



Lapeer County Board of Commissioners

255 Clay Street, Suite 301
Lapeer, Michigan 48446
Phone: (810) 667-0366
Fax: (810) 667-0369
www.lapeercountyweb.org

COMMITTEE OF THE WHOLE

****COMMISSION CHAMBERS****

June 23, 2022

9:00 A.M.

A-G-E-N-D-A

****Attendance Roll Call; Opening Prayer; and Pledge of Allegiance***

- 1) CONSIDERATION OF THE DRAFT **MINUTES** FROM THE **JUNE 9, 2022**
COMMITTEE OF THE WHOLE MEETING
and
REVIEW OF **OVERNIGHT TRAVEL REQUESTS, GRANT APPLICATIONS**
AND **BUDGET AMENDMENTS** (*distributed and reviewed throughout the*
meeting)
and
DEPARTMENT HEAD UPDATES – (As needed, No Action Required)
- 2) **PUBLIC TIME** – Citizens Comments, etc.
- 3) **LAPEER DEVELOPMENT CORPORATION PRESENTATION**- Sam Moore
- 4) **AMERICAN RESCUE PLAN COMMITTEE**- Request Authorization to Accept
the Broadband Survey, Pre-Engineering, and Feasibility Study with Merit
Network
- 5) **PUBLIC TIME**- Citizens Comments, etc.
- 6) **CLOSED SESSION**

ADJOURN -

Upcoming Meetings/Public Hearings/Events:

NEXT FULL BOARD MEETING - 06/30/2022

NEXT C.O.W MEETING - 07/07/22

FOLLOWING FULL BOARD - 07/14/2022

Personnel Committee Meeting - 06/30/2022

Following Tentative Personnel Meeting - 07/07/2022

Tentative Properties Meeting- 06/30/2022

COMMITTEE OF THE WHOLE**June 9, 2022****9:00 a.m.**

Vice-Chairman Henning called the meeting to order at 9:03 a.m. in the Commission Chambers on the lower level of the County Complex Building. Commissioner Miller opened the meeting with prayer. The Pledge of Allegiance was recited.

Present: Commissioners Bryan Zender, Dyle Henning, Rick Warren, Brendan Miller, Linda M. Jarvis

Others: Quentin Bishop, County Controller/Administrator, Jackie Arnold, Chief Financial Officer, Lynette Stanford, Secretary/Deputy County Clerk

Absent: Commissioner Lenny Schneider, Gary Roy

Motion by Warren, supported by Zender, to approve the agenda with the addition of a Request for Action (RFA) from the Prosecutor's Office for a Budget Amendment. Motion carried.

Motion by Warren, supported by Miller, to approve the minutes from the May 26, 2022 Committee of the Whole Meeting. Motion carried.

Elected Official/Department Head Updates

Undersheriff Howe gave a brief update regarding recent Department statistics.

Public Time – five people spoke during public time.

Lori Offenbecher, Executive Director and Brian Neuville, Deputy Director of the Human Development Commission, spoke to the Commissioners about various programs they provide to the County.

Motion by Jarvis, supported by Zender, to recommend to the Full Board, to approve the establishment of a certification CPR Program for inmates, at a cost of \$25.00 each, including card and day off sentence; at no additional cost to the County General Fund. Motion carried.

Motion by Warren, supported by Zender, to recommend to the Full Board, to approve the contract agreement between the Lapeer County Sheriff's Department and Central Professional Services, a collection agency, to help recover monies (room and Board) owed to the County, at no additional cost to the County General Fund; and further, to authorize the Chair/Vice-Chair to sign said agreement. Motion carried.

Motion by Warren, supported by Zender, to recommend to the Full Board, to authorize payment to Attorney Howard L. Shifman P.C., in the amount of \$1,495.00, for labor related legal services rendered through May 31, 2022, to be paid from line item 101-210-801.020. Motion carried.

Motion by Jarvis, supported by Warren, to recommend to the Full Board, to authorize payment to the Lapeer Development Corporation for Professional Economic Services for Fiscal Year 2021/2022, at a cost not to exceed \$10,000.00, to be paid from line item 101-851-965.000. Motion carried.

Motion by Zender, supported by Warren, to recommend to the Full Board, to approve the following Budget Amendment, as submitted by the Prosecutor's Office:

LAPEER COUNTY				RECEIVED : RECEIVED JUN 07 2022	
BUDGET AMENDMENT FORM				REVIEWED : _____	
FUND NAME : FORFEITURE FUND				FORWARDED: _____	
ORIGINATOR: John Miller				RETURNED : _____	
DATE SUBMITTED: 7-Jun-22					

ACCOUNT NUMBERS			DESCRIPTION	ORIGINAL BUDGET	PRIOR AMENDED BUDGET	REQUEST BUDGET INCREASE	REQUEST BUDGET DECREASE	NEW AMENDED BUDGET
FUND	ACTIVITY	ACCOUNT						
287	100	400 , 100	Beginning Fund Bal.	0.00		66,000.00		66,000.00
287	284	840 , 000	Expense of Seizures	0.00		66,000.00		66,000.00

ALL BUDGET AMENDMENT REQUESTS MUST BALANCE!!!

DEPT. HEAD: John D. Miller

COMPUTER ENTRY BY: _____
DATE ENTERED : _____

Motion carried.

Public Time – two people spoke during public time.

The Commissioners gave brief reports on upcoming meetings and events.

Motion by Zender, supported by Jarvis, to go into closed session for the purpose of Labor Negotiations. Roll Call Vote: Zender, aye; Miller, aye; Schneider, absent; Warren, aye; Jarvis, aye; Henning, aye; Roy, absent. 5 ayes, 2 absent. Motion carried. 9:55 a.m.

The meeting recessed. 10:00 a.m.

Lynette Stanford, Secretary/Deputy County Clerk was excused, and Theresa M. Spencer, Lapeer County Clerk remained. 10:00 a.m.

The meeting reconvened. 10:07 a.m.

Motion by Jarvis, supported by Zender, to go out of closed session. Motion carried. 10:25 a.m.

Motion by Warren, supported by Zender, to approve the minutes of the closed session. Motion carried.

Motion by Zender, supported by Warren, to recommend to the Full Board, that in observance of Juneteenth, and pursuant to the mandated closure of the Courts as ordered by the Michigan Supreme Court Order, dated June 1, 2022, and MCR 8.110, all Court offices of Lapeer County, including the entirety of the County Clerk's office, will be closed for business on June 20, 2022, with affected staff receiving budgeted compensation for June 20, 2022. All other County Departments shall remain open. Motion carried.

The meeting adjourned. 10:30 a.m.

Dyle Henning, Vice-Chairman
Committee of the Whole

DATE: JUNE 16, 2022

XX REQUEST FOR ACTION

_____ FOR YOUR INFORMATION

_____ REQUEST FOR INFORMATION

TO: BOARD OF COMMISSIONERS

FROM: QUENTIN BISHOP, COUNTY CONTROLLER

SUMMARY OF REQUEST / INFORMATION: Request to accept the proposal related to the Broadband Survey, Pre-Engineering, and Feasibility Study

ADDITIONAL INFORMATION:

CONTACT PERSON(S): Quentin Bishop

BACKGROUND INFORMATION: Only two companies submitted complete proposals to the RFP.

SUPPORTING DOCUMENTS: Merit Network Proposal

DRAFT MOTION:

Motion by _____, Supported by _____, pursuant to the recommendations of the American Rescue Act Committee (ARPA) and in response to the Covid-19 public health emergency, to accept the proposal from Merit Network, for the Broadband Survey, Pre-Engineering, and Feasibility Study, at a cost not to exceed \$225,000, to be paid from Fund 281 (expenditure category 5.16).

ATTACHMENTS YES XXX NO _____



Connecting Organizations, Building Community

Merit Network
Lapeer County
Broadband Survey, Pre-Engineering, and
Feasibility Study

April 2022

**Response to Request for Proposal: Broadband Survey, Pre-engineering and
Feasibility Study**

Merit Network Inc. www.merit.edu
p 734.527.5700 | f 734.527.5790
880 Technology Dr. | Suite B | Ann Arbor, MI 48108

Table of Contents

Executive Summary	3
Business Organizations	4
Organizational Qualifications	5
Recommendation	8
References	18
Project Timeline & Expectations	19
Pricing Methodology (Merit Quote)	24
Pricing Methodology (EntryPoint Quote)	25

Additional Documents

Reference Testimonials

Project Staff Resumes

Moonshot Pathfinder Consulting Service Offering Overview

Sample Project Outputs – Available upon request (links provided within)

Executive Summary

About Merit Network: Merit is the nation's longest running Research & Education Network. Our mission is Connecting Organizations and Building Community and have a long history of building collaborative ecosystems in pursuit of technological or research driven innovation. Founded in 1966, Merit Network is a 501 c (3) nonprofit, Member-owned organization governed by twelve of Michigan's public universities. As a longtime service provider to Michigan's non-profit, education and public sectors Merit's team has a sincere commitment to providing reliable high-quality services to our membership community. Merit's expertise and longstanding reputation for high quality service delivery coupled with our vast state-wide community anchor organizational network position Merit as a premier service provider for data collection services to the Lapeer County.

In 2018 Merit launched its statewide Broadband initiative the Michigan Moonshot. Merit's work in this area has matured and expanded since that time and today is a thriving statewide ecosystem. As a key pillar of our statewide Michigan Moonshot initiative, we believe data collection is a fundamental step in the Broadband expansion journey. Accurate and unbiased information at a household granularity to inform infrastructure expansion and community adoption is imperative to sound and accurate planning and helps to ensure that communities address their citizens' needs in the most appropriate and economical way possible. Through the process of collecting access, availability and adoption data, communities build an ecosystem of elected officials, community anchor institutions, broadband champions, and citizens who are committed to increasing connectivity within their area. Together, this coalition of partners upholds a commitment to moving the needle forward on digital access and equity together.

The community engagement methodologies within Merit's survey process enable county governments to support the municipalities and local government units within the county to build political will, mobilize grass roots garnish local support and a 'can do' attitude from citizens and decision makers. Since June 2020 Merit has worked with Washtenaw County, Wayne State University, Berrien County, Ottawa County, Calhoun County, Saginaw Township, Livingston County, and Ingham County.

The need for accurate and unbiased data pinpointing where broadband service is available, and where it is not available, has never been greater. We are upon the most significant infrastructure investment in history and data is fundamental to the success of the broadband expansion execution. Merit's collaboration with the Quello team set the stage for work that we have continued throughout the pandemic and as the need has grown this work has placed merit at the right place in the right time offering critical resources to support local communities taking tangible and actionable steps towards the advancement of equitable and affordable access for all.

Business Organization(s)

Lead entity: Merit Network, Inc.

Address: 880 Technology Drive, Suite B, Ann Arbor, MI 48108

Primary Contact: Charlotte Bewersdorff, cbewers@merit.edu, (734) 527-5685

Website: www.merit.edu

Sub entity: Quello Center

Address: 404 Wilson Rd., East Lansing, MI 48823

Primary Contact: Dr. Johannes Bauer, quello@msu.edu

Website: <https://quello.msu.edu/>

Sub entity: MLab (fiscally sponsored project of Code for Science & Society (CS&S))

Address: 3439 SE Hawthorne Blvd. #247, Portland, OR 97214

Primary Contact: Lai Yi Ohlsen, laiyi@measurementlab.net

Website: <https://www.measurementlab.net/>

Sub entity: Michigan Broadband Alliance

Address: P.O. Box 161, Chelsea, MI 48118

Primary Contact: Ben Fineman, ben@mibroadband.org

Website: <https://www.mibroadband.org/>

Sub entity: EntryPoint Networks

Address: 1949 West Printers Row, Salt Lake City, UT 84119

Primary Contact: Bruce Patterson, bpatterson@entpnt.com

Website: <https://www.entpnt.com/>

Organizational Qualifications

Merit Network, Inc. is a private non-profit, Member-owned organization governed by Michigan's public universities. After 55 years of innovation, Merit continues to provide high-performance networking and services to organizations including higher education, K-12, library, health care, government, research, and other nonprofit and service organizations. Merit continues to leverage its experience managing NSFNET, the precursor to the modern Internet, to catapult Michigan into the forefront of networking technologies. Through Merit, organizations have access to leading-edge network research, state and national collaborative initiatives and international peering.

Merit strives to be a respected technology services and research organization leader in developing and providing advanced networking, security and community services to our robust and varied membership community, throughout Michigan and across the nation. Our core mission is 'connecting organizations and building community' and it is through building collaborative ecosystems that we achieve our success. Merit is a trusted source for providing high quality network infrastructure, initiating and facilitating collaboration, and providing knowledge and technology transfer through outreach. Pursuit of this goal benefits a wide audience in the education, government and nonprofit communities and has broad implications for economic development in Michigan.

Launched in 2018, The Michigan Moonshot, a broadband expansion initiative providing a statewide call to action, led by Merit, which aims to close the digital divide for Michigan communities. Moonshot addresses three key pillar areas:

Data and Mapping – Through partnering with research partners, Measurement Lab and Michigan State University Quello Center, we provide: Local, granular, unbiased and accurate household broadband access and adoption data with open and transparent outputs post data collection. This utilizes a crowdsourcing methodology which is centered on local community collaboration and citizens taking action.

Policy and Funding – We are active with many national groups advocating for policy change which would ease current limitations on broadband expansion. Through engagement, we are providing technical assistance to communities in the funding arena.

EDU & Resources – Merit's Broadband Framework provides a comprehensive, conceptual overview of the community network journey. This is supported by educational events which break down singular topics to help communities obtain deep and expert knowledge in key areas.

Our KPI -- helping communities **take action** to move past key obstacles, ultimately achieving **tangible and measurable success in broadband expansion**. Merit believes in the strength of a robust community and operate from the principle believe that Michigan communities can achieve far more together than they can alone. Merit is headquartered in Ann Arbor, Michigan.

Merit strategically selected the below partners because of the unique and expert value they bring to our data collection platform. Faculty researchers at the Quello Center have brought unparalleled insight shaping aspects of our standardized survey questions and design, they also provide oversight in the analysis and outputs of broadband data. Merit is committed to developing accurate and granular local user driven data through a broadband survey + speed test, utilizing M-Lab ensures data we collect serves a larger purpose for the research community making it universally accessible and useful via M-Lab's open source platform.

The Quello Center was launched in 1998, as The James H. and Mary B. Quello Center for Telecommunication Management and Law, but is increasingly known and referred to as the Quello Center. It was established as a multi-disciplinary center within the Department of Media and Information at Michigan State University. Its network of researchers has since expanded through collaboration with faculty from across the College of Communication Arts and Sciences, the broader University, and associates worldwide.

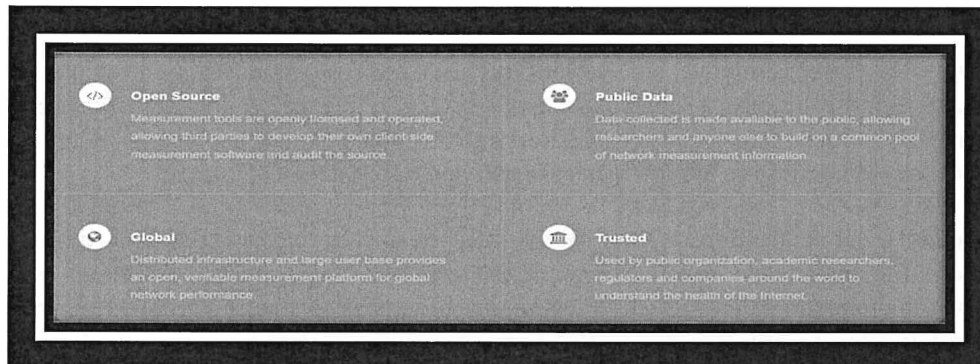
While the scope of the Center has expanded to include the Internet and digital media, our mission remains on research that improves understanding of communication technologies, industries, and consumer choices. The Quello Center pursues these goals through a variety of activities, including: rigorous interdisciplinary research in technology, policy and practice at multiple levels — from individual citizen/consumer to local and state to national and global arenas; providing opportunities, such as symposia and conferences, to facilitate dialogue among policy makers, scholars, industry executives, and consumer interest groups; participation in events and proceedings that evaluate important communication policy developments; and providing expertise and independent research to public and nonprofit institutions as well as the communication and Internet industry.

The Quello Center seeks to stimulate and inform debate on the economic and social implications of media, communication and information innovations of our digital age. Our research is focused on the social and economic implications of communication, media, and information technologies of our digital age as well as the policy and management issues raised by these developments. The Center seeks collaborations with other centers of excellence and stakeholders in research on Internet studies and new media. Quello is located in East Lansing, Michigan.

Measurement Lab (M-Lab) provides the largest collection of open Internet performance data on the planet. As a consortium of research, industry, and public-interest partners, M-Lab is dedicated to providing an ecosystem for the open, verifiable measurement of global network performance. Real science requires verifiable processes, and M-Lab welcomes scientific collaboration and scrutiny. This is why all of the data collected by M-Lab's global measurement platform are made openly available, and all of the measurement tools hosted by M-Lab are open

source. Transparency and review are key to good science, and good science is key to good measurement.

M-Lab's Principles - Open, user-contributed, longitudinal data.



The Michigan Broadband Alliance is focused helping municipalities, community anchors, and non-profits work together to break down barriers to achieving ubiquitous, affordable, future-proof broadband in Michigan. Among our member services are advocating for legislation and policies that help our members' goals and defending against those that don't, and providing education and information to help our members navigate Michigan's broadband landscape. Critical areas of focus are: advocacy, resource sharing and education.

EntryPoint Networks

From the beginning, the EntryPoint vision has been to separate network infrastructure from services and make it possible to increase the number of services running simultaneously to a premise by virtualizing the fiber or other media connecting a consumer. In 2010, EntryPoint began its first consulting project in Ammon, Idaho. EntryPoint has had a formal consulting agreement with Ammon since 2010, as it has successfully helped plan and deploy the most innovative and reliable network in the US. EntryPoint is currently providing consulting services for cities and counties in Utah, Idaho, California, Arizona, Oregon, Wisconsin, Indiana, Michigan, and Massachusetts. Municipalities thinking about municipal broadband should focus on the unique value which municipal broadband can provide - which traditional broadband incumbents won't or can't provide. EntryPoint's consulting services answer the question of value from municipal broadband by helping its clients focus on the customer and delivering the solutions customers seek by giving residents robust and reliable infrastructure and choice through competition.

Recommendation Task 1, 2 & 3 – Merit Network

Statement of Work: Citizen Enabled Broadband Data Collection – Lapeer County

The following document provides important information related to the 2022 Broadband Assessment & Consulting Services RFP solicitation number 4683.

The Michigan Moonshot initiative, led by Merit Network, has been identified as a valuable platform for resources to support this effort, specific to use of our Citizen Science broadband survey service. This collaboration is supported by faculty researchers at the James H. and Mary B. Quello Center at Michigan State University in addition to Merit's own research and data science resources.

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 access and adoption 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.

In addition to survey design and deployment, Merit has a strong and supportive presence throughout the planning process and community engagement activities that are imperative to developing a project that will encourage strong participation.

The importance of broadband data collection extends far beyond its application as a research tool to generate information. At its essence, data collection can be leveraged as a mechanism for community engagement at all levels. Through the process of collecting access, availability and adoption data, communities strengthen their focus on developing an ecosystem of elected officials, community anchor

institutions, broadband champions and citizens who are committed to increasing connectivity within their area. Together, this coalition of partners upholds a commitment to moving the needle forward on digital access and equity within a community. This step builds momentum across stakeholder groups including leadership, supports broadband education throughout the community and engages citizens at a grassroots level; key community engagement milestones that takes you through the rest of your broadband journey.

The Data Gap. Presently, the way that broadband data is collected and visualized in the United States underestimate broadband infrastructure access gaps. The National Broadband Map relies on Form 477 filings from Internet Service Providers (ISPs). In the National Broadband Map, if one household in a census block is served, the entire area is marked as served, even if all of the other addresses lack access. Also, these maps report broadband service as a best-case-scenario; the speeds presented in FCC maps are an ISP's highest advertised speed in the census block. Our research illustrates the FCC maps are rarely representative of speeds experienced by Michigan broadband subscribers. This overestimation has serious consequences for communities and unserved individuals. If the FCC maps assert communities are served, they often are ineligible for many types of funding. Disproving the FCC's overestimation is one of the largest hurdles communities must overcome to secure broadband funding.

Ongoing assessment efforts at both state and federal levels are underway. The state released a plan in March of 2022 to assess fiber infrastructure by an eye-sight audit. This audit excludes any urban or suburban community that the FCC asserts has universal 100/20 MBPS. As of the time of this RFP, the state audit will exclude areas of higher population or where infrastructure availability is thought to be well documented. Due to these factors, collecting consumer-sourced data at the parcel level in every census block remains the gold-standard to inform grant-seeking and broadband expansion plans. Whether expansion is a public endeavor or a partnership with private companies, consumer ROI drives investment. Expansion depends on granular information reporting which consumers have service, where their service is constrained, and whether or not households would purchase and use Internet service. The best method to quantify this information is generated by consumers themselves.

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 flexible collection from multiple devices, fixed or mobile.

Our citizen science user-based approach is differentiated from traditional infrastructure mapping approaches in key ways. End users participate by clicking a simple button that pings a measurement platform (MLab). From this, we gather carrier (ISP) data, the method of technology used to deliver service, and speeds consumers experience. This information is triangulated to the parcel-level, in a finite granularity that infrastructure assessment and FCC Maps do not provide.

Factors beyond speed drive adoption. Our survey mines for a constellation of factors impacting Internet adoption. To understand the information technology ecosystem and contribute a clear picture of consumer demand, the survey quantifies:

1. Household populations with enhanced need for broadband (children, education, work from home)
2. Technology proliferation in households
3. Frequency of connectivity challenges
4. Consumer satisfaction levels
5. Internet naïveté in unserved individuals
6. Reasons for being unserved (access vs. adoption, among others like security, safety, etc.)
7. Proportion of people comparison shopping
8. Adoption price thresholds and price sensitivity

Importantly, stakeholder and citizen engagement are critical components of this citizen-scientist approach.

This approach leverages multiple mediums and methods to reach and encourage participation from both served and unserved entities within the community. While digital participation reduces cost significantly, we believe it is imperative to incorporate companion surveys which address the unserved population in non-digital format. We have developed the following companion surveys that are used as companions to a fully online survey designed for served audiences: Mobile responsive web survey, SMS text, phone, proactive household return postage paid mailings, on-demand mailed surveys.



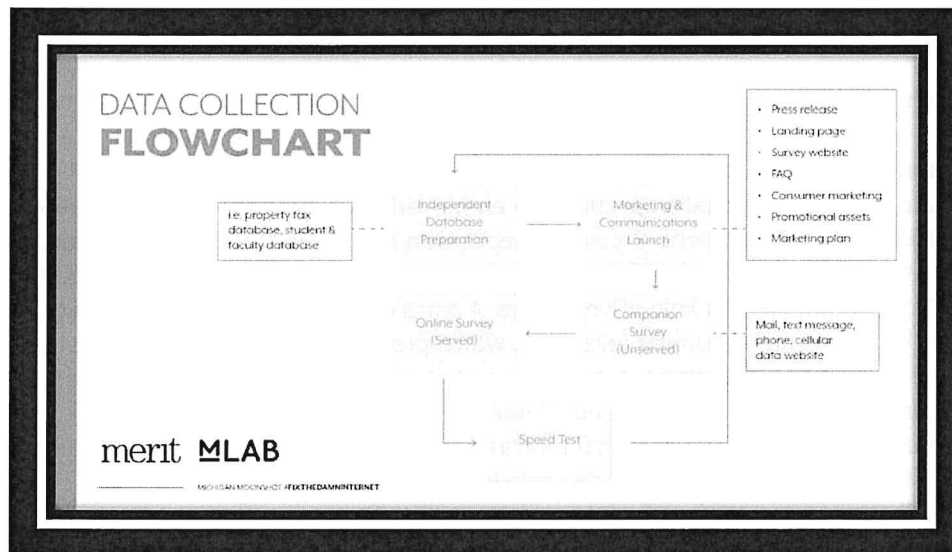
Differentiators

- Open source, user driven data
- Partners: faculty researchers @ Quello, M-Lab research based platform
- Trusted among community anchors
- Non carrier provided data - basis
- Support local engagement – partner & citizens
- Household granularity
- Ability to “survey key”
(Allows for granularity w/ privacy protection)

Outreach through Community Partner Engagement and Mass Marketing. The Michigan Moonshot Community Outreach Partner engagement program, in concert with a customized Community Marketing Merit Network Response to RFP: Broadband Survey, Pre-engineering and Feasibility Study – Lapeer County

Strategy, provides your project with multi-level grassroots and mass-marketing awareness campaigns. The Moonshot team will collaborate with your community to develop a robust list of collaborators, such as anchor institutions, fraternal organizations, recreation centers, schools, libraries, clubs, elected officials, and local broadband champions. These groups are updated regularly through the Community Outreach Partner program. They are provided with a toolkit that includes items such as press releases, social media copy and images, fliers, and emails, and are asked to utilize these pieces to help spread awareness. On-the-ground encouragement for survey participation multiplies the effectiveness of community engagement efforts, and their assistance is critical to strong response rates. Through this program, outreach partners are provided with the materials and directions they need to help make your data collection a success.

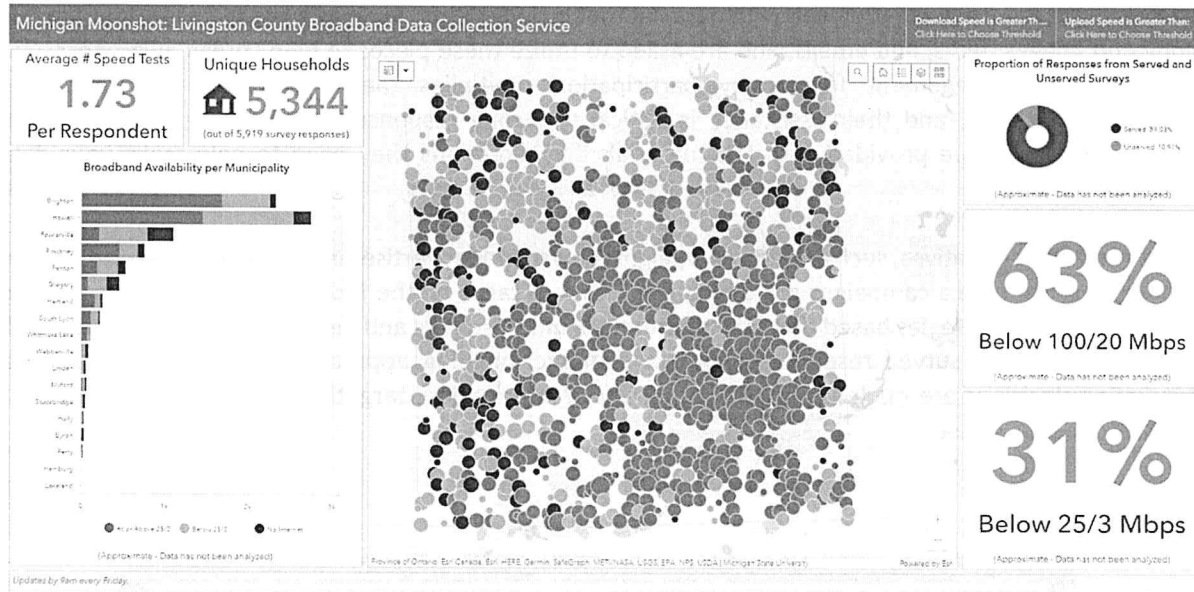
Mass marketing initiatives, such as radio campaigns, newspaper advertisements, online display ads, direct mail, and social media campaigns are developed and facilitated by the Moonshot team. Our marketing experts develop strategies based on your community's unique needs and demographics. Access to a real-time dashboard of survey responses allows a dynamic, ongoing approach to community outreach. Marketing decisions are made using up-to-the-minute information, targeting areas of highest need for the strongest response.



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. Lapeer County shall maintain unlimited access and all rights to the

Connecting Organizations, Building Community

information gathered from this survey. Merit does retain the ability to use anonymized data related to this research project in perpetuity.



Example Community Participation Dashboard.

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.
- Generate unbiased, granular and accurate household broadband access maps & visualizations including served and unserved residences and businesses to inform infrastructure investment and feasibility.

Standardized Survey Link: Survey – Merit

Outputs and work product. The suite of data products that we will deliver from this project are deep, broad, and inclusive. We have two tenets for our final deliverables: 1) that everyone can use and understand the results of this project and 2) that the results are scientifically sound. First and foremost, we present project results in an approachable manner for the public and for policymakers. Citizen-scientists drive our data gathering and our final deliverables will be constructed with them at top of mind. Also, these data products are built on a foundation of mathematical accuracy. Our talented research team of PhD-level experts are driven by scientific integrity and we will deliver results that uphold statistical reliability.

As part of our final deliverables, we will provide an executive summary and presentation with an overview of the results, including maps and charts that present the results in broad strokes. In addition, we will also deliver a detailed top-line report of over 40 pages in length that analyzes every survey question and how the results of the speed test and survey intersect with Lapeer County's geography and population. Our cross-tabulations and analysis-of-variance statistics break out important anomalies from the broader survey. These help identify areas for deeper exploration that would normally be shielded in simple aggregate tables.

We include maps exploring ISP distribution, RDOF/CMIC funding, FCC overestimation, and a novel approach to cluster analysis that serves multiple purposes. Our cluster analysis identifies pockets of under-service down to the city block level, illuminating connectivity deserts surrounded by robust, fast service. Using this cluster analysis, we interpolate speed tests into countywide heat-maps. These heatmaps define the bleeding edges of where broadband infrastructure reaches, breaking through the barrier of traditional census block service. The results of these cluster analyses give micro- and macro-analyses that define areas where adoption is the driving factor vs where access challenges constrain Internet service. These visualizations also seek inclusivity, unlike other broadband mapping organizations in Michigan, we create alternative maps inclusive of deuteranopia (red-green "colorblindness").

To ensure the results of the survey serve the constituents of Lapeer County, we will take great care to use writing styles that illuminate the purpose and results of our statistical analyses for broad audiences. To ensure these deliverables reach their targets, we will meet with broadband leaders throughout the editing process for feedback and input. As the final piece of this empowerment process, our experts will consult with county leaders on how to read, interpret, and use raw data created from this project. We will ensure leaders are confident to use these data for grant applications, negotiations, and also to share with their constituents.

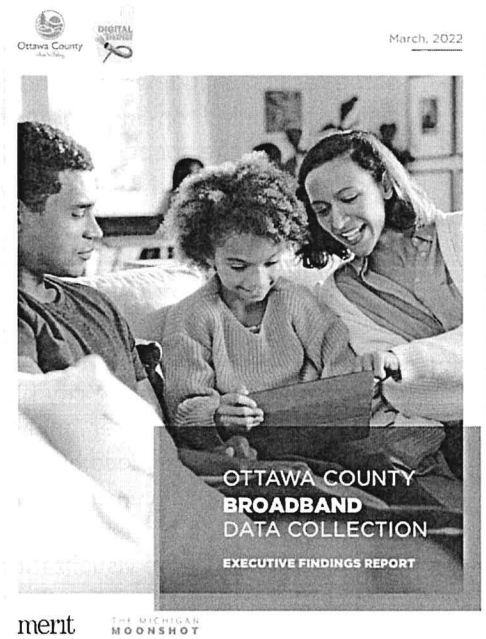
Merit works with each individual county to tailor education, data presentations and next steps to ensure you are empowered and educated at a local level to take the appropriate steps towards broadband expansion. We provide this in an unbiased fashion and strive to ensure counties are facilitated to take actionable steps towards local, county and regional goals in this arena.

Executive Summary Presentation. (Via webinar, in-person, closed/public meetings – all supported)

- Introductions
- Goals (local/custom)
- Project Overview
- Data Collection Methods
- Presentation of Findings
- Deep Dive of Survey Results
- Q&A
- Next Steps

Executive Findings Report. (10 Page Avg.)

- Introduction
- What is Broadband?
- Broadband Impacts
- Survey Design & Methodology
- Survey Results
- Countywide Heat maps (25/3 & 100/20 thresholds)
- Broadband Density per Census Block
- Availability by the Numbers (FCC Comparison, Sentiment)
- Conclusions
- Citations



Topline Report. (40 Page Avg.)

- Background
- Broadband Access: Understanding distribution of services
- Broadband penetration by speed threshold: 25 Mbps / 3 Mbps
- Broadband penetration by speed threshold: 100 Mbps / 20 Mbps
- Introduction to survey answers
- Satisfaction, speed and confidence
- Unserved individuals within the county
- Households with children within the county
- Post-secondary learners within county
- Summary
- Appendix 1: Survey responses and broadband penetration by location
- Appendix 2: High/low detailed clusters maps
- Appendix 3: References

LIST OF FIGURES

FIGURE 1 BROADBAND DENSITY.....	4
FIGURE 2 DISTRIBUTION OF DOWNLOAD SPEEDS	5
FIGURE 3 DISTRIBUTION OF UPLOAD SPEEDS.....	6
FIGURE 4 DISTRIBUTION OF DOWNLOAD AND UPLOAD SPEEDS.....	6
FIGURE 5 DOWNLOAD SPEEDS: COUNTYWIDE HEATMAP.....	8
FIGURE 6 UPLOAD SPEEDS: A COUNTYWIDE HEATMAP.....	9
FIGURE 7 SPATIAL CLUSTERING PATTERNS	10
FIGURE 8 OVERESTIMATION BY CENSUS BLOCK: SERVED AT BROADBAND SPEEDS (25/3).....	12
FIGURE 9 SURVEY DATA, FCC DATA (25/3)	13
FIGURE 10 BROADBAND DENSITY (100/20).....	14
FIGURE 11 SURVEY DATA, FCC DATA (100/20)	15
FIGURE 12 BROADBAND DENSITY AND FUNDING AVAILABILITY.....	16
FIGURE 13 CONNECTION TYPE.....	17
FIGURE 14 NUMBER OF RESIDENTS	17
FIGURE 15 NUMBER OF CHILDREN	18
FIGURE 16 DEVICE OWNERSHIP.....	19
FIGURE 17 TAKING SURVEY OVER WIFI.....	19
FIGURE 18 SATISFACTION WITH INTERNET PROVIDER	20
FIGURE 19 ISP PROMISED SPEEDS	20
FIGURE 20 SATISFACTION WITH PROVIDER OPTIONS.....	21

FIGURE 21 SATISFACTION AND DOWNLOAD SPEEDS	21
FIGURE 22 SATISFACTION AND DOWNLOAD SPEED IN HOUSEHOLDS WITH CHILDREN	22
FIGURE 23 SATISFACTION AND DOWNLOAD SPEED IN HOUSEHOLDS WITHOUT CHILDREN	22
FIGURE 24 CONFIDENCE IN SKILLS AND HOUSEHOLD DOWNLOAD SPEED	23
FIGURE 25 REASON FOR BEING UNSERVED	24
FIGURE 26 OFFSITE INTERNET USE	25
FIGURE 27 CONFIDENCE IN SKILLS	25
FIGURE 28 ACTIVITIES ONLINE	26
FIGURE 29 WILLINGNESS TO PAY	26
FIGURE 30 SUBSCRIPTION PRICING THRESHOLDS	27
FIGURE 31 SUBSCRIPTION PRICING THRESHOLDS AND REASON FOR BEING UNSERVED	28
FIGURE 32 SUBSCRIPTION PRICING THRESHOLDS AND WILLINGNESS TO ADOPT	29
FIGURE 33 NUMBER OF CHILDREN IN THE HOME AND REASON FOR BEING UNSERVED	30
FIGURE 34 CHILDREN IN THE HOUSEHOLD AND SPEED (25/3)	30
FIGURE 35 NUMBER OF CHILDREN IN THE HOUSEHOLD AND SPEED (100/20)	31
FIGURE 36 REASON FOR BEING UNSERVED AND COLLEGE COURSES	31
FIGURE 37 NUMBER OF STUDENTS TAKING COLLEGE COURSES (25/3)	32
FIGURE 38 NUMBER OF COLLEGE STUDENTS TAKING COLLEGE COURSES (100/20)	32

LIST OF TABLES

TABLE 1 OTTAWA COUNTY SPEED TEST SUMMARY	5
TABLE 2 DEVICE OWNERSHIP	18
TABLE 3 COLLEGE COURSES, SPEED, AND SATSFACTION	23

Additional Services. In addition to Citizen Science Data Collection, Merit also retains vendor partnership with Merit Marketplace preferred vendors which conduct additional planning activities related to broadband expansion. In response to Lapeer counties RFP we have selected EntryPoint Networks for the below Feasibility and Pre-Engineering components of the planned project.

Project Staffing – Data Collection

The Data Collection professional services team consist of individuals serving three major functions: Research, GIS and a project team managing all aspects of community engagement, stakeholder management, survey logistics execution, coordination and production of analysis and outputs.

Merit Staff, Consultants & Collaborators	Organization	Survey Design, Data Science, Analysis and Research	Project Team: Planning, Logistics, Project Management	Outputs, Analysis & Visualizations	Authority/Role
Dr. Johannes Bauer	MSU Quello Center	X		X	Director
Dr. Alexis Schrubbe	Merit	X	X	XX	Moonshot PM
Pierrette Dagg		X			Director
Chris Greene Hutchings			X	X	Moonshot PM
Charlotte Bewersdorff			X		Vice President
Amy Stuyvesant (GIS)			X	X	Merit Team resources
Dr. Michael Kallitsis		X			
Merit Marketing			X		
Merit Software Development			X		
Merit Business Systems			X		
Ben Fineman	Consultant		X	X	MI Broadband Alliance
Mitch Shapiro	Consultant			X	

References & Sample Project Outputs

All Projects: <https://www.merit.edu/community/moonshot/data-mapping/>

K12 Pilot Program: Timeline - Fall 2018 to March 2020, \$0 (In-Kind)

St. Clair County Regional Education Services Agency Brenda Tenniswood - Director of Ed Services P: (810) 364-8990 E: tenniswood.brenda@sccresa.org	Eastern Upper Peninsula Intermediate School District Jason F. Kronemeyer - Director of Technology P: (906) 632-3373 x 5124 E: jasonk@eupschools.org
Mecosta Osceola Intermediate School District Fred Sharpsteen - Director of Technology, CTO P: (231) 592-9601 E: fsharpsteen@moisd.org	Project Report: https://quello.msu.edu/broadbandgap/

Washtenaw County Broadband Task Force: Fall 2019 to June 2020 (\$47,765)

Barbara Fuller - Chair, Washtenaw County Broadband Task Force

Contact: P: (734) 646-5100 | E: barb@provide.net

Executive Findings:

https://www.washtenaw.org/DocumentCenter/View/16778/BBTFWashtenaw_ExecutiveFindingsReport_05292020

Detailed Project Report:

https://drive.google.com/file/d/1qd4l38m_FFZRVpPiWaakaZUUiKevNMcv/view

Wayne State University: July 2020 to October 2020 (\$0 In-Kind)

Tom Duszynski - Computing & Information Technology

Contact: P: 313-577-5638 | E: tduszyn@wayne.edu

Southwest Michigan Planning Corporation (Berrien County Project): Fall 2020 to May 2021 (\$28,500)

John Egelhaaf – Executive Director SWMPC

Contact: P: (269) 925 – 1137 | E: egelhaafj@swmpc.org

Project Report: <https://www.berriencounty.org/DocumentCenter/View/13977/BCBIT-Executive-Findings-Report-PDF>

Calhoun County: April 2021 to February 2022 (\$39,000)

Lucy Blair – Communications Manager | E: kdsconfig@calhouncountymi.gov

Project Report: <https://www.merit.edu/wp-content/uploads/2022/03/Calhoun-County-Executive-Findings-Report.pdf>

Ottawa County: May 2021 to March 2022 (\$49,552)

Paul Sachs – Director, County Strategic Impact Department | E: Paul Sachs psachs@miottawa.org

Project Report: Not yet public

Livingston County: September 2021 to March 2022 (\$55,550)

Kris Tobbe - County Administrator | E: ktobbe@livgov.com

Project Report: Not yet public

Benzie County: July 2021 to March 2022 (\$40,800)

Katelyn Zeits – County Administrator | E: kzeits@Benzieco.net

Project Report: Not yet public

Timeline & Expectations – Data Collection Surveys

Pre-Survey Consulting Scope of Work

- Finalize agreements
- Standardized survey: design & deployment
- Speed test infrastructure: Set-up and maintain
- Customized website: design & deployment
- Community communications materials development
- Turn-key community partner engagement strategy & 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 with key project resources locally
- Support any necessary taskforce and/or leadership discussions

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 (digital dashboard showing participation)
- Data collection typically runs 6 to 10 weeks

Post-Survey Consulting Scope of Work

- Executive Findings report (3-5 pages)
- Additional outputs & analysis: Visualizations via graphs, maps, charts (Qty 15-20)
- GIS files (can support integration to local instance or merger of local data into Merit analysis)
- Fully merged and cleaned database
- Community Presentation(s)

Merit requires the following county resources for this project:

- Key decision maker and/or sub-committee
- Central point of contact for project management
- Support to recruit community partners (contacts list)
- Central point of contact for citizen inquiries (help desk training provided)

Project Timeline – Data Collection

Pre Survey Activity	Data Collection	Post Survey Activity
4 WEEKS	6-8 WEEKS *Launch Blackout Period: 6/1/22 – 8/15/22	4 WEEKS
<p>Quotes/agreements</p> <p>Preliminary planning activities</p> <p>Create stakeholder communication materials</p> <p>Engage with decision makers via Taskforce</p> <p>Finalize planning activities & schedule resources</p> <p>Engage with municipal partners to prepare for citizen concerns/questions</p> <p>Organize and Launch community partner engagement</p> <p>Review execution timelines</p> <p>Refine outputs scope</p> <p>Conduct project team meetings – internal + external</p>	<p>Launch consumer marketing and communications plan</p> <p>Provide weekly progress reports re: survey participation</p> <p>Provide consistent evaluation of citizen participation, adjust as needed to promote maximum participation and hit confidence interval targets for data validation</p> <p>Verbal and written updates on the work are provided at an agreed upon frequency throughout planning and data collection</p>	<p>Clean data</p> <p>Merge databases</p> <p>Generate outputs</p> <p>Conduct analysis</p> <p>Executive findings report</p> <p>Detailed supportive report</p> <p>Includes customized outputs scope provided by county</p> <p>Report on research and best practices</p> <p>Final report Community presentation(s)</p> <p>Merit will work with county to customize scope of outputs to meet all requirements of the RFP</p>

Recommendation Task 4 – EntryPoint Networks

Statement of Work: Pre-engineering & Feasibility Study

EntryPoint Networks Solution Services Group pleased to provide this proposal in response to Lapeer County's Broadband Survey, Pre-engineering, and Feasibility Study Request For Proposals (RFP) in partnership with MERIT Network. EntryPoint proposes to perform the Scope Of Work (SOW) identified as Task 4 – Pre-engineering and Feasibility in the RFP.

It is understood from the RFP that the pre-engineering and feasibility activities are performed upon completion of the data collection and analysis portion of the SOW so that this data can be utilized 'to conduct pre-engineering of a broadband network that meets the identified *needs and goals* of Lapeer County.' What is not clear from the RFP is how the needs and goals of Lapeer County have been or will be identified. It is our assumption that the data collection and analysis performed in advance of this stage should inform these 'needs and goals'. For this reason, our proposal focuses on more than the deliverable outlined in the RFP, but also suggests the addition of some important steps to the SOW that we believe to be necessary to achieve the County's desired outcome. An actionable final report must not only identify the needs and goals of Lapeer County based on the data, but also accurately reflect the County's appetite to engage either financially or operationally in any portion of a proposed solution.

Scope of Work Overview

- 1) Identify and Rank County Priorities
- 2) Governance Structure (Framework to support the desired activity)
 - a. Legal Considerations (Authorities and Risks)
 - b. Financial Capacity (Funding, Fees, and Collections)
 - c. Business Model Development (Aligning Operations with Economics)
 - i. Identify / Recommend the level of County Ownership / Responsibilities
 - ii. Identify / Recommend Partnerships (Public / Private)
- 3) Infrastructure Architecture / Design (Required Functionalities)
- 4) Financial Analysis
- 5) Market Analysis
- 6) Feasibility Analysis
 - a. Determine whether cost modeling or feasibility design is desired
 - b. If feasibility design is desired, identify the areas or area desired
- 7) REVIEW: Does the recommended path forward align with the identified priorities?
 - a. Adjust as required to create alignment.
- 8) Strategy Development
- 9) Resulting Policy Considerations
- 10) Identify suggested Next Steps, including:
 - a. Work that can be done now at 'no cost'
 - b. Potential funding sources for startup
 - c. Suggested Initial Construction Project
- 11) Draft Final Report that documents the foregoing, and includes:

- a. Pre-engineering outputs:
 - i. Design narrative: Discussion regarding the recommended approach to be used for access to rights of way, pole structure, outside plant fiber layout, impact of active versus passive networks, central hub equipment location, wireline vs wireless, and other pertinent decision points
 - ii. Infrastructure Map: A summary map depicting proposed fiber routes, sizes, and towers/antennas (if applicable)
 - iii. Bandwidth Analysis: Investigate local bandwidth providers and suggest possible interconnection points
 - iv. Assumptions: Enumerate assumptions and unknowns, including justifications for assumptions
- b. Feasibility study outputs:
 - i. Analysis narrative: Discussion regarding costs, revenues, operational model, long term financial impacts, and overall financial viability
 - ii. Detailed project costs: Analysis of all costs for design, implementation, and maintenance of broadband infrastructure build to meet the needs and goals of Lapeer County
 - iii. Financial Model: A model that considers project costs and projected take rates to determine overall project feasibility
 - iv. Assumptions: Enumerate assumptions and unknowns, including justifications for assumptions

12) Present Final Report

Entrypoint suggests that regularly scheduled meetings with trusted county representatives be held to develop priorities, communicate, educate, and drive towards consensus on key decisions for report recommendations. An iterative process be used to maintain alignment with priorities throughout model and design development.

It is important to note that the RFP calls for pre-engineering, implying that no engineering is expected to be performed, but then calls for an infrastructure map and a feasibility study. Feasibility studies typically require some level of design or engineering to achieve the desired level of accuracy.

Any financial modeling done outside of a feasibility design is done using industry average cost models. The accuracy of this type of 'feasibility analysis' is based on numerous design assumptions to establish an 'average' from which everything is calculated. For this reason, there is typically a plus or minus variability of 20%. Actual costs will vary depending on the nature of the project area. This means that the areas with population density per mile will cost less to construct than the more rural areas with lower densities. If understanding that data, the offset, and what might encompass a representative initial project is desired, we would recommend that feasibility design be performed as a part of this work.

True feasibility design consists of a high-level design that informs an actual Bill Of Materials

(BOM) with quantities for labor and materials. For example, a feasibility design would typically list how many feet of each type of fiber cable is required along with any other required materials like duct size and footage, vault sizes and counts or pole attachments and orientation.

We would recommend that feasibility level design be performed for the entire county as a part of this work. If that scope falls outside of the available funding, then we would recommend that several areas be selected that effectively represent the low-cost and high-cost areas so that the differences in costs between the metro, suburban and rural areas of the County can be understood, and accurate averages can be developed for the financial modeling.

EntryPoint will subcontract Biarri Networks to perform the actual design work using the architecture identified as part of the SOW.

EntryPoint also recommends that the timeline for all this work be expanded to no less than 120 days, with the option to not exceed 150 days. The first 30 to days of report development work could run concurrently with the final 30 days of the data and survey collection work. This option could result in an adding a month to the timeline if necessary. Our experience has proven that the iterative process used to refine and develop an actionable plan requires 4 to 5 months of collaborative work. However, we are willing to negotiate these terms as necessary to support the County's priorities as needed.



Merit Network, Inc.
880 Technology Drive, Suite B
Ann Arbor, MI 48108
t.734-527-5700 f.734-527-4125
www.merit.edu

April 12, 2022

**Broadband Access & Availability Data Collection Services Fee Schedule
Ingham County**

Member:

ATTN: Quentin Bishop
Lapeer County
255 Clay St
Lapeer MI 48446

Prepared By:

Keason Sanvordenker
734.476.2316
skeason@merit.edu

Broadband Access Data Collection		
Service Agreement Number: 20220412-PROSERV-37525-KS-1		
	One-Time	Recurring
<u>BASE DATA COLLECTION SCOPE OF WORK</u>		
Data Collection & Marketing Support		
Consumer communication & promotions plan		
Community Partner Program		
Project Management: Logistics, Engagement coordination, weekly progress updates		
Output: Cleaned, merged database, basic visualizations	\$ 7,000	
Standardized Web Survey - Served (Online)		
Standardized Web Survey - Unserved (Mobile responsive)		
Public Participation Digital Dashboard		
Customized Landing Page Website	\$ 1,000	
Marketing Support - Ad Placement logistics	\$ 1,500	
Postcards	\$ 6,000	
Local Media and Ad Purchases	\$ 20,000	
Data Collection Outputs		
Executive Findings Report		
Detailed Data Analysis Report		
Full visualizations (Qty 15-20) maps, graphs, charts	\$ 19,000	
Community Findings Presentation		
Subtotal	\$54,500	\$0

Notes:

* This quote is valid for 90 days from the date issued
**Companion survey pricing is dependent on method selected. Web surveys are included in base pricing as quoted. Pricing Per Household:
Web Survey \$0, SMS Text - \$0.18 per HH,
Postcards - \$0.30 per HH, Phone - \$0.50 per HH,
Mail - \$1.10 per HH

Service Discount (if applicable) -\$15,000

Total Merit Service Fees \$39,500

COMPANION SURVEYS

**** Companion surveys are imperative to engage unserved communities, though they add significant expense to the data collection process. As part of the base data collection quoted above - lightweight web surveys (mobile responsive) are INCLUDED in the base pricing. Provided below are additional companion surveys, we've provided assumed figures for supportive companion surveys via mailed paper surveys, postcards and phone. Refined figures to be scoped accordingly, once awarded. All prices are one-time. NOT ALL MEDIUMS WILL BE USED, pricing provided as a suggested quantity that would be effective in promoting participation from unserved community members that cannot/will not engage with a digital survey only**

Mail Survey Qty 20,000: Setup & deployment	\$ 22,000
Text Survey Qty 10,000: Setup & deployment	\$ 1,800
Phone Survey Qty 0: Setup & deployment	-
Anticipated medium overlap	

Total Project, Not to Exceed Costs \$63,300

Pricing – Feasibility Study & Pre-Engineering

OPTION 1 – The complete SOW as suggested by EntryPoint and outlined above with full feasibility design for the entire County. The feasibility design deliverable will add a fully compliant geospatial design in GeoJSON, ESRI, or kml file format with a complete Bill Of Materials in a csv or excel file format. Proposed fees for this SOW and feasibility design:

Consulting fees for the pre-engineering and feasibility outputs and report:

EntryPoint Consulting Fees = \$6,400 per month for 5 months, with a cap not to exceed \$32,000.

Feasibility design to every county address (demand points) = \$46,000 to be paid upon County acceptance of the completed feasibility level design.

OPTION 1 – GRAND TOTAL = \$78,000

The consulting fees outlined above is based upon an estimated 32 hours per month average at \$200 per hour. No travel expenses are included. If the County desires EntryPoint to travel as part of this engagement, actual travel costs will be billed by EntryPoint and reimbursed by the County. EntryPoint will guarantee completion of the outlined work in 4-5 months for a total cost to Lapeer County not to exceed \$32,000, excluding travel expenses.

The feasibility design fee is based on a cost of \$1.10 per demand point or fiber drop expected based on publicly available parcel data. Feasibility design will take between 2 to 4 weeks and run concurrently with other consulting work with a cost not to exceed \$46,000.

OPTION 2 – The complete SOW as outlined above with partial feasibility design for selected areas inside the county, not to exceed . The feasibility design deliverable will add a fully compliant geospatial design in GeoJSON, ESRI, or kml file format with a complete Bill Of Materials in a csv or excel file format. Proposed fees for this SOW:

Consulting fees for the pre-engineering and feasibility outputs and report:

EntryPoint Consulting Fees = \$8,000 per month for 5 months, with a cap not to exceed \$40,000.

Feasibility design to $\leq 8,000$ county address (demand points) = \$12,000 to be paid upon County acceptance of the completed feasibility level design.

OPTION 2 – GRAND TOTAL = \$52,000

The consulting fees outlined above is based upon an estimated 40 hours per month average at \$200 per hour. No travel expenses are included. If the County desires EntryPoint to travel as part of this engagement, actual travel costs will be billed by EntryPoint and reimbursed by the County. EntryPoint will guarantee completion of the outlined work in 4-5 months for a total cost to Lapeer County not to exceed \$40,000, excluding travel expenses.

The feasibility design fee is based on a cost of \$1.15 per demand point or fiber drop expected based on publicly available parcel data. Feasibility design will take between 2 to 4 weeks and run concurrently with other consulting work with a cost not to exceed \$12,000.

OPTION 3 – The complete SOW as outlined above with partial feasibility design for selected areas inside the county, not to exceed . The feasibility design deliverable will add a fully compliant geospatial design in GeoJSON, ESRI, or kml file format with a complete Bill Of Materials in a csv or excel file format. Proposed fees for this SOW:

Consulting fees for the pre-engineering and feasibility outputs and report:

EntryPoint Consulting Fees = \$9,600 per month for 5 months, with a cap not to exceed \$48,000.

No feasibility design included. Financial modeling will be based on industry averages for metro, suburban and rural areas as identified by the County.

OPTION 3 – GRAND TOTAL = \$48,000

The consulting fees outlined above is based upon an estimated 32 hours per month average at \$200 per hour. No travel expenses are included. If the County desires EntryPoint to travel as part of this engagement, actual travel costs will be billed by EntryPoint and reimbursed by the County. EntryPoint will guarantee completion of the outlined work in 4-5 months for a total cost to Lapeer County not to exceed \$48,000, excluding travel expenses.

merit

Connecting Organizations, Building Community

ADDITIONAL DOCUMENTS

merit

Connecting Organizations, Building Community

REFERENCE TESTIMONIALS



REGIONAL EDUCATIONAL SERVICE AGENCY
Education Services Department

499 Range Road, PO Box 1500
Marysville, MI 48040
(810) 364-8990 • Fax (810) 364-7474
www.sccresa.org

October 31, 2019

To whom it may concern,

St. Clair Regional Education Service Agency has partnered with Michigan State University and Merit Network to assess the "homework gap" experienced by our students and families, especially in the rural areas of our county. We believe that this research is imperative as the homework gap caused by limited access to broadband can adversely impact our students' learning and academic performance, which can have profound, life-long consequences.

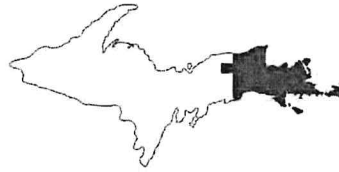
Our experiences with MSU and Merit have been very collaborative and positive. Both agencies have been very responsive to questions, have provided timely updates, well-organized materials and have taken all of our input into consideration as the project has been implemented. The level of collaboration has been top-notch, with clear communication and effective planning.

I would highly encourage all organizations who are interested in researching this critical issue to engage with the work of MSU and Merit. I am very hopeful that the data curated from this Moonshot project will be used to leverage additional resources and access to broadband to better meet the needs of all of our students.

Sincerely,

A handwritten signature in cursive script that reads "Brenda L. Tenniswood".

Brenda Tenniswood
Director of Education Services
St. Clair County Regional Service Agency



EASTERN UPPER PENINSULA
INTERMEDIATE SCHOOL DISTRICT

October 31, 2019

To Whom It May Concern:

On behalf of the Eastern Upper Peninsula Intermediate School District (EUPISD), it is without hesitation that I write this letter to recommend both Merit Network and the Quello Center at Michigan State University as the perfect partners for Washtenaw County's Broadband Access & Availability Data Collection project.

EUPISD along with all the schools in Chippewa, Mackinac and Luce Counties were pilot communities on the Moonshot K-12 Citizen Scientist Data Collection Pilot Spring 2019. Students in grades 7-12 "Measured the Homework Gap" across our region through citizen science. Students watched a video about the "homework gap" in class, completed a paper survey, finally going home and doing a broadband quality or "speedtest" for their homework.

The Michigan Moonshot initiative, led by Merit Network, has become the sounding board to ensure equitable access for all citizens of Michigan. Our partnership with Merit Network and the Quello Center on the Moonshot Data Collection Project has produced the following benefits for our communities.

- Identification of underserved communities which were previously overlooked as a result of over-generalization within census blocks.
- Recognition within communities of the benefit of participation and how their role in this project will increase opportunities to students, schools and the community.
- Current, accurate depiction of need and the associated gap with respect to availability of service.
- Most importantly, the data collected has catalyzed change through informing actionable plans for our communities to overcome this challenge once and for all.

We look forward to an ongoing partnership on broadband data collection projects statewide which will position our communities for increased collaboration and student success going forward.

If you have any questions regarding this recommendation, please contact me at 906-632-3373 x5124 or jasonk@eupschools.org

Sincerely,

Jason F. Kronemeyer
Director of Technology, EUPISD

Mecosta-Osceola Intermediate School District

15760 190th Avenue, Big Rapids, Michigan 49307-9096
Phone: (231) 796-3543 Fax: (231) 796-3300
www.moisd.org



1/11/2021, 2021

To Whom It May Concern:

On behalf of the Mecosta Osceola Intermediate School District (MOISD), it is without hesitation that I write this letter to recommend Merit Network. The work they have completed on project Moonshot has helped move us forward on closing the Internet gap.

MOISD along with Morley Stanwood was a pilot community on the Moonshot K-12 Citizen Scientist Data Collection Pilot Spring 2019. Students in grades 7-12 "Measured the Homework Gap" across our region through citizen science. Students watched a video about the "homework gap" in class, completed a paper survey, finally going home and doing a broadband quality or "speed test" for their homework.

The Michigan Moonshot initiative, led by Merit Network, has helped to ensure equitable access for all citizens of Michigan. Our partnership with Merit Network and the Quello Center on the Moonshot Data Collection Project has produced the following benefits for our communities.

- Identification of underserved communities that were previously overlooked as a result of over-generalization within census blocks.
- Recognition within communities of the benefit of participation and how their role in this The project will increase opportunities for students, schools, and the community.
- Current, accurate depiction of need and the associated gap with respect to the availability of service.
- Most importantly, the data collected has catalyzed change through informing actionable plans for our communities to overcome this challenge once and for all.

We look forward to an ongoing partnership on broadband data collection projects statewide which will position our communities for increased collaboration and student success going forward. If you have any questions regarding this recommendation, please contact me at (231) 592-9601

Fred Sharpsteen

Director of Technology, CTO
15760 190th Ave
Big Rapids, MI 49307
fsharpsteen@moisd.org
(231) 592-9601

January 8, 2021

To Whom It May Concern:

I was part of a team at Wayne State University that worked with Merit Network on a customized version of the Moonshot initiative during 2020. I highly recommend Merit's services for any Michigan-based organization seeking to improve Internet connectivity within their community.

Wayne State serves a diverse constituency of students, faculty, and staff that are mostly located within the metropolitan Detroit area. When the coronavirus pandemic forced the campus to close, students and employees had to work at locations scattered throughout Michigan (as well as Ohio and Ontario, Canada).

We realized that we needed a better understanding of the technology barriers facing our community: did they have adequate Internet bandwidth? Did they have ready access to a computer? Was a cell phone their only way to connect?

Merit's Moonshot initiative was a perfect fit: the survey could answer our questions, and at the same time, it benefited others by adding more speedtest measurements that are needed to challenge the accuracy of the FCC's 477 maps.

Everyone at Merit was receptive to Wayne State's needs. We had some accessibility concerns about the survey instrument. We wanted to use our campus portal to deliver personalized invitations for the Moonshot survey. We asked for more specific data about the carriers. The Merit team accommodated all of these requests in a timely and professional manner.

I heartily endorse the Merit Moonshot initiative. Feel free to contact me if you have any questions, or need more information!

--Tom

Tom Duszynski
Computing & Information Technology
Wayne State University
313-577-5638
tduszyn@wayne.edu



WAYNE STATE
UNIVERSITY



Washtenaw County Broadband Task Force

Established by the Washtenaw County Board of Commissioners

Working to Achieve Countywide Broadband Equity by 2022



January 11, 2021

Dear Ottawa County Purchasing Department,

On behalf of the Washtenaw County Broadband Task Force (BBTF) as established by the Washtenaw County Board of Commissioners, it is without hesitation or reservation that we recommend Merit Network for the Ottawa County Broadband Data Consulting Services RFP-21-10.

In January of 2020, the BBTF engaged Merit to assist with a survey to quantify the current level of internet connectivity (if any) at some 33,000 premises located in 15 rural Washtenaw County Townships. To see the reported results of this survey project, please visit www.washtenaw.org/broadband.

Believing that the FCC's Form 477 data is unreliable and over-reports coverage, the BBTF issued an RFQ to gather more accurate and granular data. Merit Network was the consultant selected for this work through a competitive bid process. Merit's role was to help the BBTF collect accurate, granular connectivity data in pursuit of state and federal grant funds to achieve county-wide broadband access at the 25 Mbps download and 3 Mbps upload speeds. Our survey sought to:

- 1) Measure and map the true level of connectivity utilizing a speed test by each household
- 2) Gather residents' sentiments about broadband usage and the ways in which access, or lack of access, impacts quality of life
- 3) Understand residents' positions regarding broadband service pricing
- 4) Develop connectivity information for Washtenaw County's K-12 students

The BBTF partnered with Merit Network's Michigan Moonshot team to develop, deploy and analyze the survey that was designed to accommodate both online and paper responses (for those without connectivity). Merit's experience and high caliber staff worked with us to:

- Create the website and speed test design
- Develop and individualize the survey instrument
- Match surveys with parcel ID's for both survey distribution and mapping of responses
- Aggregate and analyze the results in a database, by address and township, including speed test results and GIS mapping

Merit's expertise eliminated duplicates, consolidated responses from multiple parcel ID and avoided consideration of responses from VPN connections. At every step along the way, Merit provided valuable advice; elevating the value of the survey instrument, maximizing the response rate and ensuring the validity and integrity of the data. The BBTF survey received a 23% response rate in contrast to the typical 10-15% response rate of external surveys. This achievement can be attributed to Merit's marketing and promotional support that successfully tapped into the public's sense of frustration with the intractable indifference of the incumbent ISPs.

The detailed 84-page final report (www.washtenaw.org/broadband) contains over 75 pages of charts, graphs and coverage maps. The comprehensive narrative and illustrations reflects Merit's commitment to bridge Michigan's digital divide and a willingness to share their creative and enthusiastic in-house talent.

As a result of the survey, the BBTF is well positioned to develop grant applications with accurate, granular and defensible data. Without reservation, the experience with Merit exceeded our expectations at every turn and on every level.

Should you have any questions, please do not hesitate to reach out to us.

Sincerely,



Barbara Ryan Fuller, Chair
Washtenaw County Broadband Task Force
barb@provide.net or (734) 646-5100



Gregory Dill
Washtenaw County Administrator
dillg@washtenaw.org or (734) 222-3401



Southwest Michigan Planning Commission

January 14, 2021

Ms. Charlotte Bewersdorff
Vice President for Community Engagement
Merit Network
880 Technology Drive, Suite B
Ann Arbor, MI 48108

Dear Ms. Bewersdorff:

I want to express my appreciation for the expertise that Merit has provided to the Southwest Michigan Planning Commission (SWMPC) for our broadband expansion efforts in Berrien County. The SWMPC is staffed with regional planners and GIS mapping experts but we have only slightly more than general fluency with broadband issues. Over time we have sought to expand our knowledge of what is happening in the broadband space. The pace of that acquisition of knowledge increased significantly in 2019 when Berrien County made county-wide broadband a priority and handed the task over to the SWMPC. Soon after that we found Merit and became aware of the Michigan Moonshot.

Before any sort of formal relationship between us had crystalized, you were remarkably informative and willing to help us make sense of the broadband landscape. We had no clear direction in our journey but knew that building our knowledge base was essential. To that end, the Moonshot was an essential piece that helped clarify our path. Over time and with your patient, steady, reliable input always available when we needed it, our direction began to snap into place. You helped us organize our local champions. You helped us see the logic of the appropriate steps necessary to connect our efforts together. Now, since we have formalized our engagement and begun our county-wide broadband data collection project together, I can see Merit from another angle. The team at Merit is absolutely responsive, accommodating, and expert in every regard. Their dedication to our cause is exemplary. From the start, I have never felt anything but pride in our decision to partner with Merit.

Sincerely,

K. John Egelhaaf, AICP
Executive Director
Southwest Michigan Planning Commission

Michigan Moonshot Toolkit and Survey Helps Communities

Local leaders around Michigan are well-served by the Michigan Moonshot Broadband MERIT team which helps these leaders effectively use the resources within the outstanding Moonshot Toolkit. Luckily, for leaders of other states, these resources are available online as a source of knowledge and strategy as they tackle the challenge of spurring broadband deployment in their community or region.

The community survey within the Toolkit is of special high value. Gathering quality data about existing broadband services and community needs is an essential first step in any community broadband initiative. By providing a well-designed and tested survey instrument, communities can proceed directly to implementation and analysis. Survey design is an often, under-appreciated skill where small changes in text and format can negatively impact usability and reliability. Through the Toolkit, the MERIT team's expertise is widely shared and valued, providing benefits to communities and states across the country.

As a community broadband coach, I highly recommend the Toolkit as a way for communities to get their broadband teams and initiatives up and running in a hurry, making community broadband experts out of citizen volunteers, economic developers and elected officials.

Bill Coleman
Community Technology Advisors
Benton Institute for Broadband & Society
<https://www.benton.org/>

Project Use Case: Utilizing Merit survey, with permissions, to conduct statewide data collection in support of broadband expansion. Benton Institute is in partnership with the Illinois Office of Broadband.



Paul Sachs
Director

Ottawa County[®]

Department of
Strategic Impact

April 11, 2022

Ms. Charlotte Bewersdorff
Vice President for Community Engagement
Merit Network
880 Technology Drive, Suite B
Ann Arbor, MI 48108

Dear Ms. Bewersdorff:

I want to express my appreciation for the expertise that Merit has provided in helping Ottawa County advance its Digital Inclusion Strategy.

In 2018, over a dozen counties in West Michigan, including Ottawa, partnered with ConnectMichigan, a State-sponsored initiative, in attempt to quantify gaps in broadband access, particularly among residents residing in more rural communities. Unfortunately, the results of that effort did not provide the level of granularity needed to thoroughly and accurately understand our region's true broadband landscape. Acquiring a solid understanding of that landscape is a critical first step to addressing the unacceptable broadband inequities that community leaders know exist but have been unable to spatially verify.

In 2021, in light of continued struggles among rural residents in accessing reliable, affordable broadband Internet, Ottawa County's Data Collection Steering Committee began actively seeking methods and partners that could help acquire the information needed to formulate a solution to the inequities. From our first interactions with Merit and the Michigan Moonshot partners, we've received generous support and unbiased information to support the work of our Committee.

Your approach to engaging community partners, leveraging key contacts, and reaching targeted areas via direct and in-direct marketing was instrumental in helping us acquire a much clearer, and more reliable, picture of broadband access across the County, especially compared to existing State and Federal-level data. The reports and maps that Merit generated are clear and compelling, and will be useful to us as we pursue technical solutions and funding strategies to continue moving our effort forward. We could not have gathered the type of quality of data about the current state of Internet access in Ottawa County without the help of Merit.

I am pleased we selected Merit to partner with us on this important undertaking; and would recommend the Michigan Moonshot program to other communities getting started on their paths to advancing digital equity.

Sincerely,

Paul Sachs, Director
Ottawa County Department of Strategic Impact



448 Court Place • Beulah, MI 49617

April 8, 2022

Ms. Charlotte Bewersdorff
Vice President for Community Engagement
Merit Network
880 Technology Drive, Suite B
Ann Arbor, MI 48108

Dear Ms. Bewersdorff:

On behalf of the Benzie County Board of Commissioners and the Benzie County Economic Development Committee, I would like to express our appreciation to Merit and the Michigan Moonshot for our successful data collection project.

As you know, Benzie County is majority rural with 17,000 residents spread across 860 square miles. The Economic Development Committee established a Broadband Subcommittee in 2019, although the work of the committee really took off when we began our relationship with Merit in the Spring of 2021. You and your team of experts met us where we are. You provided unbiased information and clear guidance. I especially appreciated the way your team worked respectfully with all of our leaders, including those who had little knowledge of broadband as well as those who are experts.

After watching a grassroots survey effort in neighboring Manistee County falter, we were glad to have an experienced organization like Merit as our partner. I am certain that our survey would not have been nearly as successful as it has been without the strategy and engagement of the Moonshot team. The Community Partners program and the schedule of promotions and events helped us garner a statistically legitimate population sample. These efforts have also reignited community interest and involvement in solving this collective problem.

I am happy to recommend Merit and the Michigan Moonshot to other communities that are seeking a pathway to expand Internet access. It has been a pleasure to work with you and your team.

Sincerely,

Katelyn Zeits, MPA
Benzie County Administrator



Connecting Organizations, Building Community

STAFFING RESUMES

ALEXIS D. SCHRUBBE, PHD

MOONSHOT PROGRAM MANAGER

Austin, TX · 262-227-9534 · adschrubbe@utexas.edu · [linkedin.com/in/schrubbe/](https://www.linkedin.com/in/schrubbe/)

Merit Moonshot program manager with **10** years of experience in telecommunications and sociological/information studies applied research. Deep expertise in projects focused on identifying digital gaps in multiple geographies/populations utilizing methods in mapping, data analysis, and quant/qualitative techniques with PhD level expertise in telecommunications policy. Extensive experience working with leadership from the local to the federal to identify digital inequities, construct inclusion plans, and level the digital playing field.

PROFESSIONAL EXPERIENCE

Merit Network Institute – University of Michigan

August 2021 – Present

PROGRAM MANAGER, MICHIGAN MOONSHOT

Ann Arbor, MI

- Plan and execute data collection service to ground-truth real digital inequities across the state of Michigan
- Survey design, geospatial data analysis, demographic studies, and similar quantitative telecommunications/social research
- Support/lead community engagement and presentations with local broadband planning groups, taskforce, and steering committees
- Work with partners and policymakers to identify scaling opportunities and policy improvements

Technology & Information Policy Institute – University of Texas

May 2020 – August 2021

POST-DOCTORAL RESEARCHER

Austin, TX

- Lead grant-sponsored research including study design and funding procurement on mixed methods research project linking entrepreneurial activity to enhanced rural broadband in Texas, Kansas, and Maine
- Grant writing for public and private funding opportunities
- Managed and mentored team of predoctoral researchers in multiple digital inclusion priorities including telecommunication in disasters, ethical AI design, telehealth and libraries among other forthcoming projects
- Served on volunteer committee for Austin's 2021 Grant for Technology Opportunities Program (GTOPs)

DOCTORAL RESEARCH ASSOCIATE, *promoted May 2020*

- Presented digital inclusion research & proposals to committees of scholars, stakeholders, non-profits for funding, validity, and ethical impact including but not limited to the City of Austin, Kansas State Dept. Commerce, TX Governor's Broadband Council, National Science Foundation, Federal Communications Commission
- Drafted research questions, conducted background research and recruited pools of up to **10,000 research participants** in multiple studies (City of Austin Digital Assessment, New York/Brooklyn/Queens Public Library Hotspot assessment, Maine State Library, Kansas State Library Hotspot assessment program)
- Drafted interview questions, conducted background research and recruited **60+** focus groups with geographically and socially diverse individuals in urban, rural, exurban environments focused on digital inclusion topics
- Participated in **global** research projects including a US Department of State Fulbright-Hays sponsored research in Siberia and digital cultural exchange with Madeira, Portugal Interactive Technologies Institute
- Authored **300+** page qualitative study report on the Homework Gap in American households across the nation
- Shared findings with academic, governmental audiences and published written work in academic books, journals, and web outlets
- Contributed to **13+ large research studies** exclusively focused on broadband policy, digital inclusion topics, and the Homework Gap

Common Cause

May 2016 – August 2016

TELECOMMUNICATIONS POLICY PREDOCTORAL RESEARCH FELLOW

Washington, DC

- Led legal research team of 4 interns to develop strategy for non-profit generated research, presented comments, findings to the Federal Communications Commission on the subject Lifeline Telephone Subsidy Reform

University of Texas

September 2012 – May 2016

ASSISTANT INSTRUCTOR

Austin, TX

- Designed curriculum for 12-week course on social-historical contexts of technology, and technology regulation in US and abroad
- Led classes attended by 150 students presenting content, guiding interactive discussions, and grading exams and papers

TEACHING ASSISTANT, *promoted August 2014*

- Assisted 3 professors for 3 classes per year, supporting instruction, assessment, course organization and communication
- Collaborated with instructor and executed administrative tasks including teaching three course sections per week

EDUCATION

DOCTOR OF PHILOSOPHY (PHD) – *Technology & Information Policy, Media Studies*

2020

University of Texas

Austin, TX

MASTER OF ARTS – *Russian, East European & Eurasian Studies*

2013

University of Texas

Austin, TX

BACHELOR OF ARTS – *Political Science, Eastern European & Russian Studies*

2009

University of Wisconsin

Madison, WI

TECHNICAL PROFICIENCIES

Microsoft Office Suite | Slack | Trello | Asana | Discord | Basecamp | Google Suite | Adobe Creative Suite | CMS and Curriculum Design Software | SPSS | Stata | SAS | Tableau | NVivo | Dedoose | Qualtrics | SurveyMonkey | HubSpot | R | Descript | Twitch | & Others

Pierrette Renée Dagg

4133 Northmoor Road, Ottawa Hills, OH 43606
pierrettedagg@gmail.com • 937.212.0631

Experience

Director of Marketing and Communications Merit Network /University of Michigan

2016-Present

Merit Network operates America's longest-running regional research and education network. The Michigan Moonshot initiative is Merit's commitment to ending the digital divide. The Michigan Moonshot aims to leverage public and private partnerships to connect everyone in rural Michigan, regardless of geography.

Responsible for developing marketing and analytics strategies to further business goals, membership growth and increasing market penetration/revenue generation for 45-item product and service portfolio, and directing the teams that execute these strategies. This includes outreach and communications efforts for the Michigan Moonshot initiative. Developed integrated cross-departmental sales and marketing customer acquisition strategy and tracking process for customer pipeline. Responsible for developing promotional strategies that leverage market research and behavioral analytics to execute large-scale digital marketing and event campaigns. Created analytics-first digital sales process to measure hard and soft ROI on all marketing initiatives (in the first 90 days has resulted in 200% increase in lead generation through website alone).

Built digital-first approach for sales and marketing departments, which included rebuilding all outreach material, developing a new website and event management system and creating a sales app for the outreach team.

Director of marketing and events department, which includes all aspects of sponsorship fundraising and relationship management, plus oversight of the teams that execute these multi-day, large-scale nonprofit conferences. Also run year-round sponsorship programs and scholarship fund management, strategy, focus group outreach, recruiting, campaigns, budget management, forecasting and cost center management. Member of the Technology Governance group for the organization.

Developed and taught multiple change management and organizational psychology workshops for organization and customers (Organizational Design was a core area of one of my degrees). Teach and lead "tiger team" cross-departmental working groups for organization.

Creative Director and Senior Producer Crain's Detroit Business, Detroit, MI

2011-2016

Crain's Detroit Business is a sister publication of Crain Communications, who also owns Advertising Age, Automotive News, Auto Week, Plastics News and 25 other titles across the United States. Crain's Detroit averages 28,000 + digital subscribers and more than 1.8 million page views per month.

Director of marketing team, events team and editorial creative design group. Responsible for creative direction and strategy for digital and print deliverables, including the print magazine, digital and custom content, subscription drives, event attendance, sponsorship and more.

Completed Communications Audit of four publications, modeled after the GM China auditing process, to create efficiencies and cost savings within our brand, which resulted in a savings of more than \$150,000/year across marketing, sales and events departments. Lead a complete redesign of the print publication, which involved reader and advertiser focus groups, multivariate testing and the creation of additional revenue streams for the organization.

Hosted, moderated and recruited attendees for editorial and sponsored webinars (this program grew by 300% in one year, and garnered nearly 10,000 participants).



Graphic Designer, Multimedia Producer
Thorworks Industries, Sandusky, Ohio

2007-2011

ThorWorks Industries is the parent company of Peanut.com, one of the largest online snack companies, as well as JetCoat Inc and Farmpaint, two large home improvement brands that can be found in Lowes, Menards and Home Depot, as well as the parent company of NASCAR's longest running truck team, FunSand, ThorTurf and many other diversified retail product lines.

Project management and creative design for large-scale relaunch of Peanut.com, including all product photography, art and product descriptions. Designed all tradeshow material and storefront signage. Lead brand-builder for several nationwide product lines through national commercials, national magazine ads and covers, product packaging design, brochures, signage, direct mail, writing and producing sales video, press releases, and website development. Launched several successful new product lines through major nationwide intermediary retail chains and online retailers in record time.

Video Producer and Instructor
Miami Valley Communications Council, Centerville, Ohio

2000-2006

Produced programming and commercials for broadcast, web streaming and radio for eight municipalities in the Dayton area. Taught television production, design, directing and video arts to students ranging in age from 10-75. Founded partnership between school districts and municipal facilities as part of an Educational Department outreach. Implemented program to aid over 300 boy scouts earn media badges.

Education

PhD student, Social and Philosophical Foundations of Education and Education Technology
University of Toledo – Anticipated graduation May, 2022

Masters of Business Administration, Executive Concentration
University of Toledo

2017-2018

Bachelor of Arts, Interdisciplinary Studies, University of Toledo
Phi Kappa Phi, Magna Cum Laude,
2014 Distinguished Achievement Graduating Scholar

2010-2014

Achievements

Emmy nomination, multiple awards for Excellence in Journalism from the Society of Professional Journalists, Prism awards, and honors from the Alliance of Area Business Publications, NATOA and Philo T. Farnsworth, Distinguished Achievement Graduating Scholar award

Volunteerism

- Boy Scouts of America (4 years)
- FIRST Mentor (1.5 years)
- Hospice of Michigan (6 years - ongoing companionship, special projects and pet therapy volunteer)
- Children International sponsor parent (ongoing)
- Hospice of Dayton (1 year)
- Best Buddies International (1 year)

CHARLOTTE BEWERSDORFF

Phone: (734) 476-7044 | lottieb_99@yahoo.com | Canton, MI

Dedicated senior leader with a passion for solving long-term challenges in Michigan's research and education community through organizing around action, assimilating team components and managing with a strong sense of urgency across local, state and national ecosystems has aligned perfectly with Merit's mission of "Connecting Organizations and Building Community."

Proven track record of growth, innovation, and performance. Highly successful in business planning and in building effective state and national ecosystems, partner relationships and programs to support Merit's expansion and growth initiatives. Thrives in fast paced, uncharted territory and able manage multiple diverse and complex projects and people while adhering to objectives, deadlines and performance goals. Strong ability to represent visionary strategic initiatives to varying audiences and in leveraging engagement to nurture relationship development in pursuit of mutually beneficial outcomes. Possesses the rare ability to move from vision to actualization both directly and with use of extended resources across multiple organizations.

STRENGTHS & AREAS OF EXPERTISE

- | | | | |
|-----------------------|---------------------|--------------------------|----------------------------|
| ◆ Senior Leadership | ◆ Problem Solving | ◆ Decision Making | ◆ C-Suite Communications |
| ◆ Strategic Thinking | ◆ Change Management | ◆ Emotional Intelligence | ◆ Relationship Development |
| ◆ Broadband Expansion | ◆ Grant Writing | ◆ Business Development | ◆ Strategic Collaboration |
-

PROFESSIONAL EXPERIENCE

University of Michigan – Merit Network | Ann Arbor, MI | Oct 2013 to Present

VICE PRESIDENT FOR COMMUNITY ENGAGEMENT: 10/2019 to Present

Executive officer responsible for operational leadership across all community facing teams including Member Engagement, Engagement Support and Marketing, Communications & Events. Responsible for strategy development and execution related to organizational growth initiatives and diversification. Responsible for affiliate Membership growth, strategic relationship development and services revenue generation (14MM Annually) across four lines of business. Strong focus on building teams and structure to support revenue growth in a fast paced and competitive technology services marketplace via Membership based non-profit structure.

Key Accomplishment: Spearheads the Michigan Moonshot initiative for Merit, working tirelessly to solve our state's broadband access challenges through data and research efforts, community education initiatives and the development of public/private partnerships. This effort is an active expansion of Merit's mission to expand technology and education resources specific to closing the digital divide. Merit took a state leadership role to catalyze an ecosystem at local, state and national levels. Established strong state, local and national relationships among a new community dedicated to this important issue. In partnership with MSU Quello Center, led the effort to pioneer Merit's approach to crowdsourced citizen science broadband access and adoption data collection & mapping techniques. Developed and hosted Michigan's first two Broadband Summit events. In a short time, this evolutionary program has effectively educated communities on broadband expansion and worked to effectively support communities taking action and demonstrating tangible progress. Honored with the 2021 Rose-Werle Award for her contributions to the education community by extending advanced networking, content, and services to community anchors nationwide through her work with the Michigan Moonshot.

EXECUTIVE DIRECTOR OF MEMBER ENGAGEMENT: 10/2016 to 10/2019

Senior leader focused on organizational structure alignment in pursuit of planned growth strategies. Strong focus on establishing strong lieutenants and growing ability to manage operational duties independently. Responsible for services revenue generation. Co-led initiative to shed unsuccessful service offerings, strategically planned to overcome revenue deficit left by sun setting of services.

DIRECTOR OF SALES: 10/2013 to 10/2016

Provide operational leadership to individual contributors within sales team at Merit.

EDUCATION, TRAINING, ADDITIONAL LEADERSHIP

BA Business Management – Finance concentration | University of Detroit Mercy | Detroit, MI
Dale Carnegie Institute | Michigan | 2004
State of MI Licensed Life Insurance Agent | Michigan | 2005
Predictive Index Institute Certification (Behavioral science) | Arizona | 2008

Michigan Broadband Alliance Board Member | 2021 to Current
Michigan Council of Women in Technology | 2021 to Current
Best Buddies International (Michigan Expansion): Fundraising event chair, Annual Walk fundraiser
National Telecommunications & Information Administration (NTIA) – Broadband Infrastructure Program Grant Reviewer

Amy Stuyvesant

amystuyv@merit.edu - 734.527.5738 - amystuy.wix.com/amystuyvesant

EDUCATION

Master of Environmental Science and Management, Pollution Prevention and Energy (June 2016)

Bren School of Environmental Science & Management, University of California, Santa Barbara

Bachelor of Art in Environmental Studies with minors in GIS and Conservation Biology (June 2013)

University of California, Los Angeles

Academic Accomplishments: Departmental Honors, Undergraduate Research Fellow, Latin Honors: GPA - 3.73

Athletics: Women's Varsity Club Sailing and Club Gymnastics

GIS & DATA MANAGEMENT EXPERIENCE

Merit Network, Inc., Ann Arbor, MI

Business Systems GIS and Data Analyst (June 2020 – Present)

- Design, implement, and manage Merit Network's GIS Strategic Plan for comprehensive internal and external adoption
- Perform geospatial data analysis for broadband data collection projects, aiming to close the digital divide

City of Detroit, Detroit, MI

Energy and Water Benchmarking Manager (March 2020 – April 2020)

- Led the City in the research, development, and implementation of a municipal internal utility management program
- Identified opportunities to increase energy and water efficiency while tracking GHG and financial savings

Lead GIS Analyst (March 2018 – March 2020)

- Led the DWSD side of the bifurcation of all GIS data systems (SQL enterprise geodatabase, ArcGIS for Server, ArcGIS Online content and users, etc) saving the Department \$200,000 per year
- Created and maintained field applications (Collector, Survey123) and executive dashboards to increase workflow efficiency, decrease paper-based workflows, and improve data QA/QC
- Collaborated with non-profit and community members on a citywide [green stormwater infrastructure hub](#)

Sustainable Housing and Transportation in Santa Barbara (Master's Thesis), Santa Barbara, CA

Project Data Manager and Statistical Analyst (March 2014 – June 2016)

- Conducted survey and statistical analysis of Santa Barbara's urban residents' commuting habits and preferences
- Analyzed best management practices to encourage alternative transportation, including employer incentives and parking fees
- Calculated per capita GHG emissions of geographical subgroups based on respondent data and EPA vehicle emission factors

NASA DEVELOP National Program, Hampton, VA

GIS Project Manager (June 2015 – August 2015; August 2016 – November 2016)

- Managed teams of 3-5 researchers on two remote sensing projects that explored extreme heat as an urban health hazard in Arizona (2015) and algal blooms in Rocky Mountain National Park (2016)
- Led technical meetings with science advisors, developed project methodology, and trained team members
- 1 of 6 selected out of 78 projects to give the end-of-term highlight presentation at NASA Headquarters

Amec Foster Wheeler, Novi, MI

GIS Specialist and Sustainability Ambassador (November 2016 - March 2018)

- Perform technical tasks including interpolation, site design, 3D analysis, python scripting, raster analysis, and graphic design
- Bring innovation to operations by moving data collection, review, and decision-making to web-based interactive maps
- Implement and adapt database management system to improve data transparency and metadata standards

Amy Stuyvesant

amystuyv@merit.edu - 734.527.5738 - amystuy.wix.com/amystuyvesant

NASA and The Laboratory of Dr. Jeff Dozier, Santa Barbara, CA

Communications Liaison (September 2015 – June 2016)

- Attended conferences jointly held by NASA and the Chinese Academy of Sciences (CAS) to discuss strategies for international communication with consideration of political and legal constraints on data sharing
- Wrote workshop reports detailing satellite and field data needs of CAS and NASA researchers
- Edited and wrote portions of a white paper targeted at obtaining funding from upper-governmental officials in both countries

Bren School of Environmental Science & Management, University of California, Santa Barbara

Nanoparticle Remediation Researcher (October 2014 – June 2015)

- Performed acid digestions, tested pH of soil, and measured plant growth for a specific project looking at the potential for titanium dioxide, cerium dioxide, and copper-based nanoparticles to enter terrestrial ecosystems

ADDITIONAL EXPERIENCE AND TRAINING

Florida Fish and Wildlife Commission, Captive Wildlife Permitting (July 2013 – April 2014), Tallahassee, FL

Upheld Florida Statutes by processing applications for licenses and permits to obtain wildlife

International Gold Gymnastics, Co-Head Women's Team Coach (July 2013 - April 2014), Crawfordville, FL

Coached levels 1 - 6 (ages 4 - 14) on all four events every weekday, including competitions on some weekends

Wakulla Springs State Park, GIS Volunteer (June 2012 – August 2012), Wakulla, FL

Used handheld GPS device to create shapefiles of gopher tortoise burrows after a prescribed burn and collected water samples

Southern Regional Library Facility, Student Worker (November 2011 - June 2013), Los Angeles, CA

Assisted patrons looking for library documents and answered multi-line telephones in facility that houses 7 to 8 million materials. Received two raises and two promotions over the two-year time period.

Wildlands Studies: Panda Project, Student (June 2011 - August 2011), Sichuan, China Field Study

Conducted field studies in rural mountainous areas including vegetation and aquatic surveys, bird and plant IDs, and volunteering at Bifengxia Panda Center caring for pandas

ACCOMPLISHMENTS & CERTIFICATIONS

Pending GISP Certification (Exam passed December 2020, awaiting final approval)

ITIL Certification (2019)

UVA Advanced Computing Services & Engagement Intensive Summer School for Computing in Env Science (2015)

TECHNICAL SKILLS AND INTERESTS

Computer Programs and Languages

Advanced: ArcGIS (ArcMap, ArcGIS Pro, ArcGIS Online, ArcGIS for Server, SQL), Qualtrics, QGIS, RStudio, Envi

Intermediate: Python, GaBi, Stella, Xcode, C++, html, CSS

JOHANNES M. BAUER

CURRENT POSITIONS

- 2018-present Quello Chair in Media and Information Policy and Director, James H. and Mary B. Quello Center, Michigan State University
2003-present Professor, Department of Media and Information, Michigan State University

EDUCATION

- 1989 Ph.D. in Economics, University of Economics, Vienna, Austria
1982 M.A. in Economics, University of Economics, Vienna, Austria
1975 Engineer in Mechatronics, Federal Secondary College of Engineering, Mödling, Austria

PROFESSIONAL EXPERIENCE (selected)

- 2013-2019 Chairperson, Department of Media and Information, Michigan State University
2012 Visiting Professor, Institute of Media and Communications Research (IPMZ), University of Zurich, Switzerland
1994-2003 Associate Professor, Department of Telecommunication, Michigan State University
2000-2001 Visiting Professor, Faculty of Technology, Policy and Management, Delft University of Technology, Delft, the Netherlands
1990-1994 Assistant Professor, Department of Telecommunication, Michigan State University

HONORARY POSITIONS AND HONORS (selected)

- 2016-present Consulting Editor, *Telecommunications Policy*
2012-present Fellow, Columbia Institute for Tele-Information (CITI), Columbia University, New York
2010-present International Editor, *International Telecommunications Policy Review*
2009-present Member, International Scientific Advisory Board, LIRNEasia, Colombo, Sri Lanka
2004-present Member, Editorial Board, *Information Economics and Policy*
2013 Distinguished Faculty Award, Michigan State University
2016-2020 Member of the Board of Directors and Treasurer, iSchools

SELECTED PUBLICATIONS AND REPORTS

Hampton, K.N., Robertson, C.T., Fernandez, L., Shin, I., & **Bauer, J.M.** (2021). How variation in internet access, digital skills, and media use are related to rural student outcomes: GPA, SAT, and educational aspirations. *Telematics and Informatics*, 101666, <https://doi.org/10.1016/j.tele.2021.101666>

Bauer, J.M.; Hampton, K.N.; Fernandez, L.; & Robertson, C.T. (2020), **Overcoming Michigan's Homework Gap: The Role of Broadband Internet Connectivity for Student Success and Career Outlooks** (October). Technical Report, Quello Center Working Paper No. 06-20, <https://ssrn.com/abstract=3714752>

Hampton, K.N., Fernandez, L., Robertson, C.T., & **Bauer, J.M.** (2020). Broadband and Students Performance Gaps. Technical Report, Quello Center, Michigan State University, East Lansing, MI, March.

Bauer, J.M. & Latzer, M. (eds.) (2016), *Handbook on the Economics of the Internet*, Cheltenham, UK and Northampton, MA: Edward Elgar.

Bauer, J.M., Madden, G., & Morey, A. (2014), Effects of economic conditions and policy interventions on OECD broadband adoption, *Applied Economics*, 46(12): 1361-1372. <https://doi.org/10.1080/00036846.2013.872765>

Larose, R., **Bauer, J.M.**, DeMaagd, K., Chew, H., Ma, W., & Jung, Y. (2014), Public broadband investment priorities in the United States: an analysis of the Broadband Technology Opportunities Program, *Government Information Quarterly*, 31(1): 53-64. <https://doi.org/10.1016/j.giq.2012.11.004>

BEN FINEMAN

LEADER FOR COMMUNITY NETWORKING

Contact



734.417.0811



ben@benfineman.com



BenFineman/LinkedIn



Ann Arbor, MI

Education

BS, Computer Science
UNIVERSITY OF MICHIGAN
Ann Arbor, MI
2003

Master of Business
Administration
EASTERN MICHIGAN
UNIVERSITY
Ypsilanti, MI
2010

References

References are available upon
request.

Professional Profile

I am an advanced networking professional and digital inclusion advocate. I co-founded the Michigan Broadband Cooperative, where I volunteer as President and lead the organization toward the mission of achieving ubiquitous broadband in Michigan. I work with Merit Network on their Michigan Moonshot initiative to expand community networks in rural Michigan, where I help communities find their way along their paths to ubiquitous broadband. I also lead the industry engagement program for the non-profit university consortium Internet2.

Work Experience

Michigan Broadband Cooperative
President and Co-founder
2015-Present

Co-founded this non-profit organization to deploy fiber optic networks for residential broadband in unserved areas of Michigan.

- Led the creation of this grass-roots organization from the ground up
- Successfully secured broadband for rural communities including \$7 Million in funding to build fiber to the home in Lyndon Township, MI
- Worked with numerous communities to help them along the path toward achieving comprehensive broadband access

Internet2
Director, Industry Engagement
2019-Present

I lead the Industry Engagement Program for Internet2.

- Enable Internet2 members to do cool things with advanced networking technologies.
- Lead and implement programs, collaborative processes and projects ensuring that industry interests are fully leveraged and support the Internet2 mission.
- Collaborate across functional areas to ensure organizational and community needs for industry engagement are met.
- Represent Internet2 in public and community forums, at industry and community conferences, and in meetings with key stakeholders.

BEN FINEMAN

LEADER FOR COMMUNITY NETWORKING

Skills

Technology

- Immersive Real-time Collaboration
- Emerging Collaboration Technologies
- Distance Learning Pedagogy
- Production IP Voice/Video

Management

- Product and Program Management
- Cross-Organizational Collaboration
- Service Management (ISO/IEC 20000 Certified)

Engagement

- High Impact Presentations
- Live Demos and Events
- Trade Shows
- Written Articles
- Relationship Building
- Consultative Strategy

Work Experience (Cont.)

Program Manager, Cloud Collaboration Services 2012-2019

I led the cloud video, voice, & collaboration program for Internet2.

- Worked with service providers and universities to design, deploy, and impactful cloud services, including aggregation and prioritization of feature requests
- Developed and maintained relationships with technologists and CIOs from major universities in the U.S.
- Evangelized real-time collaboration on a global stage with presentations at national and international academic conferences

System Administrator 2004-2012

Managed Internet2's internal collaboration environment, including both internal infrastructure and external-facing events & demos

University of Michigan Computer Consultant II 1998-2004

Provided I.T. support for faculty and staff in the Computer Science Department at the University of Michigan, including administration of servers, end user devices, and integration of university systems.

Select Presentations



<http://bit.ly/bf-vr-edu>



<http://bit.ly/bf-metaverse>



<http://bit.ly/bf-cloudvid>

Mitchell Shapiro
shapiro.mitch@gmail.com
760.525.3468

Professional Experience

2012-Present: Consultant, Author of Evolving Human Systems Blog

Works with allies to envision, design and implement more equitable and effective human systems, with a focus on the role of ICT, public policy and democratic systems of ownership and governance. Writes about these topics on the *Evolving Human Systems* blog and other outlets, including posts on strategies to expand rural broadband and more effectively leverage academia's expertise in efforts to address societal problems, and the relationship between digital platforms and democracy. Recent and pending consulting projects include: 1) a study of how electric cooperatives can help bring high-performance broadband to rural communities and; 2) helping to develop a comprehensive strategy and alignment of stakeholders, resources and state policy to more quickly and fully bridge Michigan's rural digital divide.

2014-2016: Research & Project Development Consultant, Michigan State University

Worked with staff of MSU's Quello Center to design, fund and execute research projects focused on bridging digital divides. Served as project manager and lead author for a study of emerging strategies for expanding broadband access via last mile wireless. Co-authored brief providing state policy recommendations aimed at reducing Michigan's digital divides. Wrote 50+ blog posts on telecom/Internet/infrastructure trends and policy.

2012-2014: Policy Analyst and Strategic Advisor to Professor Susan Crawford, Co-Director of Berkman Center for Internet and Society, Harvard University

Prepared reports analyzing telecom industry trends for Harvard Law professor Susan Crawford, author of *Captive Audience: The Telecom Industry and Monopoly Power in the New Gilded Age*, and co-author of *The Responsive City: Engaging Communities Through Data-Smart Governance*. Supported Professor Crawford's policy work with research and analysis, document drafting and editing, and strategic advice.

2010-2014: Research Project Manager for State Broadband Mapping Projects

Developed partnerships and prepared grant proposals leading to 5 year contract to independently verify ISP-provided broadband availability data for federal stimulus-funded projects in Kentucky and Louisiana. Designed and managed multi-source, multi-method data collection, integration and analysis, and provided strategic advice and analytical support for verification efforts in four other state projects.

2009-2010: Grant Opportunity Development Consultant, Strategic Networks Group, Pulse Broadband

Founded and managed Rural Fiber Works, a market research and development firm supporting Pulse Broadband and Strategic Networks Group in winning multiple ARRA-funded network deployment and research grants.

2008-2009: Market Development Consultant & Project Manager, Strategic Networks Group

Helped Canadian research firm Strategic Networks Group develop U.S.-focused market expansion and grant-funding strategy; managed federal stimulus-funded study of business and household broadband adoption, connectivity-type, usage and barriers, and their implications for public policy.

2008: Author, Municipal & Utility Guidebook to Bringing Broadband Fiber Optics to Your Community

Was primary author of 127-page report analyzing options, risks, benefits and success strategies related to investing in municipal fiber networks. Helped develop publication partners and report sponsorships. Report was

initially published by DC-based Public Technology Institute (PTI) and distributed by other organizations, including the American Public Power Association, the Institute of Local Self-Reliance, and Community-Wealth.org.

2001-2007: Senior Analyst, Pike & Fischer, a unit of Bureau of National Affairs (now Bloomberg BNA)

Prepared quarterly financial and competitive analyses of major telcos, cablecos, satellite TV and VoIP providers, and syndicated reports focused on competitive strategies and market dynamics. Examples of the latter include:

- * Extending Fiber Closer to the Home: An Analysis of Telco Fiber Deployment Strategies
- * Investing in Broadband: An Analysis of Capital Spending & Cash Flows Among the Top Providers
- * Bundled-Services Strategies: Competitive Analysis
- * High-Speed Broadband Pricing & Packaging Strategies, Annual Reports, 2005-2008
- * Television 2.0: A Comprehensive Analysis of Emerging IP-Based Video Services (co-author)
- * Wi-Fi & WISPs in Transition: New Deployments & New Business Models
- * Spectrum Policy 2.0: White Space, the Internet and the Public Interest

2000: Consultant, Pangrac & Associates

Provided strategic planning and market analysis support to broadband engineering firm led by the original developers of the hybrid fiber coaxial (HFC) network architecture that enabled U.S. cable operators to become the dominant providers of high-speed Internet access. Managed network equipment market study and served on consulting team advising electric utilities on telecom network strategies.

1996-1999: Senior Consultant, Probe Research

Authored syndicated reports on broadband equipment market trends and network operator competitive dynamics. Provided custom market analyses and strategic advice to clients, including: electric utilities evaluating telecom market strategies; a cable operator considering launch of voice service and; emerging technology firms exploring market entry strategies. Authored a 375-page analysis of "triple-play" competitive scenarios that correctly projected cable's emergence as the dominant U.S. wireline provider.

1993-1995: Independent Trade Journalist and Consultant

Authored articles published in leading cable, media and telecom industry trade publications, including *Cablevision*, *Advanced Television Markets*, *The Cable-Telco Report* and *Television Business International*. Provided custom market analyses for equipment and service providers in the cable TV and related industries.

1987-1992: Analyst & Author, Paul Kagan Associates

Served as primary author of multiple newsletters, including Cable TV Technology, Cellular Technology and Private Cable News. Conducted annual operator surveys and prepared market analyses and projections.

1986: Survey Research Consultant

Managed a statewide mail survey on farm safety and analyzed survey data for a local political campaign.

1985: Research Director, Newsletter Editor, Michigan Citizens Lobby

Managed a statewide in-person survey exploring impacts of AT&T divestiture on low-income populations. Helped draft and negotiate telecom legislative language. Edited organization's monthly newsletter.

Education

B.A., Economics, University of Michigan

M.A., Telecommunications, Michigan State University. Thesis was phone survey-based analysis of media use in relation to political attitudes and behaviors. Taught undergrad course in research methods and, as DC-based summer intern, worked on: 1) rural connectivity demonstration projects at Intelsat and; 2) guidebook for creating community cable cooperatives at consumer-focused policy advocacy group.

