

Rural Library Service and Social Wellbeing: Research and Resources is a three year research project led by Margo Gustina, Deputy Director of Southern Tier Library System, Eli Guinnee, Director of Chautauqua-Cattaraugus Library System, and Hope Decker, Youth Services Consultant, Pioneer Library System, all in New York. The research identifies libraries in resource deserts, and conducts in-depth case studies of libraries in that subset. The project develops practical resources for rural library service based on service and case study results, and supports regional presentations by case study participants based on research data and recommendations, and Set of Resources developed with case study practitioner input. Developing a community participatory research framework, we ask: *Are rural libraries a component of social wellbeing in resource poor geographies? If so, when they are successful, what replicable practices do they employ?*

Librarians serving rural communities work against trends of decline; people, human service agencies, and government offices all have dwindling presence in rural centers ([Stephens, 2016](#)). In these human service deserts, librarians face many of the same challenges faced by agencies that have already closed, including decreases in tax base, philanthropic interest, and intellectual capital ([Stephens, 2016](#)). Further, public librarians face obstacles in accessing relevant information. This project will specifically seek to marry the Social Wellbeing Framework as described in *Strengthening Networks, Sparking Change: Libraries and Museums as Community Anchors*, ([Norton & Dowdall, 2017](#)) with extensive research on US rural communities from beyond the library field and the limited current research on rural US libraries, with community-based participatory action research. Using grounded theory as our research framework, the project will identify paths through which public libraries have realized their potential as community anchors improving the social wellbeing in resource-poor geographies.

At every stage of development our Advisory Board will receive a report, and participate in feedback and dialogue that will inform the next steps. Each round of data transcription, coding, and theming will go through cyclical validation with our case study libraries, advisors, and research consultant. After all the data is gathered, we will identify the threads of practice which run through the case studies of success, and which are missing from lesser performing libraries.

In year one of the research period, we will: construct an initial data set of rural library performance indicators and community information; review US and international library literature on our subject; publish the data set; select possible case studies to seek better understanding of specifically resource-impooverished communities with libraries as the only community anchor; refine our case study set through initial interview; finalize case study participants; evaluate our case study plan; do the field research, including interviews, transcription of interviews, and field coding; and give a progress report at the Association of Rural and Small Libraries conference. In year two, we will: code-categorize case study data; do a theme analysis; do an initial translation of research into support resource; refine the Set of Resources through feedback from case study practitioners and Advisory Committee members; publish the Set of Resources for wide use; conduct a Practitioner Panel at the ARSL conference. In year three, we will support case study practitioners to host regional workshops using the Set of Resources, and submit a final report on the project.

The impacts of *Rural Library Service and Social Wellbeing: Research and Resources* will include: building of a culture of open sharing of research, examination of the value of libraries as critical community partners; capacity building of rural libraries in the U.S. so they can better help themselves, improved communication between rural libraries across the U.S., nationwide expansion of regional and international rural library research into rural libraries and social wellbeing, development of new measures of library community impact, and rich datasets on which to build future research.

Narrative

Statement of Broad Need

Librarians serving rural communities work against trends of decline; people, human service agencies, and government offices all have dwindling presence in rural centers ([Stephens, 2016](#)). These communities are faced, additionally, with education and literacy gaps that exacerbate technology gaps ([Mehra, 2017](#)). As Stephens notes in her work on organizing rural communities, in these human service deserts, librarians face many of the same challenges faced by agencies that have already closed, including decreases in tax base, philanthropic interest, and intellectual capital ([2016](#)). Peer-reviewed information that might help rural libraries address social wellbeing is largely inaccessible to those libraries due to high costs, while low access to resources can limit an individual library's ability to develop and iterate new practices derived from what research-based recommendations do exist. Only a small volume of peer-reviewed US library case studies conducted in rural communities exist, although The University of Tennessee School of Information Studies has, notably, conducted several studies in recent years focused on a specific region. Anecdotally and through library statistical data, there appears to exist outlier libraries that have made clear and positive impacts on their communities in low resource environments. How this happens and what the critical components and steps might be are difficult to identify. Simply put, the influence of library services on rural communities nationwide is not well understood ([Real, et al, 2014](#), [Flatley & Wyman, 2009](#), [Mehra, et al, 2010](#)), pointing towards a need for nationwide research that could yield practical information for rural librarians and feed future research. We ask, then: *Are rural libraries a component of social wellbeing in resource-poor geographies? If so, when they are successful, what replicable practices do they employ?*

Understanding that limits to staffing, funding, and time create a barrier to implementation of recommendations, the project seeks to find and disseminate practical information applicable in resource-poor contexts. We will seek to marry the Social Wellbeing Framework as described in *Strengthening Networks, Sparking Change: Libraries and Museums as Community Anchors*, the Community Catalyst report of 2016 ([Norton & Dowdall, 2017](#)), and extensive research on US rural communities beyond the library field from CDC & USDA, with the limited current research on rural US libraries and our community based participatory action research. Using grounded theory as our research framework, the Rural Library Service project will identify paths through which public libraries have realized their potential as community anchors improving social wellbeing in resource-poor geographies (low median income and population densities with no other community anchor or asset within a ten mile radius).

The Southern Tier Library System (STLS), in partnership with the Chautauqua Cattaraugus Library System (CCLS), Pioneer Library System (PLS), and Association for Rural and Small Libraries (ARSL) seeks \$333,176 in funding to: conduct a literature review, build a research design framework, gather data, and do field research, the analysis of which will inform the development of a practical, accessible Set of Resources for rural librarians. Through that exploration, the project will work with case study participants and a diverse Advisory Board to develop the Set of Resources for action. Once completed, the Set of Resources will be shared in peer to peer environments in case study regions, through state library consortia events, and through a panel led discussion at the Association of Rural and Small Libraries conference in 2020. Results and recommendations will be published in Open Access journals.

It is often remarked that librarians serving rural communities need more money and more staff to be more effective. It is true. It is also true that we have all seen libraries that are more effective despite having fewer funds than similar libraries, and vice versa. Our task is to find out what critical components led two libraries facing similar challenges down different paths, and then to help our colleagues realize service improvements that would have otherwise been considered challenging or impossible. We have intentionally designed this

project to increase capacity within the profession at every phase, from building a budget, of which 30% goes to case study participants, to using a grounded theory framework within which to build our research, which is actively shaped and determined by practitioners, to empowering practitioners to lead dialogue and workshops for improved practice.

As libraries have become in many cases the last anchors of civic access and service in rural communities, the demands on service have typically outstripped their capacity. Through this research we will identify what conditions need to exist in order for the library to expand capacity enough to provide needed service within communities of resource poverty, without assuming an unlikely influx of new resources.

Project Design

Work like the recent report “Strengthening Networks, Sparking Change” ([Norton & Dowdall, 2017](#)) from the IMLS does the first step of making connections between communities and libraries. While the work indicates how the research might be implemented in libraries & museums in “III. Understanding Assets and Challenges, and Evaluating Impact” (p.29) there are no clear connections to rural conditions. To overcome the specific challenges posed by conditions of resource poverty rural librarians face, these conditions must be fully understood such that this past work can be built upon and all research findings can be translated for practical impactful action.

Our question, *Are rural libraries a component of social wellbeing in resource-poor geographies? If so, when they are successful, what replicable practices do they employ?*, will be answered through progressively focused research. Once findings are determined, our plan for the dissemination of findings through a research based, practical Set of Resources is progressively widening for broader impact over time (see Phases of Dissemination below).

Members of the project’s Advisory Board are invited to intervene at critical junctions in the research and product development process. First, they will provide feedback after the research methodology and implementation plan is drafted, again after the case studies are complete and interpretations of the data have been drafted, and finally after the research has been translated into the applicable Set of Resources. Members of the Advisory Board were chosen to represent diverse interests and perspectives on rural community life.

Who we are

Margo Gustina, MLIS, project lead, is Deputy Director of Southern Tier Library System. She has served rural communities in Arkansas and Western New York as a school and public librarian. Additionally, she brings to the project her experience as an operational reporting analyst for the business process outsourcing firm Sitel, Inc, where she did regression analysis to support or contradict operational initiatives. Eli Guinnee, MLS, Director of Chautauqua-Cattaraugus Library System, has been a rural public library director and rural public library system director for ten years. Prior to that he has worked in special, national, and academic libraries, and as editor of a peer-reviewed Open Access journal. He brings a background in scholarly research and publication, and extensive work with rural libraries. Hope Decker, MSSE, Youth Services Consultant for Pioneer Library System, has worked with rural libraries as a Library Director and Public Library System librarian for over 12 years. As a rural library director she chartered a new library out of a bookmobile stop, and has extensive experience providing library service in resource-poor geographies. She brings a background as a presenter and educator specializing in work with rural public libraries.

We work every day in support of rural libraries and rural communities, and are trained in community engagement requiring extensive theming of community based data derived from one-on-one and group conversations. We are librarians and educators in resource-poor geographies with expertise in data collection

and analyses, community conversations and professional development, and a sincere desire to close the gap between academic research and practical implementation through resource development, capacity building, and empowerment of practicing librarians to improve the social wellbeing in their communities. The collaborative and intersecting roles of those involved in the project are described in the table below.

Role	On-board	Actions	Activity Timeframe
Project coordination and administration: Margo Gustina			
Public Librarians doing research	Eli Guinnee Margo Gustina	Conduct data & literature driven desk research Conduct in field case study research	October 2018 - January 2020
Research Consultants	Rick Bonney Miriam Jorgensen	Provide guidance, critical feedback, review, and research mentorship	50 hours each 2018-2019
Advisory Board	Bharat Mehra Cynthia Nitikin Meredith Wickam Other Rural Librarian	Review work at strategic evaluation stages - provide guidance, and critical feedback	15 hours each 2018-2021
Successful Librarian - 8 Case Study Participants	Anticipate from the following states: AL, KS, ME, NM	Provide insights and answers via case study participation; recommend structure and content of research products	55 hours each 2019
Public Librarians building capacity through education	Hope Decker Case Study Librarians	Coordinate communication, recommendations, conference proceedings & regional workshops (Hope). Teach regional workshops, & conference panels based on findings.	Hope: 480 hrs 45 hours each 2020-2021

Where we do not yet have the expertise needed for the project, we are partnering with Miriam Jorgensen, Research Director for the Native Nations Institute at the University of Arizona, and Rick Bonney, Director of Public Engagement in Science, Cornell University Lab of Ornithology. Jorgenson brings to the project a wealth of experience in handling large geography bound, community based data sets, as well as designing, conducting, and analyzing data from deep community case study work. She actively supports our project design to have this research be by and for rural librarians, in both workload and in budget distribution. Bonney brings a long experience managing and conducting large research projects using case study methodology. A scientist, we will rely on him for a perspective from outside of the library field.

In addition to the dedicated team of public librarians and our consulting methodologists, our project has the benefit of a diverse Advisory Board: Bharat Mehra, professor at University of Tennessee School of Information Studies and the most prolific writer on rural librarianship in recent years; Cynthia Nitikin, program supervisor of Citizens Institute on Rural Design for Project for Public Spaces and well-networked community based design organizer; Meredith Wickham, rural public library director and executive board member of Association of Rural and Small Libraries. To fill the two vacant seats on the Advisory Board we have asked the president of the American Indian Library Association, and the Executive Director of the Black Family Land Trust. We seek diversity on approaches to rural problems, as well as diversity in geographic coverage and individual experiences.

Phases of Research

To answer our research question, *Are rural libraries a component of social wellbeing in resource-poor geographies? If so, when they are successful, what replicable practices do they employ?*, we will first construct a deep data understanding of the conditions and context of rural librarianship. A carefully constructed data set

will guide the choosing of our case study sites, and will provide a data basis for others in the field interested in understanding the constraints and opportunities specific to this work.

Our case study work will closely follow grounded theory, blended to action research. A codebook will be developed per grounded theory methods, emerging directly from those individuals we interview, throughout the community. We anticipate making at least two in-person trips to each site and working in the community for at least three days during each visit, collecting narratives. This listening will be in targeted regions nationwide, with the intention of developing research findings than could be useful to any rural librarian, anywhere in the U.S. It is through the case study work that we seek to answer our question, and the nested question within it: Are rural libraries a component of social wellbeing in resource-poor geographies? If so, when they are successful, what replicable practices do they employ?

Question	Are rural libraries a component of social wellbeing in resource poor geographies? If so, how are they successful?		Timeline
What are the current conditions of rural librarianship & the communities they serve?	Define Research Subjects	LSA Population <2,500; In town with Distant/Remote NCES Locale codes; <\$40.5k Median Household Income; Library only anchor within 10 miles.	October 2018
	Describe conditions of research audience	Review of literature on Rural Librarianship & on conditions of rurality in the US.	Oct. - Dec. 2018
	Index key indicators of success in library performance & social wellbeing	Develop a full data based understanding of library service in the context of their communities from which to form initial case study questions.	Jan. - Apr. 2019
Make full dataset available to future researchers via Open Science Framework, in addition to open access sharing of the steps in building the dataset & its interpretive charts & maps.			
How do successful libraries connect to and activate resources?	Select 8 Case-Study Library Communities	Libraries in 4 separate regions in the US which are identical in all ways but one.	May 2019
	Evaluate Case-Study Implementation Plan	Advisory Board reviews plan and makes recommendations.	May 2019
	Implementation	Interview study participants and adjust as necessary.	Jun - Sep '19
	Refine & Interpret	Work with advisors & study participants to develop interpretations of research findings.	Sep - Dec 2019
Make full dataset available to future researchers via Open Science Framework, in addition to open access publication of full methodology, analysis, and findings. Case-study data will be managed for the protection of human subjects.			

Answering our question will directly lead to a report on research findings, and the creation of a Set of Resources developed for case study participants to share within their colleague peer networks as well as in compensated regional workshops. Information will be shared nationally at the Association of Rural & Small Libraries conferences, and to state libraries and systems.

Conditions of librarianship in rural communities- October 2018 - April 2019

Prior to narrowing our data set, we will overlay and map social wellbeing and anchor institution data with rural public library data. We have done a preliminary sample of base data, limiting distant and remote rural small libraries to those without a nearby school or hospital, suggesting that our case study libraries will come from a set of fewer than 200. However, if funded, we will further investigate population centroids in relation to library locations, scales of resource wealth, and income measures as limiters. Rather than narrowing quickly, we will build out the data sets more completely and look for unexpected points of convergence or correlation within all rural libraries (those with locale codes 41,42, and 43), not just our sample set.

To develop the table in Supporting Document 1, we began with the IMLS PLS data table of US library locations, which we filtered down to locations with LSA service populations of 2,500 and less. Because we noted inconsistency between some Locale Code designations (Urban, Suburban, Rural) within a City/State name and the NEC Locale Code designations for City/State, we decided to normalize to the NEC designations for City/States. While we recognize there may be some libraries with postal city designations inconsistent with the community they serve, the set is small. We limited our list of libraries with the NEC Locale Codes for Rural-Distant and Rural-Remote, limiting our list to libraries at least 5 miles from an urban center.

When income is depressed, more social services are needed. A condition that makes rurality so challenging is exactly the absence of, or long distance to, agencies that deliver services. In this study, we wish to identify examples of beneficial library service under the most resource impoverished conditions. For this reason, we will narrow our subject set to communities in which the library is the only community anchor and from which the next major community anchor hospital or school, is greater than 10 miles away. This is just distant enough to make accessing services without private transportation very costly.

We recognize that no number is perfect at measuring material hardship in a family, and that the poverty rate is based on inaccurately low figures which don't account for housing or childcare costs ([Odekon, 2015](#), Measures of Poverty - Resource Based). We have chosen, for our preliminary sample, to limit by a median household income rate of \$40,152, the medicaid threshold for a family of four in New York State ([NYS DoH, 2018](#)). We examined school data, and limited our list to libraries in City/State locations which had no school ([NCE, 2018](#)) and no hospital ([Medicare, 2018](#)). When we limit further to libraries in counties with Median Household Income of less than \$40,152 we have a subject set of 49 libraries, primarily in Alabama, Kansas, Maine, and New Mexico.

Our ideal dataset, if funded, will include: driving distance to a variety of anchors from the population centroid of a given community, as well as to the library for that town; income data of the library which IMLS gathers, set against the average annual foundation dollars spent in that community; community educational attainment levels; early literacy programming per capita numbers at the library; ethnic makeup; state library support levels; regional consortia support levels; local economic drivers; and library-community partner collaborative programs and services. The data will help us find key features otherwise hidden, as well as help us identify valuable case study libraries. While the data itself are not our goal in this project, the collection and collation of this data will assist in future research including future surveys. In addition to the benefit it brings us in our research, we see that this rich data set which shows rurality fully, can form the foundation of significant future research in the field. All data, and detailed methodology on its sources, manipulation, and analysis will be published and held in Open Access publications. For the work to increase capacity in the field, we feel strongly that it needs to be accessible without financial barriers to researchers and practitioners alike.

Existing Library Literature: Conditions of Rurality & Support Initiatives

While the published literature on librarianship to rural communities in the US is limited, with the notable exception of documented research in the digital divide, and the work of library researchers at the University of

Tennessee ([Bishop, Black, Mehra, et.al.](#)), what exists is largely published behind high paywalls. Mehra, for example, has studied the role of rural libraries in small business support in Tennessee ([2017](#)), and case methodology for action research in rural communities ([2018](#)). The opportunity exists to expand the work in Tennessee to a nationwide level and create freely available resources and recommendations from it. Action research on rural libraries has been more common internationally outside of the U.S. While not all international work may prove practically useful to our subjects, some might provide critical insights to effective practice. If funded, our research will inform a more rich international understanding of rural libraries.

We will systematically review all literature published after 2003 indexed with the terms rural and libraries, librarianship, information access, or librarians. From this body we will distill themes which will inform the factual conditions of the field, as well as perceptions of serving rural communities. In an initial sweep of this literature set, we noted that a full half of the literature was focused on technology/information access, around a quarter was focused on health outcomes and rural hospital libraries, and the remainder was a mix of formal education pieces (schools and school libraries), economic development, professional development, and services for targeted populations. In our formal review, we will identify themes in condition and perception surfacing across all library and information science specializations.

Anecdotally, as librarians serving rural communities, we note the conditions under which we, ourselves, are successful when resources are short: partnership. This has been supported by research, such as the Strengthening Networks, Sparking Change Community Catalyst report ([Norton & Dowdall, 2017](#)). We will look beyond the field of librarianship for research on conditions, resources, and service from community partnerships.

We will systematically review all literature on rurality in the US from outside the library field, after 2008. The keyword parameters will be developed from our work in our initial library based literature review.

Identifying Successful Libraries - May 2019

The team, under advisement from the project Advisory Board and with guidance from research consultants, will carefully select 4 pairs of library communities in which to do heavily involved field research. Each pair will come from within the same US region and be indexed similarly in all ways except one library metric. From initial contact with the libraries, to the dissemination of the research findings & products, the purpose of this research is to leave case study communities & the field richer than when we arrived. In order to protect study participants from any unintended consequences of our work, we will adhere to anonymizing protocols for all individuals not directly participating in presenting at conferences or in regional workshops, who have given written consent. Our budget is nearly 30% dedicated to study participants, regional workshop attendees, and in field practitioners in study locations.

Case studies - June - September 2019

Based on our preliminary findings, our case study locations will likely be in Alabama, Kansas, Maine, and New Mexico. As our data are collected, we will, with the guidance of our advisors and research consultant, determine the intentional variable that will distinguish the libraries from one another before we begin our exploratory call process.

Once 16 possible case study locations are selected, we will begin exploratory phone calls towards developing deep research relationships with 8 libraries. As part of this community based participatory action research, the librarians will be fully compensated for their time as expert consultants at a rate of \$80 per hour.

Questions of the sort we would like to ask librarians, with guidance from our advisors, might include:

What are you most proud of, as a librarian? What do you see as the community impacts of your services? Is there a connection between the work you do in the library and the wellbeing of your community members? Are there key figures in your town that the library has been able to connect with to improve the reach of the library's work?

Questions of the sort we would like to ask community members (both influencers and unengaged residents) will include questions about the community at large (similar to the [Libraries Transforming Communities Turn Outward tools](#)) as well as perception questions about the library. For more in-depth community interviews, we will bring gift cards as compensation for time spent.

In recent case study work in mixed urban/suburban/rural setting, Gustina and Guinee used recording devices to capture lengthy interviews with librarians which were then transcribed. In the field study for this work, we will similarly make confidential recordings, if permission is granted, for effective transcription. As transcription is done daily, in the field, the study's codebook will be built in an open coding system. Our detailed field memos and code notes will form the methodological framework to help future researchers build on these case studies. We will ask the following questions. Case by case, do the common features of success hold true? Does the emergent theory resonate through the practices of disparate geographies and communities?

An example of how geography and local self-perception can impact themes which emerge from interviews can be seen in a separate set of studies done in Bath and Fillmore, New York. Both communities are financially depressed, have a central school district and nearby college assets, and a regional large employer. Using the Ask Exercise from the American Library Association's [Turning Outward Resources](#), public library board members from both libraries conducted interviews throughout their service area with residents of their respective communities. The process was very similar, but the outcomes were very different. While Fillmore's themes were optimistic and pointed to deepening and activating collaboration throughout the broader town, Bath's theming highlighted the polarization of their community. Within their town, the self-perception of degradation had two solution paths: more police with stricter laws, or more support with greater leniency. Those libraries led research, with facilitation and support from Gustina, that helped them emerge a theory of the context of their services, and from that build a more strategic service plan.

This flexibility and patience with the emergent nature of theories of library service impacts, as well as librarian practice, will be a primary skill employed in conducting this research. We will actively build theories and connections on the ground with rural library practitioners. As the wealth of community and librarian perspectives grow, we will find thematic relationships using axial coding, to drive our return questions, as we iterate our theories closer and closer to resonance with the successful practitioner's experience.

Each round of data transcription, coding, and theming will go through cyclical validation with our case study libraries, advisors, and research consultant. We will ask, Does this resonate with you? Is this reflective of your perception? In what ways does it diverge? Is that divergence a key feature of community perception?

This need to revalidate with study participants is part of the requirement to travel to each location more than once. Even still, we anticipate multiple clarifying phone calls and communication to check for resonance and reality. As the theory emerges and is validated by practitioners in concert with advisors, we will begin to ask the questions which will form the basis of translating the research into practice: What would have been useful in retrospect? How would you teach others to do what you have done?

Interpretation, Development and Dissemination

After all the data is gathered, we will identify the threads of practice which run through all the case studies of success. By selecting studies in diverse regions with similar resource limiters, and identifying shared features of success, we will find useful development points in rural libraries that would assist library work across geographies.

Progress Report Given to ARSL - September 2019

Association of Rural and Small Libraries is the national conference of choice, for those librarians able to attend a national conference, due to the hands-on and practical nature of the proceedings. The two principal investigators, Guinee and Gustina, and the principal Set of Resources designer, Decker, will present on the findings to date, and our predictions on how these findings will shape the resource products. Additionally, case study practitioners are invited (and compensated for their time, travel, and accommodations) to help facilitate discussion.

Resource Development - September 2019 - January 2020

It is the capacity building of the rural library practitioner that is the purpose of all our work. Depending on where the research takes us, we will use this time to design a Set of Resources based in sound research and ready for use by any and every rural librarian. We are aware and sensitive to the feeling of inundation librarians experience when there is yet *another* thing they *should* be doing to be *better* when they already perceive that they are operating at capacity. With guidance from the Advisory Board and case study participants, as well as attendees at our Progress Report Practitioner's Dialogue at ARSL, we will compile, amend, and/or create our Set of Resources which support and enhance practice, not add work to an already full plate.

While the exact nature and details of the Set of Resources will be derived from the research, we anticipate that the resources will include: research findings, interpretations, and recommendations; turnkey guides and modifiable communication templates; recommended measures of library impact on the larger community, a searchable nationwide map of libraries overlaid with community data and resources; and translations of research findings into actionable items.

Audience	Phases of Dissemination		Timeline
National: Led by Research & Participant Team	ARSL Conference: Practitioner's Dialogue	Sharing & Facilitated Discussion Session to Inform Research Product	Sep 2019
		Case-Study Librarian Panel to Inform Future Practice	Sep 2020
Regional: Led by Successful & Learning Librarians	Create Useful Resources	Combine recommendations received to refine research findings and research based resources for librarians	Oct. - Dec. 2019
	Share Resources	Share resources with advisors & participants for recommendations	Jan. - Mar. 2020
	Disseminate via regional networks	Refined resources are owned by research participants for hosting regional workshops in their home locations.	April 2020 - April 2021

Refine based on practitioner insights - February - June 2020

The research findings and products will be first shared with case study participants for review, refinement, and recommendations. Their insights will further refine the research findings paper and the Set of Resources

produced from those findings. Can a part-time librarian find it useful? Is it low-barrier enough that they will use it?

Planning and Training - July - September 2020

Case study participants will meet via webinar for mentor training, and to develop a Practitioner Panel plan. They will discuss ways to expand the recommendations, share the Set of Resources, and their skills regionally. At the 2020 ARSL conference, they will meet with Decker prior to the panel for in-person planning and training.

Practitioner Panel - September 2020

At the 2020 ARSL conference, case study participants will comprise a Practitioner Panel to discuss the findings, answer questions, and introduce the Set of Resources. The Practitioner Panel will surface dialogue about the why behind the resources within the Set of Resources. USB Storage & Binder pairs will be available for workshop participants to take home. The Panel will be moderated by Decker, with participants discussing their involvement in the project and how they have used the Resources.

Sustainability of the Resources

Print, USB Storage, and Online access methods will be available to all workshop participants. ARSL will host the Set of Resources on their website with redundant versions hosted at STLS and CCLS.

Each resource within the Set of Resources will be available for grab and go action, organized for ease of finding, formatted for ease of editing to local needs.

Practitioner Dialogue & Workshops - September 2020 - April 2021

Case study participants will host Practitioner Dialogues in their home regions with their colleagues utilizing the research and Set of Resources. We anticipate, based on other work we have done, that to grow the body of practitioners interested in improving rural library service, the research team cannot be the leaders of regional dialogues and workshops, but rather it must be peer to peer. We would like to support development of librarians throughout the US whose practice is supported by research, and who identify with collegial values of information and practice sharing.

Diversity Plan

We public librarians on the team serve some of New York's most resource impoverished communities and struggle to answer the questions in this research project. We seek these answers so that we might save the last civic institutions in our communities in need.

Because we live and serve in Rust Belt communities, we will need assistance from an advisory panel to ensure that the specific social conditions of rurality and library service in diverse localities are respectfully captured, and the products of the research are of practical use within these diverse community libraries. Meredith Wickham, an ARSL board member, will assist in developing the Advisory Board and lead comment and feedback cycles. Our research and products will include rural communities of all types, including American Indian communities, the rural Black Belt in the southern US, and the Borderlands, and a diverse group of rural librarians,

Utilizing participatory research practices and grounded theory, we will work to ensure that research subjects, are participants with power over the nature of the research products. Additionally, our Advisory Board will closely check for biases in our work, identifying areas of under or over representation, or inaccessible products

during the process, not as reflections after the fact. Our board will act as a check to course correct our methodology and practice, with the shared purpose of creating something useful, practical, and impactful.

The project presumes that practitioners of diverse backgrounds have valuable experience, and respects the primary value of that experience throughout the process. It seeks to empower peer to peer learning, through direct dialogue, the development of resources, and the removal of barriers to relevant information.

Broad Impact

The impacts of *Rural Library Service and Social Wellbeing: Research and Resources* will include: building of a culture of open sharing of research, examination of the value of libraries as critical community partners; capacity building of rural libraries in the U.S., improved communication between rural libraries across the U.S., nationwide expansion of regional and international rural library research into rural libraries and social wellbeing, development of new measures of library community impact, and rich datasets on which to build future research.

By identifying the nexus of factors that lead to success for libraries and their communities we will clarify our professional path forward as librarians serving rural communities. By creating conditions under which rural librarians themselves develop, own, and share these practices and resources, we enrich the capacity of our colleagues to build networks of practice. The *Rural Library Service and Social Wellbeing: Research and Resources* project provides direct support to case study practitioners to inform the research and recommendations, help develop the Set of Resources, and disseminate the results.

Throughout, the process is focused on capacity building of rural libraries. It will give case study practitioners an opportunity to attend and present at a national conference, providing a platform for them to share knowledge and valuable leadership experience. The lead researchers, who are library practitioners themselves, will work closely with experienced researcher methodologists and a diverse group of Advisory Board members, building partnerships and enabling exchange of ideas and information across academic-practitioner and field boundaries. All results, recommendations, and resources will be made available to without barriers to access, allowing for immediate use as well as future development. Resources will be preserved in their original format, and also made freely available for refinement, revision, and customization. Users will be encouraged to post their revisions, how they used the resources, and their results. Platforms and formats for dissemination will be selected for their financial sustainability, simplicity, and interactivity. The Set of Resources will not include resources that require regular updating, such as hyperlinks to external websites.

We will consider the project a success if: our ideal dataset as been created, mapped, and made available; five case study practitioners present at a national conference and lead regional workshops; the results, recommendations, and Set of Resources are disseminated following the principles of Open Access and Creative Commons; resources are locally customized and users share feedback; further research is derived from this research. Original digital content will be preserved locally on servers at the lead institutions, backed up and made findable via Open Science Framework.

At the conclusion of the *Rural Library Service and Social Wellbeing: Research and Resources* study, the resources developed for rural librarians will allow them to make decisions based on information and data, rather than assumptions about practice and service in rural regions in the United States. We will be able to answer the question: *Are rural libraries a component of social wellbeing in resource-poor geographies? If so, when they are successful, what replicable practices do they employ?*

DIGITAL PRODUCT FORM

Introduction

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to federally funded digital products (i.e., digital content, resources, assets, software, and datasets). The products you create with IMLS funding require careful stewardship to protect and enhance their value, and they should be freely and readily available for use and re-use by libraries, archives, museums, and the public. However, applying these principles to the development and management of digital products can be challenging. 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

- Please check here if you have reviewed Parts I, II, III, and IV below and you have determined that your proposal does NOT involve the creation of digital products (i.e., digital content, resources, assets, software, or datasets). You must still submit this Digital Product Form with your proposal even if you check this box, because this Digital Product Form is a Required Document.

If you ARE creating digital products, you must provide answers to the questions in Part I. In addition, you must also complete at least one of the subsequent sections. If you intend to create or collect digital content, resources, or assets, complete Part II. If you intend to develop software, complete Part III. If you intend to create a dataset, complete Part IV.

Part I: Intellectual Property Rights and Permissions

A.1 What will be the intellectual property status of the digital products (content, resources, assets, software, or datasets) you intend to create? Who will hold the copyright(s)? How will you explain property rights and permissions to potential users (for example, by assigning a non-restrictive license such as BSD, GNU, MIT, or Creative Commons to the product)? Explain and justify your licensing selections.

All content will be held by the lead institution, Southern Tier Library System, published under a Creative Commons Attribution-NonCommercial-ShareAlike license. As librarians, we hope that the work we create will grow and flourish with new effort among public and academic librarians. STLS has dedicated organization time to the development of the research and should have clear attribution. We want access to our work to be as open as possible. Further, we want this publicly funded work to never find itself behind a paywall. These last two requirements have led us to the Non-Commercial and ShareAlike licensing parameters.

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.

Digital products will be shared under a Creative Commons license requiring ShareAlike distribution and Non-Commercial use only. Our products will be available on Open Science Framework, the Association of Rural & Small Libraries (ARSL) website, and the Southern Tier Library (STLS) locally hosted WordPress website. In all locations we will give attribution and use guidance. The footer of all printed products will include the Creative Commons license icon for user quick reference. Each published item will have appropriate citation guidance accompanying it.

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.

Case study librarian participants will participate in any non-anonymous programs voluntarily and with written consent. All other data will be anonymized.

Part II: Projects Creating or Collecting Digital Content, Resources, or Assets

A. Creating or Collecting New 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 format you will use.

We anticipate that we will collect digital audio recordings as mp3, create transcriptions as MS Word documents, compile datasets as csv files, use these csv files to create GIS tied maps and do data analysis in MS Excel. Resources created will be in editable Word documents, MS Excel and Adobe Pdf. We anticipate recording over 400 conversations. All other quantities will be fewer than 50.

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

VoiceRecorder app will be used to record audio interviews. Transcriptions will be done using MS Word. ESRI ARC GIS will be used for mapping. Pre-published products will likely be stored in Google Drive and Dropbox. Datasets will be evaluated using MS Excel. Ready for evaluation and review products will be hosted in Open Science Framework.

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG) you plan to use, along with the relevant information about the appropriate quality standards (e.g., resolution, sampling rate, or pixel dimensions).

Anticipated formats are: DOC, EXCEL, CSV, and MP3

B. Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan (i.e., how you will monitor and evaluate your workflow and products).

Workflow will be managed through a shared Google Drive folder. Advisory Board members will be given access to drafts for evaluation through Open Science Framework and will be asked to comment asynchronously as well as in synchronous meetings.

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period of performance. Your plan may 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).

Assets will be stored and maintained by Southern Tier Library System and Chautauqua-Cattaraugus Library System (CCLS), which both have well developed and tested backup systems.

Public resources will be made available through Open Science Framework, and the websites of ARSL, CCLS, and STLS.

C. Metadata

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

Products will be cataloged in MARC to AACRII standards.

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

Metadata will be preserved as a csv file, stored and maintained with the assets they describe.

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).

We do not anticipate the need for a large metadata sharing strategy, however staff of the lead institutions have the expertise in APIs and several digital platforms to assist with metadata retrieval as necessary.

Additionally, once complete, the full project datasets, findings, and publications will be available through Open Science Framework, ARSL – a national professional association for our target audience, as well as through papers written on the findings published in open access journals.

D. 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).

The full project datasets, findings, and publications will be available through Open Science Framework, ARSL – a national professional association for our target audience, as well as through papers written on the findings published in open access journals. We will publish in all locations with licensing information but without paywalls or membership requirements.

The ArcGIS mapping results will be available via open data ESRI platforms for viewing the ArcGIS community member maps. These are all viewable through standard modern browsers. All mapping created from this data for use by librarians will be linked in all publications.

D.2 Provide the name(s) and URL(s) (Uniform Resource Locator) for any examples of previous digital content, resources, or assets your organization has created.

STLS' Construction Grant Resources: <http://www.stls.org/construction-aid/>

CCLS' Library Student Journal Archives:

<https://www.dropbox.com/sh/72qvmbc0ttr3nq3/AADgmGM97XQWkUgeAuv1wf0ra?dl=0>

Part III. Projects Developing Software

A. 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.

Not applicable for this project

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

Not applicable for this project

B. Technical Information

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

Not applicable for this project

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

Not applicable for this project

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

Not applicable for this project

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

Not applicable for this project

B.5 Provide the name(s) and URL(s) for examples of any previous software your organization has created.

Not applicable for this project

C. Access and Use

C.1 We expect applicants seeking federal funds for software to develop and release these products under open-source licenses to maximize access and promote reuse. What ownership rights will your organization assert over the software you intend to create, and what conditions will you impose on its access and use? Identify and explain the license under which you will release source code for the software you develop (e.g., BSD, GNU, or MIT software licenses). 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.

Not applicable for this project

C.2 Describe how you will make the software and source code available to the public and/or its intended users.

Not applicable for this project

C.3 Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

URL: Not applicable for this project

Part IV: Projects Creating Datasets

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

This project will be collecting and analyzing existing data using MS Excel from IMLS and the US Census, from October to April 2019. Case study interviews from June to September will be collected, transcribed, coded, and anonymized.

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?

No.

A.3 Will you collect any personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information? If so, detail the specific steps you will take to protect such information while you prepare the data files for public release (e.g., data anonymization, data suppression PII, or synthetic data).

Case study participants will be invited to participate in presentation and dissemination of results. Otherwise all

data will be anonymized.

A.4 If you will collect additional documentation, such as consent agreements, along with the data, describe plans for preserving the documentation and ensuring that its relationship to the collected data is maintained.

All documentaiton will be preserved by Southern Tier Library System with Chautauqua-Cattaraugus Library System as a backup.

A.5 What methods will you use to collect or generate the data? Provide details about any technical requirements or dependencies that would be necessary for understanding, retrieving, displaying, or processing the dataset(s).

Grounded theory methodoloy will be used with case studies to generate data. All data will be evaluated in MS Excel.

A.6 What documentation (e.g., data documentation, codebooks) will you capture or create along with the dataset(s)? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the dataset(s) it describes?

Documentation will include date, time, location, questions asked, transcriptions of conversations, and codebooks developed from those codebooks. This documentation will be preserved by STLS and CCLS, and anonymized for publication. Anonymized data will be additionally digitally housed in Open Science Framework with the findings and interpretations of the research, as well as the resources created out of the research. This full package location will be linked in the project's MARC records.

A.7 What is your plan for archiving, managing, and disseminating data after the completion of the award-funded project?

The lead organization, STLS, has strong experience maintaining critical and sensitive data onsite. Backups will be created at CCLS which uses cloud based servers and offsite backups.

A.8 Identify where you will deposit the dataset(s):

Name of repository: Open Science Framework

URL: https://osf.io/wb56g/?view_only=3edf2f3c69be4964b26537569ecdd107

A.9 When and how frequently will you review this data management plan? How will the implementation be monitored? Review will be at least annual. Implementation of the data management plan will be monitored by the lead agency IT staff.