we have been soft on building resilience in our people. Our time, we have allowed people to be resistant to change instead of building their competence to be better able to handle change. On top of that, we excuse people’s inability to adapt to change, perhaps accepting that our employees’ personality types are the reason they cannot become adept at handling change.

Ask people to sign up to get behind changes and actually capitalize on change. If they are unable (not to be confused with unwilling), create a development plan to help them become more adept.

If they are unwilling to step up, that is a different situation. In that case, ask them what their plan is to transition outside the organization. There is no third option. You cannot allow people to stay onboard when they refuse to engage. If you do, you have made a choice to have more drama on your team.

Open the door to a great work climate

Step into your role as a leader and think critically about the things you do that could possibly add to less-than-ideal conditions in the work environment where you lead. The work climate is a reflection of your leadership. Make it a drama-free, peaceful, and successful place to work.

Cy Wakeman is the owner of Cy Wakeman, Inc. and founder of Bulletproof Talent. She has used her reality-based leadership philosophy to help organizations build talent for nearly two decades. She is also a dynamic keynote speaker, the author of Reality Based Leadership – Ditch the Drama, Restore Sanity to the Workplace, & Turn Excuses into Results and the New York Times bestseller – Reality-Based Rules of the Workplace, as well as an expert blogger on FastCompany.com and Forbes.com. Her ideas also have been featured in The Wall Street Journal, The New York Times, and The New York Post. Wakeman can be contacted at info@cywakeman.com or through www.realitybasedleadership.com.
recently saw an ad for the iPhone touting it as one of the most popular ways to take pictures. I used to take pictures with film and have them printed, but while that day has long passed us by I still enjoy picture taking when travelling, whether it is with a camera or a smart phone. As I make my way through Chicago during the week, I see many pictures being snapped, so I thought I would share a few of the popular spots that may be of interest to you.

Chicago is home to some of the tallest skyscrapers in the world. Willis Tower (formerly Sears Tower) is located in the west side of downtown at Adams and Wacker Drive. The building is very popular with visitors to the city. Willis will soon drop to the second tallest building in North America once One World Trade Center in New York is completed, having been beaten out by 32 feet.

In 1871, Chicago experienced the “Great Chicago Fire” that literally turned most of the city to ashes. Close to this time, the great architects and engineers of the day were discovering the use of iron and the ability to build taller and stronger structures. In 1870, the first elevator was installed in an office building in New York, thus making the modern skyscraper possible.

With a city in ruins and seeking rebirth, Louis Sullivan and David Burnham created an architectural style that became known as the “Chicago School.” This modernist style of 1890s-era architecture features three-part windows and masonry-cladded structures. These treatments are clearly visible on the old retail merchant buildings such as Macy’s and Carson Pirie Scott near the intersection of State and Madison. Architects like Mies van der Rohe started the second Chicago School movement where structural elements became tubular. The monstrously tall John Hancock building on North Michigan Avenue is representative of this 1960s-era movement.

Another famous piece of architecture can be seen when you visit Millennium Park. Take a walk on the BP Bridge, designed by Frank Gehry. Gehry is considered part of the deconstructionist post-modern movement of the late twentieth century. You will quickly notice what looks like animal scales along its undulating shape. The stainless steel form has strong ties to Gehry’s famous Walt Disney Concert Hall located in Los Angeles.

If you are a fan of architectural history, then I would encourage a trip to Oak Park (take the CTA train) and visit the home and studio of Frank Lloyd Wright. He is credited with creating the “Prairie Style,” a precursor to the modern suburban ranch home. Many examples of his work can be seen just a few blocks from his studio. Guided tours are available, or you can simply walk the neighborhood. For those of you looking ahead to Phoenix in 2015, then consider that Wright eventually moved to Scottsdale, and with his second wife, built Taliesin West, Wright’s studio and a school of architecture. This Chicago side trip can be one part of the bookends of a great adventure.

If you do find your way to Millennium Park, take a moment to enjoy the view from the bridge and look upon the Lurie Gardens. The city’s motto is “Urbs in Urto” or city in a garden. The Chicago Park District has more than 8,100 acres of open space, some in unique environments perfect for picture taking. Continue east on your walk to the lake and enjoy a great view of one of largest bodies of fresh water in the world.

About a half mile north of the Hancock Building on Michigan Avenue, you will find Oak Street Beach. At this location what and of
whom you take pictures of is of your concern, but you will likely see a fine collection of board shorts and bikinis. The lakeshore path is accessible here, and you can continue further north or head back south.

If you are looking for some more items of nature, head north for another mile to Lincoln Park. The park has a wonderful little zoo that doesn’t have an admission fee. The park is a great piece of public space in a very dense urban area that attracts the non-bikini-wearing wildlife. It has also recently become home to dozens of Black Crowned Herons, a large bird on the endangered species lists. They apparently like the park due to its proximity to the lake and good fishing opportunities.

If this trip is too far for you then simply step out the east side of the convention center and you will be right along the lake. Chicago is a flyway for many species of birds and you may get lucky in spotting some that are summering in the city. The overlook of the convention center looks upon Burnham Harbor, and if it is a nice summer day, boaters will be passing close enough for a pic with a small pocket camera. Just remember to wave; it’s the polite thing to do.

The city is chock full of statues designed by famous artisans, providing a perfect opportunity for an art lover to snap a few to upload to your Facebook account. These include a Picasso on the Daley Center (Randolph and Washington) or the nearby Alexander Calder’s “Flamingo” statue on Federal Plaza (Dearborn and Adams).

If statues and monuments are your thing, then make note that if you choose to walk from the Hilton Hotel to the Get Acquainted Party at Soldier Field, a great photo op in itself, the shortest route will take you through Grant Park. Take the time to stop by Buckingham Fountain, which will be the starting point for the APWA fun run. They say this is one of the largest fountains in the world that was designed to resemble the fountain in the Palace of Versailles. You be the judge. If you like night photography, stop by after sunset for one of the color light shows.

If you find something fun and interesting, please share it with us all on APWA’s Facebook page. See you soon in Chicago.

Joel Koenig is a Senior Project Manager with Crawford, Murphy & Tilly, Inc. He is serving as a member of the Chicago Metro Chapter Congress 2013 Steering Committee. He may be reached at (312) 357-2075 or at jkoenig@cmtengr.com.

Pablo Picasso never titled this statue, but many think it represents a woman. If it looks familiar to you, it may be because this statue has served as the backdrop for many public rallies and movies.

If you are taking the CTA blue line from O’Hare airport, “Flamingo” may be the first thing you see in downtown. Note the older building in the background with masonry cladding and the groupings of three windows, an example of the “Chicago School” of design.
Sneak peak at Chicago’s Congress transportation sessions

Gary D. Strack, P.E.
Associate
Shafer, Kline & Warren, Inc., Lenexa, Kansas
Member, APWA Transportation Committee

So you haven’t decided whether you are going to attend the 2013 APWA Congress in Chicago yet? Then you had better keep reading this article as it describes what some of the transportation sessions have in store for you there. With this lineup, it is just like attending the World Series, a once-in-a-lifetime opportunity! Here are five sessions your Transportation Committee and its subcommittees are presenting at Congress that you will want to attend. They include:

The APWA Road Safety Subcommittee and the APWA Winter Maintenance Subcommittee are sponsoring a session at Congress entitled “Features, Advantages & Benefits of High Friction Surface Treatments.” This session will be presented by Mike Moravec, Federal Highway Administration (FHWA) Office of Transportation Performance Management, with an additional speaker, Mike Burns, Project Engineer from Wisconsin Department of Transportation, who will share their successes of high friction surface treatment projects that have virtually eliminated crash issues at five locations within their state.

The APWA Sustainable Transportation Subcommittee will present a session on “Green Streets and Porous Pavement: Lessons for Sustainability, Savings, and Success.” So you’re thinking about using porous pavement? This session is designed to review the emerging trends and options available for greener streets including non-motorized facilities. We will focus on the critical issues of sustainability, savings, and success. Our success metric of post-construction performance case studies will include new information gleaned from new data from the recent increase in porous asphalt streets. For the savings topic, presenters will review appropriate cost comparison methods to allow you to provide decision makers with the total cost information, not just a comparison of pavement and aggregate material costs. The impact of additional excavation, reduced stormwater management, less winter maintenance, and other items will be reviewed. Related to sustainability, we will show you just how much impervious surface a Midwestern city of 115,000 owns, and why porous pavement is a critical strategic tool to have in your tool box. In addition, presenters will provide suggestions for identifying candidates as early in the project inception phase, preferably during capital improvement planning. Funding and financing sources available for sustainable paving in most states will also be generally identified.

The APWA Transportation Committee is presenting “MAP-21 – In the Rear View Mirror and the Road Ahead.” Summer 2013 will mark the one-year anniversary of Moving Ahead for Progress in the 21st Century (MAP-21) transportation funding legislation. Members of the Transportation Committee representing metropolitan planning organizations, state transportation agencies and local transportation agencies will discuss the reality of MAP-21 implementation in their arenas. Because MAP-21 is only a two-year bill, panelists will also comment on their view
of the likely next generation of transportation legislation.

Panelists include:

- Kathleen Davis (representing state transportation agencies), Director, Highways & Local Programs, Washington State Department of Transportation
- Debbie Hale (representing metropolitan planning organizations), Executive Director, Transportation Agency for Monterey County, California
- John T. Davis (representing local transportation agencies), Chief Engineer, Jacksonville Transportation Authority, Jacksonville, Florida

FHWA in cooperation with the APWA Transportation Committee will be presenting “Common (and Costly) Problems in Delivery of Federal-Aid Local Transportation Projects... And, How to Prevent Them.” Several audits and reviews of federal-aid local transportation projects have been performed in recent years by the USDOT Offices of Inspector General (OIG) and the FHWA. These audits and reviews have shown several shortcomings in the administration of the federal-aid LPA Program at the state and local levels. In spite of funding being available for local projects, many of the more than 38,000 local governments avoid federal funding due to, at least “perceived,” lengthy federal bureaucratic processes and added costs of federal requirements. A 2011 FHWA OIG audit report reviewed 59 projects in four states and reported a high level of noncompliance with federal requirements in seven areas—change orders and claims, project bidding, utility agreements and reimbursements, consultant selections and billings, construction pay quantities and progress payments, project reporting and tracking, and quality assurance procedures.

This session will identify the most frequently occurring and most costly problems with delivery of LPA projects, and how local governments and state transportation agencies can guard against them. It will also identify resources available to local and state transportation agencies to improve their delivery of LPA projects and prevent potential loss of federal funding or, worse yet, having to repay federal funding due to failure to properly follow federal requirements.

As you can see, these sessions are not to be missed, so get your registration in soon. For specific times and details on when these sessions will be held, please refer to the APWA Congress Daily Schedule. We look forward to seeing you in Chicago!

Gary Strack can be reached at (913) 888-7800 or strack@skw-inc.com.

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APWA’s Donald C. Stone Center: It’s all about you!

Joan Awald
Professional Development Coordinator
American Public Works Association
Kansas City, Missouri

APWA’s Donald C. Stone (DCS) Center will be front and center in the main lobby at Congress this year with a designated area for Congress attendees to interact directly with those involved in the development and implementation as well as those actively participating in DCS. The theme is “It’s All ABOUT YOU!” and APWA’s Professional Development staff and volunteers will be on hand to explain why your future is right here in the DCS Center.

As the DCS Center evolves to include all aspects of professional development, a visit to the “DCS Action Center” will provide opportunities to explore all of the educational programs offered by APWA. The DCS Center goes beyond credentialing and the Leadership and Management career tracks; it incorporates chapter institutes, master’s program, Click, Listen & Learn webinars, certificate and certification programs, and soon-to-be-launched Technical Specialty career tracks. By integrating previously distinct educational offerings under one roof, the DCS Center has something for everyone at every level.

Staff will be there to help you understand how you can move your career forward with details about the Leadership and Management programs which include the Public Works Supervisor, Manager, and Executive levels. Those with 20 or more years of experience in public works can learn more about becoming a mentor through the Public Works Leadership Fellow program.

Attendees who are already enrolled in the DCS Center will be able to speak with members of the DCS Research Council about their capstone projects. Representatives of the University of Nebraska-Omaha and Norwich University will be available to discuss master’s degree programs.

One of the high points will be mentors and mentees meeting face-to-face for the first time after months of collaboration by telephone; mentors and mentees are encouraged to plan to meet with each other Sunday at 9:00 a.m. or Monday at 8:00 a.m. Mentors can also talk with other mentors and mentees to discuss their projects and receive input from their peers.

There will be several short sessions offered each day, running from 15-90 minutes, covering many of the aforementioned topics. A detailed schedule of events will be published in the August issue of the Reporter as well as Congress Program & Show Guide. The Public Works Historical Society will also be present.

At the DCS Awards Ceremony on Monday afternoon, new Public Works Leadership Fellows will be formally acknowledged for their contribution to the future of public works through mentoring. The ceremony will also honor the first group of graduates from the Public Works Supervisor, Manager, and Executive programs. Everyone is welcome to attend this event.

For those who are attending Congress just for the day, be sure to stop by on your way to the exhibits at the Expo Experience; we’ll be conveniently located in the main lobby and adjacent to the bookstore, registration area and chapter hospitality area.

Joan Awald can be reached at (816) 595-5217 or jawald@apwa.net.
Alan Done is Palm Bay’s Traffic Operations Supervisor as well as a talented craftsman. With respect to his job, he frequently responds to signal issues that are somebody else’s responsibility. Rather than punt the ball, he will check it out in the field, communicate with the other jurisdiction and either fix it or work with them to get it fixed. The County and the State have some traffic operations functions within the City, but their traffic ops staff are located at least an hour away. So, Alan’s view is that it is better public service for us to investigate and even fix the problem rather than forcing the appropriate jurisdiction to spend hours of travel time to fix a signal bulb.

Alan has a great work ethic and will quickly and professionally respond to any issue that comes his way! He sets a great example for City employees as he always thinks “that’s my job” and does his best.

That alone makes Alan a great contributor to Public Works and the City of Palm Bay, but what really makes him so special is that he shares his craftsmanship talents with us as well. He crafted a beautiful pen and wood case for me when I became City Manager, which I proudly display on my desk. His glass mug etchings are legendary. When I first became aware of this I asked him to create a special mug for our IT Director, known as our “Minister of Magic.” It was amazing and meant a lot to her (and me!). He also creates our Employee of the Quarter mugs as well as the Employee of the Quarter parking space signs! Dawn Reid, our Human Resources Officer, says “he is truly a treasure to the City in more ways than one. I am so glad to call him a friend as well as a coworker. He always strives for the best for the City he is truly an asset to us. I love him dearly.”

Finally, Alan has a special place in my heart too because he created several personalized mugs for my family members as a memorial to my dad when he passed away last year. My dad, a former Public Works Director, would have appreciated Alan’s dedication—to the profession and to the people. Alan exemplifies what we all talk about—he truly cares about his community and his coworkers. Thank you, Alan, you are appreciated in many ways!

If you would like to recognize a leader in your organization, submit the name of the individual and a brief summary of the project you would like to recognize them for to Becky Stein at bstein@apwa.net.
Honey Hill Road Improvement and Beautification Program, Charleston County, South Carolina

James R. Neal, P.E., Director, and Frank Pandullo, P.E., PWLF, Engineering Manager, Public Works Department, Charleston County, South Carolina

Abstract of the Program

Honey Hill Road is situated in the suburban and historic section of Charleston County, South Carolina. Its historic character is rooted in the plantation community it served in the early developments of the county. For decades, the earth road was afforded maintenance sufficient to facilitate accessibility by the citizens who established home sites along the roadway. As more citizens moved into the area, the need for improvements to the roadway became more apparent. Not only was it important to provide safe access for vehicular car traffic, but also safe and efficient access for school buses, mail delivery, and other service-type vehicles. A community organization was formed enabling a collective voice to petition the District Elected Official and the Charleston County Public Works Department (PWD) to address the need for roadway improvements. A collaborative effort was undertaken among the County PWD, the City of Charleston, the South Carolina Department of Transportation (SCDOT) and the South Carolina Department of Health and Environmental Control (DHEC) to permit the construction of the roadway, a pedestrian walk, and associated beautification elements.

The Program has brought about a sense of pride within the community and has inspired the residents to take an active part in maintaining the beautification elements. For example, the president of the community has initiated the formation of a garden club to attend to the seasonal plantings around the tree masses within the community. A tree mitigation plan has been implemented to address those trees which were disturbed and/or removed during construction. The pedestrian walk will traverse the new trees and existing tree masses to provide an arboretum or botanical garden for the community. Labels will be placed on the various trees to identify the botanical name and common name for those who might traverse the pedestrian walk and observe the trees. This will be particularly beneficial to the school children who might be escorted by their teachers on an outing to the area. The Program has been a point of pride and inspiration for the community which is taking an active part in maintaining the historic and beautification elements which have been provided.

One of the more salient issues in the development of the Program was the removal of trash which had been deposited along the dirt road over the years. The remote location and condition of the dirt road was an invitation to use the area for disposition of trash. The PWD Field Operations Team removed in excess of 200 tons of trash for disposal at the County’s central landfill site. This cleanup effort has inspired the residents to monitor the activity along the road to intercept and discourage any use of the area for trash disposal. This is another example of a positive outcome of the Program.

Honey Hill Public Road Post-Program Construction
The Problem/Need for the Program

The problem of bringing community roads, including Honey Hill Road, into the County Maintenance System, has been longstanding. Community roads were given minimal maintenance on an as-needed basis. It relied on calls for service from residents along the community roads as well as on the proximity of the County’s equipment to deploy and perform maintenance service. The problem was successfully addressed when Charleston County Council, the County’s governing body, rescinded the Community Road Program and declared those roads as “public.” This was an initiative taken by Council, not one imposed as a legal obligation. Honey Hill Road was the beneficiary of Council’s policy action. Accordingly, the County PWD was given the responsibility to implement Council’s policy.

The problem of converting the “travel-way” of the Honey Hill Community Road to a dedicated public right-of-way required field surveys and mapping. The proposed dedicated right-of-way, as mapped from the field surveys, was presented to the property owners for concurrence and dedication. The PWD staff engaged in person-to-person contact with the residents. This afforded the opportunity to not only obtain the required signatures for dedication of the right-of-way, but also to present the PWD’s total program of road improvements and beautification. A sense of anticipation and pride in the prospects of the Program became apparent among the residents.

The requirement to comply with regulatory permit issues pertaining to soil erosion and sediment control (land disturbance) and stormwater quantity and quality was a challenge to the design worthy of note. The underlying soils were ideal in terms of character and permeability. A stormwater system was designed utilizing infiltration devices. The post-development stormwater runoff was contained within the site through dissipation to groundwater.

Description of the Program

The initiative and policy directive for the Program came from the County’s governing body, a Council of nine members. The objectives were clear: improve the earthen road to a paved surface; provide safe two-way accommodation for vehicular traffic; provide safe sidewalks for pedestrian traffic; and comply with Local, County, and State regulations pertaining to traffic and environmental control. These policy directives were assigned to the operational element of the County in the guise of the County Administrator and Director of the Public Works Department. The implementation process involved several community meetings with the residents to present the conceptual designs and to elicit comments from the citizens who would be served by the Program.

Honey Hill Road was among the approximately 300 community roads given minimal maintenance to address accessibility to the residences along the earthen roads. The maintenance services were provided in response to random calls from the residents as the need for service became acute. The procedure for maintaining community roads was addressed by County Council’s action in December 2011. Council rescinded the Community Road Program and declared those roads to be “Public Roads.” The County Public Works Department undertook the task of bringing the roads into the County Maintenance System by surveying the traveled-way, which had been maintained under the Community Road Program; by convening meetings with the residents to explain the impact of Council’s action; and by preparing the official “plats” for recordation with the County Assessor’s Office.
The Honey Hill community residents not only welcomed Council’s action to declare their road a public road and the Department’s work to bring their road into the County Maintenance System, but also went on to petition the road to be brought to a safe two-way paved surface with a safe pedestrian sidewalk. The Program of confirming the public right-of-way, designing the roadway, and securing regulatory permits was initiated in January 2012 with the objective of completing the roadway by December 2012. Construction of the sidewalk was completed in March 2013.

Clearly, the residents along the roadway travel an improved public road. This Program makes it safer and easier to travel to businesses, shops and church, and social functions as well as for law enforcement to patrol, monitor, and respond to citizen calls. School bus access for children pick-up, along with postal delivery service, is among some of the other commercial vehicle services, organizations, and clientele who are being served by the Program.

The Public Works Department’s Engineering, Storm Water, Asset Management, and Field Operations Divisions collaborated to bring the Program to fruition. The Asset Management Division immediately came into action by communicating with the residents on the significance of Council’s action and its implications in bringing the road into the County Maintenance System. The Engineering Division deployed its field crews to survey and plat the traveled-way, as the proposed right-of-way, for recordation. The Engineering Division completed the roadway and stormwater runoff design, along with the pedestrian walk through, the proposed botanical garden, and tree mitigation planting. The Storm Water Division provided a timely review of the County Permit Application for Land Disturbance, addressing the Program’s proposal for water quantity and quality compliance. The Storm Water Division approved the Best Management Practices (BMP’s) for the water quality compliance. The Storm Water Division also provided assistance in processing the Program’s Application for the State’s Coastal Zone Consistency determination and the concurrent review of the State’s Land Disturbance Permit Application.

The Field Operations Division deployed men, equipment, and materials to complete the roadway construction phase of the Program and planting of the tree portion of the beautification phase. The logistics of receiving materials for road base, stormwater dissipation, trench material, and roadway paving, while maintaining vehicular access for the residents, was a challenge, which was met by the Field Operations Division. The residents were frequent observers of the operation and extended compliments to the Field Operations Team during construction. It was a well-received indication of the community’s acceptance of the Program.

The Program featured the contribution from the local Town of James Island; the City of Charleston; the County of Charleston; the South Carolina Department of Transportation; the State Department of Health and Environmental Control; and the adjoining property owner of a horse boarding and training complex.

A portion of the Honey Hill public road traverses the City of Charleston’s Washington Park Property. The City and County successfully negotiated a Memorandum of Agreement granting permission to the County to construct and maintain the finished roadway and the pedestrian Botanical Garden Trees.
walk and tree masses within the City’s jurisdiction.

The Town of James Island has agreed to pursue an application for a grant-in-aid from the Charleston County Greenbelt Program to purchase and dedicate a parcel of land for a park within the interior section of the community.

The State DOT acceded to the validity of a prior encroachment permit to allow the County Field Operations Team to repair the access apron at the intersection of Honey Hill Road with the State Road.

After issuing the public notice to announce the Program and request public comment, the Consistency Determination and State’s approval of the stormwater plan was issued by DHEC.

Finally, a portion of the proposed roadway abutted a private horse boarding and training complex. The County and private property owner negotiated and completed a barrier removal and replacement plan to allow the construction of the roadway while preserving the integrity of the privacy of the horse complex. Seasonal plantings will be incorporated between the roadway and the revised barrier.

**Use of Technology**

From the initiation of the Program, it was important to bring the Honey Hill Community Road into a public road with a defined right-of-way. The use of Global Information Systems (GIS) aerial maps provided the overview of the traveled-way. Field crews were then deployed to survey the limits of the traveled-way, in order to begin to define the right-of-way dedicated to the public. The latest technological survey equipment, consisting of access to the Global Navigation Satellite System and ground data collection, made it possible to locate property corners and travel-way boundaries. These enabled the preparation of the plats for ultimate recordation. The above-combined technology was the first step in the design of the roadway and implementation of the beautification program. In particular, the GIS provided source research for topographic information on the site conditions, and provided descriptive information on the underlying soils. A sustainable design of the stormwater management system, consisting of the dissipation of post-development stormwater runoff to groundwater, was undertaken. The use of available technology contributed to the implementation of an environmentally sensitive and sustainable improvement Program.

**The Cost of the Program**

The cost of the Program was a combination of (a) administrative; (b) community interfacing; (c) data research and field survey confirmation; (d) regulatory agency compliances; and (e) construction of roadway and pedestrian walk. The beautification phase of the Program entailed planting of trees and seasonal flowers and labeling the trees within the botanical garden project area.

The cost of the Program adjusted for the overtime charges of the Field Operations personnel and equipment to meet completion of the road improvement for Christmas 2012 approximated $340,000.

The breakdown of costs was:

- a. Administration and data research – $34,000
- b. Community meetings – $17,000
- c. Field survey, mapping, and platting – $34,000
- d. Regulatory permit applications – $17,000
- e. Tree mitigation plantings – $17,000
- f. Site preparation and trash removal – $51,000
- g. Roadway and drainage design – $51,000
- h. Roadway, drainage, and pedestrian walk construction – $119,000

**TOTAL – $340,000**

**The Results/Success of the Program**

The Program was initiated in response to requests from the Honey Hill community for improvements to an earthen road. The improvements are a basic two-way paved surface and management of stormwater runoff. As a result of community meetings, a vision emerged for a Program which would not only provide for a basic roadway improvement, but also an opportunity for the cooperative effort between the public agency and the public for the enhanced beautification of the community. A sense of pride and commitment has enveloped the community as a consequence of the Road Improvement and Beautification Program. This is clearly a successful undertaking by the Charleston County Administration and Public Works Department. It puts forth a challenge for all counties to approach roadway improvement projects as community programs to instill pride and commitment among its citizens. The Program has met, and will continue to meet, its objectives.

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Shhh….Listen

Catherine Schoenenberger
President, Stay Safe Traffic Products, Inc.
Westford, Massachusetts
Member, APWA Diversity Committee

“Hear me now and believe me later.” In the 1990s, “Saturday Night Live” characters Hans and Franz used this quote as one of their tag lines. Although comical, as intended, the words spoke volumes to the viewer, but with a delayed effect. What the SNL characters were really saying was: “We know you’re hearing the words (but perhaps you’re distracted by our physiques, our hair, our accents), so listen for the full meaning of the message and you will believe us later.” To that end, to really hear what someone is saying to you requires a skill that is not honed as often as it should be, and that is the **skill of listening**.

Of the four modes of communication (writing, reading, speaking and listening), listening is what we are doing 40% of the time, but with only 25% efficiency rate! Listening takes 40% of the time, but with only listening, we are what we are communication including body language; suspending one’s own thoughts and feelings to give attention solely to the speaker and remain emotionally detached from the conversation. Level 2 can lead to dangerous misunderstandings because the listener is concentrating only slightly on what is said, and the speaker may be lulled into a false sense of being listened to and understood.

**Level 1:** Empathetic listening; at this level, listeners refrain from judging the talker and place themselves in the other’s position, attempting to see things from his/her point of view. Some characteristics of this level include being aware and in the present moment, acknowledging and responding; not letting oneself be distracted; paying attention to the speaker’s total communication including body language; suspending one’s own thoughts and feeling to give attention solely to listening.

**Level 2:** Hearing words, but not really listening. At this level, people stay on the surface of communication and do not understand the deeper meaning of what is being said. They try very hard to hear the words the speaker is saying, but make little effort to understand the speaker’s intent. Level 2 listeners tend to listen logically, being concerned about content more than feeling, and remain emotionally detached from the conversation.

**Level 3:** Listening in spurts. Tuning in and tuning out, being somewhat aware of others, but mainly paying attention to oneself. One follows the discussion only enough to get a chance to talk. Level 3 listening is quiet, passive listening without responding. Often a person listening at this level is faking attention while thinking about unrelated matters, making judgments, forming rebuttals or advice, or preparing what he/she wants to say next. The listener may play a blank stare and is more interested in talking than listening.

Most of us listen at all three levels during the course of the day. However, the goal is to listen at Level 1 in all situations.

**Why do we want to become more effective listeners?**
When people are listened to, they leave the encounter feeling that what they have said has been heard, and they see themselves as worthy of attention and self-esteem is raised. Being a more effective listener leads to increased productivity, more information remembered and decreased misunderstanding; fewer mistakes made because you listened to the instructions, and an increased sense of personal filters, such as age, gender, beliefs, values, interests, assumptions and prejudices (the diversity among us), influence how we perceive, receive and attend to the speaker’s message, all on the unconscious level. The skilled listener hears more than the speaker’s words; he/she listens to the pitch, rate, timbre and subtle variations to the tone of voice; he/she also listens through the eyes, and a with the sense of feeling. A baby in a crib, for example, doesn’t understand words yet, but can most certainly feel and hear everything else that was being communicated, and responds accordingly. Feeling the conversation is oftentimes the most important aspect of communication.

“They may forget what you said, but they will never forget how you made them feel.” – Carl W. Buechner

Was what you had to say as a child encouraged or did you hear things like “children should be seen and not heard” or “you don’t know what you’re talking about” or “who do you think you’re talking to?” Much of how we listen today stems from the conditioning of childhood, from that place in the crib. For a lesson in self-awareness, Madelyn Burley-Allen in her self-teaching book, Listening: The Forgotten Skill, defines three levels of listeners. **What level do you mostly listen at?**

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**Level 2**
Level 2 listeners tend to listen logically, being concerned about content more than feeling, and remain emotionally detached from the conversation. Level 2 can lead to dangerous misunderstandings because the listener is concentrating only slightly on what is said, and the speaker may be lulled into a false sense of being listened to and understood.

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Most of us listen at all three levels during the course of the day. However, the goal is to listen at Level 1 in all situations.

**Why do we want to become more effective listeners?**
When people are listened to, they leave the encounter feeling that what they have said has been heard, and they see themselves as worthy of attention and self-esteem is raised. Being a more effective listener leads to increased productivity, more information remembered and decreased misunderstanding; fewer mistakes made because you listened to the instructions, and an increased sense of

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*APWA Reporter* July 2013
mutual respect, trust and rapport with coworkers.

It’s a natural tendency to disregard people who are speaking from a conflicting viewpoint. We often ignore those we don’t like or don’t respect, even though what they say may be important and necessary to get our jobs done. We can sometimes get distracted by someone’s bad breath, their clothing, or perhaps food in their teeth. Fatigue, stress, and the weather outside can also render havoc with your attention span. So, oftentimes, just to stay at Level 1 you must stay aware and in your conscious mind, and overcome the distraction. Yes, it takes work!

Here are a couple of suggestions to improve your listening skills when faced with adverse scenarios:

• Search for something you can use; find areas of common interest
• Take the initiative by making the communication two-way; have a conversation
• Hold your rebuttal…do not interrupt
• Ignore the person’s delivery, personality, physical appearance, if it distracts you
• Keep an open mind; ask questions to clarify for understanding; stay engaged

Remember:

“God gave us two ears but only one mouth. Some people say that’s because he wanted us to spend twice as much time listening as talking. Others claim it’s because he knew listening was twice as hard as talking.” – Unknown


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A leader manages staff

Paul Klajbor
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There has long been debate on the difference between a leader and a manager. Great leaders are often great managers as well. However, this article will focus on how to manage staff in any organization, particularly in a public works environment.

The first step in managing staff is recruiting and hiring staff. One of the first things that goes into building a great team is finding the right people for each job. As a manager, you need to make sure that prospective employees have various qualifications. First, they need to bring the proper skill set to the job, whether that’s a P.E. designation, a CDL, or any other technical qualification. Second, you need to make sure the prospective employee is a good fit for the organization. This is a more subjective measure, but it is every bit as important. We have all observed organizations where the employees are all technically proficient, but are ineffective because of personality conflicts. When I can, I like to have a few finalists for any open position come to the office to meet the current team. When appropriate, I have the current team members as part of the interview committee help do the evaluation. When conducting interviews, it is very important to be upfront with prospective employees about the volume, level, and type of work they will be performing. Do not try to scare the prospective employee, but be honest in what the job entails and what the expectations are.

Oftentimes, you will not be able to hire anyone. Usually managers come into a situation where employees have already been hired and the new manager has no say in selecting their staff. When I have been in this situation, I have met with each of my direct reports and discussed with them what they liked about the job, what they disliked, what they thought could be changed for the better, and spoke to them about my expectations of them.

Once you have the right people on your team, you need to provide them with adequate resources to do the job. Public works organizations across the nation are feeling the fiscal crunch as budgets shrink, but it’s important to provide employees the tools they need to do the job. A benefit of this is showing your employees that you value them, and you value the work they do. When the organization shows an employee that they value their work, the employee tends to take a little more pride in the job they’re doing.

Beyond providing the tools to do the job, you need to provide your team the authority to do their job. This can mean several things, from not micro-managing their work, to allowing them to make programmatic changes, to backing their decisions when you receive an angry call from a citizen or elected official. Sometimes people make the wrong decision, but in my experience, most have done so with good intentions.

This begs the question: How do you make sure employees make good decisions? Good managers are great teachers. Rather than simply tell employees what to do or tell them what you would do, teach them WHY. Most of us have an internal decision matrix. When we make a decision, we weigh various factors: the budget; political factors; legal factors; operational factors; etc. We take into consideration all these opposing forces and discern a decision. However, in my experience, most managers don’t share with staff their decision matrix. Far too often, we simply tell people the choice we’ve made. I urge you to not only tell your staff the decision, but share with them how you came to the decision that you did.

A good manager provides their employees with feedback and evaluations. Most organizations have an annual performance evaluation where the boss sits down with an employee and checks off some boxes on their performance review form. Maybe some goals are given for the coming year...and then nothing happens for 12 months. A good manager will not only do an annual evaluation, but will meet regularly with their staff to go over what’s working well and what’s not. No team member should have to wait 12 months to know how they are doing on the job. If there are
problems, they should be addressed immediately. Goals can be set annually, but should be revisited at reasonable periods throughout the year. When setting goals, remember to use SMART goals, which are: Specific, Measurable, Attainable, Realistic and Timely. A few of our managers have begun using 360-degree evaluations. In this evaluation, a person receives feedback from their supervisor, peers, reporting staff, and internal and/or external customers. While this may not be a practical tool to use for all employees, it can be very useful for select positions.

Annual reviews can lead to the topic most managers loathe, which is discipline. I do not know of any manager who looks forward to disciplining employees, but it is a necessary part of the job. Most organizations, particularly government organizations, have set procedures for how to administer discipline. A good manager is one who has communicated with their staff what the expectations of the job are, and communicated with staff when problems arise and that the expectations are not being met. Discipline should not be a surprise to any employee. They should already know what is expected of them and what will happen if they do not meet those expectations. Some managers may put off a conversation with team members about not meeting expectations in hopes that the situation will resolve itself. This seldom happens. In my experience, waiting too long to take corrective action with an employee has detrimental effects on the whole staff and prolongs a bad situation.

Public works is a dynamic and challenging field. A core competency for a public works leader is being able to manage his or her staff well. Man-

aging staff well requires recruiting the right people, providing them adequate resources, giving them the authority to do their job, teaching them the reason behind the decisions being made, providing timely feedback, and taking corrective actions when needed. Every employee wants to be part of a great organization. As a manager, you are a vital link between the organization and the employee. Be great.

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Innovative ideas and recycling concepts acquired through Eastern Europe Jennings Randolph 2013 Study Tour

Ray C. Funnye, PWLF, Director, Georgetown County Department of Public Services, Georgetown, South Carolina, and Chair, APWA Top Ten Review Committee; Helena K. Allison, PWLF, member, APWA International Affairs Committee and Sacramento Chapter Delegate

The American Public Works Association offers members of the association, through a Jennings Randolph International Fellowship, participation at a public works conference of one of our international partners along with a public works study tour in that country. This participation provides an opportunity for APWA members to broaden their knowledge and exchange experiences and information on trends and advances in public works, through contact with our international partners. It also promotes friendship and understanding among public works staff on an international level.

Every two years, members of the APWA International Affairs Committee review and select Jennings Randolph (JR) Scholarship applicants to attend the Czech and Slovak Republics Public Works Congress and conduct a relevant study tour. This year I was selected as the JR recipient and attended the Slovak/Czech Congress in Senec, which is located in close proximity to the Capitol City of Slovakia, Bratislava.

In 2010, the Manufacturer Responsibility and Consumer Convenience Information Technology Equipment Collection and Recovery Act was signed in South Carolina. Prior to its implementation, only 3.3 percent of the 54,000 tons of e-waste were recovered for recycling and the rest were incinerated or sent to the landfill. Responsible recycling and disposal of e-waste can help prevent exploitation of people in lesser-developed countries where much of the e-waste from the U.S. has historically been placed.

Recently, we established sweeping local recycling goals, including e-waste, for Georgetown County. We learned that consumer electronics account for approximately five percent of the total materials flowing into the municipal solid waste stream. They are the fastest growing component of these waste streams and grow five times faster than other types of waste. This study tour in the Slovak/Czech Republics provided an opportunity to research the benefits and effects of electronic waste on the economy and environment of European Union (EU) states.

As the team leader for our public services group, I wanted to use this study and exchange to evaluate solid waste recycling, e-waste collection and disposal practices in European countries. I learned that the Slovak/Czech Republics have become more entrenched in the recycling arena over the years and rank fifth in all of EU states for their e-waste recycling effort. This study confirmed that they have established a comprehensive solid waste recycling system.

Before reaching our destination, we teamed up with our English-Slovak/Czech interpreter and colleague, Helena Allison, in Vienna, Austria. After our arrival in Slovakia, we joined other Congress attendees at Hotel Senec, Hattalova Street. The weather was unseasonably warm for this time of year; we came prepared expecting weather conditions to be in the low ‘40s but instead found much warmer weather in the high ’70s with sunshine. The Slovaks are extremely hospitable people and invited us to dine with them at a local “Salas” Restaurant for authentic Slovak Food “Halusky.” It was a very friendly and collegiate atmosphere.

Our study tour began the Tuesday morning at 8:00 a.m. We were picked up by Frantisek Kuruc, the principal owner and president of Kuruc Company, a Tetra-Pak® (milk/juice carton) recycling facility in the City Surany.
This manufacturing company’s mission statement focuses on having a cleaner environment and recycling of secondary raw material. The most interesting aspect of this company was the recycling of the Tetra-Pak. Tetra-Pak cartons are the most common name for aseptic cartons, which are used for liquid food items so they can be stored for up to one year without refrigeration. Aseptic is the freeing from pathogenic micro-organisms, so this packaging process eliminates harmful elements from the food and packages them in a pre-sterilized container. This type of packaging also blocks light completely, in order to preserve vitamins A, B2, B6, B12, C and K, which are all photosensitive and would become damaged in the presence of light. Tetra-Paks are constructed from six layers of materials:

1. Polyethylene – protects against outside moisture
2. Paper – for stability and strength
3. Polyethylene – adhesion layer
4. Aluminum foil – oxygen, flavor and light barrier
5. Polyethylene – adhesion layer
6. Polyethylene – seals in the liquid

The paper layer, which makes up 75% of the packaging, can be recycled relatively easily and is used to create other items like paper and tissue products. The remaining portion is 20% polyethylene and 5% aluminum.

Global recycling of used Tetra-Pak cartons increased by 10% in 2012—from 582,000 tons (U.S.) to 640,436 tons (U.S.). In 2012, recycled Tetra-Pak packages increased by 3.6 billion more than the previous year. Tetra-Pak is investing tens of millions of Euros to promote consumer awareness and work with local municipalities in its drive to increase recycling rates around the world. This is accomplished in conjunction with municipal and industry partners globally. However, the appropriate forms of collection, sorting, and recycling will be determined by local needs. Although Tetra-Pak states that it has been recycling in the U.S. since 1999, not many people have benefited from the program—only certain communities in 26 states. The goal of the new collaboration is to increase access to carton recycling to 60 million people in the U.S.

The Kuruc Company produces wall boards that are used in construction similarly to the sheetrock panels used here in the U.S. This material has been effectively used inside and outside in the following applications:

- Light partition wall and ceiling
- Replacement of plasterboard
- Packages for moist and aggressive environment
- Thermal insulation
- Fire assembly resistance application

By recycling Tetra-Pak cartons they are able to make building materials which, in turn, can be used for new boards. Boards can be designed in any dimensions or any thickness and with or without insulation. Also, they can manufacture ceiling tiles. We had the opportunity to see the rest of the Kuruc facility which recycles cardboard paper. By using water, heat, special technology and precise packaging forms, they produce various large and small packaging containers for electronic

Pictured from left to right: Frantisek Kuruc, President of Kuruc Company; Ing. Jan Zvoncek, President of RUREP Company; Ray Funnye, Director, Georgetown County Department of Public Services; and Ing. Helena Allison, APWA Sacramento Chapter Delegate
devices and equipment. The day was busy and full of excursions and learning opportunities. Finally, we returned to the convention center just in time for dinner.

On Wednesday we traveled to the Elektro Recycling (ER) Company. This large e-waste recycling facility, located in Banska Bystrica City, was established with the idea to fulfill the mission set out by the Directive 2002/96/ES of the European Parliament and of the Council which is to:

“Preserve, protect and improve the quality of the environment, protect human health and utilize resources prudent and rationally.”

ER is a very large facility with many separate areas. They recycle refrigerators, light bulbs, glass from TV screens, computers and computer monitors, and separate precious metals. The most interesting and advanced processes we found during our tour were the recycling of refrigerators and light bulbs and the recovery of mercury containing electrical waste. To reach maximum protection of the environment, the mercury distiller operates with negative ambient pressure. The gas from fluorescent light bulbs is treated with nitrogen to tie the gas and further reuse the chemicals in the recycling facility. We found the cooling and refrigerating system recovery process quite fascinating. The plant for recovery of cooling and refrigerating systems is based on cryonic condensation where exhausted air is cooled in heat exchangers so that contaminating substances may be condensed at 145 degree-Celsius (293 degrees Fahrenheit). We were impressed by the organization and the cleanliness and efficiency of the facility. We also had the opportunity to see how plastics are separated by type, developed into granules using extraction, and placed into bags where they are then either sold to manufacturers or shipped to China to make plastic products.

After a very long day, we had a relaxing and delicious dinner at another local establishment decorated in the Slovak folk themes. The following day was filled with Congress activities. The entire day consisted of meetings, equipment exhibits, presentations and the evening dinner banquet. The day started early with breakfast, meeting the Czech and Slovak Association presidents and members. The PowerPoint™ presentation titled “Georgetown County, South Carolina – Public Private Partnership (3P’s)” prepared for the Slovak and Czech members was well received. Approximately 60 people attended the presentation. The presentation was translated into the Slovak language by Helena Allison and provided examples of the effective use of 3P in America; Congress members had good follow-up questions. Helena and I were happy to make the presentation which shared valuable strategies that we routinely use in our daily operations. After the presentation, we met with consultants and other vendors, and after lunch we visited their well-organized equipment exhibit.

The Slovak/Czech Congress experience was very educational and enlightening. Congress members were friendly, hospitable and the language barriers were easily overcome with a smile. The Congress reception was elegant with folk dancers and singers performing and we were treated to a local band which played for our entertainment. There were lots of opportunities for people to dance. We were introduced and recognized in a crowded ballroom by the Slovak Association President Mgr. Peter Kuba and Ing. Jaroslav Mynar, who presented us with gifts and thanked us for our attendance, friendship and cooperation. They are looking forward to joining us at the APWA Congress in Toronto in 2014.

On Friday, we were off to visit Kovohute, another recycling e-waste facility in the Czech Republic. Together, with the Czech Republic Public Works Association President,
Ing. Jaroslav Mynar and Czech International affairs chair Dr. Jiri “George” Neuzil, we traveled to the City Pribram. This facility established in the thirteenth century served as a silver and lead mining and smelting facility. For the last 700 years it has gone through several changes. It now serves as a metallurgical and recycling facility specializing in processing of waste of non-ferrous metals.

The most significant and interesting observation was the recycling process of car batteries and the extraction of pure lead. Lead in its simple form is not considered hazardous material in Europe. However, the only time it is considered a health hazard is if it is combined or bonded with other specific chemicals harmful to health.

The smelting process of lead found in batteries creates a product that is tested at 99.9% of pure lead. They recycle between 45,000-50,000 tons of car batteries containing lead and radiators, yearly. Our team received an in-depth tour of the facility by the Environmentalist and Waste Manager Ing. Vladimir Plucha. He was very knowledgeable and accommodating and did not hesitate to show us more than our tour was scheduled to offer. In one huge facility, they recycle plastics, electronic waste, computers, light bulbs, lead and precious metals.

Following this very interesting and enlightening tour, we drove to Prague, the capital of the Czech Republic. This was a welcome change from all the technical tours. We were invited to dinner by Jaroslav Mynar and Jiri Neuzil at a restaurant overlooking the Vltava River and the City of Prague. The views of the buildings along the Vltava River, the Charles Bridge (built in 1357) and the National Theater were incredible. After a long day on our revealing tour, it was a very relaxing evening with good friends.

Our JR trip went by quickly, but every minute was packed with everlasting educational and learning experiences. Words cannot describe the feeling of being able to see, touch and stand on some of the world’s ancient and historic sites, seeing the architecture and art in every arch, tower, church and window. The impressive Prague Astronomical Clock, built in 1410, is an exquisite piece of art and history. We learned about the devastating floods of Prague in 2003 and what preventive measures were put in place to prevent this flood disaster from happening in the future.

The study tour was very informative and educational, and along the way we made new friends with similar professional goals and aspirations. Our fellow public works professionals in the Slovak and Czech Republics are working very hard to make their communities the best they can. Their hospitality and zest for life are very obvious and contagious. The cooperation between our international counterparts will result in a more well-educated and innovative world of public works.

As a JR recipient, I encourage you all to embrace and participate in international education, outreach and exchange study opportunities being provided by APWA. I look forward to my next trip.

Finally, we boarded our plane for a long flight back home, with our “toolboxes” filled with new ideas, experiences and friendships that will last a lifetime.

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Applied Public Works Research

The APWA Donald C. Stone Center for Leadership Excellence in Public Works

The mission of the APWA Donald C. Stone Center for Leadership Excellence in Public Works (DCS Center) is to position public works professionals for the twenty-first century. In keeping with this important goal, the APWA Reporter features a section dedicated to applied research in public works. This section, published quarterly, provides insight into thoughtful analysis of issues and opportunities based on applied scientific research methods as a way of further contributing to the body of knowledge.

Many of the articles appearing in this section will be capstone papers written by participants in the DCS Center Level 3 Public Works Executive (PWE) Program. Other research articles are selected based on the applied nature of the paper and its relevance to public works.

Researchers interested in submitting articles should visit the website http://www.apwa.net/donald-c-stone/Donald-C-Stone-Center/Public-Works-Research to learn details of the requirements for publication. Articles submitted to the “Applied Public Works Research” section of the Reporter will be reviewed by the DCS Research Council, an expert group of professionals and academicians comprising the editorial board. Depending on the technical aspect of a submission, a summary to highlight how the research can be applied may be requested. These will appear as “Research Application Summaries appearing below the abstract.” The 150-word abstracts of approved articles will be published quarterly. The full-length articles, as listed below, can be accessed via the link provided with each abstract.

This issue of the Reporter highlights three articles that fit the requirements for this section. The papers were presented to the Transportation Research Board.

Disclaimer: The views and opinions expressed in these papers are solely those of the authors and may not represent those held by APWA or the entities referred to in the articles.

Guidelines for the Selection of Snow and Ice Control Materials to Mitigate Environmental Impacts

Source: NCHRP Report 577
Date: Jan 2007
URL: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_577.pdf

This report presents guidelines for the selection of snow and ice control materials through an evaluation of their cost, performance, and impacts on the environment and infrastructure. The guidelines should be useful in helping maintenance managers develop a program that will minimize the environmental impacts of snow and ice control without compromising effective maintenance strategies. The Guidelines will help highway agencies fill their dual role of providing safe roadways for the driving public while serving as stewards to protect and enhance the natural environment.
**Communicating the Value of Preservation: A Playbook**

**Source:** NCHRP Report 742  
**Date:** 8 Feb 2013  
**URL:** http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_742.pdf

This report presents guidance for communicating the value of highway system maintenance and preservation. The guidance includes numerous examples and models that transportation agency staff members can use to present—succinctly and persuasively to agency leadership, elected officials, and the public—the case for allocating budgetary and other resources to preserve and maintain the public’s investment in highway infrastructure.

**Traffic Enforcement Strategies for Work Zones**

**Source:** NCHRP Report 746  
**Date:** 19 May 2013  
**URL:** http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_746.pdf

This report presents guidance for the safe and effective deployment of traffic enforcement strategies in work zones on high-speed highways (those with speed limits of 45 mph or greater). The planning, design, and operation of traffic enforcement strategies are discussed, as well as administrative issues that should be addressed. The report will be useful to traffic and construction engineers engaged in these types of projects.

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For more information about this special section of the APWA Reporter dedicated to applied research in public works, please contact Mabel Tinjacá, Ph.D., APWA Director of Professional Development, at (816) 595-5214 or mtinjaca@apwa.net.

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Best-selling Author and Columnist for The New York Times

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BEHIND IN THE WORLD IT INVENTED AND HOW
WE CAN COME BACK

CY WAKEMAN
Thought Leader and Best-selling Author

REALITY-BASED LEADERSHIP: DITCH THE DRAMA
AND TURN EXCUSES INTO RESULTS

MIKE DITKA
ESPN Analyst, Pro Football Hall of Fame Player, Super Bowl Winning Coach

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A traffic safety focus for local agencies

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Placer County Department of Public Works – Transportation
Auburn, California

The focus of the Placer County Traffic Safety Program is to enhance safety on the County’s roadway network by reducing the number and severity of traffic collisions. This focus resonates with federal and state efforts through the California State Highway Safety Plan (SHSP) and the Highway Safety Improvement Program (HSIP). Many state and federal agencies are working toward development of traffic safety policies and plans; but what does that mean to local agencies across the country? In California there are over 600 local agencies, each working independently of each other and of CalTrans, the state DOT. At the local agency level traffic safety efforts are more than policy creation; local agencies are the link between the higher policy initiatives and physical actions via high-collision location identification and safety improvements. However, in order for local agencies to successfully transform high-level policy initiatives into the construction of effective safety improvements, it is imperative that locals have a process to analyze collision data, identify locations, perform safety reviews and make recommendations for possible improvements. These four steps are what make up Placer County’s Traffic Safety Program.

Traffic Safety Program
In the 1990s the Mendocino County Department of Transportation developed a program of annual Road System Traffic Safety Reviews to improve safety on its arterials and collectors by identifying collision patterns and installing improved signing and markings to mitigate hazards. Mendocino County, a large rural county in California with more than 1,000 centerline miles, is similar to that of Placer County with a mixture of mountainous and valley terrain. Traffic-related injuries and fatalities in Mendocino County are primarily the result of roadway departure crashes, similar to Placer County. Mendocino County’s program and its positive results became the basis for Placer County’s interest in a formalized Traffic Safety Program with continual review of collision locations.

Prior to 2007, Placer County did not have a documented Traffic Safety Program or identified process for review of traffic safety issues. The collision data was reviewed and individual attention was given to particular collisions or locations by Public Works engineering staff. An analysis program identified as the Traffic Accident Analysis System (TAAS) was adopted by Placer County in the summer of 2009 in an effort to take a more active approach towards review of high-collision locations. The creation of TAAS further allowed the County to formalize a Traffic Safety Program for ongoing review of traffic safety concerns occurring within the unincorporated areas of the county.

TAAS occurs on a yearly cycle and includes core program elements such as review of fatal collisions, site-specific location, intersection high-incidence and segment high-incidence reviews. Along with these core elements, there are a variable number of additional program elements that are completed on a rotational basis such that each element is completed every 2-5 years. These include pedestrian and bicycle crash locations, intersection signalization and all-way stop monitoring, ran off-road crashes, right-of-way violations, wet pavement, snow and ice-related crash locations and motorcycle high-incidence locations.

The identification of high-crash concentration locations for further safety study requires vital data and data systems. For Placer County, these resources include: traffic collision reports (CHP 555); Statewide Integrated Traffic Records System (SWITRS); a collision report database capable of high-incident intersection identification and GIS shapefile creation (Crossroads Software); Geographic Information System (GIS); current traffic volume data; and comparative collision rates (CalTrans Collision Data on California State Highway document).

A critical step in the Traffic Safety Program is the manual review of traffic collision reports to ensure that data which will be used for further analysis is reliable and complete and that safety staff has a full understanding of the cause of the collision via the narrative descriptions of the crash provided by CHP. County safety engineering staff reviews every collision report, looking for patterns such as sight distance problems at side street-controlled county road intersections, fatal and serious injury collisions, pedestrian and bicycle collisions, motorcycles, passing on two-lane roadways, etc.
The County’s Traffic Safety Program includes the Crossroads Software collision database which is a powerful and comprehensive tool to facilitate effective storage, analysis, and reporting of traffic collision data. The traffic collision database provides data input and management for collisions as well as queries and reports, including historical and high incidence. Traffic collision information from the CHP 55S report is hand-keyed into the database in order to achieve a high level of quality control as well as to include any location modification that may have been determined upon review by engineering staff. The TAAS program also crosschecks the database information with that obtained in the state’s SWITRS (Statewide Integrated Traffic Records System). This is done electronically. This overall process provides for an extremely high level of data quality.

The County’s Geographic Information System (GIS) is also utilized with the Traffic Safety Program and has many attributes that aid the traffic collision analysis process under TAAS. County staff performs a segment high-incident analysis, through the aid of a computerized segment analysis tool developed by Fehr and Peer Transportation Consultant via Office of Traffic Safety (OTS) grant obtained in 2011. A query of all collisions within a three-year time frame is obtained from the Crossroads Collision database. This information is plotted on top of the County roadway network and traffic volume information in GIS. The segment tool methodology consists of a comprehensive computerized scan of the County’s roadway network. A ranked list of segment locations is then developed on the basis of crash frequency and then collision rates (traffic volume information is available).

Roadway segments in rural areas are variable, so identification of high-crash concentration segments can be labor and resource intensive without the use of tools as defined above. This process was being performed by hand prior to receiving grant funding through OTS for development of the segment high-incident analysis tool. Upon incorporation of the segment analysis tool into TAAS, County staff estimated a reduction from 110 to 8 staff hours was realized on an annual basis.

Once a final collision location study list is finalized via the TAAS, a detailed engineering investigation is performed to determine what, if any, improvements should be implemented according to engineering assessment and judgment. These studies may lead to changes, improvements or projects at the study locations. The appropriate action or non-action resulting from each investigation must be identified once their investigation is complete through a formal safety evaluation report.

**Measuring Effectiveness**

A review of historical collision statistics provides a basis for assessing the effectiveness of the Traffic Safety Program. It is the goal of the program to start to see lower overall collision rates, fewer fatal and severe injury collisions, and fewer overall numbers of collisions. By performing an ongoing annual review of high-incidence, site-specific and fatal collision locations, Placer County is able to track the effectiveness of the Traffic Safety Program.

Another tool for the measurement of the overall program effectiveness is statewide agency rankings provided by the California OTS. The OTS Rankings were developed so that individual cities and counties could compare their traffic safety statistics to those of other cities and counties with similar-sized populations. Agencies can use these comparisons to see what areas they may have problems in and which they were doing well in. These rankings can be obtained at the OTS website.

**MAP-21 and HSIP**

The Federal Highway Administration (FHWA) and CalTrans are working together to educate the transportation professionals and local agencies on the importance of traffic safety to our communities. The Safety Program offices at FHWA are dedicated to developing and promoting programs and technologies to reduce the number of fatalities and injuries on our nation’s roadways. These efforts are consistent with MAP-21, the newest surface transportation act, as well as the California Strategic Highway Safety Plans (SHSP) and the Highway Safety Improvement Program (HSIP). MAP-21 “Supports the Department of Transportation’s (DOT) aggressive safety agenda” and continues the successful Highway Safety Improvement Program, doubling funding for infrastructure safety, strengthening the linkage among modal safety programs, and creating a positive agenda to make significant progress in reducing highway fatalities.

These programs continue to bring safety funding opportunities to local agencies. In California, the local-HSIP is a competitive process whereby each of the 600 local agencies is eligible to apply for federal safety funding. In the past three HSIP Call for Projects cycle(s), project funding was determined based on a benefit/cost basis. This crash data-driven measurement is a shift from previous cycles. The challenge for many agencies is the availability of crash data and staff resources for analysis and application development. A local agency’s future successes of securing HSIP funding will go hand in hand with a better understanding of local traffic safety-related issues through a traffic safety-type program.

**The Four E’s of Traffic Safety**

The “Four E’s” of traffic safety comprise Engineering, Education, Enforcement and Effective emergency medical response. Placer County is striving to have a positive effect on three of the
four. The County’s Traffic Safety Program is a large step in the right direction towards influencing Engineering. Furthermore, the Traffic Safety Program provides the Education component to decision-makers through the availability of important information, tools and resources that will improve the safety performance of roadways. Lastly, County traffic safety staff meets annually with local California Highway Patrol (CHP) offices to discuss the results of the year’s TAAS outcomes and provides additional collision data which helps CHP focus their Enforcement efforts. Staff also encourages officers to make verbal contact with traffic safety program staff if they see a road problem.

Highway Safety Manual
The Highway Safety Manual (HSM), First Edition – 2010 is a “science based technical approach” to traffic safety analysis and has implications to the County’s Traffic Safety Program and the TAAS procedures. The HSM discusses the various methods for determining high-collision locations. Each of the methods identified has pros and cons. Selecting locations by using the number of collisions per length tends to over-emphasize high-volume locations. Using collision rates tends to emphasize low-volume locations. Placer County uses a combination of these methods plus engineering judgment to select locations for review. Both of these methods fall prey to regression to the mean bias. This is a result of the random nature of many collisions and the resulting tendency for there to be locations with high numbers of collisions over short periods of time that do not reflect a long-term situation.

To address the above issues and respond to this new industry information, the TAAS procedures handbook was modified in 2011. An increased collision data time period is now being used for TAAS Core Elements every third year. This analysis will utilize eight years of data where three years is the normal. This longer time period analysis will consider the effect of construction projects, or other changes, that have occurred within the eight-year time period. In subsequent years the procedures revert back to the three-year study period.

The HSM also emphasizes a predictive method for estimating the number of collisions at a location then comparing the actual number to the prediction. This data-intensive procedure addresses the regression to the mean issue. The predictive method may be effectively utilized for a limited number of sites but becomes impractical for studying the whole County highway system of 1,050 miles of road. It is most likely an impractical practice for local agencies to invest this level of effort on a regular basis.

Closing
Local agencies have the opportunity of directly affecting the safety of their roadway users. Armed with the knowledge of the traffic safety-related issues, identification of applicable countermeasures to reduce the likelihood of crashes will be more easily determined. This knowledge will also allow for a competitive application for safety-related roadway improvement grant funding and most importantly measurable reductions in frequency and rate of crashes. Placer County is proud of its Traffic Safety Program and the position it presents staff to make future strategic safety improvement for years to come.

Stephanie Holloway is a registered California civil engineer working for Placer County in the area of traffic safety. She is instrumental in the County Traffic Safety Program and has been working in this position for nine years. Most recently Stephanie has been working with CalTrans and FHWA promoting traffic safety and systemic analysis of crash data. She can be reached at (530) 745-7551 or SHollow@placer.ca.gov.

The Maine Chapter holds three regional events during National Public Works Week to promote public works. The events allow public works staff to demonstrate equipment to children and their parents. Additionally, the chapter provides various items to the children (goody bag, APWA balloons, APWA pencils, Maine Chapter water bottles, and other items). There are various community mascots in attendance that promote maintaining the environment. The event is promoted through the chapter, press and message boards along roadsides.

– Contributed by Rick Stinson, APWA Director of Region I
Superstorm Sandy was one of the worst storms in the history of New York City and the most devastating natural disaster to strike the Metropolitan Transportation Authority (MTA) network. On October 29, 2012, Sandy made landfall in the northeast region, flooding the streets, tunnels, subway system and leaving millions without power. With wind speed up to 90 mph and an unprecedented storm surge nearing 14 feet, Sandy left major New York City tunnels inundated with seawater and widespread flooding of downtown Manhattan.

The Department of Engineering and Construction (E&C) at MTA Bridges and Tunnels’ (B&T) was at the forefront of the emergency response and has a major role in the ongoing recovery from the impacts of Sandy. E&C has responsibility for the design and construction of capital improvements, major maintenance, security, technology, communications and special programs impacting the daily operations of B&T’s seven bridges and two tunnels within the five boroughs of New York City. All together these facilities provide for annual traffic volume of 286 million vehicles.

On October 29 the Hugh L. Carey (formerly the Brooklyn Battery Tunnel) and Queens Midtown Tunnel were closed to traffic, as a precaution prior to the storm surge. These two twin-tube, four-lane tunnels are major transportation arteries connecting Manhattan to Queens and Brooklyn. The 6,400-foot-long Queens Midtown Tunnel was inundated for about 2,500 feet, while the 9,117-foot-long Hugh L. Carey Tunnel flooded for about 6,000 feet. The magnitude and intensity of Sandy rendered impassable the Queens Midtown Tunnel which has average daily traffic volume of more than 85,000 vehicles per day, as well as the Hugh L. Carey Tunnel which has average daily volume of more than 50,000 vehicles per day.

Due to severe flooding in these tunnels from roadways to ceilings, critical functions were severely damaged causing hundreds of millions of dollars in damages. Saltwater penetration damaged vital equipment in ventilation buildings, exhaust and fresh-air ducts, blower buildings, electrical distribution systems, communication systems, switchgears and pumping stations. The tunnels’ electrical feeder and lighting systems, wall and ceiling finishes, fiber optic cables, security and monitoring systems were also completely submerged in saltwater.

Continuous pumping operations for the tunnels began the day after the storm. On November 1 B&T’s President signed an Emergency Declaration to expedite the recovery process. This authorized the emergency mobilization of emergency resources including equipment and forces needed to dewater, reinstate power, perform post-storm inspections, remove debris, and restore services and other similar work necessary to reopen these vital transportation facilities, which are critical public, private and commercial vehicle transportation links. B&T’s staff worked extended hours alongside consultants and contractors to dewater the tunnels and repair or restore essential equipment to put the tunnels back in operation.

In only one week after Sandy hit, on November 6, the Queens Midtown Tunnel was reopened for buses, and by November 8 all four lanes of the Queens Midtown Tunnel were opened for all vehicles except trucks. The truck traffic ban was lifted on November 16. To reopen this tunnel, 12 million gallons of

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Storm surge at East River measuring 14 feet flooded downtown Manhattan.
seawater were pumped out. The Hugh L. Carey Tunnel, the longer of the two tunnels, was opened for buses only on November 12 and then was opened for all vehicles except trucks on November 19 with truck traffic restored on December 10. To reopen this tunnel a staggering 60 million gallons of seawater were pumped out.

While these two tunnels received the most significant damages to their infrastructure and disruptions in service due to the storm event, B&T’s bridges and related facilities also suffered damage due to the storm. The damage was primarily due to high wind gusts and tidal effects. Closures at the bridge facilities lasted no more than 24 hours and all were reopened by the afternoon of October 30 without unusual restrictions. However, Superstorm Sandy delivered devastating effects on the Rockaways, impacting facility buildings at the Marine Parkway Gil Hodges Memorial Bridge and the Cross Bay Bridge. The Marine Parkway Bridge spans over Rockaway Inlet and connects Flatbush Avenue in Brooklyn at the north with Beach Channel Drive and Rockaway Point Boulevard in Queens at the south. The Cross Bay Veterans Memorial Bridge spans Beach Channel in Jamaica Bay, providing access from Brooklyn and Queens to Rockaway and the beaches in the area.

The impacts from Sandy included flooding of the abutments of both Rockaway Crossings and the electrical equipment housed within the facilities, as well as flooding of the entire Service Building and female Bridge and Tunnel Officer Complex at the Cross Bay Bridge. The Rockaway Crossings were closed to traffic around 8:00 p.m. on October 29. Both bridges reopened for traffic the next day. Toll collection was suspended at both bridges from the reopening until November 30. The Cross Bay Bridge Service Building was closed for approximately two weeks for cleaning and removal of debris from the exterior. Electrical equipment also had to be cleaned dry and restarted. Permanent power was restored at the Marine Parkway Bridge on November 6 and at the Cross Bay Bridge on November 15.

B&T’s Engineering and Construction Department has currently established...
a special Sandy Program area to address the many facets of planned reconstruction and mitigation projects. Approximately $778 million is in the approved budget primarily for restoration work for the Queens Midtown and Hugh L. Carey Tunnels and Cross Bay and Marine Parkway Bridges, as well as miscellaneous Sandy projects at the Robert F. Kennedy, Throgs Neck, Verrazano-Narrows and Bronx-Whitestone Bridges. Restoration work has already begun and is ongoing with Sandy-related awards scheduled over the next two to three years, with some work to begin in the second half of 2013 and the bulk of the work to begin during the last quarter of 2013 and 2014.

Besides restoration work at impacted facilities, B&T has identified and is studying future flood mitigation measures and other improvements to protect vulnerable ingress locations at tunnels. The budget for $96 million in Sandy mitigation work is yet to be approved. Long-term mitigation measures are being evaluated with plans in place to implement hardening measures. In addition, detailed engineering flood studies of non-tunnel facilities and other conceptual designs of identified vulnerabilities will be performed, including relocation of revenue and mission-critical systems and vital communications equipment to non-flood prone elevations and other locations at various facility buildings, substations, and garages. Rapid mitigation measures are ongoing in preparation for the upcoming hurricane season.

While B&T was able to bring back its system in such a short time, the repairs and restoration work for damages caused by Sandy will continue over the next several years. B&T’s Engineering and Construction staff is working together with its consultants, contractors and FEMA to strengthen its infrastructure and rebuild and build better systems to withstand future events such as Superstorm Sandy.

For more information please contact Patricia Z. Beach at (646) 252-7087 or pzbeach@mtabt.org or Bhoomi Vala at bvala@mtabt.org.
Transportation challenges demand a fundamental cultural shift

Sam Yaghmaie, P.E., LEED AP
Construction Manager, WH Pacific, Inc.
Bothell, Washington
Chair, APWA Transportation Sustainability Subcommittee

The transportation infrastructure of the United States is estimated by the Federal Highway Administration (FHWA) to be worth about $1.75 trillion. American taxpayers are the owners of these valuable assets, and they should insist that the majority of their money go toward maintenance and preservation of these assets as well as other modes of commuting.

The U.S. Census Bureau expects the U.S. population to grow to 420 million by 2050. On the other hand, transportation agencies have been going through a painful experience: The more they build and expand roads, the less successful they are at controlling traffic trends and shortening travel time. Populated urban areas are the worst, with long lines of slow traffic that are becoming the norm. The sad news is that transportation agencies have insufficient funds to maintain existing road conditions at an acceptable level. And as most of us know, ongoing weakened local and global economies do not help at all.

The 2013 Report Card1 by the American Society of Civil Engineers (ASCE) has rated the U.S. infrastructure with a D+. It states that one in nine of the nation’s bridges is rated as structurally deficient. The FHWA estimates that we have an $87 billion shortage of the annual funds necessary to significantly improve the conditions and performance of roads and bridges. Below-standard surface transportation systems cost American households and businesses nearly $130 billion a year. The cumulative cost imposed on the U.S. economy, with the existing trend, will be $2.9 trillion in 2040.

American infrastructure investment is losing its value by being neglected. What is the most effective way to address this major challenge? The decrease of gas tax revenue and unwillingness to raise or even index the gas tax, due to lower consumption as unexpected, has motivated policy makers to become more innovative at finding other sources of revenue, such as:

- **Carbon Price:** Mandate that nation’s largest polluters such as utilities, oil companies, etc. have to pay a fee for each ton of pollution they release while transporting goods.
- **Toll Fee:** Require users of all higher-volume roads and bridges to pay a fee or toll.
- **Mileage Tax:** Ask vehicle owners to pay a driving tax based on the use of their vehicle, measured by electrical equipment installed on each car that monitors travel distances.
- **Public-Private Partnership (PPP):** Partner with the private sector (which has the money, but not enough projects these days) to build and/or maintain roads or bridges for public agencies (which have lots of projects, but not enough money).
- **Fee-for-Service Basis:** Charge drivers directly by implementing a fee-for-service system. Drivers pay for the roads they travel on.

All of these new initiatives have one thing in common: they are funded by American taxpayers. As the owners of the U.S. transportation infrastructure, American taxpayers are definitely obligated to pay for the maintenance and preservation of their national assets. But the concern of many taxpayers is: will the funds be spent the same way they have been for decades? If the answer is yes, then the result is more of the same: a continuing decline in our aging infrastructure. Transportation agencies are challenged by policies that allocate more funds for new and expanding roads, while they can’t even afford to maintain the existing transportation network. What if policy makers continue their business-as-usual approach?

A shift of the public mindset is probably a longer-term solution, but it is a must. A number of healthy and fast-growing economies during the last decades of the 1900s allowed the U.S. to invest heavily in our vehicular transportation infrastructure, providing a high level of personal comfort for the driving traveling public. This essentially meant single-occupant vehicle driving because the mindset became that we could go anywhere we wanted to, when we wanted to, and how we wanted to. Studies show that the number of vehicle miles traveled (VMT) in the U.S. has doubled since 1987 to nearly three trillion miles. This is one of key major burdens on the country’s transportation infrastructure and network.

A shift in the priorities of public agencies is also likely to be a
Good news is that MAP-21 fully supports performance-based program initiatives. Implementing an asset management program, a business process, is a foundation for programs that optimize the performance and cost-effectiveness of transportation facilities. Application of asset management principles requires a change in thinking at every level within public agencies. It means to decide based on data, on getting results, and maintain a prescribed level of service at the lowest cost possible. Assets that do not meet these criteria will go to the bottom of the priority list, if not abandoned. We know that profit is not a motive in the public sector, but the basic concepts of performance and cost-effectiveness can still be applied. For transportation agencies, this means a full and updated accounting of the public assets: roads, bridges, and other facilities, that will form the basis of transportation asset management.

In addition to creating and implementing new policies that encourage fundamental changes in public behavior, we also need to become out-of-the box thinkers and doers. One can call it progressive, sustainable, or just a common-sense approach, but let’s face it, with insufficient funds, building more roads and maintaining the existing ones will not solve our transportation demands for the long term. We must consider other more efficient and more effective modes of commuting while keeping our roads safe and well-maintained. This requires, and more so for next generation, that we allocate more funds on other modes and methods of transportation than single-occupant vehicles.

Focusing on mass transportation systems such as bus service, light rail, and high-speed rail, and consistently implementing proven strategies and mechanisms, like HOV lanes, bicycle networks, travel pricing, park-and-rides, parking pricing, sustainable land-use planning, restrictions on vehicle use, vehicle improvement technologies, alternative fuel vehicle mandates, and on and on... must be planned and implemented. A phasing plan to leave existing comfort zones and become more adaptive to mass transportation means must be strategized. A reliable mass transportation system means fewer cars out on the streets as well. Nine percent of the world’s carbon dioxide emissions come from U.S. automobiles—the equivalent of roughly 3,000 million tons per year. To put this into perspective, 12 tons of carbon dioxide is produced to meet yearly energy demand of the typical American household.

In the long term, strategies supporting the restoration, preservation, and maintenance of the existing roads to a safe level should be encouraged and public agencies’ cultural shift must be in their everyday agenda. Accountability of public agencies at all levels must be sought and public mass transit and transportation investment must be prioritized. But for the sake of our children and future of our next generation, let’s think twice before building new roads that don’t even have a decent budget for maintenance. New policies need to effectively seek the attention of public officials in such planning and keep educating both public agencies and the public.

It is time to protect the value of one of our country’s most precious assets. Other countries in the world are ahead of us in balancing these needs. We have no choice but to adapt our way of thinking, adjust our comfort zones, think wisely, and use our common sense.

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1 Failure to Act: The economic impact of current investment trend in surface transportation infrastructure, ASCE, www.asce.org/reportcard


3 MAP-21, http://www.dot.gov/map21
The Transportation and Development Institute’s Sustainability Mission

Sandra Otto
Division Administrator
Federal Highway Administration
Little Rock, Arkansas

In recent years, the transportation community has become increasingly aware of the importance of sustainability in our work. The transportation sector is responsible for 10 percent of the world’s gross domestic product, 22 percent of global energy consumption, and 25 percent of fossil fuel burning across the world. As a result, it produces 30 percent of global air pollution and greenhouse gases. The near-total dependence of transportation on petroleum fuels accounts for about a third of our country’s climate changing emissions. The transportation sector will continue to be a critical partner in addressing global, national and local sustainability concerns, such as public health, resource depletion, global climate change, ecosystem disruption and pollution in ways that also allow us to meet our critical transportation needs.

Transportation does not exist in isolation from the larger society. With the growing interest in the application of sustainability concepts in transportation engineering and land use development comes a growing expectation of values-based decision-making. Increasingly transportation solutions must enhance quality of life in communities and promote economic development, while preserving the natural environment—doing all these things cost effectively. Most recently, with many natural disasters, the conversation has broadened to consider resiliency.

With these concerns in mind, the American Society for Civil Engineering’s (ASCE) Sustainability Task Force and the Transportation and Development Institute’s (T&DI) Environmental Issues Committee merged in 2010 to form the Committee on Sustainability and the Environment (CSE). With leadership from more than 30 active members, the CSE mission is to advance the thinking and practice of sustainable transportation and development.

Since that time the CSE has focused on outreach and education on sustainability issues within T&DI’s committee structure, to ASCE members and to the industry at large.

The ASCE Journal of Transportation Engineering published a Special Issue on Transportation, the Environment and Sustainable Development in June 2011, guest edited by CSE Chair Dr. Adjo Amekudzi (Civil Engineering, Georgia Institute of Technology). The issue catalogued some of the serious efforts being made to address sustainability issues in and through the transportation sector, including greenhouse gas emissions and climate change, energy consumption, air quality, and quality of life.

In 2010, CSE responded to the growing interest in sustainability issues by holding the 1st Green Street and Highways Conference (GSHC) in Denver, Colorado. The Federal Highway Administration (FHWA) and the U.S. Environmental Protection Agency (USEPA) cooperated with CSE, with the Institute of Transportation Engineers and the American Association of State Highway and Transportation Officials collaborating in the effort. The conference brought together over 400 practitioners, government officials, and academics to share information on leading-edge sustainable transportation, environmental, and water resources principles and practices.

With the success of the first conference and the growth in industry knowledge and experience in transportation sustainability, the CSE committed to a second conference that focuses on the successful practice of sustainable transportation. Building on the 2010 GSHC’s theme of “The State of the Art and How to Achieve Sustainable Outcomes,” the 2013 2nd Green Streets Highways and Development Conference will showcase successful practices and established innovation for sustainable transportation and land development. It will focus on translating sustainability from concept to application with real-world design approaches, planning methodologies, performance measurement and management tools, policies, and case studies from around the nation and the world.

In 2011, at the direction of the T&DI Board of Governors, the ASCE T&DI Sustainability Survey was deployed to identify the sustainability needs, interests and opportunities of T&DI Committees. More than 100 T&DI members responded to the survey. The results showed that over 90% of respondents consider sustainability to be relevant to their committee goals and objectives while only 24% of respondents indicated that their memberships was “familiar” with sustainability concepts (73% indicated “somewhat familiar”). The survey identified specific sustainability-relat-
ed issues deemed most important to the respondents. Professional issues such as education, outreach and even leadership endorsement of sustainability were indicated as important to the T&Dl membership. Technical issues such as a generally accepted sustainability definition along with improved guidance on measuring sustainability were identified as important.

One of the primary intentions of the survey was to garner input towards the content programming for the upcoming 2013 conference. Respondents were asked to rank their interest in nine different sustainability topics in addition to being given the opportunity to write-in issues of particular interest to them. Of the potential topics, Green Design and Construction, Integration of Transportation Modes, Integration of Transportation and Land Use and Economic Development received the most responses. There were a broad range of other topics suggested such as Erosion Control, Public Health and Safety as part of transportation sustainability.

In 2014, committee leadership will continue to seek opportunities for incorporating the survey findings into its practice as well as that of T&Dl as a whole with a communication plan across the Institute for sustainable policy and best practices.

The focus of the committee today is development of the 2nd Green Streets Highways and Development Conference, scheduled for November 2013. The foundation of the conference is an extensive technical program developed by a large scientific committee and presentations by a wide range of practitioners, government officials and academics. Academic papers will be presented alongside practitioner presentations in tracks on Sustainable Pavements and Materials; Integrated Water Management; Green Design, Construction and Asset Management; Sustainability Measurement and Evaluation and in the areas of land use planning and development, livability and engineering education. Case studies will provide success stories that can move us to the next level in advancing sustainable community development through smart transportation and land use choices.

The conference will also host a lively debate to explore the issues of sustainability and resiliency with respect to extreme events. Young Member presentations have been mainstreamed into the technical program and focus on professional and leadership development activities, including a conversation circle with industry leaders. A staffed-poster session and exhibits of companies driving innovation and quality in green streets, highways, and development will be available.

How relevant is sustainability to the technical aspects of your committee/council?

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Marsha Anderson Bomar, Sr. Principal of Stantec and Conference Steering Committee Chair, invites engineers, planners and other design professionals to join her in Austin:

“The future is ours to design: Bringing subject matter experts together at the 2nd Green Streets, Highways and Development Conference will advance the practice and help us become well-informed, better stewards of our planet’s resources. Packed with state-of-the-practice projects, cutting-edge research, ‘living laboratory’ Austin mobile workshops and tours, this will be a high-value conference for you to attend.”

The Conference Steering Committee includes key officials from organizations significantly involved in sustainable policy, planning and research—the FHWA, USEPA, the American Council of Engineering Companies, the American Planning Association, the American Society of Landscape Architects, the American Public Works Association, and ASCE’s Environmental Water Resources Institute.

Advancing the Practice: The 2nd Green Streets Highways and Development Conference, November 3-6, 2013, Austin, Texas, brought to you by the ASCE Committee on Sustainability and the Environment (CSE) of the Transportation and Development Institute (T&Dl).

For more information, visit the conference website at http://content.asce.org/conferences/greenstreets-highways2013/index.html.

Sandra Otto can be reached at (501) 324-5625 or Sandra.Otto@dot.gov. Steven L. Jones, Jr., Ph.D., Associate Professor, Department of Civil, Construction & Environmental Engineering, University of Alabama, contributed to this article.
2013 transportation safety activities at the Transportation Research Board Annual Meeting and the latest in transportation safety news

Tony Giancola, P.E.
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For many years several Transportation Research Board (TRB) committees have focused on safety on local and rural roads. They include but are not limited to: Rural Road Safety, Policy, Programming and Implementation Joint Subcommittee; Transportation Safety Planning Subcommittee; Low Volume Roads Committee; Roadside Safety Design, Transportation Safety Management and the TRB Roadway Safety Cultures Subcommittee. At the annual TRB meeting in 2013 the following activities, initiatives, and publications of interest to local road practitioners are summarized. Projects are funded through the National Cooperative Highway Research Program (NCHRP).

Rural Road Safety, Policy, Programming & Implementation Joint Subcommittee (ANB10 & AFB30)
The mission of this joint subcommittee is to provide a focal point/forum within TRB for research-based activities and current activities related to improving rural roadway safety through policies, programming, and countermeasure implementation. The NCHRP Project 20-05, Topic 44-05 “Safety and Crash Data Management among State and Local Agencies” proposed by the subcommittee, has been funded with Vanasse Hangen Brustlin, Inc. (VHB) selected as the consultant. This synthesis would involve an examination of current practices among state and local agencies to determine the availability and accessibility of reliable and current data in each jurisdiction to permit effective and accurate crash analysis across all levels of severity: fatality, injury, and property damage. It will also explore state and local agencies that are programming systemic safety improvements when crash data are not available using risk-based and other methods to improve the safety on rural roads.

Low Volume Roads Committee (ABF30)
This committee is concerned with all aspects of low-volume roads including planning, design, construction, safety, maintenance, operations, environmental and social issues. One presentation by Leslie McCarthy, Villanova University, outlined the results of NCHRP Synthesis Topic 43-04 “Practices and Performance Measures for Federally-Funded Local Public Agency (LPA) Projects” which included both state and local best practices. This Synthesis will be published soon. To view the committee website visit http://sites.google.com/site/trbcommitteeafb30/.

Transportation Safety Planning Subcommittee (ANB10 (3))
At the TRB meeting briefings on several projects occurred including the continuing efforts, stemming from NCHRP (National Cooperative Highway Research Project) 08-76; Institutionalizing Safety in the Transportation Planning Process; the FHWA assessment and delivery of Safety Funding at the Local Level Project; the FHWA Safety Performance Targets project; the new Systemic Safety Analysis Tool; and discussion of the revised TSPWG website and the “Directions in Road Safety” newsletter.

FHWA Assessment and Delivery of Safety Funding at the Local Level project. Karen Scurry with FHWA presented an overview of the project which will (1) determine the extent to which HSIP/other safety funding is distributed to local agencies; (2) obtain information on local safety program delivery processes; (3) identify noteworthy practices and processes; and (4) provide targeted peer-to-peer recommendations. The survey results will be used to develop a Final Report, inclusive of noteworthy practices. For additional information about this project, contact Karen Scurry at Karen.scurry@dot.gov.

FHWA Safety Performance Targets Project. Abishek Das with Cambridge Systematics presented new research being undertaken for the FHWA on safety performance targets. The objectives of this study are to: (1) analyze the current state of practice in safety target setting at the state/regional level; and (2) develop guidance on potential approaches for safety target setting by states/regions. Key tasks for this project include a literature review, a national survey to understand state and regional practice, analysis of state methodologies, a peer exchange, and the development of guidance based on the research. At the time of the
presentation, analysis was still being conducted on the survey results. For additional information about this project, contact Abishek Das at adas@camsys.com.

Systemic Safety Analysis Tool
Karen Scurry with FHWA presented on the systemic approach to safety. She provided background on the systemic approach; highlighted some examples of how the systemic approach is emphasized in the most recent transportation legislation, MAP-21; mentioned resources that are available to support systemic planning efforts; and provided more detail on the Systemic Safety Project Selection Tool (more of a “Process” than a “Tool”) that has been in the works for the past couple of years. The tool includes three main components: The first is the systemic planning process, which provides step-by-step instructions and illustrative examples to identify and prioritize systemic safety improvement projects. The second element of the tool presents a mechanism for agencies to determine the appropriate balance of funding between site analysis and systemic projects. Lastly the tool presents a mechanism to evaluate systemic safety improvements. Three states piloted the systemic planning process: Kentucky, New York, and Thurston County, Washington, and the final Tool should be available in early summer. For additional information contact Karen Scurry at Karen.scurry@dot.gov or visit http://safety.fhwa.dot.gov/systemic.

Roadway Safety Cultures Subcom- mittee (AN000 (1))
The current mission of the subcommittee is to provide a public forum for framing issues, identifying research needs, and disseminating research findings related to all aspects of roadway safety cultures. Through the creation of partnerships between organizations and people capable of influencing roadway safety cultures, this committee will assist in the elimination of roadway fatalities, and increase safe driving experiences, by putting roadway safety in the broader context of social change, public health, and quality of life. Planning for the “1st National Roadway Safety Culture Summit” to be held on August 20-21, 2013 at the Transportation Research Board Keck Center in Washington, D.C., is underway.

Other News
The Roadway Safety Foundation’s publication Roadway Safety Guide is nearing completion. This publication is a revision and rewrite of the publication produced 10 years ago. It serves as a resource for elected officials, community leaders, civic groups and all stakeholders interested in improving safety on their highways and roads. Visit www.roadwaysafety.org for details.

NCHRP Project 20-24(87) “State DOT Administration of Local Road Safety Aid” is underway. The objectives of this project are to (a) describe how DOTs organize themselves to administer programs to enhance safety on local roads and (b) assess the performance of alternative organizational strategies. The research report will inform AASHTO and DOT leadership on issues and options for effective DOT administration of local road safety aid.

NCHRP project 03-104 “Non Signalized Intersection Manual” is underway. The objective of this research is to develop a comprehensive guide to enhance the safe operation of unsignalized intersections. The guide will aid practitioners in selecting design, operational, maintenance, enforcement, and other types of treatments to improve safety, mobility, and accessibility.

The FHWA “Low Cost Rural ITS safety counter measure project” is a new project underway at FHWA. The purpose of the guide is to highlight the value of using technology to improve the safety of local and rural roads.

Tony Giancola is an APWA Life Member and Past President of the VA-DC-MD (now Mid-Atlantic) Chapter, member of the TRB Rural Road Safety Policy, Programming & Implementation Joint Subcommittee, Roadway Safety Cultures Subcommittee, and the Transportation Safety Planning Subcommittee, Secretary of the Roadway Safety Foundation, former Chair, TRB Low Volume Roads Committee, former member of the AASHTO Standing Committee on Highway Traffic Safety, former member of the Toward Zero Deaths (TZD) Steering Committee, and Retired Executive Director, National Association of County Engineers. He can be reached at tonygiancola@rcn.com.
Alternative intersection design delivers

Ben Mann, P.E., City Engineer, City of Fairfield, Ohio; 
Dan Hoying, P.E., P.S., P.M.P., Principal, LJB Inc., Dayton, Ohio

For most people, being the first to try something is daunting, intimidating, and even downright scary. But the City of Fairfield, Ohio, didn’t have much choice in becoming the first community in the country to implement an alternative intersection design known as QRI, or quadrant roadway intersection.

The intersection of Route 4 and the Route 4 Bypass in Fairfield had a history of congestion-related accidents and troublesome traffic delays. In fact, the crash rates at the intersection were five times the statewide average. After establishing project goals and evaluating ten design options, the QRI solution—although unique—was the best fit to provide for the community’s needs. The innovative design met the required criteria from all the project’s stakeholders: the Federal Highway Administration (FHWA), the Ohio Department of Transportation (ODOT) and the City of Fairfield.

The primary objective of a QRI is to reduce delay at a severely congested intersection by removing left-turn movements. At a QRI, all four left-turn movements from the conventional four-legged intersection are rerouted to use a connector roadway in one quadrant (see Figure 1). The new intersection benefits the traveling public, as it is expected to reduce accidents and enhance traffic flow to and from Route 4, which handles traffic of 40,000 vehicles per day.

The project team exhausted all other design options in an attempt to use a more conventional intersection design. None of the conventional options were viable for traffic flow, or cost effective with regard to construction and right-of-way. However, once the project stakeholders granted approval of the QRI design, there were very few technical problems with this project.

Implementing the QRI design did provide some valuable lessons learned for employing alternative intersection designs.

Lesson Learned #1: Avoid opening before all lanes and movements can be opened

In an effort to provide as many available lanes of traffic as possible, portions of the newly constructed QRI roadway were opened before all lanes on the receiving roads were complete. As a result, the public’s first experience with the new intersection configuration was with it operating at less than full capacity. Despite appropriate signage, the partially completed improvements led to

Figure 1: These graphics show the connector road and how all four of the left-turning movements are rerouted to use it.
initial confusion and frustration with the intersection. The temporary lane configurations and use of three traffic signals at the expanded intersection increased the importance of the temporary signal timing during construction.

When implementing an alternative intersection, it is ideal to employ a maintenance of traffic scheme that uses the existing conventional intersection design until the new intersection can be opened in its full capacity. Public perception and reaction to the new configuration is always going to be apathetic at best, and opening it with limited capacity, traffic barrels and temporary paint markings (while construction activity is still taking place) adds to driver uncertainty and confusion.

If the alternative configuration is introduced after most of these elements have been removed and it is at full capacity, the public’s initial understanding and appreciation of the improvements will be greatly enhanced. This may not always be practical, but it should be given serious consideration.

**Lesson Learned #2: Changing driver habits needs to be as intuitive as possible**

Because the QRI intersection is unfamiliar and somewhat counterintuitive to the public, the City of Fairfield created a public outreach program to educate residents. The education program focused on the need for drivers to adjust the way they make left turns at this location. Instead of turning at the primary intersection, left turns occur at one of the secondary intersections. The education program included a project website, project boards at the public works office, televised city council and city manager briefings, meetings with local businesses and organizations, newsletter articles and media releases.

Although the design attempted to reduce confusion with overhead signing and in-lane pavement markings, driver habits and inattention created some challenges to smooth travel when the intersection opened. This problem was combated by adding temporary message boards and signage. Permanent advanced, illuminated and non-illuminated, ground and overhead signs were erected prior to the opening of the intersection.

![Figure 2: Aerial view of the completed quadrant roadway intersection (QRI) in Fairfield, Ohio](image-url)
to the QRI opening. The City also increased police involvement in the area to provide travelers with verbal and written warnings as they adjusted to the new intersection.

**Lesson Learned #3: Restrict illegal turns with physical barriers**
The QRI design removes all traditional left-turn movements from the major intersection, which proved challenging for motorists. When the new intersection first opened, the City of Fairfield documented a large number of illegal turns. These illegal turns reduced significantly after the first week the intersection was open, and decreased 90% within eight months. Still, the use of a physical barrier, such as a concrete median or landscaped island, would have been more effective than adding transverse striping to prior left turn lanes in communicating the left-turn restrictions.

**Lesson Learned #4: Sustainability is about more than “green”**
Although sustainability typically focuses on the environmental aspects, this was truly a sustainable project. True sustainability centers on the triple bottom line of economic, social and environmental impacts. From an environmental perspective, the QRI design allowed construction to weave between existing wetland areas with minimal impact. The project also used existing local resources, including a large amount of fill obtained from sites around the city, and the existing fiber-connected central traffic system. Many of the existing materials were recycled, and the existing bridge deck was broken up and used as erosion control for another City project. Economically, the design greatly reduced the impact on the commercial properties located on three corners of the intersection. The QRI also reduces travel time through the intersection, resulting in both economic and environmental benefits. Simplified traffic signals, enhanced traffic flow and aesthetic improvements to the area also have a positive effect on the long-term impacts to the community.

Alternative intersections have the potential to help your community realize many of these same benefits at challenging intersections. FHWA has developed tools to assist in the evaluation of these intersections for your situation. More information on the current research and configurations for alternative intersection designs can be found in the *FHWA Alternative Intersections/Interchanges: Informational Report (AIIR)*.

The City of Fairfield didn’t set out to be the first in the country to implement a QRI design. But this alternative intersection design was the only way to achieve acceptable levels of service and safety while considering the social, economic and environmental costs of the project.

Whether it’s conventional or alternative, the most important result is to select a design that meets the varying needs of the community. Explore all options, use the available evaluation tools and consider all three elements of the sustainability triple bottom line when selecting the best solution for the challenging intersections in your community. For the City of Fairfield and the Bypass 4 intersection project, it was a QRI. What will it be for your community?

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Partnering for success: an improved approach to Florida’s Local Agency Program

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It is common practice for State Departments of Transportation to use the services of consultants and contractors to deliver their transportation projects and programs. The process for outsourcing in this instance is generally well defined and has proven to be very successful. A less common but emerging practice is the use of local governments to deliver federally-funded transportation projects. The Federal Highway Administration (FHWA) calls the practice the Local Public Agency (LPA) Program; in Florida, this practice is known as the Local Agency Program (LAP). In 2006, an estimated $6 billion to $8 billion in federal-aid highway contracts were administered by local governments in at least 45 states. This figure represented approximately 20% of the overall national federal-aid program. While LAP provides an excellent opportunity for qualified local governments to deliver federally-funded projects, the Program has its share of challenges. In a national review, the FHWA Office of the Inspector General found that 88% of the LAP projects reviewed had at least one area of non-compliance with federal requirements. This ultimately led to LAP being designated as a high-risk program. The non-compliance is generally due to a lack of familiarity with the federal requirements and the challenge of modifying a local government’s standard operating business practices to meet the federal regulations and the processes necessary to deliver a successful federal-aid project.

As the prime recipient of federal transportation funds, State Departments of Transportation realize economies of scale when administering federal-aid projects. However, this is not the case for many local governments whose processes and procedures are designed to accommodate local dollars and processes. It is further complicated when a local government only occasionally administers a federally-funded transportation project. Florida is no stranger to these challenges. Currently, there are more than 200 local governments certified to participate in Florida’s Local Agency Program. During the State’s 2012 Fiscal Year, LAP federal-aid obligations were approximately $144.5 million of the Florida Department of Transportation’s total $2.3 billion federal-aid obligations, accounting for 6.2% of the Department’s overall federal-aid obligations. During the same fiscal year, 283 local government-administered construction projects were completed, with an estimated total value of $283,604,431. Over the next six years, approximately 474 LAP projects, with...
an estimated value of $735,776,808, are planned to be delivered.

The Florida Department of Transportation has taken a proactive approach to meeting the challenges of LAP. The Department has developed a LAP certification process that ensures that local governments are adequately equipped to administer federal-aid projects. Representatives from various functional areas of the Department interview the local governments and review their processes and procedures in an effort to ensure that they are aware of the required processes to successfully deliver a federal-aid project. The Department has partnered with members of APWA’s Florida Chapter and the Florida Association of County Engineers and Road Superintendents (FACERS) to create the Local Agency Community of Practice (LAP CoP). This group has had success in promoting mutual understanding and in identifying various opportunities for streamlining the LAP process. The focal areas of this include design and construction project deliverables. The Department also offers online computer-based training to the local governments and face-to-face regional workshops. These workshops include representatives from the various Department Districts, the Central Office, and the FHWA. Several local governments have presented their best practices and tips for success in LAP during these workshops.

In addition to the partnering efforts and ongoing process improvements, the Department has developed the Local Agency Program Information Tool (LAPIT). This web-based application allows local governments, the Department, and the FHWA to have access to centralized project files. The application also provides access to basic project financial information. The LAPIT application sends reminders to local governments and the Department’s project managers when invoices are needed or when project agreements are near expiration. Notifications are also sent when a new project has been added to the application. In addition to its current practices, the Department is currently exploring the use of various consultant flexibilities for LAP as part of the FHWA Every Day Counts initiative. The Department continues to improve its program and shares in the success of its local government partners. Several LAP projects, including the City of Lakeland’s Parker Street, Putnam County’s CR 309C and Motes Road Roadway/Multi-use Trail Improvements, Pasco County’s Starkey Park Trail improvements, and Hillsborough County’s 56th Street Pedestrian Enhancements, have won various awards from FACERS and the various branches of APWA’s Florida Chapter. These successes and other accomplishments are captured in the Department’s Annual LAP Report.

For more information about Florida’s Local Agency Program visit: http://www.dot.state.fl.us/projectmanagementoffice/LAP/default.shtm.

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New Kings Road Transit & Pedestrian Improvements at Jacksonville’s Edward Waters College, a $1.94 million LAP project completed April 2012 by Jacksonville Transportation Authority
AP-21 Section 1112 has a lot to say about improving state safety data systems as a means to the end of reducing fatalities and serious injuries on the nation’s highways. In short, improved data collection and analysis enables more informed decision-making, which produces better targeted safety investments and yields larger reductions in fatalities and serious injuries per dollar invested.

The 2010 AASHTO Highway Safety Manual established the need for and benefit of roadway inventory and traffic data, which provide valuable context for understanding and interpreting crash data, e.g., whether the number of crashes at a particular location is more or less than one would expect on that type of roadway. FHWA recently completed a series of Peer Exchanges and the United States Roadway Safety Data Capabilities Assessment, which provides an excellent baseline and list of potential actions for improving safety data systems.

The capability assessment used a capability maturity model to provide a consistent, repeatable, and systematic process to assess states’ roadway safety data capabilities. The model involved assessing the level of maturity (from 1—initial/ad hoc—to 5—optimizing) in four areas:

- **Roadway Inventory Data Collection/Technical Standards** – What roadway inventory data are collected? How are they collected? What standards must they meet?

- **Data Analysis Tools and Uses** – How does roadway safety data relate to analysis processes including tools such as HSM, IHSDM, Safety Analyst, etc.?

- **Data Management** – What policies and procedures exist for collecting, maintaining, using, and updating roadway safety data?

- **Data Interoperability and Expandability** – How does roadway inventory data relate to other data including, but not limited to, crash data, citation data, etc.? Can the existing data be expanded as new technologies and tools are developed in the future?

Each state received an action plan that summarized both their current capability maturity level and the level they indicated they wanted to achieve. It also included suggested actions that the state might take to improve from their current to their desired level.

The capability assessment results identified the highest capability levels in areas including accuracy and uniformity of data and expandability and accessibility of databases. The lowest capability levels included the completeness of data (generally due to the lack of roadway inventory and traffic data on locally maintained roads) and for policies and technologies supporting effective data management.

Key findings of the assessment include:

- States want to improve their roadway safety data capabilities and take the necessary steps to achieve their desired level.

- States need a focused USDOT effort to increase awareness of available resources to improve their roadway safety data.

- In some states, organizational structure and relationships across state agencies and with localities impede integration and data use.

- In several states, capturing data from locally maintained roads is an issue.

- Within states, individual divisions, districts, and regions maintain separate databases from centralized database.

- States need better coordination among federal agencies on data-reporting requirements.

- States want to better support their analyses by improving their roadway safety data and
believe the capability assessment results will assist them.

FHWA recently hosted a series of peer exchanges to provide a forum to share information on both challenges and good practices for improving roadway safety data systems. FHWA would like to wholeheartedly thank all who participated in the peer exchanges for their input and especially to the host states Indiana, Colorado, Ohio and Missouri.

As a result of the feedback received, FHWA is committed to the following actions:

Roadway Inventory Data Collection/Technical Standards:

• Conducting case studies to move cost-effective, accurate, and innovative data collection practices forward. States need examples of how to fund, process, and extract roadway inventory items.

• Identifying a robust process for states to include locally-owned roadway safety data.

• Developing a best or noteworthy practices guide for collecting intersection, curve, and grade inventory data.

• Continuing to develop training for non-technical users in the use of the HSM methods and more rigorous analysis methods (e.g., empirical Bayes method).

• Hosting peer exchanges related to data analysis tools and techniques at the MPO and local levels.

FHWA is considering these as a few of the critical actions for its national data action plan for improving state safety data systems and welcomes input on which of these should be priorities and what other actions FHWA should consider.

Recently completed FHWA projects are already addressing some of these proposed actions as part of a more comprehensive Roadway Safety Data Program. Additional information about the Roadway Safety Data Program is also available at http://safety.fhwa.dot.gov/rsdp. For more information, contact Esther Strawder (esther.strawder@dot.gov, 202-366-6836) or Ray Krammes (ray.krammes@dot.gov, 202-366-2175).
High friction surface treatments: a cost-effective strategy that saves lives

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Each year in the United States, more than 32,000 people die in traffic crashes. According to the Federal Highway Administration (FHWA), these crashes have an estimated economic cost of more than $230 billion.

High friction surface treatment (HFST) is a cost-effective technology that dramatically and immediately reduces crashes, injuries and fatalities. According to the Texas Transportation Institute, “...the purpose of a HFST is to make the road more forgiving to drivers by increasing the friction at locations where the demand for friction is great.”

HFST is composed of a polish and abrasion-resistant high friction aggregate that is bonded to the pavement surface using a high strength polymer resin binder. With friction values far exceeding conventional pavement friction, HFST helps motorists maintain better control in dry and wet driving conditions in high-crash locations such as:

- Horizontal curves
- Ramps
- Intersections
- Bridge decks
- Bike lanes
- Bus lanes
- Toll booth entrance ways
- School zones

Hatherly and Young first reported the benefits of HFST in 1976. They reported that the use of high friction bauxite aggregate, in conjunction with a cold installed polymer resin binder, had demonstrated a 31% decrease in crashes at 800 intersections where HFST was applied.

HFST can be applied either manually or mechanically via dispensing vehicles. However, it is generally agreed that mechanical application results in a more uniform and durable surface that is less prone to material failure.

The polymer resin binder is evenly spread over the road surface at an approximate thickness of 50-55 millimeters. Immediately following, the high friction aggregate is spread uniformly over the polymer resin binder. Once the polymer resin binder has cured, which can be just as short as a few hours depending on weather conditions, the excess aggregate is removed with a vacuum sweeper. The recovered aggregate is recycled and reused.

The use of HFST is rapidly increasing across the United States due to its low cost and effectiveness in significantly reducing roadway departure crashes. Empirical data proving accident reduction using HFST in high-accident, site-specific locations is well documented in...
states such California, Florida, Kansas, Kentucky, Louisiana, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia and Wisconsin.

The Kentucky Transportation Cabinet (KTC) is conducting a three-year statewide safety improvement program using HFST at over 120 locations to reduce roadway departure crashes on horizontal curves. One particular HFST installation in Kentucky reported 55 wet weather and three dry weather crashes over a three-year period prior to the installation of HFST. In the 2½-year period after the HFST installation, the same location had only five wet weather and one dry weather crashes. An official from the KTC said, “This one project paid for all the other projects in the state.” The KTC test, which ends in the summer of 2013, has already shown a total crash reduction across the state of 69%.

The Pennsylvania Department of Transportation (PennDOT) identified a sharp right turn in a rural county as one of their worst crash sites averaging 2.48 crashes per year. The pavement surface friction reading taken by PennDOT before the HFST application was 33. After the HFST, the pavement surface friction reading was over 95. There have been no reported crashes or skid-off-the-road incidents since the HFST application in 2007. The condition of the HFST after four winters of constant snowplowing is excellent with no material failures.

At another high accident location in Bellevue, Washington, HFST was installed on a negative cambered curve that had been the site of 45 crashes in five years. Since the installation of the HFST, there have been no reported crashes. Site-specific HFST applications are durable and long-lasting. The Virginia Transportation Research Council stated, “It is reasonable to expect them to maintain high friction values for 10 years of service.” Further attesting to HFST’s longevity and cost effectiveness, a recent study from the South Carolina Department of Transportation indicated a cost-benefit ratio of about 24 to 1 for its HFST installed on a series of high-accident curves.

In addition to its primary use as an anti-skid pavement overlay,
HFST is also used in two other types of safety-related applications, bridge deck overlays and pavement demarcations.

HFST is used on bridges as a sealant to prevent cracking and deterioration of the bridge deck. The largest and most complex HFST bridge deck overlay application to date was on Louisiana’s Morganza Spillway. On this four-lane bridge over 3.5 miles long, 78,000 gallons of adhesive and over 2,500,000 pounds of high friction aggregate were installed by three automated HFST installation trucks.

Through the use of brightly colored aggregates, HFST has been shown to be a highly effective pavement demarcation approach. HFST with red aggregate was applied to I-66 west of the I-495 near Washington, D.C., to delineate the HOV (X) lanes, which are utilized in both directions during the morning and evening rush hours. This milestone project for the use of a demarcation to direct traffic was a first for both the United States and the Virginia Department of Transportation.

Using 100% recycled green glass as an aggregate, the country’s first green bike lane was installed last year with HFST in Sammamish, Washington, another first in the United States. The green bike lane was funded through the FHWA, which has issued a nationwide memo confirming green as the chosen color for bike lanes.

Classified by the FHWA as a low-cost safety solution, HFST is the only safety solution that does not require driver response. HFST qualifies for 90% safety funding under the federal government’s Highway Safety Improvement Program (HSIP). A formula apportions HSIP funds to state DOTs to administer. Any local government can apply to their state DOT to get funding for a HFST project in their jurisdiction.

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Sources for more information on HFST:

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FWHA Every Day Counts Initiative
www.fhwa.dot.gov/everydaycounts

High Friction Roads
www.highfrictionsurface.net

FHWA Division Offices
www.fhwa.dot.gov/field.html

FHWA Office of Safety
202-366-2288
hsip@dot.gov

Revised green glass was used for the HFST bike lanes in Sammamish, Washington.
Green Streets and Porous Pavement: Lessons for sustainability, savings, and success

Evan N. Pratt, P.E., Water Resources Commissioner, Washtenaw County, Michigan, and member, APWA Transportation Sustainability Subcommittee; Freeman Anthony, P.E., Project Engineer, City of Bellingham, Washington, and member, APWA Transportation Committee and Road Safety Subcommittee

Overview
To paraphrase the AT&T commercials with the kids, “What’s better; cheaper and cleaner or dirtier and more expensive? It’s pretty simple.”

Municipalities are a top contributor of non-point source pollution—that’s right, the very subject of our Phase I and Phase II stormwater permits. One Midwestern city recently estimated that over 50% of all non-point source pollution may come from city streets. The challenge: reduce pollutant loading and improve pavement at or below existing life-cycle costs.

Ramping up the inclusion of stormwater pre-treatment with paving projects has resulted in a number of innovative, cost-effective practices focused on infiltration that may be achievable in your community, while also decreasing projected street maintenance costs. In short, Green Streets can be cheaper to build and maintain while improving local water quality and helping meet stormwater permit compliance. In short, Green Streets can be cheaper to build and maintain while improving local water quality and helping meet stormwater permit compliance. In short, Green Streets can be cheaper to build and maintain while improving local water quality and helping meet stormwater permit compliance. In short, Green Streets can be cheaper to build and maintain while improving local water quality and helping meet stormwater permit compliance.

Introduction
This article will provide an overview of a range of proven strategies to reduce non-point source pollution from municipal roadways of all types.

We also provide case study examples showing all the cost considerations for construction and for maintenance. $42,000 was saved on a 900-foot-street construction, and maintenance savings of $37,000 to $57,000 are demonstrated in our examples. In addition, the authors of this article will be presenting detailed information at Congress, with a session at 8:30 a.m. Sunday, August 25.

Because the use of these techniques has exploded the past 4-5 years, we have also posted a few key resources here: http://www.ewashtenaw.org/government/drain_commissioner/dc_webWaterQuality/street-runoff-infiltration/resources-and-techniques-for-street-runoff-infiltration.

These resources include a short list of municipalities that have implemented porous streets along with some case study resources and two of the more informative presentations we have seen in the past several years, particularly with respect to pavement mix design and cross-section design.

How does this affect me?
To first establish why it might make sense to reconsider how your agency integrates water quality goals into pavement management strategies, we ask you to take a look at a map of your city, town or village.

As an example, the City of Ann Arbor, Mich., with an area of 27.5 square miles and a population of about 115,000, recently took a look at their map and did some quick GIS analysis. While it may not be obvious when looking at a typical grid pattern, according to Jerry Hancock, CFM, Stormwater and Floodplain Programs Coordinator for the City, “Ann Arbor’s ROW is 2.9 square miles (10.5%) of the city’s area, but we found it includes 25.9% of the city’s impervious surfaces.” Hancock went on to explain that “Although we started requiring developers to provide detention in the ’70s, then pre-treatment in the ’80s and ’90s, it wasn’t until the 2000s that the City started including pre-treatment with major paving projects.”

In an often-cited study by Roger Bannerman of the Wisconsin DNR, “54% of all runoff volume in residential neighborhoods comes from the streets, and accounts for the highest pollutant loads.” Because the upgrade to pre-treating street runoff is long term, most street runoff is still untreated, so Hancock made the correlation that 26% of the impervious area in the city could result in 54% of the total runoff since the ROW is mostly all “directly connected” runoff.

Gosh, is there more I should know?
Yes!! Some of your peers have already found the most cost-effective methods of dealing with street runoff, and have also found ways around the real and perceived shortcomings of these three basic approaches to promote infiltration:

1. Strategic use of planted areas during streetscape or paving projects—the City of Portland, Ore., has found that a mini-planter in a bumpout can...
handle water from a block or more of urban street.

In Lansing, Mich., on Michigan Avenue, a similar approach was used as part of a streetscape, with long-term monitoring to show the success of pollutant removal.

2. Porous pavement has been used since the 1970s for parking lots (Walden Pond), and now many agencies have used porous asphalt and concrete in specific applications. Later, we present some facts so you are well-informed on the concerns and learning curve. A highlight of our analysis has been that contrary to conventional wisdom, porous pavement is much less expensive to maintain than traditional HMA, for two reasons. Porous asphalt does not crack, and porous pavement is designed to have water in the base. How much less would your street maintenance costs be if you never had to do crack repair, or patching as a result of cracking or base issues?

3. The City of Ann Arbor, Mich., has used porous pavement and other techniques in the past on low-volume streets, and for 2013 is using infiltration to meet stormwater quality and quantity goals on three higher-volume urban streets that also see some truck traffic. The solution that hit the risk management and cost-benefit sweet spot was to use traditional asphalt (HMA) and a wide range of infiltration tools in the base of the HMA, basically providing the same base that would have been under a porous pavement. The tools were used based on subsurface site conditions, and include infiltration trenches, leaching basins, and easily maintained methods of transferring the water from the road surface to the drainage layer.

On that last point, it is worthwhile to note that many of us have heard that European roads are designed for a 40-year life versus our 20-year designs. It is very important to understand that European pavement is rarely thicker, but the stone base is much thicker. Obviously there is some increase in strength, but the greatest benefit of the thicker stone base is better drainage, and keeping the water farther from the pavement.

Debunking myths

With newer ideas, we all know there are a host of concerns and fears, some rational and real and some representing a natural fear of change or the unknown. Well, as we have experienced the past 5-10 years, change is the only constant in public works. There is less funding to work with, and a whole host of problems to deal with from customer expectations and satisfaction to regulatory compliance. While there is no silver bullet, we want to make sure you have the facts, so you can add a few more cost-effective tools to your toolkit. While porous pavement construction may result in as much as a 25% premium in paving costs, it is important to consider total project costs, such as the drainage system, detention, water quality treatment, curbing, and maintenance.

One myth is that there is a single magical mix design for porous pavement, and it is only good for parking lots and low-volume streets. In fact, there are as many mix design variables as for traditional pavement, and the important part is to take the word “design” seriously. Two of the resources we provide in the link at the beginning of this article provide some excellent details about mix design for low, medium, and high durability. The key factors are the aggregate, the asphalt content, and fiber or other additives that can improve strength. While CalTrans has a standard for using porous as a wearing course only for noise reduction on certain freeway projects, the Arizona DOT placed porous asphalt on 3,500 feet of SR-87 in Chandler, Ariz., back in 1986, with subsequent studies available detailing positive performance. At the time, this roadway carried over 30,000 vehicles per day.

Maintenance is discussed more fully below, but one other common myth is that the vacuum maintenance required for porous pavement is wildly expensive. We checked on
rental prices, and about $125/hour is the average rate nationally, for a sweeper with a 90" wide capability. Plus, most urbanized communities are already committed through their Phase I or Phase II community with street sweeping as a maintenance practice for regular streets, which is estimated at about $300-$400 per lane mile annually for four times per year with a traditional brush sweeper. Since most communities do not have enough porous pavement to justify purchasing the regenerative vacuum sweeper needed for the recommended twice-a-year maintenance, renting may make the most sense for many agencies.

For porous asphalt, this results in about $300-$400 per lane mile annually for the necessary two times per year. Why not as often? Because the particles are lodging into the pavement, and not in any danger of washing down the drain. From a water quality standpoint, repeated research by the Stormwater Center of New Hampshire has shown porous pavement and other infiltration techniques as the most effective ways of eliminating Total Suspended Solids (TSS), as shown by this chart from their 2005 Data Report (link included in our resource links) results:

Maintenance: What does your agency spend on crack sealing and patching?
What if your agency never had to seal pavement cracks, patch severely cracked pavement, patch/replace pavement with a failed base, or use coldpatch? It occurred to us in looking at installations in several locations, plus reviewing photos from all over the country, that cracking was not evident in the porous asphalt. So what if your agency used a pavement product that didn’t crack?

And if your agency doesn’t spend money on pavement maintenance, do you think your taxpayers and elected officials would be pleased if there was a new way of providing the original smooth ride quality for 20 years or more? At right is a table showing typical costs of maintenance, and again the important part is capturing the line items you actually use in your community, and really figuring out what you spend annually per lane mile on pavement maintenance. You are the only one who can figure out the benefit in your community; our purpose is only to equip you with the ideas and information folks around the country have been finding as they sit down and really think through how well traditional paving has been working.

And how did we come up with this information? Due to space limitations, the details don’t fit here, but our Congress presentation details a typical maintenance cycle with costs totaling some $57,750 over 20 years for crack sealing, patching, and other typical maintenance on a 36'-wide residential street. Any member can view this presentation under the electronic postings for Congress sessions. Or come and see us in Chicago at 8:30 a.m. on August 25.

In summary, innovative communities are finding ways to answer the challenge of cleaning up untreated street runoff without breaking the bank, and have found side benefits along the way that should improve pavement life cycle and lower the annualized cost. It’s simple.

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Source: UNH Stormwater Center, 2005 Data Report

Typical costs of pavement maintenance

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Every Day Counts: FHWA’s initiative to shorten project delivery

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In June 2009, the U.S. Senate Committee on Environment and Public Works met during the confirmation hearings for Victor Mendez, then-nominee for Federal Highway Administrator. At that time, former Senator Christopher Samuel “Kit” Bond (R-Missouri) shared his concerns about the state of the highway construction process with his fellow committee members. “We can’t afford to continue on the path where it takes 10 to 15 years to deliver highway projects,” Bond said.

At that same hearing, Victor Mendez addressed these concerns, explaining that he planned to “encourage the use of innovation, research, and technology to solve our transportation problems.”

The committee and the Senate confirmed Victor Mendez as Administrator of the Federal Highway Administration (FHWA). So what has transpired in the past four years to address Senator Bond’s plea to find ways to shorten project delivery?

One of the Administrator’s key tools in addressing this challenge is an FHWA initiative called Every Day Counts (EDC). EDC has been developed to serve as a rapid deployment model focused on accelerating project delivery. Importantly, it does so with the goal of enhancing environmentally sustainable outcomes, with an emphasis on safety as well.

EDC1
In December 2012, the first round of EDC—known as EDC1—hit the end of its two-year cycle. That first round focused on several processes and methods for shortening project delivery, including planning and environmental linkages, programmatic agreements, and design-build contracting, plus specific technologies such as the Safety EdgeSM, a method for beveling the edge of roadways so that drivers who accidentally drop off the pavement can easily maneuver back on. Thus far, 21 states and Federal Lands Highway divisions have implemented planning and environmental linkages, and 44 have at least two active programmatic agreements. With regard to design-build contracting, 29 states have full design-build statutory authority and 14 states now have laws or policies enabling them to use the construction manager/general contractor method for project delivery. In the last three years, 20 projects have used the construction manager/general contractor approach, and 25 more are planned over the next two years.

As for specific technologies, 40 DOTs adopted the Safety Edge, and all 50 states and Federal Lands Highway divisions have specifications and/or contractual language enabling them to use warm-mix asphalt. Regarding adaptive signal control technologies, 44 agencies representing 64 project locations are in various stages of implementation. Fifteen bridges have been designed or constructed on the National Highway System using geosynthetic reinforced soil-integrated bridge systems, with 72 more off the National Highway System since October 2010. Forty-five states and Federal Lands Highway divisions have used prefabricated bridge elements and systems in at least one bridge project, and 2,497 replacement bridges have been designed or constructed using prefabricated bridge elements and systems since October 2010.

EDC2
In the summer of 2012, FHWA announced the following 15 innovations that make up EDC2, including 5 carryovers from EDC1.

Programmatic Agreements II. This concept of establishing a streamlined approach for handling routine environmental requirements considers repetitive actions on a programmatic basis rather than individually, project by project. Programmatic Agreements II builds upon efforts made during EDC1 and applies some of the established agreements to new states or expands them to include entire regions.

Locally Administered Federal-Aid Projects. To help local public agencies through the complexities of the Federal-aid Highway Program’s requirements, FHWA developed a three-pronged strategy: certification/qualification programs; indefinite-delivery/indefinite-quantity (ID/IQ) consultant contracts; and stakeholder committees. Having a certification/qualification program for local public agencies better ensures that they follow federal regulations and guidelines, and are better able to manage their projects.

Three-Dimensional (3-D) Modeling for Construction Means and Methods. Although contractors are widely using 3-D modeling technology on buildings, processing plants, and large site development projects, the potential in highway
applications is just now being realized. An overall benefit is an increase in productivity and efficiency of construction operations.

**Intelligent Compaction.** Processes using conventional compaction machines may result in inadequate or nonuniform material densities, which could lead to premature pavement failure. Intelligent compaction takes a modern approach through the use of special vibratory rollers equipped with an integrated measurement system, a map-based GPS, and an onboard display and computer reporting system.

**Accelerated Bridge Construction.** EDC2 is promoting three particular accelerated bridge construction technologies: prefabricated bridge elements and systems (continued from EDC1); slide-in bridge construction; and geosynthetic reinforced soil-integrated bridge systems (also continued from EDC1). These technologies enable transportation agencies to replace bridges faster and more safely, reduce traffic delays and road closures and increase safety because construction workers are not required to work among active traffic for as long as they would have to with traditional approaches.

**Design-Build Contracting.** Design-build contracting, continued from EDC1, accelerates the design-build process dramatically. Under this approach, a state DOT identifies what it wants constructed, accepts bids, and then selects a contractor to assume the risk and responsibility for both the design and construction phases.

**Construction Manager/General Contractor.** In the construction manager/general contractor method of delivery, continued from EDC1, the project owner hires a contractor to provide feedback during the design phase, before the start of construction. The process has two contract phases. The first, design, enables the contractor to work with the designer and project owner to identify risks, provide cost projections, and refine the project schedule. Once the design phase is complete, the contractor and project owner negotiate on the price for the construction contract. If all parties are in agreement with regard to costs, then the second phase, construction, kicks off. Under this process, the contractor acts as the consultant on design and can offer innovations, best practices, and reduced costs, while mitigating risks based on past experience.

**Alternative Technical Concepts.** Alternative technical concepts are suggested changes by the contractor to the contracting agency’s basic configuration design, scope, or construction criteria that provide competing teams with the opportunity to suggest innovative, cost-effective solutions.

**High-Friction Surface Treatments.** High-friction surface treatment is an emerging technology that has the potential to reduce crashes dramatically and immediately, as well as the related injuries and fatalities. By applying high-quality aggregate with friction values far exceeding conventional pavement friction to existing or potential high-crash areas, highway agencies could help motorists maintain better control in dry and wet driving conditions.

**Intersection and Interchange Geometries.** Intersections and interchanges are points at which motorists, pedestrians, and bicyclists can cross paths, and sometimes collide. Several innovative alternative designs now are available to reduce crossover and other conflict points, or move the conflict points away from the main intersection. These designs foster safer, more continuous travel for motorists and other road users.

**Geospatial Data Collaboration.** Currently, most GIS and Web-mapping applications at federal, state, and local agencies are housed internally. Building on current organizational and technical capabilities, this initiative will use innovative cloud-based GIS services to improve data sharing both within transportation agencies and among project delivery stakeholders.

**Implementing Quality Environmental Documentation.** This initiative seeks to implement existing recommendations and recent experience to improve the quality and, at the same time, reduce the size of National Environmental Policy Act (NEPA) documents. The initiative improves the quality of NEPA documents by making them more effective in disclosing to the public and participating agencies, including regulatory agencies that have permitting or reviewing responsibilities, the information used as a basis for making project decisions.

**National Traffic Incident Management Responder Training.** This initiative offers the first national, multidisciplinary training program in the management of traffic incidents. The training for first responders promotes a shared understanding of the requirements for safe, quick clearance at traffic incident scenes; prompt, reliable, and open communications; and motorist and responder safeguards.

EDC2 has the same goal as EDC1—to implement specific initiatives on a national level for a two-year period.

**Lessons Learned from EDC**

It’s obvious the EDC initiative has been effective and embraced by our partners. It’s also clear that a lot of outstanding innovations are in use, and many more are waiting to be promoted. The highway industry today is more innovative and more open to new ideas than ever before. EDC is now engrained in the FHWA business model, and has become part of our ongoing partnership with state and local agencies.

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APWA announces the 2013 Public Works Projects of the Year

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 25-28 in Chicago, Illinois.

New this year is the Public Works Projects of the Year Award for Small Cities/Rural Communities. This award for agencies from cities or counties with a population of 75,000 or less was established to promote excellence in demonstrating creativity, ingenuity, and efficiency in the delivery of public works projects that have a profound impact on the community.


The winners of the 2013 Public Works Projects of the Year Award are:

**Disaster or Emergency Construction/Repair**
- <$5 million: West Lake Sammamish Slide Repair
- $5 million but less than $25 million: Uplands Emergency Sewer Repair

**Environment**
- <$5 million: MMSD Kinnickinnic River Rehabilitation
- $5 million but less than $25 million: Homestead and Lower Narrows Weirs
- $25 million–$75 million: ROMP Plant Interconnect
- $25 million–$75 million: Tacoma Solid Waste Management Recovery & Transfer Center
- >$75 million: City of Marathon Sewer, Stormwater Reclamation Water & Road Rehabilitation

**Historical Restoration/Preservation**
- <$5 million: Old US80 Bridge at Gila River Historic Bridge Rehabilitation
- $5 million but less than $25 million: Cedar Rapids City Hall Remodel
- $5 million but less than $25 million: The Facilities Maintenance Building or “The Ratcliff Building”
- $25 million–$75 million: The “Mob Museum”
- >$75 million: Union Depot

**Small Cities/Rural Communities Projects of the Year:**

**Environment:** A Model Stormwater Urban Retrofit: Fort Myers Downtown Riverfront Basin

**Historical Restoration:** Grandad Bluff Scenic Overlook Historic Restoration

**Historical Restoration:** Rehabilitation of National Avenue Bridge over Marmaton River

**Structures:** Kiowa County Commons

**Transportation:** Red Gate Road Bridge
Managing Agency: City of Bellevue, Washington  
Primary Contractor: Westwater Construction Inc.  
Primary Consultant: Tetra Tech  
Nominated By: APWA Washington State Chapter

A January 2012 landside in the vicinity of 540 West Lake Sammamish Parkway SE in Bellevue, Wash., occurred where a 35-foot-high by 60-foot-wide embankment crossed a natural ravine draining into Lake Sammamish. The landside ruptured an asbestos concrete water main, releasing water and 1,000 cubic yards of mud and debris. A natural gas service line and four waterfront residential properties were also damaged from the slide. The damage and instability of the hillside, road and surrounding area caused the City of Bellevue to immediately shut down the major arterial of West Lake Sammamish Parkway, necessitating this emergency repair project.

The goals of the repair project were to:

- Quickly reopen the road
- Minimize cost
- Create a permanent solution
- Restore the homeowners’ properties
- Minimize environmental impacts
- Minimize disruptions to the neighborhood

Through close collaboration with impacted homeowners, the City and engineer Tetra Tech developed several alternatives, utilizing 3D CAD and photographic renderings to quickly communicate the designs, obtain fast buy-in on wall and slope configurations, and expedite rapid project delivery.

The selected alternative rebuilt the roadway embankment with a modular, concrete block, gravity wall system. The system included two walls, both built as gravity block structures, and these massive blocks created walls that require no reinforcement—an unconventional application using a conventional material.

The block system preserved the 24-inch culvert. As a result, the undisturbed culvert allowed for an accelerated design schedule, completed under a simplified permit process. The accelerated schedule response continued into construction, with walls built in two short stages: five days for the lower wall and eight days for the upper wall.

The responsive team worked at an accelerated pace, evaluating, surveying, designing and constructing the solution in four months. West Lake Sammamish Parkway reopened on April 10, 2012, one month from the start of construction.
Managing Agencies: The Regional Municipality of York, Ontario
Primary Contractor: Memme Construction Company
Primary Consultant: The Municipal Infrastructure Group
Nominated By: The Regional Municipality of York, Ontario

During a rainfall event on April 26, 2012, York Region wastewater operators noticed abnormal flow trends at the Leslie Street Sewage pumping station, the ultimate outfall of the North Don Sanitary Collector Sewer.

Immediately after becoming aware of a problem, Region staff began to investigate to determine the source of the additional flows and, during this investigation, noted indicators of slope instability and settlements over the alignment of the sewer on the Uplands Golf and Ski Club west of Yonge Street, south of highway 407, in the City of Vaughan.

A CCTV inspection of the sewer in the area of concern was undertaken to determine if the settlements and slope instability issues were caused by the sewer. The inspection revealed a severe joint displacement near the middle of a sewer run, approximately 64 m (210’) upstream of a maintenance hole. The joint displacement was located directly beneath an unnamed creek, a tributary to the Little Don River. Significant inflow of groundwater was observed entering the sewer at the location of the joint displacement.

In order to immediately stabilize the area and protect the environment from any adverse discharges, Aquatech Pump and Power was hired to implement the installation of a sanitary bypass to convey the sewage around the problem area. This would ensure that there was no release of sewage to the environment and to allow for detailed review of the sewer condition.

Regulatory agencies, including the Ontario Ministry of the Environment (MOE) and the Toronto and Region Conservation Authority (TRCA), were immediately notified of the issue and arrangements were made with the enforcement officers to meet onsite to inform them of the conditions. During the meeting, planning of the immediate work required to protect the environment and evaluating the permitting requirements in order to undertake the repair of the damaged section of pipe also took place.

Once the site had been stabilized to a point where the conditions of the site were controlled, the development of a plan to reconstruct the sewer was undertaken and a project to complete the reconstruction was initiated.

The project team undertook and completed the project in a timely fashion, while ensuring that the environment was protected and costs were controlled. Furthermore, the project team not only completed the project on time and under budget, but also identified additional items such as leaking joints within the upstream and downstream sections of the sewer. The repair of these items provided additional value and future cost savings to the Region.
MANAGING AGENCY: Milwaukee Metropolitan Sewerage District
PRIMARY CONTRACTOR: Edgerton Contractors, Inc.
PRIMARY CONSULTANT: Short Elliott Hendrickson Inc.
NOMINATED BY: APWA Wisconsin Chapter

The Kinnickinnic River (KKR) Watershed is an approximately 25-square-mile, highly urbanized drainage area that is located on the south side of the City of Milwaukee and tributary to the Milwaukee River Estuary. The KKR has undergone considerable alteration in the past, including channel widening and realignment, and the installation of concrete lining along a significant portion of its length. These channel modifications, which have evolved over time, were completed to provide flood management benefits.

For a period of time, the changes adequately reduced peak water surface elevations. However, continued urban development in the watershed, plus a recent pattern of more frequent high intensity rainfall, has resulted in higher water surface elevations and an expanded 100-year floodplain, as determined by the Southeastern Wisconsin Regional Planning Commission. In addition, southside residences and local stakeholders have considered the KKR a dangerous urban eyesore, contributing to multiple drowning deaths, which has led American Rivers (a national nonprofit environmental organization) to identify the KKR as the seventh-most endangered river in the country.

Given this unacceptable level of flood management, the Milwaukee Metropolitan Sewerage District (MMSD) initiated a series of flood management projects within the KKR Watershed that provide opportunities to achieve multiple design objectives, addressing watercourse rehabilitation, environmental enhancements, neighborhood revitalization, and the provision of community and recreational benefits. In addition to flood management, other interests being promoted by a range of municipal, agency and community stakeholders include: improved channel and estuary water quality conditions; aquatic and fisheries habitat development; improvements to public safety, river access, and recreational facilities; and the maintenance or replacement of aging infrastructure.

As a result, an “early out” final design and construction watercourse project was implemented by the MMSD, identified as the Kinnickinnic River Flood Management, South 6th Street to Interstate 94 Bridge Project. This Kinnickinnic River Rehabilitation Project included the replacement of the South 6th Street Bridge, which caused significant backwater during the 100-year design event; and the rehabilitation of approximately 1,000 feet of KKR watercourse located immediately downstream.

Upstream watercourse segment improvements were designed to develop: (1) a rehabilitated stone-line channel, with riffle and pool sequences and a low-flow channel that facilitates fish passage; (2) appropriate flood conveyance for the 100-year design event; (3) stable upslope embankments, while avoiding impacts to existing infrastructure; and (4) grading improvements that allow the development of a 15-foot-wide maintenance and (future) bike path along the south side of the watercourse. To meet these requirements, tiered wet cast concrete block retaining walls were designed to stabilize upslope embankments and provide appropriate maintenance/bike passage.
Managing Agencies: Southern Nevada Water Authority  
Primary Contractor: Aggregate Industries  
Primary Consultant: The Louis Berger Group, Inc.  
Nominated By: APWA Nevada Chapter

Located within the 2,900-acre Clark County, Nevada Wetlands Park, the Lower Las Vegas Wash (Wash) is the single outfall stream conveying wastewater, floodwater and urban runoff from the 1,600-square-mile Las Vegas Valley (Valley) watershed to Lake Mead on the Colorado River. The waters of the Wash contribute to the drinking water for more than 25 million downstream residents in Southern Nevada, Central Arizona and Southern California.

In 1984, erosion exposed and nearly severed the 96-inch-diameter Las Vegas Valley Water Lateral at the location where it crossed the Wash. Collapse of this pipeline would have caused the Valley’s residents to lose their only water supply pipeline to the Valley. Sediment transport studies indicated that, without stabilization, the Wash would continue to erode, transporting between 136 to 408 tons of sediment to Lake Mead daily, while flood events could transport up to 104,000 tons of sediment to Lake Mead in less than 24 hours, thus further threatening existing public infrastructure.

In 2000, the Southern Nevada Water Authority (SNWA) was tasked with the responsibility for stabilizing the Wash and restoring the lost wetlands environment of the Wetlands Park. To accomplish this goal, the SNWA developed a stabilization plan requiring the construction of 22 channel grade control structures (weirs) and over 12 miles of channel bank protection. The Homestead and Lower Narrows Weirs are two of the planned 22 gradient control structures to be installed in the Wash.

The $10.2 million Homestead and Lower Narrows Weirs project successfully installed two weirs and provided over 1.5 miles of additional Wash bank protection. The Homestead and Lower Narrows Weirs, at 18 and 13 feet high respectively, and with weir crest lengths of over 470 feet, are two of the largest rock riprap weir facilities to be constructed in the United States to date (per USACE Engineering Research Center).

Early in the planning process, sediment transport studies indicated that if the site was not stabilized, the channel would erode up to an additional 15 feet and an additional 500,000 cubic yards (780,000 tons) of soil would be eroded from the Homestead and Lower Narrows Weir site and deposited in Lake Mead over the ensuing 20 year period. These studies indicated that approximately 31 vertical feet of potential stream bed erosion would have to be stabilized within the existing channel.

To install these facilities, over 576,000 cubic yards of soil had to be excavated; 44,600 square feet of steel sheet pile cutoff walls were driven into the Wash bed; 1,600 cubic yards of concrete cap and over 197,000 cubic yards of gravel filters and rock riprap were installed to complete the project.
Managing Agency: Pima County Regional Wastewater Reclamation Department
Primary Contractor: Sundt-Kiewit Joint Venture
Primary Consultant: Brown and Caldwell
Nominated By: APWA Arizona Chapter

Pima County Regional Wastewater Reclamation Department (PCRWRD) owns and operates the regional wastewater conveyance and treatment systems serving Eastern Pima County, Arizona. The regional systems consist of over 3,300 miles of sewer lines (of which 230 miles are major trunk lines or interceptors), 34 conveyance system lift stations, two major wastewater reclamation facilities (WRF) in the metropolitan area and eight smaller wastewater reclamation facilities in the non-metro region.

The Pima County Regional Optimization Master Plan (ROMP) forecasted the need for increased wastewater treatment capacity throughout the PCRWRD service area due to anticipated population growth, as well as the facilities required to meet those needs through the year 2030. One finding was that the Roger Road WRF would have insufficient capacity to accommodate additional flows in the near future. Therefore a major element of the conveyance evaluation was a detailed analysis of transferring flows from the Roger Road WRF to the Ina Road WRF by means of a Plant Interconnect. Other key features of the ROMP included upgrade and expansion of the Ina Road WRF to 50 MGD, construction of a new 32 MGD water reclamation campus in the vicinity of the Roger Road WRF, construction of good neighbor facilities such as odor control structures, and the eventual decommissioning of the existing 41 MGD Roger Road WRF.

The ROMP Plant Interconnect sewer line consisted of a 60-inch to 72-inch gravity sewer designed to transfer year 2030 peak wet weather flows of up to 145 MGD from the existing Roger Road WRF to the new Roger Road WRF, and 81 MGD from the future Roger Road WRF to the Ina Road WRF.

The Interconnect was designed for a service life of 100 years and consisted of a five-mile alignment with two wash crossings, the Canada del Oro (CDO) near the Ina Road WRF and the Rillito River near the Roger Road WRF. While centrifugally casted fiberglass reinforced pipe was utilized for construction of the gravity sewer, ADEQ rule R18-9-E301 (D) 2.c.1 called for the following for the wash crossings: “If sewer lines cross floodways, place the lines at least two feet below the 100-year storm scour depth and construct the lines using ductile iron pipe or pipe with equivalent tensile strength, compressive strength, shear resistance, and scour protection.” Fiberglass pipe was therefore ruled out for use in the crossings and ductile iron or an equivalent alternate pipe material was explored.

Field modifications to maintain pipe alignment are necessary on most projects. During the construction of the Rillito crossing, it was found that both pipe barrels would need a four-foot piece trimmed to get back on station. The pipe contractor was able to quickly accomplish this task in less than two hours for both trim pieces, highlighting the versatility of a well-engineered steel pipe system.
Managing Agencies: City of Tacoma, Washington  
Primary Contractor: JE Dunn Construction  
Primary Consultant: HDR  
Nominated By: APWA Washington State Chapter

The innovative, sustainable Tacoma Solid Waste Management Recovery and Transfer Center has vastly improved the handling of solid waste in the City of Tacoma.

Located at the 190-acre Tacoma Landfill, the new $27 million, 83,590-square-foot facility is one of the largest clear-span buildings in the state of Washington. The facility handles 165,000 tons of garbage per year and is designed for peak loads of 1,400 tons.

The new center increases operational efficiency, minimizes operating and maintenance costs, improves safety, reflects state-of-the-art design, provides flexibility to meet future needs, and increases capacity to meet future waste and traffic patterns. The new system consolidates the functions of multiple transfer sites into a single building, eliminating multiple handling of materials.

The facility was awarded LEED Gold certification by the U.S. Green Building Council. Sustainable features include natural ventilation, daylighting and lighting controls, solar panels, harvested rainwater for use in toilets and water-efficient landscaping.

The new facility consolidated operations into a central building, eliminating double- and triple-handling of materials to get materials from the location where they are received to the location where they are processed. This centralization reduces the amount of equipment needed at multiple locations, as well as the number of solid waste workers required to staff those locations. The new facility also is positioned to create a more direct route in and out of the facility. Operators push waste directly into loadout holes without any lifting, increasing loading efficiency.

The new layout eliminates a number of confusing intersections in the pre-existing facilities. It also effectively separates the public self-haul traffic from the city’s collection truck traffic. The flat tipping floor eliminates the fall hazard for public unloading at the old public receiving building top-load stations. The new facility includes full fire sprinkler protection. Sensors monitor carbon dioxide and carbon monoxide levels inside the facility and trigger the exhaust fans if low level set points are detected.

The facility includes a misting system that provides dust control. Bird wires and bird spikes are designed to discourage seagulls from roosting on the building and scavenging from the waste. A top-load bay for loading directly into a trailer through the floor is equipped with axle scales to monitor the weight of the trailer while it is being loaded.

The facility was sized based on projections of population and economic growth for a 20-year horizon. Facility sizing also took into account the number of unloading stalls required at peak traffic volumes, as well as the volume required to provide emergency storage of the waste stream for up to one week. Additional fire protection was added to allow high pile storage of piles higher than 12 feet.

Photos: City of Tacoma
City of Marathon Sewer, Stormwater, Reclaimed Water & Road Rehabilitation

Managing Agency: City of Marathon, Florida
Primary Contractor: Lanzo Construction Co.
Primary Consultant: The Weiler Engineering Corp.
Nominated By: APWA Florida Chapter

In 2004, the idea of a central sewer system seemed insurmountable for the City of Marathon, which was incorporated only five years earlier. At the time, the City did not have a public works director or utility director. How could a city with a population of less than 10,000 people afford a State-mandated project with an estimated price tag of $180 million for the sewer construction; let alone afford a much-needed stormwater management system and road rehabilitation?

Today, a sewer system and an extension reclaimed water treatment and distribution system are available to all properties in the 13-mile-long string of islands, which comprise the City of Marathon. Service areas are currently online and in operation without any major issues. The City has provided a South Florida Water Management District-permitted stormwater management system to treat and dispose of the runoff from all 55 miles of City right-of-way and the adjacent privately-owned contributing areas. In addition, Marathon has provided an asphalt overlay for every street, and road improvements ranging from complete reconstruction and base stabilization to intersection realignment.

Marathon utilized CWSRF (Clean Water State Revolving Fund) funds to implement a comprehensive approach to wastewater management, including the construction of an innovative vacuum wastewater collection system which incorporated low pressure, force main, and gravity technologies in various locations in the project. Because the vacuum collection system is watertight, the trench for the collection system was used as an exfiltration treatment system for stormwater. GIS mapping of the wastewater/stormwater system was done in conjunction with construction. Once completed, the City used GIS asset mapping data to help develop an asset management system for ongoing operational maintenance.

The Weiler Engineering Corporation (WEC) plan was approved by FDEP and the State Clearing House for participation in the State Revolving Fund loan program. WEC was instrumental in the City receiving over $28.5M in grants, $85.15M in loans, and $0.65M per year pledged from Capital Infrastructure Funds. With money saved by utilizing the WEC plan and the assistance of grant funding, the City was able to add a complete stormwater management system designed for every right-of-way, overlay every city street, and incorporate numerous other roadway improvements, including new road construction.

Through WEC’s and the City of Marathon’s exemplary planning efforts and coordination with government entities, the City was able to fund a sustainable project. The project benefits future generations by the creation of a master stormwater system reducing pollutant loading into near-shore waters, whose contamination has led to degradation of the world’s third-largest coral reef system.
Managing Agencies: Maricopa County Department of Transportation
Primary Contractor: Haydon Building Corp
Primary Consultant: T.Y. LIN International
Nominated By: APWA Arizona Chapter

The Historic Gillespie Dam Bridge spans the Gila River on the Old US 80 Highway between the communities of Arlington and Gila Bend in Central Arizona. The 1,662-foot-long, nine-span steel truss structure was originally constructed and opened to traffic on August 1, 1927. It was unique for its time in that it was one of the longest bridges and the largest steel structures in the state. The bridge is listed on both the Arizona State and National Register of Historic Places and is referred to in the Historic American Engineering Record as a “significant technological accomplishment in twentieth century engineering design and construction.”

In December 2011, as the historic bridge approached its 85th year of service, the Maricopa County Department of Transportation (MCDOT) contracted with Haydon Building Corp and began a major bridge rehabilitation and repair effort to preserve this significant transportation treasure. The bridge underwent a $3.8 million rehabilitation effort and was designated a 2012 Arizona Centennial Legacy Project. The project also included construction of an interpretive plaza and parking lot.

Work efforts included addressing the bridge deficiencies and corroded anchorages, and replacing roller bearings locked in place by corrosion. Subsequent to a review of the available load rating studies, bent steel members that were damaged by vehicular and farm vehicles over eight decades were straightened using heat straightening techniques.

A significant aspect of the rehabilitation was the span-by-span hydraulic jacking of the bridge to remove the original, rusted, non-functioning roller bearings. New poly-tetra-flouro-ethylene (PTFE) slide bearings were installed which allowed for significant expansion and contraction of the steel spans during the severe changes in temperature that Arizona experiences. To facilitate replacement of the roller bearing, a bypass roadway through the river channel was to be built to maintain traffic during construction activities.

Other construction work included pipe rail and sway bracing repairs, installation of new approach guard railings, concrete repairs and wing wall modifications, pressure grouting and reinforcement of bridge piers in accordance with United States Department of the Interior and Arizona State Historic Preservation Office guidelines. Repaving of the roadway approaches at each end of the bridge, new signage throughout the project zone, and the construction of an interpretive plaza and parking lot provide for enhanced public access and enjoyment of this historic structure.

Photos: Ronnie Dale Louis
Cedar Rapids City Hall Remodel

Managing Agency: City of Cedar Rapids, Iowa  
Primary Contractor: Ryan Companies, US, Inc.; Unzeitig Construction  
Primary Consultant: Ament, Inc.  
Nominated By: APWA Iowa Chapter

The plan to repurpose the Federal Courthouse in Cedar Rapids, Iowa as the General Services Building for the City of Cedar Rapids was set in motion in the 1990s. It was established that the City would take possession of the old Federal Courthouse in exchange for land on which a larger and more secure Federal Courthouse could be built.

Located in the heart of Cedar Rapids, the building is on the east bank of the Cedar River and is positioned between 1st and 2nd Avenues, facing 1st Street SE. The building was the last addition to the May’s Island Historic District. This District is comprised of a complex of governmental facilities also including the Linn County Courthouse and Veteran’s Memorial Coliseum.

While plans were being forged for transitioning the building from a Federal Courthouse to General Services Building, it was heavily damaged by the record-breaking flood of 2008. The basement level was fully submerged and the first floor took on four feet of water. The building was stabilized by the General Services Administration (G.S.A.) post-flood and stood empty for two and a half years, waiting for the project funding and the property exchange between the City of Cedar Rapids and the G.S.A. When the project was finally funded in 2009, the exchange took place and the building began its transition to the Cedar Rapids City Hall.

- **Site:** Existing asphalt pavement was demolished and replaced. Existing storm sewers were replaced. New landscaping and irrigation system installed.

- **Structure:** Penthouse floor/structure was reinforced as required for document storage and new mechanical units.

- **Building Envelope:** Old dock enclosure openings on the west side of the building were in-filled with storefront, creating a new employee entrance, and new concrete ADA-compliant ramp was added on the north end of the building.

- **Interiors:** Complete demolition and build-out of approximately 45,000 square feet of new tenant space.

- **Elevators:** Two existing elevators were serviced. Interior of the north elevator was upgraded with walnut panels and brushed bronze trim.

- **Technology:** There are plans being made for the installation of a dashboard display in the lobby of the City Hall that shows current energy efficiency compared to energy efficiency prior to the remodel.
The City of Berkeley’s first and only City Architect, Walter Harris Ratcliff, was appointed in 1913. Among the many City and private buildings he designed, built and helped determine their location, was the Public Works Facilities Maintenance Building, built in 1916 at the Corporation Yard at 1326 Allston Way, and now commonly known as the Ratcliff Building. The L-shaped building consisted of the “Shop” building running east and west, and the “Shed” building running north and south. The Fire Department was not co-located to the corporation yard as the City and Walter Ratcliff decided to have neighborhood fire houses to better serve its citizens. Walter Ratcliff also designed four City’s firehouses, and one is still standing, Firehouse No. 7 at 2911 Claremont.

The Ratcliff building was designed in the English Tudor Revival Industrialist style and is notable for its charming brick façade, bay windows and the peaked roof line. The north wall of the building is punctuated by graceful wood framed arched windows. The original plans by Walter Ratcliff were to eventually have a “C” shaped building, with a long building running north and south from the east end of the building. At the southern end of the north-south building, another building was to be erected running east and west. The last section was never built.

The Ratcliff building was composed of wood-framed post and beam construction and truss roof framing and exterior, non-load bearing brick masonry, and deemed seismically unsafe and hazardous to the employees working in the building. Eventually, the City purchased two modular trailers to house the shops and offices for Public Works employees who had occupied the Ratcliff building. Because of losing the use of the Ratcliff space and there no longer being sufficient space in the two new modular buildings, the Public Works Building Maintenance employees were temporarily moved to a building on 2nd street, next to Public Works Solid Waste Division. The Ratcliff building remained unoccupied from 2006 to 2012 when the seismic retrofit and rehabilitation was completed.

The Landmark Preservation Committee (LPC) designated portions of the Ratcliff building as being of historic significance in July 2002. Ten features were to be preserved and protected in the eventual partial demolition and rehabilitation: gables; the small patio open space on the northeast corner; window patterning and wood framing; decorative brickwork; brick pilasters; two dominant bays on the west side of the east/west wing; the original low brick wall and pillar at the northwest corner of the east/west wing; the bay window on the east side of the east/west wing; the double arched entry way on the south side of the east/west wing; and the interior exposed truss-work of the roofing system in the east/west wing.
The Mob Museum

Managing Agency: City of Las Vegas Public Works
Primary Contractor: APCO Construction
Primary Consultant: Westlake Reed Leskosky
Nominated By: City of Las Vegas Public Works

The $42 million Mob Museum for the City of Las Vegas rehabilitates the historic 1933 former U.S. Post Office and federal courthouse into a contemporary museum and cultural destination, while preserving its historic character and spaces. A major cultural destination, the museum interprets the building and its history, as well as the subject content in a comprehensive manner. The project was enormously complex requiring a balance of restoration and adaptive reuse, integrating inputs from many sources to resolve the thematic material as well as the design and construction.

Located in the heart of the city synonymous with Mob and law enforcement history, the Mob Museum focuses on an in-depth, serious look at the history of organized crime, its pervasive influence on American life, and the law enforcement that confronted it. The 41,000-square-foot museum contains approximately 17,000 square feet of exhibit galleries featuring advanced interactive technology and multi-media exhibits on three floors, administrative, specialty retail, support, event and educational spaces.

The architectural design for the Mob Museum complements its highly visible yet purposeful nature. The U.S. Post Office and federal courthouse building was the first federal building erected in Las Vegas and is one of the few remaining historically significant structures in the city. It was listed on the National Register of Historic Places at the local level significance in 1983 and upgraded to national significance in 2005 to its association with the history of organized crime. It is an important example of Depression-era neoclassical architecture built by the federal government during the 1920s and 1930s. The rehabilitation features the historic restoration of the historic lobby, historic floor and the courtroom, famous as the site of the U.S. Senate Special Committee to Investigate Crime in Interstate Commerce hearings, the series of hearings that marked the exposure of organized crime and beginnings of federal prosecution in the early 1950s.

Issues are presented through multiple perspectives and multi-media exhibits, with both high-tech audio and video installations, as well as recreated environments, allowing the visitor to explore and absorb related civic, political and social impacts or organized crime in America and its relationship with Las Vegas. Environments provide immersive experiences, such as the “speakeasy” atmosphere of the area dedicated to the discussion of Prohibition. Exhibits pertaining to well-known colorful characters and intriguing stories engage visitors into the underworld, but with significant historic content about the origins and development of organized crime and law enforcement in America.

The architect provided integrated architectural, engineering and technology design, cultural and museum operations and planning, and led a team of specialized consultants for content development and exhibit design.
Union Depot

Managing Agencies: Ramsey County Regional Railroad Authority
Primary Contractor: Mortenson Construction
Primary Consultant: Hammel, Green and Abrahamson
Nominated By: Ramsey County Regional Railroad Authority

Union Depot in downtown St. Paul has been revitalized into a multimodal transportation hub with regional and national significance. The 33-acre site has been transformed from a defunct rail station to an active transportation center in the heart of a thriving Lowertown neighborhood.

Currently, Metro Transit buses and Jefferson Regional Bus Lines are arriving and departing from Union Depot. In 2013, One on One Bicycle Studio will open a state-of-the-art bike center and Amtrak will relocate all passenger activity from its current station in the Midway to Union Depot. In 2014, Central Corridor Light Rail will serve Union Depot.

Owned by Ramsey County Regional Railroad Authority (RCRRA), Union Depot, originally built in the 1920s, was placed on the National Register of Historic Places in 1974. RCRRA secured federal, state and county funding to finance the $243 million restoration project.

The project began in 2011 with Mortenson as the design-build contractor, Hammel, Green and Abraham (HGA) as the building architect and engineer of record, and URS Corporation as transportation design and engineering. The renovation generated approximately 4,400 jobs.

Having just reopened following two years of construction, the revitalized Union Depot features a green overlook to the Mississippi River with views up and downstream to an active working riverfront. It connects to the river physically and visually as barriers were removed and new views opened up.

Air raid blackout paint from World War II was removed from massive skylights in the 27,000-square-foot vaulted waiting room where passengers choose light rail, local and intercity bus service, taxis, Amtrak service—and in the future—commuter rail and high-speed rail to Chicago. These modes, together with motor vehicles, bicycles and pedestrian traffic, will create a magnet for shopping and entertainment.

The mixed-use transportation center includes condominiums and restaurants and is blocks away from a year-round farmers market and lofts. The project is seeking LEED Gold certification, utilizing some of the most innovative environmental and energy efficient techniques available.

Successful public engagement has built support from multiple constituencies under the leadership of the RCRRA. An innovative design-build delivery system met an aggressive funding and construction schedule.

Construction Photo: HGA Architects and Engineers
Post-Construction Photos: Paul Crosby
Tahoe City Transit Center

Managing Agency: Placer County Department of Public Works
Primary Contractor: Gilbane Building Company
Primary Consultant: WRNS Studio
Nominated By: Placer County Department of Public Works

The Tahoe City Transit Center is located in the eastern portion of Placer County near the shores of Lake Tahoe. Specifically, the project is nestled onto U.S. Forest Service-owned land near the intersection of Highways 28 and 89 in Tahoe City, California. The Center including the parking lot and access roads covers about 2.5 acres and serves as a hub and transfer point for Placer County’s TART buses. The Center is situated adjacent to hiking and bike paths allowing for easy access from different modes of transportation.

Being located in the Lake Tahoe Basin, much work went into environmental considerations throughout the entire project process. The idea of treading lightly was the mantra for the final design protecting the greatest number of trees, reducing land coverage, and conserving resources. The building footprint including the bus circulation path was configured so that a majority of trees could be protected and preserved to minimize visual impacts. Specific healthy trees were identified onsite and transplanted to new locations outside of the construction area. In addition, stormwater runoff is reduced from the parking area by use of pervious concrete on parking stalls, which allows water to percolate through layers of concrete, gravel and soil rather than run off. Stormwater is also collected from the building roof through snow melt and gutter system. The system melts snow from the roof collecting the water and storing it in a central cistern. The water is treated and then used for flushing toilets and irrigating landscaping. The flat roof also allows laminate photovoltaic panels to be installed on the roof generating power.

Exceptional care was taken during all excavations due to the history of the site. An archeologist was onsite during all excavation activities to document findings and record items found. A complete report was prepared and submitted to the USFS to document the findings. The structure includes a semi-transparent windscreen of which the history of the site is depicted from the earliest records to today’s modern transit center.

The project site has a unique history. The project area falls within traditional Washoe Tribe territory and previous studies in the area have discovered artifacts. Therefore, Gilbane Building Company hired an archaeologist to be onsite during excavations. When fragments or items of interest were discovered the archaeologist had to document and preserve the discovery. This condition slowed some excavations and all excavation activities had to be preplanned so that the proper staff could be onsite. Recent history of the site (1970s and 1980s) also complicated the excavations and construction. The discovery of various buried debris piles and burn pits required remediation, and additional structural backfill was brought in to provide a suitable foundation. A well was also discovered that had to be properly abandoned and closed before construction could continue.
In 2008, the North Carolina Legislature approved legislation and funding for the North Carolina Veterans Park in Fayetteville, N.C. The stated purpose of this project was to create a park dedicated to and honoring veterans from all service branches, past, present and future. As written, the legislation exhorted the design team to create a “21st Century Park” that was “contemporary, unique, and bold” and was “a place for meaningful reflection and inspiration.” With its rich military heritage, Fayetteville is the perfect setting for the North Carolina Veterans Park for the city recognized as a “Soldier Sanctuary.”

The project design process was initiated with several months of programming, community and stakeholder input, and development of a project vision statement. The resulting park vision included some very specific goals relative to placemaking and community building to be a park that would be an investment to catalyze additional downtown redevelopment; enhance an important downtown gateway corridor; improve visual, pedestrian and vehicular connectivity between the downtown, Fayetteville State University, and residential neighborhoods; create a campus to connect existing facilities including the Airborne and Special Operations Museum and the Freedom Memorial Park; and showcase public art as a key design element.

The first big move in the design process was a bold decision to replace an existing driveway approach to the adjacent Airborne and Special Operations Museum with a formal pedestrian promenade. The former street was removed and recreated as a wide, flag-lined, pedestrian walk framing the formal parade field and creating a home for some dramatic public sculptures.

The park vision included a commitment to infuse the very nature of the park with meaning and materials sourced from within the state. Today, the public art elements are some of the most talked about moments for thousands of visitors.

Sculptures by seven North Carolina artists created from salvaged military materials help define spaces in the main plaza central to the park. Each artist was selected based upon their body of work with preference given to North Carolina artists and veterans. Each artist was given a guiding theme such as “Honor” or “Commitment” to guide their creative process and directed to create something of meaning that was not recognizable relative to the origins of the source materials.

Opposing 12-foot-high glass panels glisten under a sheet of water as visitors stand in the space between them. On one side, a soldier’s image composed of individual stars faces the inscription of the Preamble to the U.S. Constitution both framed by granite and water.

Post-Construction Photos: Mark Herboth Photography
PROJECT OF THE YEAR

STRUCTURES

$25 MILLION–$75 MILLION

Seven Trees Community Center and Branch Library

Managing Agency: City of San José Department of Public Works
Primary Contractor: Gonsalves & Stronck Construction Co., Inc.
Primary Consultant: Rob W. Quigley, FAIA
Nominated By: APWA Silicon Valley Chapter

The Seven Trees Community Center and Branch Library project represents a new building type for the City of San José that blends library and community center programs into one facility, establishing a focal point for the community. This new facility, built in a low-income neighborhood with a multi-ethnic community, not only centralizes educational, fitness, recreation and social programs, it creates a special place where all important community activities and celebrations take place, by bringing them together at one gathering place. The facility is located near a major thoroughfare, bus lines, neighborhood shopping center and is adjacent to an elementary school.

Visitors to the Seven Trees Community Center and Branch Library are drawn into the building through the “Town Square,” an atrium-like lobby with canted walls, and high ceilings designed to choreograph and encourage public interaction and to become the symbolic heart of the community. The Town Square provides entrance to the other main floor spaces including the gymnasium, fitness room, banquet room, children’s resource center, and the performing arts studio; while inviting visitors to the second-floor library which includes a Tech Center, with 12 computers for drop-by users or classes, children and adult collections, and the Family Learning Center.

There were two unique site conditions on this project which required special attention to keep the project on schedule and avoid unnecessary impedance to the surrounding neighborhood. First, during grading of the site, naturally occurring asbestos was discovered above the BAAQMD levels not initially identified in the Soils Report. In order to avoid schedule delays, an extremely focused and collaborative effort between the earthwork subcontractor, general contractor, consultant and city staff was required to appropriately mitigate the area and facilitate proper landfill disposal. This effort was successful in the complete removal of all contaminated soil from the site in an expeditious manner while maintaining all safety protocol.

Secondly, during construction it was imperative to mitigate the avoidance of construction traffic in front of the adjacent elementary school while classes continued as normal. Knowing that the construction activities on the streets would affect the school day cycle, city staff was sensitive to this need and coordinated an appropriate plan beforehand with school officials. This included completing some major construction activities during normal school closures, adjusting times when contractors would arrive for scheduled construction activities and maintaining this diligent approach which avoided impact and interruption to school day activities.
The new Las Vegas City Hall, completed in February 2012, is an eight-level, 308,000-square-foot facility that replaces the City’s former City Hall constructed in 1971. The new building provides office space for up to 570 of the City’s staff, and provides support areas for its many and varied municipal functions. The facility design also incorporates features to allow the City to host events for the community and other organizations. In addition to municipal offices, the City Hall includes:

- A 430-seat, acoustically-tuned Council Chamber, equipped with theatrical lighting, audio/visual systems, moveable walls and cyclorama curtain, capable of supporting community artistic performances and special events as well as council and board meetings.
- A fully-digital, high-definition television production studio for the City’s multi-Emmy Award-winning KCLV-TV station.
- An indoor/outdoor employee café equipped with a certified catering kitchen, which hosts many community and organization special events.
- A grand entry purposed also as a special events reception space and art gallery.
- A 48-space below-building parking garage.

Of the $157 million allocated for this project, $109.3 million was the final hard construction cost. The project completed nearly $17 million under the budget.

The new City Hall is the lynchpin in a downtown redevelopment plan that will create thousands of jobs, bring billions in private investment and millions in new tax revenue to the city. City Hall is the catalyst for four major mixed-use redevelopment projects that will bring 13,441 new permanent jobs to the City of Las Vegas, $4.1 billion in private investment and $16 to $20 million in new tax revenue. The City Hall project also preserved thousands of construction jobs during a high unemployment period, particularly in the construction trades. Moving forward with the new City Hall project allowed other redevelopment projects to occur:

- By building the new City Hall, the former City Hall building became available for Zappos.com. Zappos is now relocating its corporate headquarters to the former City Hall building, eventually bringing thousands of new employees downtown. Zappos and its parent-company, Amazon.com, also have the opportunity to purchase adjacent City-owned acreage for further expansion of its new headquarters campus.
- In addition, the new City Hall is the anchor of what is planned to be a five-block development of new office and retail development planned by Forest City Enterprises, the company that entered into a public-private partnership with the City to develop the new City Hall.

The design of City Hall is an assemblage of metaphors, expressing the life-giving resources that have shaped the city’s past and present and now provide the energy for its future.

*Photography ©Brad Feinknopf 2012*
Nearly one mile of the City of Bellevue’s (City) 108th Avenue was enhanced to address pedestrian safety for the Enatai neighborhood and for the walking, bicycling, and traveling community. The improvements connected gaps in sidewalks, added bike lanes, provided a multi-use path, safely separated pedestrians and motor vehicles, improved stormwater runoff, and enhanced water quality, while saving public transportation funds and preserving the natural wildlife of the local evergreens.

The project also connected a key gateway bicycle route between the Interstate 90 regional trail and downtown Bellevue while increasing safety for the Enatai Elementary by providing continuous pedestrian facilities for the “walk to school routes.”

The Enatai neighborhood is an established residential community characterized by mature trees, neighborhood parks, a church, Enatai Elementary School, and a neighboring jurisdiction (Beaux Arts Village). The City envisioned a design for the project that would balance safety and efficient regional pedestrian and bicycle facilities with the preservation of the character of the 50-year-old neighborhood.

Two open house events were held to gather input from the residents of Enatai and other stakeholders including the Cascade Bicycle Club and Beaux Arts Village. Over 50 attendees provided input.

The public input resulted in the project scope being reduced by eliminating the traditional curb, gutter, and sidewalk approach and utilizing a more “rural approach” that reflected the needs of the community. This reduction in scope also reduced the total cost of the project by approximately $2 million. The modifications to the north focused on connecting gaps in the existing sidewalk and bike lanes and provided on-street parking. The improvements to the south utilized a multi-use path and landscape strip. The completed project featured context-sensitive design solutions that satisfied the community’s desire for a rural look while remaining functionally relevant and included:

- Reduction to property impacts that preserved the significant trees protected by the City
- Use of “valley gutters” to collect and convey surface runoff as opposed to vertical curb and gutter
- Establishment of vegetation and major shrubbery within the new landscape strip
- Reduction of the width of the multi-use path for a portion of the project to reduce the amount of walls and mitigate for steep driveways
- Installation of lower-wattage light-emitting diode (LED) luminaires creating the net effect of a lower, but more consistent, lighting level
The Arizona Centennial Commission is the statewide board charged by Governor Janice K. Brewer with planning and implementing Arizona’s 100th anniversary of statehood (February 14, 2012). As part of the commission’s plan, 20 Signature Projects and Events were identified. At the forefront of the Signature Project concepts was Arizona State Capitol 2012 Plan’s vision for improving the Arizona Capitol Mall and Washington Street area. The “Centennial Way” project represents a successful collaboration between the City of Phoenix, State of Arizona, Federal Government, and countless stakeholders to achieve this vision. This project set out to transform the approach to Arizona’s Capitol on Washington Street (Centennial Way) from 7th Avenue to 15th Avenue into a pedestrian-friendly showcase of Arizona, so that visiting the Capitol Complex and Wesley Bolin Memorial Plaza would be somewhat of a snapshot of Arizona, and an invitation to visit the many “amAZing” places and evoke pride in the great State of Arizona.

While this project was conceived many years ago, the funding necessary to complete the project was not made available until April 30, 2010. The Centennial Commission’s stewardship, in cooperation with the City of Phoenix’s management, served as the catalyst that moved this important project forward. The project team was tasked with meeting the vision for the project while faced with strict federal guidelines, a fixed budget, and a mandatory completion date of February 14, 2012. This vision was both objective and subjective and included natural and structural shade elements, state, county, and tribal historical and informational elements, civil and aesthetic pedestrian enhancements, and crucial civil infrastructure improvements.

With a fixed, extremely aggressive schedule to meet the State’s birthday celebration on February 14, 2012, the delay in State Historic Preservation Office (SHPO) approvals/clearances (from October 2010 to May 2011) required the Achen-Gardner Design-Build team to be creative. The DB team focused on early stakeholder input, civil design elements, and incorporation of design assist specialty subcontractors to establish the flexible framework necessary to productively pursue the design and ultimately meet the construction completion schedule.

Stakeholder relationships and the DB team’s use of design assist subcontractors allowed the team to commence construction while continuing to refine specialty elements and remain on schedule and ultimately accelerate the construction phase of aesthetic and landscape elements. For example, mockups of the shade structures and county displays were constructed while design was still in progress to allow for real-time evaluation and application of revisions. This process expedited design completion and ensured that the custom end products met stakeholder expectations. This also allowed for early commencement of fabrication to meet the long lead time of these critical project components.

Photos: Scott Kirchhofer
The OR 213/I-205 to Redland Road Crossing project—also known as the Highway 213 (OR 213) Jughandle Improvement—is as a set of constructed improvements commissioned by the City of Oregon City that result in a grade separation of Washington Street and Clackamas River Drive from OR 213. These facilities are connected via a realigned local roadway (Washington Street) crossing under OR 213 and are equipped to serve pedestrian, bicycle, transit, vehicular, and freight goods movement. The at-grade intersection of OR 213 with Washington Street and Clackamas River Drive has been reconfigured to operate as separate, signalized right-in/right-out connections. OR 213 has been improved to a six-lane divided facility that includes raised median control for the entire segment.

The project had a fill area of approximately 39,000 cubic yards in the floodplain. In order to meet City code requirements that balance cut and fill, an additional 27,000 cubic yards was necessary to meet the code requirements. The site was previously a lumber mill and was converted to wetlands populated with native species to address the City’s floodplain and natural resource protection requirements. The tree stumps from the excavation were used onsite to create habitat, and sawdust that was over-excavated from the site to improve growing conditions was processed and reused by local landscape companies.

The project contractor—Mowat Construction Company—built the new 130-foot bridge superstructure next to OR 213 starting in the fall of 2011. On March 22, 2012 at 8:00 p.m., OR 213 between Washington Street and the northbound I-205 on/off-ramps was closed for five nights and four days. Extensive public involvement, including a newsletter and webpage featuring a live construction camera, was implemented prior to and during the closure to ensure that all roadway users were aware of the closure. The entire process—which included excavating approximately 433 cubic yards of asphalt and between 8,000-10,000 cubic yards of material under the existing roadway and moving approximately 3.2-million-pound bridge into place—was completed on time by the afternoon of March 27, 2012.

The accelerated bridge construction allowed Mowat to maintain unrestricted daytime traffic on OR 213 during all but four days of the nearly two-year construction timeline; it also shortened the project construction by approximately six months. Traditional bridge construction methods such as staged construction would have required unacceptable traffic impacts that would have closed at least two travel lanes on OR 213 all day and night for 12 to 16 months. This was especially important because this segment of highway has an average daily traffic (ADT) count of 65,000. A traditional detour structure was also prohibitive due to the close proximity to both Union Pacific Railroad and ODOT’s I-205 interchange bridges at exit 10.
Lake Champlain Bridge Replacement

Managing Agencies: New York State Department of Transportation and VTrans (Bi-State Project)
Primary Contractor: Flatiron
Primary Consultant: HNTB Corporation
Nominated By: APWA New England Chapter

Built in 1929, the original Lake Champlain Bridge connecting Crown Point, New York and Chimney Point, Vermont was closed in the fall of 2009 after significant deterioration was discovered in the bridge's piers. This bi-state project involved the implementation of a dynamic-design-bid-build (D2B2) approach to complete design on a compressed schedule with the traditional, linear functions of final design, bid packaging, advertisement and permitting performed concurrently. Throughout the project, the project team worked closely with both the New York State Department of Transportation (NYSDOT) and the Vermont Agency of Transportation (VTrans), with NYSDOT serving as the managing agency.

HNTB was originally contracted to develop a project scoping document for either the rehabilitation or replacement of the bridge, but a routine inspection revealed worsening cracks in the piers. The bridge was closed in October 2009 to ensure public safety. The team's safety assessment report revealed rehabilitation risked destabilizing the structure. Therefore, in December 2009, the bridge was demolished and HNTB was asked to provide design and construction services for the replacement bridge.

Given that it has an 85-mile detour, the emergency closure of the bridge represented a major hardship to the local communities. The bridge was one of only two traversing the lake and provided a critical connection between the two regions, which are economically linked and share services, including hospitals and fire departments. In addition, the area is one of the most environmentally and historically sensitive sites in the United States, with historic forts and artifacts on both sides of the lake. As such, the team needed to provide a solution that could be implemented in a compressed time frame, while minimizing the environmental and cultural impact of construction. Working closely with NYSDOT, VTrans, and the Federal Highway Administration (FHWA), the team developed a plan to complete demolition, design and construction of the new bridge within two years. The design process saw exceptional integration of and cooperation between state agencies, historic consulting groups, two federal jurisdictions, the U.S. Coast Guard, the U.S. Army Corps of Engineers and the public.

Thanks to the implementation of D2B2, the schedule was four years shorter than that established using traditional design-bid-build methods and provided millions of dollars in savings. In addition, the design strategy serves as a blueprint for future work on historically-sensitive sites to minimize the impact of construction on the surrounding area while avoiding project delays. The bridge opened to traffic on November 7, 2011.
Imagine a city where the heart of downtown sits along a river that faces heightening water quality standards, an impaired water body designation, and total maximum daily loads due to unhealthy levels of nitrogen, all in the midst of a major recession…what is a city to do? The City of Fort Myers had the answer. In 2009, they launched a riverfront planning effort, the main feature being a transformation of pervious parking lots to a stormwater improvement project that benefits the environment, stimulates economic growth, spurs redevelopment, honors community history, and enhances quality of the public realm.

Southwest Florida is a haven for tourists from around the world. It is the choice vacation destination known for its beautiful weather, outdoor activities and world-renowned pristine beaches. The City of Fort Myers is located within Lee County on the south bank of the Caloosahatchee River a short distance from the Gulf of Mexico. Historically a working city of shipping and industry, Fort Myers is today the business and governmental hub of Lee County in the region known as Southwest Florida.

The population of Fort Myers is approximately 63,500 (U.S. Census Bureau, July 2011). For years the City struggled with how to treat its stormwater runoff from its crown jewel, a 14.9-acre area of the historic downtown located directly along the riverfront.

The Fort Myers City Council approved the Fort Myers Riverfront Development Plan to facilitate a public vision for redevelopment and new activity in the heart of Fort Myers along the Caloosahatchee River. After adopting the Riverfront Development Plan, the City methodically pursued the design, permitting and funding for a 1.4-acre Downtown Detention Basin project central to the Plan. The economic downturn put most of the local governments into a tailspin across the country, and especially in Southwest Florida. However, City of Fort Myers leaders saw that these extreme circumstances called for bold action. They could have limited the project to a smaller, more conventional water management facility that would serve to attenuate and treat stormwater. Instead, through the collaborative leadership of Public Works and Redevelopment Agency staff, the City devised a plan for a detention basin to serve as a catalyst that would breathe new life into the city. After rigorous review and armed with the justification for the project’s economic benefits, environmental benefits, and funding mechanisms, the City leaders approved the funding to construct the $5.7 million basin. With strict adherence to budget, schedule and quality control, the Downtown Detention Basin construction project has become the catalyst it was designed to be, and is the model for infrastructure investment that brings about a healthier environment, a richer economy, and an enlivened heart of the city.
Managing Agencies: City of La Crosse, Wisconsin
Primary Contractor: Fowler & Hammer, Inc.
Primary Consultant: River Architects
Nominated By: APWA Wisconsin Chapter

For over 100 years Grandad Bluff Park has been known for its scenic overlook of the Mississippi River Valley and three adjoining States: Minnesota, Iowa and Wisconsin. Activities such as sightseeing, hiking, picnicking, family gatherings, weddings, and fireworks displays have been enjoyed at the park for generations.

Grandad Bluff Park opened in 1912. The last major improvement project was done in 1976. In 2007 the park’s observation overlook was closed due to rockslides and erosion under its paving. The derelict state of the bluff’s observation plaza, shelter and fencing hindered the magnificence of the view and created potential visitor safety issues.

Key goals for the planning of the Grandad Bluff Scenic Overlook Historic Restoration were to correct all Americans with Disabilities Act (ADA) issues, mitigate erosion problems, repair rock slide damage, renovate foundations, replace fencing, restore the park’s historic shelter, and provide a safe and enjoyable experience.

Due to the nature of Grandad Bluff and its eroded 700-foot cliff faces, slope stabilization was an essential element to the restoration project. Engineers determined that a contractor with specialized knowledge and experience with soil nail technology was needed to complete the slope stabilization. The restoration was divided into two phases: Phase 1 – Slope Stabilization and Phase 2 – Site Improvements.

The phases were bid and awarded separately. A Special Bidders Proof was required for Phase 1 – Slope Stabilization. The proof required Phase 1’s contractor to have successful experience engineering and constructing no less than five similar projects within the last five years, of which the contractor successfully stabilized an active landslide using the soil stabilizing elements identified in the restoration plans, under similar geologic conditions. Both phases were essential to the total restoration project, yet Phase 2 and the future of Grandad’s Overlook were dependent on the success of Phase 1.

An essential aspect of the project was the Historical Restoration of the 1938 WPA (Work Progress Administration) shelter. Built in 1938, the shelter was constructed with local limestone quarried from Grandad Bluff itself. Timbers for the roof were harvested from the surrounding woods. The rustic design is similar to other shelters of that time period. For generations it protected visitors from the elements, and provided a place for gatherings and events. Pre-planning for restoration determined that the shelter was structurally sound, yet functionality and aesthetics lacking. Drawings and photos of the 1938 shelter provided the reference for restoration.
The City of Fort Scott, Kans., was established by the U.S. Army in 1842 to serve as a frontier outpost protecting the “Permanent Indian Frontier.” It is the home of the Fort Scott National Historic Site and the Fort Scott National Cemetery. Today, Fort Scott is a vibrant community, rich with history, serving a growing population of more than 8,000 area residents.

Nestled in this Little Ozark region of southeast Kansas is an excellent example of a Marsh Arch Bridge that spans across the Marmaton River on National Avenue—a historic structure the community was determined to preserve.

The North National Avenue Bridge was constructed in 1933 replacing the original bridge that served the area and U.S. Highway 69 for a number of years. With the construction of the U.S. Highway 69 bypass around Fort Scott, maintenance became the responsibility of the City of Fort Scott.

Currently, the structure has an Average Daily Traffic count of 4,710 (8% trucks) consisting of mainly local traffic. Prior to this year, the last major repair was completed in 1983. It is 202 feet long with a roadway 30 feet wide and total width of 50 feet with sidewalks.

National Avenue is the only convenient city street with a bridge spanning the Marmaton River that residents and local patrons use to cross the river. Another option for crossing the Marmaton is U.S. Highway 69 located approximately one-half mile to the east. Even though the distance of this alternate route is reasonable, this option places local users on one of the major highways of southeast Kansas. In order to maintain a safe route for local traffic, it was vital that the National Avenue Marmaton Bridge stay in service.

On November 30, 2011, the project was bid with Wildcat Concrete Services, Inc. having the low bid of $397,725.00. In order to avoid unfavorable weather, accommodate planned city festivals and comply with special requirements defined by the permitting agencies, construction was slated to begin in July 2012.

On July 9, 2012 construction activities began on the bridge and on September 18, 2012 the Certificate of Substantial Completion was issued. The actual construction was completed nearly three weeks ahead of the originally contracted 90-day schedule with a final construction cost of $361,124.75. The project was funded in its entirety by the City of Fort Scott.

The project fixed the old span, which had sustained structural damage over the years due to unnatural flooding of the Marmaton River during the ‘80s and ‘90s. Issues addressed included failing concrete on the deck, arches, hangers and abutments. Other problems included exposed structural steel, damage to the deck expansion joints, erosion of the river banks and slope stability.
Kiowa County Commons

Managing Agencies: Kiowa County, Kansas; City of Greensburg, Kansas
Primary Contractor: Compton Construction Corporation
Primary Consultant: Professional Engineering Consultants, P.A.
Nominated By: APWA Kansas Chapter

Greensburg is a city located in southwest Kansas. With a population nearly 1,400, it stood as the county seat and most populous city of Kiowa County. On May 4, 2007, Greensburg was devastated by the first categorized EF-5 tornado that traveled through the area, killing eleven people in its path. The wind that took Greensburg away came in a wedge twister nearly a mile and a half wide. Ninety-five percent of the city was destroyed, with the other five percent severely damaged. In the first days after the storm, the question in everyone’s mind was, “Would Greensburg recover?” There was no shelter, vehicles or rescue equipment. Everything was gone. By that night and the next day help had arrived and the City’s work to rebuild began. During the first year of recovery, the City decided to rebuild green and to follow sustainable design principles where possible. The Kiowa County Commons project—completed five years after the storm—is no exception.

The Kiowa County Commons building, located just south of the new Greensburg City Hall on Main Street, was constructed to LEED Platinum standards. The tall, modern, glass and brick structure features many sustainable design features including the use of photovoltaics; light monitors in the roof of the Historical Museum; a green roof covering the entire one-story section of the building, complete with a walking path; rainwater retention; water conservation fixtures; and the use of Insulated Concrete Form (ICF) construction techniques.

The HVAC system was designed to help the Commons project achieve a LEED Platinum rating. A geothermal ground source heat pump system provides HVAC to the Kiowa County Commons. The geothermal well field is comprised of 48 vertical boreholes, each at 320 feet deep. A primary variable volume pump system is used to transfer water/glycol between the well field and heat pump units spread throughout the building. The heat pump units have efficiencies ranging from 16 to 24 EER in cooling mode and 3.6 to 4.1 COP in heating mode. A dedicated outdoor air system preconditions the outside air to a neutral temperature prior to delivering it to the return deck of the heat pumps.
Imagine having to travel several miles every day to get to a destination that is less than a mile away. For decades, this has been the case for many residents living in the northern part of St. Charles. Before the completion of Red Gate Road Bridge, IL Route 64 (Main Street) served as St. Charles’ major east-west river crossing. As a result, the downtown area was congested, exceeding the road’s capacity by 50% and impacting economic opportunities for the local community and the region. With a lack of river-crossing capacity throughout the county for over 30,000 vehicles per day, building another river crossing at Red Gate Road proved pivotal to the safety and economic growth of the community. In fact, the Red Gate Road Bridge was first planned over 80 years ago in the 1928 Comprehensive Plan for the City of St. Charles, but was not considered an urgent need until more recently. The opening of the Stearns Road Bridge in 2010 alleviated some of the congestion, but Stearns Road is still six miles north of the IL Route 64. Crossing the Stearns Road Bridge requires extra miles travelled and does not provide much of a benefit for northern St. Charles residents wishing to simply cross the Fox River to travel to the other side of town.

Planning the Red Gate Bridge project called upon the support and cooperation of many federal, state and local agencies. Together they saw the project as an opportunity to build a more direct route across the Fox River and make other forms of transportation, such as walking or biking, more attractive for local travel.

The Red Gate Road Bridge provides 3,200 feet of new roadway connecting the local community on both sides of the river and improving regional traffic flow by connecting IL Route 31 and IL Route 25, two major state highways in the area.


**Q**

“I know we’re going to Chicago for the APWA Congress this year and I saw a reference in an article to Chicago’s ‘Greenest Street in America.’ What’s that all about?”

**A**

A two-mile stretch of Cermak Road has been dubbed as “the greenest street in America” but only by city officials. It gets the name for many reasons, one of which is a pavement that reportedly reduces air pollution or “eats smog” and is the first to use this technology in the U.S. The pavement was developed in Italy when the Vatican began searching for a material that would stay white amid the pollution of Rome. The pavement is developed with titanium dioxide which, when exposed to sunlight, causes a chemical reaction that speeds up the decomposition process, thereby keeping the surface clean. Tests indicated that not only was the surface of the church being kept clean, but eight feet of air above the structure’s roof was also measuring cleaner. The project in Chicago also uses solar-powered streetlights and bioswales with drought-resistant plants to withstand hot seasons without the need for more water. The use of bioswales and landscape elements placed to displace silt and pollution will help the city manage the large volume of stormwater flowing through the city’s sewers. About 60 percent of the project’s construction waste was reportedly recycled, and about 23 percent of the materials used for the project came from recycled things. It is the combination of all these green elements, city officials said, that will make a project like this successful in the long term. For more information visit [http://www.govtech.com/transportation/Greenest-Street-in-America-Eats-Smog.html](http://www.govtech.com/transportation/Greenest-Street-in-America-Eats-Smog.html).

**Q**

“Seems like we’re hearing about larger electric vehicles being placed in the field. Is this really feasible? Trash trucks? Sweepers? What’s next?”

**A**

You’re right. While we have yet to see a major utilization of electric vehicles in our municipal fleets and, granted, most of them are smaller designed for shorter routes or distances to cover, the vehicle size has increased as the amount of battery has increased. The first electric transit bus was just placed on the streets in the Tri Cities area of Washington. It can go more than 130 miles on a single charge and is the first to be put into regular service with a transit agency. The bus was purchased in 2005 but was rebuilt by Complete Coach Works after its front end was heavily damaged in an accident last year. Now, the bus costs 7 cents a mile to operate, compared with $1.03 a mile when it used diesel. Removing the oil changes, transmission changes, and air conditioning, the cost savings are anticipated to be considerable. While transit officials don’t expect to see their fleet upgraded overnight due to the high costs (this vehicle was retrofitted with a grant from the federal government through CALSTART, a nonprofit made up of 150 companies that promotes clean transportation), there is great anticipation that as the technology continues to improve so will the costs and usage. On a ride around the area near the transit company’s offices, passengers in the 41 seats noted how quiet the bus is, becoming virtually silent when stopped at a light. Sounds like bigger and more uses are on the way. Stay tuned for results from the operation of this new vehicle in the Ben Franklin Transit fleet.

**Q**

“I know you’ve addressed this topic before but it didn’t matter much to me then because we didn’t have a problem with Canada geese in our community. Now we do and people are screaming to have something done to deal with the geese and the mess. What can we do?”

**A**

“Same song, second verse” comes to mind. You’re right, we have talked about several methods to deter not only geese but other bird populations from taking over our parks, golf courses, neighborhoods, and transfer stations. Solutions for birds have included stringing wires, using spikes on balconies, railings, etc., to...
Electrifying these areas, much like an electric fence. There are some newer paste-type products that repel birds. The product is placed on the physical barrier or even stand-alone, and is actually a mass of material that makes it uncomfortable for the birds to roost. And haven’t we all tried to scare them with horns, hot whistles, balloons, and plastic figurines of predator birds? And, of course, there are water cannons shot into the trees and roosting areas to chase the birds away. That usually works; but it only chases them to the next group of trees! The goose problem has also used fabric coyotes that blow in the breeze and appear more realistic. The geese are destructive and messy. The most successful control of geese has proved to be restoring the native perennial flowers around the ponds, as well as in lawn areas that don’t need to be turf. Seems the geese avoid these areas and opt to populate landscapes dominated by turf grass.

The best suggestions have included: reduce the food source; decrease the size of lawn areas surrounding water; curtail fertilizer use since geese prefer lush, succulent, tender grass; reduce or eliminate mowing around the edges of water. In taller grass, geese cannot easily find new, delectable shoots. The taller grass also acts as a barrier to block their line of sight from the water, their main mode of protection from predators. Maybe one of these ideas will be just what you need. I hope so!

**Ask Ann**

Please address all inquiries to:

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Fax questions to: (816) 472-1610
E-mail: adaniels@apwa.net

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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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**Streetlight banners hold up in high winds—even hurricane force**

Communities are increasingly using light pole banners to add excitement and community spirit to events and occasions. Yet many communities in high wind and hurricane zones face challenges using banners due to risks of light pole damage from the extra wind resistance created by large banners, in addition to worries of damage to the banners themselves. While some neighborhoods find various forms of outdoor advertising amongst the debris following large storms and hurricanes, towns and shopping centers that use the KBW BannerFlex have not only saved time from clean-up, they have saved money. David J. Cangemi, in charge of General Services for the City of Hallandale, Fla., was particularly impressed with the KBW banner system’s performance saying, “A tropical storm came blasting through south Florida. Debris and banners were dispersed all over the city. I used KBW and not one of our banners was lost.” For more information, call 800-525-6424 or visit http://www.kalamazoobanner.com.

**RSC bio solutions offers public works operations readily biodegradable fluids**

Uniquely suited for municipal service vehicles, the EnviroLogic 3000 series is a high-performance line of readily biodegradable, nonhazardous hydraulic fluids. These products can perform in extremely high temperature (250°F), low temperature (-40°F) and high pressure (5000+ psi)
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“Stronger under pressure” flood fighting technology makes sandbags obsolete

Stocking up on sandbags has been the response to hurricanes, flash floods and abundant rain, but with RIBSCage Emergency Kits by Landmark Earth Solutions, Inc. (LES), sandbags, and the hard labor associated with them, may become a thing of the past. LES emergency kits include 10 fifty-foot sections of heavy-duty woven polypropylene-coated fabric bags available in 3, 4 or 6 feet in height, and two installation cages that hold the unique trapezoidal bags open and help funnel sand or dirt inside. Using RIBSCage, only three people and a small skid-steer loader (or similar piece of equipment) are required for installation. For more information, visit www.erosion-management.com.

LP130 Laser Marking System from Primera

LP130 is a new high-powered laser-based marking system from Primera that produces incredibly durable labels, tags and nameplates. With speeds up to 25% faster than Primera’s DL500 model and compatibility with a broader array of laser-markable tapes, labels and tags, LP130 allows users to quickly and easily produce labels and tags in-house that are capable of withstanding extreme conditions indoors or outside. Typical uses include production of labels for military applications, vehicles, outdoor equipment, medical devices and other materials requiring highly durable labels. Find out more at www.primeralabel.com.

The Bradco Ground Shark™ welcomes a new family member!

Paladin Attachments is proud to announce the release of the Bradco Ground Shark™ Standard Duty Brush Cutter—the newest addition to the Ground Shark family. This highly efficient and productive attachment clears tough ground vegetation, light to medium density brush and hardwoods up to four inches in diameter. A dual pressure relief valve on the new hydraulic motor is standard, protecting against any pressure spikes that could damage the drive system. Three bi-directional blades cut in either direction to extend the operational life of the blades, minimizing fleet maintenance expenses. The Standard Duty models share many of the engineering innovations incorporated into the Extreme Duty version like a heavy duty ¼” steel deck, an extremely quiet drive train, and a shielded motor that protects it from falling debris and damage. They are available in three cutting widths: 60, 72, and 78 inches and in a variety of low and high flow GPM ranges to accommodate the hydraulic capabilities of your particular Skid Steer Loader. For more information, call 800-456-7100 or visit www.paladinattachments.com.

LeafNut from Harvard Engineering

LeafNut, Harvard Engineering’s wireless control, management and reporting system for outdoor lighting, has been deployed by over 100 municipalities worldwide. Using GPRS and RF technology, users are able to remotely configure, monitor, manage and dim lights to accommodate the different levels of activity at various locations throughout the night. LeafNut also delivers energy savings and reduced carbon emissions—as much as 100kg of carbon per light per year. LeafNut’s unique
monitoring and reporting feature also predicts lamp failure and details the status of each individual light, communicating the specific issue to the maintenance contractor and avoiding the need for scouting. For more information, call (858) 546-2834 or visit www.harvardeng.com.

**A.R.E. offers Site Commander truck cap for Ford F150**

The **A.R.E. Site Commander truck cap** is now available for 2009-2013 **Ford F-150 Long Bed trucks**. A.R.E. designed the Site Commander commercial cap for professionals who require functionality, organization and a high-quality appearance in their truck fleets. Made from fiberglass construction to deliver a lightweight yet durable truck cap, the Site Commander provides increased storage to fleets and features a reinforced roof capable of accommodating most brands of commercial ladder racks. The Site Commander's wide-opening rear doors are designed to improve efficiency, allowing for easy loading and unloading of full-size plywood and drywall. Plus, the addition of a BEDSLIDE sliding cargo tray allows for quick access to the entire truck bed. For more information, call A.R.E. at (330) 232-1757 or visit www.4are.com/fleet.

**Fibrelite covers pass the test with flying colors!**

Fibrelite’s industry-leading **composite manhole covers** have achieved another “first” by successfully passing load testing for both the AASHTO H20 and H25 highway load ratings for manhole covers. In testing performed at Lancaster University, Fibrelite's 30” and 36” diameter composite covers were tested per the American load testing standards for manhole covers, grates and castings as set forth by the American Association of State Highway and Transportation Officials (AASHTO) M306-04 Standard Specification for Drainage, Sewer, Utility, and Related Castings. For more information on Fibrelite or its products, call (860) 599-6081 or visit www.fibrelite.com.

**Michels Pipe Services repairs water pipe under railroad tracks**

**Michels Pipe Services** recently completed a challenging project of repairing **300 linear feet of 8-inch, cast-iron water pipe** for the town of Hilbert, Wis. The pipe was located 5½ feet deep under two sets of railroad tracks. It had been out of service for two years because of a hole directly under the tracks. A trenchless repair method was selected to avoid the difficulties associated with shutting down the track during a traditional dig-and-replace repair. Installation of an NSF 61-certified NordiTube lining product was determined to be the best choice for repairing the line. Michels Pipe Services worked closely with the Wisconsin Department of Natural Resources to test for BIS-A and VOCs to ensure that the drinking water was safe to consume prior to putting the line back in service. For more information, call (920) 583-1463 or visit www.michels.us.

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SpreadSmart Rx Touch™ electronic spreader controls

SpreadSmart Rx Touch™ spreader controls from Cirrus Controls precisely meter spreading rates of salt, sand and liquid materials used by winter maintenance vehicles, making easier to manage material usage and reduce costs. The system’s dual-camera-ready display eliminates the need for a separate display for camera integration. Optional telematics packages offer the ability to capture, download and organize data on system operation and location that can be used to help reduce materials consumption, optimize routes, and make other performance and cost-efficiency improvements. For more information, call (763) 493-9380 or visit www.ciruscontrols.com.

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CULTEC underground stormwater chambers offer solution for developments with space constraints

Today, CULTEC Recharger® and Contact® underground chambers are often replacing conventional stormwater management systems such as ponds, swales and pipe and stone trenches, in order to maximize the development of available land. CULTEC offers the largest variety of chamber types and sizes, accommodating almost any site parameter. The Recharger 150XL, 180, 280, 330XL, V8 and 900HD models are all high-profile, high-capacity chambers. CULTEC systems are typically designed by using the largest chamber that meets the site's depth constraint, thereby reducing the number of units and land area required. The Contact EZ-24, 100, 125 and Field Drain C-4 are lower profile, lower capacity chambers that can accommodate systems with high water tables or other depth restraints or when a larger infiltrative surface area is required by design. For more information, call (800) 4-CULTEC or visit www.cultec.com.

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into the briquettes along with larger particles. For more information, call (508) 510-5626 or visit www.semshred.com.

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8-11  Illuminating Engineering Society Street & Area Lighting Conference, Phoenix, AZ, www.ies.org
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