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# President's Message

By Ashley Cantlon, Otak

Happy spring to the APWA Oregon Chapter! We have accomplished quite a lot as a chapter during the first half of this year, and I want to thank our chapter board, foundation, committee chairs, Cameo Management Solutions, and countless others who have brought opportunities for education and networking to our members. I feel that there is some renewed excitement throughout the chapter as we continue coming together for conferences, short schools, and committee meetings – we have a lot to catch up on!

## APWA – Oregon Chapter Highlights

**2023 Chapter Board Updates** – Our chapter has experienced some great momentum over these last few months with committees coming back together more regularly and our conferences and short schools showing stellar attendance! We hit record conference attendance with the Spring Conference in Bend hosting 233 delegates (49 of whom were first timers!), and 61 exhibitors bringing 140 representatives, for a total of 373 people registered! It is clear that people are ready to connect, and we are planning to continue offering these events for our members.

In other news, as we come to the end of our fiscal year we will be convening an audit for the chapter books. I have appointed the Chapter Audit Committee to review our finances for our reporting to National as part of our membership responsibility. We strive to keep transparent and well-managed accounts to maintain good standing with APWA and with our members. Thank you to all involved in this effort!

**Chapter Website Updates** – One big transition that we are preparing for is an upcoming migration to a new chapter website! National has taken the lead on planning, organizing, and working with every chapter throughout the country to archive current chapter website materials as well as migrating our current website to the new platform. We expect that the new website will be online in mid-July—stay tuned for more information as we get closer to going live! A big thank you to **Andy Sheehan** and **Eric Jones**, among others, who have provided a huge lift in working with National to make this happen.

*(Continued on next page)*

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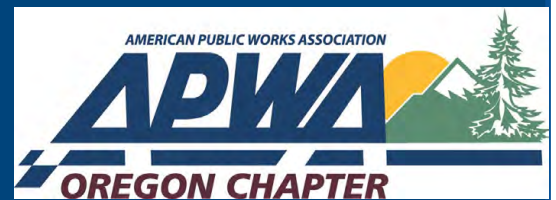
*Get Involved with APWA*

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*Go directly to an article by clicking the titles above.*



# President's Message Continued

**Mark Your Calendars** – We have a number of events on the horizon that we encourage you to consider attending, or sharing with others in your organization. Please visit our website for more information.

*National PWX* (August 27-30, San Diego, CA)

*Chapter Fall Conference* (October 17-20, Seven Feathers Casino, Canyonville, OR)

*Street Maintenance and Collection Systems Fall School* (November 6-9, Eagle Crest Resort, Redmond, OR)

*Public Works Leadership* (November 14-17, Best Western, Hood River, OR)

**PACE Award Application** – We have submitted our application for the national Presidential Award for Chapter Excellence (PACE) award in hopes that we can continue our 20+ year winning streak! Thank you to **Nancy Kraushaar**, **John Lewis**, and *everyone* who provided input for helping to bring this application together (a huge lift!). This award acknowledges the work that our chapter does each year to maintain or increase membership, provide service to our chapter members, advance public works and sustainability, and provide service to our communities.

**The Gizmo Award** – Many of you were present during our Chapter conference in Bend, where our most prestigious Gizmo was awarded to **Barbara Duda**! Barbara has been a dedicated Chapter member and participant in our events, and is more than worthy of this award. During our Spring conference, participants donated over \$6,000 in support of awarding the Gizmo, all of which goes directly to the Scholastic Foundation to fund scholarships. Thanks to all who donated, and to Barbara for giving Gizmo a great home until our Fall conference in October.

**National Committee Participation** – We have had a number of participants in National committees over the years, and I'd like to acknowledge two of

## Coming Soon: An All-New Digital Experience



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our chapter members for their recent appointments: Congratulations to **Peter Fernandez** for his appointment to the Accreditation Council, and **Shannon Williams** for her appointment to both the Project of the Year Committee as well as her new position as incoming Chair for the National Water Resources Committee! We also appreciate **Dan Boss** for his ongoing participation as our National Delegate, keeping us up to speed on updates from National every month.

**Remember Our Committees!** - Our committees provide opportunities to stay connected to the Oregon Chapter throughout the year. They are always looking for great ideas on how we can better serve our membership. *Please take some time to consider joining one of our many committees.* You can reach out to our committee leaders on our online committee page to find out more.

I continue to be inspired by all of the good things that are being done in the realm of public works, and am happy to continue working with you and our incredible chapter board into the second half of this year!

# Scholastic Foundation Reports Good News

By Gary Stockhoff,  
Foundation President

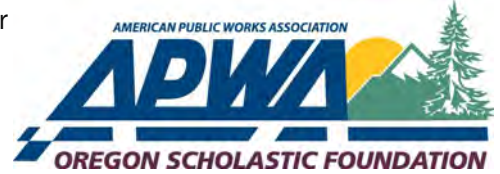
The Foundation held its annual Spring Conference meeting on May 3. It is always good to be able to meet together in-person, and talk about the great things the Foundation is doing. The scholarship committee let us know that awardees for the majority of the Foundation scholarships have been identified. The list of recommendations will be



forwarded to the Board for review and approval this summer.

The fund balance for the Foundation showed an increase over the past few months, which is very welcome news. Although the balance had been impacted by the economic downturn, the overall health of the Foundation account is good. The total award level for the

upcoming 2023/2024 school year is \$37,500, which is higher than the previous year.



Once again Oregon Chapter members reached deep into their pockets during the Spring Conference, and showed an amazing level of support for the Foundation. Funds raised will continue to help build the fund balance, and most importantly provide financial awards to well-deserving Oregon students.

## [Green Transportation Summit and Expo](#)

August 22-24, 2023, Tacoma, WA

## [EWRG 2023 Sustainable Stormwater Symposium](#)

September 20-21, 2023

## [Chapter Awards Nominations Due](#)

August 15, 2023

*Mark Your  
Calendar!*

## Oregon APWA Listings



## Looking to fill a position?

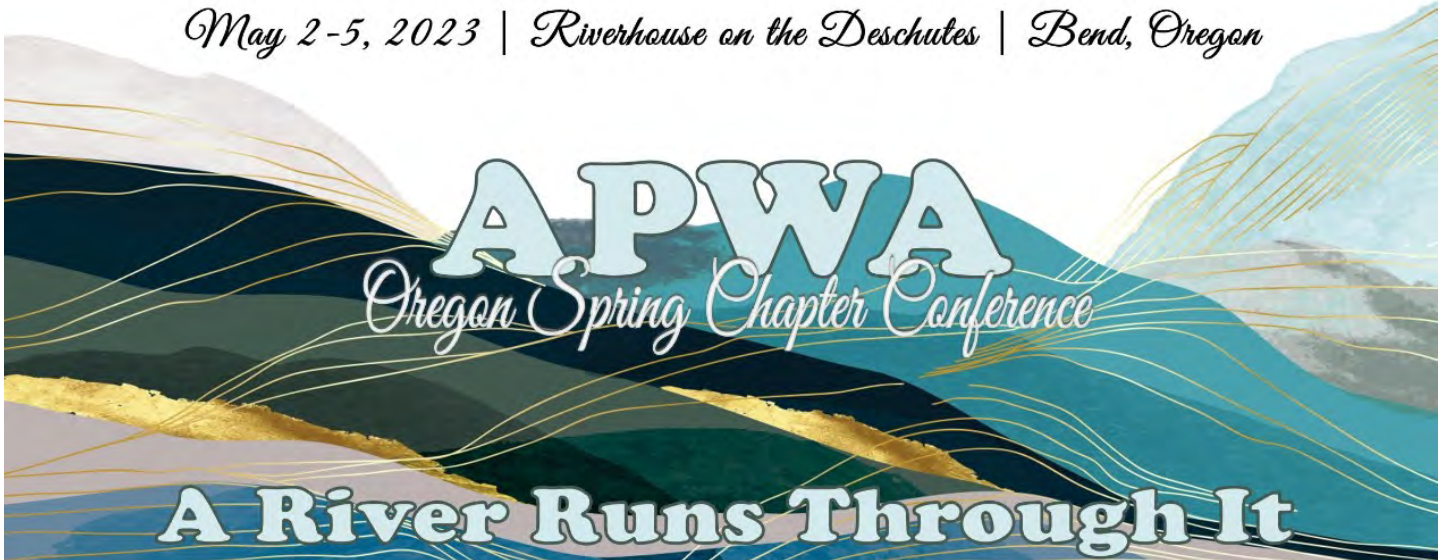
Look at what Oregon APWA offers.

- Free listings for public works jobs in the Pacific Northwest.
- Wide range of positions in the public and private sectors.

More information [online](#) or email [oregonapwa@gmail.com](mailto:oregonapwa@gmail.com)

# 2023 Spring Conference Recap

May 2-5, 2023 | Riverhouse on the Deschutes | Bend, Oregon



Mid-May brought a record-breaking number of attendees to Bend, Oregon for the 2023 Spring Conference. With 235 registrations and 60 vendor booths it was a full house in Central Oregon. The conference included a packed few days of golf, disc golf, technical sessions, and networking. Attendees also took advantage of opportunities outside of the Riverhouse, including a tour of the City of Bend Water Filtration Facility, a volunteer outreach opportunity with Family Kitchen, and finished Day Two with a pub crawl through town.

Check out the conference by the numbers (to the right) and a recap of the week in photos on the following page. The full collection of photos is available on the APWA Oregon Facebook page. A special thank you to Lori Norton for capturing all of the action.

We look forward to gathering again in the Fall in Canyonville (October 17 - 20, 2023). The call for presentations is now open with a submittal deadline of July 21<sup>st</sup>. [APWA Oregon Chapter - Call for Presentations Fall 2023 \(google.com\)](#)

*Check out our Facebook Page for all Conference Photo Albums*

Facebook  
[@APWAOregon](#)

## By The Numbers



# 2023 Spring Conference Recap Cont.



Photo Credit: Lori Norton

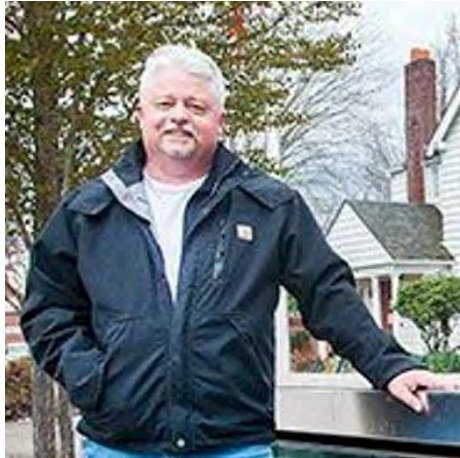
# Life Memberships Reward Many Years of Service

*Oregon APWA recently added three new Life members.*

**Mike Bisset** received the National APWA designation in April in recognition of his many years of service to his community, the Oregon Chapter and the public works profession. Mike retired in 2021 after 21 years with the city of McMinnville, serving first as assistant city engineer and then succeeding Don Schut as community development director in 2006. Bisset arrived in McMinnville in 2000 after working in the 1980s as a surveyor, completing road projects for Yamhill County, and in the 1990s as engineering manager for the city of Tualatin. He now enjoys spending time with his grandchildren and supporting his wife as she farms a hazelnut orchard. "Most everything I've been able to do has been interesting, and that's what's kept me engaged," says Mike.

Mike joined APWA in 1993. He served eight years on the chapter board including a term as chapter president in 2020 - a very challenging year! He also served as chapter treasurer in 2017-2018 and was a member of National APWA's Project of the Year Awards Committee. He received the Bowes Award - the chapter's highest honor - in 2021 and earned the Golden Knuckle in fall 2009. As for his motivation to apply for Life membership, Mike says "I know that I received much, much more from my time in APWA than I ever gave. APWA is an amazing community of people that are always willing to share with others."

**Tad Blanton** achieved Life member status in May. He has been an APWA member since 1993 and started working for the City of Medford in 1979.



*Life member Mike Bisset*

After being a Field Operations Superintendent for 25 years in Medford's Public Works Operations Division, Tad returned to the Engineering Division in 2016 to finish out his 46-year career as Chief Construction Inspector. His fondest achievement during his tenure with the City of Medford was being allowed to be a regular presenter at most of the Spring & Fall Street Maintenance and Collections Short schools for more than a dozen years between 2002 and 2016.

Tad recently retired, and he says applying for Life membership "seemed to be a natural progression."

**Dale TenBroeck**, like Mike Bisset and Tad Blanton, received Life member status for continuous membership for 30 years. Dale was raised in Northern California and worked in lumber mills, logging and road construction, and made a career with the California Department of Transportation, retiring in 2002 as a deputy district director responsible for highway maintenance. After retiring, Dale and his wife moved to the Rogue Valley in 2004. Once they settled in, Dale saw a need with the Evans Valley Fire District and started

volunteering with the EVFD #6 Auxiliary; shortly after, he became a budget committee member, and in 2010 Dale was sworn in as an EVFD #6 Director.

The Oregon chapter has 43 life members, listed below (please note that several of those listed have passed on): Donald Allen, Allen Alsing, Michael Bisset, Tad Blanton, Daniel Boss, Louis Bruneau, James Buisman, Edward Butts, Michelle Cahill, Stuart Cato, Terry Chamberlin, James Chambers, Brian Conlon, Nora Curtis, Donald Davis, Gregory DiLoreto, Lori Faha, James Galloway, Terry Haugen, Eric Jones, Nick Kelsay, Ralph Lambert, John Lang, Kent Mahler, Patrick McDougal, Michael McKillip, Charles Mickelson, Benjamin Nolan, Jeanne Nyquist, Gerald Odman, Ronald Polvi, Michael Reiner, Jon Ruiz, Richard Schmidt, Mark Schoening, Dale TenBroeck, Girjesh Tiwar, Carlos Van Elsberg, Michael Walker, Steven Ward, Gregg Weston, Harold Williams, and Mark Yeager.

Requirements for Life membership are:

- Continuous membership in APWA for 30 years; or
- Continuous membership for 20 years and age 70 or above; or
- Continuous membership for 20 years, age 65 and fully retired from active service for which compensation is received.

Life members receive all the benefits of regular membership, and annual membership dues are waived. For more information on membership options and benefits, contact chapter membership chair Leslie Finnigan at [lfinnigan@ufsrw.com](mailto:lfinnigan@ufsrw.com).

# New Members

Please welcome the new members who joined the Oregon Chapter between February and June 2023

**Fairth Abdullah**, Project Engineer, City of Newberg,  
[fatin.abdullah@newbergoregon.gov](mailto:fatin.abdullah@newbergoregon.gov)

**Lisa Bee-Wilson**, Program Supervisor, Lane County,  
[lisa.bee-wilson@lanecountryor.gov](mailto:lisa.bee-wilson@lanecountryor.gov)

**Monica Blanchard**, WSP USA, [Monica.Blanchard@wsp.com](mailto:Monica.Blanchard@wsp.com)

**Andy Bowen**, Sr. Bridge Engineer, NV5,  
[Andy.Bowen@consoreng.com](mailto:Andy.Bowen@consoreng.com)

**Mary Fierros Bower**, LRS Architects, Inc.,  
[mfierrosbower@lrsarchitects.com](mailto:mfierrosbower@lrsarchitects.com)

**Paula Davis**, A.S. Manager, Lane County,  
[paula.davis@lanecountryor.gov](mailto:paula.davis@lanecountryor.gov)

**Lance Englet**, Assistant Director, Lane County,  
[lance.englet@lanecountryor.gov](mailto:lance.englet@lanecountryor.gov)

**Steve Fox**, Executive Manager of Operations/Regional  
Manager-LA and Pacific NW, Clark Land Resources,  
[steve.fox@clarklandresources.com](mailto:steve.fox@clarklandresources.com)

**Curtis Gemaehlich**, David Evans and Associates Inc,  
[gemaehlichcurtis@stanleygroup.com](mailto:gemaehlichcurtis@stanleygroup.com)

**Benjamin Green**, Engineering Technician I, City of  
Milwaukie, [greenb@milwaukieoregon.gov](mailto:greenb@milwaukieoregon.gov)

**Mike Hass**, [mhass@pacificgeosource.com](mailto:mhass@pacificgeosource.com)

**Jordan Henderson**, Merina+Co, [jhenderson@merina.com](mailto:jhenderson@merina.com)

**Christine Higgins**, Casso Consulting, Inc.,  
[christine.higgins@cassoinc.com](mailto:christine.higgins@cassoinc.com)

**Brian Lee**, [brian@paceengrs.com](mailto:brian@paceengrs.com)

**Irina Leschuk**, IML Services LLC, [iml@imlservices.net](mailto:iml@imlservices.net)

**Christopher Low**, Traffic Engineering Project Manager, City  
of Hillsboro, [chris.low@hillsboro-oregon.gov](mailto:chris.low@hillsboro-oregon.gov)

**Kari Lowe**, CEO, Commonstreet Consulting LLC,  
[kari@csrow.com](mailto:kari@csrow.com)

**Chad Maxwell**, Principal Construction Project Manager,  
Conzor

**Ty Mills**, Chief Operator Water, City of Troutdale,  
[Ty.mills@troutdaleoregon.gov](mailto:Ty.mills@troutdaleoregon.gov)

**Kelly O'Grady-Smith**, Project Coordinator, Otak,  
[kelly.ogrady-smith@otak.com](mailto:kelly.ogrady-smith@otak.com)

**Priscillian Peralta Ramirez**, Civil Engineer, David Evans and  
Associates Inc, [priscilliano.peralta@deainc.com](mailto:priscilliano.peralta@deainc.com)

**Leslie Pfister**, Maintenance Technician, City of Hillsboro,  
[leslie.pfister@hillsboro-oregon.gov](mailto:leslie.pfister@hillsboro-oregon.gov)

**Cassera Phipps**, Principal Planner, Clean Water Services,  
[PhippsC@CleanWaterServices.org](mailto:PhippsC@CleanWaterServices.org)

**Brett Rankin**, Territory Manager WA NV AK, Crafcoc Inc,  
[brett.rankin@crafcoc.com](mailto:brett.rankin@crafcoc.com)

**Michael Roy**, Fleet Director, City of Portland Environmental  
Svcs, [Michael.roy@portlandoregon.gov](mailto:Michael.roy@portlandoregon.gov)

**Susie Serres**, Traffic and Roadway Principal Engineer, City  
of Hillsboro, [susie.serres@hillsboro-oregon.gov](mailto:susie.serres@hillsboro-oregon.gov)

**Jeremy Sherer**, City Surveyor, City of Springfield, Oregon,  
[jsherer@springfield-or.gov](mailto:jsherer@springfield-or.gov)

**Richard Stiles**, Transportation Asset Specialist, Oregon  
DOT, [richard.stiles@odot.oregon.gov](mailto:richard.stiles@odot.oregon.gov)

**William Sullivan**, University of Oregon,  
[wpsullivan10@gmail.com](mailto:wpsullivan10@gmail.com)

**Jennifer Ward**, City of Dallas, Oregon,  
[Jennifer.Ward@dallasor.gov](mailto:Jennifer.Ward@dallasor.gov)

**Sheila Washington**, Facilities O & M Manager, City of  
Portland Environmental Svcs,  
[sheila.washington@portofportland.com](mailto:sheila.washington@portofportland.com)

**Mikko Wimpari**, Sweeper Lead, City of Bend,  
[mwimpari@bendoregon.gov](mailto:mwimpari@bendoregon.gov)

**Dennis Wright**, Construction Manager, City of Springfield,  
Oregon, [dwright@springfield-or.gov](mailto:dwright@springfield-or.gov)

**Eanna Zaya**, Engineering Technician I, City of Milwaukie

## BENEFITS OF MEMBERSHIP

Membership in APWA offers a wealth of benefits, including professional certifications, state and national conferences, the APWA Reporter magazine, an extensive members' library, regional and national job listings, and much more. For additional information, email Oregon APWA Membership Chair Leslie Finnigan at [lfinnigan@ufsrw.com](mailto:lfinnigan@ufsrw.com).



# Focus On Emergency Management



**Patence Willingham-Melcher** is Emergency Manager for Lane County Government. In 2021 she was named Oregon's Emergency Manager of the Year by the Oregon Emergency Management Association in partnership with Oregon Emergency Management.

Throughout the month of June APWA's **Focus On Public Works** has been all about Emergency Management. As the month comes to an end, we're looking at Emergency Management on the local level. We posed some questions to Patence Willingham-Melcher, Lane County's Emergency Manager to find out more about Emergency Management and how it relates to Public Works.



## What is Emergency Management?

Emergency Management focuses on these four phases: mitigation, preparedness, response, and recovery. It utilizes several advance planning activities to prepare for and respond to any hazard such as wildfires, floods, and pandemics. The planning activities are based on potential hazards, assesses likelihood of occurrence and potential impact, and provides a basis to respond to and mitigate the hazard. Emergency managers work to understand the risk to communities, plan for the worst, and prepare to respond by convening all stakeholders to coordinate efforts.

## Why is it important to prepare and plan for emergencies?

Every community member is an individual, a family member, a neighbor, a co-worker, a volunteer, or a first responder. If each person took a moment to prepare, they could be prepared to support themselves and each other. During the Labor Day Fires of 2020, neighbors were helping neighbors evacuate in the middle of the night. If you live in an urban area, it's unreasonable to expect that a fire station (with 3 staff members) could support a population of 15,000 in a natural disaster. Building resilience as a community will ensure you are more prepared for your worst day.

## What role does public works have in emergency management?

Public works plays a very big role in emergency management. Specifically, they have the resources to support any large operation including route clearing after a seismic event, as well as bridge and road assessments. Locally our Public Works Department has



assisted with road closures and evacuation route planning for large populations. For advanced planning efforts, Lane County Public Works has provided GIS (Geographic Information Systems) staff, Land Management planners, and transportation planners. Those staff all support mitigation projects such as the seismic hardening of bridges and overpasses or reducing fuels in the rights-of-way to prevent wildfires.

# Focus On Emergency Management Cont.



## **In a perfect world, what should response to a large-scale emergency look like?**

An integrated, collaborative, coordinated response should include all community partners. Every large-scale event looks different, provides differing complexities, and requires different resources. The Labor Day Fires of 2020 showed us we must work together locally to coordinate efforts and leverage limited resources. The pandemic brought numerous challenges that stretched our thinking regarding how we maintain a local economy, keep people working, keep kids in school, and limit the spread of the virus. This was done by coordinating our efforts with all community partners, from community-based organizations to school districts, fire districts, cities and the County.

## **You recently held an emergency response exercise, what is the purpose of an emergency exercise and what were the take-aways from the event?**

Emergency Management conducts trainings and exercises to test our plans, policies, or procedures. Exercises help identify potential gaps in response on a blue-sky day rather than waiting to find out on a bad day. Exercises should include all partners from the community, and this exercise

was specifically testing our response to a wildfire event with widespread evacuations. The objective was to effectively welcome 50 survivors into a shelter and provide mass care services to the displaced population. This included people with access and functional needs, such as the elderly or medically fragile, and those who have domestic pets and livestock or children. The best way to learn is by doing, in my opinion.

## **What is something most people don't think about related to emergency management?**

People frequently confuse emergency management with emergency services; however, there is a clear and distinct difference. Emergency services are primarily police, fire, dispatch, and emergency medical services (EMS). These are the people who respond to life safety emergencies like heart attacks, assaults, putting out a house fire, or answering 911 calls. Emergency Management is responsible for planning and preparing for large-scale emergencies – think of events that exhaust all systems like large wildfires or a large seismic event. Emergency managers and emergency operations centers provide support and coordination to emergency services in the field.

# Awards Committee News

The Awards Committee needs your help find the outstanding public works projects and awesome individuals that we can all celebrate at the upcoming Fall Conference in Canyonville, Oregon. To do so, we need you to submit your nomination today (Forms and Instructions: [link](#)).

## *APWA-Oregon Awards Information*

### **Project of the Year Award**

Have you just wrapped up a construction project and would like to share your accomplishment with other APWA members or just want to show off your firm's/agency's awesomeness? If so, the Awards Committee would like to see and hear about these awesome public work projects, the challenges that were encountered, and/or the creativity and uniqueness.

Awards are given in four project dollar divisions and five different project type categories. Find the division and category that best fits your project so we can celebrate your hard work this fall in Canyonville (rumor has it, there may be some gambling involved). More information divisions and categories can be found on the [Projects of the Year](#) and the [previous years' awardees for the Oregon Chapter](#) webpages.

### **Communications (Bulldog) Award**

Is there a "Bulldog Award" nominee in your agency or firm? The Awards Committee is looking to recognize those individuals who are outstanding in the public works field for their communications skills or techniques that bring educational awareness to public works and related projects. More information can be found on the [Communications Award](#) webpage.

### **Everyday Heroes Award**

The Everyday Hero award recognizes an employee or group of employees who are identified by their friends, co-workers, or the public in providing good customer service (responsive, consistent, courteous), making the best use of public resources (efficient, innovative), helping co-workers succeed (mentoring, assistance, cooperation, solution oriented), and being a great person to work with (friendly, empathetic, respectful). More information can be found on the [Everyday Heroes Award](#) webpage.

### **Young Leader Award**

Do you work with a young (under the age of 35) APWA member who has demonstrated a commitment to either the public works profession or our association? Someone who has demonstrated the potential as a future leader, contributed to their public agency or company by coming up with innovative ideas, identifying solutions to complex design issues, or instituting cost-saving measures? This award promotes the concept that length of career does not necessarily indicate leadership abilities or potential for service. If you know someone who fits this description, the Awards Committee would like to celebrate these Young Leaders! More information can be found on the [Young Leader Award](#) webpage.

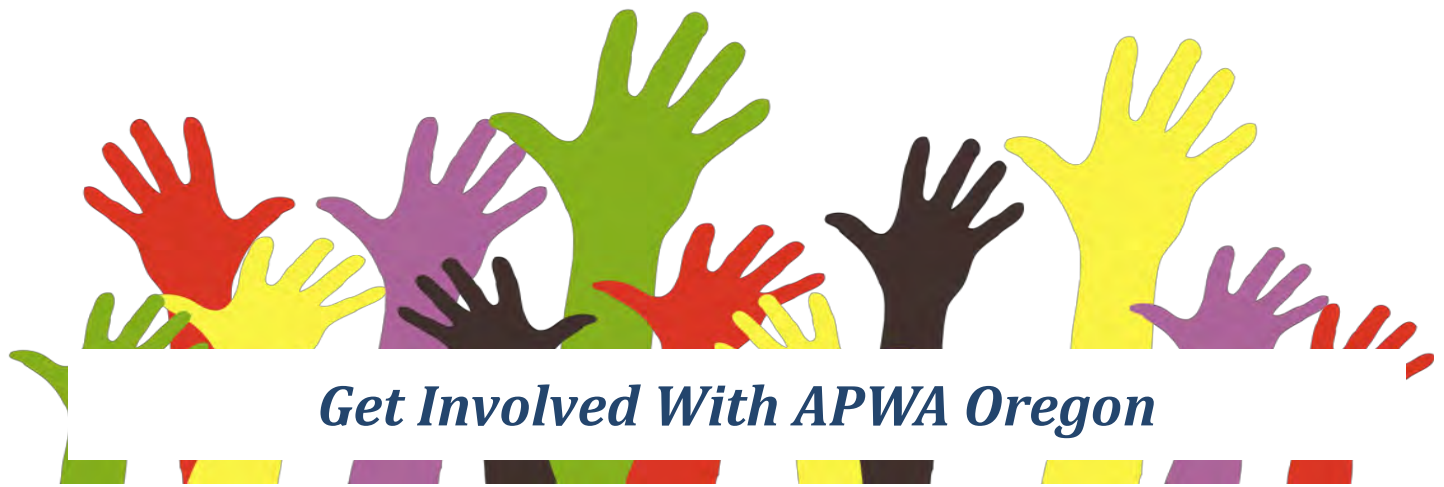
### **Sustainability Practices Award**

With rising material costs, fuel prices, and supply chain issues, consultants and agencies are increasing their sustainability practices and lessening the impacts that current processes have on the environment. What is your agency or firm doing to be more sustainable? The Awards Committee would like to hear from you and learn about your goals and objectives, short and long-term design practices, and green infrastructure that will sustain our society in the years to come. This award recognizes the individuals, programs, agencies, and organizations that are doing their part to make the world more sustainable. More information can be found on the [Sustainability Practices Award](#) webpage.

And just a reminder, **all nominations are due on Tuesday, August 15, 2023.**

Hope to see everyone in Canyonville, Oregon this coming fall (October 17-20).

—APWA Awards Committee (Sheila, Jen, Jonathan, Matt, and Jacki)



The Oregon Chapter is an association of more than 800 professional engineers, technicians, operations staff, public works directors, business people, contractors, consultants and many others who join together to exchange ideas and information, promote education and training, and work as a team to meet professional and community needs.

The Chapter is run almost entirely by volunteers. To keep doing the great things our chapter does — events/ luncheons, newsletters, announcements, contributing to specifications standards, etc. — volunteers work together to plan and execute.

### *Ways to Get Involved*

**Step 1.** Become an APWA member. More information on becoming a member is on the [Chapter website](#).

**Step 2.** Find the right spot to plug in. What’s your passion? What’s your level of availability? There’s a spot for you! Here are some options:

**Join a Committee!** Check out Committee Central webpage ([link](#)) to see all the Chapter’s committees. Contact the Chair to get plugged in.

#### **Street Maintenance & Collection Systems Schools** need you!

APWA Oregon Chapter offers Street Maintenance & Collection Systems Schools twice a year; one in the spring and one in the fall. The spring school includes an Equipment ROADeo. Our “School Committee” strives to put together a technical program that offers a minimum of 2.0 CEUs for full attendance at each of the schools. These schools utilize a 20- to 25-member committee for all three disciplines that help in recruiting appropriate speakers and topics for the schools. ODOT T2 is a huge support for these schools and offers Roads Scholars programs for one of the tracks.

We currently have some committee member spots to fill; specifically for the “streets” and “safety” committee. If you are interested or know someone who would be a great asset for us, consider sending them our way! If you need additional information, please email Maggie Vohs, APWA Events Director, at [cameomag@gmail.com](mailto:cameomag@gmail.com).

**Know someone who would exceptionally serve the Chapter?** Nominate them for the Chapter Board. Contact Ashley Cantlon, Chapter President, for more details ([ashley.cantlon@otak.com](mailto:ashley.cantlon@otak.com)).

### *Have more questions?*

Contact Leslie Finnigan ([lfinnigan@ufsrw.com](mailto:lfinnigan@ufsrw.com)) to find out more about joining APWA and getting involved.

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# Innovations From Sweden

## Engaging, embedding, and evaluating climate considerations in infrastructure investments: innovations from Sweden

**Emily Tritsch**

*2020 APWA Jennings  
Randolph Fellow*

*APWA Fellow*

*Assistant City Manager,  
City of Tigard*

Sixty years ago, President John F. Kennedy promised to put a man on the moon within the decade and, in 1969, the world saw “one small step” and a mission accomplished, bringing inspiration to generations of leaders in the US and abroad. That government, business, and society were able to come together to achieve a literal “moonshot” has been a source of inspiration for Sweden’s efforts in a pursuit no less global or consequential: carbon neutrality.

In September 2022, with the support of the APWA Jennings Randolph Fellowship, I was able to travel to Sweden and learn about their mission-driven approach to climate action. Through this Fellowship and the generosity of government officials and academics throughout that country, I was introduced to a myriad of climate innovations, applications, and methods of engagement throughout Swedish society and among infrastructure leaders in particular.

Sweden has long been a leader in climate action. An early and ardent adopter of low-carbon and renewable infrastructure, and a front-runner implementing major climate policy and greening its economy, Sweden

is well on its way to achieving its goal of net zero by 2045. The US, in rejoining the Paris Climate Agreement, passing an historic climate bill, and committing more resources towards climate action than in its history, is poised to make big strides in climate mitigation. As with our 20<sup>th</sup> century mission to put a man on the moon, the urgent challenge of the 21<sup>st</sup> century – combating climate change by reducing emissions – requires all sectors to come together.

The timing of this fellowship was ideal, with opportunities to pursue climate and energy grants through the federal Inflation Reduction Act coming online now. Communities across the US are looking to their elected leaders and government institutions to demonstrate long-term thinking: plan for the future, exercise financial stewardship, and deliver on community values.

These opportunities position agencies to strengthen capacity for transformative change. This article highlights several takeaways from some of Sweden’s leading organizations in support of public engagement, project selection, and performance management. The value to agencies and organizations in the US are in favor of increasing visibility into investment decision-making, responding to community



# Innovations From Sweden cont.



## Public Engagement

Infrastructure projects have long-lived impacts, both positive and negative, on the community. Those creating or enabling environmental harms create costs borne by everyone, and some communities across the US are asking for visibility into these decisions to understand their true cost.

While in Sweden, I was introduced to several innovative approaches to engage stakeholders from various parts of society encouraging broad ownership of collective outcomes in system design, development, and reinvestment. By asking compelling questions framed around individual experience, the Swedish Industrial Design Foundation (SVID), an agency contributing to sustainable societal development, has been able to educate, engage, and be informed about community priorities that agencies can reflect in future decisions. These questions include: *What is a good life? How do we want to live? How do we want to move around? How do we feel about living in a time changing rapidly and in big ways?*

Inviting feedback on the future provides perspective into potential environmental conditions and how we might create society to meet our's, and future generation's, needs. This input is useful in planning and designing the systems to provide this service.

Another engagement innovation is the Climate Arena, a tool introduced by Dr. Gabriella Doci from Viable Cities, the Swedish strategic innovation program for carbon neutral cities. In the Climate Arena, multiple sectors – business, academia, civil society, and government – meet to identify and discuss opportunities for co-investment and co-ownership of climate outcomes. Each entity commits time and resources to identify and own climate actions, including methods for investment of public funds. All then share a stake in planning and evaluation, and ultimately the outcomes.

These innovative engagement solutions respond to the idea that shared purpose makes organizations more productive, innovative, and effective, and that to achieve global missions, all corners of society must be invested.

# Innovations From Sweden cont.

## Project Selection

To make sufficient progress in emissions reduction, climate consideration must be embedded in all that we do. From material production and transport to construction and operation, infrastructure has the ability to be a climate heavyweight – for good or for ill. Industry leaders across the US and abroad have already made progress identifying and implementing methods to reduce impact through material reuse and construction methods. Looking at *what* and *how* we build through project selection and design can have further far-reaching impacts.

*“Doing what we have always done is no longer possible, we have to work in completely new ways”*

*– Viable Cities*

During my study tour, I learned that new ways of thinking, evaluating, and prioritizing investment is needed to make real change. The Stockholm Environment Institute introduced me to the Social Return on Investment model, which employs a triple bottom line approach to reflect broad considerations in environmental and social health and well-being. Business case evaluations that employ this triple bottom line approach give visibility into the potential environmental and social costs borne by the community of decisions to invest, or not invest, in infrastructure and the impacts of value engineering, which may reduce economic impact in the short-term while proving more costly into the future.



Monetizing or valuing measures like energy efficiency, waste reduction, and carbon footprint support environmental outcomes as well as the bottom line, because of energy and disposal costs saved and climate impacts avoided. Social benefits, such as job creation, service reliability, and public health, extend the reach of infrastructure outcomes so that many stakeholders see benefit. Valuing these impacts in project selection can justify the right investment at the right time and for the long-term.

## Measuring Success

What is measured is valued, and in the cities of Stockholm and Uppsala, there are several dozen indicators for sustainability. In these cities, public and many private organizations report annually on progress towards carbon neutrality, identifying measurable ways to account for environmental and climate considerations. These targets are bold, far-reaching (often looking beyond a 20-year time horizon), and integrated in agency strategy and budget documents.

In Stockholm’s Royal Seaport, Sweden’s largest urban development area, which is being transformed into an innovative sustainable community, everything is measured, from energy consumed to building materials used to number of insects observed, in order to measure success of investments in environmental health and sustainability.

*“We can’t sit and wait and the world will change. We take action here”*

*– Camilla Edvinsson, City of Stockholm, speaking about the Royal Seaport*

In this community, developers are required to provide numerous sustainability metrics to the city annually. These results inform further improvement and investment to make progress on biodiversity, ecosystem health, and climate goals.

When the City of Uppsala integrated Climate into their goals and budget document in 2020, they were one of the first cities in Sweden to do so. As a result, they have been able to monitor, measure, and balance investments to support their progress in the climate transition. Further, by employing carbon budgeting, the City can monitor its progress in emissions reductions, and is looking to quantify further reductions by sector so the whole of the City can deliver on its climate mitigation targets.

# Innovations From Sweden cont.



## Conclusion

Looking into our own history, we have found success by coming together towards a common goal. Minimizing our impact and adapting our infrastructure to respond to a changing climate may be the most important challenge of our lifetimes. Talking about climate, embedding it in our work, and using relevant indicators to evaluate success are three ways to make progress in climate action, collaboratively, transparently, and quantitatively. Thanks to the APWA and this study tour, I have seen that it is possible for public and private sector organizations to do well by doing good. Coming together with this shared mission, we can meet the challenge of climate change and insodoing protect our future.

With thanks especially to Lars Johansson, Climate Neutral Cities 2030 Coordinator with Viable Cities. Thanks also to the following organizations: SPWA; Cities of Stockholm, Uppsala, Umeå; Swedish Industrial Design Foundation (SVID); Stockholm Environment Institute; Uppsala University, Centre for Environment and Development Studies (CEMUS); Viable Cities and RI.SE; Geoforum Sverige

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# Sweden's Stormwater Management

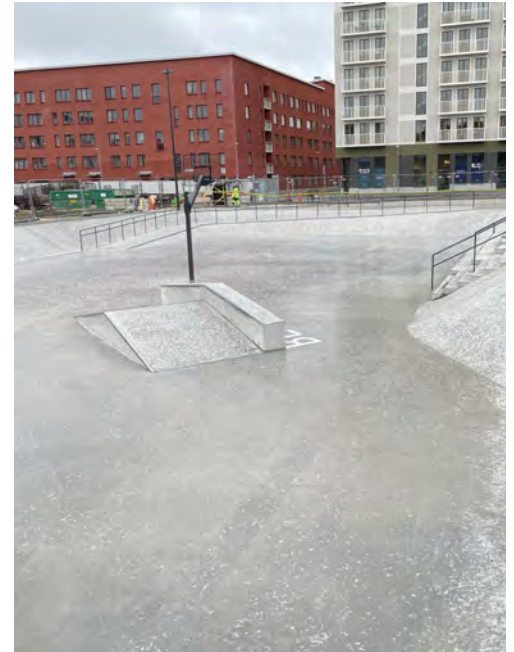
## Sweden's ecosystem services approach to stormwater management and urban development

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In September 2022, I traveled to Sweden to study ecosystem services in stormwater management and development through an APWA Jennings Randolph International Fellowship. The fellowship, named after former West Virginia Representative and Senator Jennings Randolph, provides an opportunity to share knowledge and ideas and promote friendships among international public works professionals.

Typical development in North America considers the value of social and economic needs separately from nature. In Sweden, urban planning takes into consideration the value of urban nature, trees and other natural factors, particularly in their uses in stormwater management and mitigating climate-related issues; this is referred to as "ecosystem services." This different approach to urban planning is being implemented in a variety of different types of projects throughout Sweden, and it clearly has many practical advantages that could be beneficial for North American cities.



### Integrated approaches

Like in the US, many cities in Sweden have aging undersized pipe systems that cannot handle the increased intensity of heavy rains due to climate change, struggling urban trees, and longer heat waves that are creating health crises for urban residents. In the US we often consider how to address these kinds of issues separately. The cities of Stockholm and Malmö Sweden are studying rainwater "cloudbursts" (typically a 10-year storm or greater), flooding, tree canopy cover, and urban heat areas together, to better understand how to manage these holistically. Through this coordinated data and mapping, the cities can prioritize an integrated approach to green infrastructure, flood control and tree project locations. In one example, Stockholm is using flooding and heat area maps to plan projects that add green infrastructure and trees in the most crucial areas for both issues.

# Sweden's Stormwater Management cont.

## Urban trees and stormwater

In other ecosystem services projects, Stockholm and Malmo are using hybrid rock soil blends to improve tree health and manage rainwater runoff together.

Trees typically struggle in the urban environment due to issues such as roots being covered with asphalt and concrete, lack of adequate water, and compacted soils. Open graded rock with 30-40% void space blended with organic compost and biochar create a structural soil that supports streets and sidewalks while providing space and nutrients for tree roots to thrive.

The structural soils capture rainwater runoff which improves tree health and manages stormwater at the same time. Shrubs and grasses also thrive in the structural soil blends, which allows for its use in stormwater planters, medians, and swales.

Trees and stormwater planters often compete for space with pavements, sidewalks, parking and utilities in our urban areas. Using structural soils under these hard surfaces adjacent to planters and trees can help alleviate these conflicts and add significant volume for stormwater capacity as well as root growth.

## Stockholm

Stockholm has been using the structural soil blends with biochar they call "Stockholm soil" for tree planting and stormwater facilities for many years. Biochar, made from wood and other green waste, naturally stores carbon and water and can greatly improve plant health. In 2014 Stockholm received a Bloomberg Philanthropies grant to construct a biochar plant in order to provide the quantities needed for their biochar projects. Stockholm now uses biochar in most stormwater facilities and is retrofitting parking lots adding Stockholm soil around existing trees and under pavement to capture rainwater runoff and improve tree health. Stockholm's success with biochar has led other cities to use structural soils in rainwater management and urban tree planting.

## Malmo

Malmo is using structural soils in new stormwater planters and trees in underserved areas, to help address both urban heat issues and stormwater quality. They are also pursuing improvements to their soil mixes. In one project, three different soil blends were used for three planters; monitoring equipment has been installed on the trees in each planter to track their growth, water uptake, and other data in order to better understand the benefits of variations in the soil blends.



# Sweden's Stormwater Management cont.

## Flooding

Many Swedish cities are using nature-based solutions to manage flooding. In Malmo, a historic rain event in 2014 caused significant flooding. In one case, an existing detention pipe could not handle the cloudburst and a nearby neighborhood was devastated. Malmo has since incorporated flood storage into the neighborhood, in Söderkullaparken city park. A large open space of the park was regraded, and a new basketball/tennis court and a dog park were built for the multiple uses of recreation during normal conditions and for rainwater storage during cloudburst events. If the detention pipe overflows again, the park areas will store rainwater to help protect the neighborhood houses from flooding. This is an example of how ecosystem services thinking can have multifunctional benefits for the community.

## Development and preservation

Many Swedish cities are using ecosystem services to create sustainable development projects to manage stormwater and mitigate the effects of climate change. In the growing university city of Uppsala, the Rosendal sustainable urban development project is creating a new district to house 5,000 residences. Creative stormwater ideas used in the project will help add a natural character to the built environment. Swales and planters will filter the runoff from streets and buildings to protect the downstream drinking water source. A constructed creek adds wildlife habitat as well as stormwater capacity, and open park areas and a skate park provide for recreation and double as flood storage for large rain events. Through ecosystem services planning and multifunctional thinking, the Rosendal district is creating nature-based solutions to manage rainwater.

The city of Umea, the largest city in northern Sweden, is also using ecosystem services to plan for future development and mitigate climate change. Umea has collected and mapped integrated biotope data including vegetation cover, tree cover, impervious surfaces, open areas, soil water retention capacity, noise levels, and surrounding forest land. Using their biotope data, Umea has included park and natural area requirements for new development in their comprehensive plan and has established "green corridors" where new green infrastructure, parks, and open spaces will be prioritized.

Since it is surrounded by forested land, Umea and the Swedish University of Agriculture Sciences (SLU) are investigating the benefits of the forest close to the city.

Forests have the natural ecosystem benefits of sequestering carbon, storing water, helping mitigate extreme temperature swings (urban heat island effect), and producing clean air. In addition, the results of more than 40 years of health research at SLU clearly indicate that spending time in forests, parks and open space has significant human health benefits, which is yet another ecosystem consideration for communities. Umea and SLU are working with landowners to preserve and manage forest land for these multiple benefits. Studying and considering the land outside the urban area is another example of Swedes taking a holistic approach to ecosystem services.

## Conclusion

Cities in Sweden face many of the same stormwater challenges and negative effects from climate change as we do in North America. The holistic ecosystem services approach that Swedes use to develop nature-based solutions to these issues clearly has multiple benefits for smart development that truly integrates economic, environmental, and human wellbeing.

There are so many ways in which an ecosystems services perspective can be used in managing stormwater from cloudbursts, improving water quality, and reducing urban heat, among other crucial issues. Considering the combined benefits of ecosystem services projects all together, instead of as separate components, helps Swedish cities map the way for healthy human and natural urban environments.

## Appreciation

A special thank you to Lars Johansson with Viable Cities for being an incredible guide and study tour coordinator.

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