

## ***Establishing a GIS-Mapping Exchange for Public Libraries***

*Project Category: Lifelong Learning*

Portland State University (PSU), in partnership with ESRI, ChickTech, National Neighborhood Indicators Partnership, Multnomah County Library (MCL), Civic Switchboard, Carnegie Library, and the Mapping Action Collective, requests \$249,982 to develop the capacity of public libraries to efficiently and effectively use and improve their use of geographic information systems (GIS) technology. More specifically, we aim to establish, facilitate and evaluate an innovative training program and collaborative networking platform between public library staff, geospatial data professionals and patrons. This project builds upon the work that this team conducted via a 2019-20 IMLS Planning Grant, where we established a ‘toolkit,’ entitled [GIS-Mapping Exchange for Public Libraries](#). Combined with this next phase, we believe we will not only allow library staff to visualize, question, analyze, and interpret data to understand relationships, patterns, and trends; but also transform how libraries serve their communities.

### **Statement of National Need**

Public libraries are contending with funding shortfalls across the nation, yet they remain one of our most trusted institutions and impart that trust in patrons looking for information, data, and technology. Public libraries are also embedded in locality and community, serving as “civic connectors,”<sup>[1]</sup> an important bulwark against various forces eroding social cohesion. And, as state education funding continues to decline nationwide,<sup>[2]</sup> public libraries are even more important.

Introducing GIS and supporting networks of practice bring major advances to aid libraries as they adapt to evolving roles. Library staff can facilitate public engagement in knowledge creation; whether using existing open geospatial data supplied by civic agencies, or by gathering original community-centered data. This is becoming ever more important as wide-reaching research questions with an inherent geographic component (e.g., Covid-19) stretch the capabilities and funding limitations of traditional academic research institutions.<sup>[3]</sup> Analysis of geospatial data and maps is an accessible and powerful way to determine, and potentially strengthen, community trust and cohesion.<sup>[4]</sup> Public libraries with GIS competency also provide a powerful tool for the support of Arts-enhanced STEM education programs (i.e., STEAM).

### **Project Design**

Public libraries are primed to make important contributions toward helping citizens discover geospatial information, as well as build data literacy and technical skills. A critical first step, however, is ensuring library professionals are comfortable in their own abilities and knowledge. In the planning grant phase of this effort, we collaborated with MCL to conduct two, 4-hour pilot workshops for public library staff. The project team and MCL librarians co-lead the workshop. Activities included: Welcome/Icebreaker, Presentation, Metadata Activity, Practice Reference Interview, Guided Web-Map Lab, and Final Discussion/Survey. We also began to develop an online training program and toolkit that public libraries across the nation can use to get more involved in their local geospatial data ecosystems. Our new effort will further test and scale the existing network, as well as the toolkit to allow users access to open-source data, tools, and resources that help them conduct research, develop web and mobile applications, design data visualizations, share maps and resources, etc. We will also provide access to technical assistance in geospatial data management and documentation, create feedback mechanisms for geospatial data publishers, convene and host relevant workshops and events, and connect data users. We have learned that most libraries are only beginning to play these roles in their local communities; our goal is to build momentum around that process.

Our web-based open platform will include the following elements: (1) a section dedicated to workshop materials (e.g., videos, handouts, quizzes, and activities); (2) access to a data and mapping hub for libraries to upload, store, and manage their geospatial products; (3) a mentoring program that builds upon the *ConnectED GeoMentor Program* (<http://geomentors.net/>) which connects local geospatial professionals with interested parties in order to form collaborative, mutually beneficial relationships.

In addition, we will reach new libraries each year by following the IMLS-funded Civic Switchboard model of providing small awards to projects being led by public libraries in partnership with community

geospatial data organizations. We firmly believe that these activities and strategies will both create change in library practices and will help transform how librarians respond to their community's shifting demographics and priorities.

### **National Impact**

Data is among the most powerful tools available in a democracy. Armed with data, communities can cut through ideological boundaries and engage in conversations about challenges and opportunities. Libraries that want to make better use of open-source geospatial data should focus on two things: (1) training workers to increase their data literacy, and (2) giving staff the proper tools. Helping public libraries achieve these goals is the primary driver of this effort. The evidence that we achieve this goal will come from our subaward case studies, which will help us identify: (1) which geospatial data projects work best based on partnerships and collaborations among various organizations and (2) which geospatial data ecosystems enable the regular release of potentially impactful data in order to address or attempt to solve a well-defined problem or issue that is a priority to local citizens. Our early findings have already identified some of the challenges that libraries face in implementing recommended resources, including a lack of readiness (i.e., low technical and human capacity); lack of knowledge as to what their end-user or community member needs; or a shortage of resources. Our evaluation methods will include surveys, web data and analytics, anecdotal feedback, local project-based evaluation efforts, etc. We will also take copious notes throughout in order to document our process, including aspects that worked well and obstacles we faced moving forward. Our results will be disseminated broadly in hopes to help other libraries and geospatial data partners effectively scale up or spread our efforts to other contexts.

For the duration of the grant, the platform and program will be maintained by the PSU team. During this time, we will also negotiate with our national partners to establish a long-term sustainability plan that ensures this project lives beyond the grant period. One pillar of this that is currently being negotiated is a national GIS network hub hosted and maintained by ESRI, in addition to the possibility of offering participating libraries low-cost, ongoing ArcGIS access.

### **Budget**

The project budget of \$249,982 breaks down as follows: \$178,238 direct costs, comprised of: \$69,120K for project management team (2 ppl x .20FTE x 2 years) and GRA salaries; \$30,312 for GRA tuition; \$28,806K for total fringe benefits (x 2 years), \$10K for project team travel; \$5K for library consultant stipends; \$5K for supplies, software and web services; \$30K for sub awards to other regions; \$71,744 indirect costs at 48.5%. Though not required for this grant request, in-kind support will be made (staff salaries, services, and travel allocations) from the institutional partners.

[1] Horrigan, John. "Libraries, Trust and Social Capital Libraries Are Highly Trusted Institutions That Cultivate Social Capital in the Communities They Serve." Accessed September 27, 2020. [https://www.urbanlibraries.org/files/ULC\\_White-Papers\\_LIBRARIES-TRUST-AND-SOCIAL-CAPITAL.pdf](https://www.urbanlibraries.org/files/ULC_White-Papers_LIBRARIES-TRUST-AND-SOCIAL-CAPITAL.pdf).

[2] Mitchell, Michael, Michael Leachman, and Matt Saenz. "State Higher Education Funding Cuts Have Pushed Costs to Students, Worsened Inequality," 2019. [https://tacc.org/sites/default/files/documents/2019-11/state\\_he\\_funding\\_cuts.pdf](https://tacc.org/sites/default/files/documents/2019-11/state_he_funding_cuts.pdf).

[3] Rosenkrantz, Leah, Nadine Schuurman, Nathaniel Bell, and Ofer Amram. "The Need for GIScience in Mapping COVID-19." *Health & Place*, July 2020, 102389. <https://doi.org/10.1016/j.healthplace.2020.102389>.

[4] Rahimi, Sohrab, Michael Martin, Eric Obeysekere, Daniel Hellmann, Xi Liu, and Clio Andris. "A Geographic Information System (GIS)-Based Analysis of Social Capital Data: Landscape Factors That Correlate with Trust." *Sustainability* 9, no. 3 (March 2, 2017): 365. <https://doi.org/10.3390/su9030365>.