

the GIS PROFESSIONAL

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The Bus Factor I'll be Gone in a Day or Two

By Jordan Carmona, GISP, Town of Prosper, Texas

The Bus Factor is a darkly humorous turn of phrase describing key person risk that arose from software development and the consequence of losing project members that possess critical skills/knowledge. Put in cruder terms: if you were hit by a bus tomorrow, who could do your job, or even know what your job was? While the metaphor is grim, it can accurately describe the finality of losing a team member with whom you had no contact with outside of work. The results of such a separation can range from mildly inconvenient to absolutely devastating in terms of systems going offline, projects stalling out, irreparable breaks, and deliverables undelivered. We'll discuss strategies to mitigate these risks across the spectrum of organizational sizes along with instructions on using widely-available technologies.

The Loneliest Number

The term is meant to quantify the number of project members that would need to be absent to create chaos. A factor of 1 would be the riskiest model, with each increase providing substantially more protection to your organization. However, with most GIS shops being a one-person operation, it may seem that your Bus Factor could never be greater than 1. At this basic level, there will almost always be a disruption to the flow of work. Despite a quick turnaround in hiring, the interruptions could span months. It doesn't take much to imagine the horrors of crawling through an unknown network, digging into the husk of a former employee's Outlook data file for project archives, or being emailed a pdf map to replicate and then searching through mounds of "Export_Output"-style

shapefiles and map templates with names like "final2_maprequest_new".

At this size of organization, one of the best outcomes that we can hope for is mitigation through documentation. While not the most exciting of topics, project documentation is vital and plenty has been written about it by people far more knowledgeable than me. I'd like to hit on some of the highlights and ethos of where to spend your energy in the realm of documentation.

For digital work, data is both nonrival and has near zero marginal cost to replicate; meaning, the largest cost to an organization is the development of the deliverable, afterwards it can be used and maintained with minimal upkeep. As such, keeping track of template files is incredibly important-- --this is relatively easy with an MXD or APRX but requires additional effort with documenting commercial off-the-shelf (COTS) products that may have a large degree of customization (I'm looking at you ArcGIS Online). With template files, one of the greatest dangers is not updating source destinations after a major infrastructure upgrade; think about the last time your GIS database had a name change or when you migrated networks?

The other foundational rule of documentation is one of the most overlooked areas of data governance generally, metadata. Your data needs a dictionary. It needs an intent. And if you aren't aware of the data provenance then how will it be authenticated, updated, or re-created? If you would like a slightly terrifying



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exercise, try running [this meta-data dump](#) on your GIS repository and emailing it to your supervisor. Again, the goal of a one-person shop is not to prevent disruption but to ask yourself, if a competent replacement was hired, would they be able to step into this role with minimal effort?

A Broader View of Indispensable

Who on your team represents a single point of failure or bottleneck? As a thought experiment, go through each member of your team and enumerate their projects and skillset. If you're having trouble with either of those, or their skillset is unique, you've found a Bus Factor of 1. This can be repeated for known deliverables or other statutory responsibilities. The management types among us practicing a "need-to-know" style represent a Bus Factor of 1 as well. While Saturday morning cartoons taught me that knowing is half the battle, the more exciting part of this story is what to do next.

Ideally, your Bus Factor should be as large as your team. If this strikes you as a hot take and you want to talk to me about the merits of specialization or titled roles, feel free; I'll respond with this: you should be investing in your employees. Full stop. Aside from that, there are definite benefits for having a 360-degree view of your unit and how it interacts with the rest of your organization. This doesn't mean that the efficacy of everyone's skillset needs to be the same, but everyone should be familiar, and able to interact, with a workflow if the need arises.

There are many ways to increase the Bus Factor for common deliverables: lunch and learns, side-by-sides or shadowing, and how-to videos.

There are many ways to increase the Bus Factor for common deliverables: lunch and learns, side-by-sides or shadowing, and how-to videos. The lunch and learn serves multiple purposes, it works as a team building activity, practice for presentations, and familiarizes staff members with a workflow; in the Before Time, this could be a fairly fun event with catered food from a local restaurant. In the Pandemic Time, this becomes a remote affair with lunch brought to you by your pantry. In the New Normal, a side-by-side or shadowing becomes a little less cramped as individuals don't need to physically huddle around a desk and everyone can have a front seat using a screen sharing technology. How-to videos are great and we'll delve into that in the companion video! Spoiler alert, it's not complicated and the tools to do it are free.

In terms of programming and knowledge work, increasing the Bus Factor takes a bit more effort or rather, a dedicated framework. My recommendation here is to adopt an agile methodology that makes use of the following artifacts: personal Kanban boards, code reviews, and version control. A publicly visible Kanban prioritizes what's important and allows the collaborative and inquisitive team to cross-train on new projects that enter the workspace. While a common practice in software engineering, code review is unheard of in most spatial departments. For the uninitiated, code review is a public assessment of programming scripts in terms of style, patterns, and overall usability. It's an excellent way to inform team members about the mechanics of an automation and to make sure that coding is consistent and legible amongst peers. This goes to the heart of the Bus Factor: your scripts are useless if the only person who knows how it works is you. Finally, version control attempts to cushion your code base against significant errors by providing provenance; when an item changed and why, and the ability to rollback your code to a



point where it actually worked. You should be using Git. It's easy to learn and there are a variety of platforms to choose from. Consider also opening your source code (through platforms like GitHub or GitLab). It's a way to collaborate across organizations and to benefit beyond the numbers/talent of your immediate team.

An Ounce of Prevention

The axiom attributed to Benjamin Franklin places a 16:1 ratio on preventing a disaster as opposed to the cost of responding to it; in a world of mega-fires, pandemic, and Snowmageddons that ratio seems somewhat provincial. In terms of our own organizations, the disruption of any instantaneously available deliverable incurs an astronomical cost above what was effectively zero. As horrifying as these worst-case scenarios may be, people are pretty great at being complacent. From a biological perspective, it probably helps us to live longer if we're not in a constant state of anxiety about the future. Our underlying motivations for increasing our Bus Factor do not need to be rooted in these sorts of negative emotions, and can instead be undertaken in a spirit of commitment to transparency and life-long learning.

Some ideas to increase transparency are daily standups, personal Kanban boards, weekly one-on-ones, and open-door policies for executive-level meetings.

One of the great tragedies of the digital revolution is the abuse of the principle of least privilege, restricting access to data and programs unless *ordained* as necessary for a certain user or workflow. Aside from over-securing data and inhibiting innovation, this process tends to bleed well beyond the system architecture and deprives an organization of its greatest resources: access to human capital. Transparency is both prevention and cure for this state of affairs. Obviously, building a culture of transparency is harder than maintaining one. Some ideas to increase transparency are daily standups, personal Kanban boards, weekly one-on-ones, and open-door policies for executive-level meetings. The undercurrent here is a level respect for employees at all levels of the organization and the idea that contributions can come from anywhere. These

contributions don't happen in a vacuum, work must be visible!

During this Second Machine Age, some of the defining hallmarks are velocity, volume, and variety of information. If there was ever a time when a person could satisfy themselves with never learning anything new, that time has most certainly passed. Aside from the benefits of personal actualization, our current environment demands that we constantly learn to maintain our position within it. At your organization learning should be encouraged, subsidized, and celebrated. The absolute worst outcome here is failing to invest in your employees; a self-inflicted anemia, starving them of new knowledge and skills. In the pandemic, we have been inundated with an enormous amount of remote learning opportunities that were previously restricted to paid, in-person offerings; a future struggle will be to maintain our access to these resources when the

At your organization learning should be encouraged, subsidized, and celebrated.

masks come off.

With the end in mind, both figuratively and literally, the Bus Factor is less klaxon and more health gauge for your organization. While some areas of your organization may be quite technically advanced, your overall maturity is low if those capabilities are based on personality and not institutionally defined. The paths to increase your Bus Factor follow many best practices of winning organizational cultures: personal growth, collaboration, and effective communication. In that sense, the Bus Factor is less about the destination and more the journey. Taking the time to document your work, working well with others, and learning new things, saves time in the long-term and fosters a more attractive workplace overall.



Check out Jordan's companion video discussing video documentation of your workflows.



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!

GIS Software Functionality for Redistricting¹

Blake Esselstyn, AICP GISP and Mark Salling, PhD GISP



Redistricting the nation's congressional districts, state legislatures, and local councils is just around the corner—as soon as the Census Bureau produces the delayed 2020 Census data. The process these days relies on GIS tools, and a number of vendors and others offer specialized GIS software for redistricting. A GIS practitioner might ask, “How does software for redistricting differ from a typical GIS package?” After all, if the central process of redistricting is drawing and mapping new geographic districts, shouldn't a GIS have what's needed? The traditional vector-based GIS provides a great deal of it, but there are additional features designed for redistricting that bring vital convenience to the process.

The process of creating new districts involves many bread-and-butter GIS operations. Navigating around an area, adding (and hiding) different layers, examining quantitative attributes of features, selecting, merging, and editing polygons, and publishing maps are just a few. Most of the available redistricting software offerings were in fact built on top of a pre-existing GIS platform,

such as MapBox, Esri's ArcEngine, Maptitude, and QGIS. Here we describe additional redistricting functions, ranging from the indispensable core tools to some of the latest cutting-edge functions that may be of use for redistricting practitioners. Many, if not most, of these specialized functions are available in the web-based applications as well as desktop systems. Specific redistricting software systems, both desktop and web-based versions, are described in the forthcoming “Redistricting: a Guide for the GIS Community”.

The most fundamental components

Districts are built from smaller census geographies, generally the census block, though larger geographic entities in the Census Bureau's TIGER hierarchical database such as county subdivisions and counties can be used as well. Thus, a district might be a collection of counties, townships and cities, and blocks. VTDs are another layer provided in the TIGER system, representing voting tabulation areas,

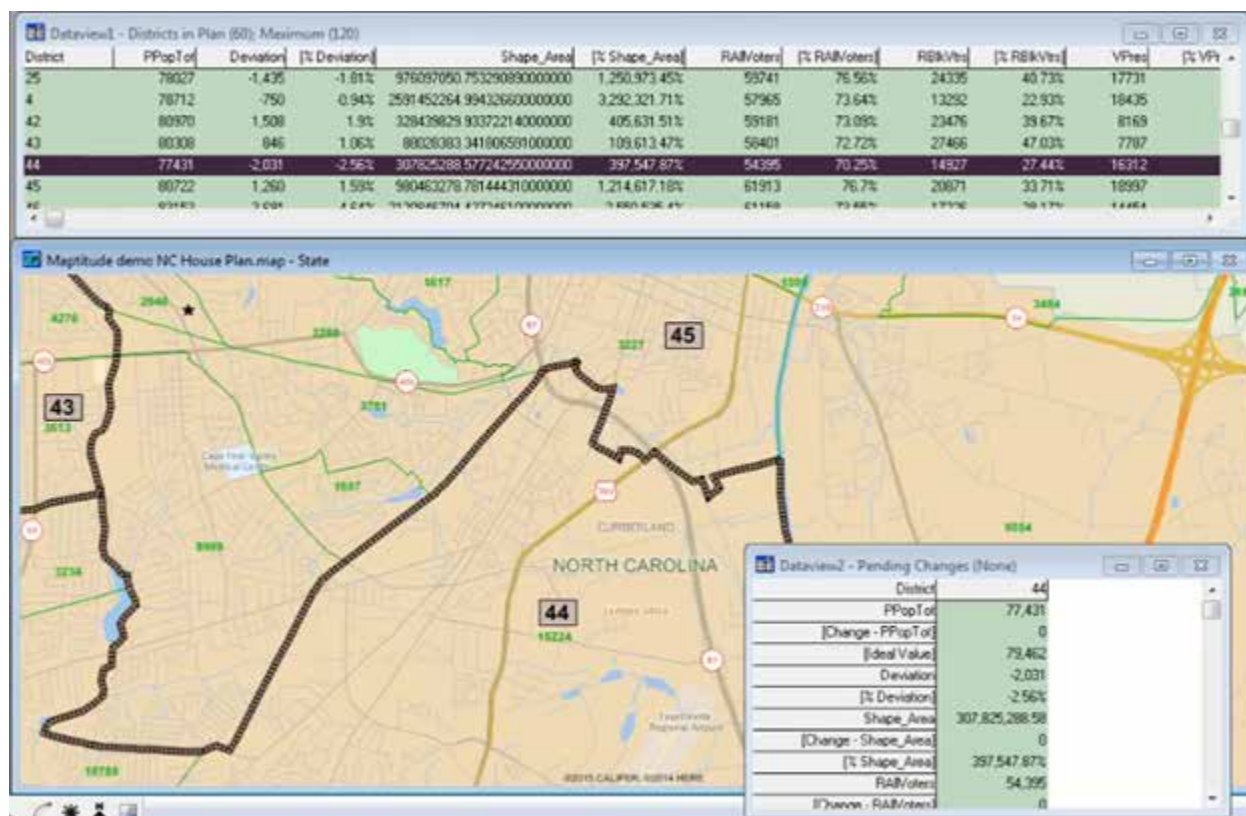


Figure 1: Identifying a District in Table and the Pending Changes Window Source: Blake Esselstyn, AICP, GISP · Principal, FrontWater, LLC + Mapfigure Consulting

1 This article is based on a section of a larger, forthcoming work titled “Redistricting: a Guide for the GIS Community”.

most often known as precincts. At its most basic level though, in most cases a district is simply an aggregation of census blocks.

Accordingly, the most crucial added functionality of redistricting tools to a GIS has to do with the aggregation of the shapes and attributes of a district's component parts.

Aggregated statistics

The manual process of creating districts involves selecting census geographic entities that will become part of each district. The primary required objective is population equality among districts and it is tremendously helpful to see—at each step—the total population of the districts as a user is building each district. Most redistricting software packages display a separate table which shows the aggregated population attributes of each district under construction. Most also provide a column in that table showing how close each district is to the desired ideal population, generally the average population size. Many of them also allow for a preview of the effects before the user has “committed” that edit. Figure 1 is an example of how one system looks.

For example, one key metric users might consider when looking to satisfy the requirements of the Voting Rights Act, which concerns providing opportunity for minorities to elect candidates of their choice, is the %BVAP, or the percentage of the voting age population that is Black. The block-level redistricting data (the Census Bureau's P.L.94-171 database) provide the number of persons and persons age 18 and over by race and Hispanic ethnicity at every level of geography. But the %BVAP statistic requires that the sum of each race or ethnicity voting age population must be divided by each district's total population age 18 or over (and multiplied by 100) to yield the voting age percentage of the racial or ethnic minority.

The user specifies the desired demographic statistics (such as %BVAP) using configuration settings, and the results are calculated automatically and shown alongside the total population each time the draft districts are updated. This feature saves several steps that would be required using standard GIS software functions.

If partisan information is deemed useful to the districting process (possibly as a criterion) a similar calculation can be provided based on data that the user or vendor supplies on recent election results for the geographic units being combined. A partisan index can be created by dividing the sum of votes for a party's candidate(s) in previous races by the total number of votes cast (or the two-party total). The resulting fraction provides a sense of how a party's candidate is likely to perform in a district. Election results are usually available at the precinct level, and some software includes tools to disaggregate those numbers down to the block level. Figure 2 is a screenshot used as an exhibit in a North Carolina partisan gerrymandering trial in 2019 and shows that the VTDs are shaded based on a partisan index formula like the one described above. RV indicates Republican Votes and DV indicates Democratic Votes from nine statewide races.

Compactness scores

Compactness of districts is often a goal for a districting plan. But there are a variety of methods to consider the compactness of a district or the overall compactness performance of an entire districting plan. While such methods are not standard tools in a typical GIS software package, most redistricting software systems allow for swift calculation of these measures. Some states or jurisdictions may

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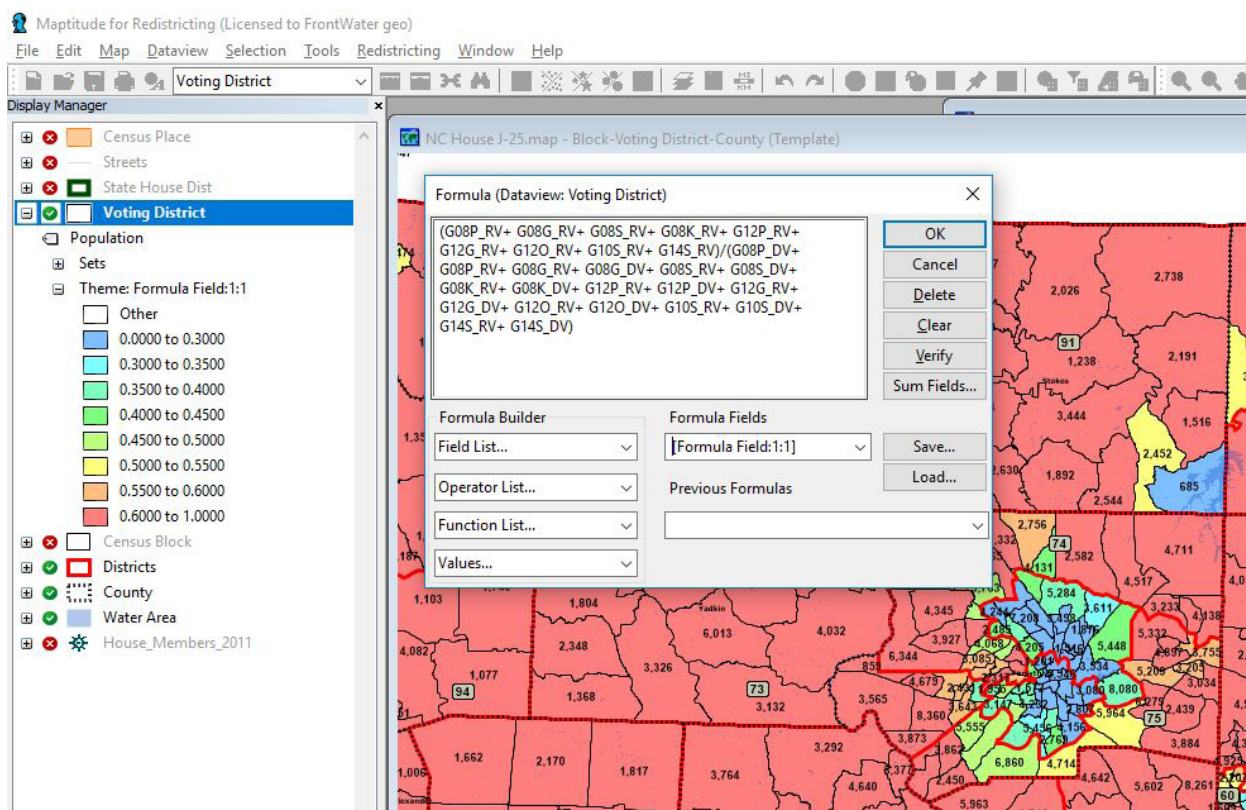


Figure 2: Example of a Partisan Index Calculation Source: Blake Esselstyn, AICP, GISP · Principal, FrontWater, LLC + Mapfigure Consulting

require documentation of how districts or plans perform on some of these measures, and similar statistics are often cited in court cases where plans are alleged to have been gerrymandered.

Integration of hierarchical data structures

If you're drawing a state-level plan, and choosing which counties to include in a district, especially in a large or heavily-populated state, you wouldn't want to be manually clicking on (selecting) all the voting districts (VTDs) or blocks in each county. That would be not only tedious, but also prone to error. Most software allows you to operate at multiple levels...for example, in moving back and forth between selecting counties, voting districts, or blocks, as one builds districts. Since each of these entities perfectly nests hierarchically within their parents' geographies (note that the "TI" in TIGER stands for Topologically Integrated), higher level selections can always be mapped down to blocks. Most redistricting software systems allow taking advantage of this kind of hierarchical spatial data relationship with minimal effort.

Additional helpful features

Without the functions mentioned above, the act of drawing districts would be much harder. The features listed below aren't quite as essential, but certainly add convenience. There are more than this handful of additional features, but this list includes some major ones.

- **A plan management utility**
Most tools have a dedicated, separate interface for initiating and managing plans, with additional features beyond how other geographic files are managed. Metadata such as the owner, descriptive notes, and date last edited can be easily viewed and compared. At least one even provides versioning features.
- **Plan integrity checks**
One single command can verify whether a plan has left any blocks unassigned to a district, or whether any district parts aren't contiguous. The same tests could be performed with other standard GIS processing steps, but having the preprogrammed tests makes it easier (and benefits the novice user).
- **Reports**
Care to see a summary of which cities and towns are in which districts, and which of them are divided—including statistics about how the area is divvied up? Many tools allow the simple creation of just such a report with only a few clicks. Or a preformatted report about the demographics of each district, or the compactness statistics, or whether incumbents are paired in a district. Generally, the pricier packages offer more such pre-designed reports.
- **Locking of districts**
When creating a plan, sometimes you're satisfied with a particular district—at least for the moment. Being able to lock one or more districts prevents that district or districts from being accidentally modified while you're working on others.

The nicely implemented versions of locking allow you to even select a county (for an active, unlocked district) that already has some sub-units assigned to locked districts, and it will assign only the subunits of that county that aren't in locked districts.

- **Comparison of plans**
One common part of a redistricting process is evaluating two or more plan candidates to see how they compare. Other than simply a visual comparison of a plan's maps, some tools allow comparison of various statistics such as overall compactness, population equality, or partisan proportionality, for example. The comparison function can permit the comparison of districts attributes, and even report on which subunits differ between the two plans.
- **Disaggregation**
As mentioned above, repetitive aggregation of statistics for districts is a crucial piece of what redistricting software offers. But some users will want to proportionally divide and assign estimated statistics to sub-geographies. For example, one can use block populations (or perhaps voter registrations) to estimate from a previous election how many votes in a precinct likely came from each block within the precinct. The more advanced programs have specialized tools for this task.
- **Written descriptions**
The final legal rendition of a districting plan is usually not a map of the plan, but a written description of the districts. Whether this written description is in the form of a listing of each district's component geographic units or in the form of a metes and bounds description of boundaries, some programs will automatically generate this cumbersome language.

New bells and whistles for this decade.

The redistricting guide from which this article is extracted provides more details on software tools, including a summary of each system and a brief description of what sets it apart. Yet, this districting cycle brings more application options than any previous cycle, and the vendors and developers are looking for ways to further distinguish themselves, so there may be additional functions in the near future. The following list briefly highlights some of the new features that software-makers are promoting as significant, but keep in mind that practitioners were able to do without these options ten years ago.

- **New metrics**
There are new measures of compactness, including a "cut edges" method, which is based on a network graph, and KIWYSI ("know it when you see it"). Other measures purport to help identify excessive partisan skew; these include the efficiency gap, mean-median difference, and declination metrics.
- **Integrated publishing of plans to the cloud—and commenting thereon**
Recognizing that citizens have become used to exploring interactive maps, some packages now facilitate the viewing of plans in web portals. Some even provide for viewers to add comments "pinned" to specific spots on the map.
- **Simultaneous collaborative editing**
Are you used to tools like Google Docs, where multiple people can be editing a document at the same time? At least one

app provides a similar option for collaborators working on a redistricting plan.

- **Touch-screen friendliness**
We're in an age of ubiquitous devices steered by fingers touching screens. Some of the new tools sport a reimagined interface in order to be much more usable via the touchscreen—not only for plan-making on an iPad, but also on a large-screen smartphone.
- **Algorithmic, or automated, district creation or editing**
These “smart” automated functions come in multiple flavors, ranging from automated “fixes” (e.g., automatically assigning a stranded donut hole unit to the district which surrounds it), to fully automated creation of plans based on pre-designated criteria. One vendor promises to provide automatically generated ensembles of plans (large samples of possible plans) with which to statistically compare officially proposed or approved plans. This enables assessment of whether the official

plan has outliers with respect to partisan performance or, conceivably, in the protection of minority voting rights.

Conclusion

Redistricting is an important application of GIS and the application of the technology will be especially useful during the next year or two. Use of GIS will change the nation's political geography, with major changes affecting all our lives well beyond. New specialized GIS software tools are making it relatively easy for even the less experienced user to get involved in drawing the boundaries. Additionally, the Internet is making these abilities accessible to concerned citizens and voting rights organizations. These developments expand the reach of GIS in the political realm and the GIS professional (and we include those without the certification) should be encouraged that our technology offers increasing opportunities for more people to play important roles in the process.



Virtual Learning

Don't miss these upcoming opportunities to learn:

Thursday, June 17, 2021 - GIS Return on Investment Workshop:

First time delivered virtually! Recently updated, this URISA Certified Workshop will be presented as a half-day course on Thursday, June 17. It will also be offered as a full-day course at GIS-Pro 2021 in Baltimore. Always a hot topic! Instructors: Doug Adams and Rebecca Somers

Determining Return on Investment (ROI) is an important task for identifying GIS project and program cost and benefits, securing support and funding, choosing among alternative components and tasks, and evaluating performance. ROI analysis is applicable to all stages of GIS project planning, development, operation, and expansion. Developing the metrics necessary to determine ROI, however, can be a daunting task. This workshop will present principles and methods to accomplish this goal.

The workshop will cover ROI basics, types of ROI, how to determine costs, how to determine and quantify benefits, categorizing the results, calculating different types of ROI, and interpreting, using, and presenting the results. Hands-on Exercises include identifying and

documenting costs, identifying and measuring benefits, and putting it together to develop an ROI analysis. Workshop participants will use their own computer for the exercises, using calculation tools provided by the workshop.

Half-price for URISA members (only \$75 - the nonmember fee is \$150). Register for this virtual workshop opportunity [here](#).

Tuesday, June 22, 2021 (3:00 Eastern/2:00 Central/1:00 Mountain/12:00 Noon Pacific): Digging a Little Deeper into ETL for NG9-1-1 GIS Data

This presentation gives an overview of ETL concepts before turning to a specific use case of loading local road centerlines into the NENA GIS Data Model. An educational product from URISA's NextGen 9-1-1 Task Force. Free for members.

Take advantage of your URISA member benefits and register for one or both events! <https://www.urisa.org/webinars>



This column highlights URISA committees.

History

GISCorps was conceived in October 2001 and became an official program of URISA in October 2003. Since then, GISCorps has developed and maintained a database of thousands of individuals with GIS skills who are interested in volunteering. Volunteers include both URISA and non-URISA members from all over the world. Currently, the GISCorps database includes over 7,350 volunteers, 1,550 people registered as Friends of GISCorps (who follow our work but do not volunteer), and 195 organizations that have partnered with GISCorps over the years.

Purpose

The purpose of URISA's GISCorps is to benefit communities in need by providing skilled GIS volunteers. GISCorps supports nonprofit organizations involved in humanitarian, environmental, economic development, community planning, health, and educational activities, among others. GISCorps also works to strengthen the local capacity of these organizations by encouraging them to adopt appropriate GIS technologies for their missions. In addition, GISCorps provides GIS support to government agencies during and after natural disasters.

GISCorps volunteers can earn credit toward becoming a Certified GIS Professional (GISP) from the [GIS Certification Institute](#). For those earning their initial certification, each volunteer hour is worth 0.05 points towards the "contribution to profession" category with a maximum of 8 points. For those renewing their certification, each volunteer hour is worth 0.15 points up to a maximum of 6 points.

Since 2003, GISCorps has launched 310 [projects](#) of varying sizes with 26 currently in progress. Projects vary from highly technical work requiring specialized skills to crowdsourced projects that almost anybody can participate in. GISCorps volunteers represent over [135 countries](#), with the majority living in North America.

For all projects, GISCorps is contacted by an organization requesting assistance. GISCorps then consults with the organization to learn more about their needs and mission. A Core Committee member is assigned to manage the project and writes up a job description which is then sent out to volunteers with suitable skills. After we receive applications for the job, we conduct interviews to identify the most suitable volunteer(s) for the position. We then



introduce the volunteer(s) to the requesting organization so they can begin work on the project. The GISCorps Core Committee member managing the project checks in with all project participants on a monthly basis to monitor the progress of each [project](#).

Membership and Affiliation with URISA

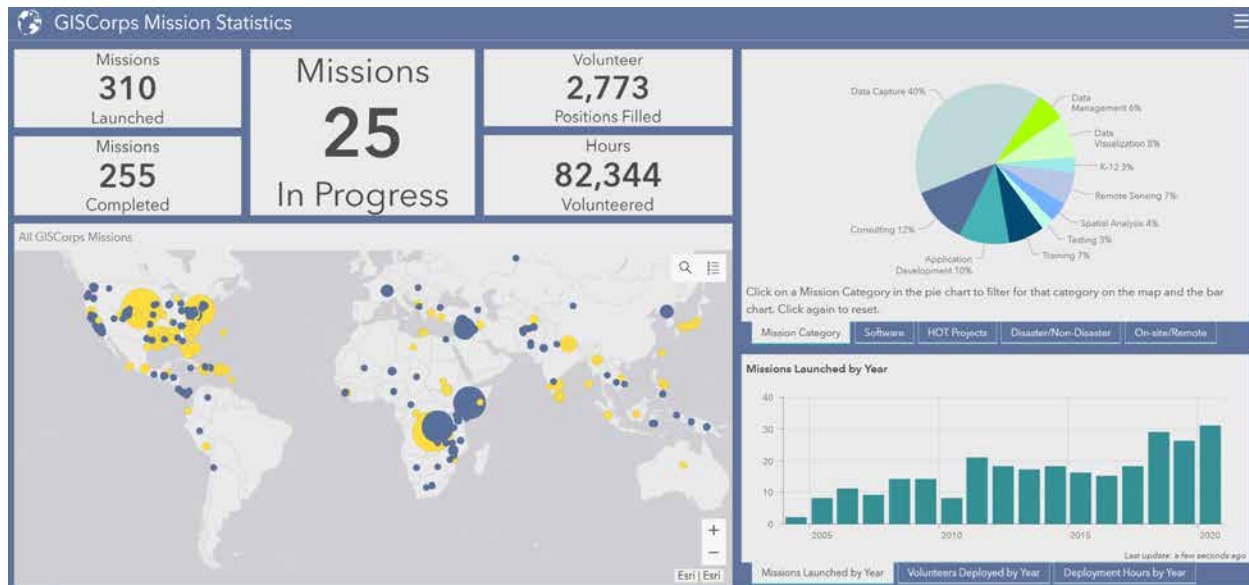
Members are added to the Core Committee by a vote of the current committee. Often, new members are active GISCorps volunteers who have worked on one or more projects and have demonstrated commitment to the mission of GISCorps. GISCorps volunteers represent a wide variety of professional backgrounds and bring a diverse set of skills. While some volunteers are URISA members, many others are not. As a result, URISA membership is not required to serve as a GISCorps volunteer or as a member of the Core Committee. In some cases, volunteering with GISCorps may be a GIS practitioner's first exposure to URISA. As such, GISCorps has the potential to serve as a source of new URISA membership.

GISCorps Policies and Procedures

GISCorps has a well defined set of [Organizing Principles and Procedures](#). These procedures are periodically reviewed and revised based on current needs. For instance, the Core Committee was recently expanded from seven to nine members. A new type of member focused on disaster response was added to help with short duration, but high intensity projects related to fires, hurricanes, and tornadoes.

In managing each mission, core committee members are responsible for following a number of internal standard operating procedures for recruiting individual volunteers, tracking how each project is progressing, ensuring each project is completed, and sending out certificates for GISP credit and letters of thanks to project volunteers. Core Committee members are expected to follow [URISA's GIS Code of Ethics](#) in addition to GISCorps' [GIS Code of Conduct](#).

Two years ago, GISCorps received a generous grant from Esri, which funded a part-time Program Coordinator position. The Program Coordinator has greatly facilitated the work of GISCorps by



improving processes and procedures and by assisting in reporting, coordination with other entities, system administration, and onboarding volunteers for all types of projects. This has allowed GISCorps to be more effective and increase capacity for the past two years and going forward. Recently, several large donations were received from companies and individuals to allow for the continued part-time support.

GISCorps Workgroups

GISCorps has had a number of committees and workgroups over the years that are formed on an as-needed basis. Currently there is one advisory board and two subcommittees:

- **Advisory Board** - The advisory board is composed of previous Core Committee members and are tasked with helping GISCorps with specific issues such as our recent G-suite migration, database design changes, and fundraising efforts.
- **Marketing Subcommittee** - The Marketing Subcommittee is composed of Advisory Board members and Core Committee members. It helps produce materials to increase awareness of GISCorps' work and develop fundraising ideas. This subcommittee coordinates with URISA's Marketing Committee to further outreach and fundraising efforts.
- **Disaster Subcommittee** - The disaster subcommittee is composed of several Core Committee members who manage

disaster projects. Disaster response projects are often short-term but highly time-consuming and require a great deal of flexibility.

Monthly Meetings

The GISCorps Core Committee and the Advisory Board meet on the third Thursday of each month. The agenda and minutes from all GISCorps meetings from 2003 to the present can be found at <https://www.giscorps.org/minutes-from-our-meetings/>.

New Members

Currently there are 8 Core Committee members and 3 Advisory Board members. Core Committee members serve terms of three years that may be renewed by a vote of the rest of the committee. We are currently looking for one more Core Committee member. Anyone interested in joining the Core Committee now or in the future is encouraged to email info@giscorps.org.

Catch up with the latest newsletter from URISA's GISCorps and learn about the spectacular impacts that volunteers are having across the globe.



PARTNER PROJECT PROFILE

City of Tacoma Streamlines the Strategic Planning Process to Address Affordable Housing and Housing Inequalities with GIS

Partner Project Profiles is a new, regular feature in The GIS Professional, highlighting solutions from our Corporate Partners.

By Keith Cooke, Industry Manager for Planning & Community Development at Esri

Tacoma, Washington's third-largest city, is facing a housing crisis amid rapid population growth. City officials recognized that the lack of affordable housing continues to affect lower-income and historically marginalized communities from securing a place to live. Over the last year, the economic impact of the COVID-19 pandemic has resulted in even more residents experiencing financial hardships. From 2010 to 2019, the region added three new residents for every new housing unit. This challenge has moved city officials and the planning department to address inadequate housing supply and increase housing affordability for the Tacoma community.

To respond to the affordable housing crisis, the city created Tacoma's Affordable Housing Action Strategy (AHAS). This strategy addresses challenges such as the lack of affordable housing for vulnerable communities and the scarcity of housing assistance resources and proposes solutions for low-income residents to secure housing. In 2020, the city initiated further action that would prioritize public engagement and feedback on the AHAS, with a deadline of six months. This led to the creation of the Home in Tacoma Project, built using ArcGIS StoryMaps, an interactive story-telling application. This project-focused approach educated the community about the benefits of diversifying housing types; the history of redlining, a discriminatory practice that made it difficult for people of color to become homeowners; and how the city is revisiting previous housing policies.



Explore the Home in Tacoma Project ArcGIS StoryMap story at arcg.is/0GCmCq and learn how to get involved.

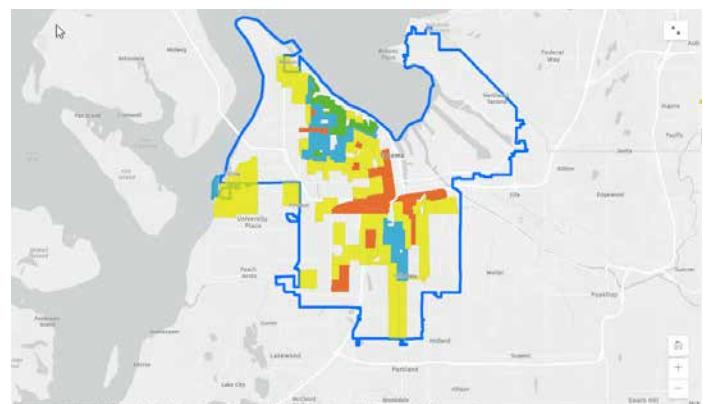
"When people hear the phrase affordable housing, they tend to imagine their neighborhood changing for the worst, with inappropriately sized apartments looming over their house. But Tacoma's strategy is about creating a strategic and inviting mix of housing types," says Christina Chelf, GIS supervisor at the City of Tacoma.

Chelf and her team, including Adriana Abramovich and John Shell, decided to lead with a geospatial approach as the most efficient and user-friendly tool to expedite the process of sharing information with the community. They created an application with interactive maps and a narrative to inform residents about the city's need to address its housing challenges and promote equitable, affordable housing solutions for all.

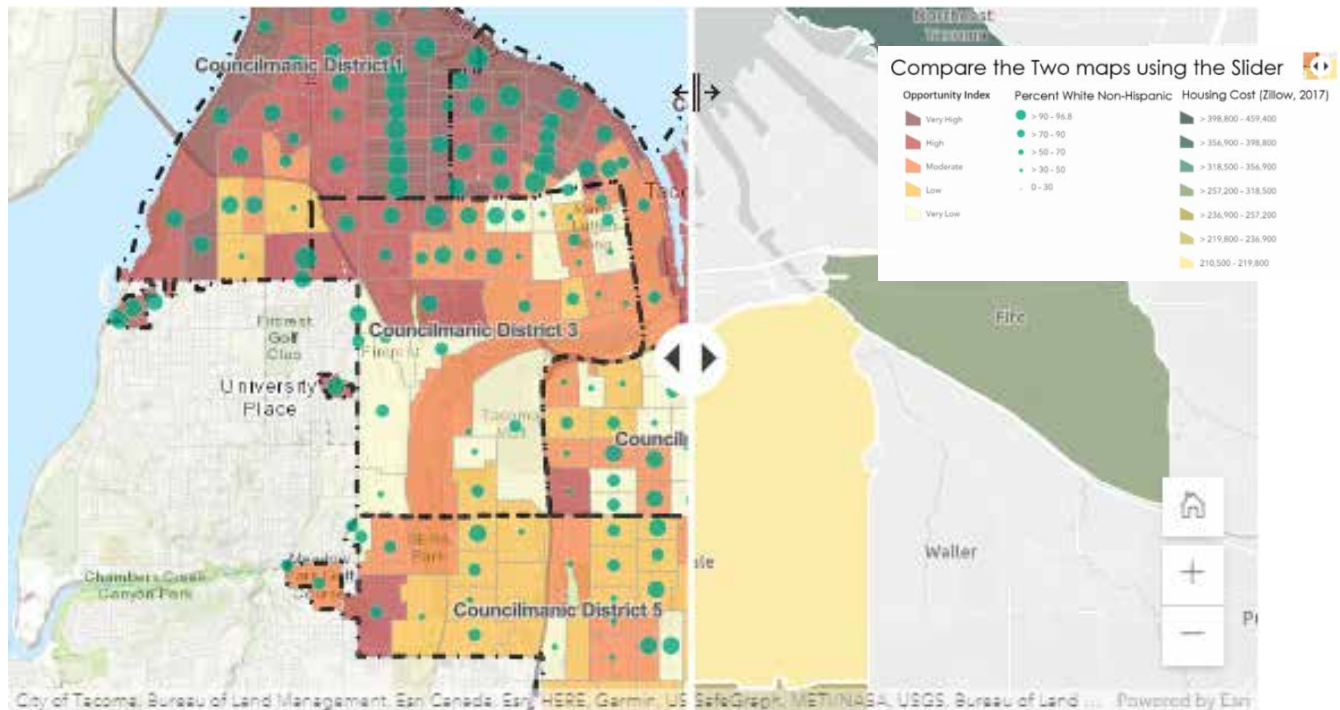
"We needed to show residents the benefits of diversifying affordable housing types across the city. We created an ArcGIS StoryMaps [story] that presented the urgent need for housing supply, addressed misconceptions about what a community with more diverse housing types might look like, and showed the historical housing inequities in the region and their enduring consequences," states Chelf. "This online tool helped us to quickly streamline the process of creating and sharing a new housing strategy with our community."

Mapping to Visualize Racial Inequities

With Tacoma's history of redlining in the 1920s, today's city officials wanted to address these racial inequities within the community. The city's planning department worked with the GIS team to incorporate maps into the Home in Tacoma Project to help residents understand the direct impact redlining had on under-resourced communities.



This map displays historical documentation comparing which areas experienced redlining with those whose population had greater access to affordable housing.



Equity and housing costs slider map of Tacoma displays the overlap between residents' access to affordable housing.

To visualize the relationship between affordability and the lack of housing, the department used the city's Equity Index map to show how historic housing policies were negatively impacting people of color. The data presented in the equity index influenced Tacoma's decision to prioritize creating more housing in areas with higher opportunity and to avoid gentrifying areas with racially diverse populations.

The project also showed that housing costs for many residents has continued to rise while household income has remained stagnant. This has resulted in around 40 percent of residents paying more than they can afford for housing. In response to the affordable housing inequities, Chelf and her team also used the map narrative to educate residents on how a diverse housing mix that included duplexes, townhomes, and single-family homes would serve the community more effectively. As a result, the map narrative gave the public greater insight and understanding about the community's need for a revitalized housing mix.

Gathering Feedback from the Community with GIS

As city staff reviewed plans for creating more affordable housing, they knew community feedback was an important part and attempted to engage with residents at every stage. Coinciding with the release of the Home in Tacoma Project, the city used an online survey to collect general feedback on the direction of the initiative. Since the launch of this story, over 800 community members have submitted their feedback on the affordable housing proposal.

Several months later, as the city began reviewing more specific future land-use changes, the city's GIS team again created a tool to support the project. Using Esri's ArcGIS Web AppBuilder, an app creation tool that requires no coding skill, the team collected over 200 location-specific comments on the Home in Tacoma Growth Scenarios map in just a few short weeks. The comments will be used

to guide the final proposed change.

"As the city moves forward with modifications to land use, we will definitely continue to present data by using ArcGIS StoryMaps to show the justifications for proposal changes. This project illustrates the importance of data and spatial analysis as well as how telling a story with spatial data can have a real impact on our community," said Chelf.

Future Plans for Regional Collaboration

While the City of Tacoma continues to gather valuable feedback from the community, the GIS and planning departments are collaborating with regional partners to explore affordable housing solutions regionally. Based on a regional analysis, they know they will need to increase housing units by 60,000 dwellings by 2040 to meet the demand of population growth. GIS technology will remain ingrained in the city's housing strategy to ensure that Tacoma continues to understand the community's needs, create programs based on data and analysis, and prioritize equity.

For more information on using focused citizen engagement tools to cultivate a partnership with your residents, visit go.esri.com/Tacoma-CE.



President's Corner

Kevin Mickey, GISP, president@urisa.org



Together we Succeed

Nearly six decades ago a group of visionaries came together and created The Urban and Regional Information Systems Association (URISA). URISA emanated from a small conference organized by Edgar Horwood and held on August 28, 1963 on the campus of the University of Southern California for the purpose of trading information on developments in regional information systems. Additional annual conferences followed and, at the 1966 Berkeley Conference, attendees approved a constitution establishing URISA. Since that time URISA has been dedicated to a set of strategic goals to promote, educate, and grow the use of geospatial technologies which today includes protecting GIS professionals and supporting them at all stages of their careers with essential training and resources.

While URISA has stayed true to its mission since its inception, it has constantly evolved to ensure the needs of members are met, to sustain and strengthen the organization and to realize the potential of the organization to make meaningful contributions to the profession. Some of this evolution has been gradual while some, like our recent transition to an entirely virtual existence during the pandemic, has occurred quite rapidly. In nearly every case we have learned from change and grown as an organization. From our pandemic experience, for example, we will leverage the knowledge we gained by applying it to ongoing virtual educational offerings while concurrently scheduling in person workshops, conferences and other events hopefully beginning this October with a face-to-face GIS Pro conference in Baltimore, Maryland.

Another example of how we have embraced change in order to grow as an organization is through the creation of chapters. The first URISA chapters originated in the early 1980s. Then, as now, chapters offered the opportunity to provide member services such as local conferences and chapter focused educational offerings, a voice in matters of importance to chapter members such as local policies impacting geospatial activities and other resources relevant to the members in the region. As time passed it became obvious that, while chapters played a critical role both within their local region and for the organization as a whole, the way they were formed led to some unanticipated challenges. Professional organizations are often structured so that when an individual joins they become a member of both the parent organization and their local chapter. The parent organization helps to support chapter programs and events, collaborating with local volunteer leaders. As a result of that relationship, there is a coordinated and exponential increase in the organization's ability to share knowledge, education and best practices and have a positive impact on the profession. Over time, as chapters gained in importance to local geospatial

issues, it became possible for a GIS professional to be a chapter only member without becoming a URISA member, although the distinction wasn't always clear to the chapter only members. This led to understandable confusion for members regarding which services their membership included, and which it did not.

Just over fifteen years ago, the URISA Board of Directors determined a need existed to clearly define URISA Chapters and clarify what membership in URISA means. In the years that followed, URISA and chapter leadership collaborated to formulate a strategy for redesigning the relationship between URISA and its chapters under what became known as the Unified Membership Model. To ensure the successful implementation of this model, the OneURISA initiative was established in 2016. The goal of OneURISA is to unify the membership of URISA chapters within the larger Organization. Toward that end, Chapters formalize their relationship with URISA by becoming a Chartered URISA Chapter. All members of a chartered URISA Chapter are members of URISA and all members of URISA are members of their local chartered URISA Chapter if one exists in their location. It is through this arrangement that all members, URISA Chapters, and the parent international organization share a unified vision, mission, and strategic framework. This improves the value of the Association at all levels. June 1, 2021 marks a key milestone in the realization of the OneURISA initiative. It is by that date that all existing URISA chapters in the United States are to sign the URISA Chapter Charter agreement in order to continue their affiliation with URISA. I am pleased to share that, as of the writing of this article, most have elected to do so. To learn the status of your chapter, visit <https://www.urisa.org/chapters/oneurisa/>.

I want take this opportunity to acknowledge the efforts of the dedicated leaders and other volunteers that, over the past few years, have led us to where we are today. This has required many hours of collaboration and individual effort all guided by a belief that together we can evolve into an organization that builds on the successes of the past and lays a path forward that will lead to even greater achievements in the future. The transition to a truly unified organization has at times been challenging and even frustrating. However, the same is often true of changes that lead to positive outcomes.

As a result of having a fully unified organization all URISA members will now have the same access to the many educational discounts, collaboration opportunities, ability to serve on committees and many other benefits that URISA membership provides in addition to the potentially significant benefits provided by their local chapter. URISA pledges to work with its chapters in

pursuit of our mutual goals to support our members and provide leadership in the geospatial community. For those of you reading this article that are not currently located within the boundaries of a URISA Chapter, please consider joining one or more of the many chapters that exist elsewhere – you do not need to be located within a chapter's boundaries to join. Additionally, we look forward to creating a new chapter in your area so that you too can experience the combined benefits of belonging to a local chapter within an international organization. It only takes 10 individuals to form a chapter. If you are interested in being part of that adventure, please reach out and we will be glad to work with you to make it happen.

The URISA story is only 54 years young. Given all that we have accomplished these past five decades, imagine what we can achieve in the next five. I believe that as an organization we will continue to evolve to meet the opportunities and challenges that arise. As members of this organization, we will support the profession as well as one another. We have many new initiatives underway, a growing cadre of talented and dedicated young and emerging professionals and a commitment to continue to do better. Our path to success may not always be simple, but of one thing I am certain. By working together, we will succeed.

URISA Vanguard Cabinet Hosts 2021 University Student & Young Professional Competition



2019 Competition Winners, Safa Ridene and Taylor Esco celebrate with Keri Brennan.

URISA's Vanguard Cabinet is proud to host the fifth annual Digital Competition to promote the GIS profession and attendance of young and emerging professionals at the GIS-Pro 2021 conference in Baltimore, Maryland on October 3-6, 2021. The competition will be held virtually in August, and the top three (3) presenters will

be awarded a full GIS-Pro registration, \$500 travel stipend, and the opportunity to present their work live at GIS-Pro 2021 in Baltimore.

The competition is limited to projects that utilize web and mobile platforms, such as ArcGIS Online, Tableau, Mapbox, or Power BI. Projects should showcase the visualization functions of these platforms while also demonstrating knowledge and proficiency in spatial analytics, cartographic design, and/or geospatial techniques.

To enter the competition, participants must submit a link to their virtual project and include a 150 to 300-word project abstract detailing the project design, analysis, and implementation. Selected entries will deliver a 5-minute long [ignite-style](#) presentation via Zoom on their project's use of an online visualization platform, geospatial technology, and spatial thinking. The presentations will be judged by a panel of URISA leaders, and based on the judges' assessments, three presenters will be selected as winners of the competition.

Abstracts are due on July 9, so don't miss this chance to get recognized for your work!

Abstracts are due on July 9. Don't miss this chance to get recognized for your work! Submit materials to urisa.vc@gmail.com for consideration.

Requirements

Eligibility

- Must be enrolled in a college or university, or
- Be a recent graduate (spring or summer 2021), or
- Be a young or emerging geospatial professional with fewer than five years of experience
- Must be available to attend GIS-Pro in Baltimore, Maryland, October 3-6, 2021

Submission Materials

- A current resume, including
- Graduation date or expected date for college students, and
- Description of GIS-related work experience
- Link to the project website or visualizations
- Project abstract (150-300 words)

Selection Criteria

- Meet submission and selection deadlines
- Project must be from an individual (no group projects)
- Project utilizes a web or mobile geospatial visualization platform, including but not limited to ArcGIS Online, Tableau, Mapbox, or Power BI

Awards

Participants

Presenters selected to participate in the live digital competition will receive either a one-year URISA Student membership or a one-year URISA Young Professional membership, depending on each presenter's educational status.

Note: Participants must present in the digital showcase to receive this award.

Winners

The top three presenters will receive a full GIS-Pro registration, \$500 travel stipend, and the opportunity to present their work live at GIS-Pro in Baltimore.

Key Dates

- Abstract submissions due by July 9, 2021
- Competition participants selected by July 16, 2021
- Participant presentations due to Vanguard Cabinet by August 13, 2021
- Digital Competition will be held during the week of August 23, 2021
- Winners will be announced by August 31, 2021



See you in Baltimore in October for GIS-Pro 2021!

Preliminary Schedule

Saturday, October 2: Board of Directors and Committee Meetings

Sunday, October 3: Preconference Workshops and Networking

Monday, October 4: Keynote Address, Exhibition, Breakout
Sessions, Networking

Tuesday, October 5: Keynote Address, Exhibition, Breakout
Sessions, Networking

Wednesday, October 6: Breakout Sessions, Closing Keynote, Annual
Business Meeting

Sponsorship opportunities are being developed and networking activities are being organized. One thing we know for sure – after more than a year of virtual events – is that we will intentionally include as much face-to-face discussion time and informal networking as the program can handle!

We are in close contact with Visit Baltimore and the Hilton Baltimore to make sure that health and safety guidelines are in place and that participants feel safe to enjoy the conference fully.

Program details and registration will be available soon:
www.gis-pro.org

The response to the Call for Presentation Proposals was off the charts! The program committee is putting the finishing touches on the detailed schedule and it will be shared soon.

Planned content includes workshops, keynotes, and sessions discussing these important topics:

- GIS Leadership & Management
- Community Resiliency & Sustainability
- Equity & Social Justice Implications of GIS
- GIS Supporting Health & Human Services
- Data Management & Analysis
- Geospatial Technology Innovations
- Students and Young Professionals - Shaping the Future of GIS
- Addressing & Next Generation 9-1-1
- GIS Role in the Census and Redistricting

Workshops on Sunday, October 3 will include:

1. GISP Exam Prep (full day)
2. Managing Addressing for the 21st Century (full day)
3. GIS Return on Investment (updated, full day)
4. Introduction to Equity & Social Justice (half-day)
5. Building Community Using Geospatial Tools (half-day)
6. Decrypting Risk, Resilience, Social Vulnerability Data & Indices (new, half-day)
7. Climate Equity (new, half-day)
8. NG911 & the GIS Workflow (half-day)
9. Cybersecurity (updated, half-day)

2021 URISA Dr. Marilyn O'Hara Ruiz Young Professional Scholarship



Jack Dangermond meeting our first-ever Marilyn O'Hara Ruiz Young Professional Scholarship winners: Fikriyah Winata and Bryan Ferri

Ashley Hitt congratulates Rachel Layko and Shenyue Jia, YP Scholarship winners in 2019.



This scholarship fund was in 2018 and honors Dr. Marilyn Ruiz who passed away unexpectedly. During Dr. Ruiz's career at the University of Illinois at Urbana-Champaign, she provided her undergraduate, graduate and post-doctoral students with excellent research experiences in her laboratory which helped them to have successful careers in academia, government and industry. Marilyn was passionate about her role as a mentor of graduate education. The scholarship fully supports young professional participation in the conference, fostering their professional connections and educational development.

A core strategic goal for URISA is to support GIS professionals at all stages of their careers. URISA has established a number of programs to support young professionals and has active participation through programs such as GISCorps with abundant, diverse and rewarding volunteer opportunities, the URISA GIS Leadership Academy, and the Vanguard Cabinet which collaborates with URISA leaders and committees to create programs and opportunities geared toward other young professionals.

URISA established the Dr. Marilyn O'Hara Ruiz Young Professional Scholarship program which selects up to two young professionals (35 years old or younger) to attend GIS-Pro 2021. The participants in this program will have the opportunity to attend a one-of-a-kind geospatial super-event in Baltimore and experience cross-discipline sessions covering the most up to date and emerging GIS technologies, processes and applications, strengthen professional connections through networking with key URISA and industry leaders, and connect with and get involved in local, national and international initiatives and activities, all while obtaining valuable professional/continuing education credits.

- Deadline to Apply: July 19, 2021
- Scholarship recipients will be notified: August 23, 2021

Eligibility and Attendance Requirements

Applicants must:

- Be a URISA member in good standing ([join to apply](#))
- Be a first-time attendee at this annual event
- Work directly in GIS or working with GIS in a closely related geospatial field (surveying, planning, engineering, etc.)
- Be available to assist in the Vanguard Cabinet booth during the Exhibit Hall Social
- Have confirmed ability to secure travel to/from the conference (costs will be reimbursed up to \$500)
- Summarize your conference experience and incorporate how you will incorporate this experience and knowledge into your own career path and professional development by November 1, 2021 to be included in a URISA newsletter. The summary must be received prior to expense reimbursement.

To Apply:

- Complete the application.
- Send your resume, a letter of employer support on letterhead (if applicable) and a professional reference/recommendation familiar with your work. All materials must be submitted directly to wnelson@urisa.org with the subject line: URISA Young Professional Scholarship Recommendation

Selection Criteria

- Demonstrated work and/or research within the GIS (or related) industry
- Quality of responses to essay questions
- Impact of work, contributions to the GIS field
- Letter of recommendation

Selected Scholarship winners will receive (\$1850 Value + professional growth and networking experience!)

- Free registration to GIS-Pro 2021 in Baltimore
- 5-night hotel single/double room accommodations
- \$500 expense reimbursement towards meals and travel
- Obtain professional continuing education credits for GISP, AICP and others
- Opportunities to meet and network with other young professionals, [Vanguard Cabinet](#), URISA leaders and key national and international industry leaders

Donate Now

to support this scholarship fund!

The Lowdown on the Letdown: Why Some People Drop the Ball and What to Do About It

By Kate Zabriskie



He didn't get the shipments out – again! Makes me crazy. That guy never follows through.

- She said I'd get a promotion, so where is it? I've been waiting for three years.
- All talk and no action, that phrase describes that group in a nutshell. They pay lip service to teamwork, but they never pull their weight.
- From time to time, everyone misses a deadline, forgets an obligation, or fails to live up to meet a commitment. We're human, and it happens. For most of us, failure is followed by an immediate effort to right the situation.

Problem solved, right? Not so fast. "Most of us" excludes a special cohort: those who chronically disappoint and routinely fail to meet their obligations. They say one thing and do another, they agree to deadlines they have no intention of meeting, and they commit to deliverables that will never materialize.

If we're lucky, once we identify members of this tribe, we can put a healthy distance between ourselves and them. If not, there are some proven strategies we can use to retake control, push for greater accountability, and regain control of our sanity.

Accountability Strategy One: Confirm a Shared Understanding

Be sure you and the other person have a shared understanding of your expectations. Does the fellow shipping your packages understand what's required? If so, how do you know? Did he say "yes" in a way he'd hoped you would figure actually meant "no"? Did he agree because you are in a position of authority, and he didn't want to disappoint you in the moment? Did he know that you meant today and not just sometime soon? Before taking other action, it's important to make sure you and the other person have a shared understanding.

Accountability Strategy Two: Look for Roadblocks

Once you are sure that you and the other person have a similar grasp of the requirements, look for roadblocks. Is the promotion you've looked for no longer available because of circumstances outside of the promiser's control? Does the person boxing shipments have someone else demanding his time? If you discover it's the latter, your frustration is focused on a symptom and not the root cause of the problem. Take the time to do a little digging. You've got to focus your effort on changing the underlying belief and make a case for your point of view.

Accountability Strategy Three: Break Steps in Smaller Pieces

Even with a shared understanding and no obvious roadblocks,

sometimes people don't follow through because they get overwhelmed. When this happens, it may make sense to break the task into smaller pieces. *Bobby, how many packages do you think you can have ready by 1:00? Great, I'll check in with you then to see where we are. It's important that we meet our shipping deadlines because our customers count on us to live up to our promises. When we meet this afternoon, we can see where you are. How does that sound?*

Accountability Strategy Four: Make Use of Upfront Contracts

If there are no roadblocks preventing the other person from following through and small steps aren't solving the problem, it's time to explore up-front-contract language. *If you can get these shipments out by 3:00 today, I can mark your work as complete. If your team can meet the deadlines we've agreed to, we will have what we need to move the project to the engineering team.* The pattern is simply, "if you/your team can, then I/we will." *If you can clean the odd-numbered rooms, I can take care of the evens. That should split the work fairly.*

Accountability Strategy Five: Add a Next Step

If the upfront contract doesn't yield results, it's time to add an else component. *If you can get these shipments out by 3:00 today, I can mark your work as complete. If I'm unable to do that, we can set up a meeting with Brian to let him know that we're notifying customers that their packages will arrive late. If your team can meet the deadlines we've agreed to, we will have what we need to move the project to the engineering team. If we can't move forward, we'll have to escalate the schedule change to senior leadership, so they are aware of the schedule slip.*

Accountability Strategy Six: Consider Cutting Your Losses (If You Can)

From time to time, you may encounter a customer, colleague, or someone else who fails to follow through no matter what you do. When that happens, you may decide to cut your losses. *Matt, when we spoke about arriving by 9:00, I explained that if you could make that happen regularly, you could continue your employment. For the last two weeks, you've arrived after 9:00 more than half the time. For that reason, we're going to let you go.*

Accountability Strategy Seven: Take Back Control

What if you're not in a position to fire someone or walk away from a relationship? In these situations, it's important to realize you are making a choice. *I'm not getting the promotion. I know this. I'm going to continue to work here because it's close to my house, and the schedule is flexible. Jane is chronically late, and she's the owner's daughter. Although I've brought the issue to his attention, he's chosen not to act. I need a job, and this is the one I have now. I choose to work around this*

instead of walking out the door and having nothing.

And that's the lowdown on the letdown. Few people enjoy disappointment or appreciate someone who chronically drops the ball. Sometimes better communication can fix the problem, sometimes upfront contracts paired with consequences can make things right, and if all else fails a little positive self-talk can help if no other solution does the trick.

About the Author:

Kate Zabriskie is the president of Business Training Works, Inc., a Maryland-based talent development firm. She and her team help businesses establish customer service strategies and train their people to live up to what's promised. For more information, visit www.businesstrainingworks.com.



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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.

Welcome New URISA Members



Mohammed Al Arai —Cleveland State University—Cleveland, OH

Mundher Aladawi —Cleveland State University—Cleveland, OH

Ryan Ballard —Arapahoe County—Aurora, CO

Aaron Butterer— Anchorage, AK

Elizabeth Cardenal— Raleigh, NC

Justin Cave— Knoxville, TN

Benjamin Cohen —Matanuska-Susitna Borough—Palmer, AK

Anthony DiVincenzo —Cleveland State University—Cleveland, OH

Rajendra Dutt, GISP—Weston Solutions Inc—Frisco, TX

Kathryn Ellis —San Jose, CA

Kasey Fatur —Cleveland State University—Cleveland, OH

Tyler Fleming— Lawrence, KS

Brandon Furnish, GISP—Liberty Utilities—Auburn, AL

Lauren Garstka—San Diego, CA

Thomas Good —North Ogden, UT

Marsalis Hammons —Cleveland State University—Cleveland, OH

Drew Harris —Spartanburg County—Spartanburg, SC

Justin Harwell —Texarkana Water Utilities—Texarkana, TX

Jeremy Keddle— Seattle, WA

Andrew Lamers, GISP—SEH Inc—Vadnais Heights, MN

Jacob Mark —Woolpert—Los Angeles, CA

Jared Mitchell— Warwick, RI

Melanie Mossing— Lexington, KY

Leif Mylroie, GISP—Mississippi Department of Transportation—Jackson, MS

Paul Olalere— Lagos, Lagos State Nigeria

Rachel Passer, GISP—University of South Carolina—Columbia, SC

Samuel Perez —Mentone, CA

Janny Phung —City of Austin—Austin, TX

Alexa Ramirez, GISP—Quantum Spatial—St. Petersburg, FL

Byron Roberts —Cleveland State University—Cleveland, OH

Wilma Robertson— Boise, ID

Deepa Sanjeevaraya —NJ Office of GIS—Trento, NJ

Alison Sepulveda— Tuscaloosa, AL

Susan Seymour— Buriem, WA

Mel Simkins —Civil & Environmental Consultants Inc—Cincinnati, OH

Virginia Smith— Austin TX

Nick Srebernak —Matanuska-Susitna Borough—Palmer, AK

Scout Stanley— Lawrence, KS

Samantha Strang —Pooler, GA

Christopher Stuart —Halff Associates—Dallas, TX

Sara Thompson —IMS Infrastructure Management Services—Tempe, AZ

Heather Toll —Cleveland State University—Cleveland, OH

Sarah Troedson, GISP—Stantec—Woodland Hills, CA

Kristen Varney —Valdosta, GA

Andrew Visano —Lakewood, CO

Sierra West —Cleveland State University—Cleveland, OH

Heidi Whipple —Matanuska-Susitna Borough—Palmer, AK

Kyle Woodward— Durham, NC

Tianshu Yin —Queen's University—Kingston, ON Canada

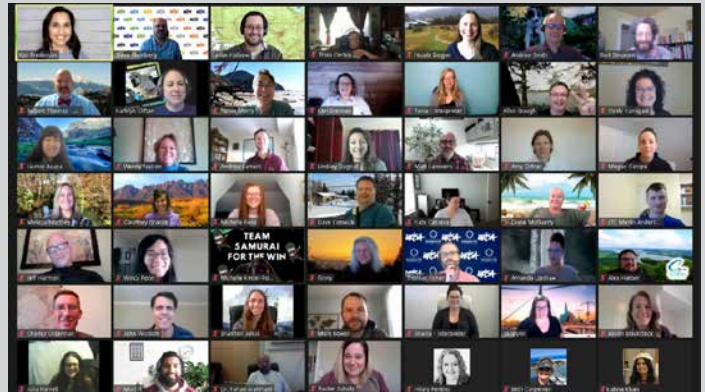
Alex Yumbu— Cape Town, WC South Africa

URISA Government Agency

- City of Gainesville—Gainesville, FL
- City of Phoenix – Phoenix, AZ

The Return of the In-Person URISA GIS Leadership Academy

URISA has presented the GIS Leadership Academy virtually three times since August 2020. The virtual GLA has been successful beyond our expectations and has allowed URISA to provide valuable GIS leadership and management training to members around the world during the pandemic.



We will continue to offer the program virtually moving forward (dates TBD) but we are so pleased to announce the return to in-person instruction.

GLA class size has always been limited to 50 people or fewer

and we are working closely with the venues to ensure participants' safety and health. Faculty and staff will all have received their second dose of the COVID vaccine well in advance of our first in-person event in mid-August. Here's the line-up:



We were supposed to be in Minneapolis in June. We renegotiated with the venue to host the GLA in December to allow for more time to adjust to recommended health and safety guidelines, and for more vaccinations to be delivered.

The in-person GLA provides much more opportunity for

in-depth discussions and networking. We met in person in 2019 in Raleigh, Toronto, and Phoenix and we cannot wait to get back to such an environment! Note that it is very likely that all venues where URISA events are hosted will require proof of vaccination from participants to comply with local jurisdiction guidelines.



[Register today to reserve your spot!](#)

2021 Partner Directory

URISA Platinum Corporate Partners



URISA Gold Corporate Partner



URISA Silver Corporate Partners



URISA Bronze Corporate Partners



2021 Partner Directory

URISA Business Partners



2021 Partner Directory

URISA Educational Institution Partners



For information about URISA Partnership, please visit:

<http://www.urisa.org/main/join-urisa-as-a-corporate-or-business-partner/> or contact

Wendy Nelson at URISA Headquarters.

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URISA Government Agency Member Directory

Federal

US Census Bureau — Washington DC

Tribal

Seneca Nation of Indians — Salamanca NY

Tulalip Tribes of Washington

State/Provincial

California State Lands Commission — Sacramento CA

Missouri Dept of Conservation — Columbia MO

Office of Cultural Development—Baton Rouge, LA

Regional

Atlanta Regional Commission — Atlanta GA

Indian Nations Council of Governments (INCOG)—Tulsa, OK

Metro — Portland OR

Moulton Niguel Water District—Laguna Niguel, CA

Nashua Regional Planning Commission — Nashua NH

North Texas Tollway Authority — Plano TX

Southern California Association of Governments — Los Angeles CA

Sweetwater Authority — Chula Vista CA

Texarkana Water Utilities — Texarkana TX

County/Parish

Ada County — Boise ID

Adams County — Brighton CO

Baltimore County Government — Baltimore MD

Boulder County — Boulder CO

Cherokee County (NC) GIS—Murphy, NC

Clackamas County Oregon — Oregon City OR

Clark County — Winchester KY

Clay County — Moorhead MN

Clermont County GIS - Batavia OH

Collin County—Mc Kinney, TX

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

Forsyth County — Cumming GA

Forsyth County — Winston Salem NC

Hall County — Gainesville GA

Harris County Appraisal District — Houston TX

Jefferson County - Alabama — Birmingham AL

Lafayette Parish — Lafayette LA

Lee County—Fort Myers, FL

Linn County — Cedar Rapids IA

Los Angeles County — Los Angeles CA

Manatee County Information Technology Dept. — Bradenton FL

Matanuska-Susitna Borough — Palmer AK

Midland County — Midland MI

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

Santa Barbara County - Santa Barbara CA

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 Charleston—Charleston, SC

City of Clovis — Clovis CA

City of Detroit — Detroit, MI

City of Fort Collins—Fort Collins, CO

City of Gainesville, FL

City of Huntington Beach—Huntington Beach, CA

City of Kalispell—Kalispell, MT

City of Las Cruces—Las Cruces, NM

City of Lawrence — Lawrence KS

City of Leduc — Leduc AB Canada

City of Manteca — Manteca CA

City of Mobile — Mobile AL

City of Newport News — Newport News VA

City of Phoenix Street Transportation — Phoenix, AZ

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