Underground Asset Management: It’s not 9 to 5, It’s 24/7

by Michelle Field, Tyler Boone, and Kelsey Josephson with Smith Seckman Reid, Inc.

The City of Memphis Traffic Signal Maintenance (TSM) division has partnered with SSR to manage over 120 miles of traffic signal fiber optic infrastructure as required by the TN811 utility locate notification system. Smith Seckman Reid, Inc. (SSR) created a Geographic Information Systems (GIS) platform which serves as the backbone for maintaining the City’s fiber optic infrastructure. SSR maintains a GIS database and sends infrastructure network edits and updates to TN811 and KorTerra. An up-to-date GIS platform allows SSR employees to locate fiber optic lines in the field and monitor locate requests for the City. To streamline the network editing process, SSR has developed a mobile application which allows their employees to efficiently update assets to the fiber network in the field. The GIS platform streamlines a complex network system and can be scaled up as the infrastructure network expands over time.

Like many utilities, the City’s fiber optic system is aging, which means that it requires constant care, monitoring, updates, and staffing. While SSR provides a solid platform, damage to the network, caused by emergencies or lack of notification, are possible, which degrades the system. SSR staff is on call 24/7 to ensure that the fiber optic line is marked in a timely fashion when emergencies arise. As each utility location request is received, SSR employees check the GIS platform to determine if the fiber optic utility conflicts with the proposed excavation. If it is found that a conflict exists, then a field technician will physically mark the location of the utility on site prior to any construction activities taking place. Some of the biggest challenges SSR employees face in the field include lack of location knowledge, limited assets, communication with other firms, and keeping the system up to date.

The fiber optic system is for communication between the signals, gathering data about traffic speed, setting signal timings based on gathered data, and monitoring maintenance issues. All the data gathered by the fiber optic system is sent to the traffic engineering center where the traffic signal system can be monitored without having staff be physically on location. Originally, data was transferred through the phone network. Upgrading the system to fiber optic cables has allowed for a more timely and accurate transfer of the traffic signal data. Signal timing and detection systems can all be adjusted from the traffic engineering center when needed. The fiber optic network is also useful in directing maintenance crews to locations where signals are malfunctioning.

The Team

The SSR ticket response team consists of Ian Engstrom, Michelle Field, Bari Ikgagara, and Tyler Boone. Ian Engstrom is the project manager. Michelle Field manages the GIS database. Bari Ikgagara is the 24/7 emergency locator and Tyler Boone is the backup emergency locator. When Tyler and Bari are both unable to get to an emergency, two more employees who are trained in utility location

continued on page 2
are available to answer the emergency. Those employees are Layne Dawson, a Transportation Engineer, and Michael Williams, a Civil Senior Designer. Kelsey Josephson, a Civil EIT, is trained to assist with managing the GIS data and clearing tickets.

Ticketing System
The ticketing system is the TN811 Positive Response Portal (Figure 1). Excavators call TN811, and TN811 gathers this information, processes it using their GeoCall Ticket/Mapping system, and notifies underground utility operators that may have utilities in the area. The utility owners “then send personnel to locate and mark/identify their utilities” (TN811). TN811 sends the emergency tickets to both SSR’s regular emergency ticket e-mail, as well as their backup emergency ticket e-mail.

Traffic Signal Maintenance also uses a company called KorTerra to send them the tickets from Positive Response. KorTerra uses a software called KorWeb which analyzes the GIS data to determine if a normal, or standard, ticket is in conflict. If the ticket is clear, the system automatically closes out the ticket as clear – no conflict.

GIS Database and Location Intelligence
SSR uses Esri products for their GIS, as they are a Bronze Esri Partner. The GIS database for TSM consists of the fiber optic line, pull boxes, cabinets, and poles. The database represents the complete network for traffic signal systems within the City of Memphis. The GIS database also allows SSR to create field apps that can be used to locate underground fiber optic cable on location.

To keep the GIS system up to date, SSR communicates with other engineering firms and Construction, Engineering, and Inspections (CEI) groups to receive plans and as-builts for the fiber optic system. TSM also alerts SSR to any missing fiber that has been found or if the fiber optic GIS database is showing fiber optic cable in an incorrect area. Updates to the system happen regularly.

GIS updates must be updated for each firm using the platform. Each firm’s system requires a different set of rules to function properly. For SSR’s system, the State Plane coordinate system for Tennessee (NAD 1983 StatePlane Tennessee FIPS 4100 (US Feet)) is used. The SSR GIS database contains much more information than is needed for TN811 and KorTerra systems. The information must be extracted separately for both TN811 and KorTerra. TN811 uses the same coordinate system as SSR; however, KorTerra uses WGS 1984, which requires the data to be projected to that coordinate system.

SSR also has a website created specifically for Traffic Signal Maintenance that allows them to download their data as well as view

---

**Figure 1**: TN811 Positive Response Portal Example.
the fiber map and a map showing all the current locate emergencies.

**The Locator**

The locator currently in use is the Schonstedt XTpc (Figure 2). This pipe and cable locator connects to the tracer wire which allows a field technician to follow the fiber line above ground. The procedure for using the locator to find tracer wire is as follows: First, the lid is removed from the pull box. The positive wire from the transmitter is then attached to the tracer wire. Occasionally, the tracer wire must be stripped to get contact. Next, the negative wire is grounded. Grounding can be achieved by attaching the negative wire to a ground rod in the kit, a bolt head inside of the pull box, or to a ground wire on a nearby utility pole. The better the grounding connection, the better the accuracy of the trace will be. Once the wire has been grounded, the transmitter is activated. When the transmitter is reading the tracer wire properly, the XTpc receiver is activated. The receiver displays the gain number. If the number is too high, it thinks the wire is everywhere. If the gain number is too low, it cannot locate the tracer wire. Upon achieving a proper gain number, the field technician walks in the direction indicated by the receiver. The receiver lets the technician know which direction to walk by displaying arrows that indicate the direction of the fiber optic cable. If the receiver displays arrows on the left and right, the technician knows that they are in the middle of the fiber optic cable location and they paint an orange line on the ground to locate the cable so that it can be avoided during excavation activities.

**Emergencies**

Emergencies can occur at any time. Emergency locates are instigated by a litany of causes which include, but are not limited to, downed poles, a contractor digging in the wrong area, or a natural disaster. An SSR field technician is on call 24/7. Whenever an emergency tick-
et is issued, the field technician has two hours to determine if the area indicated in the emergency is in conflict or if it is clear, and, if it is in conflict, to go to the site and physically mark the location of the fiber optic cable. There are several subcategories of emergency tickets. These ticket subcategories are short notice, emergency impending, and emergency. Short notice tickets are submitted with a locate deadline that occurs before the 72 hours allotted for standard tickets to be located. These tickets are requested by the caller to be located before the specified date and time on the ticket. Emergency impending tickets are submitted with a locate deadline that occurs before the 72 hours allotted for standard tickets. These tickets must be located by law before the specified date and time on the ticket. Each ticket marked with one of these categories is sent to the emergency ticket e-mail and must be located within two hours of receiving the e-mail, by law.

The Field App
The field app used by SSR is an Esri product called Collector (Figure 3). Collector is used to upload a survey from the Esri Survey123 app, which, in turn, is used to answer specific questions about the emergency. The Survey123 app is then integrated into the Collector app. The Collector app allows the field technician to see their position relative to the fiber optic line and pull boxes. The app can be adjusted to show street names or aerial imagery, whichever is most convenient to help the field technician locate pull boxes.

The field app is used to determine if an area is in conflict. The field app displays the location of the fiber optic lines, pull boxes, and cabinets. When on site to perform a utility location, field technicians can view the map to orient themselves. Tracer wires are located within the pull boxes, so the first task is to locate a pull box. Once the tracer wire is located inside the pull box, it is used to guide the painted markings used by construction crews to avoid the fiber optic line during excavation. To close out a site visit, the app is used to mark the location of the site visit, take pictures of the painted markings on the ground, and enter the ticket number associated with the emergency. This provides documentation of the completed utility locations in the field (Figure 4). These updates are automatically uploaded to the online map upon completion. The final step for a site visit is closing the emergency ticket in the TN811 Positive Response portal.

Challenges with Locating
The biggest challenge that field technicians face is the lack of a tracer wire in a pull box. The tracer wire allows the field technician to follow the underground utility line while painting the ground. At a site without a tracer wire, SSR notifies the excavator that they are unable to locate the line. Another issue occurs when the field technician follows tracer wire for another utility. For example, field technicians have followed fiber optic tracer wire to a telephone pull box instead of a traffic signal. Gaining access to the pull box is not always easy. Sometimes pull boxes are buried or sodded over; sometimes they’re frozen shut; they have also been found with concrete over the bolt.

Figure 4: The field app showing a previous emergency ticket and the attached photos for documentation.
heads. In the past, field technicians have had to use the field app in order to find the pull box. Shovels are a tool that is sometimes necessary to locate buried pull boxes.

Some tickets that come through TN811 do not have the correct address on the ticket. In these cases, SSR field technicians have used the latitude/longitude to determine the location of the emergency locate. Sometimes tickets describe certain buildings, but those buildings cannot be found. In these instances, Google Maps has been used to find the nearest building matching the ticket description and determine if that is the area described by the excavator on the ticket. Some tickets will say, “Locate at the white paint,” but there is not real-time imagery to see where the white paint is. This can make it very difficult to determine if an area is in conflict. In these situations, it is necessary to drive to these sites to view them in person. Sometimes an emergency will be at a specific property, but it does not say where the emergency is. There can be fiber optic at that property, but if the emergency is on the other side, the field technician will not know until they arrive on site to view it.

Conclusion
Maintaining over 120 miles of traffic signal fiber optic infrastructure for The City of Memphis requires constant care, monitoring, updates, and staffing. SSR provides a solid platform and maintains an on-call staff 24 hours a day, 7 days a week to ensure that the fiber optic line is marked in a timely fashion when emergencies arise. SSR also maintains a GIS database and sends infrastructure network edits and updates to TN811 and KorTerra, providing a consistently updated system of information. This information allows construction activities to occur within the City without causing damage to the fiber optic cable system used to operate a complex system of traffic signals.

About the Authors
Michelle Field serves as the Geographic Information Systems (GIS) Analyst for SSR. In this role, she has integrated geospatial tools and location intelligence for SSR’s Memphis, TN office and is advancing innovative GIS technologies throughout the company. Michelle also serves on the Urban and Regional Information Systems Association’s Vanguard Cabinet of Young Professionals and the Memphis Area Geographic Information Council’s Board of Directors. She received her Master of Science in Earth Sciences at the University of Memphis in 2019 and is both Esri and FAA Part 107 certified.

Tyler Boone is a Transportation Engineer for SSR in the Memphis, TN office, and is a licensed PE in the state of Tennessee. In this role, he has worked in both construction and design. He received his Bachelor of Science in Engineering from UT Martin in 2010 and is FAA Part 107 certified.

Kelsey Josephson is a Civil EIT for SSR in the Memphis, TN office. In this role, she assists with design for Structural, Civil Site, and Transportation projects. She graduated in 2018 with a Bachelor of Science in Civil Engineering from the University of Memphis.

Acknowledgements
Thank you to Jeff Karafa for editing this article. Without you, this article would not be possible.

About Smith Seckman Reid, Inc.
Smith Seckman Reid, Inc. (SSR) is an employee-owned corporation, headquartered in Nashville, Tennessee. Our firm is focused on providing engineering, commissioning, and technology services across the United States and around the world. Our quality services are based on the in-depth experience and expertise of our staff.

RFP Distribution
URISA members, remember that URISA will distribute your RFP/RFQ announcements to our corporate and business members at no charge. Simply email your announcement to info@urisa.org (Subject: RFP Service) and we’ll send it right out for you!
Five Ways to Find Meaning at Work
By Dr. Maria Church, CSP, CPC

Sometimes work seems like, well, it’s work. It’s not the fun, fulfilling, or rewarding kind of work that we look forward to tackling but the life-sucking, drudgery kind of work. What to do when work drains the soul and seems like a waste of a life? Find the meaning in the work you do and you will find meaningful work.

Finding meaning is like building a bridge from one shore to another. It is a connection of two places – where you currently are and where you want to be. You’re spanning a river of various challenges that can impede your efforts. The following five steps will help you build the bridge to find meaning at work:

1. Find Your “Why”
Everyone has a “why” they work and it just gets buried in the day-to-day grind. Remember when you applied for the position in the first place? The excitement and anticipation you had filling out the application and sending it off with your resume? Remember the endless waiting for the invitation to interview and the nervousness you felt when you interviewed? Why were you so excited, anxious, and nervous? Why did you want that job? What was it about that organization or position that excited you so? This was your why! Connecting with your why may be as simple as answering these questions and feeling your response.

Your why might be the prestige of the position, or the challenge of the projects. Your why might be because it is a great company with a mission or vision of which you wanted to be a part. Or, your why could be the salary and benefits the position provided you. Your why could have been to take care of your family or travel more. Whatever that is, reconnect with it. If your why has changed, then build the bridge to your new why.

2. Help Someone
If you want to find meaning, try helping someone else. Humans are helpers, it is in the DNA. Winston Churchill said, “We make a living by what we get, we make a life by what we give.” Helping others takes the focus off yourself and puts it onto another.

Not only will it help you focus on someone and something else than hating your job, it will also feel darn good while you are at it. Perhaps you could mentor someone, or give a tour to a new employee. You could volunteer for a committee and meet some new people in the organization at the same time.

3. Leverage Your Skills
When you leverage your skills with what you enjoy doing, you are bridge-building a task with meaning. For instance, you may enjoy photography, but that may not be required for your job. Chances are that someone in the organization my need some photographs taken for a project they are working on, employee badges, annual report, or many other possibilities. Let key contacts within the organization know that you have this skill and would love to help out.

You will not only get to do something you love at work, but you get the added bonus of helping as well – a win-win!

4. Take a Break
Sometimes you just need to walk away for a little while. After all, “absence makes the heart grow fonder.” Vacations are designed to give a break, refresh the mind, and replenish the soul. Take your vacations! If you need to take a day to do a mini-vacation to refresh and rejuvenate, then do so. While you are at it, take your lunch break too, and a mid-morning or mid-afternoon break to walk around outside and take in some fresh air.

Burnout happens when we don’t take those mini-breaks and longer respites from work. Oftentimes when you just keep plugging away at work, you could lose concentration and focus. This practice is extremely unproductive in the long run. You are not the Energizer Bunny! Feed your soul with a break from work.

5. Be Authentic
It is exhausting trying to be someone else – the person your boss thinks you should be, the team member your colleagues think you ought to be, or the super-worker you think you should be. Be YOU. When you live and work in a place of authenticity, you tap into your own creativity, joy, and meaning.

Remember that meaningful work is just a bridge away. You can reconnect anytime you stop, pause, and remember what brought you here in the first place.

About the Author:
Dr. Maria Church, CSP, CPC, is a speaker, consultant, and executive coach. As CEO of Dr. Maria Church International, including Government and Corporate divisions, and Leadership Development University, she specializes in organizational culture, change agility, and leadership development with over 25 years working for Fortune 500, local government, non-profit, and academia. Her 10th Anniversary Edition of Love-Based Leadership will be released in December 2020. She may be reached at www.DrMariaChurch.com.
Get Involved with the URISA Mentoring Network

• Are you passionate about your field and interested in helping others identify their passions?
• Are you willing to share your skills, knowledge, and expertise?
• Do you value continued education and growth?
• Are you a good listener?
• Can you spend two to five hours a month cultivating a meaningful and rewarding relationship?

If you answered yes to any of these questions, you would make a great mentor in The URISA Mentoring Network!

Think back to when you first entered the job market. What do you wish you had known? What advice do you wish had been shared with you? You have the opportunity to pass your wisdom and experience on to emerging professionals in the geospatial industry.

Last year, the URISA Vanguard Cabinet launched the URISA Mentoring Network to foster strong connections between geospatial professionals at all stages of their careers. The Vanguard Cabinet strongly believes that mentorship is one of the most powerful ways to expand your social network, trade insights with another professional in your field, and stay on top of the latest industry trends. The mentoring program aims to improve the academic and professional achievements, self-esteem, and technical capabilities of geospatial professionals within our industry. The program consists of three cohorts annually and relies on volunteers to mentor our emerging professionals.

During the application and matching process, we consider the mentor and mentee’s experience and goals to create the most successful mentor/mentee pair. After a prospective mentee is matched with a mentor, each pair is expected to meet monthly. The Mentoring Program provides resources for each mentor-mentee pair to guide their discussions. Each mentor can support their mentee by sharing their own career journey, suggesting helpful training or certifications the mentee might pursue, providing a sounding board with a different perspective, and building their mentee’s network by introducing them to other practitioners in the field.

Traditionally, mentorship is viewed as something that requires a mentor to be older or significantly more experienced than the mentee. While we view mentorship as a key factor in the growth and development of young and emerging geospatial professionals, we also believe that the most successful mentor-mentee relationships are an exchange of ideas and perspectives. We acknowledge that we can all learn from each other, regardless of age or years of experience. Our criteria for mentors are not based on age, but rather one’s willingness to offer support to other geospatial professionals. Furthermore, we encourage each mentee to proactively contribute to the relationship by communicating their own experiences and observations of the latest industry trends, software knowledge, and innovative approaches to geospatial problem solving.

The success of this program depends on the amount of work put in by each mentor-mentee pair. It is expected that mentors and mentees dedicate at least two to five hours a month to this program. Your relationship with your mentee does not have to end at the end of your term. We hope that mentors and mentees will develop a strong relationship that will last for years to come.

There is no age or experience requirement to be a mentor, so if you are ready to kick off your mentorship journey, get involved today!

“Each of us has likely had one or more mentors who have made a positive impact through their advice, willingness to listen and encouragement. I think that one of the most meaningful contributions we can make as professionals is the sharing of our knowledge and experience with others. I am really pleased that URISA’s Mentoring Network provides an opportunity for us to support one another in this way.”

- Kevin Mickey - URISA President

Frequently Asked Questions:
When is the next deadline to apply?
Applications for Cohort #1 closes on February 15. The application deadline for Cohort #2 will close on May 15th.

I know other professionals that would be great mentors, but they aren’t URISA members. Can they still sign up to be a mentor?
You do not have to be a member to participate in the URISA Mentoring Network!

What is the monthly time commitment and duration of the program?
The minimum expected time commitment is two to five hours per month. Each cohort is six months long.

How can I get involved?
Visit our website for more information and to sign up today!
This column will be a regular feature in the GIS Professional and will highlight the various URISA committees.

In this edition of the Committee Column we focus on the Leadership Development Committee (LDC).

You may very well have not heard of the Leadership Development Committee, or LDC for short. For those that are familiar with it, you may be of the belief that it is essentially another name for a nominations committee. And, you would partially right. But the LDC has additional responsibilities that indeed shape the future leadership of URISA.

First off, who serves on the LDC? The Leadership Development Committee is chaired by the Immediate Past President. The LDC chair will then ask several URISA members to serve on the committee. It is the prerogative of the chair to choose the committee members and make the committee as complex, or as simple as they wish. The LDC then has 3 basic tasks. First, select a slate of candidates for Board of Directors and President-elect to recommend to the current board of directors. Second, select new members of the Vanguard Cabinet based on a review of applications and third, select the Young Professional of the Year based on recommendations of the current Vanguard Cabinet.

The duties of the LDC are spaced throughout between GIS-Pro conferences. The first thing the committee is responsible for is indeed developing a slate of candidates for President and the Board of Directors. This is no small task. The committee maintains a list of potential candidates that we select from, at least initially, to build a slate. How does one get on this list? The primary way is to get involved. We look for people that have a history of not only being active in URISA particularly, but in their profession in general. We look for people that have volunteered to lead and that have stepped forward when things need to be done or said. They have demonstrated that they want to make a difference. You can also get on the list of potential candidates by simply asking. This sort of initiative is welcomed. But, know that we will also look at all the previously mentioned criteria when considering anyone for the Board. As we assemble our slate of candidates, we also try for balance in our leadership. We want a good mix of generations, geographies (of course), experience and views. We try to maintain a healthy mix of public, private and non-profit representation on the board. A huge factor we consider is what I call “Plays well with others”. This does not mean we are looking for a passive individual that goes along with what others say. Quite the contrary. We want people with strong ideas and a desire to make things better, but acknowledging the reality that they will not always win their side of the argument. The current board is a great example of this. We all come from many sides of the profession, and at times disagree very strongly with a particular position. But, in the end, we all know we are heard and have worked hard to come to a unanimous decision. It is crucial that incoming board members are prepared to work within that type of environment. The current LDC has worked hard to recommend a slate of candidates that we believe will serve URISA well in the next 3 years.

Next up, the Vanguard Cabinet! Service on the Vanguard Cabinet (the VC) is similar to the Board of Directors in that it is a 3 year commitment. And in this case, instead of an election, VC members are chosen through an application process. Much of the criteria we examine for a Board member is the same for the VC. But, of course, all of the applicants are part of our dynamic group of young professionals. This is one of the hard, but fun responsibilities for the LDC. This is a motivated and energetic group and we have provided a venue for them to get involved. You will notice a pattern over time that the Board of Directors has one or more former members of the VC on it, and that is intentional. This is one, but not the only, group we have set up to develop leaders.

Finally, the last job the LDC – and another fun activity of this committee - is to select the Young Professional of the Year. In this case, the LDC is provided a list of candidates from the Vanguard Cabinet and based on some of the same criteria listed above, makes a selection. And, once again, you will likely see former YP’s of the year on future boards.

So, hopefully it is obvious that the Leadership Development Committee is more than just another nominations committee. This group truly is working to assure that URISA has a pool of capable and innovative leaders for many years to come. Our goal is to ensure our legacy.

Watch for the LDC’s Call for Leadership Interest/Nominations!
DCHC MPO Finds Security in the Cloud

An Unexpected Attack
In February 2020, the city of Durham suffered a cyberattack, which caused them to lose access to all their servers for several months. One of the organizations affected by the cyberattack was the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO). DCHC MPO is the regional organization that manages transportation planning for the western area of the Research Triangle in North Carolina. Their responsibilities include decision-making on transportation planning issues, the development of a long-range transportation plan, and working with state and location transportation agencies to serve the citizens of Durham County, a portion of Orange County, and Northeast Chatham County.

With the cyberattack came the loss of their newly created Electronic Transportation Improvement Program (eTIP) application, which served as a map-based program that allowed them to search projects and identify where planned improvements are located. In addition, they lost access to all their enterprise GIS data, which included data layers for municipal data, and data for Durham City and County, Chatham County, Orange County, and North Carolina Department of Transportation (NCDOT).

This crippling of data left DCHC MPO in search of a forward-thinking solution that would not only retrieve what they lost, but would put a plan, processes, and support in place to assure that this incident could not occur again. Moving their data to the cloud instead of maintaining an on-premises server environment seemed to be the best solution, and they needed a partner for the recovery process.

Solution
GeoDecisions was already working with DCHC MPO to develop their eTIP application. Because of their extensive experience with cloud migration, the GeoDecisions team was able to partner with the City of Durham and DCHC MPO teams to provide immediate guidance on best practices and next steps. The team decided to tackle the project in a phased approach, which included cloud procurement, cloud environment set-up, migration of eTIP and GIS data, and system maintenance and training.

Cloud Procurement and Migration of Data
The team jumped into action to move both DCHC MPO’s GIS databases and their eTIP application to Microsoft Azure, a cloud computing service created by Microsoft. In this phase, the team performed project initiation activities, developed the work plan, provided project management and oversight, and met with the DCHC MPO staff and key stakeholders to discuss recommendations for cloud migration.

To move to Azure, the team needed to identify what data would move, how much RAM and bandwidth would be needed, and whether it should be a single or multi-server situation. During this assessment, one challenge was moving almost 400 feature services and keeping the RAM costs within budget. They decided to publish existing feature services using ArcGIS Pro, which can reduce RAM consumption by taking advantage of shared instances. Shared instances pool resources for lightly used feature services, minimizing RAM consumption and maintaining high availability of the service. By choosing ArcGIS Pro, the team was able to reduce the RAM consumption needs by at least 60%.

Cloud environment setup included consolidating servers to create a single server (Windows) virtual machine (VM) set up to act as a production application and database server for the eTIP application. This VM contained all software required to run and maintain the eTIP application and supporting functions. In addition, this VM also hosts the GIS databases and provides appropriate storage and networking resources needed for the system. Consolidating the servers help DCHC MPO save costs and simplified the server design.

System security measures were implemented, such as white listing IP address for RDP access and renaming of admin usernames and passwords. During this task, the team also implemented the full system backup strategy. This involved utilizing Azure’s Recovery Services vault to store snapshots of the VMs created during this task. Azure Recovery Services enabled instant recovery of the system in the event of disaster.

During application migration and configuration, the team installed and configured prerequisite software packages needed for the eTIP application, including IIS, SQL Server, and the ArcGIS Server. Once all the software was installed and running, the team began the actual migration of the eTIP application database and additional GIS databases.

Recovery Complete
With 400 feature services, a script was created to automate the publication of each feature service to the MPO’s new ArcGIS Server instance. This typically tedious and manual task was completed via continued on page 10
background processing over the course of a couple of afternoons. When the team republished all of the feature services, they were able to maintain nomenclature and link structure, so that no additional configuration was required to remap existing ArcGIS Online applications or various links within the DCHCMPO GIS web presence, eliminating what may have been an arduous task for the client.

“Moving our eTIP application and GIS database to a cloud environment with Microsoft Azure didn’t only give us a better server structure,” said Casey Chae, client manager at DCHCMPO. “It gave us increased security and a renewed confidence in our disaster recovery. We are now able to be more proactive, than reactive in our efforts to manage and protect our data.”

System Maintenance and Support
GeoDecisions provides maintenance of the eTIP application and the server it is running on. This includes Windows updates, minor software patches, virus definition updates, etc. In addition, the project team developed a set of test plans for the application to ensure that it is functioning as expected. The Azure environment also provides a portal view, allowing the owners to visualize system health and costs. The configurable dashboards allow for more proactive monitoring of critical metrics, enabling immediate notice of and response to issues such as high RAM and CPU usage, low disk space, or a failed back-up.

Throughout the project, the team created system documentation to ensure the DCHCMPO stakeholders could perform any necessary tasks if needed. A back-up and recovery process was also recommended, and then the GeoDecisions team worked in partnership with the DCHCMPO to develop a plan that met their needs.

The Outcome
After nearly nine months of being without access to their eTIP application and GIS data, DCHCMPO is back up and running, continuing to work tirelessly to address the transportation needs of the communities they serve. The migration to Azure provided DCHCMPO with greater security and maintenance capabilities over their data and applications, while the integration of Esri’s ARCGIS Pro allowed them to conserve valuable RAM budget, reducing consumption needs by 60%. With the move to a more secure environment, proactive monitoring, and an improved back-up and recovery process, DCHCMPO now has greater security and flexibility with their GIS data.

Learn more about URISA partner, GeoDecisions.
The Value Proposition of Organizational Memberships

URISA members receive a wide range of benefits. If you are reading this article you know that URISA offers webinars, workshops and conferences that support professional education needs – often at no cost or at a significant discount to members; it provides access to multiple current and past URISA publications; it offers multiple opportunities for volunteering and networking with other professionals; and it represents members as an advocate that protects and sustains the geospatial profession. These aspects of URISA membership are valuable to individual GIS professionals, but they can and should be considered equally as important to the government agencies, businesses, higher education institutions and other organizations that members represent.

URISA offers membership options for individuals as well as organizations. In this article I share a few thoughts on the value of organizational memberships, a cost-effective choice that includes all of the great benefits of individual memberships and a lot more.

Government Agency Membership

For only $350, government organizations at any level – national/federal, tribal, state/provincial, regional, county, city and town – can obtain a Government Agency membership. This option is designed specifically for jurisdictions with at least two GIS staff, whether in the same department or across a number of departments.

Benefits include URISA memberships for two individuals. When compared to the $195 cost for an individual membership, this alone justifies a government membership. Additionally, more members can be added for only $150 for regular members or $125 for young professionals. A Government Agency membership also includes a significant annual discount for one of URISA’s workshops, which provides an affordable option for bringing professional training to the government agency.

Business and Corporate Partners

URISA recognizes and values the contributions of the business community to the geospatial profession. Accordingly, it offers multiple opportunities for corporate engagement designed to meet the needs of every company, regardless of size.

A URISA Business Partner is any company with ten or fewer employees. For only $500, Business Partners have access to a wide range of benefits that have the potential to far exceed the investment. This includes two individual memberships and discounted booth space at the GIS Pro Conference. It also provides benefits such as having company information on the URISA website as well as in the GIS Professional newsletter, the URISA Digest and more.

URISA also offers four Corporate Partner levels: Bronze, Silver, Gold and Platinum. The estimated value of each is estimated to be approximately two or more times the cost of the investment. In addition to including memberships for multiple staff, which range from two at the Bronze level to eight at the Platinum level, corporate partners have opportunities for recognition at URISA events as well as in various publications. They also receive discounted booth space at the GIS Pro conference along with two conference registrations.

Educational Institution Membership

At a cost of only $400, educational institutions receive URISA memberships for two faculty or staff along with up to ten (10) students at a single location. Additional students can participate for only $10 each.

I want to highlight the value of the discounted student rate as a benefit of an education institution membership. Students who engage with the professional community while pursuing their academic credentials can realize advantages that guide them toward a more successful professional career path. Among these are developing relationships that may lead to job or collaboration opportunities and learning directly from practitioners how the skills and knowledge acquired in the academic classroom can be applied to address practical challenges. It is also important to recognize that students, faculty and academic staff bring to the professional community awareness of new research and knowledge. This contribution can result in more effective applications of geospatial tools and methods in support of the work that we do for our communities.

Beyond the many financial incentives that organizational memberships offer, I want to note one important element of all organizational membership categories, access to URISA benefits to multiple individuals from the organization. Active participation in a professional organization benefits everyone involved. The more people that an organization has involved in URISA, the greater the benefits will be to those individuals as well as to the organization.

For those currently in leadership roles, I encourage you to consider and act on what I have shared about the value of organizational memberships. For those not currently in leadership roles, consider approaching your leadership about an organizational membership. Share with them what URISA has meant for your professional growth, what it can mean to others in your organization and how the organization itself can benefit.

For a complete description of the benefits associated with each type of organizational membership, visit https://www.urisa.org/membership.
In July 2020 Esri Press released Python Scripting for ArcGIS Pro by Dr. Paul A. Zandbergen, an update to the 2013 release. Whether you’re new to python in ArcGIS Pro or an experienced user adept at scripting, this is a comprehensive resource for you. Python is the scripting language of ArcGIS Pro, allowing users to manage, analyze, create, and execute geospatial tasks in their workflows using coding. The chapters within the text are structured in a way that users can approach the material in full or use as a reference by reading the chapter summaries and include example code of each topic of python and GIS. All chapters end with key points to remember and review questions.

Zandbergen is a Professor of GIS at the Vancouver Island University in British Columbia, teaching spatial analysis, programming, statistics, and modeling. He has published over 50 articles and book chapters from his research in crime analysis, environmental science, public health, spatial ecology, and water resources.

In the first chapter, python is described as a free, open-source, easy to learn scripting language that is integrated in ArcGIS Pro to conduct and manage geoprocessing tasks. The second half of Chapter 1 introduces the reader to code examples of how python can accomplish these common tasks like copying shapefiles to a geodatabase or creating points along a line.

Chapters 2 and 4 are the book’s cornerstone chapters for beginning users of python. In Chapter 2, readers are introduced to the text editors and managers that are used with python called integrated development environments (IDE). These editors are the applications where programmers will develop python scripts to be used in ArcGIS Pro. Chapter 4 covers a sample of the fundamentals of the python scripting language including data types and structures, expressions, methods, functions, and how python stores information in variables.

Chapter 3 reminds ArcGIS Pro users of the ways GIS analyses and data management can be conducted in the geoprocessing framework. In ArcGIS Pro, users can apply a variety of tools and graphical interfaces, such as built-in tools, script tools, or model tools. When a specific tool is used to run a task, there are inputs that are required and/or optional to specify how the tool is run. These parameters are the key pieces of python and geoprocessing.

Chapter 5 introduces readers to the Arcpy python package, an extension of python that connects the scripting language to geoprocessing in ArcGIS Pro. The important message in this chapter is that nearly all geoprocessing tools in ArcGIS Pro can be accessed with python through Arcpy. Also covered here are the methods for managing user licenses and understanding messages when tools are run.

Chapter 6 describes how users can explore their spatial data using python. This includes checking for the existence of data (spatial or non-spatial), describing data to tell users what type, format, or geometry a data layer is, listing data or folders in a workspace, or using python to automate through a list of files to process them.

All python programmers will encounter warning messages and errors as they develop scripting solutions. Chapter 7 presents the ways that GIS practitioners can handle these errors. Adding print messages to help programmers understand better the multitude of error codes and messages that are encountered in ArcGIS Pro is reviewed.

In Chapter 8, readers are shown the methods to manipulate spatial and tabular data using python. With the Arcpy.da Data Access module, users can search data, insert new data, or update or delete existing data. Also covered here is Structured Query Language (SQL) and simple python expressions to query data and use the Calculate Field geoprocessing tool in ArcGIS Pro.

Chapter 9 builds on concepts covered earlier in the text of describing and creating new data by covering how users can work with geometries. With python, various attributes of point, polygon, and line feature types can be accessed to update the geometry of their data. Users can also create features using python code and then use them in geoprocessing tasks further on in the script.

Chapter 10 introduces readers to the Spatial Analyst module called arcpy.sa and the Image Analyst module, Arcpy.ia, to work with imagery and raster data types. This chapter also covers listing, describing, and working with imagery and raster data in ArcGIS Pro including using raster data in geoprocessing tools and calculating raster data.

The last chapter, Chapter 11, presents how to manage maps using python in ArcGIS Pro. Python can access the properties of ArcGIS Pro projects, manage the layers within a map, control which maps within an ArcGIS Pro project to work with, and export layouts from a map to various formats.

Python Scripting for ArcGIS Pro is a concise guide for novice or experienced python users who desire to employ the comprehensive
utilizing ArcGIS Pro into their workflows. This text presents the sometimes complex and technical subject of programming in a way that is approachable, reproducible, and digestible to the GIS practitioner. For experienced programmers who are left wanting more, Esri Press has also released Advanced Python Scripting for ArcGIS Pro.

Reviewed by: Dave Grolling, MPSGIS
dgrolling@gmail.com

Are you on social media? URISA is (except for Instagram… does anyone want to volunteer to take that on?)

Join our Facebook Group & Like/Follow the URISA Page
Join our LinkedIn Group & Follow the URISA Page
Follow URISA on Twitter

URISA’s GISCorps:
Join the Facebook Group & Like/Follow the URISA GISCorps Page
Follow the GISCorps LinkedIn Page
Follow GISCorps on Twitter

URISA’s Vanguard Cabinet:
Join the Facebook Group & Like/Follow the URISA Vanguard Cabinet Page
Follow the VC LinkedIn Page
Follow the Vanguard Cabinet on Twitter

And there are tons of URISA Chapters on Social Media. We’ll start a laundry list soon, but if you search for “URISA” in any of the platforms, chapter accounts pop up.

Announcing the Excellence in GIS Webinar Series

Celebrating the 40th Anniversary of URISA’s Exemplary Systems in Government Awards

Learn about the systems that were awarded 2020 ESIG Awards during these virtual showcase presentations.

- March 1, 2021: Town of Flower Mound, Texas – Citizen Camera Program - Single Process, Distinguished System
  Presenter: Nicole Dogan, GISP, Senior GIS Analyst, Town of Flower Mound, Texas

- April 5, 2021: City of Phoenix Street Transportation Department – Interactive Pavement Maintenance Dashboard - Single Process, Exemplary System
  Presenter: Curtis Pulford, GIS Coordinator, City of Phoenix – Street Transportation Department, Phoenix, Arizona

  Presenter: Michael Shean, GISP, GIS Supervisor, Maryland National Capital Park & Planning Commission, Upper Marlboro, Maryland

- June 14, 2021: Palm Beach County Water Utilities Department – Enterprise GIS Portal Implementation - Enterprise, Exemplary System
  Presenter: Danny Thorpe, Systems Administrator III, Palm Beach County Water Utilities Department, West Palm Beach, Florida

Free for URISA members. Register in advance.
Apply for a 2021 URISA ESIG™ Award!

Has your organization improved the delivery and quality of government services through the application of geospatial information technology? If so, that achievement should be recognized and shared with your peers. Nominate your organization for a prestigious URISA Exemplary Systems in Government (ESIG™) Award. Or convince a colleague to participate!

Why Participate?

“By participating in the ESIG process we are able to demonstrate how GIS technology benefits the whole organization in a very broad scope. Winning the award also greatly increased “GIS awareness” in the organization. The project eventually received an internal “City Manager Award”, boosting the importance of GIS in the organization’s technology environment.” - Nianwei Liu, GISP, Senior System Analyst, City of Charlotte, NC - Virtual Charlotte, ESIG Enterprise Systems Category Winner

"One of the most rewarding aspects of participating in the ESIG Awards process was the rare opportunity to formally acknowledge the outstanding efforts of our staff and regional partner agencies for their collaborative work. Recognition of their achievements by URISA’s respected community of GIS professionals and peers has provided quite a charge." - Eric Brandt, GISP, GIS Program Manager, Lane Council of Governments, OR - Regional Land Information Database (RLID), ESIG Enterprise Systems Category - Distinguished System

Winners will be recognized during the Awards Luncheon at GIS-Pro 2021 in Baltimore. One person from each winning and distinguished system will receive a complimentary full registration for the conference. ESIG award recipients will have the opportunity to showcase their accomplishments during the Awards Ceremony (see examples of recent winners’ videos here) and in a session during the conference. Winners will receive additional recognition in URISA publications and an announcement of their accomplishment will be made to media representatives around the world.

In order for the ESIG™ Review Team to fairly evaluate each system, specific information (A-F below) must be included in your submission. When submitting this application, send it as an email attachment to URISA at wnelson@urisa.org in PDF or Microsoft Word format. Include “ESIG Application” in the email subject field. Provide all requested information in your submission. Incomplete applications will not be considered.

The application deadline is June 7, 2021.

A. System
1. Name of system and ESIG™ category for which you are applying (Enterprise System or Single Process System).
ESIG™ Award Categories:

- **Enterprise Systems**: Systems in this category are outstanding and working examples of using information systems technology in a multi-department environment as part of an integrated process. These systems exemplify effective use of technology yielding widespread improvements in the process(es) and/or service(s) involved and/or cost savings to the organization.

- **Single Process Systems**: Systems in this category are outstanding and working examples of applying information system technology to automate a specific SINGLE process or operation involving one department or sub-unit of an agency. The system application results in extended and/or improved government services that are more efficient and/or save money.

2. A letter from the executive administrator authorizing submission of the system application (letters must be signed and scanned).
3. One (1) page, or less, summary of what the system accomplishes and why it is exemplary.
4. Three “user testimonials”. These testimonials should include the title of the system, the person’s name, job title (if relevant), a statement of what specific ways the system improves their work and/or the work of their organization, and how frequently they use the system (testimonials may be signed and scanned).
B. Jurisdiction
1. Name of jurisdiction
2. Population served by the organization/agency
3. Annual total budget for jurisdiction
4. Name, title, and address of chief elected and/or appointed official
5. Name, title, address, telephone, FAX, and email for contact person for system

You must answer each of the following questions. Please cross-reference your responses to each of the topics/questions listed below. Be sure that your responses are clearly written and sufficiently comprehensive for reviewers to develop a clear understanding of the system. Responses should be in complete sentences and as brief as possible while communicating the necessary information. If appropriate, include graphics.

C. System Design
1. What motivated the system development?
2. What specific service or services was the system intended to improve?
3. What, if any, unexpected benefits did you achieve?
4. What system design problems were encountered?
5. What differentiates this system from other similar systems?

D. Implementation
1. What phases did you go through in developing the system?
2. Were there any modifications to the original system design? Why? What?

E. Organizational Impact
1. What user community does the system serve and how?
2. What are the ultimate decisions/operations/services being affected? If appropriate, provide a few examples including, but not limited to: screen input/output forms, paper products, or other descriptive graphics.
3. What were the quantitative and qualitative impacts of the system?
4. What effect has the system had on productivity?
5. What, if any, other impacts has the system had?
6. How did the system change the way business is conducted with and/or service delivered to clients? Give specific examples comparing the old way with the new.

F. System Resources
1. What are the system’s primary hardware components? Give a brief list or description of the hardware configuration supporting the system.
2. What are the system’s primary software components? Describe the primary software and, if a commercial package, any customizations required for the system.
3. What data does the system work with? List and briefly describe the database(s).
4. What staff resources were required to implement the system? (i.e., report approximate staff and consultant time as FTE’s)
5. Comment on anything unusual about the resources used to develop your system, such as data, software, personnel and financing.

Application Deadline: June 7, 2021

Join the exclusive list of ESIG™ Award winners. You are strongly encouraged to review previous winning submissions here: http://www.urisa.org/awards/exemplary-systems-in-government/

If you’ve successfully improved the way in which government operates, through the use of geospatial information technology, you should apply for a 2021 URISA ESIG™ Award. If you have any questions, contact URISA Headquarters at (847) 824-6300 or wnelson@urisa.org.
URISA GIS Leadership Academy – Virtual & (hopefully) In-Person

Just announced: The next virtual Academy will take place April 12-16, 2021

Last year, the URISA GIS Leadership Academy faculty re-tooled to optimize delivery for instructor-led online GIS leadership training. The inaugural Virtual URISA GIS Leadership Academy took place during the week of August 3-7 to extremely positive reviews. And we did it again during the week of November 9-13. Both virtual GLAs reached capacity in a few days. A few responses from attendees who were asked for the ‘greatest takeaway’ from the virtual Academy:

- Engaging with professionals in interesting and fun conversations, learning from amazing instructors, and adding beneficial tools to my toolbox. The best leadership conference!
- My biggest takeaway was the steps I need to follow in order to build a thriving GIS department.
- There are too many take-aways to list. It seems like this course has been in this virtual format for many years. The instructors presented material that was excellent and they really pushed the students to interact and think of realistic scenarios throughout the entire week. Very beneficial course for any GIS professional especially one that is either pursuing a leadership role or currently in one.
- The team building/management aspect. Personally, the best part was that it got my pumped to start focusing more on the management aspect of my job!

Virtual class size will be limited to 50 individuals. We will offer the virtual GLA in April and sincerely hope that the in-person programs can take place in June, August, and November. For details click here.

The GLA has likely been on your GIS professional development wish list for some time. Take advantage of the opportunity and register today! Click here.
Save the Date!
We are all hoping that we can meet in person in Baltimore this October for GIS-Pro 2021. Conference planning will begin soon with a Call for Presentation Proposals, so start thinking about what you might like to share. We know that anything can happen between now and then and that travel will likely still be a concern/issue. We will certainly incorporate some sort of virtual component to the conference next Fall. Stay safe!

GIS-Pro 2021
October 3-6, 2021 • Baltimore, MD

UVM’s Geographic Information Systems (GIS) and Data Communications Professional Certificate

- Engage with the latest, cutting-edge technologies
- Develop critical analysis & problem-solving skills
- Ideal for those both new to or seeking to enhance their career

Fully online program
Spring Courses now open for registration
- Geospatial Computation: Starts February 1
- Introduction to GIS: Starts March 17

Additional courses starting May 2021

Register Now
Looking forward to connecting during the conference virtually! Registration and additional participation details are online: https://www.urisa.org/valtech

Mark your calendars for next year’s 25th Anniversary Conference in New Orleans! It is sure to be a memorable event celebrating the evolution of technology to support the Assessor’s Office!

GIS/Valuation Technologies Conference in Louisville last March, we had to cancel the event due to the COVID-19 pandemic and we really hoped that the community would be able to meet in-person this year. Unfortunately, that is not yet possible. So, URISA and IAAO are moving forward with a virtual GIS/Valuation Conference in 2021. The 24th annual conference will take place during the week of March 22-26, 2021.

Thank you to the dedicated committee of volunteers, led by Conference Chair Dan Fasteen, PhD, Aumentum Technologies; Program Chair, Alex Hepp, Cyclomedia; and Associate Program Chair, Kevin Keene, City of Philadelphia, who collaborated and guided the migration to a virtual conference.

The conference program is impressive, with optional pre- and post-conference workshops, keynote addresses, and breakout sessions focused on GIS Technologies, Leadership & Policy, and Modeling & Valuation. We’ll also have Lunch & Learn opportunities and a Partner Track for our conference sponsors to showcase solutions.

Review the Comprehensive Conference Program

GIS/Valuation Technologies Conference Registration: The cost to participate – for attendees and our partners – has been significantly reduced (by 50% or more). IAAO and URISA members qualify immediately for discounted registration rates and young professional and student registration fees are further discounted.

Optional Workshops: Workshops will take place as noted below and an additional fee is required. First-come first served based on availability (capacity is limited for each). You may select more than one workshop if they are not scheduled at the same time. Click here for a detailed description of each workshop.

Monday, March 22
- 9:00 AM – 12:00 Noon: Uncovering Patterns and Modeling Relationships in Valuation Data Using Business Intelligence Tools & GIS ($25 fee)
- 9:00 AM – 12:00 Noon: Artificial Intelligence and Machine Learning in Assessment ($25 fee)
- 1:00 – 4:00 PM: Using GIS to Achieve Racial Equity and Social Justice ($25 fee)

Thursday, March 25
- 1:00 – 4:00 PM: Leading from the Middle ($25 fee)

Friday, March 26
- 9:00 AM – 12:00 Noon: Benefits of ArcGIS Pro and the Parcel Fabric ($25 fee)

Multi-Sessions/Day Course: Monday afternoon/Thursday afternoon/All day on Friday
- Mass Appraisal Valuation Modeling in R or SPSS ($150 fee)

Looking forward to connecting during the conference virtually! Registration and additional participation details are online: https://www.urisa.org/valtech

Mark your calendars for next year’s 25th Anniversary Conference in New Orleans! It is sure to be a memorable event celebrating the evolution of technology to support the Assessor’s Office!
PROVIDE
Mapping for recovery, rescue operations and development in underprivileged countries; analysis, cartography, app development, needs assessments, and technical workshops

RESPOND
Coordinating and mobilizing volunteer services to provide humanitarian, recovery and disaster relief assistance; hurricanes, earthquakes, tsunamis, volcanoes, cyclones

CARE
Nearly 3,000 volunteers, completing nearly 300 missions in 66 countries, contributing over 80,000 hours

FUND
Travel costs for volunteers
Recruitment of volunteers
Technology, communication and outreach
Emergency assistance fund

Your charitable donations today can help us continue our mission to assist impoverished communities and provide global disaster relief. GISCorps, a 501c3 Charitable Organization, is funded by donations and volunteers. Donate online www.giscorps.org
Welcome New URISA Members

Zachary Adams — Londonderry, NH
Patrick Alexander — Houston Police Department — Houston, TX
Ben Armstrong — City of Mobile — Mobile, AL
Sarmen Bajari — Glendale, CA
Sean Barclay, GISP — Tahoe City PUD — Tahoe City, CA
Luce Bassetti, GISP — Jacobs Engineering Group — Sacramento, CA
Eric Belt — Cottleville, MO
Cheryl Benjamin — Washington State University — Pullman, WA
Wendy Berelson, GISP — University of Wyoming — Laramie, WY
Nemanja Bisenic — University of Southern California — Los Angeles, CA
Casey Blake — Ritter GIS Inc — Westland, MI
Phillip Breaux, GISP — Louisiana State University — Lafayette, LA
Jennifer Buchanan, GISP, ENV SP — GEI Consultants — Citrus Heights, CA
Connor Burns — CycloMedia Technology Inc — Long Beach, CA
Alyssia Church — City of Cibolo — Cibolo, TX
Marisa Cordell — University of West Florida — Panama City, FL
Cameron Dean — Unalaska, AK
Kyle DeBlare — North Carolina State University — Fayetteville, NC
Mengjie Deng — University of Southern California — Los Angeles, CA
Lauren DiGiovanni — Jeffcom911 — Arvada, CO
Lisa Dilger — Penn State — University Park, PA
Misty Downing, GISP — San Antonio River Authority — San Antonio, TX
Bruce Eaves — City of Cibolo — Cibolo, TX
Wendy Edwards — Manatee County Information Technology Dept. — St Petersburg, FL
Peter Erlenbach — North Carolina State University — Raleigh, NC
Victoria Faret — Environmental Science Services Inc — Denham Springs, LA
Sarah Gosnell — Centennial, CO
Kaylee Herrick — Department of Defense — VISALIA, CA
Dallas Hoffman — North Carolina State University — Raleigh, NC
Ethan Homesley — Hampstead, MD
Rebecca Huotson — Clarksville, TN
Adela Jacinto — Harris County Appraisal District — Houston, TX
Meghan Jones — LJB Inc — Dayton, OH
Tanner Jones — Providence Engineering — Baton Rouge, LA
Alex Kesars — GISinc — Gilbert, AZ
Ji-Young Kim, GISP — ECC — Quincy, MA
Carolyn Koh — University of Southern California — Los Angeles, CA
Natalie Koncki — Tige & Bond — Worcester, MA
Matt Lamborn — Napa County Public — Napa, CA
Erik Larson — Shawnee State University — Portsmouth, OH
Bridget Lawlor, GISP — City of Sandy Springs — Sandy Springs, GA
Samantha Lee — North Carolina State University — Raleigh, NC
Zhuan Loo — Osiris 9 Consulting — Jacksonville, FL
Candice Luebbering, GISP — GIS Certification Institute — Washington, DC
Sean Mangan, GISP — State of Minnesota — Saint Paul, MN
Gabriella Marquez — Long Beach, CA
Mike Marvin — Clackamas County Oregon — Oregon City, OR
Christina McGrath — Chantilly, VA
Barbara McKay Archibald, MA, CGIS — Pennsylvania State University — Altoona, PA
Daniel Narsavage, GISP — Idaho Department of Water Resources — Nampa, ID
Warren Navarro — SACOG — West Sacramento, CA
Corey Nesbit — North Carolina State University — Raleigh, NC
Rae Newman — City of Rockledge — Rockledge, FL
Travis Newton — North Carolina State University — Raleigh, NC
Katherine Nunn — Show Low, AZ
Stephanie Onisko, GISP — Jacobs — Portland, OR
Frank Orr — Centennial, CO
Melissa Paminto — City of Clovis — Clovis, CA
Kayvan Patti — Springfield, VA
Laurie Pearce Price — Black Rock Resource Services LLC — Cedarville, CA
Lori Peltz-Lewis, GISP — Auburn, CA
Carrie Phillips — Town of Collierville — Collierville, TN
Randy Phillips — Portland, OR
Yocelyn Pina — University of Southern California — Los Angeles, CA
Kendal Price — Tahoe City Public Utility District — Reno, NV
Tracy Priebe — City of Rockledge — Rockledge, FL
Nathan Rinehart, GISP — EnSafe Inc — Smyrna, TN

Government Agency

Cherokee County (NC) GIS — Murphy, NC
City of Rockledge — Rockledge, FL
Indian Nations Council of Governments (INCOG) — Tulsa, OK
Newton County — Covington, GA
Welcome New Bronze Partner

CompassData, Inc. is a local Denver, Woman-Owned Small Business, with dedicated groups of professionals who have been in the forefront of the Geospatial industry since 1994. CompassData specializes in collecting high-quality, spatially-accurate data for Geographic Information Systems (GIS) applications, photogrammetry, and remotely-sensed data.

CompassData uses the latest in Global Positioning Systems (GPS Survey) technology combined with years of field experience and a proven system to ensure the accuracy and currency of our data. We are recognized as a leader in the geospatial community as accurate, professional, and timely solution providers.
Nominations due May 31, 2021
Anyone may nominate a person or organization for induction to URISA’s GIS Hall of Fame. To make a nomination, submit a written statement to URISA describing:

• The nominee's achievements, emphasizing significant and original contributions to the development or application of GIS concepts, tools, or resources, or to the GIS profession; and

• The significance of the nominee’s contributions, in terms of their enduring impact on the GIS field or profession, and their social benefit.

Hall of Fame laureates are expected to exemplify vision, leadership, perseverance, community-mindedness, professional involvement, and ethical behavior.

The nomination statement may be of any length, but it must be preceded by a one-page stand-alone summary and must include testimonials from three (3) individuals about the nominee and his/her impact or influence.

Email nomination statements to Wendy Nelson by May 31, 2021. A committee of past URISA Presidents will review all nominations and make recommendations to the URISA Board of Directors by mid-June.

The Hall of Fame Celebration occurs at URISA’s GIS-Pro Annual Conference. This honor may not be given every year, and, in some years, there may be multiple recipients.

Celebrate the 2020 URISA GIS Hall of Fame Inductee: URISA’s GISCorps

Preparing for GISP Certification – Virtual Workshop
When: Thursday, April 1, 2021 - 9:00 AM - 4:00 PM Central (with a one-hour break at 12:00 Noon Central Time)
Instructors:
• Wendy Peloquin, GISP, Account Executive, GISinc., Birmingham, AL
• Tripp Corbin, GISP, GIS Implementation Manager, Davey Resource Group, Dacula, GA
• Lynn Dupont, GISP ASLA, Principal Planner/GIS Manager, Regional Planning Commission, New Orleans, LA
• Golnaz Badr, PhD, GISP, Analytics Scientist, Ford Motor Company, Detroit, MI

The GISC Geospatial Core Technical Knowledge Exam will next be offered in early June 2021.

The GISP credential has become a respected and in-demand indication of your skills as a GIS professional. If you are pursuing the GISP credential, or are thinking of doing so, join us for this full-day workshop, as a group of GIS experts shares valuable information that can increase your chance of success.

Earning the GISP credential requires successfully completing an exam as well as a number of other application requirements.

The first part of the workshop will explore the reasons that the GISP credential is worth pursuing as well as what is involved in completing each part of the application. Then, we will explore the topics that you need to be familiar with for each of the knowledge areas covered by the GISP exam.

Information presented in this workshop is designed to help professionals who have extensive GIS education and experience but need to know what topics to review prior to taking the exam. It also will help individuals with some GIS experience that may be lacking in one or more areas covered by the exam and that needs to know where to find additional resources to study. This workshop will help you assess your knowledge of the content, sort out what is and is not covered on the exam, identify content areas you need to focus on, and even rediscover the joys of test-taking.

For more information about the GIS Certification Institute, click here.
Seats are limited to facilitate interaction. Register Now!
Fee: URISA Member $150; Nonmember $250
2021 Partner Directory

**URISA Platinum Corporate Partners**

- [Esri](#)
  
- [Michael Baker International](#)
  
**URISA Gold Corporate Partner**

- [Nearmap](#)

**URISA Silver Corporate Partners**

- [Cityworks](#)  
- [CycloMedia](#)  
- [DTS GIS](#)

**URISA Bronze Corporate Partners**

- [Clark Nexsen](#)
- [GeoDecisions](#)
- [NLT New Light Technologies](#)
- [Compass Data](#)
- [Pond](#)
URISA Business Partners

URISA Educational Institution Partners

For information about URISA Partnership, please visit:
### Federal
- US Census Bureau — Washington DC

### Tribal
- Seneca Nation of Indians — Salamanca NY

### State/Provincial
- California State Lands Commission — Sacramento CA
- Missouri Dept of Conservation — Columbia MO

### Regional
- Atlanta Regional Commission — Atlanta GA
- Great Lakes Community Action Partnership — Fremont OH
- Indian Nations Council of Governments (INCOG) — Tulsa, OK
- Metro — Portland OR
- Moulton Niguel Water District — Laguna Niguel, CA
- North Texas Tollway Authority — Plano TX
- Permian Basin MPO — Midland TX
- San Joaquin Valley Air Pollution Central District — Fresno CA
- Southern California Association of Governments — Los Angeles CA
- Texarkana Water Utilities — Texarkana TX

### County/Parish
- Ada County — Boise ID
- Adams County — Brighton CO
- Boulder County — Boulder CO
- Cherokee County (NC) GIS — Murphy, NC
- Clackamas County Oregon — Oregon City OR
- Clark County — Winchester KY
- Clay County — Moorhead MN
- Clerk-Recorder-Assessor, Santa Barbara County — Santa Barbara CA
- Columbia County Board of Commissioners — Evans GA
- County of Grande Prairie — Clairmont AB
- County of Maui Dept of Finance Real Property Assessment Division — Kahului HI
- County of Monterey — Salinas CA
- Cuyahoga County — Cleveland OH
- Dorchester County — Saint George SC
- Forsyth County — Cumming GA
- Forsyth County — Winston Salem NC
- Hall County — Gainesville GA
- Hanover County — Hanover VA
- Harris County Appraisal District — Houston TX
- Jefferson County - Alabama — Birmingham AL
- Lafayette Parish — Lafayette LA
- Linn County — Cedar Rapids IA
- Los Angeles County — Los Angeles CA
- Manatee County Information Technology Dept. — Bradenton FL
- Matanuska-Susitna Borough — Palmer AK
- Montgomery County Emergency Communication District — Conroe TX
- Newton County — Covington, GA
- Oklahoma County — Oklahoma City, OK
- Orange County Government — Orlando, FL
- Prince William County — Prince William VA
- Routt County — Steamboat Springs CO
- Skagit County — Mount Vernon WA
- Spotsylvania County — Spotsylvania, VA
- St. Johns County — Saint Augustine FL
- Strathcona County — Sherwood Park AB Canada
- Volusia County — Deland, FL
- Wasco County — The Dalles OR
- York County — York, SC

### Municipal
- City of Alexandria — Alexandria VA
- City of Bozeman — Bozeman MT
- City of Brentwood — Brentwood TN
- City of Burlington NC — Burlington NC
- City of Cape Coral — Cape Coral, FL
- City of Charleston — Charleston, SC
- City of Clovis — Clovis CA
- City of Hoover — Hoover AL
- City of Huntington Beach — Huntington Beach, CA
- City of Largo — Largo FL
- City of Las Cruces — Las Cruces, NM
- City of Lawrence — Lawrence KS
- City of Leduc — Leduc AB Canada
- City of Manitca — Manitca CA
- City of Mobile — Mobile AL
- City of Newport News — Newport News VA
- City of Rockledge — Rockledge, FL
- City of Sanlas — Sanlas CA
- City of Saint John — Saint John, NB Canada
- City of Suffolk, Virginia — Suffolk VA
- City of Temple — Temple TX
- City of Victoria — Victoria TX
- City of Westminster — Westminster MD
- City of Wilmington — Wilmington NC
- Denver Water — Denver CO
- Town of Collierville — Collierville TN
- Town of Dedham — Dedham MA
- Town of Flower Mound — Flower Mound TX
- Town of Lexington — Lexington MA
- Town of York — York ME
Mark Your COVID-19 Disruptions Calendar!

**March 22-26, 2021**
VIRTUAL GIS/Valuation Technologies Conference

**April 12-16, 2021**
Virtual URISA GIS Leadership Academy

**June 7-11, 2021**
URISA GIS Leadership Academy

**August 16-20, 2021**
URISA GIS Leadership Academy

**November 8-12, 2021**
URISA GIS Leadership Academy

**October 3-6, 2021**
GIS-Pro 2021

---

**THE GIS PROFESSIONAL**
A publication of URISA

**URISA**
701 Lee Street, Suite 960
Des Plaines, IL 60016
Phone (847) 824-6300
info@urisa.org
www.urisa.org

**Submissions**
Editor – Judy Colby-George, GISP, Spatial Alternatives, Yarmouth, ME
Managing Editor – Wendy Nelson, URISA

Disclaimer: The GIS Professional provides a venue for sharing ideas and opinions about topics of importance to the GIS community that are generally consistent with the views of URISA. We appreciate the contributions of all authors, while acknowledging that their views may not be entirely consistent with those of URISA and its affiliates.

---

A 365 day online community, URISA Connect, to discuss areas of interest, explore solutions and talk over challenges with your peers and leaders in the profession. Have you connected yet?