Request for Proposals

For

Broadband Fiber Optics Gap Analysis

REBID #2
Bid Number: 20032

Commodity Code(s):
72523, 83829, 83896, 91871, 91890, 96218

Guilford County Purchasing Department
BB&T Building, Suite 304
201 West Market Street
Greensboro, NC 27401

PROPOSAL SCHEDULE

(Note: The dates below are subject to change)

Request for Proposal
for
Broadband Fiber Optics Gap Analysis

Bid Number
REBID # 2 - 20032

Advertisement Date	July 13, 2021
Non-Mandatory Pre-Proposal GoToMeeting	July 20, 2021 at 10:00 A.M., Eastern Time
Proposal Due Date	July 29, 2021 at 2:00 P.M., Eastern Time

I. __Introduction__

Guilford County Purchasing Department is soliciting proposals from qualified firms to develop a Gaps and Needs Infrastructure Analysis Report using the best data available from the private and public sectors. The County invites all interested and qualified firms who meet the requirements below to submit a response to this RFP.

II. __General Information__

A non-mandatory Pre-Proposal GoToMeeting will be held on Tuesday, July 20, 2021 at 10:00 A.M., as instructed below. You may join the GoToMeeting from your computer, tablet or smartphone.

For best results, use Chrome as your web Brower:

Please join my meeting from your computer, tablet or smartphone

https://global.gotomeeting.com/join/265217869

You can also dial in using your phone

United States: +1 (669) 224-3412
- One-touch: tel:+16692243412,,265217869#

Access Code: 265-217-869

New to GoToMeeting? Get the app now and be ready when your first meeting starts:
https://global.gotomeeting.com/install/265217869

Terms of Contract

The selected Provider will enter into a contract with the County as outlined in this RFP. The initial contract will be for one (1) year with the option to renew for two (2) additional one (1) year renewals for a total contract period of up to three (3) years.

A. **Causes for Cancellation and/or Termination**

1. That the contract was secured by a fraudulent act, statement or material fact or that a fact concerning the firm was not disclosed at the time of contract award, if known and would have caused the refusal to enter into a contract by the County.

2. The Provider has not complied with all the provisions and requirements set forth in the Request for Proposal or the contract with the County. If non-compliance occurs, contract may be revoked and will not be reinstated during the current contract cycle.

3. The Provider has violated any of the regulations established by the Federal and State laws.

4. Either party may terminate the agreement for any reason without penalty upon thirty (30) days written notice to the other party.

B. **No bid deposit or performance bonds are required**

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III. Bid Requirements for Electronic Events

1. All Respondents, who plan to submit a proposal must register in the Guilford County's Vendor Self Service (VSS) System. Instructions to register as a Vendor, update registration and submit bids are available at: https://www.guilfordcountync.gov/our-county/purchasing/vendor-self-service-vss-program.

2. Electronic responses should be made through Guilford County's Vendor Self Service automated bidding system at: https://guilfordcountync.munisselfservice.com . Click on Vendor Self Service and use the arrow button in the top righthand corner to Login and submit your bid response. Click on the Bid Number to open it, then Click on Create Bid and follow the instructions for each tab. All responses must be submitted electronically by the event date and close time. There will be **NO EXCEPTIONS**. The system cannot accept late submittals.

3. All questions pertaining to this RFP must emailed to the Guilford County Purchasing Department at DG_Purchasing@guilfordcountync.gov in accordance with this event schedule. The bid number and title of the project must be referenced in the email. Each question asked will be answered for all Respondents to view by way of an Addendum and posted in the automated bidding system. No question will be considered after the Q&A close date and time. NO EXCEPTIONS. Please note it is the Respondent's responsibility to review all questions, answers and attachments prior to submitting their response.

4. Respondents are strongly encouraged to submit their proposal with all required documentation at least twenty-four (24) hours in advance. The County will not be responsible for any technical difficulties that may occur and result in the inability to submit.

5. Respondents are responsible for checking the event for any addendums prior to completion and submission of their response. Addendum acknowledgement and requirements, if any, must be included in each submittal.

6. To complete the items portion of a submittal in Vendor Self Service, open the items tab to enter pricing for each line. Use the provided line description, unit of measure and quantity to complete the entries for each line. Upload all additional documentation required in the RFP document as an attachment(s) to your response.

7. To complete an electronic submittal, be **sure to click the "Submit Bid" button**. Your response will not be part of the submitted responses until submitted via the "Submit Bid" button.

8. To receive future notification, you must be registered as a Vendor in the Guilford County's Vendor Self Service System under Commodity Code 72523, 83829, 83896, 91871, 91890 and 96218. Please note, Vendors registered under the selected commodity code prior to the opening of this event will receive electronic notification(s) of the activity regarding changes made to the event; however, it is your responsibility to view the event for changes and updates.

IV. Minority and Women Business Enterprise (MWBE) Requirements

One primary responsibility of the County is the proper use of public revenue to purchase the various items, services, construction and repairs needed to operate. All expenditures of County funds must be in accordance with the North Carolina laws. The responsibilities of auditing and compliance with this law is that of the awarding authority, which in this case is the County.

On March 5, 1990, the County established its verifiable minority participation goal of ten (10) percent. Respondents must make good faith efforts to contact minority businesses to allow each an equal opportunity to quote on the particular work involved. Any proposal that does not include MWBE information and documentation may be considered non-responsive.

A minority business is defined as ownership of 51% or more by a minority. Minorities are officially defined as:

    (a) Black, that is, a person having origins in any of the black racial groups in Africa;

    (b) Hispanic, that is, a person of Spanish or Portuguese culture with origins in Mexico, in South or Central America, or the Caribbean Islands, regardless of race;

    (c) Asian American, that is, a person with origins in any of the original peoples of the Far East, Southeast Asia and Asia, the Indian subcontinent, or the Pacific Islands;

    (d) American Indian, that is, a person having origins in any of the original Indian peoples of North America; or

    (e) Female.

V. Evaluation and Selection Process

An Evaluation Committee will have responsibility for reviewing and evaluating all proposals and required documents submitted in response to this RFP. All proposals properly submitted and received will be evaluated against the award criteria outlined in this RFP. The absence of required information may result in exclusion of the proposal from further analysis or evaluation.

The County reserves the right to reject all proposals or waive technicalities in order to award a contract, which may be determined to be in the best interest of the County. The County also reserves the right to make the award in whole or part. The County reserves the right to include outside consultants to assist in the evaluation process.

VII. Award Criteria

It is the intent of Guilford County to make an award to a single Provider deemed to be fully qualified and best suited among those submitting proposals on the basis of the evaluation factors included in this RFP. Price shall be considered but shall not be the sole determining factor.

Once the proposals are ranked and the most qualified Provider(s) are determined, the County may conduct further negotiations, and/or request presentations from Provider(s) to further assist in the clarification of information and selection process.

The Evaluation Committee will be guided by the following point system, which has 100 points as the maximum total:

Category	Points
Experience/Qualifications/References	0 to 30
Technical/Work Requirements	0 to 30
Cost Proposal/Pricing	0 to 20
Staffing Requirements	0 to 10
MWBE Requirements	0 to 10
Financial Stability	Pass/Fail
Possible Total	100

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PROJECT TITLE: Broadband Fiber Optics Gap Analysis

SCOPE OF WORK

This Bid and Scope of Work cover the requirements for services to be performed and will become an integral part of the contract between Guilford County and the Provider. The Provider must comply with the Scope of Work as outlined. All services shall be provided in a competent, workmanlike and professional manner acceptable to the County.

1.0 **Purpose:**
The purpose and intent of the Request for Proposal (RFP) is to solicit proposals from qualified firms to develop a Gaps and Needs Infrastructure Analysis Report using the best data available from the private and public sectors.

2.0 **Background:**
This report and action plan will help us identify broadband infrastructure gaps and needs for consideration of future development and hopefully inform more impactful strategy and investment with our anticipated American Rescue Plan Act funding. We are seeking a comprehensive understanding of the broadband access and adoption landscape across the county, what our residents need to access and adopt broadband, and what we can do as a county government organization to address access and adoption barriers and needs.

3.0 **General Conditions:**
3.1   The study will include the following elements:
- Demand data from **businesses, farms, education, government, and residents**.
- Status of **community anchor institutions broadband** (e.g. libraries, community centers, recreation centers, downtown business districts).
- Community **healthcare organization broadband status and location mapping, and demand data from their patients for home broadband**.
- Existing internet service provider **(ISP) coverage areas, service options and performance** reports.
- Mapping of **free public Wi-Fi zones that benefit small and local businesses**.
- Current **fiber and data center/co-location infrastructure** mapping.
- **Communication tower and pole mapping** infrastructure and ownership.
- Mapping of **water towers and other structures over 70 ft.** in height (grain bins, silos, etc.).
- **Permitting requirements** for new communications infrastructure.
- Locations of **pre-approved tower sites approved by local jurisdictions**.
- Analysis and recommendations specific to the county's role in **community digital inclusion and equity**

3.2   The awarded provider will:
- Compile an **inventory of existing telehealth and e-business training assets** in the region, an assessment of existing use/interest, and a best practice strategy for growing access with an improved network.
- **Host and facilitate a minimum of five (5) meetings across the county** to discuss gaps and needs and create a common understanding of broadband terminology and technological options.
- Prepare and administer an **assessment of digital readiness of businesses and industry to reveal weaknesses for shifting operations to remote platforms**.
- Convene a **mix of five (5) digital and in-person stakeholder focus group meetings** to strategically approach identified gaps in infrastructure and perceived limitations such as telehealth, remote learning for job skills, business/industry retention and expansion, and remote working.
- Produce **detailed mapping products for regional stakeholders to inform discussions with internet service providers (ISPs)** and to collect and present data useful for implementing broadband infrastructure improvements.

- Diligently work with and **convene telecommunication co-operative service providers and other internet service providers**, particularly with their staking engineers in discussions about broadband infrastructure for Guilford County communities.
- **Familiarize representatives of key state, federal and philanthropic organizations** with an interest in expanding access to and use of the broadband infrastructure with efforts underway in Guilford.
- **Make recommendations for and establish a broadband task force** to mobilize county-wide activities directed at broadband development across the county.
- Develop a **Gaps and Needs Action Plan** based on the Gaps and Needs Infrastructure Analysis Report, community meetings, assets inventories, and digital readiness assessment that will provide stakeholders with a clear path forward.
- Analyze and assess **Guilford County Government's role in advancing digital inclusion and equity.**

3.3   Key Deliverables
- Gaps and Needs Infrastructure Analysis Report
- Gaps and Needs Action Plan
- Assets Inventories
- Five (5) gaps and needs community meetings
- Five (5) strategic approach community meetings
- Detailed Maps
- Broadband Task Force

4.0   **Schedules/Timelines:**
Work is expected to be completed in sixty (60) days; however, alternate completion dates and pricing is requested for ninety (90) days and one-hundred and twenty (120) days.

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<u>QUALIFICATIONS AND SUBMISSION REQUIREMENTS</u>

In order to facilitate the analysis of responses to this RFP, all Respondents are required to prepare their proposals in accordance with the instructions outlined in this section. To be considered for selection, upload your proposed package into the County's Vendor Self Service System and submit all required supplemental information electronically. Proposals should be prepared as simple as possible and provide a straightforward, concise description of the Respondents' capabilities to satisfy the requirements of the RFP. All pages in your response shall be properly formatted and provide the following basic information:

Tab 1: Cost Proposal and Attachments
To complete the Items portion of a submittal in Vendor Self Service, open the Items tab to enter pricing for each line. Alternate pricing is requested for ninety (90) days and one-hundred and twenty (120) days. In addition, be sure to download and complete the Cost Proposal Form - Attachment 1 back in the system to your online response.

Tab 2: Executive Summary
This section of the response to the RFP should be limited to a brief narrative highlighting the Provider's proposal. Within this section, the Provider should highlight briefly their abilities and inabilities upon the requirements requested.

Tab 3: Provider's Qualifications
Complete the Provider Qualifications Form - Attachment 2 to provide specific information as requested and upload as an attachment to your response.

Tab 4: Proposed Services to be Provided
The Provider shall present, in detail, features and capabilities of their proposed services to be provided. The Provider should state what implementation services will be provided, processes, and control points. Provider should include a projected schedule/timeline for completion of services. In addition, please describe all services that their company performs. If other ancillary services are available that may be deemed pertinent to the process, please describe in full detail.

Tab 5: References
Utilize the References Form – Attachment 3 to provide a listing of references to include phone numbers, contact names and email addresses.

Tab 6: MWBE Participation Requirements
Respondents are required to submit information about participating MWBEs on the MWBE Affidavit forms provided with this RFP. Utilize the MWBE Affidavit Forms - Attachment 4

<u>Documents to provide with the bid proposal</u> - Under North Carolina General Statutes (N.C. GS 143-128.2(c) the undersigned bidder shall identify **<u>on its bid</u>** (Identification of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the contract that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit **A)** made to solicit minority participation in the bid effort **OR** (Affidavit **B)** the Provider's statement of the intent to self-perform all work under the contract and sign and notarize the form.

NOTE: A Provider that performs all of the work with its <u>own workforce</u> shall submit an Affidavit **(B)** to that effect **in lieu of Affidavit (A) required above**. The Provider's <u>intent to perform contract with own workforce does not require the Provider to make good faith efforts</u> and the self-performing Provider will not need to submit additional affidavits after the bid opening. The Minority Business Participation Form must still be signed, notarized and submitted in lieu of Affidavit A even if there is zero participation.

Documents to provide after the bid proposal evaluation - Upon notification of being recommended as the most qualified firm for award of a contract, the Provider, if they are not self-performing all of the work, must submit the following to the MWBE Director within 72 hours of the notification:

An Affidavit (**C**) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is <u>equal to or more than the</u> established goal of 10% and documented evidence of all good faith efforts made to meet the goal and Affidavit **D** is not necessary **OR** <u>if less than the 10% goal</u>, Affidavit (**D**) of the Provider's good faith effort to meet the goal.

The document must include **<u>evidence</u>** of all good faith efforts that were implemented including those identified on Affidavit A. Include any advertisements, solicitation phone, email and/or fax logs, and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract. Because faxing may be less reliable than email, solicitation outreach via fax should include a follow up phone call to the potential subcontractor.

Tab 7: Other Bid Event Forms

Please download to complete, sign and date the attached forms. Be sure to upload the forms back in the system to your online response. If no Addendum was issued, please indicate N/A for Not Applicable on the Addendum form.

W-9 Form-Attachment 5
Addendum Acknowledgement Form-Attachment 6
Non-Collusion Affidavit – Attachment 7
Affidavit of Compliance (E-Verify) – Attachment 8

Tab 8: Other Attachments

Please references the following attachments for information purpose only:

- Basic Insurance Requirements
- Sample Contract

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GUILFORD COUNTY, NORTH CAROLINA

Request for Broadband Fiber Optics Gap Analysis Provider QUALIFICATIONS

Information about the Supplier

I. Firm Name _____

II. Legal Name (if different) _____

III. Years in Business _____

IV. Number of years providing similar services _____

V. Contact Person _____

VI. Full Mailing Address _____

VII. Telephone Number _____

VIII. Fax Number _____

IX. Email address of contact person _____

X. Number of full time employees _____

XI. Name and experience of proposed point of contact for this project

COST PROPOSAL FORM

In accordance with the attached instructions, terms, conditions, and Scope of Services we submit the following proposal to Guilford County.

PROPOSED COST

Services Completed within Sixty (60) Days

Report	$ 50,000.00
Action Plan	$ 50,000.00
Asset Inventories	$ 150,000.00
Community Meetings (10)	$ 70,000.00
Detailed Mapping	$ 150,000.00
Task Force Convening	$ 30,000.00
Additional Hourly Consulting Rate	$ 131.77
Total Sixty (60) Day Cost	$ 500,000.00

Alternate Proposal Cost: *(Alternate pricing is requested for (90) and (120) days)*

Cost if Completed within (90) Days	$ 500,000.00
Cost if Completed within (120) Days	$ 500,000.00

The above Total Proposed Cost should be based on being awarded the entire project.

I certify that the contents of this proposal are known to no one outside the firm, and to the best of my knowledge all requirements have been complied with.

Date: _8/5/2021_____   Authorized Signature: _____

_Michael Tosh_____
Name

_Partner_____
Title

_Guidehouse Inc._____
Firm Name

![Guidehouse logo]

Guilford County Purchasing Department
Bid Number: 20032

Broadband Fiber Optics Gap Analysis

Request for Proposal (RFP) Response

August 6, 2021

Provided to:

Guilford County
Purchasing Department
BB&T Building, Suite 304
301 West Market Street
Greensboro, NC 27401
Telephone: (336) 641-3314

Provided by:

Guidehouse Inc.
Michael Tosh
Partner
2941 Fairview Park Drive, Suite 501
Falls Church, VA 22042-4543
Telephone: (773) 255-5890
Email: mtosh@guidehouse.com
www.guidehouse.com

Taxpayer Identification Number (TIN): 36-4094854
Data Universal Numbering System (DUNS): 022582428
Commercial and Government Entity (CAGE) Code: 1HLR9

guidehouse.com

2021-357

August 6, 2021

Guilford County
Purchasing Department
BB&T Building, Suite 304
301 West Market Street
Greensboro, NC 27401

Subject: Request for Proposal (RFP) Response | Bid Number: 20032
**   Broadband Fiber Optics Gap Analysis**

Guilford County Team:

Guidehouse Inc. is pleased to submit to Guilford County our proposal to help provide broadband and fiber optics gap analysis and consulting services. We appreciate the opportunity to present our qualifications and are confident you will find our proposal offers the best value solution to achieve Guilford County's vision for a highly connected future. We understand that the County is ready to seize ARPA's transformational funding opportunity to accelerate broadband deployment across its communities – and now it is about finalizing plans and getting things done.

We believe that broadband planning must go further than simply mapping broadband infrastructure to deliver a holistic vision for the County's connected future. Guilford County's broadband planning must clarify the roles, responsibilities, and resources of the stakeholder ecosystem to rollout broadband infrastructure and catalyze economic development.

Achieving this goal will require the right balance of technical broadband data, economic and policy context, and market signals necessary to spur the private sector into action. We believe that we are the best team to support you in this journey for the following reasons:

- **We deliver holistic solutions with lasting impact.** As a leading global provider of consulting services, Guidehouse is not just a broadband shop. Our deep knowledge of economic development, sustainability, and innovation for states and municipalities will be leveraged to help you strategically navigate the implications and benefits of broadband. We will empower Guilford County to deliver a solution that sets the stage for long-term success and provides consistent, reliable service infrastructure to every community.
- **We are experts in maximizing federal funds.** Where the American Rescue Plan opened the door for smart, targeted investments in communities, the American Jobs Plan offers states a rare opportunity to pursue sweeping transformation initiatives. Guidehouse's unmatched policy and financial expertise have helped state and local entities across the U.S. successfully invest in, rather than simply spend on, achieving their broadband goals. Our nuanced understanding of both plans, combined with our history of fund maximization in projects across the U.S., will equip the County with the governance tools and technical expertise needed to succeed.
- **We believe in partnerships, not prescriptions.** In our qualifications, we provide a diverse slate of experiences, ranging from technical broadband assessments, complex stakeholder engagement, and deep experience with COVID-related federal grant management and funding strategy. This direct experience working with diverse communities – specifically on

broadband issues – means we understand the importance of inclusive stakeholder engagement and will leverage that knowledge to help Guilford County close the digital divide countywide. Our teaming partner in this project, Public Participation Partners (a North Carolina MBE and DBE firm), will bring extensive experience conducting outreach and surveys specifically with diverse North Carolina audiences.

Guidehouse appreciates the opportunity to be considered for this important project, and if selected, will provide Guilford County with a team of professionals committed to your success. If you have any questions about our proposal, please contact Manager – Contracts, Michael Schulien, at (703) 409-7112 or me at (773) 255-5890.

Sincerely,

Michael Tosh
Partner
Guidehouse Inc.
mtosh@guidehouse.com

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Tab 1.   Cost Proposal and Attachments

Please see information provided directly to the County's procurement system.

Tab 2.   Executive Summary

Technology is a megatrend reshaping every industry and organization across the globe. Business and personal life have been revolutionized by new digital devices and services that would have been unthinkable thirty years ago. We order food and cabs with the click of a button. We no longer walk to the library to research important topics. And unfolding a paper map feels quaint. As people get exposed to technology and new ways of accessing products and services, their expectations of government to provide the same seamless experience increases.

Impact of COVID-19

While the forecasts projecting COVID-19's economic impact on local economies are constantly changing as we learn more about the nature and spread of the virus, the negative effects on local governments like Guilford County will undoubtedly be significant.

Anticipated tax revenue will not be fully realized. During this crisis, effective allocation of resources is crucial to achieve Guilford County's goals. We have extensive experience assisting local governments in the response to COVID-19, including Albuquerque, New Mexico, Cook County, Illinois and Harris County, Texas. Our experience working with municipalities possessing limited cash reserves and developing plans to promote sustainable economic growth will be an additional resource as economic realities influence how Guilford County approaches its broadband goals.

This is especially true in the turbulent times that we are in. COVID-19 has exposed how vital high-quality broadband is to modern life. As ever more jobs shift to remote work and citizens spend more time indoors, broadband has joined electricity and water as an essential service: the new utility of the twenty-first century. And just as we hold ourselves to a standard of providing high-quality drinking water and always-available electricity to citizens, so we must now ensure citizens have access to high-speed, always-on bandwidth at an affordable price.

We applaud Guilford County for taking the steps to assess internet connectivity and digital divide issues – and are excited to work with you to assess the situation on the ground, develop solutions, and communicate the path forward internally and with the public. We have years of experience doing exactly this work with entities of varying sizes and budgets, ranging from San Jose, CA to Joplin, MO to New York City, NY, to the Tennessee Valley Authority (TVA).

Figure 1. Guidehouse Has Done Relevant Work Across the Country

In addition to our qualifications, our local team understands the political dynamics within the Piedmont Triad region and has experience helping local government organizations overcome their most pressing challenges. We are personally invested in the success of our local clients.

Throughout our experience, we have found that **an assessment is more than just a diagnosis of the problem and potential solutions**. It is also:

- **A statement of values and priorities.** The assessment lays bare the digital divide/digital equity problem for your citizens and forces the County to explain and justify its priorities. Which communities and interventions are prioritized? Our approach to conducting the assessment ensures that the County begins to lay groundwork with its constituents so that when final deliverables are completed, your stakeholders can "see themselves" in the outcomes.
- **A coalition of County staff, citizens, businesses, and organizations.** A successful assessment will incorporate and rally your stakeholders around the goal of high-quality broadband for all – and the key steps needed to get there. As we engage with the community throughout this project, we will also start to build a groundswell of support for the County's efforts, enrolling your communities in the process of achieving this goal.
- **An investment case.** Providing high-quality broadband to all your constituents is a worthy goal – but can often be a pricey one. Our analysis is designed to help you take the next step and start building investment cases for the highest-impact initiatives with greatest return on investment. We believe our assessment's success will be determined by how many quick-win initiatives you can get started on immediately – and we will show you what these are and how to value them. Just as importantly, we understand how to align this work with the goals of the American Recovery Plan Act (ARPA), ensuring we maximize your return on this once-in-a-lifetime investment.
- **A facilitator of other County goals.** Broadband is both a vital service and an enabler of many other County goals, like moving services online, improving educational opportunities, and increasing quality of life. And so, our work should align with other initiatives the County is undertaking, to ensure that broadband activities harmonize with and support them.

We have planned a **four-month engagement** to deliver a written report on the gaps and needs of broadband in Guilford County, extensive stakeholder engagement and surveying, identified opportunities and asset inventories, and a roadmap of actions the County can take to rapidly begin improving access, quality, and price while engaging citizens.

2.1 Who is Guidehouse?

Guidehouse is a leading global provider of consulting services to the public and commercial markets with broad capabilities in management, technology, and risk consulting. We help clients address their toughest challenges with a focus on markets and clients facing transformational change, technology-driven innovation and significant regulatory pressure. Across a range of advisory, consulting, outsourcing, and technology/analytics services, we help clients create scalable, innovative solutions that prepare them for future growth and success. Headquartered in Northern Virginia, the company has more than 10,000 professionals in more than 50 locations. Guidehouse is led by seasoned professionals with proven and diverse expertise in traditional and emerging technologies, markets and agenda-setting issues driving national and global economies (**Figure 2**). For more information, please visit www.guidehouse.com.
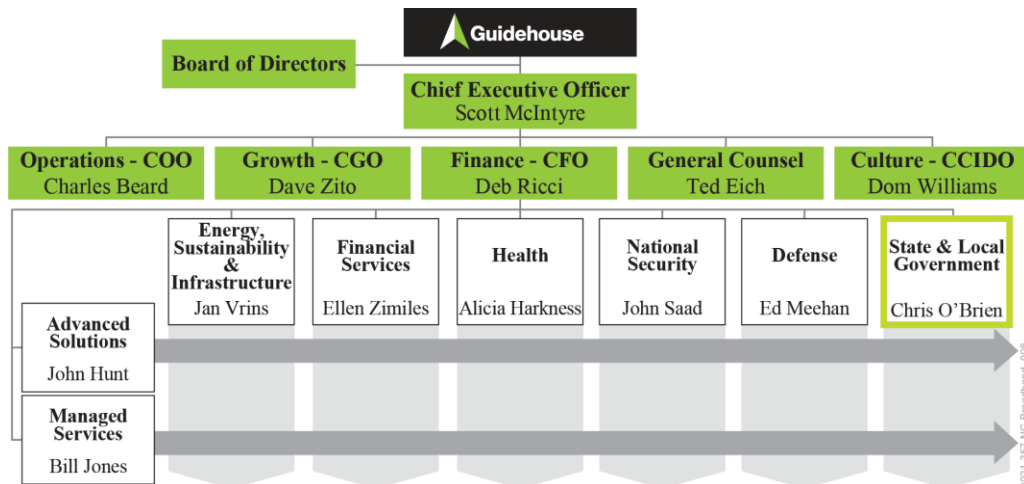
Figure 2. Guidehouse Organization Chart

We are proud of our track record of successful service to government agencies across the U.S. and our reputation for delivering exceptional results and building trust with our clients. We received the 2014 Malcolm Baldrige National Quality Award, presented annually by the President of the United States to organizations that demonstrate performance excellence through innovation, improvement, and visionary leadership. Guidehouse is the only professional services firm to achieve this recognition, and it is a testament to our commitment to quality service.

2.2 About Our State and Local Government Practice

Guidehouse is a leader in helping cities and states execute change. Our State and Local Government practice focuses on bringing top-tier talent and the integrity of our brand to state and local governments to solve their most pressing problems. We work with state and local governments to connect citizens, plan and drive investments, and increase efficiency to promote long-term economic, environmental, social, and cultural prosperity. From developing broadband roadmaps to helping police departments execute major organizational change, we intentionally seek out opportunities to work with communities like Guilford County on addressing issues that are core to their future success.

Our practice blends public sector depth and expertise with commercial leading practices. Our services cover strategy through execution for our clients' critical business and information technology needs, including organizational assessments, HR transformations, strategic planning, business process redesign, data analytics, and technology modernization. We work with senior officials all over the country to develop and implement innovative strategies that deliver lasting results. State after state, county after county, we partner with driven leaders ready to achieve better performance and secure a brighter future for their citizens.

2.3 Guidehouse Insights

Guidehouse Insights (previously Navigant Research) is our premier market intelligence group focused on helping clients and communities embrace the rapid transformation of broadband initiatives on the federal, state, and local levels (Error! Reference source not found.). Recent Guidehouse reports on Broadband include the titles listed below. We can tap into the expertise from our research arm to bring added value to this project.

26	**40**	**125**	**1,000**	**2,000**
Emerging clean technology verticals covered	Dedicated subject matter experts on staff globally	Market studies published annually	Primary interviews conducted annually	Emerging cleantech companies tracked

2021-357 NC Broadband_007

Figure 3. Breadth of Work of Guidehouse Insights

Tab 3.   Provider's Qualification

3.1 Our Team

Our team will be led by **Mike Tosh**, our Southeast client leader with years of experience leading projects in the region. **Ryan Mullen** will be the project manager and will lead day-to-day project execution and deliverables, bringing deep experience from leading related work for the City of San Jose and the New York City Economic Development Corporation (NYCEDC), as well as ARPA and related grant management experience for the State of South Carolina. Ryan will manage **Carlos Mercado**, our Senior Consultant and mapping lead, as well as our team of broadband Consultant resources, including **Charlie Dimitry**, **Gordon Rooney**, and **Louie Scola**.

Our work will be supported by **Public Participation Partners**, with **Simone Robinson** leading our engagement and surveying work. Public Participation Partners (P3) is a woman-owned, full-service public involvement and information firm uniquely qualified to provide cost-effective public education and engagement services tailored to meet agency goals and community expectations. P3 specializes in delivering services in the areas of public outreach and communications development and implementation, including outreach to traditionally underrepresented populations. These outreach efforts include managing and training community advisory groups, developing materials for and facilitating public meetings, and composing and designing project communications. P3 approaches every project with the same goal: to ensure that all members of the community are informed of, involved, and empowered in community opportunities. Headquartered in Raleigh, NC, P3 is registered DBE/MBE in NC, SC, FL, MA, MI, and VA; and HUB, SBE, and SPSF in NC.

We also field a deeper team of subject-matter experts in smart city technology and broadband in **Shaun Fernando** and **Harrison Phelan**, the local knowledge of **Colin Hood**, the strategic partnership expertise of **Sarah Razor**, and the grant management proficiency of **Rebecca McGregor**.

Our team has experience successfully providing services of similar nature and complexity required by this engagement and is highly qualified to help Guilford County. In addition, you will find that our team brings the intangibles of a quality consultant – personal attention, frequent and ongoing communication, and enthusiasm for the work. These are the hallmarks of Guidehouse's approach and commitment.
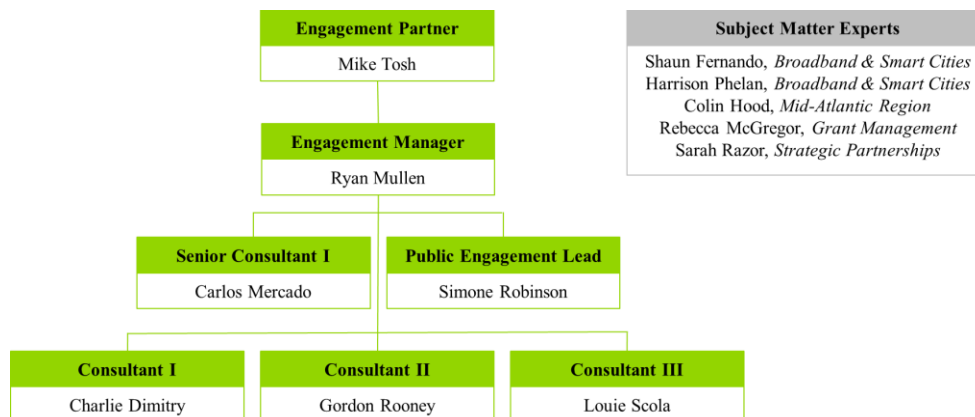
Our proposed team structure is as follows:

Figure 4. Organizational Chart

3.2 Resumes

3.2.a Mike Tosh, Engagement Partner

Name	Mike Tosh
Proposed Position	Engagement Partner
Education/Certifications	• B.S., Industrial Engineering, Purdue University
Total Years of Experience	20+ Years
Summary of Qualifications	

Michael is a Partner with Guidehouse's State and Local Government practice. He has over 15 years of experience helping companies and governments develop innovative strategies to achieve improvements in performance. He is skilled in the technology and business fields, with a proven track record of enabling strategic business initiatives through effective technology-based solutions. Michael is a leader with strong project/program management, implementation delivery, and architecture skills. Additionally, he has a strong background in customer relationship management, enterprise resource planning (ERP), business process reengineering, and channel strategies. Michael has worked with a range of clients to define their strategic vision, translate that vision into a practical series of activities, and mobilize the programs necessary to realize the vision.

Employment History

- Guidehouse LLP, Partner, July 2018 – Present
- PricewaterhouseCoopers, Partner, 2010 – July 2018
- Diamond Management & Technology Consultants, Principal, 2004 – 2011

Relevant Experience

- **For a large City agency**, Michael led the work to identify the support and managed services strategy for a re-implementation of their city-wide ERP system
- **For the State of Michigan**, Michael led the work to develop an Enterprise Information Management Roadmap for the state to transform how the State thinks about its data assets.
- **For the State of Michigan**, Michael led the work to perform a portfolio analysis on the State's 10-year call for projects. The assessment provided insight into the IT Investment Fund projects and optimization of the portfolio mix across the State.
- **For the City of Seattle**, Michael led the creation and execution of a data center strategy to define the City's 10-year data center strategy which will provide better resiliency and leading capabilities to the City's 32 departments.
- **For the City of Seattle Police Department**, Michael managed an effort to identify requirements and define a solution to provide reporting on key public safety metrics, as mandated by a United States Department of Justice Consent Decree.
- **For a major suburban rail carrier**, Michael was the lead in the development of a future state architecture to deal with the changing needs of the agency concerning ticket management, ticket sales, and revenue recognition. In addition, he led an executive vision session to discuss how the agency wanted to interact with their customers (channel strategy) and established a five-year roadmap to get there.
- **For the procurement department of a major transit agency**, Michael was responsible for evaluating their current procurement systems in preparation for an upcoming shared services initiative. Michael's primary responsibilities included senior level reporting on project status, evaluation of current business processes and serving as a transportation subject matter expert (SME).
- **For a $25 billion federal agency**, Michael led the development of the service-level agreements for a $250M Unified Financial Management System (UFMS). He led the effort to define the services, responsibilities, and service-level objectives between the program and their outsourced service providers to deliver the UFMS solution. In addition, Michael provided SME expertise in developing the Customer Service Level Agreements (CSLA) the program would offer to its customers. The SLAs were created based a framework that ensured traceability throughout the program as multiple parties were involved in delivering the defined services.
- **For the technology department of a major transit agency**, Michael led the program management of a $65M Oracle ERP implementation that covered a multi-phased roll-out to 17 business units. Michael's primary responsibilities included senior-level reporting on project status and risks mitigation.
- **For the technology department of a major transit agency**, Michael led the program to provide a move/stay recommendation for their expiring data center facility lease.

3.2.b   Ryan Mullen, Project Manager

Name	Ryan Mullen
Proposed Position	Project Manager
Education/Certifications	• B.A., Globalization Studies, University of California, Los Angeles
Years at Guidehouse	10 Years

Summary of Qualifications

Mr. Ryan Mullen is an Associate Director in Guidehouse's State & Local Government practice with eleven years of consulting experience. His work focuses on the intersection of sustainability, urban planning, broadband and technology, and government. Mr. Mullen specializes in strategic planning, sustainability and economic development, and broadband access/smart city issues. Mr. Mullen has led work on relevant projects with New York City, New York State, Los Angeles, Chicago, San Jose, the State of Missouri, and Astana, Kazakhstan.

Employment History

• Guidehouse LLP, Associate Director, 2011 – Present

Relevant Experience

• **For the City of San Jose Mayor's Office of Broadband & Innovation**, Mr. Mullen managed the development of a broadband and infrastructure strategy with heavy focus on readying the City for smart city and Internet of Things (IoT) applications. Our workstreams included a current state infrastructure and initiative assessment, ArcGIS-based analysis of gaps and opportunities, peer city benchmarking, and strategy.

• **For the New York City Economic Development Corporation**, Mr. Mullen served as the Policy and Analysis Lead for a major broadband assessment. This included a house-by-house broadband penetration assessment of 50,000+ NYC residential and business locations, and ArcGIS-based analysis of broadband access, cost, public infrastructure and other datasets. Mr. Mullen also led analysis of initiatives the City could undertake to improve broadband access, and recommended City actions. The outcomes of the project included acceptance of the strategy by key stakeholders from three rival departments, including multiple commissioners. The project ultimately resulted in the direction of millions of dollars of capital investment.

• **For Chicago Public Schools**, Mr. Mullen led an economic cost-benefit analysis of installation of telecommunications equipment on select schools. The team modeled return on investment and helped the organization generate millions in additional revenues.

• **For the City of Los Angeles Mayor's Office of Sustainability**, Mr. Mullen set targets and modeled initiative impacts for its first sustainability plan – including strategy and impacts of energy efficiency initiatives in high-performance buildings. Mr. Mullen benchmarked peer cities and conducted high-level impact analysis to inform the city's ambitious but achievable targets. The team then modeled the expected impacts of nearly a hundred sustainability initiatives (with special focus on water use, energy efficiency, carbon reduction and transportation) to assess progress against the targets and make recommendations to address gaps.

• **For the City of Nur-Sultan Mayor's Office (Kazakhstan),** Mr. Mullen drafted a "smart city roadmap" to guide the capital in using information and communication technologies (ICT) to improve a wide range of City services. Mr. Mullen focused on the opportunity for technology applications to improve high-performance buildings, transportation solutions, efficiency of water supply, waste management, and ambient pollution monitoring.

• **For the State of Missouri Department of Economic Development (DED)**, Mr. Mullen managed a strategy assessment that reorganized the Department, developed a new strategy for the agency, and evaluated its suite of economic development incentives and go-to-market strategies. His work increased the proportion of staff working on core development challenges from 3% to 25%+ and is expected to result in millions of dollars in deals and investment.

3.2.c Carlos Mercado, Senior Consultant

Name	Carlos Mercado
Proposed Position	Senior Consultant
Education/Certifications	• M.S., Applied Economics, Johns Hopkins University • B.A., Economics, University of Central Florida
Years at Guidehouse	3 Years

Summary of Qualifications

Mr. Carlos Mercado is an experienced data scientist with expertise in Natural Language Processing, Machine Learning, Data Visualization, Geographic Information Systems (GIS), and Urban Design with an emphasis on R Shiny Applications. His experiences in not-for-profits, logistics, education, start-ups, and public sector consulting give him a unique perspective and focus on the fundamentals of data generation, collection, management, analysis, and how they combine into the development of data products. He has extensive experience in R and R Shiny, and is also proficient in Tableau, Power BI, QGIS/ArcGIS, and Adobe Illustrator.

Employment History

- Guidehouse LLP, Senior Consultant, 2018 – Present
- Econometrica, Inc., Associate – R Developer, 2018 – 2018
- AGVT LLC (Sole Proprietorship), Data Science Consultant, 2017 – 2019
- LCI Academy in Korea, English Teacher, 2016 – 2017
- Walden Community School, Math Teacher, 2015 – 2016

Relevant Experience

- **For the Centers for Disease Control and Preventions' Center for Preparedness and Response**, Mr. Mercado led a team of developers on a workforce management simulation project creating visualization templates and workforce allocation algorithms to respond to global health emergencies.
- **For Los Angeles County**, Mr. Mercado was the lead data scientist supporting electrical vehicle adoption strategy for Los Angeles County. Using Machine Learning to model electric vehicle adoption patterns with US Census data, along with a third-party Transportation Area Zone vehicle mileage model, he created numerous simulations to inform equitable infrastructure investment in public electric vehicle chargers and created 15+ maps (in QGIS) to inform investment in public charging, DCFCs, and support for home charging.
- **For the Center of Medicaid Services**, Mr. Mercado automated weekly data visualization reports tracking physician audits for CMS-MIPS through an R Shiny application that scrapes metadata tables from 60+ Excel documents updated daily.
- **For the Veterans Affairs**, Mr. Mercado oversaw the requirements gathering, design, and development of an R Shiny application tracking project management timelines for Veteran Affairs. The application accesses secure VA data via GitHub authorization tokens to work outside the VA firewall for only those with the token.
- **For the Centers of Disease Control and Preventions' Division of Healthcare Quality Promotion**, Mr. Mercado was the lead developer of 5 R shiny applications designed to automate various phases of e-learning development for injury prevention in nursing homes. He was also a key Lectora developer on 23 online courses, using JavaScript, HTML, R Shiny, and the Google Text to Speech API to create courses with realistic computer-generated audio.

3.2.d Charlie Dimitry, Consultant

Name	Charlie Dimitry
Proposed Position	Consultant
Education/Certifications	• BA, Cognitive Science/Politics, Philosophy, and Economics, University of Michigan – Ann Arbor
Total Years of Experience	2+ Years
Summary of Qualifications	

Charlie is a Consultant in the West Energy Providers practice of the Energy, Sustainability, & Infrastructure segment at Guidehouse. Charlie has experience in energy program design and evaluation, best practice research, stakeholder engagement, and strategic planning as well as considerable experience in survey design, analysis, and reporting. These skills, complimented by Charlie's outstanding academic qualifications in data analysis, decision theory, and human psychology have enabled her to become a strong team member on a variety of projects core to utility energy efficiency and cross-practice business activities.

Employment History

- Guidehouse LLP, Consultant, July 2019 - Present
- DTE Energy, Power & Industrial Group, Intern, May 2018 – August 2018
- Public Sector Consultants, Intern, May 2017 – August 2017

Relevant Experience

- **For the Tennessee Valley Authority,** Charlie conducted over a dozen stakeholder meetings, including developing presentations and taking detailed notes, involving stakeholders from multiple industries and organizations to aid in the development of a Smart City strategy. Charlie also coordinated over 65 individual onboarding and one-on-one meetings to ensure all stakeholders were engaged and informed. In addition, she designed, programmed, and fielded a digital pilot submission form.
- **For Harris County Universal Services,** Charlie compiled best practice strategies for implementing a long-term broadband strategy, including leading technologies and strategic plan development. Charlie coordinated with stakeholders to deploy short-term broadband resources including mobile wi-fi and mesh networks.
- **For New Jersey Transit,** Charlie held stakeholder interviews with employees across the Finance department to develop an understanding of current state practices and pain points. Charlie wrote, programmed, and analyzed a staff survey to understand employee perspectives across the finance department Supported the creation of current state report. She also conducted best practices desk research and interviews of peer agencies to understand potential avenues for improvement.
- **For the New York City Police Department (NYPD),** Charlie conducted best practices research in order to gain an understanding of how outside industries, both public and private, implement similar strategic goals. She supported interviews of high-level executives through thorough notetaking and extraction of key takeaways. Charlie also developed presentations to communicate findings of best practice research and interviews to the client.
- **For Duke Energy,** Charlie designed, programmed, and fielded a series of surveys to train and onboard trade allies and contractors, as well as collect project information at the time of initial enrollment and final submission. Charlie also provided design insight to prevent problems and bottlenecks in data collection.
- **For a national energy provider,** Charlie wrote a survey battery and interview guide designed to assess the motivations, attitudes, and satisfactions of participants in a pilot program utilizing solar-charged residential battery back-ups to offset grid demand, as well as determine the scalability of the pilot. Charlie also programmed and fielded the survey by utilizing Qualtrics, monitored the data collection process, and conducted data analysis with the final results utilizing Excel and SPSS. She confirmed questions were worded to prevent and limit bias induced in the results, ensuring the data collected was clean and usable.

3.2.e   Gordon L. Rooney, Consultant

Name	Gordon L. Rooney
Project Position	Consultant
Education/Certifications	• Master of Public Affairs, University of Michigan – Ann Arbor • Bachelor of Arts, Government, University of Texas at Austin • Professional Development DEI Certificate, University of Michigan, Rackham Graduate School
Total Years of Experience	8+ Years

Summary of Qualifications

Gordon is a Consultant in Guidehouse's State and Local Government Advisory Practice. He is experienced in stakeholder engagement, grants management, public policy development and project management. Gordon's experience includes service in local government, in the nonprofit sector and in international education. From 2014 to 2019 he served with the Mayor's Office of Cultural Affairs in Charleston, SC. Prior to his service in municipal government, he spent two years in rural Japan teaching English and about American culture. From 2010 to 2011 Gordon served with City Year AmeriCorps, where he supported students in high-need schools in Columbia, SC. His professional experience includes stints with the Texas Association of Regional Councils, the Texas Senate Committee on Jurisprudence, and the U.S. Air Force Research Laboratory. Gordon is currently pursuing the Project Management Professional Certification through the Project Management Institute.

Relevant Experience

• **For the South Carolina State Housing Finance & Development Authority (SC Housing),** Gordon is co-leading a team providing "surge support" for SC Housing on the SC Stay program for rental and mortgage relief. With support made available through the U.S. Department of Housing and Urban Development and the S.C. Department of Commerce, approximately $25 million in CARES Act funding is made available to eligible low-income families in South Carolina. Gordon is providing support through managing the process to determine eligible, ineligible and potentially fraudulent applications; and through providing daily guidance for 31 processing agencies throughout South Carolina overseeing initial reviews of SC Stay applications from all 46 counties. Gordon is in regular contact with SC Housing staff to provide guidance, support and updates. Gordon is proud to serve his home state through this important effort.

• **For the South Carolina Department of Administration (SCDOA),** Gordon led multiple teams to manage the distribution of $1.9 billion in COVID-19 relief funds. The Coronavirus Aid, Relief, and Economic Security Act (CARES) contained this funding through the Coronavirus Relief Fund (CRF) and provided critical support for towns, cities, special purpose districts, hospitals, universities, colleges and state agencies. The process included receiving, evaluating, approving and compliance-checking reimbursement requests. The team successfully processed thousands of requests in just a few months. Through processing reimbursement requests, Gordon provided guidance and customer service to key stakeholders from throughout South Carolina.

• **For the City of Detroit Mayor's Office of Workforce Development (MOWD),** Gordon provided consulting support in developing a recruitment "playbook" to be used by MOWD for job readiness programs. Fiat Chrysler Automobiles (FCA) entered into a deal with the city of Detroit, in which FCA agreed to invest in a new assembly plant. This investment by FCA will ultimately bring roughly 4,200 permanent production operator jobs to Detroit, where Detroiters will be the primary candidates needed by FCA to build Jeeps. The MOWD and the Detroit Employment Solutions Corporation (DESC) are tasked with getting Detroiters ready and skilled for these positions. Gordon met weekly with the MOWD team and during the discovery phase conducted an as-is analysis to identify opportunities for operational improvements in the process. The primary deliverable was a playbook for how MOWD can implement large-scale workforce development initiatives with Detroit partners. The playbook serves to help MOWD with identifying, engaging, interviewing, and selection to meet the needs of corporate partners. The entire process was documented, to inform efforts for future hiring periods.

• **For the City of Charleston Mayor's Office of Cultural Affairs,** Gordon directed funding priorities for all arts events and cultural activities the city presents and produces. Related events include the annual Piccolo Spoleto Festival, the MOJA Arts Festival, the Charleston Farmers Market, multiple exhibitions at the City Gallery at Waterfront Park, the Free Verse Poetry Festival and more. Gordon monitored an annual cultural budget of roughly $1.8 million (annually approved by City Council) and spearheaded marketing efforts with regional and national media outlets to promote the City's cultural events. Gordon engaged with stakeholders and served as a liaison between the City and entities such as the South Carolina Arts Commission, Charleston City Council and other towns and cities on the Mayor's cultural initiatives and priorities.

3.2.f Louie Scola, Consultant

Name	Louie Scola
Proposed Position	Consultant
Education/Certifications	- MPP, Public Policy, Duke University - BHS, Health Sciences, University of Missouri – Columbia - BA, Communications, University of Missouri – Columbia
Total Years of Experience	4+ Years
Summary of Qualifications	
Louie is a Consultant in Guidehouse's State and Local Government practice. With a Master of Public Policy and four years of experience working with Nonprofits and State/Local government entities, Louie specializes in using quantitative and qualitative data to improve the provision of public goods and services by identifying human capital and supply chain solutions that meet stakeholders' needs. Most recently, Louie worked with a Harris County Universal Services to evaluate federal funding for Harris County's Connected County strategic plan.	
Employment History	
- Guidehouse LLP, Consultant, August 2020 – Present - Downtown Durham, Inc., Strategy Consultant, February 2020 – July 2020 - Guilford County Government, Budget Management and Evaluation Intern, May 2019 – August 2019 - The Urban Leaders Fellowship, Policy Fellow, June 2018 – August 2018 - City Year, Inc., AmeriCorps Member, July 2017 – June 2018	
Relevant Experience	

- **For the Travis County Planning and Budget Office**, Louie is currently serving as the policy analysis and federal funding workstream lead for the County's COVID-19 Response efforts. This involves reviewing federal guidance from various departments and agencies to advise the County on the best use of federal funds awarded to the County through legislation including the CARES Act, the Consolidated Appropriations Act of 2021, and the American Rescue Plan Act. As the policy analysis and federal funding workstream lead, Louie also led a five-week long cross-department initiative to submit a Public Comment to the U.S. Department of Treasury in response to the Interim Final Rule published for the State and Local Fiscal Recovery Fund. The project goal was to provide the federal government with feedback regarding the guidance regarding the use of the County's Local Fiscal Recovery Fund allocation and broaden the eligible uses of funds to better align with county-wide and departmental budget priorities. The team interviewed stakeholders from 11 county departments, conducted best practices research, and weekly briefings to the COVID-19 response team for feedback to complete the process.
- **For Harris County Universal Services**, Louie conducted policy and grants analysis to augment the County's COVID-19 response efforts focused on providing digital assistance solutions into a long-term Connected County Strategy. He also provided weekly updates to the team regarding action taken by the U.S. Congress and State of Texas related to Broadband infrastructure and digital access initiatives by tracking legislation progressing through each respective body.
- **For the Harris County COVID-19 Project Management Office (PMO)**, Louie assisted with the County's COVID-19 response efforts. He supported the County's efforts to provide digital assistance solutions for students by coordinating efforts and communications with key government stakeholders and external partners.
- **For Downtown Durham, Inc.**, Louie developed methods to reduce aggressive panhandling in the downtown business improvement district by composing legal briefs on related court decisions, compiling best practices from 20+ cities, and authoring 5 case studies. In addition, Louie introduced a study methodology to further assess the needs of the city's 450+ panhandlers and to identify additional resources and partnerships needed to implement solutions in the short- and long-term, amidst the fallout of COVID-19.
- **For the Budget Management and Evaluation Department of Guilford County (NC)**, Louie forecasted demand of social services based on need and eligibility data to enhance the county's understanding of its changing demographics and identified ways to improve the Department of Health and Human Services (DHHS) efficiency in the following fiscal year.
- **For Triangle Residential Options for Substance Abusers, Inc. (TROSA)**, Louie worked with colleagues to: assess TROSA's $17.6M business model,, identify ways to enhance customer relationship management (CRM) in the organization's Men and Women programs, develop 4 tools to improve the business's KPIs and reduce attrition. In addition, the team detected problems with organizational culture by interviewing 30+ customers, employees and senior leaders and compiled solutions into a brief implemented by executives over 6 months.

3.2.g   Simone Robinson, Public Engagement Lead

Name	Simone Robinson
Proposed Position	Public Engagement Lead
Education/Certifications	• MUP, Master of Urban Planning, The University of Michigan • BS, Merchandising Management, Eastern Michigan University • IAP2 Foundations in Public Participation (Planning, Foundation, and Techniques) • National Environmental Policy Act
Total Years of Experience	9 Years

Summary of Qualifications

As the Principal and co-founder of Public Participation Partners, Simone has over nine years of experience in urban planning for state and municipal governments conducting community and land-use planning, economic development, and community outreach for a variety of comprehensive planning, transportation, and development projects. Her experience developing and implementing public engagement plans for diverse communities has equipped her with the skills to help establish trust between communities and agencies and build consensus among all parties. Through stakeholder and agency coordination, public outreach and communications, and engagement outcomes analysis, Simone aims to inform, involve, and empower all affected community members and provide transparency in project goals and outcomes.

Employment History

- Public Participation Partners, Principal, 2017 – Present
- Neighborhood Solutions, Senior Planner, 2016 – 2017
- City of Raleigh, Planner, 2015 – 2016
- North Carolina Department of Transportation, Community Planner, 2014 - 2015

Relevant Experience

- **For the NCDOT statewide multi-modal long-range transportation plan update,** NC Moves 2050, Simone led the public involvement planning and implementation. Simone worked with NCDOT TPB to develop a statewide public involvement plan and provided oversight for all public outreach activities including advertising, survey, and notification materials development and distribution; Environmental Justice and LEP outreach; event organization and facilitation; and translation of printed and online materials. Through her leadership, the phase two and phase three surveys had record-breaking participation, with the phase three survey reaching over 15,200 participants.
- **For the City of Raleigh Planning Department,** Simone led a consultant team in the development of an equitable engagement process. In this role, she was responsible for equitable public engagement planning and analysis of City engagement processes and policies to develop the Community Engagement Process Development (CEPD) Playbook and curriculum for staff training. She managed all outreach efforts including a city-wide survey, presentations, pop-up events, and small group meetings. Her engagement plan for the CEPD resulted in record-setting demographic participation in a City survey, which provided the City with representative data for community engagement preferences for the Playbook.
- Simone is managing the public engagement and communications efforts for the Dix Edge Area Study, which is planning for housing affordability, land use, zoning, and connectivity in the study area. As public engagement lead, Simone is working to ensure that the feedback gathered during the study is representative of the diversity of the study area. To achieve this goal, Simone is assisting the City with developing and implementing an equitable communications and engagement strategy. She also oversaw the development of training materials and conducted the training for advisory group members. In addition to managing public outreach efforts, Simone is responsible for conducting and facilitating large and small group meetings, including Listening Sessions, Visioning Workshops, and public meetings for each project phase.
- **For the Wake County Bus Rapid Transit planning in the City of Raleigh,** Simone has managed the development of two systemwide virtual open houses and accompanying non-virtual outreach, working with the various consultant teams to create cohesive virtual experiences for residents and stakeholders. During each comment period, Simone oversaw the implementation of non-virtual polling station placed around the city. In the second round of engagement, the polling stations along the New Bern Avenue corridor gathered over 330 responses from bus riders and pedestrians.

3.2.h Shaun Fernando, Subject Matter Expert

Name	Shaun Fernando
Proposed Position	Subject Matter Expert (SME)
Education/Certifications	• MSc, Environmental Design/Systems Engineering, University College London • BSc, Physics, University College London
Years at Guidehouse	10 Years

Summary of Qualifications

Mr. Shaun Fernando is the Strategy & Policy Consulting Lead for Guidehouse's State and Local Government Advisory Practice. Mr. Fernando has over 13 years' global experience in developing innovation-led and market-based strategies that build thriving and competitive cities, states, and regions. Mr. Fernando's core areas of focus include economic development, sustainability, and innovation. He is an expert in developing the strategic rationale, business case and management systems for cities to plan and implement economic development, sustainability and smart city initiatives.

Employment History

- Guidehouse LLP, Director, 2011 – Present
- WSP, Consultant Engineer, 2008 – 2011

Relevant Experience

- **For the Los Angeles County Service Authority for Freeway Emergencies**, Mr. Fernando is leading Guidehouse's development of an enterprise strategic plan for this transportation agency in LA County that operates the region's freeway call boxes and 511 system. Mr. Fernando is overseeing the current state assessment and strategic plan, which will shape the direction of the agency for the next several years based on national trends in transportation, technology, and traveler information services.
- **For the City of San Jose**, Mr. Fernando worked with the City's Chief Innovation Officer to develop a Vision statement to define San Jose's smart city agenda.
- **For the City of San Jose**, Mr. Fernando led the work to develop the City's Internet of Things (IoT) Strategy. This included a current state assessment of the city's IoT infrastructure (e.g., streetlights) and conducted interviews with key city staff and stakeholders. His team reviewed additional city documentation including assets, technology in use, and current data architecture and formats and they also researched leading governance and data architecture practices from peer and leader cities to benchmark San José's progress.
- **For the City of San Jose**, Mr. Fernando managed the day-to-day execution of the Climate Smart San José plan including deep carbon modelling. Mr. Fernando led the implementation of a "next generation" analytical framework to understand the economics of de-carbonization. He also helped identify policy, programs, and projects to assist the City in improving energy, mobility, and water resources, taking into account the associated benefits and costs of proposed actions.
- **For Los Angeles County Metropolitan Transportation Authority**, Mr. Fernando is responsible for integrating the Community and Public Engagement workstream of the Traffic Reduction Study with the technical analysis component. Includes stakeholder engagement to validate the key parameters/assumptions of the Study.
- **For the Kingdom of Saudi Arabia**, Mr. Fernando was part of the project team that developed the Smart City Vision for a new urban development on the Red Sea coast.
- **For the Dubai Urban Development Framework**, Mr. Fernando assisted Dubai Municipality in developing its first Connected City program which included a review of distributed sensors for traffic, energy and environmental monitoring and a plan for their roll-out across the Emirate.

3.2.i   Harrison Phelan, Subject Matter Expert

Name	Harrison Phelan
Proposed Position	Subject Matter Expert (SME)
Education/Certifications	• M.S.E, Systems Engineering, University of Pennsylvania • B.S.E., Magna Cum Laude, Systems Science and Engineering, University of Pennsylvania
Years at Guidehouse	6 Years

Summary of Qualifications

Mr. Harrison Phelan is a Managing Consultant in Guidehouse's State and Local Government Advisory Practice. Having grown up in Arizona, he brings deep local knowledge of the State. He has led multiple engagements across the country assisting clients with their strategic planning and Smart City technology needs. He also has experience in data analysis, benchmarking, climate action planning, disaster recovery, process mapping, and program and project management.

Employment History

• Guidehouse LLP, Managing Consultant, 2015 – Present

Relevant Experience

• **For the Tennessee Valley Authority**, Mr. Phelan is leading the strategy workstream to support the creation of the Connected Communities Roadmap. He has conducted visioning exercises, research, extensive stakeholder engagement in communities, and pilot development. Mr. Phelan's team is focused on communities and their utilities using data and technology to improve the quality of life of their citizens.

• **For the City of Joplin, Missouri**, Mr. Phelan led the creation of a Smart City Roadmap which presented short-, medium-, and long-term recommendations for the City. He completed a current state assessment for the City which involved interviews with each of their department heads, the creation of an asset inventory, and leading practice research looking at peer and innovative cities around the world and their approach to Smart City topics. Mr. Phelan facilitated multiple workshops/open houses with City leadership, community leaders, business leaders, and the general public. He shortlisted solutions for implementation and conducted deep dives to understand what it will take to complete them. He drafted and socialized the public-facing and City Council approved roadmap with stakeholders.

• **For the Arizona Department of Housing and Arizona Governor's Office**, Mr. Phelan is overseeing efforts to coordinate and maximize federal funds. His team provides technical expertise to ensure federal grant compliance and coordination. He ensures that Arizona has a comprehensive funding strategy that includes not only immediate response efforts but long-term economic development and public health efforts.

• **For the City of San José**, Mr. Phelan developed an Internet of Things strategy for the city. He conducted a current state assessment of the city's Internet of Things infrastructure (e.g. streetlights) and conducted interviews with key city staff and stakeholders. He reviewed additional city documentation including assets, technology in use, and current data architecture and formats. He also researched leading governance and data architecture practices from peer and leader cities to benchmark San José's progress. A deep dive was conducted into streetlights and potential funding models for the city.

• **For the City of Philadelphia**, Mr. Phelan created a Smart City roadmap that outlines strategies to implement, support, and use smart city technology and systems effectively. He conducted a current state assessment of Philadelphia's smart city approach and assets by doing desktop research and focus group interviews with various city stakeholders. Mr. Phelan then did a benchmark study of peer and leading domestic and international cities to gather leading practices on smart city visions, applications, governance models, and funding approaches, as well as various technology aspects including connectivity, data management, privacy, and cybersecurity. He combined this benchmarking and current state assessment to identify gaps and opportunities for the city. He then socialized these findings with the city stakeholders and worked with them towards a future state roadmap that includes recommendations on Philadelphia's future state governance model, project prioritization, and data management.

• **For the Los Angeles County Service Authority for Freeway Emergencies and the Los Angeles County Metropolitan Transportation Authority**, Mr. Phelan was the project manager of a quality assessment of the Motorist Service Unit's programs. This assessment entailed interviews, document review, and leading practices research all grounded in Lean Six Sigma principles. He also facilitated a visioning session with the client to define quality for the organization. To enable Motorist Services to continually drive quality, Mr. Phelan and his team developed recommendations, an implementation roadmap, and a quality framework/maturity model.

3.2.j   Colin Hood, Subject Matter Expert

Name	Colin Hood
Proposed Position	Subject Matter Expert (SME)
Education/Certifications	• MBA, Darden School of Business, University of Virginia • B.A., Government, University of Virginia • Certified Project Management Professional (PMP) • Agile Certified Practitioner (PMI-ACP)
Total Years of Experience	10 Years

Summary of Qualifications

Colin joined Guidehouse's State & Local Government Advisory Practice after several years of experience providing management consulting services to public and commercial clients. Colin's technical expertise includes project management, business process improvement, roadmap design, organizational design, change management, and implementation planning.

Employment History

- Guidehouse LLP, Associate Director, 2020 – Present
- Thought Logic Consulting, Managing Consultant, 2018 – 2020
- North Highland, Manager, 2015 – 2018
- PricewaterhouseCoopers, Senior Associate, 2011 – 2015

Relevant Experience

- Colin is currently leading a team of change management consultants focusing on positioning a large-scale system implementation for successful user adoption. Activities include stakeholder analysis, change impact analysis, communications planning, resistance planning and management, and external stakeholder engagement.
- **For the New York City Housing Authority (NYCHA),** Colin managed a team of consultants to define a new organizational structure for the agency's IT organization, including determining recommended roles and responsibilities, reporting structures, and staffing levels. Additionally, to support the successful deployment of the new structure, the team developed a change management strategy (including communications strategy with key messages, channels, audiences, and timing), developed an implementation roadmap (to confirm a detailed timeline, activity steps, resources, risks, and mitigation steps), and supported resistance management planning and management.
- **For a public sector regulatory agency,** Colin directed a team to prepare for paperless transformation through strategy development, customer and stakeholder analysis, and process redesign. Delivered strategy articulation map for core system replacement, new future state processes, and Request for Proposal (RFP) document.
- **For a Fortune 100 client,** Colin developed a change strategy and interaction model for sales organization redesign. Outcomes included a streamlined sales model and new change management framework for reorganizations.
- **For a global financial services advocacy organization,** Colin developed and led implementation of change management and transformation. Strategies positioned the organization to successfully decentralize operations, expand global offerings, revise planning cycles across decentralized units, and successfully increase operational investments in the new model by 74%.
- **For a public sector transportation client,** Colin designed a strategy for new talent acquisition shared services center. He conducted organizational design and devised a transformation strategy, including change impact analysis and communications planning. As a result of this engagement, the client achieved higher performance in recruiters, talent acquisition costs savings, updated roles and responsibilities, increased screening quality, and reduced time-to-hire.
- **For a global public sector organization,** Colin directed implementation of over 12-month talent transformation initiatives, including a new governance structure, new organizational model, and enterprise-wide process improvements. Activities included project management, change management, and business process analysis.
- **For a global public sector organization,** Colin directed the implementation of over 12 multi-month talent transformation initiatives, including new governance structure, new organizational model, and enterprise-wide process improvements. Activities included project management, change management, and business process analysis.

3.2.k   Rebecca McGregor, Subject Matter Expert

Name	Rebecca McGregor
Proposed Position	Subject Matter Expert (SME)
Education/Certifications	• MA, Public Policy, Georgetown University • B.A., Government & Politics, University of Maryland • Certified Customer Experience Professional
Total Years of Experience	14+ Years

Summary of Qualifications

Rebecca is a Director in Guidehouse's State and Local Government Advisory Practice. She has been managing government customer experience and change management projects for a decade, helping clients understand and improve the experiences of those interacting with government services. She is trained in commercially tested customer experience and customer research techniques and is a certified Customer Experience Professional. Rebecca also has experience with a variety of analytic tools and techniques and has developed a variety of internal staff surveys such as change management surveys.

Employment History

- Guidehouse LLP, Director, 2018 – Present
- PricewaterhouseCoopers, Manager, 2013 – 2018
- PricewaterhouseCoopers, Senior Associate, 2010 – 2013
- LMI, Consultant, 2007 – 2010

Relevant Experience

- **For the New York State Insurance Fund (NYSIF),** Rebecca has managed multiple projects to improve the customer experience and internal operations. Rebecca led projects that helped NYSIF understand the customer journey via journey mapping techniques. These projects focused on specific pain points and difficult experiences that NYSIF had identified, including the Premium Audit process and the billing process. Rebecca also led a study of internal underwriting processes in order to help NYSIF identify processes that could benefit from enhanced automation.
- **For the New Jersey Housing Mortgage Finance Agency (NJHMFA),** Rebecca led an assessment of internal processes and technologies in order to support the Governor's goals of increasing affordable housing in the State. Rebecca led a team that identified methods to streamline and modernize NJHMFA's operations, enhance customer service, better capitalize on Federal funds and programs, and further its mission.
- **For a large Midwestern State,** Rebecca managed the set up and management of the Project Management Office for a large IT implementation office, while also deploying a change readiness assessment and developing communication strategies for the State. Rebecca is responsible for managing the implementation rollout strategy and project plan and overseeing project reporting activities. Rebecca also developed a change readiness survey to gauge thousands of users on their readiness for change and developed communication strategies based on user feedback and concerns.
- **For a large agency in the City of New York**, Rebecca served as the project manager for the development of an IT strategy. Rebecca and her team assessed the current state of IT at the agency, identified existing strengths, current challenges, and opportunities for the future. The team conducted focus groups and visioning sessions with internal and external stakeholders. Through these interactive forums and leading practices research, the team built a strategy with mission, vision, goals, and concrete initiatives, actions, and an implementation roadmap that defined how tech can empower the agency and its employees.
- **For the State of Arkansas,** Rebecca was the project manager for the State's assessment seeking to identify operational efficiencies for the Department of Finance and Administration and develop a strategic roadmap for the future of the State. Rebecca's team focused on assessing procurement processes, HR processes, IT portfolio management and strategic planning efforts. Rebecca developed the final report for the Governor that identified major operational efficiencies for the Department, and a strategic roadmap for the future in order to realize $30M+ in cost savings.
- **For the State of Arkansas,** Rebecca served as an advisor to a large project in support of the State's Chief Transformation Officer (CTO). Rebecca and her team created an assessment of existing modernization plans, the Governor's current cabinet structure, and identified overlaps and redundancies across state government. The team developed recommendations on ways to restructure the Governor's cabinet an developed an implementation plan with the goal of providing savings and improved services to Arkansas taxpayers.

3.2.l   Sarah Razor, Subject Matter Expert

Name	Sarah Razor
Proposed Position	Subject Matter Expert (SME)
Education/Certifications	• MPA, Eastern Kentucky University • BA, Integrated Strategic Communications, University of Kentucky
Total Years of Experience	16+ years
Summary of Qualifications	

Sarah has more than 16 years of experience working in strategic partnerships, policy analysis, research, executive education and partnerships in the public sector, including serving as the Executive Director of the National Association of State Chief Administrators and Director of External Affairs for the National Association of State Procurement Officials. She has expertise in stakeholder engagement, adult and executive education curriculum development and delivery, and procurement policy and state government operations. She also has expertise in the nonprofit industry, specializing in strategic planning, organization growth and program development.

Employment History

- Guidehouse LLP, Client Relationship Executive, March 2021 – Present
- Hippo Manager Software, Director of Marketing, January 2020 – January 2021
- National Association of State Chief Administrators, Executive Director, 2016 – 2020
- National Association of State Procurement Officials, Director of External Relations, 2015 – 2016
- National Association of State Procurement Officials, Senior Policy Analyst, 2014 – 2015
- Kentucky League of Cities, Government Affairs Communications and Training Manager, 2006 – 2014
- Council of State Governments, Health Policy Research Associate, 2004 – 2006

Relevant Experience

- **For Hippo Manager Software,** Sarah launched a veterinary practice coaching program, including developing curriculum, aligning with industry certification requirements, building the business model and a go-to-market strategy. She also reconfigured public brand of Hippo Manager, including converting the website to HubSpot platform, implementing a new email marketing platform, aligning Salesforce functionality to better track lead sources, creating marketing segmentation and automating dashboards and metrics for sales KPIs
- **For the National Association of State Chief Administrators (NASCA),** Sarah served as the executive director during a time of rapid growth in membership, expanded partnership and programming. She managed board retreats, topical events related to strategic initiatives and successfully managed the strategic plan, as well as created a committee/strategic plan roadmap to better engage members. Sarah worked hand-in-hand with the Executive Committee, Finance Committee and other relevant committees to develop and manage the annual budget. She oversaw all governance, operations and financial management of the nonprofit organization. She directed two major conferences annually, including executive education session development, speaker coordination, site selection and facilitated networking. She launched a state-to-state cooperative purchasing committee and created and administered a strategic partner strategy and liaison structure, increasing engagement and collaboration from public, nonprofit and private sector partners in events and research projects.
- **For the National Association of State Procurement Officials (NASPO**), Sarah developed and executed strategies to elevate NASPO's profile to targeted stakeholders and enhance awareness of the public procurement profession. She managed partnerships with strategic stakeholders, including joint research projects and policy statements, webinars, roundtable events and speaking opportunities. NASPO's wholly owned subsidiary is NASPO ValuePoint, a national cooperative purchasing organization that uses a state-led model.
- **For the Kentucky League of Cities,** Sarah oversaw and executed communication strategy for legislative, legal and policy departments of a membership association 375+ cities in Kentucky. In addition to her work with the Government Affairs team, she managed all training curriculum, credit programs and events, including budget and staff components. She also convened the Alcoholic Beverage Control Summit in 2013, hosted jointly the Kentucky Department of Alcoholic Beverage Control, alongside all cities and counties to review the historic passage of Senate Bill 13.
- **For the Kentucky Nonprofit Network,** Sarah serves as chair of the association for Kentucky nonprofits for 2020-2021. She has expertise in nonprofit management and serves as an advocate and champion for nonprofit issues. She has first-hand understanding of the unique role of nonprofits in serving the community during the COVID-19 pandemic.

Tab 4.   Proposed Services to be Provided

COVID-19 has exposed how vital high-quality broadband is to modern life. As ever more jobs shift to remote work and citizens spend more time indoors, broadband has joined electricity and water as an essential service: the new utility of the twenty-first century. We applaud the County of Guilford for taking the steps to address your broadband planning needs. Throughout our experience, we have found that broadband plans and strategies needs to be more than just a technical diagnosis of the problem and potential solutions. Guilford's Broadband Fiber Optic Gap Analysis must clarify the roles, responsibilities, and resources of the stakeholder ecosystem to rollout broadband infrastructure and catalyze economic development.

Achieving this will require striking the right balance of technical broadband data, economic and policy context, and market signals necessary to spur the private sector into action. To create a vibrant broadband-backed economy, this Report and Action Plan should give all residents a base level of broadband access as well as the freedom of provider choice. The Report also needs to:

- **Be a facilitator of County goals and values.** Broadband is both a vital service and an enabler of many other County goals, like thriving economically, improving educational opportunities, and increasing quality of life. And so, our work should align with other initiatives the State is undertaking, to ensure that broadband activities harmonize with and support them.
- **Organize a coalition through governance.** A successful Action Plan will incorporate and rally your stakeholders around the goal of high-quality broadband for all – and the key steps needed to get there. Many stakeholders have a part to play, and the governance structure is essential to maximizing cooperation.
- **Align funding to needs.** Providing high-quality broadband to all your citizens is a worthy goal – but can often be a pricey one. Our analysis is designed to help you take the next step and tie funding sources, particularly federal grants, to the identified projects.
- **Create market signals for private sector.** We are going to be identifying relevant federal grants such as those described in the White House's proposed American Jobs Plan. However, we see that money as just the seed with which the private sector can take cues and invest in on their own. They will be hesitant to change as they have enjoyed tight control, but the right market signals can turn the tide. We saw this ourselves as we helped the City of San Jose work with telecoms to develop a digital inclusion fund of millions of dollars.

In the rest of this section, we will describe our approach for addressing each of the elements in a 120-day timeframe. 60- and 90-day options are possible, but we encourage the County to consider 120 days to allow enough time for additional stakeholder engagement and data collection.
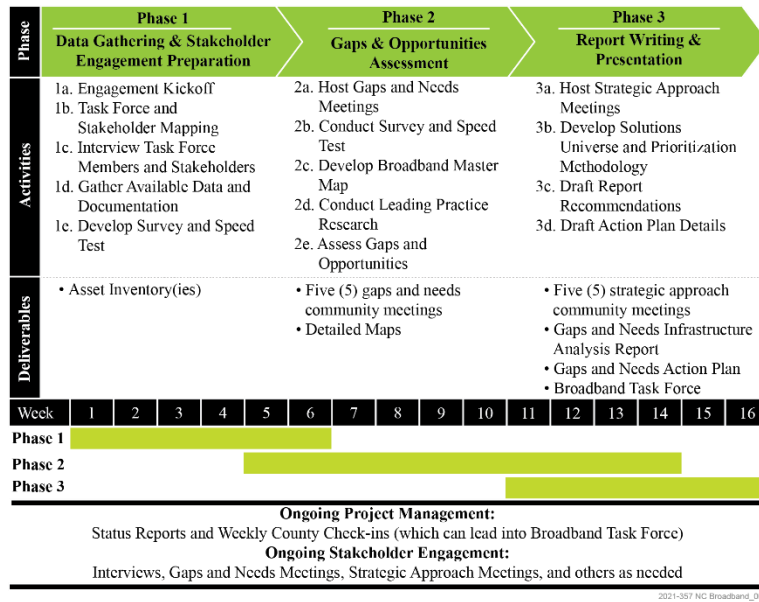
Figure 5. Overview of Approach

4.1 Phase 1: Data Gathering & Stakeholder Engagement Preparation
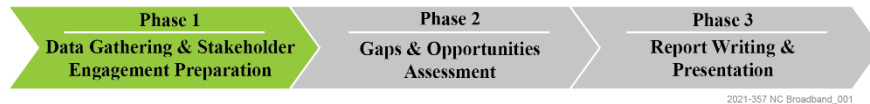
We believe that it is essential to set up a project correctly from the outset, particularly one as rapid as this project. Without clear governance, escalation paths, stakeholder engagement, and project planning, an engagement will not succeed. We have organized this phase so that it starts with project planning but quickly gets into the meat of the engagement with interviews and data collection.

4.1.a Engagement Kickoff

We will officially launch our project with a kickoff workshop to align on objectives and refine our project plan. From this initial meeting and early consultations between the client team and Guidehouse project managers, the Guidehouse team will prepare a refined project plan that provides an updated approach and project overview that includes project scope, roles and responsibilities, timelines, potential risks and issues, assumptions, and dependencies for the project. We will also identify a meeting cadence and communication channels up front that suit your needs and promote transparency throughout the engagement. By establishing these channels, we can ensure that Guidehouse and Guilford County staff work closely together and are in frequent contact throughout the project, share progress, and address any roadblocks quickly and early.

4.1.b Task Force and Stakeholder Mapping

The stakeholder engagement aspect to our approach cannot be understated. For recommendations to avoid sitting on a shelf and be actionable, they need to be socialized early with its audience. The best way to socialize is by including that audience in the development of the recommendations in a co-creation role. We envision this engagement to be done throughout the life of the project, so that each of the stakeholders is brought along the way.

We will work closely with you to develop a stakeholder list. All members of the future Broadband Task Force will be included on this initial list. By identifying key stakeholders from the beginning, we can conduct subsequent analyses with stakeholder impact. A stakeholder list will then allow us to develop a comprehensive stakeholder mapping and analysis that will inform how we engage each one. This deep dive into stakeholder engagement from the onset can allow for increased support and buy-in for potential changes to come.

Figure 6. Sample Stakeholder Mapping

We will also develop interview guides for each of the determined stakeholder groups. These guides will be tailored to the interviewee's connection to the County's broadband environment.

4.1.c   Interview Task Force Members and Stakeholders

With interview guide and stakeholder map in hand, we will then engage dozens of stakeholders through interviews and follow-up meetings as needed. Our team will facilitate each of the workshops and prepare materials in advance so that the Guilford County team has enough time to review. Interview topics include:

- Current state of broadband needs and infrastructure in the area
- Relevant data or documentation that can be shared
- What a successful broadband fiber optics gap analysis looks like to them
- Potential strategies to address needs
- Implementation considerations such as funding or risks

We are excited at the possibility of working with the County and have already outlined some of the stakeholders we would consider interviewing in Error! Reference source not found..

State Agencies	Communities	Telecoms	Anchor Institutions
• NCDoIT • NCDOT • North Carolina Broadband Infrastructure Office	• Greensboro • Jamestown • Summerfield • Oak Ridge • McLeansville • Stokesdale • Pleasant Garden • Whitsett • Sedalia	• AT&T • CenturyLink • Comcast • EIN • Frontier • Xfinity • Applied Telecom • Consolidated Communications	• Guilford County Nonprofit Consortium • NC IDEA • Kramden Institute • MCNC • Guilford Educatoin Alliance

4.1.d   Gather Available Data and Documentation

In this first phase, we will also prepare a data and documentation request. Some sample data and documents will include past broadband planning materials, strategic plans, relevant assets or initiatives, community engagement surveys, and broadband infrastructure maps. We want to do a thorough review of what you have put on paper over time about your goals, objectives, policies,

and previous actions on broadband and digital equity – all things that will inform a gaps & opportunities assessment. We will use this information to discuss which things have changed and which things have stayed the same over the years. We will also gather GIS datasets and resources the County may have, and/or other public/private datasets from key stakeholders to further build out critical map layers. All this data and documentation will come together to form the asset inventories as well as the gaps and needs infrastructure analysis report.
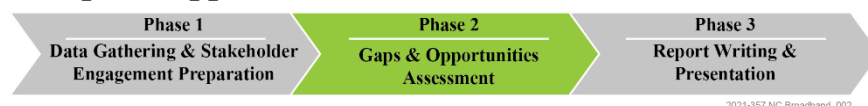
4.1.e Develop Survey and Speed Test

Surveys can be a helpful tool to get a vast and diverse amount of data in a relatively short period of time. For broadband planning in particular, surveys are an invaluable data collection tool to truly understand the demand needs of the region. We understand the limitations of FCC's 477 data, and therefore plan on enriching that dataset by surveying Guilford County's residents and businesses. We will need the County's help in this. Our team will design the survey to be short and easy to complete, but we will be heavily relying on the County's teams for distribution and marketing. This step in Phase 1 serves to start that planning process of what questions are we going to ask, how are we going to ask them, and who are we going to ask them to. Topics we will broach for the residents and businesses may include:

- How many options for broadband service do you have?
- What are the price points for each one?
- Are you satisfied with your service?
- Will it fit your needs in the next 5-10 years?

In addition to the survey, we also plan on asking residents to partake in a speed test. This is another tool that we can use to truly understand what speeds residents are experiencing. When designing these materials, we will be sure to reference the broader State of North Carolina Broadband Survey and see if that is something we can leverage to better align with the State. Ultimately if we can get access to that data, we would want to show good faith with the State's Broadband Infrastructure Office and foster a good relationship.

4.2 Phase 2: Gaps & Opportunities Assessment

By the end of Phase 1, we will have already engaged many stakeholders and collected critical datasets. Phase 2 serves to collect more data from the public via the survey and speed test and then analyze results. Guilford County will need to have a robust understanding of the current and future needs of its community as well as broadband infrastructure. This ultimately culminates into a broadband master map including an understanding of the digital divide in Guilford County. We also develop a gaps & opportunities report that summarizes or work thus far and synthesizes data from mapping into various possibilities in terms of possible broadband initiatives or projects for the County. These projects and initiatives will be explored in more detail in Phase 3. We will develop the broadband master map and gaps & opportunities report through the following activities.

4.2.a   Host Gaps and Needs Meetings

Throughout the course of this approach, we have made clear our intent to engage the stakeholders of Guilford County. We will follow that principle when it comes to these five (5) Gaps and Needs meetings. Our team will work closely with the County to determine whether these meetings would be best served to be open forums for the community to broadly attend or be more targeted in invitation and attendance. Both instances have value and can lead to different outcomes. Either way, our team is experienced in leading the public or targeted stakeholders through these types of meetings.

We often start by educating the audience on broadband, terminology, and the initiative. We then turn the microphone back to them and facilitate a series of brainstorming exercises. As we have done for many other organizations, we would facilitate these groups to identify how, from their unique perspectives, the County can prioritize and invest in the community in terms of various broadband projects. Hearing from people on-the ground and listening to their needs will illustrate experiences to the Broadband Task Force and ensure our resulting recommendations are grounded in the needs of Guilford County's community.

4.2.b   Conduct Survey and Speed Test

Concurrent to standing up the Gaps and Needs meetings, our team will be preparing for the distribution of the survey and speed test. We can support the County in developing marketing material including one-pagers, email distribution messages, media campaigns, etc. The survey will be active for a full month to try and capture as much data as possible while still leaving time for us to analyze the resulting data. Combined with the data from the FCC, we hope to glean a more realistic understanding of the County's broadband current state.

4.2.c   Develop Broadband Master Map

Developing what we call the "**broadband master map**" is a complex exercise involving many overlaid datasets. We will start preparing this master map nearly from the first day of the project and expect to continue refining it with you until our final report is complete. Our goal is to generate simplicity from a large amount of data and to present it in a way that both educates you as well as your stakeholders and calls them to action. Based on our work creating maps of broadband access and digital exclusion for other clients, we anticipate using the following datasets as a baseline shown in **Table 1**.

Table 1.   Datasets for Broadband Master Map *(including but not limited to)*

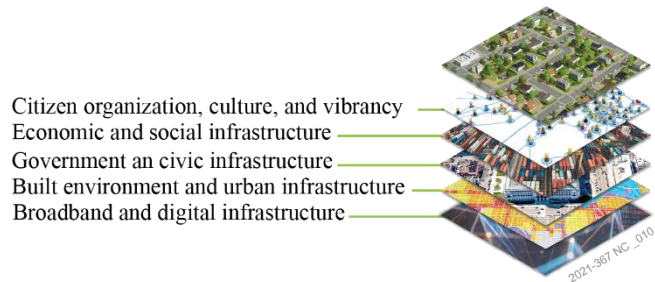| Geospatial Data	Potential Source
Base layers with geographical features, streets, districts and buildings	County provided data
Residential broadband access available at block level	Public—FCC 477 data
Top speed available at block level	Public—FCC 477 data
Access to fiber providers at block level	Public—FCC 477 data
Price	Public—Provider websites
Demographics (income, age, household size, ethnicity)	Public—US Census
Locations/coverage of public Wi-Fi (e.g., libraries, schools, public hot spots)	County provided data
Relevant street furniture (e.g., streetlights, telephone poles, pay phones)	County provided data
County buildings	County provided data
Location of conduit and/or fiber (County- and privately-owned)	County provided data
Cell towers and small cell locations (County- and privately-owned)	County provided data
Social characteristics (computers and internet use, schooling)	Public – 2019 American Community Survey
Economic characteristics (employment status, income)	Public – 2019 American Community Survey
Housing characteristics (housing units, rent as % of income)	Public – 2019 American Community Survey
Demographic characteristics (race, sex, age)	Public – 2019 American Community Survey
Gross domestic product by region	Public – Bureau of Economic Analysis

Table 1. Datasets for Broadband Master Map *(including but not limited to)*

Geospatial Data	Potential Source
Employment by industry and occupation	Public – Bureau of Labor Statistics
Environmental (water quality, air quality)	Public – EPA
Social Vulnerability	Public – CDC Social Vulnerability Index
Additional relevant data from State Broadband Infrastructure Office	Potentially State provided data

In this task, key touchpoints with the County will include:

- Determine the most useful outputs and geographical sub-areas (e.g., neighborhoods, ZIP codes, etc.)
- Determine what data is currently available, its levels of completeness and its formats
- Review high-level infrastructure assessment and implications
- Finalize materials and transition to State

Additional inputs into our mapping include socio-economic datasets. Our perspective is that socio-economic impacts must be embedded into a project prioritization methodology for the recommendations to be credible. We are well-versed in the complexities of state and local government and intersecting priorities of many initiatives. We use IMPLAN and other analytic tools to build a comprehensive

Citizen organization, culture, and vibrancy
Economic and social infrastructure
Government an civic infrastructure
Built environment and urban infrastructure
Broadband and digital infrastructure

Figure 7. Layered Analysis

understanding of the context of our recommendations. This will also more easily allow us to tap into federal funding as we will have GIS layers at the ready to substantiate a grant.

4.2.d Conduct Leading Practice Research

For each of the aspects of leading practices (broadband governance/performance, digital equity, and sustainability/smart city cross-over), we will compare Guilford County to leading models. We will gather data via existing data collected on past projects, desktop research, and up to three interviews with Guidehouse and County connections. We will compare Guilford to leading models of broadband governance, including:

- Role of the County in owning/maintaining fiber
- Various business models for the County and its communities to consider
- Technologies deployed and supported
- Access, speed, and inclusion outcomes
- Path to reaching those models (e.g., legacy systems or infrastructure leveraged)
- Pros and cons of each model

And we will compare Guilford County to leading models of digital equity:

- Market-based solutions (e.g., negotiation for low-cost plans)
- Opt-in programs (e.g., hot spots for check-out from libraries)
- Free public Wi-Fi networks
- Hardware distribution (e.g., loans/giveaways)
- Education and training programs (e.g., community classes, multi-lingual options, learn-to-code initiatives)
- Community accountability and involvement

4.2.e   Assess Gaps and Opportunities

After the various steps of information gathering from different sources are complete, we will synthesize this information in order to develop the Gaps & Opportunities report. In the synthesis of our findings, we will look to draw out key themes across a few categories: Findings and opinions on broadband quality and availability; Findings and opinions on digital equity; Infrastructure availability; and other categories as discussed with the County team. We will also spend significant time in the presentation reviewing the outputs of our broadband master map, such as visualizations of neighborhoods of need and visualization of infrastructure deficits or other challenges. The gaps and opportunities assessment will make clear what business models are available for the County to consider. Additional items that we can include in the report are:

- Current County agencies overseeing private sector providers and regulatory framework
- Broadband procurement for County agencies and services
- Current and planned programs, including smart County initiatives
- Current and planned technology deployments
- Current asset inventories and information like what departments control them
- Analysis of the broadband infrastructure gaps and needs

Key aspects of the digital equity review will include:

- Collection and categorization of broadband affordability/digital equity programs
- High-level assessment of program effectiveness and scalability
- High-level summary of digital equity issues based on available County and third-party data
- Selected interviews with County and community leaders, to better understand digital equity issues in the County and to "ground truth" available data and hypotheses about digital issues

4.3   Phase 3: Report Writing & Presentation

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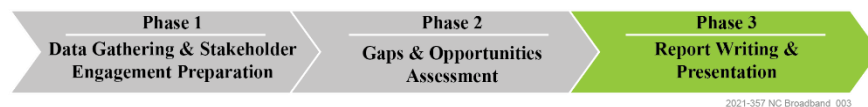
This final phase of work serves to synthesize our findings from the prior two phases into the Broadband Action Plan. This will integrate our insights and research on the broadband infrastructure current state in Guilford County as well as the needs in the area. As before, stakeholder engagement will be an important aspect to this phase as we work with stakeholders in the Strategic Approach Meetings and County staff when developing recommendations and implementation considerations.

4.3.a   Host Strategic Approach Meetings

Much like the Gaps and Needs Meetings, the Strategic Approach Meetings may be held either with key stakeholders or be a broader forum for the community. We will ultimately follow the County's lead on this, but we recommend limiting the Strategic Approach Meetings to the key stakeholders and players of the broadband environment in the County. We recommend this because developing a Strategic Approach requires knowledge of either the County's broadband infrastructure or needs. We will certainly be educating the attendees at the start of each session to ensure we are all speaking from the same place but coming in with a nuanced perspective will be important. We can also split the Strategic Approach Meetings between key stakeholders and the broader community to try and gather different inputs. In either case, these sessions will be

focused on expressing the desired broadband future state for Guilford County. Confirming our understanding of its needs, what do some potential solutions look like, what are their attributes, are there particular areas for us to focus on. We will cover a wide range of future state topics that we will use as a launchpad into the other steps of this phase.

4.3.b Develop Solutions Universe and Prioritization Methodology

In this task, we will use the desired future state as expressed in strategic approach meetings and gaps & opportunities report to begin generating a universe of potential actions for later filtering. The first focus of this step is completeness – to identify a wide range of possible activities (what we mean by "solutions universe") from which we can winnow down to the most effective and most easily-implementable actions. We will develop an initial list ourselves, and then work iteratively with the County to flesh out the list and categorize initiatives according to various types. The full, categorized list will be the product of this portion of the work.

Once a clear picture of potential initiatives and activities is in place, our team will focus on helping you prioritize recommendations. First, we will work with you to highlight criteria we can use to prioritize certain initiatives over others. Many of these will be straightforward and include criteria we have previously used on other projects with you, such as:

2021-357 NC Broadband_011

Figure 8. Sample Prioritization Framework

- **Expected Impact:** Measured in terms of increased access, reduced cost, infrastructure build-out, City investment requirements, etc.
- **Expected Ease of Implementation:** Measured in terms of staff needs (additional staff, training, etc.), process changes, technology needs, infrastructure needs, etc.
- **Dependencies:** Measured as the number of required people, process, or technology changes needed to begin work (including actions by private carriers)

We will work with County staff and to evaluate these and other criteria to determine final criteria, as well as tools to quickly screen the list of initiatives against these criteria. Our team will use these tools to perform the screening and, by the end of this step, provide a ranked set of high-value actions. We will also assess these initiatives based on their "type" – how quickly they can be implemented and how far-reaching their impacts are.

4.3.c Draft Report Recommendations

In this step, we will assemble a deck of Report Recommendation Scorecards – baseball cards or tearaways – essentially a 1-pager that communicates the salient insights of a given focus area in a standardized way. Selecting the right information that is pertinent to each stakeholder group is critical for success. Important focus areas for each recommendation will include:

- **Description of Recommendation:** Narrative of a description of the recommendation to clearly explain its scope and what it entails
- **Benefits/Impact and Metrics:** A carryover from the prioritization step where we communicate the benefits of the recommendation as well as key performance indicators measuring its success
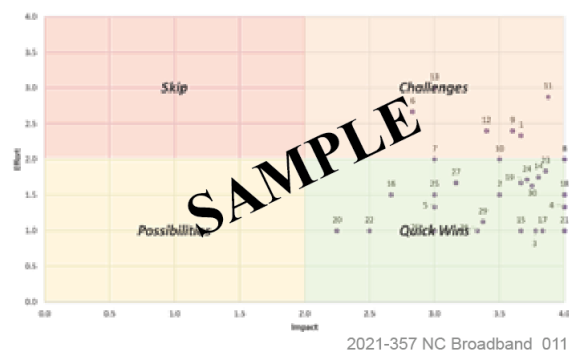
- **Ease of Implementation and Risks:** Another carryover from the prioritization step that outlines the next steps of implementation as well as any risks foreseen during this planning stage. We will also identify roles and responsibilities of the various stakeholders to be involved in the recommendation
- **Cost and Funding:** a critically important section that will include a cost range for the project, outline potential funding sources (including ARPA), and provide guidance on how to best leverage those funding sources. These cost and resource elements may include capital costs, operating costs, and directional estimates of potential revenue streams

2021-357 Broadband_012
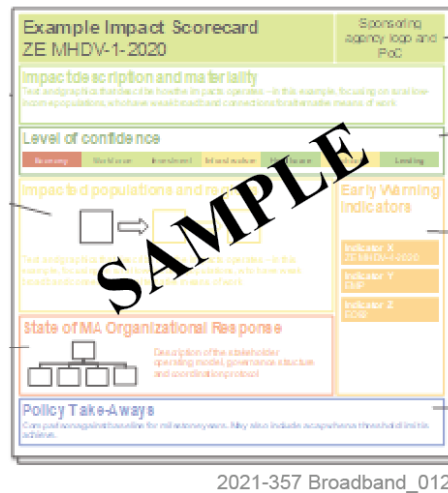
Figure 9. Recommendation "Baseball Card"

We have used this format of deliverable to great effect when communicating broad-based, multivariate information through a lens which a policymaker will find relevant and actionable. We aim to have a workshop with you to start to sketch out the wireframe for this deliverable – which sections in the Report Recommendation Scorecard might be most relevant to you – so that we can generate one for each focus area at the conclusion of the project.

4.3.d Draft Action Plan Details

With our Recommendation Scorecards complete, we will build upon them to further refine them into the Gaps and Needs Action Plan. Based on our experience with other communities, the following general format has succeeded in terms of engagement, clarity, and inspiring commitment to action through a logical progression of steps:

2021-357 Broadband_013

Figure 10. Sample Mapping Outputs

- **Broadband Action Plan (First)**
  - What is the overall goal and strategy of the broadband action plan?
  - What level of detail in the plan makes it actionable for the County?
  - Which aspects of broadband are most important to address?
  - What are the scaling capacity needs of Guilford County?
  - Which technologies should be part of the future state?
  - How can the County effectively resolve gaps in cost, roles, and execution?
  - What additional data, if any, will be required to refine our understanding of the issues?

– How can the County foster competition and allow new ISPs to thrive?

- **Digital Equity (Second)**

  – What types of intervention will be most impactful, practical, and cost effective?
  – Where will these interventions take place?
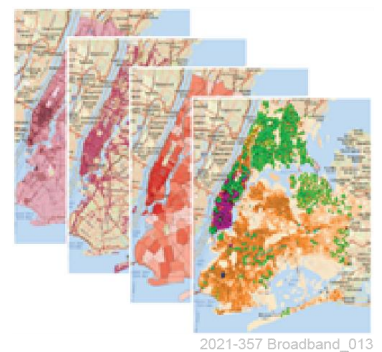 – How can the strategy be flexible to include new information (e.g., community surveys)?
  – How can we focus first/most intensively on high-priority groups (such as low-income families with students, or seniors) while creating a framework that includes other groups as well (such as individuals experiencing homelessness or tribal communities)?
  – Given the trajectory of the broadband action plan, what crucial aspects of inclusion may remain unaddressed?

- **Implementation Roadmap (Third)**

  – How can we sequence of the prioritized recommendations into an implementation roadmap that clearly outlines the target timelines and dependencies for implementation?
  – Where can we add tools to serve as guides for Guilford County executive leadership as it takes action to implement these initiatives and helps check progress of the initiatives underway?
  – Does the County have the resources and knowledge they need to start implementation?

Figure 11. **Sample Implementation Roadmap**

  – Does the roadmap provide a "playbook" for executives and County staff, showing them what initiatives to focus on, when, by whom, and at what cost?
  – Do the recommendations in the roadmap provide predictability and certainty to staff about the County's priorities and how they will affect their everyday work, so it is not "another layer" on top of what they already do?
  – Does the roadmap support implementation by providing a continuous "source of truth" as to the sequence and ownership of initiatives that together lead to the County's goals?
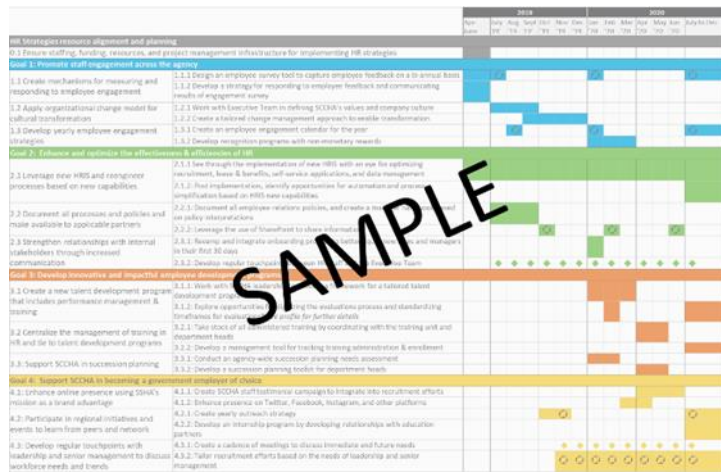
After multiple rounds of iteration and edits across the County and stakeholders, we will present to you the final plan. We plan to convene the key stakeholders for a final read-out on findings and present next steps based on quick-win recommendations/actions the County can take to get started immediately.

Tab 5.   References

The qualifications listed in the table below demonstrate our experience in conducting broadband analyses and developing implementation roadmaps; deploying technical resources and solutions; developing more sustainable cities; and supporting government organizations in the Southeastern U.S. You will find more detailed information about our relevant experiences below.

We provide three specific references for recent projects: 1) Harris County Broadband Strategy and Implementation; 2) Tennessee Valley Authority Connected Communities Roadmap; and 3) South Carolina Department of Administration Coronavirus Relief Funds Grants Management. The contact information for these three agencies is provided in the tables that follow.

Additionally, we have provided detail on several additional related broadband and smart city projects. We are happy to provide any further information you may require (including references for the other projects listed) and are looking forward to your contacting our references.

Table 2.   Reference Summary

Relevant Experience	Within Last 3 Years	Additional Experience	Broadband Project	Smart City Project
Harris County – Broadband Strategy and Implementation to Address Digital Divide	✓		✓	
Tennessee Valley Authority – Connected Communities Roadmap	✓		✓	
South Carolina Department of Administration – Coronavirus Relief Funds (CRF) Grants Management	✓			
New York City Economic Development Corporation – Broadband Study		✓	✓	
City of San Jose Office of Civic Engagement – Broadband and Digital Inclusion Strategy		✓	✓	
City of Philadelphia – Smart City Roadmap		✓		✓
City of Joplin – Smart City Roadmap	✓			✓
Southern Electric Utility – Smart City Strategy Development		✓		✓
Midwestern Electric Utility – Smart City Program Development		✓		✓

5.1 Harris County, TX – Broadband Strategy and Implementation to Address Digital Divide

Client Name	Harris County, Texas	
Contract/Project Title	Broadband Strategy and Implementation to Address Digital Divide	
Client Address	1001 Preston St., Houston, TX 77002	
Point of Contact	Name	Jim McMillan
	Telephone Number	(713) 274-8837
	Email Address	jim.mcmillan@us.hctx.net
Period of Performance	April 2020 – Present	
Overview of Project and Services Provided		

- **Challenge:** COVID-19 exacerbated the digital divide in Harris County, especially for Harris County Schools. The County was mandated to improve digital access for students. Guidehouse was engaged to provide strategy, implementation assistance, and program management to support broadband and digital inclusion.
- **Approach:** Our team performed analysis to determine the geographic areas of Harris County in need of targeted connectivity interventions based on a number of factors such as average household income, lowest performing schools, current availability of broadband, etc. We then worked with County stakeholders and school district representatives to confirm the viability of identified areas and develop a specific listing of site locations at which to deploy services. We then identified short and long-term interventions such as the deployment of mobile wi-fi busses, expansion of publicly available mesh wi-fi networks at County owned facilities, and the establishment of publicly available LTE networks. Our team assisted the County in the overall procurement and vendor selection process, from development of an RFP to contract review. We developed a reporting dashboard to monitor the review and execution of vendor purchase orders, overall spend against budget, and status of equipment installations. Our team coordinated with local school districts to identify economically disadvantaged students in need of connectivity and facilitated the deployment of wi-fi hotspots and offering of subsidized in-home fixed line internet solutions through partnerships with ISPs. We facilitated weekly status reporting meetings with the school districts and service providers to identify challenges in program execution and develop recommendations for improvements. We also coordinated with over 40 Local Education Agencies (i.e., school districts), Harris County, the Texas Education Agency, and private partners to facilitate the procurement of over 225,000 laptop devices and over 100,000 internet hotspots with a cumulative value of over $32M for economically disadvantaged students to assist with remote learning during the pandemic. Our team actively monitored the status of these shipments and subsequent deployment, provided regular status reporting to the County, and has been performing independent verification of deliveries and deployments.
- **Outcome:** Hundreds of thousands of the County's most marginalized students have been connected to remote learning and support through the process, with larger impacts likely from the long-term broadband strategy.

5.2 Tennessee Valley Authority – Connected Communities Roadmap

Client Name	Tennessee Valley Authority	
Contract/Project Title	Connected Communities Roadmap	
Client Address	26 Century Blvd, Nashville, TN 37229	
Point of Contact	Name	Bonnie Latta
	Telephone Number	(615) 232-6915
	Email Address	bclatta@tva.gov
Period of Performance	November 2020 – Present	
Overview of Project and Services Provided		

- **Challenge:** The Tennessee Valley Authority (TVA) serves 10 million people across seven southeastern states. TVA sought to align their diverse stakeholders with a common vision to improve digital infrastructure and improve overall quality of life by understanding and leveraging the power of data and technology and facilitating smart cities. Specifically, TVA was looking to improve their access to broadband, sustainability initiatives, and workforce development opportunities. Guidehouse was engaged to develop a vision for this Connected Communities Initiative and facilitate the pilot process.
- **Approach:** Guidehouse is leading four (4) primary workstreams for this engagement: stakeholder engagement, tools and resources, internal TVA strategy, and facilitating pilot programs.

    1) Concerning stakeholder engagement, Guidehouse identified key internal TVA stakeholders related to connected communities, smart cities, or broadband and worked in tandem with them to align on a common vision for this initiative. Guidehouse then worked with TVA to identify and engage with external stakeholders, including utilities, state and local governments, nongovernmental organizations, and national laboratories. The team formed a steering committee to focus the direction of the initiative and facilitated the development of smaller, detail-oriented working groups. The equitable access to services working group specializes in broadband and online platforms, the economic empowerment working group aims to promote next generation jobs and digital skills, and the energy and environmental justice working group seeks to utilize and advance clean technologies.

    2) Regarding tools and resources, Guidehouse, with guidance from the steering committee, generated both internal and public facing deliverables. The team created a connected communities roadmap, which was cocreated with stakeholders and outlines local and national leading broadband, sustainability, and workforce development practices. Further, Guidehouse worked with stakeholders to develop a guidebook to serve as a connected communities implementation manual and to produce a resources database outlining similar projects and relevant funding data.

    3) With the direction for the Connected Communities initiative set through the stakeholder engagement and roadmapping, our team has transitioned to focusing on the TVA's internal long-term strategy through internal stakeholder engagement and strategic planning activities. We have mapping TVA's various relevant initiatives to better understand what Connected Communities may look like in the organization long-term.

    4) Guidehouse has been instrumental in supporting TVA in launching call for pilots from applicants in the region. This call for pilots makes millions of dollars available in funding for ideas related to the three focus areas of equitable access to services (e.g., broadband), economic empowerment, and energy & environmental justice. The application window is now underway for the first focus area: equitable access to services. To help support the pilots, Guidehouse is also conducting data analysis and mapping exercises to quantify some of the challenges being faced in the region and help spur project ideas.

- **Outcome:** The Connected Communities Initiative will support the communities in the Tennessee Valley in embracing digital technologies and broadband infrastructure. This engagement tests out ideas that, when brought to scale, could assist communities in obtaining economic prosperity and a higher quality of life.

5.3 South Carolina Department of Administration – CRF Grants Management

Client Name	South Carolina Department of Administration	
Contract/Project Title	Coronavirus Relief Funds (CRF) Grants Management	
Client Address	1200 Senate Street, Columbia, SC 29201	
Point of Contact	Name	Marcia Adams
	Telephone Number	(803) 734-8115
	Email Address	marcia.adams@admin.sc.gov
Period of Performance	May 2020 – Present	
Overview of Project and Services Provided		

- **Challenge:** Guidehouse was engaged by the State of South Carolina's Department of Administration to support its COVID-19 response and recovery efforts. To maximize the State's allocation of CARES Act funding, Guidehouse identified funding and eligibility requirements and developed strategies for the State's response using a current state assessment and prioritization evaluation based on funding. Our team then established processes, policies, and procedures for the end-to-end grants management process that then became business requirements for a tech-enabled grants management platform that will lead to countless efficiencies for years to come.
- **Approach:** Guidehouse concurrently supported the State with grant administration, including instituting compliance and audit-readiness practices. Guidehouse staffed a large team that actively reviewed thousands of reimbursement requests and monitoring for risk (including fraud), accuracy, and fidelity to the State's interpretation of requirements for disbursal of CARES Act funds. Our team assessed eligibility of expenses, answering questions about eligibility and requirements, and confirming duplication-of-benefits issues between CARES Act and FEMA PA funding for hundreds of millions of dollars of funds. Guidehouse also monitored the grant management process alongside the Department of Administration, helping to determine allocations among subrecipients, ensuring auditability of processes, and supporting coordination between the Department of Administration and other arms of the South Carolina state government.
- **Outcome:** Key outputs include a rollout of a Salesforce platform to manage requests for reimbursement, track funding amounts, and to manage Subrecipient/client accounts. Additionally, after reviewing the 1,839 requests for reimbursement submitted to the program, Guidehouse allocated over $1.98 billion to Subrecipients throughout South Carolina. These subrecipients included state agencies, hospitals, universities, and local government at the County, Town and Municipality level. Funds were distributed across a wide breadth of activities, including reimbursements for payroll, goods/services, paid sick and medical leave, and activities performed to prevent the spread of COVID-19.

5.4 New York City Economic Development Corporation – Broadband Study

Client Name	New York City Economic Development Corporation
Contract/Project Title	Broadband Study
Period of Performance	March 2016 – July 2016
Overview of Project and Services Provided	

- **Challenge:** The City of New York, including the Mayor's Office of Operations, New York City Economic Development Corporation (NYCEDC), and the Department of Information Technology & Telecommunications, engaged Guidehouse to develop a strategy to realize its increasingly important OneNYC broadband objective: for every resident and business to have access to affordable, reliable, high-speed broadband service everywhere by 2025. The City also sought help identifying potential municipal intervention strategies to further the OneNYC initiative.
- **Approach:** The team conducted a variety of quantitative and qualitative analyses to bring the City new insight about its current broadband market and recommended solutions, including: assessing the current landscape of residential, commercial, and public Wi-Fi service – creating the most accurate maps of broadband to date; developing measurable broadband indicators based on leading practices; surveying existing and emerging trends to understand how cities best leverage broadband assets; projecting the impact of current and planned New York City broadband initiatives; and developing a complex cost and benefit model and neighborhood intervention tool to help the City identify the most appropriate and impactful approaches to remedy the current broadband market.
- **Outcome:** Guidehouse recommended for the City to leverage its institutions to expand fiber penetration and broadband access through three approaches: centralizing and strengthening broadband governance, expanding fiber deployment, and using City assets as broadband platforms. As a result of Guidehouse's analysis, the City now has a clear, actionable capital strategy for its current $70 million budget and has the data and research to support its case to advocate for additional funds. With Guidehouse's support, OneNYC has already made progress toward increasing access to affordable, high-speed broadband service for hundreds of residents and businesses and stimulating economic development.

5.5 City of San Jose Office of Civic Innovation – Broadband and Digital Inclusion Strategy

Client Name	City of San Jose Office of Civic Innovation
Contract/Project Title	Broadband and Digital Inclusion Strategy
Period of Performance	February 2017 – May 2018
Overview of Project and Services Provided	

- **Challenge:** As the Capital of Silicon Valley, San Jose is at the "center of the universe" for disruptions and opportunities stemming from technology. Despite being the Capital of Silicon Valley, however, more than 40% of San Jose's poorest residents have no broadband access at home, and fewer than 3% of all households had a high-quality fiber broadband connection.
- **Approach:** To remedy these and related issues, the City of San Jose retained Guidehouse to develop a broadband strategy that would identify the City's negotiating stance on carrier infrastructure buildout; improve broadband access to students, seniors, and low-income citizens; and prepare the City to build out Smart City technologies and IoT platforms.
- **Outcome:** Our team conducted a current state assessment of San Jose's infrastructure and identified that the City has a very low availability of high-quality fiber and that its fiber availability is increasing at an extremely slow pace. Guidehouse completed an assessment of San Jose's current assets to identify opportunities the City can leverage and completed a benchmarking study against peer and model cities to identify applicable best practices for broadband finance, governance, and digital inclusion expansion. Additionally, the team identified City's governance model that encourages more centralized ownership of the strategy and a financial model that focuses on increasing meaningful public-private partnerships. We guided the City with its infrastructure buildouts and initiative resources, including funding and personnel expansion

5.6   City of Philadelphia – Smart City Roadmap

Client Name	City of Philadelphia
Contract/Project Title	Smart City Roadmap
Period of Performance	November 2017 – March 2018
Overview of Project and Services Provided	

- **Challenge:** Philadelphia was named one of five U.S. cities to win the Smart Cities Council Readiness Challenge Grant as Philadelphia looks to integrate its existing information and communication technologies to improve city services. Guidehouse was engaged to develop a Smart City roadmap that outlines strategies to implement, support, and use technology and systems effectively.
- **Approach:** Guidehouse conducted a gaps and opportunities assessment through a benchmarking analysis, current state interviews, and multiple workshops. This involved working closely with many regional stakeholders, such as SEPTA and Philadelphia City agencies. Using these inputs, the team developed a forward-looking roadmap that includes recommendations on Philadelphia's future state governance and collaboration model, prioritization process, and funding sources.
- **Outcome:** The resulting Smart City Roadmap enables the City to progress with their technology transformation ambitions in order to promote prosperity in the region.

5.7 City of Joplin – Smart City Roadmap

Client Name	City of Joplin
Contract/Project Title	Smart City Roadmap
Period of Performance	September 2018 – May 2019
Overview of Project and Services Provided	

- **Challenge:** The City of Joplin, Missouri was devastated by a tornado in 2011. Since 2013, Guidehouse has been a proud partner of the City and has helped them administer $158 million in Federal funding for the recovery effort. As Joplin nears the end of its recovery phase, the City has engaged Guidehouse to help them develop a stakeholder-driven Smart City Roadmap.
- **Approach:** Guidehouse took a three-phase approach to the project. The first phase was focused on research and building alignment within the City. The second phase looked outward and engaged the community for their inputs and needs. The third and final phase synthesized each of the inputs to deliver the roadmap. In Phase 1, Guidehouse conducted a current state assessment of the relevant Smart City assets available to the City to leverage for future projects and programs. The team also researched leading practices from peer and leading cities to identify gaps and opportunities for the City as it relates to technology and data. They then interviewed each City department and hosted educational, visioning, and ideation workshops to collect their inputs. In Phase 2, Guidehouse developed and implemented a public engagement strategy to promote the open houses that included flyering, setting up booths at key events, social media posts, and newspaper and television interviews (done by the client but assisted by Guidehouse) to boost attendance. The team also engaged community leaders (e.g., City Council, business leaders, non-profits) in 1 on 1 sessions, to determine their goals and challenges in the City. In Phase 3, Guidehouse distilled the findings from the outreach to determine the priorities and opportunity areas for the City. The team then conducted feasibility studies and cost-benefit analyses and developed the roadmap.
- **Outcome:** The Smart City Roadmap lays out projects and guiding principles to assist Joplin's economic development and resiliency efforts in the short, medium, and long term. The Smart City Roadmap was adopted by the City of Joplin's City Council and continues as a Citywide initiative with partners like the Chamber of Commerce to this day.

5.8   Southern Electric Utility – Smart City Strategy Development

Client Name	Southern Electric Utility
Contract/Project Title	Smart City Strategy Development
Period of Performance	March 2018 – September 2018
Overview of Project and Services Provided	

- **Challenge:** Southern Electric Utility engaged Guidehouse to develop the framework and content for the utility's smart city regulatory response. To do this, Guidehouse worked to identify smart city opportunities relevant to the utility's service territories and to learn from leading utility smart city efforts from across the U.S.
- **Approach:** Guidehouse led the project with a three-phase approach. This included surveying smart city opportunities that would be included in the utility's service territory and facilitating stakeholder engagement. In Phase 1, Guidehouse assessed twenty smart city opportunities against a set of technical and commercial criteria and shortlisted the five most relevant smart city opportunities. For each of the five shortlisted opportunities, Guidehouse analyzed the expected appetite of five major cities in the utility's service territory, and built a high-level business model including solution offering, resources, and financial model. In Phase 2, Guidehouse organized a multi-city tour and shared insights from utilities and stakeholders leading smart city initiatives in five other U.S. cities. Guidehouse facilitated discussion with Southern Electric Utility by engaging with nearly 50 individuals across the client's organization to inform the smart city strategy. In Phase 3, Guidehouse applied insights form its smart cities experts for regulatory filing.
- **Outcome:** The project created a robust framework and analysis methodology for developing a smart city solution ecosystem the utility has leveraged for internal and external communications. Additionally, it prioritized a set of smart city opportunities for application across utility service territories and provided a high-level roadmap to execute the strategy.

5.9 Midwestern Electric Utility – Smart City Program Development

Client Name	Midwestern Electric Utility
Contract/Project Title	Smart City Program Development
Period of Performance	August 2017 – August 2018
Overview of Project and Services Provided	

- **Challenge:** Midwestern Electric Utility worked with Guidehouse to align its smart cities strategy among utility leadership and with government stakeholders and to identify and develop business models for selected smart cities technologies. Additionally, Guidehouse and Midwestern Electric Utility worked to screen and select eligible electric vehicle chargers for rebate program.
- **Approach:** Guidehouse took a three-phase approach to guide the engagement of utility and government stakeholders and develop the requirements for a smart city program. In Phase 1, Guidehouse worked in close collaboration with the utility's smart cities manager to deliver against tactical and strategic requirements of the program. In Phase 2, Guidehouse worked to bring timely insights from experts on wide range of topics including global smart cities market trends, transportation electrification, smart streetlighting, energy storage, and microgrids. Detailed Guidehouse information databases were leveraged to enhance the utility's understanding of options available and paths taken by peer utilities. In Phase 3, Guidehouse engaged personnel across utility enterprise to coordinate for effective stakeholder communications and consistent project execution through development of project plans at the work breakdown structure (WBS) level.
- **Outcome:** Guidehouse generated a prioritized and structured approach to pursue smart cities program objectives. This was a fruitful engagement with government on smart cities topics of mutual interest. The team supported an on-time launch of the EVSE rebate program in accordance with regulatory requirements to improve availability of public EV charging.

Tab 6. MWBE Participation Requirements

Please see detail on Attachment 4.

Tab 7.   Other Bid Event Forms

Please see forms submitted to Guilford County's online procurement portal.

7.1   W-9 Form-Attachment 5

7.2   Addendum Acknowledgement Form-Attachment 6

7.3   Non-Collusion Affidavit Form-Attachment 7

7.4   Affidavit of Compliance (E-Verify) – Attachment 8

7.5   Other Attachments

Tab 8.   Requested Contract Exceptions

Submission of this proposal is not an indication of Guidehouse's willingness to be bound by all of the terms presented in the Guilford County (the "COUNTY") Request for Proposal Broadband Fiber Optics Gap Analysis (the "RFP"). This proposal in response to COUNTY's RFP does not constitute a contract to perform services and cannot be used to award a unilateral agreement. Final acceptance of this engagement by Guidehouse is contingent upon successful completion of Guidehouse's acceptance procedures. Any engagement arising out of this proposal will be subject to negotiation of a mutually satisfactory vendor contract including modifications to certain RFP terms and conditions, and including our standard terms and conditions and fees and billing rates established therein.

Given our past history of successfully negotiating mutually agreeable terms with similar public sector agencies, we do not anticipate any difficulty in reaching a contractual agreement that will enable us to provide the professional services which you are requesting, while protecting the interests of both parties.

Guidehouse respectfully request the County consider the following modifications be incorporated into any resultant contract:

<u>SAMPLE CONTRACT</u>

7. TERMINATION.

TERMINATION FOR CAUSE.
If, through any cause, the CONTRACTOR shall <u>materially</u> fail to fulfill its obligations under this contract <s>in a timely and proper manner</s> <u>as set forth herein</u>, the COUNTY shall <u>provide written notice of such failrure and provide the CONTRACTOR ten (10) business days to cure such failure. If CONTRACTOR is unable or unwilling to cure such failure within ten (10) business days, the COUNTY shall</u> have the right to terminate this Contract by giving written notice to the CONTRACTOR and specifying the effective date thereof. In that event, all finished or unfinished deliverable items prepared by the CONTRACTOR under this contract shall, at the option of the COUNTY, become its property and the CONTRACTOR shall be entitled to receive just and equitable compensation for any satisfactory work completed on such materials, minus any payment or compensation previously made. Notwithstanding the foregoing provision, the CONTRACTOR shall not be relieved of liability to the COUNTY for damages sustained by the COUNTY by virtue of the CONTRACTOR'S breach of this Agreement, and the COUNTY may withhold any payment due the CONTRACTOR for the purpose of setoff until such time as the exact amount of damages due the COUNTY from such breach can be determined. In case of default by the CONTRACTOR, without limiting any other remedies for breach available to it, the COUNTY may procure the contracts services from other sources and hold the CONTRACTOR responsible for <s>any excess</s> <u>the</u> cost <s>occasioned thereby</s> <u>of such re-procurement, up to the total compensation for services agreed herein</u>. The filing of a petition for bankruptcy by the CONTRACTOR shall be an act of default under this Contract.

8. BREACH.

If, through any cause, CONTRACTOR or COUNTY ("the breaching party") shall <u>materially</u> fail to fulfill its obligations under this Contract <s>in a timely and/or proper manner</s> <u>as set forth herein</u> ("breach"), either in whole or in part, and such breach has continued for a period of more than ten (10) days after the other party ("the nonbreaching party") has notified the breaching party of such breach, in addition to any termination rights that it may have, the non-breaching party shall have all legal, equitable, and administrative rights available under applicable law. Without limiting other remedies, where COUNTY is the non-breaching party COUNTY may: Withhold any payment due CONTRACTOR for the purpose of setoff until such time as the exact amount of damages due COUNTY from such breach can be reasonably determined (at which time that amount shall be deducted from any payment(s) otherwise due to CONTRACTOR) and/or procure the contracted for services or goods from other sources and hold CONTRACTOR responsible for <s>any excess</s> <u>the</u> cost <s>occasioned thereby</s> <u>of such re-procurement, up to the total compensation for services agreed herein</u>. The filing of a petition for bankruptcy by CONTRACTOR shall constitute an act of breach under this Contract.

17. GUILFORD COUNTY LIABILITY INSURANCE REQUIREMENTS.

MAINTENANCE OF INSURANCE COVERAGE AND RENEWAL DOCUMENTATION:
CONTRACTOR ~~original insurance policies or certified copies of policies~~ Certificate of Insurance may be
required by COUNTY at any time. Current, valid insurance policies meeting the requirements stated
herein shall be maintained for the duration of the Agreement. Renewed ~~policies~~ Certificate of Insurance
shall be sent to the COUNTY at the above address thirty (30) days ~~prior to~~ after any expiration date.

Guidehouse respectfully request the County add the following provisions to any resultant contract:

20. LIMITATION OF LIABILITY

Notwithstanding any term herein, and except to the extent finally determined to be prohibited by law,
CONTRACTOR's aggregate liability for all claims, losses, liabilities, or damages in connection with this
agreement or its subject matter, whether as a result of breach of contract, tort (including negligence), or
otherwise, regardless of the theory of liability asserted, is limited to no more than the total amount of fees
paid to CONTRACTOR for the particular Service giving rise to the liability under this Contract. In addition,
CONTRACTOR will not be liable for any lost profits, consequential, indirect, punitive, exemplary, or
special damages. Also, CONTRACTOR shall have no liability arising from or relating to any third-party
hardware, software, information, or materials selected or supplied by the COUNTY.

21. OWNERSHIP OF CONTRACTOR MATERIALS

CONTRACTOR will own its working papers, pre-existing materials and software, as well as any general
skills, know-how, process, or other intellectual property (including a non-client specific version of any
deliverables) which CONTRACTOR may have discovered or created as a result of the Services.

Guidehouse respectfully request the County consider the following modifications to insurance
requirements be incorporated into any resultant contract:

BASIC INSURANCE REQUIREMENTS

~~Original insurance policies or certified copies of policies~~ COI may be required by the COUNTY
from the awarded vendor at any time. Renewed ~~policies~~COI shall be sent to the Guilford County
Facilities Director and/or their designee within thirty (30) days prior to any expiration date.

guidehouse.com

NON-COLLUSION AFFIDAVIT

STATE OF (North Carolina)

( ) SS.

COUNTY OF ( )

I, _____Mike Tosh_____, **of the Municipality of**
___Wakes_____, In the County of __Waukesha___ and the State of
___Wisconsin_____, of full age, being duly sworn according to law on my
oath depose and say that:

I am_____Partner_____, of the firm of
_____Guidehouse Inc._____, making the Proposal for the
above- named authority.

My submission of a response to this event certifies that I agree to the non-collusion agreement
contained below:

1. The submitter of this document is acting as an agent for their company who is the respondent that has submitted the attached bid response.

2. The undersigned person is fully informed concerning the preparation and contents of the attached response and of all pertinent circumstances related to it, and is authorized to sign this affidavit. This affidavit is given under penalty of perjury as provided by law.

3. Such bid response is genuine and is not collusive or sham in anyway whatsoever.

4. Neither the person responding nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including the signer of this affidavit, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other respondent, firm or person to submit collusive or sham response in connection with the contract for which the attached response has been submitted or to refrain from responding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other responder, firm or person to fix the price, or cost to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the Board of County Commissioners, Guilford County or any person interested in the proposed contract.

5. The price or prices quoted in the attached response are fair and proper and are not derived by any collusion, conspiracy, connivance or lawful agreement and on the part of the respondent or any of its agents, representatives, owners, employees, or parties in interest.

___Guidehouse Inc._____
(Name of Contractor)

Signature	Mike Tosh (Type or Print Name)	Partner Title	8/6/2021 Date

Subscribed and sworn to before me on this ___6___ **day of** _August_ , 20_21_

___Bonnie Dixon_____   ___Bonnie Dixon_____
Signature   (Type or Print Name)

Notary Public of the State of ___Wisconsin_____ **My**

Commission expires ___10_ /_09_____ , 20_24_ .

BONNIE DIXON
Notary Public
State of Wisconsin

Waukesha County

State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts

County of Guilford

<p style="text-align:center">(Name of Bidder)</p>

Affidavit of Guidehouse Inc.

<p style="text-align:center">I have made a good faith effort to comply under the following areas checked:</p>

Bidders must earn at least 50 points from the good faith efforts listed for their bid to be considered responsive. (1 NC Administrative Code 30 I.0101)

☑ **1 – (10 pts)** Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.

☑ **2 --(10 pts)** Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.

☑ **3 – (15 pts)** Broken down or combined elements of work into economically feasible units to facilitate minority participation.

☐ **4 – (10 pts)** Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.

☑ **5 – (10 pts)** Attended prebid meetings scheduled by the public owner.

☐ **6 – (20 pts)** Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.

☑ **7 – (15 pts)** Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.

☐ **8 – (25 pts)** Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.

☐ **9 – (20 pts)** Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.

☐ **10 - (20 pts)** Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.

The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

Date: 8/6/2021   Name of Authorized Officer: Michael Tosh

Signature: _____

Title: Partner

BONNIE DIXON
Notary Public
State of Wisconsin
SEAL
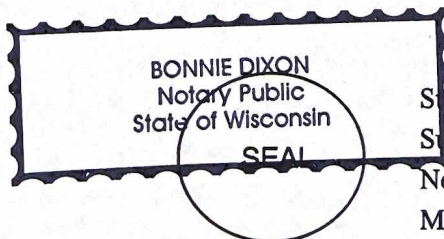
State of Wisconsin, County of Waukesha

Subscribed and sworn to before me this 4 day of August 20 21

Notary Public Bonnie Dixon

My commission expires 10/09/2024

MWBE Forms 2002-Revised July 2010

Attachment 6

ADDENDUM ACKNOWLEDGEMENT

<u>Broadband Fiber Optics Gap Analysis</u>
Title of Project

<u>REBID #2 - 20032</u>
Bid Number

Receipt of the following Addendum is acknowledged:

Addendum no._____1A_____ Date___7/21/2021_____

Addendum no._____1B_____ Date___7/21/2021_____

Addendum no._____2_____ Date___7/23/2021_____

Addendum no._____ Date_____

Addendum no._____ Date_____

Signature:~~Michael Tosh~~   Date: ___8/6/2021_____

Title ___Mike Tosh, Partner_____

___Guidehouse Inc._____
Name of Firm

STATE OF NORTH CAROLINA   **AFFIDAVIT**

COUNTY OF GUILFORD

****

I, _____Mike Tosh_____ (the individual attesting below), being duly authorized by and on behalf of

_____Guidehouse Inc._____ (the responding entity hereinafter "Employer") after first being duly sworn hereby

swears or affirms as follows:

1. Employer understands that <u>E-Verify</u> is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).

2. Employer understands that <u>Employers Must Use E-Verify</u>. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a).

3. <u>Employer</u> is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. Mark "Yes" or "No":

    a. YES X ; or,

    b. NO _____

4. Employer's subcontractors comply with E-Verify, and if Employer is awarded a contract for this project Employer will ensure compliance with E-Verify by any subcontractors subsequently hired by Employer.

This _6_ day of _August_, 20_21_.

_____

Signature of Affiant

Print or Type Name: __Mike Tosh__ State of

~~North Carolina~~ Wisconsin County of ~~Guilford~~ Waukesha

Signed and sworn to (or affirmed) before me, this the _6_

day of _August_, 20_21_.

My Commission Expires: _10/09/2024_

Bonnie Dixon

Notary Public

(Affix Official/Notarial Seal)

BONNIE DIXON
Notary Public
State of Wisconsin