New APWA President takes office...

See page 2
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.

FLEET SERVICES ISSUE

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We’re always there to help out

Edward A. Gottko, PWLF
APWA President

Editor’s Note: As has become tradition, each new APWA President is interviewed by the APWA Reporter at the beginning of each presidential term. In this manner, presidential plans are laid out, hopes revealed and observations noted.

First, some background on President Edward A. (Ed) Gottko, PWLF. Gottko’s career in public works began in 1970 as the Assistant City Engineer for the City of Bayonne, N.J. In 1979 he was appointed the Town Engineer/Director of Public Works for the Town of Westfield, N.J., and in 1994 was appointed the Town Administrator at Westfield. In 2000 he retired from public service and now serves as an adjunct professor at New Jersey Institute of Technology and New York University.

Gottko has been a member of APWA since 1972. He has served as a member of the Finance Committee (2008-10) and has also chaired the committee (2011-12). He has served on a number of other committees, including the Education Committee (2004), Master’s Degree Task Force (Chair, 2005-06), and the Education and Certification Task Force (2011). Gottko is a Past President of the New Jersey Chapter and has also chaired the chapter’s Education/Training Committee. In 2002 he received the Donald C. Stone Award for Excellence in Education.

How did you get into public works? I was working in New York City for a consulting engineering firm in the late ‘60s and attending college at night. In 1970 an opportunity came about for me to move over to the public sector as the Assistant City Engineer in the City of Bayonne, which was our hometown. I wound up having responsibility for solid waste collection, snow removal, getting the new municipal building done, getting the fleet services building done, and a whole bunch of other things. So, that was my introduction into public works in 1970, and I’ve been around it ever since.

What are some of the changes that you have seen in public works? The technology has changed. The programs are still the same. You still plow snow, you pave roads, you take care of parks, and you do all of the basic functions, but the technology has changed quite a bit over these forty-some years. The ability to do these things becomes more difficult today in that government is under stress financially, so we need to do more with less. Public works has to be more adept today than it was when I started. I remember when we started in the Town of Westfield, our workforce declined by almost one-third over about ten years, but the work didn’t change. What happened is that we had to become more efficient, more effective. And that’s still a challenge today. It’s important to use new technologies to get the work done.

What do you see as the critical issues today for public works professionals? The most critical issue is technology. Every day something new is coming out.
We need to work through those technologies, find the ones that work for us and use them to provide the services that our residents and customers need. The role of technology today is a lot different than when I started in this business.

What are some of your major accomplishments? Oh, geez, that’s a tough one. Besides my family? My main focus has always been making sure that the professionals in public works are adequately trained and educated to meet the demands. I’ve been an adjunct professor since 1975 at various colleges and universities in the New York metropolitan area, especially in New Jersey. I’ve done a lot of work, especially with Rutgers University, in the training of public works professionals. And if I could point to one thing it’s promoting education and training in the public works field.

What will be your priorities as APWA President? Number one is to make sure we as an association continue to develop our educational programs across the board. Training and providing the educational programs and resources for our membership in all areas, not just for the high-level public works officials, but all categories of public works professionals. That’s going to be the key. The work we started with the APWA Donald C. Stone Center, our certification programs, our certificate programs. One of my top priorities is making sure we continue to develop a comprehensive educational strategy.

Second would be making sure we make the right investments in technology as an association to provide those services. We need to provide that level of support to our chapters, because the chapters are
really the contact point between APWA and our members.

Another priority is our young professionals, the future. We need to make sure that we develop our young professionals, that we get them involved in the profession, that we get them involved in the association.

**You’ve been very active in APWA over the years at both the national and chapter levels. What are some of the highlights of your involvement with APWA?** Personally here in New Jersey, we worked with Rutgers University and their LTAP program to develop training courses. Another highlight was in the 1990s with the creation of the New Jersey Chapter as a separate chapter. Prior to the early ’90s the northern part of New Jersey was part of the New York Metro Chapter and the southern part of New Jersey was part of the Delaware Valley Chapter. In the 1990s we petitioned the Board of Directors to become a separate stand-alone chapter which gave identity to the state of New Jersey and allowed us to put programs together that served the entire state of New Jersey. We also worked with another organization on what I believe is the first certified public works manager program which is set in law here in the state of New Jersey.

On the national level, it would be my involvement with the Education Committee back in the ’90s. A lot of the work we did with the Education Committee back in the ’90s eventually morphed into what is now the APWA Donald C. Stone Center, which is a career path for public works professionals. I keep going back to education which I think is extremely important.

**Who have been your mentors and who inspires you?** Well, I’d have to go back to my parents who instilled in me a sense of volunteerism. They were two individuals who did a lot of volunteer work on different levels, and kind of set the stage for me to get involved in a lot of different activities and volunteering. It instilled in me a desire to give back. And that’s what I think I’ve done with APWA, in some small way, is give back to the profession. I go back to a gentleman by the name of Myron Calkins [APWA National President 1970-71], who gave a seminar back in the ’70s which I attended and got me interested in APWA. As a result of that seminar I joined back in the ’70s and here I am today.

**What is the greatest benefit you see in being a member of APWA?** I look at APWA as one big family. I’ve seen this over the last year during my travels to various chapters. No matter where you go the problems are the same. You may think they’re different, but basically they’re the same. APWA is a great resource for those individuals that work in public works. There is a lot of talent out there, there is a lot of ideas out there, there is a lot that members can learn from each other. And it’s a great place to find that information and take it on back to our communities to better the services we provide to the public.

One of the things that really came home this past year was with that little event here in New Jersey and New York called Sandy, and the cooperation that occurred between public works departments to help areas that were impacted. I know that even the Georgia Chapter sent some equipment to Long Island to help out there. You see that in Moore, Oklahoma, with the tornado that went through Moore and the other public works departments in Oklahoma helping out. We saw that with Hurricane Katrina. When somebody is impacted, other public works departments are right there to help out. We are the first responders to these things. We’re the first in there and the last to leave. Everybody pitches in and puts all their differences aside. That is a tremendous thing that happens in APWA and in the public works profession. We’re always there to help out.

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**Recognize Your Leaders is seeking contributions!**

A simple definition of leadership is that leadership is the art of motivating a group of people to act towards achieving a common goal. Many times we find ourselves thinking of leaders being only at the top of an organization. Not so. Leaders are found at all levels within our public works organizations. Most often, they are anonymous; they are simply doing their jobs and yet, their actions impact many.

Look around your organization and find someone to recognize for a specific project they have done. It could be your manager, first-line supervisor, assistant, or janitor. 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.

All submissions will be reviewed by members of the Leadership & Management Committee. Those individuals selected will be recognized in a future issue of the APWA Reporter.
U.S. Congress makes progress on WRDA legislation

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The Water Resources Development Act (WRDA) is legislation that authorizes flood control, navigation, storm damage reduction, beach nourishment, ecological restoration, water supply and levee safety projects and studies conducted by the United States Army Corps of Engineers (USACE).

The last WRDA was authorized in 2007. Congress had to override a Presidential veto to ensure the legislation became law. Today, Congress is working anew to send a WRDA reauthorization to the President. On May 15, the Senate approved the Water Resources Development Act of 2013 (S. 601) by a bipartisan vote of 83-14. Traditionally, WRDA legislation has consisted of a list of authorized local projects that are eligible for federal funding. However, the congressional earmark ban has prohibited the funding of specific local projects. To circumvent the congressional earmark ban S. 601 would authorize USACE to construct projects with completed reports and a positive recommendation to Congress. Currently, there are 18 projects with completed reports that will be authorized under S. 601. WRDA 2013 also permanently extends Section 214 authority. Section 214 allows USACE to use funds contributed by state or local governments to expedite permitting for infrastructure projects with minimal environmental impact. Section 214 was a provision that was initially authorized in WRDA 2000 and has been typically reauthorized for limited terms. S. 601 ensures that this provision is a permanent part of WRDA.

Additionally, the bill includes provisions establishing a levee safety program. It also creates a new loan and loan guarantee program to create water and wastewater projects modeled after the popular Transportation Infrastructure Finance and Innovation Act (TIFIA) program called WIFIA (Water Infrastructure Finance and Innovation Act). The legislation aims to expedite project delivery through reforming the environmental review process, establishing penalties for agencies that miss review deadlines, and increasing the role of local stakeholders in project implementation and increasing flexibility in the permitting process. Before final passage, the Senate approved a provision limiting environmental streamlining provisions to 10 years. Many environmental groups and the Obama Administration oppose the new streamlining provisions, asserting that they will jeopardize the environment at the expense of building projects.

House Transportation and Infrastructure Committee Chairman Bill Shuster (R-PA) has indicated that his committee hopes to take up a WRDA bill later this summer or fall. Few details of the House WRDA bill have emerged, but it is expected that the House WRDA bill will not include a WIFIA provision. It is also unclear how the House WRDA bill will deal with the congressional earmark ban. The Senate WRDA bill cedes much authority to the USACE, and some House members may be uncomfortable with that.

Reauthorization of WRDA is important to public works and the communities they serve. The current infrastructure system is deteriorating and strains under the increasing demands for sound flood control, efficient waterway transportation systems, and for clean and safe water. WRDA promotes investment in the nation’s critical water resources infrastructure, authorizes projects that improve our nation’s water infrastructure and environment, and accelerates project delivery saving local governments time and money.

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Teresa Hon  
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Your Fleet Services Committee has been working diligently this past year to monitor fleet-related issues and identify topics for educational opportunities. The largest project to date has been the APWA Donald C. Stone Center Technical Specialty Career Path for fleet professionals.

Currently out for review by subject matter experts and fleet professionals, the Fleet Specialty Career Path will feature three levels: Operator/Technician, Supervisor and Manager.

While APWA’s Certified Public Fleet Professional (CPFP) is a component of the APWA Donald C. Stone Center, the technical specialty career paths are separate from certification. The certification programs are integrated within DCS as a career path pipeline toward certification. Fleet professionals who wish to become certified but do not meet the eligibility requirements for CPFP or those individuals seeking training are the target audience for participation in the technical track. Individuals who complete the fleet technical specialty career path levels receive a certificate acknowledging the accomplishment. APWA is hopeful that upon completion of the Manager level, individuals will choose to test for the CPFP. There is always the option for individuals to test for certification without going through the technical specialty career path.

Training will be provided online in 15-minute segments or modules of actual instructional time, making the process convenient for the learner. Additional time will be necessary to complete assignments before moving on to the next module. Some topics will be more complex and require multiple modules. There will be two options for learning—a la carte/module or by registering for an entire level. Those who make the commitment to expand their fleet education by registering at each level will also receive additional benefits. Mentors will work with each registrant, guiding them through development of their professional plan, providing feedback and counseling the participant. Level registrations will also be able to monitor their training through a learning management system which will keep track of their progress, assignments and other important information.

If you didn’t register to receive additional information regarding the technical specialty career path development and applications while at Congress, send an e-mail to education@apwa.net. Indicate your interest in the Fleet Technical Specialty Career Path and we’ll keep
you updated on the status of the program.

While attending Congress in Chicago this year, the committee met and reviewed the work plan for the coming year. They have identified a number of interesting projects, including a Click, Listen & Learn for individuals new to public works: “Public vs. Private Fleets – What’s so Different About Public Works Fleet Operations?” Members will also be reviewing our current fleet publications to identify those which need updating. After receiving feedback from the Emergency Management Committee, the Fleet Services Committee will be taking a new approach when updating the APWA Equipment Code book. The plan is to start with the FEMA reimbursement codes as a base code then include additional identifiers necessary for public works professionals. If you are interested in this project, please contact one of the committee members or the staff liaison.

As always, the Fleet Services Committee supports the Certified Public Fleet Professional (CPFP) process. At various times throughout the year, the committee will request input from fellow CPFPs as well as provide opportunities wherein CPFPs can earn units toward recertification. The committee welcomes contributions from the CPFPs and looks forward to contributions from this very important group.

Your 2013-14 Fleet Services Committee is composed of Chair

Mary Joyce Ivers, CPFP (Fleet and Facilities Manager, City of Ventura, California); Tom Collins (Deputy Director, Town of Natick, Massachusetts); Jeffrey A. Tews, CPFP (Fleet Operations Manager, City of Milwaukee, Wisconsin); Ron Brown, CPFP (Fleet Maintenance Supervisor, City of Conover, North Carolina); Sam Lamerato, CPFP (Superintendent-Fleet Maintenance, City of Troy, Michigan); and Dave Seavey (Director, Fleet Management Division, City of Seattle – SDOT, Washington). The committee’s Director-at-Large for Fleet and Facilities is Brian Usher (Director of Public Works, City of Largo, Florida). For contact information or to learn more about the work of the committee, go to the Fleet Services pages under the Get Connected tab on the website.

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Board of Directors election results

The 2013 Board of Directors election closed on August 5, 2013, at midnight. On August 6, 2013, Robert J. Miller, President of the Kansas City Metro Chapter, serving as Head Teller, verified the results. A total of 609 ballots were cast. A ballot for every position was not necessarily cast. At the closing of the ballot, there were 28,293 current members of APWA. Regional Directors are elected by members voting in their specific region. The membership of each region varies in number.

Election results are as follows:

- **Larry Stevens**, P.E., PWLF, President-Elect: 578 votes; Write-ins Aggregated: 13 votes
- **Brian R. Usher**, PWLF, Director-at-Large, Fleet and Facilities Management: 564 votes; Write-ins Aggregated: 6 votes
- **Richard F. (Rick) Stinson**, PWLF, Director of Region I: 39 votes; Write-ins Aggregated: 0 votes
- **Harry L. Weed, II**, PWLF, Director of Region II: 37 votes; Write-ins Aggregated: 4 votes
- **Linda Petelka**, B.Sc., PWLF, Director of Region V: 94 votes; Write-ins Aggregated: 3 votes
- **Chuck Williams**, PWLF, Director of Region VI: 149 votes; Write-ins Aggregated: 2 votes
- **Ronald J. Calkins**, P.E., PWLF, Director of Region VIII: 44 votes; Write-ins Aggregated: 0 votes

Diversity Awareness Corner

“We all have to live here together... I want you to respect one another, see the best in each other, share each other’s pain and joy.”

– Colin Powell, U.S. Secretary of State (2001-05); Chairman of the Joint Chiefs of Staff (1989-93)
The Institute for Sustainable Infrastructure (ISI) announced recently that the first Envision™ rating system project award went to the William Jack Hernandez Sport Fish Hatchery in Anchorage, Alaska. The HDR-designed project received an Envision™ “Gold” award. The 141,000-square-foot hatchery facility is the largest indoor sport fish hatchery in North America, and contains many sustainable features, including sophisticated recirculation technology that reduces by 95% the water and energy normally used by conventional hatcheries.

The ISI First Project Award announcement marks a significant achievement for APWA’s own sustainability efforts. Since its formation in 2008, the APWA Center for Sustainability has been working to identify the best tools, practices and theories to incorporate sustainability into public works projects.

“The collaboration with ISI, the Zofnass Program for Sustainable Infrastructure at Harvard University Graduate School of Design, and with our fellow association partners, ASCE and ACEC, is a keystone component of the Center’s sustainability activities,” said APWA Executive Director Peter B. King. “The APWA Center focuses on providing public works professionals with the tools and resources to pursue a balanced approach for vibrant communities.

As demonstrated with the first ISI project award, the analysis provided by the Envision™ rating tool is extremely valuable to infrastructure owners.”

“As we look to the future, sustainability will play a larger and larger role in preserving valuable environmental resources as well as important qualities of life and social responsibilities,” King said.

The hatchery’s Gold-level Envision™ award represents significant achievements in sustainable infrastructure design. The project was assessed using the

Exterior of the William Jack Hernandez Sport Fish Hatchery (photo courtesy of HDR)
60 Envision™ sustainability criteria in the categories of Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Risk.

The sustainability aspects of the Fish Hatchery that garnered high-level ratings included leaving the brownfield site cleaner than before, saving water and energy, keeping Ship Creek clean, and building public education into its design. Additional higher levels of achievement were concentrated in several Envision™ structure credit categories, including the following:

- **Leadership Category:** Pursued by-product synergy: The project formed a partnership to transfer waste from the operations of the facility as input to another facility, and evaluated the potential to make use of warm water from a neighboring industry.

- **Leadership Category:** Improved infrastructure integration: The project repurposed existing water and sewer infrastructure; created connections to existing bike trails and created a parallel bike trail through a park-like setting, while clarifying traffic flow and protecting the stream; restored and improved public park-like setting and viewing areas with trails, boardwalk, and educational signs.

- **Quality of Life:** Improved the net quality of life of all communities affected by the project and mitigated community impacts. The project improved user accessibility, safety and wayfinding of the site and surrounding areas. It also enhanced public space including improvement of public parks, plazas, recreational facilities, or wildlife refuges to enhance community livability.

- **Resource Allocation:** Reduced energy use: The project piloted and later implemented a full-scale, highly-efficient, recirculated aquaculture system that reduced the energy needed to heat the process water, ventilation, and building heating by approximately 88%, while significantly reducing operating costs and maintaining production goals.

- **Natural World:** Preserved greenfields: The project included the environmental restoration of a former military brownfield and greyfield site, including the cleanup of contaminated soils.

- **Natural World:** Reduced pesticide and fertilizer impacts: The project team designed the landscaping to incorporate native plant species suitable to the Alaskan climate, requiring no pesticides, herbicides or ongoing fertilizers.

To view an HDR video on the William Jack Hernandez Fish Hatchery, visit the HDR website at www.HDR.com. For more information on ISI and the Envision™ sustainable infrastructure rating system, visit the ISI website at www.sustainableinfrastructure.org. For more information on APWA’s Center for Sustainability, contact Julia Anastasio, Director of Sustainability, at janastasio@apwa.net, or visit the APWA website at http://www.apwa.net/centerforsustainability.

Laura Bynum can be reached at (202) 218-6736 or lbynum@apwa.net.
The impetus for creating APWA's Donald C. Stone (DCS) Center goes back to the 1930s when our namesake, Donald C. Stone, founded the American Public Works Association. From the very beginning, Mr. Stone promoted education as the key to advancing the art and science of the public works profession. His vision did not materialize until 1967 when he established the Graduate Center for Public Works Engineering and Administration at the University of Pittsburgh. In a 1992 interview with Howard Rosen and Stephen Pudloski, Mr. Stone explained that the public works curriculum was designed to provide an administrative capstone for engineers, lawyers and other professionals who needed grounding in organization, management, policy development, and budgeting.

Mr. Stone went on to say that managers and administrators must envision goals, affirm values, motivate and manage in a participatory style. They must learn to recruit competent individuals and understand the necessity of continuous training and staff development.

With a renewed commitment to Mr. Stone's vision, the APWA Board of Directors authorized appointment of the Education and Certification Task Force in March 2010 to examine APWA's professional-level education and certification programs. The task force recommended development of integrated programs that were more closely aligned with the needs of the public works profession. Starting with a leadership program, they recommended the development of career paths that would ultimately include all areas of public works. Following the submission of the strategic plan in 2011, the Board directed the APWA staff to develop an implementation and operation plan. If Mr. Stone were here today, he would advocate for a learning institution that would professionalize public works, much like a university or college.

The vision of an integrated education and credentialing organization for all public works professionals is central to the DCS Center. With over 500 participants in just two years, the Center continues to grow to meet the specific educational, training and professional development needs of public works professionals to improve the agencies, organizations and the communities they serve.

The DCS Center will also offer the public works perspective supplementing technical training provided elsewhere. Currently, the Center is working to develop career paths in all of the technical areas in public works, beginning the process by building on the existing certification programs: Certified Stormwater Manager, Certified Public Fleet Professional, and Certified Public Infrastructure Inspector. Much like a community college or university, the DCS Center offers certificates, certifications and credentials.

The DCS Center is a network of partner organizations, each providing courses, experiences and opportunities. Today, members have options from which to select among the many partners within the DCS Center. The network of APWA chapter institutes, partnerships with organizations such as Local Technical Assistance Programs (LTAP), and universities and colleges creates opportunities that should fit the needs, interests and ambition of most public works professionals.

Also unique to the DCS Center is the ability to customize the experience for each participant. The challenge is to not compromise the rigor, but to find new ways to teach. The DCS Center is committed to offering a rigorous educational program because the challenges before the public works professionals are significant. Public works professionals are charged with solving the infrastructure issues that become more pressing as time goes on. Thus, the DCS Center invites and encourages each candidate to step up to the plate. The stories of individuals who are accepting the challenge are...
proving that the rigor built into the program is appropriate.

Mentoring is a key component to achieve this level of professional development. In the DCS Center each candidate selects a mentor—a professional with over 20 years of experience who will guide, energize, counsel, teach and champion one individual. The mentor has the responsibility to help create just one new leader at a time. This unique resource means that the rigor necessary to prepare techni-
cians, operators, specialists and leaders can continue as an essential part of the Center.

More work is required in calibrating and emphasizing a rigorous curriculum and learning experiences. As the DCS Center continues to develop, it will be important to experiment, de-
gen and develop the learning experiences best suited to the many learning styles represented within public works. This is, in part, the behind-the-scenes work of the DCS Center. In time, the Center’s goal of a career path for everyone should provide the most
effective learning, educational and de-
velopment strategies for those who are attracted to this profession.

Continuous improvement and refine-
ment are necessary to remain relevant to our members. The evolution of the DCS Center is organic, taking advantage of opportunities as they present themselves. A natural part of being out in front and designing DCS specific to the public works profession makes it impossible to anticipate all aspects of the program and incurs some trial and error. The end result, however, is a program that really fits the needs of the profession.

To keep the DCS Center moving for-
ward, it is important to acknowledge the trend for online training, along with a blended approach of online plus face-to-face learning. This means that an investment in a Learning Management System (LMS) will be neces-
ary. An LMS is a software program, used by most learning organizations, that allows learners to access online courses, keep track of learning records, take assessments, watch videos and many more functions that support learning. APWA staff members are cur-
rently investigating options for an appropriate LMS.

Through the DCS Center, APWA is committed to bring to fruition Donald C. Stone’s vision of providing professional development to all public works professionals interested in gaining knowledge and credentials. Why? Because it will take all of us to resolve the issues facing our nation and the world.

Mabel Tinjacá can be reached at (816) 595-5214 or mtinjaca@apwa.net.
Ogden, Utah, a city of approximately 83,000 residents, is nestled up against the Wasatch Mountains to the east with a breathtaking view of the Great Salt Lake, and desert to the west. It has historical significance as the junction of the Transcontinental Railroad. After the golden spike was driven at Promontory Summit in 1869, Ogden became the hub of rail travel across America and gave rise to historic and at times infamous 25th Street, a street of opium dens, brothels and bars. “Two Bit” Street has been reclaimed and now hosts upscale restaurants and shops. As transcontinental rail travel dwindled Ogden suffered a deep economic downturn through the ‘70s. Recovery was slow. In 2002, Utah hosted the Winter Olympics and Ogden had two venues. Snowbasin Ski Resort hosted the downhill, slaloms, and giant slalom events while the local Ice Sheet hosted the Curling events. Since then Ogden, capitalizing on its newfound recognition and pristine natural environment, has bounced back becoming a year-round mecca for recreation of all sorts.

While many ice sheets around the country struggle to make fiscal ends meet, the Weber Ice Sheet, a County facility, has been booked from 6:00 a.m. to midnight seven days a week. Ice time was at a premium. The facility hosts a variety of events including ice hockey leagues, open skating, figure skating, and curling.

The facility was in desperate need of expansion; however, the costs seemed prohibitive.

At the same time, former Weber State University Football Coach Ron McBride was seeking funds to construct an indoor training facility for his football team. The WSU Athletic Director, Jerry Bovee, estimated the cost of that facility at $12 million, also seemingly out of reach. Then Ice Sheet Manager Todd Farrario came up with the idea to form a partnership between the University and the County. The project took flight.

The Ice Sheet is located on Weber State University property. WSU will provide the property and their share of cash will be raised from private donations up to $4.2 million. AD Jerry Bovee said, “Most of that cost has already been raised by local boosters and I expect by the time the facility opens in October we will have exceeded our fundraising requirement. Any excess raised will fund additional scholarships.” There will be no cash outlay charged to the

Grand Opening set for October 22
State. Weber County has approved the expenditure of $3.5 million from its Recreation, Arts, Museums and Parks (RAMP) Tax fund for its share. The result is a two-story facility expansion attached to the current Ice Sheet designed by FFKR Architects of Salt Lake City and built by Jacobsen Construction.

The addition will add 73,000 square feet to the original 57,000 square feet of the Olympic facility. The County will have a new National Hockey League size ice rink 85 x 200 feet that will host all of its ice activities and boost its current use from 211,000 users to an estimated 350,000 users per year. The new rink will only have seating for 120 people compared to the Olympic arena that seats 2,400 people. There will be three new locker rooms, one dedicated to women, who are increasingly participating in the hockey leagues. The addition will also include a Community Room with a kitchen for food service that can be rented for parties. The County and WSU will share conference room and administrative spaces.

Weber State University will also have a state-of-the-art weight training room that will be utilized by both the athletic department and host training classes for university credits. The indoor training facility on the second floor will have a training surface with artificial turf of 45 x 60 yards with a 30-foot-high ceiling that will be used for football, soccer, and lacrosse practices. During summer months the facility will host sports clinics sponsored by both the WSU Recreation and Athletic Departments. Facility Manager Farrario said, “This is a quality of life facility for the residents and students of Weber State.” A win-win if there ever was one.

*Don Bruey can be reached at dbrueya4@gmail.com.*

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The many faces of APWA

Maria Fernandez-Porrata
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When our founding fathers wrote the Constitution and dreamed about the future of the nation they never imagined how diverse it would become in a few centuries. We look around us and we see “many different faces,” we hear other languages and realize that we live in a very diverse society. Our communities are unique and they all have characteristics of their own, some much more diverse than others; but at the end of the day we all share a common love, and that is America, “one nation under God, indivisible, with liberty and justice for all.”

My passion has become to learn and respect this diversity within my country. I came to this wonderful country as a child, running away from communism. My parents took me out of my native land of Cuba, and, at a very early age showed me that “all men are created equal, but, we are not the same”; it is not what you first glance, but what the human inside can or cannot do. They ignited a special curiosity within me inspired by the differences that surrounded me and told me that the biggest strength is to respect your entire environment and treat it at all times as a very holistic and sacred place including all its creatures. Treat others as you would expect to be treated; to learn and be able to absorb the great donations that their differences could impact upon us, always preserving your uniqueness, but making sure and above all, that we are one big family team.

As I grew up in Miami, I understood better and better what they meant. I obtained my bachelor’s degree at Florida International University (FIU). I was surrounded again and again by
people that were totally different from me, and I was privileged to learn, accept and respect those items that were totally new to me. Best of all, my life got richer and I understood and learned how to take advantage and to make it work for a better quality of living around me instead of agonizing on the differences and the things that I may not like or totally disagreed with; to negotiate upon our differences and build on the common goals to originate an inclusive, final, unbreakable product. As a newly adopted American, who will give her life to defend the U.S., I needed to understand them and respect them, and treat them as brothers and sisters of my new family. Sometimes we do not realize how wise your parents are or your elder mentors until years of practice pass in your daily routines and you notice that they were totally, politically and morally correct. Placing these diversity ideas in practice has been a great advantage to me as an individual and to all of the work forces that had me for the past forty years of my life. As I became a seasoned professional, I applied them, and if I could provide you with a word of wisdom on this subject, I would strongly recommend that you follow the rules of respect and inclusiveness; I assure you, it works like marvelous miracles!

Like many of you, I am a very active member of many of the existing national industry organizations, their regional chapters and local branches. I cannot reinforce enough how important it is to be part of your industry organizations. My commitment goes to the maximum sometimes, but as an empty nester, I have plenty of time on my hands in addition to the time that I serve to God, my family and my country. I also dedicate much of my time and talents to our diverse industry, let me tell you: I am a director at my local branch of APWA at the South Florida/SF APWA; the Diversity Chair for the Florida APWA Chapter; I am a proud member of the APWA Diversity Committee; Past President of the South Florida Women Transportation Seminar/SF WTF; Past President of the Miami Dade American Society of Civil Engineers/MD ASCE; and President of the Cuban American Association of Civil Engineers. I share this not in an egotistic trip, but to show you that I believe in diversity at all levels including those among our industry organizations. Please donate some of your time to your favorite organization. I believe that all united, we can do a better job servicing our communities, enriching our industries, helping our colleagues and making a proactive action to maintain our U.S. the best country in the world.

I am very proud to say that the American Public Works Association recognizes, appreciates and fosters the synergy which is created when the work environment values the differences in individuals and practices inclusiveness and open communication. We at APWA believe and support diversity.

The Diversity Committee advances the diversity issue throughout the association, placing value on all individuals and the different perspectives of those individuals, and promoting the process for all to feel included as part of the whole. Diversity includes dimensions of race, ethnicity, national origin, gender, creed, religious beliefs, sexual orientation, age, life style, socio-economic status, income level, disability, physical appearances, personality, educational background, and any other items cooked in a melting pot of a stronger community.

I want to share some of the common goals and practices in diversity of the South Florida APWA Branch, part of the Florida Chapter of APWA, while following set guidelines by the National and Chapter Diversity Committee Guidelines & Goals. We develop special events and programs that the committee at the branch level may deem appropriate for the region, remembering that every region may differ in their own needs and desires to promote the organization. We work together displaying appropriate and professional ethics at all times that would be exemplary of the diversity terms described above.
Programs conducted by the South Florida Branch/Florida Chapter in the past years that worked exceptionally well (and many obtained regional and national attention) include the following: National Public Works Week, Future City, Career Days, Adopt a Child During the Holidays, Attracting Girls to Engineering at the Miami Museum of Science, Mentoring Students in Needs, Young Professional Socials, West Point Bridge Competitions, Math Counts, creating internship summer jobs for the engineering and vocational academies of the local school board K-12, activating a job opportunity list advertising for free job openings for recent graduates and/or colleagues in need of a new job, helping students create résumés and practicing interview techniques, and joining our sister organizations in a variety of joint and supportive events to strengthen our camaraderie and the industry. A great example of this was collaboration towards the preparation and release of the Florida ASCE 2012 Infrastructure Report Card, bringing to collaboration efforts of many public works directors in the region, the Florida DOT and many of Florida’s expressways authorities towards its preparation and making the unveiling event a real success (see Photo #1 on p.15).

We have also joined in a variety of charitable work and contributions to other regional and local organizations in great need that provide many services back to our communities such as: Habitat for Humanity, Miami Rescue Mission, Miami Medical Team, and Engineers Without Borders. We have volunteered as mentors to FIU, UM, Miami Dade College and numerous classroom activities in different events from K to 12th grades, fostering science, engineering and technology as a future-feeder pattern to our APWA organization. Members of our Diversity Committee wear multiple hats as leaders in other Boards of Directors within our industry and national philanthropy, always attracting new members, serving as ambassadors and spreading the good words of the existing and well-accepted diversity within our APWA family. (See Photo #2 for the many faces of the SF APWA.)

Let me tell you that I love to talk about these many faces, each unique and a great book to discover. They have become a part of my life. They have a special place in my heart. I know that I will be respecting them, continuously learning from them and appreciating their contributions and treasuring them for them for the rest of my life. I thank God for you, the reader, and for the “Many Faces” of our USA, here as part of our APWA family!

Maria Fernandez-Porrata can be reached at (305) 477-7575 or MFPorrata@Marlinengineering.com.
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If you build it, will they come?

Janet R. Bednarek, Ph.D.
Professor of History, University of Dayton
Dayton, Ohio
Past President, Public Works Historical Society

W hen explaining what seems like the never-ending road construction process in the United States, experts often reference the so-called “pigeon effect.” Imagine sitting on a park bench with a bag of bread crumbs. If you toss out a few crumbs, the birds will flock to you and the more bread crumbs, the more birds. Throw out enough bread crumbs and soon the number of birds will overwhelm you. Similarly, it seems that once roads are built, cars appear—and the more roads the more cars, making it difficult for road builders to keep up with, let alone ahead of, demand. If this pigeon effect applies to any other form of transportation, one would think it would be natural with commercial aviation. Build more airports—or more specifically runways—and more airplanes will appear. However, at least recently, that does not seem to be the case.

Commercial aviation grew dramatically after World War II. The introduction of jet airliners in the late 1950s proved especially significant in providing the opportunity for more Americans to go by air. Local officials across the United States scrambled to upgrade and expand their facilities to capture more of this new travel market. Those same jets, however, made the updating of airport facilities very controversial. While many Americans may have readily taken advantage of jet age travel, others who lived in the vicinity of the nation’s airports protested against the noise produced by the first generation of jet airplanes.

Similar to the revolts against highway planners and the construction of interstate highways in urban areas, suburban homeowners rejected the calls from expert advisors for more and larger airports and fought against many projects. Over time such revolts made it increasingly difficult to build new runways or expand existing ones. Eventually most local officials found that the only way to end resistance to their projects was to purchase and demolish noise-effected subdivisions. Thousands of homes disappeared from the suburban landscape to make for runways and the clear zones surrounding them.

In part to counter some of the protests, in the 1950s and early 1960s airport planning experts often spoke of expansion programs in emergency terms—warning that air traffic would come to a halt without the new terminals, runways, and other facilities. However, despite the fact local officials never produced the number of new airports or expanded facilities which the experts deemed so vital, air traffic numbers have grown relatively robustly and generally consistently since World War II.

This is not to say that airport expansion projects were not needed. What this should suggest is that many airports have continued to function despite failed expansion projects and in many cases traffic predictions have sometimes overestimated the actual need for more runways and other airport facilities. Certainly at those airports that emerged and have remained major hubs following deregulation, the pigeon effect may indeed apply. However, new runways have not necessarily meant more air traffic. For example, both St. Louis and Cincinnati added new runways in the early part of the twentieth century anticipating increased air traffic. At both, however, airline mergers and a general downturn in the economy led to a decrease rather than an increase in the number of passengers served. In the case of Cincinnati, the drop has been very dramatic. Planning for future infrastructure needs is always complicated and history tells us that many attempts at predicting future requirements have proved off the mark.

Janet Bednarek is a professor of history at the University of Dayton where she teaches classes in urban and aviation history. She is currently at work on a book detailing the history of U.S. airports since 1945. She can be reached at jbednarek1@udayton.edu or (937) 229-2824.

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### 2013

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### 2014 North American Snow Conference, Cincinnati, Ohio – Call for Speakers

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Go to APWA’s webpage and select the Call for Presentations tab or go directly to [http://www.apwa.net/conferences/cfp/Snow](http://www.apwa.net/conferences/cfp/Snow)

**Submission Deadline:** September 20, 2013
Managing Municipal Services: Contracting for basic public works services

Lisa Ann Rapp, PWLF
Director of Public Works
City of Lakewood, California
Member, APWA Government Affairs Committee

The City of Lakewood is known as the “Original Contract City” and students of government have studied the “Lakewood Plan” as a model for city incorporation. Beginning with the Great Depression, no cities in California had incorporated because of the high cost to establish their government services. Development in Lakewood began in earnest after World War II, with the return of the GI’s and the buildup of the defense industry in Southern California. Young families bought the new tract homes faster than they could be built, and 17,500 new homes were built around a regional shopping mall, Lakewood Center, in a three-year period. Residents desired a community identity of their own and rallied around an incorporation drive. A local attorney developed the idea that a city could contract for the services that it needed, saving substantial startup and continuing costs. The first contract was with the Los Angeles County Sheriff Department for law enforcement services, with the city incorporating in April 1954. Now, almost 60 years later, the contract model still works very well for Lakewood and many other cities in Southern California.

Advantages of contracting

There are many advantages to contracting for all types of services. Expensive facilities—city yards, Sheriff Stations, Fire Stations—are essentially shared with other jurisdictions. For example, Lakewood uses Los Angeles County Department of Public Works for street maintenance services, and the County workforce and equipment are deployed from the County Yard located in another city, about 15 minutes away. The County maintains and operates this facility, and Lakewood essentially helps to pay for it in the overhead rates applied to the County’s billing. The same is true for staffing. Lakewood essentially shares the staff of the County and the employees’ time is split between jurisdictions. Lakewood does not necessarily need a full-time, 40-hours-per-week pothole crew, but that County crew can work in County unincorporated areas, along with other nearby contract cities, thus sharing the employees’ time.

When contracting for service, specialized equipment that is not needed daily can be brought in for special projects. This minimizes time that special equipment sits unused, and saves the cost of purchase and maintenance. Lakewood contracts for block tree trimming with a large private contractor. This contractor has all the necessary tree maintenance equipment and brings it onsite when performing their work. Ultra-high lifts that only need to be used on a very infrequent basis are used in their other client cities when not in use in Lakewood. And in another example of shared facilities, the tree contractor is allowed to park equipment and stage operations from Lakewood’s city yard, thus helping to keep the overall cost of the tree maintenance contract lower.

Contracting for service allows the nasty or high-risk jobs to be performed by others. No one likes to perform maintenance of street sweeping trucks, but contracting for street sweeping service puts the maintenance of those dirty, complex vehicles squarely in the contractor’s court. Traffic signal maintenance is handled in Lakewood by Los Angeles County Department of Public Works. They have the expertise to assure that the signal system is maintained to the highest possible standards, and their workers have been trained to handle traffic control as safely and efficiently as would be possible, thus reducing the City of Lakewood’s exposure to risk. Contract cities are able to shift liability risk to private contractors and their insurance companies through carefully worded assumption of liability clauses in the contracts for service.

Contracting for service also allows access to specialists that would not otherwise be on staff. How often does a well-established and built-out city need a structural engineer who specializes in bridge design? Probably not very often, but when the need arises, city staff can seek out a qualified practitioner with the most current expertise and knowledge.

Contract cities typically have a smaller in-house staff which reduces the bureaucracy of city organization and simplifies lines of communication between management and line employees. Employees are empowered to manage the contract services and handle requests for service from residents quickly and efficiently. And a happy side benefit can be a simpler
meet-and-confer process between city and employee associations/ unions due to fewer represented employees in the organization.

City residents can be assured that they are getting the most service for their tax dollars. Contracting establishes the lowest price through bids or proposals—or adds competitive element to in-house services when employees bid to provide service. The bottom line is that the agency can save money, both for products and services, by avoiding build-up of a large organization with equipment and materials standing by when they are not in use 100% of the time.

Disadvantages of contracting
Although we see great benefit in contracting for service, there are pitfalls to keep in mind when considering if a service should be contracted or in-house. There is a loss of control over the cost of wages and benefits which are set by others such as a County Board of Supervisors. Contract cities are billed for the wages plus overhead and contract rates for equipment, and there is no leeway on what those rates are to be. By ordinance, Los Angeles County must bill their contract cities for all the hours expended, so there is no opportunity to negotiate for lower rates or fewer hours, or a fixed lump sum for a job. It is what it is.

If a city considers changing from performing a particular service in-house to contract, then employee associations/ unions can be upset by the prospect of contracting out. Union agreements may have specific procedures that must be undertaken when considering contracting for a service, such as lengthy notice periods or provisions for allowing in-house staff to bid on the service, so a thorough review of any labor agreements in place is a must prior to the decision to contract out. There is also a risk that city employee morale could be affected if remaining workers begin to fear that their jobs might also be contracted out. Contracting out for an in-house service must be a delicately timed and thoroughly researched process.

The city relinquishes direct control over the workers, who are supervised by the contracting agency or the private company, who may not be available at the desired time. The contractor’s workers have no loyalty to the city organization and may not be the best representatives of the city on the street. Contractors may exploit their workforce with low wages, high turnover, or

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limited expertise. Some service must be performed with payment of prevailing wages to the contractor’s workers. The contract must have provisions that specify response times, availability, conduct of the workers, level of expertise and training of workers, uniforms and identification, expectations of supervision, coordination with city representatives, and how to respond to public inquiry. Your citizens may not be aware that the city is providing the services, because they do not see city vehicles and city uniforms, and may be calling the contractor directly to report a problem. Lakewood contracts with a private company for streetlight maintenance, and residents have been trained to call the contractor’s toll-free number directly to report burned-out lights. However, a good public information campaign through the city to educate residents that this is a city-supervised service under contract will help to assure residents that they can still come to the city with their concerns about that service and that the city is ultimately responsible for the quality of the service.

In the event of an emergency, there are fewer city workers and less equipment standing by. Contractors may be unavailable because they are too far away to get to the emergency, or are committed elsewhere. Contracts should include emergency response provisions, including response time and commitment to respond during major emergencies. Allowing the contractor space in your city yard will assure that there is equipment and manpower available for a rapid response.

Any contracting process can have the potential for corruption and cronyism. A transparent, carefully planned and documented process, with checks and balances, will go a long way to avert potential problems in the proposal/bid process. And finally, the community may react to proposed changes in service providers and service levels, with the potential to generate political unrest. The community must be ready for the process and have the ability to be informed and participate.

**Conditions for smooth transitions**

First of all, contracting must be legally allowed under state law or city charters, so research and answer this question at the outset of your considerations. The smoothest implementation would take place in newly incorporated areas or growth areas because there is no entrenched relationship with staff. It is much easier to start where there is no

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existing bureaucracy to modify. Your community must display a desire for innovation and/or change. If you are considering contracting with another government agency, there must be a harmonious relationship between the cities and other agencies involved. There must be mutual respect between contracting parties, public and private. The scope of work and standards of contract services must be well defined in the request for proposal and the contract. Work with your city attorney to be sure of contract requirements and clauses, such as response times, liability insurance, risk assumption, cancellation, prevailing wages and many other details.

The city must be properly staffed to administer contracts. There is an old adage: “You get what you inspect, not what you expect.” When seeking a contractor, make sure that the contractor is able to perform—has the right staff, equipment and expertise—and follow up to assure performance. Don’t expect the contractor to perform service for which he is not being paid, and don’t expect the costs to be so low you cannot imagine how he is making any money. These conditions will either encourage the contractor to cut corners or drive him out of business.

Help to set the City Council’s expectations. Be sure they understand what will and will not be covered under the contract, to what level, and what all the costs are expected to be. Make sure they understand the downside risks as well as the possible benefits. Council must be willing to accept the risk that all may not be perfect—staff cannot hit a home run each time. But preparing carefully, inspecting thoroughly, and managing the contract as written will help your city provide quality services while saving money.

Lisa Rapp has been the Director of Public Works for the City of Lakewood, Calif., since 1996. She is responsible for all city facilities, the public right-of-way, capital project construction and fleet maintenance. She was the 2009 APWA Southern California Chapter President, and is presently a member of the APWA National Government Affairs Committee and the L&M Knowledge Team. She can be reached at (562) 866-9771 or lrapp@lakewoodcity.org.
An Internet of Public Works Things

Andrew C. Lemer, Ph.D.
Senior Program Officer
The National Academies of the United States
Washington, D.C.

Dennis Gabor, awarded the 1971 Nobel Prize in Physics for his discoveries underpinning the development of holography, once wrote, “The future cannot be predicted, but futures can be invented.” Imagination to Innovation is a periodic look at new technology and scientific discovery that we could be using to invent the future of public works.

This is your sewer calling; I need help!

A sensor in your home’s sewer line detects an unusual flow pattern and deduces there may be an obstruction. The battery-powered sensor wirelessly sends a short message to another device, this one attached to your home’s water meter and linked to a cellular network, which in turn sends messages alerting you and the public works department. The department’s computer dispatches a crew to clear the blockage. A messy and costly sewage emergency is avoided.

It is not hard to imagine how this scenario could happen today—sensors and wireless technologies have been available for decades—but the costs would be high and reliability uncertain. Technologies now on CAD screens and test benches are likely to bring device cost and size down enough that every sewer line can be connected and monitored. A good bit of the buzz is about miniaturization and ultra-low-power wireless communication.

Ultra-low-power wireless sensor and communication devices already monitor people’s pulse and activity, sending the data to a cell phone or other smart device to calculate exercise and performance. Other applications getting attention include health care generally, industrial process control, home automation, and access control and alarm systems. The technology is tailored to send intermittent brief streams of data over a short distance and wait patiently between infrequent transmissions. Because the devices do not transmit continuously or need much power when they do send data, their batteries can be both small and long lasting.

The U.S. Department of Defense is interested. For example, the Defense Advanced Research Projects Agency (DARPA) has been funding development of small, unattended, self-powered devices that sense acoustic, seismic, magnetic, and weather events; and talk with other devices using a customized Android operating system. In May, DARPA hosted a demonstration of ground sensors directing the flight of an unmanned aerial vehicle, or drone.

Wireless networked public works sensors could monitor more than sewers, of course. Unusual acoustic activity and vibratory response to traffic loads might call for an immediate bridge inspection, for example. Variation in electricity consumption could signal that a luminaire needs attention.

Three things probably have to happen for widespread adoption of wireless sensors. First, installation costs—placing one on a sewer line, for instance, and linking to a telecommunications network—have to come down. Second, there has to be an immediate direct benefit to encourage asset owners to install the devices. Finally, the agencies that can use the real-time information to improve system performance have to adapt their management practices.

It may take time. It has been more than two decades since the first “smart” electric meters and supervisory control and data acquisition (SCADA) systems for water treatment plants became available. On the other hand, Bluetooth technology and standards that were clearly identified in the late 1990s have already become common in computers, cell phones, and automobiles. But now, excuse me please; my leaking kitchen faucet calls.

Andrew Lemer, Ph.D., is currently a Senior Program Officer with the National Academy of Sciences of the United States of America. In addition to technical papers and occasional articles for the Reporter, he writes on civil infrastructure and human settlement at www.andrewlemer.com.
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Jay Marcotte, MPA, Director of City Services, City of Everett, Massachusetts, and Chair, APWA Solid Waste Management Committee; Mark Whitfield, PLS, Director of Public Works, Borough of State College, Pennsylvania, and member, APWA Solid Waste Management Committee

This is the philosophy, the desire, and the achievable goal of all who work and live in the City of Borås, Sweden, and they are about 65% on their way. While the path in getting there will include many “traditional” sustainable energy paths, their first and largest producer is through harnessing the energy of trash.

Borås is Sweden’s 13th largest city with a population of approximately 100,000 people and is located about 30 miles east of Gothenburg (2nd largest city) in the southwest area of the country. Borås Energi och Miljö AB (BEM) is city owned and operated and manages all refuse, the production of district heating, cooling and electricity for most of the city.

System Descriptions
BEM has several different heating plants. The main unit is a combined heat and power plant. They have two biofuel boilers, two waste boilers and two generators.

Electricity
The waste incineration plant has two fluidized bed boilers using the latest technology. They burn the combustible portion (non-organic) along with other combustible waste. In the beginning, production was mainly based on fossil oil and a small percentage of waste. In 1984 the two large oil-fired boilers were converted to burn solid fuel (biofuel, 75%, and coal, 25%). A dryer was installed in 1994 to increase efficiency and to allow the boilers to run on biofuel alone. At the beginning of the twenty-first century the City of Borås decided to build a new waste incineration plant at the same location as the old one. The plant, with its two fluidized bed boilers and modern flue gas cleaning technology, was opened in 2004. This system generates about 134 GWh which is then sold to Nord Pool, the Nordic electricity market.

During the summer, when demand in electricity is lower, combustible waste is the only fuel used. As the Nordic winters become colder and darker, wood waste from the local timber industry is used to supplement the combustible municipal waste, in order to meet the electric demand.

District Heating
Once the steam is used to drive the electric turbines, it is then condensed and used for the city heat distribution system. District heating is distributed via underground pipes to homes.

It takes a village...
The City enjoys a high level of community participation, meaning that almost everyone is of the same thought in achieving the City’s goal of being fossil fuel free. The City’s waste management plan requires residences to separate their waste, one bag for organics and the other for non-organic waste which is then collected and processed as a fuel source for one of the following processes.

A mini sorting station at a large apartment complex. There are over 20 transfer stations/drop-off stations throughout the city.
and other properties in Borås and is used partly to heat water circulating through radiators, and partly for heating tap water through heat exchangers. Construction of the Borås district heating grid began in 1959. Today there is approximately 200 miles of district heating piping that distributes heat and hot water to almost 50,000 customers.

District Cooling
In 1996 BEM built a district cooling grid to provide its customers an eco-friendly, economically-viable alternative to air conditioning. Today it produces up to 7 MW of district cooling via the central grid. There are two absorption chillers run by water from the district heating grid instead of electricity; only small amounts of electricity are needed for pumps and fans, etc. Brine is used to transfer the heat between the different media. There are also three machines using conventional technology where cooling is produced by the use of electricity, and there is a small conventional cooling unit used as backup on another site in the district cooling grid. District cooling is produced in absorption chillers from surplus heat from the waste boilers. When no surplus is available, conventional technology is used. Two of the three conventional cooling units include heat recovery technology in order to exploit heat extracted from various buildings. This means that all the heat transferred from customers to the district cooling water is recovered in the district heating grid, including heat from the electric compressors in the conventional unit. This variety of cooling plant options enables them to provide district cooling in the most economical and eco-friendly manner possible. Currently this system supplies industries, offices, shopping centers and the local hospital with cooling to create comfortable indoor environments.

Biogas....transportation fueled by waste:
BEM also owns and operates a biogas processing and distribution facility. Biodegradable household waste is mixed with sources of organics and placed in a digestion chamber. Raw biogas is given off during the digestion process, filtered and processed, and distributed to various facilities and several filling stations. Today, the public transportation within the city all runs on biogas, which includes 60 full-size buses and several dozen taxis. One hundred percent of the trucks that pick up and collect refuse throughout the city run on biogas and about a dozen city cars and trucks use biogas. There is also the option that people who own an alternate fuel vehicle can purchase biogas at a discounted price compared to regular gasoline. The city plans on adding more fueling stations in the future to further expand the City’s use of biogas.

Additionally, biogas is also harvested at their wastewater treatment facility, where sewage sludge is placed in digesters for a 28-day process, where methane is captured, filtered and processed into a usable fuel for not only City vehicles, but the general public as well. Adjacent to the sewage treatment facility is a biogas fueling station where the general public can purchase the biogas produced at the facility.

Waste Separation
BEM provides at-curbside collection for all municipal waste. Residents receive a 35-gallon wheeled container, in which they place both their organic waste (black plastic bag) and all other waste (white bag). The organic and municipal waste is collected once every two weeks! Residents are also required to separate all recycling and hazardous waste and take them to various drop-off centers located throughout the city. Boras maintains 25 different waste streams at the drop-off centers, everything from pharmaceutical waste, oils, white goods etc., to the traditional glass, aluminum, and paper. Fabric and clothing recycling is also provided.
These articles are separated between reusable and non-reusable. The reusable garments are then processed and given to charity to assist the needy.

At the waste separation plant, the white bags and black bags are separated using an optical scanner. Black bags are then opened and the organic waste is processed through the digester. White bags are sent to a hammer mill and all material is ground into two-inch pieces, and then trucked to the incinerator to produce energy.

**Back to Nature**
Sewage sludge, after processed through the digester, is used in the local forests as a soil additive. The waste from the organic waste digesters is made available to local farmers, who land-apply the product, much like manure.

**The Future**
A city free of fossil fuels is their primary goal. Most homes in Borås not on central heating are using geothermal or electric heat. Therefore, meeting the demand for electricity will be challenging. BEM knows that waste alone cannot achieve this goal. Presently on the drawing board is a windmill farm that will be located about five miles outside the city. Solar power is only useful in the summertime, when days are long and bright, and energy demands are low, but will provide an option for their harvesting.

Over the next three years, Borås also plans to replace their waste to energy plant as well as replacing their sewage treatment plant. Taking what they have learned so far in energy harvesting, and modernizing systems will allow BEM to become more efficient and prudent in capturing waste.

Our team left Borås with many ideas on how we may create sustainable energy sources for our communities. But what impressed us most was the creation of a culture among citizens, to be fossil fuel free, with everyone working toward that goal.

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Most public works employees involved in municipal purchasing have experienced the feeling of stepping up to the podium and asking the elected officials for the authorization to make a purchase. That is a common task. The daunting part of the assignment usually stems from identifying a funding source for the acquisition. A handful of fleet managers have gotten to the point where they no longer have to ask for the funding for their fleet replacements. But how did these fleet professionals get to the point that standing at the podium isn’t the frightening task that it once was? How were they able to build a vehicle replacement fund for their planned replacements? Here is a story of how our community got to that point.

In Moline, Ill., well before the purchasing decision is made, we use a life-cycle cost calculator to anticipate the useful life and life-cycle cost of an asset. Then once the asset arrives, a chargeback rate is developed from the actual purchase price. That rate is designed to capture the depreciation of the asset by the anticipated replacement date. We use an anticipated salvage value for the expected end of the asset’s useful life and put those figures into an amortization schedule. Another consideration is whether or not an asset may have a life as a frontline unit and then an afterlife as a reserve unit. We try and capture 100% of the entire depreciation during the asset’s frontline life and then just use a chargeback rate that collects an inflationary amount during the time an asset is in reserve status. No vehicle or piece of equipment in the City’s fleet is automatically replaced at the end of the anticipated useful life, but evaluations of the assets are made at that time and financially, the City is prepared for the replacement. If an asset is kept beyond the point that the depreciation is captured, the annual chargeback at that point is adjusted to capture the inflationary amount needed.

In 2004, a few of the enterprise departments like Water and Sewer had a few hundred thousand dollars in reserves for vehicle replacements. All of the general fund departments were still going to the podium annually to ask for the funds and permission to replace their vehicles.

The Fleet Vehicle Replacement Fund in Moline was started with the seed money from those enterprise funds establishing reserves for their assets along with some general fund appropriations for the assets identified as general fund units. Additionally, the Fleet Services Division was given the authorization to dispose of surplus using “the manner most advantageous to the City,” be it online auctions, negotiations, sealed bidding, live auction, etc. Beginning in 2004, those proceeds were authorized to return to the new Fleet Vehicle Replacement Fund. No longer did surplus asset proceeds have to be returned to the general fund reserves. This started our baby steps to building the fund we have today.

Along with the seed money and surplus proceeds, during the 2004 budget year, Fleet Services was
allowed to collect 50% of the annual chargeback rate explained above from the departments for the Replacement Fund. In 2005 a 75% chargeback rate was funded and by 2006, depreciation was funded at 100% by the departments. During these first few years, the Finance Director worked closely with us on investments of these reserves and within a few short years, we were well on our way to our fund balance goals.

So now in 2013, we still follow the same procedures we started nearly a decade ago. It doesn’t take a math genius though to figure out that a startup and funding mechanism like we have will never build a fund that captures 100% of our total depreciation without extremely good returns on investments. And for the past few years, that hasn’t been the case. Not long after we started developing the fund, however, we realized that funding 100% of the total depreciation of a fleet with an average age of 8.97 years and a replacement value of nearly $20 million may not be the most responsible approach. As we read stories and heard about replacement funds being raided to balance budgets, we realized that a fully funded depreciation schedule may be unnecessary and undesired. As we reevaluated our fund balance goals, we found that by continually tracking the asset value and monitoring the useful life constantly, we could get by with a percentage of the total depreciation in the fund and share reserves amongst assets.

This approach is not for the faint at heart, however, when you have an average age of assets as old as ours. It also requires a good data collection system to monitor reserve values. In addition, this approach requires a more intimate relationship with the assets and a monitoring system for equipment expenses that spike outside of average. A comprehensive approach for asset replacement funding is needed, so the fleet manager doesn’t end up back at the podium with that discouraging task of asking for purchase authorization for a budgeted expenditure with no funding source. No fleet professional that has moved beyond that point ever wants to go back.

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In Public Works, 19 trucks are equipped with hooklift systems to utilize interchangeable bodies and reduce the number of trucks needed in the vehicle replacement plan.

By mounting nearly all equipment bodies on hooklift frames, fewer overall trucks are required in the vehicle replacement plan and utilization of the needed fleet is at high levels of efficiency.
Take the burden out of your fully-burdened shop labor rate

Mary Joyce Ivers, PWLF, CPFP, Fleet and Facilities Manager, City of Ventura, California, and Chair, APWA Fleet Services Committee; Sam Lamerato, CPFP, Superintendent – Fleet Maintenance, City of Troy, Michigan, and member, APWA Fleet Services Committee

As a fleet manager, have you calculated your fully-burdened labor rate (FBLR) for your fleet shop operations or does it seem like a burden? A burden may be defined as a source of great worry or stress. Not knowing the competitiveness of a fleet operation can also be a source of great worry or stress for you and the organization. Establishing a fully-burdened labor rate provides a method for demonstrating cost competitiveness to your customers and public agency. It can remove the burden of comparing to outside agencies or local private repair shops, makes good business decisions, and supports a cost-effective and competitive fleet operation.

A fully-burdened labor rate is the sum of costs associated with the maintenance and repair services divided by the amount of billable hours a mechanic/technician charges to direct work “wrench time” for repairs and maintenance work performed on a vehicle. Calculating the FBLR includes direct and indirect costs associated with the fleet operation cost center. The direct costs include mechanic/technician labor and benefits, plus the costs of maintenance supervision, shop leads and personnel, and fleet management costs for the maintenance operations. The indirect costs include uniforms, training, administrative time, safety and meeting time, supplies and services, shop rent, utilities and maintenance, shop overhead consumables, environmental, fleet accounting management systems, and other fixed and variable costs that may be included in the fleet operations budget. The sum of these costs is divided by the total billable hours of the mechanic/technician staff to yield the fully-burdened labor rate.

The billable hours are the available hours for a mechanic/technician to charge their repair and maintenance work directly to a vehicle. With a total of 2,080 annual work hours, less 200 hours for vacation, holidays, sick time, training, and at an 80% productivity goal calculates to 1,504 billable hours per mechanic/technician. If a fleet organization has eight mechanics/technicians and a shop lead, the total FTE would be 8.5. Generally a shop lead accounts for half their time as direct labor. The 1,504 billable hours multiplied by the 8.5 FTEs calculates to a total annual billable hours of 12,784. Some public agencies may have higher billable hours due to a higher productivity goal. The correlation of higher billable hours lowers the FBLR. A good range for a competitive FBLR is 1,500 hours to 1,680 billable hours and is a good indicator of a fleet organization that is competitive.

Another important factor for calculating the FBLR is labor capture in your payroll or fleet accounting system. The employees must accurately account for their direct and indirect labor time. This may require additional task codes on work orders or to implement real-time labor capture devices such as bar coding or online labor collection. This provides an accurate comparison to what is included in a private repair service company’s labor rate.

A recent survey on the APWA infoNOW Fleet Community showed that municipal fleet FBLRs on the West Coast ranged from $85 to $102. The FBLR in the Midwest to the East Coast ranged from $50 to $71 with many in the $60 to $65 range. The discrepancies may be the economics of the regional areas or different methods used by the agencies when calculating the hourly shop rate. One good indication is to compare the hourly rate to the local private repair service providers. The following chart provides a comparison of public and private labor rates in the West Coast.

<table>
<thead>
<tr>
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<th>West Coast</th>
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<tbody>
<tr>
<td>Municipal Public Fleets Labor</td>
<td>$85 to $102 Average $97</td>
</tr>
<tr>
<td>Heavy Duty Labor</td>
<td>Average $113</td>
</tr>
<tr>
<td>Light Duty Labor/Dealerships</td>
<td>Average $109</td>
</tr>
<tr>
<td>Construction Equipment</td>
<td>Average $103</td>
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</tbody>
</table>

Public fleet operations can be competitive with the private repair shops because the public FBLR does not include property taxes, employee commissions, or profit margins. However, the productivity of the staff and the operational efficiencies of the fleet operation may be a factor that negatively impacts the labor rate. Ask yourself, “How competitive are we?” In comparing public to local private
fleets, it is important that shop labor rate comparisons include the same cost items. All expenses associated with the fleet providing services should be identified and recover all their costs through the FBLR. This can show competitiveness with a fair evaluation to the outside private market or to another public agency.

In these economic times, many fleet managers are challenged by their internal customers to demonstrate their cost competitiveness to the local repair shops. The classic example is the quick lube down the street where they perform oil changes in a jiffy. As we all know, this is not a fair comparison for competitiveness. For example, the service is performed in 15 minutes for an estimate of $30. For a one-hour comparison, that equates to $120 hourly rate and may not include all the fluids or other repairs noted during the inspection or service. As one fleet supervisor says, “We perform a safety inspection, and throw in an oil change (if required) for free.” It can be challenging to help our customers understand the value of the services the public fleet provides to the customer and the community.

Many public fleet customers are familiar with automobile repair and maintenance costs because of their own personal experience with their personal vehicles. However, it is different for a public vehicle! The usage and operation of equipment is different, and requires different levels of service and repairs. Police vehicles average three sets of brakes in one year. Is that reasonable to compare a police vehicle repair cost to a personal vehicle? Not unless the personal car is driven like a police car. It is important to develop transparent, accountable, and outstanding customer relations and validate with quantifiable and competitive shop labor rates for competitive delivery of services. It is important to note that the level of service provided by a public fleet operation cannot be provided by an outside repair shop because of the critical knowledge and experience developed by the mechanics/technicians who maintain the fleet vehicles and equipment.

Some public fleets operate on two or three shifts. This provides a competitive advantage since repair services are provided during the second shift when private service companies are generally closed. This reduces the downtime for the fleet customer and adds an additional benefit for cost competitiveness. This may add to the overhead cost of running a multiple shift fleet operation, but this is balanced by providing the resources necessary to support the workload of the fleet customer and a well-established cost recovery labor rate.

Does it still seem burdensome or does the fully-burdened labor rate support your competitive fleet operation? Review the FBLR annually and adjust accordingly to any budget or cost projections to maintain competitiveness. It is important to benchmark against other local agencies in your region to validate your competitiveness. Knowing your financial status of your fleet operation helps justify to decision makers that you are providing a high level of service at a competitive rate. Thus, your organization may not be considered for outsourcing.

The APWA Shop Rate Guide is a good resource.

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Online Auction Sites: A viable alternative in equipment replacement funding

Tom Collins, PWLF
Deputy Director, Natick Public Works
Town of Natick, Massachusetts
Member, APWA Fleet Services Committee

Many fleet departments can attest to the fact that there never seems to be enough available funding to satisfy replacement needs, whether it is a vehicle, a shop tool or a piece of equipment.

In Natick, Mass., there has been a revolving fund established for the purchasing of vehicles and equipment for all of the Town’s departments. The revolving fund requires annual reauthorization by Town Meeting and is authorized by Massachusetts General Laws Chapter 44 §53E1/2. The capital for this fund is generated by the sales of used or obsolete vehicles and equipment that would normally be traded in or disposed of outright. One man’s trash is another man’s treasure, as they say. By listing and selling these items on an online auction site we have come to realize their monetary value is much greater than the normal dealer trade-in value.

The Town of Natick has found great success using the online auction site Public Surplus. We have found it to be extremely user friendly, allowing for fast and simple entry of listings. In the past 12 months, the Town has received over $100,000 into its coffers from these auctions. The buyer is responsible for paying a 10% fee to the auction company. The only expense to the Town, other than my administrative time, is the decommissioning and cleaning of the item to be auctioned.

A major benefit to implementing such a method of sale comes with the broad exposure of the online auction site. A website has the ability to reach an infinitely larger group of prospective buyers than the alternative of a sealed bid process, and we all know what that entails. Additionally, an individual looking to acquire a particular item wouldn’t need to visit a specific site to find what they need. A standard Internet search through a search engine would return results including our auction listing. Alternatively, utilizing sealed bids include advertising locally through limited avenues would be costly and would only be seen by a select group of people actively looking to make such a purchase.

The items we advertise and sell range from shop manuals and tools to Walter snow blowers and everything in-between. The equipment is fluffed and buffed, then cleared of all lettering, seals and decals. Photos of each item are taken and listed on the public auction site. Most items are listed.
for 14 days but there is an option to have the auction run longer. Items are available for inspection but most prospective buyers bid based on photos, the listed information and/or questions posed to me via the site.

Each sold item is picked up or shipped worldwide at the expense of the buyer. Items usually make their way to locations within the United States but many have ended up in such distant places as Guam, Haiti and Uganda.

This alternative method of vehicle/equipment replacement funding is advantageous due to the ready availability of such a simple resource which offers a greatly increased scope of advertisement with much less legwork than traditional avenues of disposal. The financial return realized with the online public auction method is incomparable relative to the return achieved using outdated limited local advertising methods.

Some of the items we have purchased have been bought and acquired through live auctions, auto dealerships, local vendors and government agencies. Equipment and other items we have purchased are shown on pages 34-35.

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Centralizing fleet management and operations from a previously decentralized business model can most certainly be a daunting task. Some might say, “The juice isn’t worth the squeeze.” As this process unavoidably results in a general reduction of operational control for user departments, it requires a dedicated change-management effort to break down silos within those departments. Pushback is inevitable in several areas such as procurement, preventive maintenance scheduling and outsourced vehicle repairs. Since most departments involved with the centralization process will have competing interests, it is vital the fleet centralization project be conducted with executive management support in conjunction with an open, transparent communication strategy!

Centralizing fleet services throughout the City. Once this study was completed, it was determined that an independent consultant should be retained to confirm or deny the internal study results. In 2007 Mercury and Associates did a complete audit of the City’s current fleet management structure and made 27 separate recommendations to get fleet operations under control.

To begin, the City of Boise created a Fleet Strategic Plan that identified the goals and recommendations of Mercury and Associates and hired the City’s very first Fleet Manager to implement those goals and objectives. A Gantt chart was created to identify strategies and time frames for goal accomplishment. We used the Gantt chart during briefings for executive management and in communication with departments. This tool provided the right mix of information for both groups and facilitated a good change-management strategy for everyone.

The City’s centralization project involved many areas and touched multiple people, including technicians who were now being asked to march to a different drummer and report to an entirely different chain of command. Moreover, these employees were also going to be scrutinized by tracking and measuring their output while simultaneously being compared to outsourcing opportunities. Strong leadership is crucial to get

Fleet activities in Boise prior to 2008 were substantially decentralized. Departments developed their own fleet asset management strategy, including procurement and elimination of vehicles. In fact, there were no City policies that set standards and criteria for using or replacing vehicles. As a result, overall fleet utilization was low, fleet asset count was high and fleet operation and maintenance services were completely decentralized.

The City’s mayor identified this to be a major concern and had an internal committee investigate the feasibility of centralizing fleet services throughout the City. Once this study was completed, it was determined that an independent consultant should be retained to confirm or deny the internal study results. In 2007 Mercury and Associates did a complete audit of the City’s current fleet management structure and made 27 separate recommendations to get fleet operations under control.

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technicians’ buy-in regarding the centralization of fleet services and without technicians’ support, the concept will face a most certain peril!

The old saying goes, “If you can’t measure it, you can’t manage it.” One of the biggest obstacles to overcome is proving the viability of an internal centralized fleet operation. In today’s fleet world, the only way to prove yourself is to have transparent data to back you up. Within the first year of centralization, in coordination with the City’s IT department, the Fleet Management Information System FASTER was procured and implemented. Subsequent to the successful implementation of FASTER, another key software implementation was done to address the administrative motor pool underutilization. The Agile Fleet Commander software was selected and implemented. Both of these systems created efficiency gains and monetary savings, and provided a statistical reporting capability that was sorely lacking. Both systems also provided the data needed to analyze and reduce the fleet asset count and support the viability of the fleet operation!

In addition, Fleet also created city-wide policies and regulations to define equipment replacement planning, maintenance operations, fuel procurement, and vehicle usage and take-home-vehicle rules. We also incorporated an activity-based “five bucket” chargeback methodology which resulted in new department chargeback rates.

The single most effective strategy was to create a Fleet Advisory Team (FAT) comprised of department representatives. This helped keep user departments in the loop and opened new communication channels between Fleet management and department fleet users. The team also helped departments buy into policy changes and the new chargeback rate structure. Additionally, FAT also collaborated and created Service Level Agreements with each user department. These agreements identified the roles, responsibilities and expectations of both Fleet Services and the user departments.

Throughout the process of implementing Fleet Centralization, we followed the timelines established within the Fleet Strategic Plan and we inspected what we expected out of ourselves and those we served. Citywide Fleet Centralization can be a daunting task. However, looking back, “The juice was definitely worth the squeeze!”

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Understanding the value of customer feedback and communication

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Manager, Maintenance Division
Public Works Department
City of Overland Park, Kansas

Managing a top tier fleet maintenance operation is the goal of every fleet manager; our success and the success of our customers depend on it. We hold baseline responsibility for the services our customer departments provide to our citizens. Are these responsibilities different when the customer is us? One component of our internal service operations that is often overlooked is the value of customer service. Performance metrics and goal achievement are both great tools to define how well we operate, but if we miss the customer service piece then we have lost our most vocal and direct support system.

In fleet operations there are many good industry resources to help guide you in creating a quality fleet maintenance program. Trade publications and books on fleet management are filled with ideas on how to determine your fleet's vehicle equivalency unit, mechanic repair unit, vehicle to technician ratio and available wrench time hours. Formula-based measures are also available to help you prioritize vehicle replacements, determine vehicle operating reliability, and guide you through decisions on when to repair versus replace a vehicle. There are many certification and accreditation programs which can help bolster fleet operation competencies. The Institute for American Service Excellence, Commission on Emergency Vehicle Technician, Center for Professional Fleet Certifications, as well as APWA's Certified Public Fleet Professional and Donald C. Stone Center, are but a few that offer professional development credentials. Data management systems also play an important role in operational effectiveness. A good fleet management software program can provide you with quick time reference data on a vast number of performance indicators. Vehicle operating reliability, vehicle cost of ownership, rate of scheduled preventive maintenance completed and applied versus available wrench time hours are but a few examples. Operational statistics offer good insight to how well a fleet program is performing and for many they provide a good foundation for making management decisions.

However, a complication to the decision-making process based on statistical reference is that fleet managers don't just manage an operation, they also manage a service. A couple of years ago the City of Overland Park's Public Works Department embarked on a study of its fleet maintenance operation. Our goal in initiating the study wasn't to resolve a known problem or seek needed improvement. The study's purpose was really to educate ourselves and the organization on what fleet maintenance really is and to understand just how the operation statistically compared with outside benchmarks. One of the interesting outcomes of the study is that we no longer think of our fleet maintenance program as an operation, but rather as a service.

In initially focusing on the statistical outputs we found that operations units are regularly identified as being output producers and completers of measurable tasks. Percent of preventive maintenance tasks done on time and vehicle operating reliability are two examples of statistical performance measuring. We found, though, that fleet maintenance is really much broader than the operational component. The maintenance or repair of a vehicle has value, but so does the service that defines the manner in how that vehicle repair or maintenance task is provided. A mechanic who expertly diagnoses a complex repair on a vehicle and returns it to the customer in short order can be overshadowed by a service procedure that leaves the customer completely frustrated. For example, say a customer has a car with a marker light that is not working. They report the problem to the fleet section through an e-mail. Procedurally they receive a reply that the request has been received. Several days later after no further contact they call the fleet section and ask if the light can be fixed. The work is scheduled and the customer is asked to drop the car off. The customer has to arrange for alternate transportation and asked how long the work will take. Procedurally there is no set schedule for the shop work and so the customer is told as soon as we can get to it. The mechanic working on the vehicle discovers a whole host of potential problems and performs expert repair on all of them. Several days pass again and the customer inquires when their vehicle will be done to which they are proudly informed the car was
completed a couple of days. The customer picks up the car frustrated with the service and oblivious to the remarkable effort the fleet shop put forth to get the work done so quickly and at a time when several other unforeseen vehicle breakdowns had occurred. Procedurally the gap in communication with the customer removed their perceived value of the service yet the value of the service that the fleet section provided was fairly significant. The example shows that true value of a fleet maintenance program is really in the value of the service that is provided to customers and the value that customers believe they receive from the service.

In our case, for example, despite having high marks on our operational performance we were not receiving similar ratings from our customers. Simply focusing on operational quality—where we provided vehicles to customers that met their needs, operated reliably and at a low cost of ownership—wasn’t enough. Accreditation of our program, having highly credentialed mechanic staff and using the latest computer technologies created internal operating excellence, but these things are not necessarily what our customers valued. I have since challenged myself and our Fleet Maintenance Section to remember that customers presume the competencies in our operation will take place. Managing our fleet program as a service means spending our time and resources not only on obtaining high marks in our operational statistics, but also in giving service value.

So what does service value look like and how do you provide it? In the example above it is in being transparent in shop workload and work scheduling. It is providing assistance beyond the service’s obligation such as in helping customers find alternative transportation when their vehicles are being worked on. It is not waiting for customers to ask for something; rather, it is to intuitively seek what service help can be provided before they ask.

Unfortunately, the question for how do you provide it ties to the decisions fleet managers must make on how they spend their time and resources managing their operation. The inability to do all the things we should or may want to do affects how we prioritize our efforts. The pressures on today’s fleet managers may push them to invest resources where they can receive immediate direct benefits such as achieved statistical goals.

I would encourage that we not forget the value of customer service. This value may be in the form of a simple pleasant greeting from fleet staff or in having their questions promptly answered. Value is certainly there when we create a fleet maintenance program that provides customer interactions which are friendly, convenient and helpful. Keeping customers in the loop on the shop’s plan for the repair or maintenance of their vehicle and maintaining transparency on shop costs and procedures are other examples of service value that customers retain when it’s received. If nothing else, fleet maintenance programs should at least take the time to maintain proactive dialogue with customers and periodically explore how their fleet operations align with what they, the customers, value.

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How to establish an effective preventive maintenance program

Keith R. Nicolson, CPFP
Fleet & Radio Communications Supervisor
City of Eugene, Oregon

A strong preventive maintenance (PM) program has the ability to reduce equipment downtime, life-to-date (LTD) maintenance and repair costs, energy usage, customer frustration and emergency/unscheduled work for the shop. Even with these advantages, all too often PM tasks are the first to be put on the sidelines as the emergency repairs start flowing in.

Yet the cost-to-benefit ratio for an effective PM program pays off in the long run. Most fleet professionals understand the importance of an effective preventive maintenance program, but establishing or maintaining one may feel challenging in today’s economic times.

The goal of a PM program is to reduce or eliminate the need for a piece of equipment to be out of service outside of the PM inspections. As your shop moves from reactive to proactive, you can save on labor costs through reduced emergency overtime and better scheduling.

The steps below will help you focus on establishing a solid PM program for your organization.

**Step 1: Use Your Fleet Management System (FMS)**

Your FMS can be your most valuable asset when building a PM schedule. A robust system will allow you to track your PMs by time, miles, hours and fuel used. Your system should also allow for flexibility in creating PM intervals depending on the type of equipment and the use patterns.

Once you have defined your PMs and established the criteria, you will want reports on your PM program’s effectiveness.

Some expectations of a robust FMS would include the ability to report on the following criteria:

- number of PMs performed
- repairs found from PMs
- fuel usage
- work order count
- average time to complete a PM on a specific class of vehicle
- PM backlog (or work to still be completed)
- parts used during a PM
- frequency of use

**Step 2: Define Your Organization’s Key Assets**

The initial process of establishing a PM system can be quite daunting. Consider starting with a part of the fleet and expand from there. Look at your fleet make-up and identify units with high downtime or excessive repair costs. A majority of equipment breakdowns are a direct result of lack of maintenance or gaps in your program. A scan of the repair history for those vehicles will provide you with a good start for focusing your attention.

**Step 3: Evaluate Manufacturer Requirements for Service Intervals**

When creating PM criteria, start by reviewing the manufacturer’s recommended intervals. In addition you should consider the environment that the equipment operates in such as:

- on or off road
- towing a trailer
- idle time
- operating speeds
- climate
- motor pool vehicle
- continuous use vehicle
- in-house experience

As you are establishing the requirements, be sure to seek the input of your technicians as they are a valuable source to gauge past experience and internal history.

**Step 4: Track Your PM Work**

Tracking your PM work is a multi-tiered approach. An effective system will include:

- a FMS
- trained technicians
- established PM intervals
- a PM checklist for staff to follow
- a list of concerns that the customer has at time of equipment drop-off

The PM system also should track PM due dates, items found during the PM, past-due PM tasks as well as customer notification. Depending on your FMS, your software should be able to handle these items.

Once your PM program is established and working, you can set a goal to shift your operations from reactive tasks (i.e., emergency repairs) to proactive tasks (i.e., scheduled maintenance). A good ratio to aim for is 75% scheduled/preventive work and 25% reactive work.

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Succession planning for fleet professionals

Michael J. Reynolds, MPA, CPFP, Maintenance Superintendent, Village of Arlington Heights, Illinois; Dennis R. Hogan, CPFP/CAFM, Fleet Services Manager, City of Cedar Rapids, Iowa, and member, APWA Fleet Services Committee

One are the days when fleet managers are simply expected to keep the fleet running. With decreasing budgets and increasing demands on accountability and service, fleet managers today must be well-rounded managers with practical knowledge, skills, and abilities in all areas of fleet operations. Fleet managers must be able to effectively manage both their budget and personnel and put together a plan to address their short- and long-term needs. Fleet managers must also be able to articulate that plan to their superiors and elected officials.

Because of these ever-increasing demands, succession planning has become increasingly important to the survival of government fleet services across the country. Succession planning is a tool that can help managers identify and groom potential candidates for future promotional opportunities and get those candidates the appropriate training and exposure to various aspects of fleet management. Used in the private sector for decades, succession planning has been less popular in the public sector. Only in the past decade or so has succession planning become more prevalent in the public sector. Succession planning represents a cultural change in the way that promotions and employee development are handled. While communities have always tried to promote from within, that promotion has usually been the most senior employee, “the next in line,” as opposed to the most qualified individual. Promoting from within is not necessarily the same as succession planning and the two should not be confused. Succession planning presumes that there are viable candidates within the organization that can be prepared for future growth. There may be instances where this is not the case and promotions from the outside will be necessary. Simply going through the motions will not necessarily guarantee that an employee will be suitable for growth or promotions within the organization.

While succession planning seems easy enough to implement, there are some challenges which stand in the way. Most public sector organizations require that all employees be treated equally and presented with the same training, education and opportunities for advancement. Fleet managers must be able to separate their performing employees from their non-performing employees. Union contracts and other bargaining agreements present their own set of challenges which need to be overcome. Accurate and detailed performance evaluations can help...
overcome these obstacles, if done correctly.

Most fleet technicians have the technical skills required to manage fleet operations. However, there are management deficiencies that can limit the potential candidate pool for future fleet managers. Those deficiencies are:

- Budget Knowledge
- Oral Communication Skills
- Written Communication Skills
- Performance Evaluations
- Interpersonal Skills
- Personnel Management

To effectively address these deficiencies, fleet managers should identify their potential successors and expose them to the functional areas of managing a fleet in today’s environment. In an effort to better prepare potential leaders, provide them with copies of the budget and involve them in the annual budget process. Make them aware of local community college and other educational opportunities. Current fleet managers should act as mentors by guiding future leaders through the steps necessary to prepare them for their future career growth. Involving potential leaders in national organizations such as APWA or the National Association of Fleet Managers (NAFA) is a great way to get them exposed to a variety of issues. Additionally, the networks and contacts developed through these organizations will help future leaders work through a variety of issues and see how others have successfully addressed a problem or developed a program. APWA and NAFA offer a wide variety of seminars and training programs to prepare employees for future advancement in public sector fleet management.

Finally, certifications such as the Certified Public Fleet Professional (CPFP) through APWA and Certified Fleet Manager through NAFA are excellent ways to formalize and credential a potential leader’s knowledge and experience and help assure that they have a well-rounded knowledge base to prepare them for the next level.

Dennis Hogan, CPFP/CAFM, Fleet Services Manager for the City of Cedar Rapids, Iowa, created a succession plan in the late 1990s while in the private sector. He has
been able to transition that plan into his current role in Cedar Rapids. The general premise of Cedar Rapids’ plan is described below.

**Designing a Succession Plan**

Like every professional organization, success lies in our ability to not only hire and retain high-quality team members but also in building a strong bench of go-to players.

The basic premise of a succession plan is to ensure that you build an appropriate level of bench strength to react to planned or unexpected organizational changes. If you design a succession plan that is operationally sound and customer focused you can more readily respond to the changes that are inevitable in any organization.

Initiating the succession plan begins with a candid discussion with each employee to determine the employee’s desire to advance in the organization. This can be as simple as “Do you have an interest in career advancement?” This also helps you avoid the question that makes everyone cringe: “Where do you see yourself in five years?”

Based on the results of that discussion a plan is developed to get those interested in career advancement the proper training and skill assessment review to identify gaps in training or experience.

Those employees are then given more challenging tasks to assist them with developing the skills necessary to close those gaps and opportunities to obtain formal or on-the-job training.

The next step in building your plan focuses on the key roles in the organization. It would make a plan very unmanageable to assume that all positions are key positions. Focus on those that if unexpectedly vacated the wheels start falling off your cart.

Using a list of key roles an analysis must include a couple of things:

- Who is the natural backup for Position X?
- What are the training gaps to be back to 100% operational success?
- Is training available internally or externally?
- Can the organization function and continue to thrive while that training is conducted?

In Cedar Rapids we have identified the following as key roles and assumed natural backups for those roles:

- Fleet Manager – Senior Fleet Administrator
- Senior Fleet Administrator – Fleet Coordinator
- Fleet Coordinator – Garage Lead Mechanic
- Garage Lead Mechanic – Senior Garage Mechanic

It is necessary to identify what training gaps exist and how much time it will take for the backup person to be trained and fully functional in the new role. Ideally, those backup staff members should be able to assume the role and be functional immediately, but my experience tells me they should be fully functional in that role within 120 days maximum.

So let’s dream for a minute: Monday morning comes and three of your four key players are not at work. You hear that they pooled their pennies and won the Mega-Dollars $650,000,000 jackpot and finally found the bounds of their dedication to the job. What happens next?

If you have invested the time and resources to build a strong bench of backup players, your operation moves on with only minor hiccups—oh, and a lot of jealousy.

Another simple and very low-cost strategy you should always strive to employ is the use of a Person In Charge (PIC) when key players are on vacation or out sick for a period of days.

This person assumes a guided role for that key player in their absence. When we talk about “guided” roles we need to understand that this person is not completely trained or may not possess all the valuable information to be completely successful so this will be a learning experience, and a mentor-type person must be available to tackle the issues that this individual does not have the ability to respond to.

We are all aware that our ability to direct and manage our organization to deliver service to our internal customers and citizens is our success factor. Building and managing a succession plan is part of that but also a great tool for you to identify, recognize, train, and promote your internal staff. Not using a succession plan is a disservice to your staff and customers.

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To convert or not to convert?
Six key questions to help determine whether to convert your fleet to CNG

Jason Carr, Senior Associate, Fuel Systems Engineering Group, Stantec, Scarborough, Maine; R.B. Laurence, Senior Associate, Fuel Systems Engineering Group, Stantec, Auburn, New Hampshire

As the price of oil continues to fluctuate—often to all-time highs—public works departments across the country have been or are considering making the switch to fleets that operate on compressed natural gas, or CNG. With fewer emissions, lower costs, and no risk of spills, CNG is, at the least, an interesting proposition.

But converting a fleet to run on CNG does require a number of changes to the vehicles and related maintenance and fueling infrastructure, meaning a thorough analysis of the costs and the potential benefits is often worthwhile. The following six questions can help municipalities begin that analysis and reach a decision that makes operational and financial sense.

1. **Is natural gas available?**
The first thing you must identify is whether or not you even have adequate access to natural gas at your site. If not, converting to CNG will require moving your fleet garage or prospective fueling station elsewhere, which may not work financially or operationally. Alternatively, if there are other CNG stations in the area, they may allow your fleet to have access, saving the process and cost of creating a brand new fueling station.

2. **What is your fleet’s operating profile?**
This may be the most important question in determining the viability of CNG for your fleet. How many vehicles are involved, how much fuel they use, the route they follow, and whether or not they return to the same facility overnight are all factors into whether CNG makes sense. The more vehicles that need to refuel quickly, for example, the more expensive the operation will be. Many city buses or garbage trucks are at rest through the night, providing a long timeframe and a central location for refueling. At typical waste disposal and recycling firms, for instance, most routes are designed to use less than one tank of fuel per day and the trucks all return to central garages at the end of the day. With that operating profile, their fleets are a good match for CNG fueling because the compressors required to fill vehicles slowly do not need to be as big as when vehicles are filled in a traditional, fast manner. Also, take a look at your normal route. If there are any CNG stations along the way, the supply and options for refueling will be greater and will make it easier for vehicles to refuel.

3. **What other infrastructure is on your site?**
Designing a CNG fueling station requires specific power and space needs, both for function and to satisfy the many codes that govern its use (more on that in question #4). Does your site have three-phase power? The compressors required are big and can...
use substantial electricity—having a robust electrical service certainly helps. Is there enough space at the site for compression and distribution equipment? Whereas gas or diesel fueling stations can have space-saving underground tanks, CNG facilities require often substantial space for compressors, driers, and electrical equipment. Generally the more vehicles that need to be fueled, the bigger the compressors, and the more space they use. And fast-filling requires more infrastructure relative to a time-fill facility with the equivalent amount of fuel use.

4. What upgrades will your maintenance garage need?
As mentioned, a number of codes regulate CNG fueling stations and the indoor facilities in which your vehicles are maintained, including the National Electric Code, the International Fire Code, the International Mechanical Code, and various standards from the National Fire Protection Association (NFPA). Because most maintenance garages are designed for liquid-fuel-based vehicles (which behave differently than CNG fuels), they may not comply with the codes for a CNG garage without a number of improvements. These changes range from removing sources of electrical sparks or heat to adding proper ventilation and mechanisms for detecting gas leaks. Common improvements vary by region throughout the country, but may include upgrading heating systems to remove open flames, adding continuous ventilation, and/or redesigning electrical equipment along the ceiling due to the chance of igniting the lighter-than-air natural gas. The extent of the changes required also differ depending on whether the garage will be used only for maintaining vehicles or if gas will be dispensed or compressed inside as well.

5. Are there CNG versions of the vehicles you want to use? This is another big-ticket consideration. If your fleet is somewhat young and you did not have plans to purchase new, converting them to CNG is one option. However, conversion isn’t typically the most cost-effective solution since the vehicles were designed to run on gasoline or diesel initially. If your fleet is nearing the end of its useful life, the timing could be perfect for conversion. Many large fleet owners take that approach when they decide to convert, making the switch to CNG as part of their regular vehicle replacement programs.

6. Finally, how much will this cost over time? After considering all of the above factors, does it still make sense? Will the costs of moving, renovating, or otherwise upgrading your fleet and/or garage outweigh the benefits? If there is a decent payback at today’s prices, are you willing to take the risk that the differential between natural gas and liquid fuels will continue?

The decision to switch isn’t an easy one, particularly for public works departments that have limited use of taxpayer money. But these questions can, at least, serve as a starting point for beginning the conversation. Another tip that can help is to hire a fuel systems consultant—these professionals can help a public works department weigh the pros and cons with the added knowledge of the long- and short-term needs the conversion will entail.

Jason Carr and R.B. Laurence are Senior Associates in the Fuel Systems Engineering group at Stantec. They can be reached at jason.carr@stantec.com and r.b.laurencejr@stantec.com, respectively.
**Q** “We’re in the middle of hurricane season now and so far, we’ve been lucky that nothing has come our way. We do continue to be concerned with finding a way to protect our traffic signals in the event a hurricane does impact our area. Is there anything new out there?”

**A** Good question. Not only is this an issue in hurricane-prone areas but any place where high winds are possible. The newest product I have seen is a “hurricane-resistant traffic signal hanger.” Seems a resident in Palm Beach County, Fla., has successfully created a new signal hanger that can withstand winds of up to 110 mph. The hangers are pivotal and are now standard on all new traffic signals in Florida. The Florida Department of Transportation has mandated the hangers be installed on all new traffic signals that do not require steel mast arms. The new hanger allows the signal to rotate but it doesn’t allow bounding, and that seems to be what destroys traffic signals. If you’re looking for a way to keep your traffic signals working, instead of having to remove them when major winds are expected, this might be a good solution. For more information visit www.dot.state.fl.us and search for Traffic Operations bulletin 02-12.

**Q** “As is the case with most transit agencies, we are looking for new sources of revenue. We have sold advertising on our fleet for many years, both inside the buses and with colorful wraparounds. Seems like there should be something else we can do. Any thoughts?”

**A** You’re right. Riders of public transportation are used to ads by now. Most riders have a pretty good chance of seeing an advertisement at your stop, on the exterior of the vehicle and once again on its interior, all before grabbing a seat. Sometimes it seems like the only way to avoid seeing the ads is by closing your eyes. But in some place, that might not even be enough anymore because the latest trend in transit advertising is audio commercials. Audio advertisements typically are short—about 10 to 15 seconds—and can take advantage of something that traditional print advertisements can’t: location. Buses are equipped with federally-mandated technology that triggers announcements identifying the upcoming stop. That same technology can now be used to trigger location-specific commercials. For instance, in Illinois, a McDonald’s commercial plays shortly before a bus stop near the restaurant. Ads can be triggered to run at stops known to be busy or full of riders of a certain demographic or at certain times of day.

But it’s not just audio advertisements that are gaining momentum. Some agencies are working to find new twists to old advertising methods. Ads are already on transit agency websites, mobile apps, bus schedule, fare cards and the sides of park-and-ride garages. But now, a growing number of bus systems are exploring the use of LED advertising on the sides of their vehicles. That style, already popular on roadside billboards, is more flexible than traditional advertising because it can be triggered by time and location, too, and it’s visible at night. Some are even looking to put advertising on the ceilings and floors of buses. Even the naming rights for stations are up for grabs. Transit agencies are always faced with the need for additional funding to provide the best service possible. One of these methods might be coming to a location near you soon! You might enjoy an article in Governing magazine at http://www.governing.com/blogs/view/gov-next-stop-public-transit-advertising.html.

**Q** “We are interested in becoming Accredited but we have some questions about which departments or divisions are eligible to do so. Could you clarify for us?”
Absolutely. The 7th edition of the Public Works Management Practices Manual includes 39 chapters, 30 of which are specific to public works functions. This includes everything from Engineering, Code Enforcement, Water and Wastewater, Solid Waste, Airports, Cemeteries, Fleet, Facilities, Beaches, Transit, Streets, Stormwater, Snow and Ice, Project Management, Parks, and so on. We encourage every agency that begins a review of the Accreditation program to invite all those departments which may be responsible for providing the individual service to the residents of their community, but which may not be part of public works, to be invited to your initial discussions.

APWA offers the only Accreditation now available to the majority of these service areas, especially for water, wastewater, fleet, transit, and beaches. Each individual department complying with all the necessary practices would receive their own Accreditation. Aside from the obvious reason that being Accredited provides acknowledgement to your officials and residents that you are meeting national management practices, the inclusion of every department that has one of the responsibilities allows a cost-saving and cost-sharing of the fees for Accreditation.

I would encourage any agency discussing the process to provide an introduction to the opportunity for improving the organization and management of your services. Why not have multiple departments recognized for the things they are doing well and the ability to demonstrate, through good documentation, how and why they do things as they do. Training is available through national, chapter/branch, or onsite local agency workshops. The program now has 85 Accredited agencies with many more in the process. Check the list of Accredited agencies for someone near you and ask them why their chose Accreditation, how they worked through it, and the value they found when completed. For more information, please contact me at adaniels@apwa.net.

**Ask Ann**

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17-20  WASTECON 2013, Long Beach, CA, www.wastecon.org
18-21  National Council of Structural Engineers Association Annual Conference 2013, Atlanta, GA, www.ncsea.com

OCTOBER 2013

3-5  Valve Manufacturers Association Annual Meeting & 75th Anniversary, Palm Beach, FL, www.vma.org
5-9  Water Environment Federation WEFTEC 2013, Chicago, IL, www.weftec.org
7-11  APWA CSM/CPPI/CPFP Certification exams (computer-based testing), (800) 848-APWA, www.apwa.net

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Legend: IFC = Inside Front Cover; IBC = Inside Back Cover; BC = Back Cover

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