Merit Proposal - Statement of Work

Citizen Enabled Broadband Data Collection – Livingston County

The following document provides important information related to the 2021 broadband access data collection effort for Livingston County.

The Michigan Moonshot initiative, led by Merit Network, has been identified by the county as a valuable platform for resources to support this effort. This collaboration is supported by faculty researchers at the James H. and Mary B. Quello Center at Michigan State University.

High-speed Internet connections are not equally accessible to everyone and the methods currently used to measure the speed and reach of broadband are less than optimal. Estimates are particularly problematic in underserved areas such as rural and economically distressed urban locations of the United States, as illustrated by research on Detroit. Current broadband data collection applies procedures and standards that often result in inaccurate results which make investment, interventions, and policy decisions more difficult. Considering that any source of data will have strengths and weaknesses, leveraging multiple sources of measurement can advance the quality of input to inform decision making. Specifically, data sources such as FCC Form 477 can be analyzed in conjunction with new consumer-sourced data to improve the accuracy of broadband availability information and enable researchers to identify areas where access or speed appears to be under - or - over estimated. Other information relevant for policy makers seeking to address pressing problems like the homework gap, including the number of school aged children in a household, are typically not available or not linked to broadband data.

The Merit Network Michigan Moonshot's unique approach leverages citizen-driven household access data through a partnership between the Quello Center at Michigan State University and the Merit Network. Merit Network, with its deep expertise in advanced networking and more than 700 connections to Michigan's community anchor, government, and non-profit institutions, is in a unique position to catalyze unserved communities towards achieving broadband access. The Quello Center is affiliated with the Department of Media and Information in the College of Communication Arts and Sciences at Michigan State University. Researchers at the center have a track record of researching broadband access to develop solutions that can help overcome digital divides. They also bring a rigorous understanding of data collection analysis and survey methodology to this project.

The Data Gap. Challenges that undermine sound decision making and appropriate funding application include: the granularity and level of measurement of collected information, the use of data (such as FCC Form 477 filings) that was not primarily collected to measure broadband availability, and the over-reliance on Internet Service Providers (ISPs) as the major source of the data. For example, current standard measurements are aggregated to the census block level or higher, often misrepresenting the availability of broadband. These challenges can be overcome by collecting on-the-ground, consumer-sourced data.

A Novel Approach to Data Collection. This design for data collection builds on collaborative network organizations (CNOs), often used in citizen science, to uniquely leverage (1) networks of stakeholders (i.e., Merit and other participating Research and Education Networks) to manage the gathering of data from

users across the nation; (2) a partnership with academic researchers that allows for quality control (identifying and correcting problematic data) and sophisticated analyses using multiple sources and forms of data; (3) data collection through a user-friendly web app for those with Internet services at their property and companion surveys for participants without Internet services at the property surveyed.

This will allow the flexible collection from multiple devices, fixed or mobile. This project will collect both speed test data and user provided household broadband access and availability information. Tools and development run by the scientific community and The Measurement Lab (M-Lab) will be leveraged. M-Lab is an open, distributed platform on which researchers deploy Internet measurement tools.

Data Stewardship. Merit Network will be responsible for data management related to this project during collection. The speed test portion of data will be sent to the M-Lab open data repository and the survey data will be stored in a separate database that is maintained and archived in a secure, password-protected repository on Merit Network servers. Livingston County shall maintain unlimited access and all rights to the information gathered from this survey. Merit does retain the ability to use anonymized data related to this research project in perpetuity.

Expected Benefits.

- Provide a resource to challenge currently employed household access maps that drive state and federal investment decisions. Provide a mechanism for the County to challenge census blocks that may currently be indicated as "served," thus making them ineligible for some funding channels.
- Catalyze communities to help drive change. A small community investment in this data collection project will help drive granular level data, which presents a gap in existing data sets.
- Quantify broadband Internet availability and demand through the creation of crowdsourced broadband assessment tools and demand aggregation maps. This will create a better understanding of the financial risk for infrastructure investment decisions with clear indicators of broadband gaps/need and adoption probabilities.
- Through the process of collecting access, availability and adoption data, communities will strengthen their focus on developing an ecosystem of elected officials, community anchor institutions, private sector organizations, broadband champions, and citizens who are committed to increasing connectivity within their area. Together this coalition will uphold a commitment to moving the needle forward on digital access and equity within the community.

Summary of Services

Pre-Survey Consulting Scope of Work
- Standardized survey and speed test – design, deploy, maintain
- Customized website design & deployment
- Community communications materials development
- Supportive community partner engagement including strategy, planning & execution support
- Customized community marketing plan and asset development
  - Marketing plan
  - Press release
  - Consumer communications
  - Community partner communications
  - Web & social media assets
  - Local ad assets & ad buys
- 3-5 planning/work session meetings needed with local project leaders

Data Collection
- Following launch, KPI checks will be implemented to monitor community response and responded accordingly (deploying additional assets as needed)
- Weekly community response dashboard updates
- Data collection typically runs 6 weeks

Post-Survey Consulting Scope of Work
- Executive Findings report
- Additional outputs & analysis: Visualizations via graphs, maps, charts (Qty 15-20)
- GIS files (can also support any integration to local instance or merger of local data into Merit analysis
- Fully merged and cleaned database
- Community Presentation

Example Project Timeline

Pre Survey Activity	Data Collection	Post Survey Activity
8-12 WEEKS	**6-12 WEEKS**	**4 WEEKS**
Quotes/agreements Preliminary planning activities Create stakeholder communication materials Engage with decision makers via Taskforce Finalize planning activities & schedule resources Engage with municipal partners to prepare for citizen concerns/questions Launch community partner engagement Organize community partners Review execution timelines Refine outputs scope Conduct weekly project team meetings – internal + external with community project leads	Launch consumer marketing and communications plan Provide weekly progress reports re: survey participation Provide consistent evaluation of participation, adjust as needed to promote maximum participation	Clean data Merge databases Generate outputs Conduct analysis Executive findings report Community presentation