

Data for Good: A New Model for High-Impact Education and Social Innovation

A. Statement of National Need

Providence Public Library (PPL) requests \$534,880 and will provide a greater amount of cost share in support of seeding innovative, responsive, holistic education programming--our data education and Data for Good curricula--to library/museum partners locally, regionally, and nationally.

Data skills are increasingly fundamental to a number of jobs, industries, and in our daily lives. The technology boom of recent decades has generated a wealth of information and an exponentially growing need for professionals with the expertise to analyze and actualize this data for the benefit of businesses, nonprofits, the public sector, individuals, and communities. A 2016 report from the World Economic Forum listed Data Analysts as the number one most in-demand job across all industries by 2020 and beyond (Thompson). Data generation and access is expanding at an extraordinary and unprecedented rate due to our ever-growing use of connected devices and participation in online, data-generating activities.

You may have heard the term “democratization of data.” This refers to the widespread availability of data to people who aren’t necessarily data analysts. Executives, managers, and staff have access to data about their own company, their competitors, their customers, prospective customers, and even each other.

This is a good thing, but it can also be a dangerous thing. Organizations need people who are trained to mine data and refine it, so they can make intelligent decisions.

-Purdue University Global, 2019

A 2017 report by Burning Glass Technologies stated, “We project that by 2020 the number of positions for data and analytics talent in the United States will increase by 364,000 openings, to 2,720,000. In 2020, job openings for data scientists and similar advanced analytical roles will reach 61,799. This is a significant number, but it represents just 2% of the projected demand across all job roles requiring data and analytics skills. To close the gap, workforce development and higher education must look beyond the data scientist to develop talent for a variety of roles, such as data engineer, data governance and lifecycle and data privacy and security specialist, and data product developer. Data democratization impacts every career path, so academia must strive to make data literacy an option, if not a requirement, for every student in any field of study.”

Concurrently, there is growing recognition of the potential for today’s wealth of data to serve as a powerful tool for addressing critical and emerging social issues and driving positive change. Initiatives like DataKind, Columbia University Data Science Institute’s Data for Good, and the Canada-based nonprofit Data for Good exemplify this growing trend, and PPL’s own Data for Good programming, launched in April 2019 and led by volunteers in the local community who have expertise in Data Analytics and/or have come through PPL programs, has already made tremendous strides in connecting our community’s data professionals and enthusiasts to local causes to help address their needs, problem solve, and effect change. The program supports

three local nonprofits annually with data visualization projects, which can be explored at:
www.provlib.org/education/adults/rhode-island-tableau-user-group-ritug/data-for-good.

PPL has seen compelling outcomes over the past three years of offering our data education programs for adults and teens. From 2018-2020, 660 adult learners enrolled in our three-part Essential Excel course and 285 in our Data Navigators classes. Completion rates for Data Navigators is at 82%. 48% of those enrolled in our Data Analytics offerings were people of color and 62% female. 14% are unemployed. In a survey of our most recent graduates for FY20, over 50% indicated they have used the course to improve their current skills at their jobs. Most participants are incumbent workers from over 35 local companies, government agencies, and nonprofits. 6 graduates have served as teaching assistant and contract teachers with PPL, helping build program capacity. About 15% of alumni have obtained employment and a number of incumbent workers report being better able to perform their job duties and positioned for career growth as a result of their increased skills. A number of our alumni have moved from PPL's training programs into technology bootcamps and higher education opportunities. If brought to scale at a national level, free, accessible, library-based data education and Data for Good programming has the potential for transformative impact on individuals and their communities. Museums similarly stand to benefit tremendously from upskilling their staff in data analysis, and analyzing and using their internal data in new and inventive ways for the benefit of reimagining and elevating the public programming and educational experiences they provide to their patrons and the greater public.

Our proposed project aligns with and elevates a number of goals in IMLS' "Community Catalysts" project category, making a significant national impact on the capacity of libraries, archives, and museums to serve as catalysts that contribute to the well-being of communities; scaling and enhancing approaches that strengthen civic and cultural engagement, foster community health, promote digital inclusion, and increase equity and access; enhancing methods for collaboration between libraries/museums and stakeholders to address community needs and leverage community opportunities; exploring and developing new, improved, or potentially scalable participatory library/museum programming models that engage communities and individuals of diverse cultural and socioeconomic backgrounds; implementing, assessing, and scaling programs, services, tools, and partnership models focused on enhancing opportunities and well-being in communities; and assessing how libraries, archives, and museums create, develop, implement, and sustain collective impact approaches in communities. With libraries/museums uniquely positioned to reach greater and more diverse audiences than cost-bearing entities like higher education institutions through the offering of free, accessible Data for Good programming, there are vast potential benefits and impacts to be realized by replicating this programming at the national level, with libraries and museums at the forefront.

B. Project Design

PPL Data for Good, built on our successful Data Navigators (Data Analytics and Visualization training) curriculum, is an innovative, mutually beneficial programming model that links data professionals and teens developing their career pathways to nonprofits and other agencies in need. PPL, in partnership with Tableau®,

launched its “Data for Good” initiative in April 2019. Creating and utilizing a Rhode Island Tableau Users Group (RITUG) as an engine for social good, we are able to match the data science skills of professionals across many sectors with nonprofit and government agencies that lack staff expertise in these areas. Our adult Data for Good volunteers have helped the Women’s Fund of Rhode Island (WFRI) create the RI Women’s Well Being Index, exploring dimensions of well-being that highlight the systemic barriers that continue to undermine women’s efforts to achieve economic security during the COVID-19 pandemic. In addition, we recently implemented an expanded pilot for teen learners in Summer 2020 in response to the COVID-19 crisis. Teens were employed by the Library to complete a data challenge with the goal of facilitating more efficient and impactful use of all manner of raw data the clients collected (i.e. helping What Cheer Flower Farm, a local flower charity, analyze their donor data to determine their most effective fundraising strategies). These projects exemplify how libraries have the capacity to provide much needed technology-based skill training opportunities to individuals and help local organizations create valuable insights for these organizations to continue their good work.

Data for Good leverages and forwards the work of recent, highly successful IMLS NLG-funded projects undertaken by PPL, including our LibraryU Teen Squads (2016) and Propagating Promising Practices projects (2018), as well as a four-year track record of successfully offering data visualization, data analysis, and data-for-good programming for diverse youth and adults. PPL will pull from and expand on these models and practices to seed Data for Good programming in up to five libraries/museums nationally over a three-year project, helping empower diverse communities with a library-based model for education programming that holistically meets a number of today’s needs, empowering learners with in-demand skills and a blueprint for using these skills for social good and change, while expanding the capacity of nonprofits and government agencies to elevate and actualize their data. **Main project goals are to:**

- Seed high-impact, in-demand data analytics and Data for Good programming at up to five national library/museum partners, adapting the format and design of the program to suit each institution’s needs, goals, and capacity;
- Foster an online, collaborative, Slack-based community of practice to involve libraries/museums in the process of tailoring and adapting the program for their needs and communities, and create a system for deep peer-to-peer support of ongoing growth and improvement, with PPL serving as the main technical help desk. Our goal is for the Slack community to live on beyond the life of the grant to facilitate continued, exponential growth and dissemination of the model beyond our partner libraries/museums;
- Create an online dashboard and portal where libraries, museums, and other practitioners have ready electronic access to curriculum materials, program content, virtual lessons, and other tools, as was successfully implemented in our LibraryU project and is in process with our P3 project.

Benefits to partner libraries/museums, communities, and their learners will include:

-Empowering community members with data skills that are increasingly broadly relevant across industries and occupations, as well as in daily life;

-Further empowering community members with the tools and connections to use these data skills for social good--to explore and analyze social issues that are of personal interest or to use these skills in a volunteerism context to increase the capacity of community nonprofits, social service providers, etc.--and personal development;

-Helping increase the capacity of community-based organizations, nonprofits, government agencies, and other stakeholders to actualize their data;

-Catalyzing connections among public libraries, museums, individuals, and community-based organizations and entities that may have previously gone unrealized without the presence of Data for Good programming and that serve to help explore and address complex social challenges in innovative ways.

Target communities will comprise national library/museum partners and their constituencies and greater communities, as well as their local nonprofits, government agencies, and other key stakeholders whose data may be leveraged by participants. Programming has the potential to engage and impact teens and/or adults across a broad age spectrum, which will be determined by partners according to their individual community's needs, demands, and priorities. Partners confirmed to-date (Cincinnati Public Library, Georgia Public Library System [including urban and rural branches], Pottsboro Library [Pottsboro, TX], the RISD Museum [Providence, RI], the Public Library Association (PLA), and WebJunction) were thoughtfully selected to ensure broad geographic representation, a strong interest in implementing the program and commitment to carrying out the work entailed, and diverse assets and capacity they bring to the project--whether an interest in rolling out public data education programming, data expertise on staff, general technology expertise, experience making community connections, and/or strong potential for advisory and dissemination support. As we outreached to and engaged partners in these early conversations, we were struck by how many have seen a need or demand among their patrons for data-focused education programs and have been eager to begin offering programming of this nature, and the general enthusiasm expressed for the project and its goals. We are eager to embark on a highly collaborative process with these partners to successfully replicate this innovative, high-impact programming nationally.

Over more than four years of offering our data analytics, data visualization, and Data for Good programming for youth and adults, we have built actionable, disseminable best practices and approaches that we are eager to share with library/museum partners to help replicate this program that has manifold benefits for libraries and museums striving to offer more in-depth education programs, as well as for their participants and greater communities. In addition to the confirmed and potential partners who have expressed eagerness to implement data education programming, we have an extensive network of expertise to leverage and tap into, through the RI Tableau Users Group (RITUG) which is headquartered at PPL and drives our Data for Good programming, as

well as confirmed project partners who will aid in an advisory and dissemination capacity: PLA and WebJunction. PPL brings a wealth of assets to this effort that we are poised to disseminate nationally.

Sequence of Activities: We propose a three-year timeline for *Data for Good*: 8/01/21 - 8/31/24. Year 1 will incorporate ample time for project staffing and professional development, curriculum expansion and refinement, and kickoff of the community of practice with our partner libraries/museums involved from the earliest possible stage to ensure all parties are deeply engaged in program and curriculum development, can tailor programming to meet their communities’ needs, and have the foundation for a high level of success with implementation. Years 2 and 3 will be devoted to continued partner library/museum training, in-depth coaching and technical support provided by PPL, public programming rollout and iterative improvement, and further dissemination and replication efforts achieved through the completion of an electronic toolkit, established and growing community of practice (via Slack), and conference attendance and other dissemination activities.

Ensuring Success: As part of implementing and refining this programming and beginning to structure a model for dissemination and replication, we have identified possible challenges and solutions that we will leverage to best set up PPL and its partner libraries/museums for success:

Potential Challenges	Solutions
Staff capacity at partner libraries/museums; understanding of and ability to teach higher-level data curricula	<ul style="list-style-type: none"> -Strong buy-in process from partners up-front; detailed application and MOU process to determine assets and capacity of each library/museum, goals, and willingness to implement change; -Involvement of library/museum partners in community of practice from startup phase to tailor program model to suit individual library/museum needs, goals, and audiences, vs. attempting to force a one-size-fits-all approach; -Potential to adapt curricula and provide foundational offerings to prepare library/museum staff for success in more advanced data material (current PPL offerings that serve this purpose for our learners include an Essential Excel class and Microsoft Office Specialist program; potential new offerings include Introduction to Data Policy and Privacy and Finding and Accessing Public Data courses); -Blueprints provided by PPL for partnership building, recruiting data experts from community, and train-the-trainer models to facilitate leveraging of community resources vs. fully staff-led offerings.
PPL staff capacity to support teaching, technical assistance, and implementation	<ul style="list-style-type: none"> -Dedicated Project Coordinator and increased contractor hours supported by IMLS funding balanced with PPL cost share; -By successfully offering this programming for the past four years, through a

	<p>train-the-trainer approach, we now have an incredible community of data practitioners who were former PPL students and are now involved in data instruction, whom we can recruit to support the expansion and dissemination of this programming;</p> <ul style="list-style-type: none"> -Flexibility to incorporate peer-led and supported learning models, such as Learning Circles (a successful model currently being replicated nationally with support from our IMLS P3 grant); -Leveraging of peer support via Slack community of practice, expertise from RITUG and advisory partners, and virtual tools, lessons, course materials, and other assets to facilitate implementation
<p>Data privacy issues that may arise between learners and their nonprofit “clients”</p>	<ul style="list-style-type: none"> -Data Privacy and Policy class incorporated into curriculum and partner trainings as needed; -Option for libraries/museums to focus on analyzing and leveraging their own internal data; -Emphasis on partners’ use of non-disclosure agreements with clients.
<p>Sustainability</p>	<ul style="list-style-type: none"> -Long-term vision statements for sustaining programming will be emphasized and supported throughout training process; -Sustainability tools (fundraising, fee for service, etc), strategies, and technical assistance provided by PPL during partner training phase; -Tools and strategies for connecting to external data experts and leveraging community expertise to reduce program delivery costs; -Train-the-trainer model incorporated to increase pool of competent data practitioners and instructors in each target community who can deliver programming efficiently; -Greater issues relating to sustainability will be explored, troubleshooted, and new solutions and best practices established over the course of the project.

A baseline survey of our library/museum practitioners to assess their skill levels, capacity, and assets brought to the project will form an integral component of our project startup phase and serve as a starting point for our project and curriculum development. Ongoing project development will be highly agile and collaborative and guided by partner libraries/museums through their participation in our Slack community of practice from the time of project startup and throughout all three years. Partners will form a supportive peer group via this community who will actively share needs, progress, practices, outcomes, lessons learned, etc. with input, guidance, and technical support from the PPL project team. PPL will share evaluation tools and methods for

partners to incorporate with program participants to support impact assessment and refinement, ensuring highly partner and participant-driven programming overall.

Project Team and Resources: The project is planned and implemented by a Core Project Team consisting of key staff from PPL, partner libraries, advisors, and a dedicated Evaluator. Our funding request and cost share reflects generous project staffing and partner resources to ensure a strong foundation for success. PPL's Director of Education, Christopher Bourret, will provide high-level project direction and guidance. He has extensive experience in education, technology and library projects, and is an experienced project, grant and staff manager, and has 7+ years of experience at PPL. A full-time Project Coordinator (TBD) will facilitate in-depth project development over all three years, oversee all major activities and goals, and liaise between partners and other PPL staff to increase efficiency. Sherry Lehane, Training Specialist, who has worked at PPL for 20 years in adult education and training and had a lead role in the implementation and success of our IMLS NLG-funded P3 project, will provide curriculum development support. PPL training staff and contractors comprise talented instructors who have delivered our Data Navigators and Data for Good programming to adult and teen populations for years; several contractors whom we may enlist in this project have completed PPL's data education and Data for Good programs and achieved such a high proficiency in the material that they now teach their own data classes--a testament to the strength and effectiveness of our train-the-trainer model, which will also be a focus of dissemination to our partners. In-depth evaluation will be supported in all three years by Linda Braun, who has collaborated closely with PPL for five years and supported the high level of success achieved by our IMLS-funded LibraryU project.

Evaluation, Performance Management, Projected Outcomes: Following the highly successful model we've used in past NLG projects, we have enlisted a dedicated Project Evaluator, Linda Braun. Linda has been highly engaged in our project design throughout the proposal development process to help set the stage for success, and has already begun developing elements of a thorough Evaluation Plan to implement if the project is funded (Supporting Doc 3). Project goals, anticipated outcomes, and methods of measurement and assessment will include:

1. Three to five libraries will begin offering free, accessible data analytics, data visualization, and Data for Good programming to their patrons and communities.
 - a. Museum partners will deeply benefit from skills building in data analytics, eliciting new relationships and ideas from their collections, enhancing public interactions with their collections, and catalyzing new educational opportunities.
2. Data literacy and workforce development skills of teens and adults across the US will be expanded.
3. Library/museum staff nationwide will increase their awareness of and interest in learning, replicating, and/or adapting the featured practice(s) demonstrated through virtual feedback and interaction.
4. The capacity of library/museum staff and communities to customize curricula in support of data literacy and workforce development skills for teens and adults will be expanded.
 - a. Libraries/museums will gain familiarity with varied qualitative and quantitative evaluation tools and processes for assessing participant outcomes and impact.
5. Slack community of practice established and sustained as a dissemination and technical support tool.

- a. A Slack Cohort will provide technical assistance, peer support, and feedback throughout the project to the cohort.
 - b. A separate Community Slack tool will be shared with broader library/museum communities to draw in potential future practitioners during dissemination.
 - c. Community Slack tool will live on at program completion as an opportunity for dissemination, advocacy, and scaling for libraries/museums interested in the future.
6. A web-based, electronic toolkit to aid ongoing replication of Data for Good by libraries/museums is developed.
- a. Library/museum partners actively share implementation examples re: structure, training, delivery.
 - b. Library partners share at least one data project completed by participants to include in toolkit.
 - c. Museum partners share examples of new public programming catalyzed or enhanced by program model.
7. The program model and practices will be actively disseminated via conferences and virtual tools/methods.
- a. Libraries/museums will shift their mindset to exploring programming of this nature.
 - b. Library/museum partners will host and participate in showcases / webinars incorporating participant projects and their direct experience in the project (through PLA, dissemination to outside parties).
 - i. Attendees will be surveyed/interviewed generating in-depth impact data.

The project will incorporate diverse evaluation tools including monthly qualitative and quantitative report forms, self-reflections, observation pieces, and information sharing through our Slack community. Partners will also be introduced to in-depth tools and methods for evaluating their impact on and effectiveness in serving participants: surveys, focus groups, one-on-one interviews, “what are you doing now?” follow-up strategies to assess the program’s broader, longer-term impact on participants’ education and career trajectories, personal endeavors, volunteer Data for Good activities, etc. Library/museum staff will have the opportunity to put the data skills obtained through their own training process to work in analyzing their own participant and program data to assess their effectiveness and support continuous improvement. The result will be a wealth of rich data that will strengthen the program model, inform the electronic toolkit, and impact the library/museum field and even more communities nationally by facilitating continued dissemination, replication, and growth.

C. Diversity Plan

Furthering our Diversity, Equity, and Inclusion (DEI) efforts are a top priority for PPL and a guiding goal of our newly developed Strategic Plan, and we strive to uphold and further these values through this project and all the work we do. We have been thoughtfully outreaching to and recruiting diverse national library partners in this effort to ensure representation from communities of drastically different sizes, makeups, needs, and character across the US--to a tremendously positive response. Confirmed library/museum partners who are committed to replicating Data for Good programming include: Cincinnati Public Library, Georgia Public Library System (including urban and rural branches), Pottsboro Library (Pottsboro, TX), and the RISD Museum (Providence, RI).

We have experience with incorporating assistive technology into our programming to ensure its accessibility for persons with disabilities, including text-to-voice technology, large print screens, and other tools. We have incorporated flexible technology funds for our library/museum partners into our budget to accommodate for the need for this technology, as well as loanable technology to accommodate learners affected by the digital divide and those who can only participate in programming remotely due to lack of ADA accessible facilities at certain libraries/museums (a fairly prevalent problem given the age of many library/museum facilities). We will also be requesting a DEI statement from all partners and incorporating professional development as needed to ensure that these goals are central to the project.

PPL has extensive experience outreaching to, engaging, and instructing diverse, multilingual populations of all ages, and has earned national recognition for our success in reaching, retaining, and impacting these diverse populations through IMLS-funded projects like LibraryU and P3 as well as esteemed, long-standing local adult workforce education programming like our RI Family Literacy Initiative, which has served more than 400 adult immigrants per year for more than 20 years. PPL was one of only 13 libraries nationally to receive a Libraries Build Business (LBB) grant from the American Library Association and Google to expand our small business offerings to support our highly diverse local entrepreneurial community, and has emerged as a leader in sharing our best practices for reaching and engaging these populations among the LBB community of practice. Practices and models we can leverage and disseminate to our partners to strengthen this project include strong links to our state agencies and other nonprofit partners to support outreach and referral to our programs; delivering instruction using the I-BEST model, which builds subject matter expertise concurrently with English language proficiency (some ESOL instruction support is incorporated into our budget as cost share to ensure capacity to address these needs as required); and a robust train-the-trainer program where diverse, multilingual program graduates are empowered to lead and facilitate programs, fostering a more culturally competent workforce overall.

D. National Impact

The proposed Data for Good programming has great potential to affect broad, systemic change at the national level. If funded and brought to scale, it will contribute a new best practice model for libraries/museums to begin offering free, accessible, in-demand educational programming in the data field. The project will result in a number of deliverables that will be readily adaptable and usable by other institutions, including versatile, shareable curricula, virtual lessons, evaluation tools, replicable models for professional development, recruitment, and train-the-trainer implementation, and sustainability support. In addition to facilitating direct replication at new sites, the project will create new best practices and the foundation for additional libraries/museums to continue to adapt the model in the longer term. Broader, ongoing dissemination beyond our library/museum partners will continue via the Slack community of practice, electronic toolkit, conferences, blogs, webinars, and more, as driven by project staff.

PPL has had great success over the past five years sustaining and growing our grant-funded work, including two IMLS NLG-funded projects, making an institutional commitment to sustaining critical work that is having a significant impact on our communities in need. We have developed and refined a number of strategies that serve in this effort--robust fund development and grantseeking strategies, train-the-trainer models, leveraging of community partnerships, assets, and expertise, fee-for-service partnerships with employers who turn to our programs to quickly upskill their workers--that we are eager to disseminate to our partners and greater library/museum community. Our implementation of evaluation tools providing concrete quantitative and qualitative data on our impact has been integral to this effort, and sharing these tools and practices with our partners and beyond has the potential to exponentially facilitate greater stakeholder investment in library-based education on a broad, national scale. In our experience, sharing our work with other libraries results in an exciting mindshift wherein barriers to undertaking this work are removed and instead, its possibility realized.

The following PPL success story reflects the transformative potential of this model on individual lives and communities: two teen Data for Good alums have been working with our Teen Services Department to build a brand new manga collection. Over the past six months, the teens have made two presentations to library staff, one of which involved data that they collected from 100 peers through a survey that they designed. They collected their data, entered it into Excel, created a presentation using Tableau and Google Slides, and formed a compelling argument using data as evidence. And all of this without extra assistance, just pulled from the skills they developed in Teen Data for Good. We were blown away by their grasp of the organizational data intelligence process and their ability to apply the skills learned in this program to their personal projects. One teen has also taken our Rhode Coders 2.0 courses; the other has taken every Teen Squad course and every adult Rhode Coders course PPL offers. We have trained them on collection development basics and they are currently working to make selections for the collection within the parameters of a budget; they are earning community service hours for this project, and one of the teens reached out to us to see if they could complete those hours at PPL. Through this project they are using their data and workforce development skills to take leadership among their peers and in their community and literally use data for good.

The possibilities and potential impact of this work is limitless, and we are eager and hopeful to partner with IMLS to scale this programming to the national level so that it's full impact can be realized.

Providence Public Library
Data for Good - Schedule of Completion
(Year 1 - 8/01/21 - 7/31/22)

Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul
<u>Developmental Evaluation</u>											
Leads: Linda Braun											
Develop evaluation instruments and protocols; solicit feedback and finalize.											
Participation in community of practice, interviews with staff and participants, ongoing observation of processes and development of model.											
Participate in monthly virtual meetings with partner libraries; facilitate and lead structured conversations as appropriate.											
Regularly engage with PPL team and partner libraries in reflection, data collection, and data analysis											
<u>Project Kickoff</u>											
Leads: Project Coordinator (TBD), Christopher Bourret, Sherry Lehane, Kate Aubin, Mireille Sturmann, Cate Burlington											
Hiring and onboarding internal project staff											
Partnerships finalized through thorough MOA process											
Baseline survey of partner skills/capacity to inform instruction completed											
Finalize/refine data collection methods and metrics, e.g., participation, progress, and completion.											
<u>Partner Recruitment, Training, and Community of Practice</u>											
Leads: Project Coordinator (TBD), Christopher Bourret, Sherry Lehane, Kate Aubin, Mireille Sturmann, Cate Burlington											
Partnerships finalized through thorough MOA process											
Develop action plans with each library for their participation in the project.											
Slack community of practice established, initial processes created, partners onboarded											
Ongoing information and content gathering for electronic toolkit.											
Partner training phase begins											
Partner reflections on learning and engagement											
Analyze data and make adjustments.											
<u>Project Management</u>											
Leads: PC, Bourret, Lehane, Administrative Staff											
Monitor and manage project implementation.											
In-depth support for curriculum development and instruction											
Oversee and manage community of practice											
Prepare reports to IMLS.											
Manage subawards.											

**Providence Public Library
Data for Good - Schedule of Completion
(Year 2 - 8/01/22 - 7/31/23)**

Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul
<u>Developmental Evaluation</u>											
Leads: Braun											
Submit year 1 formative evaluation report											
Regularly engage with PPL team and partner libraries in reflection, data collection, and data analysis											
Revise and iterate evaluation protocols and tools based on use and feedback from year 1											
Participate in/facilitate monthly virtual partner meetings											
<u>Electronic Toolkit Development</u>											
Leads: PC, Lehane, Bourret											
Solicit input from partner libraries and Advisors.											
Partner documentation and data collection/organization/analysis/refinement											
Virtual lessons, curriculum tools, other assets created and refined											
Develop or select graphics and other visuals.											
<u>Partner Training</u>											
Leads: PC, Lehane, Aubin, Burlington, Sturmann, Contractors											
Virtual training delivered to partners (format and curriculum specifics depend on Year 1 refinement process)											
Monthly virtual meetings with all partners											
Survey participants' satisfaction and sense of progress.											
Collect and report demographic data on the participants.											
Analyze data and make adjustments.											
<u>Program Implementation/Replication at Partner Libraries</u>											
Leads: PC, Lehane, Aubin, Burlington, Sturmann, Contractors											
Partner libraries begin pilot programming and rollout at appropriate scale/pace with evaluation tools/systems in place											
Community of practice provides ongoing technical support											
<u>Project Management</u>											
Leads: PC, Bourret, Lehane, Administrative Staff											
Monitor and manage project implementation.											
In-depth support for curriculum development and instruction											
Oversee and manage community of practice											
Prepare reports to IMLS.											
Manage subawards.											

Providence Public Library
Data for Good - Schedule of Completion
(Year 3 - 8/01/23 - 7/31/24)

July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
<u>Developmental Evaluation</u>											
Leads: Braun											
Submit year 2 formative evaluation report											
Regularly engage with PPL team and partner libraries in reflection, data collection, and data analysis											
Revise and iterate evaluation protocols and tools based on use and feedback from year 1											
Participate in/facilitate monthly virtual partner meetings											
Data analysis for final evaluation report											
<u>Electronic Toolkit Development</u>											
Leads: PC, Lehane, Bourret											
Solicit input from partner libraries and Advisors.											
Partner documentation and data collection/organization/analysis/refinement											
Beta toolkit launched											
Toolkit refined and finalized											
<u>Program Implementation/Replication at Partner Libraries</u>											
Leads: PC, Lehane, Aubin, Burlington, Sturmann, Contractors											
Partner libraries continue pilot programming and rollout at appropriate scale/pace with evaluation tools/systems in place											
Community of practice provides ongoing technical support											
Collect and report demographic data on the participants.											
Analyze data and make adjustments.											
<u>Dissemination</u>											
Leads: PC, Bourret, Lehane, Aubin, Burlington, Sturmann, Partners											
Plan and present at national and local library conferences (in person or virtually as appropriate)											
PPL and partner staff complete blogs, newsletters, webinars, etc. as additional dissemination tools											
Develop, collect, and analyze evaluations from presentations.											
Community of practice continues; data captured and incorporated into toolkit											
<u>Project Management</u>											
Leads: PC, Bourret, Lehane, Administrative Staff											
Monitor and manage project implementation.											
In-depth support for curriculum development and instruction											
Oversee and manage community of practice											
Prepare reports to IMLS.											
Manage subawards.											



DIGITAL PRODUCT FORM

INTRODUCTION

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to digital products that are created using federal funds. This includes (1) digitized and born-digital content, resources, or assets; (2) software; and (3) research data (see below for more specific examples). Excluded are preliminary analyses, drafts of papers, plans for future research, peer-review assessments, and communications with colleagues.

The digital products you create with IMLS funding require effective stewardship to protect and enhance their value, and they should be freely and readily available for use and reuse by libraries, archives, museums, and the public. Because technology is dynamic and because we do not want to inhibit innovation, we do not want to prescribe set standards and practices that could become quickly outdated. Instead, we ask that you answer questions that address specific aspects of creating and managing digital products. Like all components of your IMLS application, your answers will be used by IMLS staff and by expert peer reviewers to evaluate your application, and they will be important in determining whether your project will be funded.

INSTRUCTIONS

If you propose to create digital products in the course of your IMLS-funded project, you must first provide answers to the questions in **SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS**. Then consider which of the following types of digital products you will create in your project, and complete each section of the form that is applicable.

SECTION II: DIGITAL CONTENT, RESOURCES, OR ASSETS

Complete this section if your project will create digital content, resources, or assets. These include both digitized and born-digital products created by individuals, project teams, or through community gatherings during your project. Examples include, but are not limited to, still images, audio files, moving images, microfilm, object inventories, object catalogs, artworks, books, posters, curricula, field books, maps, notebooks, scientific labels, metadata schema, charts, tables, drawings, workflows, and teacher toolkits. Your project may involve making these materials available through public or access-controlled websites, kiosks, or live or recorded programs.

SECTION III: SOFTWARE

Complete this section if your project will create software, including any source code, algorithms, applications, and digital tools plus the accompanying documentation created by you during your project.

SECTION IV: RESEARCH DATA

Complete this section if your project will create research data, including recorded factual information and supporting documentation, commonly accepted as relevant to validating research findings and to supporting scholarly publications.

SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS

A.1 We expect applicants seeking federal funds for developing or creating digital products to release these files under open-source licenses to maximize access and promote reuse. What will be the intellectual property status of the digital products (i.e., digital content, resources, or assets; software; research data) you intend to create? What ownership rights will your organization assert over the files you intend to create, and what conditions will you impose on their access and use? Who will hold the copyright(s)? Explain and justify your licensing selections. Identify and explain the license under which you will release the files (e.g., a non-restrictive license such as BSD, GNU, MIT, Creative Commons licenses; RightsStatements.org statements). Explain and justify any prohibitive terms or conditions of use or access, and detail how you will notify potential users about relevant terms and conditions.

A.2 What ownership rights will your organization assert over the new digital products and what conditions will you impose on access and use? Explain and justify any terms of access and conditions of use and detail how you will notify potential users about relevant terms or conditions.

A.3 If you will create any products that may involve privacy concerns, require obtaining permissions or rights, or raise any cultural sensitivities, describe the issues and how you plan to address them.

SECTION II: DIGITAL CONTENT, RESOURCES, OR ASSETS

A.1 Describe the digital content, resources, or assets you will create or collect, the quantities of each type, and the format(s) you will use.

A.2 List the equipment, software, and supplies that you will use to create the digital content, resources, or assets, or the name of the service provider that will perform the work.

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG, OBJ, DOC, PDF) you plan to use. If digitizing content, describe the quality standards (e.g., resolution, sampling rate, pixel dimensions) you will use for the files you will create.

Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan. How will you monitor and evaluate your workflow and products?

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period. Your plan should address storage systems, shared repositories, technical documentation, migration planning, and commitment of organizational funding for these purposes. Please note: You may charge the federal award before closeout for the costs of publication or sharing of research results if the costs are not incurred during the period of performance of the federal award (see 2 C.F.R. § 200.461).

Metadata

C.1 Describe how you will produce any and all technical, descriptive, administrative, or preservation metadata or linked data. Specify which standards or data models you will use for the metadata structure (e.g., RDF, BIBFRAME, Dublin Core, Encoded Archival Description, PBCore, PREMIS) and metadata content (e.g., thesauri).

C.2 Explain your strategy for preserving and maintaining metadata created or collected during and after the award period of performance.

C.3 Explain what metadata sharing and/or other strategies you will use to facilitate widespread discovery and use of the digital content, resources, or assets created during your project (e.g., an API [Application Programming Interface], contributions to a digital platform, or other ways you might enable batch queries and retrieval of metadata).

Access and Use

D.1 Describe how you will make the digital content, resources, or assets available to the public. Include details such as the delivery strategy (e.g., openly available online, available to specified audiences) and underlying hardware/software platforms and infrastructure (e.g., specific digital repository software or leased services, accessibility via standard web browsers, requirements for special software tools in order to use the content, delivery enabled by IIIF specifications).

D.2. Provide the name(s) and URL(s) (Universal Resource Locator), DOI (Digital Object Identifier), or other persistent identifier for any examples of previous digital content, resources, or assets your organization has created.

SECTION III: SOFTWARE

General Information

A.1 Describe the software you intend to create, including a summary of the major functions it will perform and the intended primary audience(s) it will serve.

A.2 List other existing software that wholly or partially performs the same or similar functions, and explain how the software you intend to create is different, and justify why those differences are significant and necessary.

Technical Information

B.1 List the programming languages, platforms, frameworks, software, or other applications you will use to create your software and explain why you chose them.

B.2 Describe how the software you intend to create will extend or interoperate with relevant existing software.

B.3 Describe any underlying additional software or system dependencies necessary to run the software you intend to create.

B.4 Describe the processes you will use for development, documentation, and for maintaining and updating documentation for users of the software.

B.5 Provide the name(s), URL(s), and/or code repository locations for examples of any previous software your organization has created.

Access and Use

C.1 Describe how you will make the software and source code available to the public and/or its intended users.

C.2 Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

URL:

SECTION IV: RESEARCH DATA

As part of the federal government's commitment to increase access to federally funded research data, Section IV represents the Data Management Plan (DMP) for research proposals and should reflect data management, dissemination, and preservation best practices in the applicant's area of research appropriate to the data that the project will generate.

A.1 Identify the type(s) of data you plan to collect or generate, and the purpose or intended use(s) to which you expect them to be put. Describe the method(s) you will use, the proposed scope and scale, and the approximate dates or intervals at which you will collect or generate data.

A.2 Does the proposed data collection or research activity require approval by any internal review panel or institutional review board (IRB)? If so, has the proposed research activity been approved? If not, what is your plan for securing approval?

A.3 Will you collect any sensitive information? This may include personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information. If so, detail the specific steps you will take to protect the information while you prepare it for public release (e.g., anonymizing individual identifiers, data aggregation). If the data will not be released publicly, explain why the data cannot be shared due to the protection of privacy, confidentiality, security, intellectual property, and other rights or requirements.

A.4 What technical (hardware and/or software) requirements or dependencies would be necessary for understanding retrieving, displaying, processing, or otherwise reusing the data?

A.5 What documentation (e.g., consent agreements, data documentation, codebooks, metadata, and analytical and procedural information) will you capture or create along with the data? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the data it describes to enable future reuse?

A.6 What is your plan for managing, disseminating, and preserving data after the completion of the award-funded project?

A.7 Identify where you will deposit the data:

Name of repository:

URL:

A.8 When and how frequently will you review this data management plan? How will the implementation be monitored?