

# Development of a Broadband Needs Assessment and Business Plan RFP

Prepared For: City of Hudson Ohio  
Information Services Dept.  
115 Executive Parkway Suit 400  
Hudson OH, 44236

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## Letter of Transmittal

July 15, 2014  
City of Hudson  
115 Executive Parkway Suite 400  
Hudson, OH 44236

Dear Mr. Hilbish:

Magellan is excited to assist the City of Hudson in evaluating strategies that use the City's strengths to ensure the community's broadband needs are achieved, now and in the future. We are the only firm that has the capabilities to help you evaluate and define real world community broadband strategies that will have meaningful results to the Hudson community. **These results are demonstrated throughout our work with Ohio municipalities and other local governments across the country where we have helped cities and electric utilities expand broadband to their residents, businesses, schools, hospitals and other organizations.** We have over 100+ communities that we have helped develop their own strategies to enhance local broadband across the US. **We are actively working in Ohio, helping the City of Hamilton plan and deploy its own Fiber to the Premise network to serve the community with next-generation broadband services.**

Through our services, we have helped local governments introduce next-generation broadband services to millions of homes, businesses, schools, hospitals and other public organizations in their communities. We have done so by assisting local governments to use their strengths to accelerate the deployment of these broadband services, through smart public policy, strategic partnerships with service providers and wise investments in broadband infrastructure. Our solid reputation has been built on years of successfully planning and implementing broadband projects for municipalities and public utilities.

In this project, we will guide you through the process of determining the broadband strategies that are most feasible for Hudson. We will help you define the current and future broadband needs of your community and build grass-roots support for this initiative with your local stakeholders. Armed with a concise understanding of your community's broadband needs, we will help you evaluate the opportunities to use your existing fiber infrastructure to accelerate next-generation broadband and the feasibility of doing so. Our comprehensive broadband business and financial planning experience, lead by our **in-house Certified Financial Analyst staff** will ensure that these opportunities are developed with a sound business case and financial sustainability. Our widely used **Broadband Financial Sustainability Model** will enable you to understand the true financial implications of various broadband strategies and which ones meet Hudson's required financial metrics. **No other broadband consulting firm has these tools available today.** We also understand the public sector



environment and the legal, political, regulatory and social challenges of developing broadband initiatives, especially in Ohio.

Hudson needs a consulting partner with the breadth of experience in needs assessments, planning and implementation of broadband networks, **specifically for municipalities**. Our combination of **expert broadband planning services and real-world business and operational experience** will provide Hudson with the best solution for developing a Broadband Needs Assessment and Business Plan. We look forward to serving your needs and if you have any questions, please feel free to contact me directly using the information below.

Sincerely,

A handwritten signature in black ink, appearing to read "John Honker", written in a cursive style.

John Honker, President of Magellan Advisors  
999 18<sup>th</sup> Street, Suite 3000, Denver, CO 80202

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## I. Statement of Qualifications

Magellan Advisors is the preeminent community broadband planning and implementation firm with a particular focus on public sector organizations that want to develop broadband infrastructure for the future of their communities. We are an international firm with headquarter offices in Denver, Colorado and regional offices in Florida, Pennsylvania, Kansas, and California. Magellan works extensively with public organizations across the continent to help them design, build, and operate fiber-optic broadband in their communities.

We have helped municipalities, states, and federal agencies bring next generation broadband to communities across North America with the goals of promoting economic and community development, improving public safety operations, expanding healthcare services, and supporting educational needs. We utilize a whole-community approach to broadband planning to ensure that these networks provide the greatest benefit to all stakeholders in the community. Our process involves first developing comprehensive needs assessments across the community to determine current and future broadband requirements across all community stakeholders. Utilizing this approach, we custom fit broadband networks based on the profile of the community. Doing so enables communities to plan and develop networks specifically designed to meet their needs; focused on achieving key objectives for economic and community development, education, healthcare, public safety, and community support. Further information about Magellan and our services can be found on our website at:

[www.magellan-advisors.com](http://www.magellan-advisors.com)

We are members of the American Public Power Association (APPA), National Association of Telecommunications Officers and Advisors (NATOA), National Association of Development Organizations, and a Premier Member of the Fiber-To-The-Home Council. Our consultants routinely present on latest topics surrounding community broadband, economic development, broadband business and financial planning and broadband technical architecture.



Our six pillars of broadband planning, shown below, illustrates our comprehensive approach to planning, designing and building networks.

- Economic Development Planning
- Market & Demand Analysis
- Design, Engineering & Operations
- Legal, Regulatory & Compliance
- Business & Organizational Planning
- Financial & Funding Planning



Magellan Advisors has been in active service to state, local, and other public institutions since its founding in January of 2004. Magellan provides a decade of experience with regard to performing services specific to this RFP. We pride ourselves on delivering consistently high standards of service to our customers resulting in a long-standing track record of successful projects without a single failed project.



Magellan Advisors has never had any claims, lawsuits, arbitrations, or administrative hearings brought forth by any clients for work performed. Magellan has never been convicted of a Public Entity Crime, debarred or suspended from bidding by any government entity. Magellan enjoys a flawless work record and our reputation in the government technology consulting industry is beyond reproach as can be seen through our extensive list of client references, comprised of an array of public entities. Magellan's sales volume has grown annually on an average of 30% year after year.

The City's primary point of contact for this engagement is John Honker, President of Magellan Advisors, telephone: 786-208-8952, fax: 888-330-0391. Magellan Advisors' FEIN is 65-1218484. The majority of work to be completed in conjunction with this RFP will be managed out of the Miami offices. The project team proposed by Magellan meets the essential requirements of experienced personnel devoted to the successful accomplishment of the project. Magellan is able to commence productive and substantive work immediately upon award of the contract. Additional staff and resources shall be assigned to the project based on the specific needs as required by the City of Hudson.

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Phone: 888.488.1767

## A. Recent Experience with Local Government Broadband Initiatives

The projects below demonstrate our extensive experience in assisting local governments with their broadband planning projects over the past several years:

### City of Hamilton, OH - Broadband Feasibility Study

Magellan was retained by the City of Hamilton, OH to design a fiber-based community broadband network to serve the businesses, residents, local governments, schools, and institutions of the City. A municipal electric provider to 80,000 residents, the City's fiber-optic network was analyzed to determine how it could expand to become a broadband services network, using an open-access business model. Magellan completed all planning and design activities to allow the City to begin construction of the network in late 2014, with a path to provide fiber-based broadband services to businesses within 12 months. Magellan is currently implementing the network with Hamilton. Magellan has already assisted the City build out to Hamilton City Schools in the region and connects them with direct fiber broadband services.

Magellan is currently assisting Hamilton in the management and operations of its recently deployed services. The project homepage can be found at the following site: <http://hamiltonohiobusiness.com/index.aspx?page=409>

### City of Columbia, MO – Broadband Feasibility Study

Magellan was retained by the City of Columbia, MO to conduct a comprehensive broadband planning and feasibility study. Magellan helped Columbia, Boone County and the University of Missouri determine the overall broadband needs for its community and develop a plan to meet those needs through the City's extensive fiber optic network. Magellan completed a thorough needs assessment that defined the current environment, market, services, needs, both current and future, and gaps in existing services. We developed a comprehensive plan for build-out of the City's network to meet these needs, using strategic business insight and sound financial planning strategies. Taking advantage of the City's current network, our plan identified opportunities to utilize the existing infrastructure to significantly reduce the build-out costs. We developed a plan to attract competitive service providers to the area with the intent of creating more options for local businesses, more competition and lower prices. The build-out entailed bringing fiber-based broadband services to community anchors across the local area, followed by a buildout to local businesses and finally a potential residential Fiber to the Home build.

### City of Waverly, IA – Fiber to the Premise Feasibility Study

Magellan was hired by the City of Waverly and Waverly Light & Power to conduct a feasibility study on developing a Fiber to the Premise network capable of serving the needs of every homeowner, business, school, hospital and other anchors in the Waverly city limits. Magellan conducted a comprehensive needs assessment and market analysis of the Waverly community and found that current providers had all but abandoned development of their networks in the area. Magellan developed the technical, business and financial plans for Waverly to become a triple-play retail provider to residential, commercial and community anchor customers across the City using a next-generation fiber-based network that provided up to 1 Gigabit to customers. Magellan completed the Study in late 2013 and the City has engaged Magellan to support the City's funding process to source financing for implementation of the network.

### City of Baltimore, MD, Fiber Optic Planning Study

Magellan was hired by the City of Baltimore, MD to conduct a comprehensive study on the ways the City could utilize its 3.7 million feet of underground conduit to expand the availability, affordability, and adoption of broadband services in the community. The project entailed a significant outreach process with the Smarter Cities Task Force to identify, measure, and plan for the needs of every class of community anchor in Baltimore. Magellan was tasked with providing an analysis of how the City's infrastructure and public policy tools could be made more effective to serve the needs of its community. Magellan helped Baltimore evaluate the various options, benefits, risks and costs for use of this infrastructure, along with comprehensive financial and business plans that indicated a series of outcomes for the City.



This information will be used by the City officials to make decisions on what steps are most appropriate for Baltimore to take to secure its broadband future.

### City of Missoula, MT – Next-Generation Broadband Feasibility Study

Magellan was retained by Missoula County and the City of Missoula to develop a next-generation broadband feasibility plan that would identify the required broadband infrastructure to serve the long-term needs of Missoula's business community, schools, hospitals and other community organizations. Magellan performed a thorough needs assessment across all community stakeholders to determine what services were required, both current and future. Magellan conducted a comprehensive market analysis that identified key issues in Missoula's broadband environment that could be resolved through public organizations implanting smart public policy, public-private partnerships and strategic investments in broadband infrastructure.

### City of Bartow, FL - Broadband Fiber-to-the-Home Master Plan

For the City of Bartow, FL we developed a citywide fiber-optic GPON and Ethernet based infrastructure to expand the electric utility's current network to cover 90% of homes and businesses in the City. Magellan's thorough needs assessment proved that current providers were not meeting citizens and businesses needs and no new infrastructure investments were being made in the City. As a result, Magellan's analysis concluded that Bartow had the opportunity to expand its network to fill these key gaps. Magellan's engineering design provided an average connection speed of 80Mbps per home and up to 10Gbps to businesses in the area, utilizing carrier-class Metro-Ethernet Forum compliant services. Magellan documented the utility's current fiber-optic infrastructure and developed an integration strategy to build new fiber-optic infrastructure throughout the City, cost effectively and using a phased approach. Magellan also developed Bartow's Operations Plan for the new network, which detailed the key staffing, support, operations and maintenance services required for the network, including BSS/OSS, network management, provisioning, billing and general management.

### City of Palm Coast, FL - Broadband Planning, Implementation & Operations

Magellan has maintained a long-standing client in the City of Palm Coast, for whom we have provided planning and management of the City's broadband services network, known as Palm Coast FiberNET, a \$2.5 million dollar project constructed over five (5) years. Magellan provided all construction management, design, implementation, and operations for this network, which provides direct fiber-optic services to the City's business community and anchors. 100 businesses are currently active on the network, ranging in speeds from 10Mbps to 10Gbps, as well as 16 schools, city and county offices, libraries and other community anchors. The project homepage can be found here: <https://www.palmcoastgov.com/fibernet>

### City of Fort Morgan, CO - Broadband Feasibility Study

Magellan assisted the City in identifying strategic use of local fiber-optic infrastructure to bolster available broadband services to Fort Morgan's business community in a mixed urban/rural market. In effort to support economic development within the City, Fort Morgan wanted to identify ways to attract new business and retain existing business through advanced technology and communications services. Magellan helped Fort Morgan develop the right strategies to use its existing fiber-optic network in partnership with local service providers to make more of these services available to local businesses at affordable rates.

### City of Jupiter – Broadband Master Plan

Magellan assisted Jupiter develop a 40-mile fiber-optic network to interconnect all City and Utility facilities to the network. The network provided an Ethernet and GPON design that would provide fiber-to-the-premise connectivity to businesses throughout Jupiter as well as local and County connections to schools, hospitals and public safety facilities. Magellan implemented the first phase of the project with Jupiter in early 2013 and completed the project on-time and under budget. This included full implementation and integration of fiber-optic components, as well as switching/routing configuration, network integration, management and monitoring. Magellan is currently assisting Jupiter implement phase 2 of the project. The project homepage can be found here: <http://www.jupiter.fl.us/index.aspx?NID=815>

### Colorado EagleNET, Broadband Business & Operational Planning

Magellan assisted Colorado EagleNET, a statewide fiber-optic and wireless provider develop broadband strategies to enter into many of Colorado's rural and mountainous markets. Magellan's services allowed EagleNET to define effective ways to serve the frontier towns west of the front-range and throughout the Southwest region of the State. Our services allowed EagleNET to penetrate into small, rural markets that would otherwise be impossible to reach.

### North Florida Broadband Authority – Broadband Business Plan

Magellan Advisors recently completed a region-wide market, demand and rate study for the North Florida Broadband Authority, recipient of a \$30 million dollar NTIA BTOP Round 2 grant. The Rate Study Project focused on development of sustainable rates for its portfolio of services, based on comprehensive market demand planning, research, modeling and financial analysis. Key to this study was the development of a granular forecast model, which identified the uptake of services from the NFBA's many customer segments. Over the 9,100 square mile region, Magellan was able to model customer demand and uptake to provide a concise capacity forecast to the NFBA for its services. This tool gave the NFBA the unique ability to understand demand at the smallest geographic site level as well as aggregated demand at City, County and multiple County levels. It also provided a valuable resource for the NFBA's key business functions, including capacity planning, engineering, sales, marketing and customer outreach.

## Some of Magellan's Public Clients – Broadband Planning & Implementation

- Port of Whitman County, WA
- City of Hamilton, OH
- City of Ketchum, ID
- City of Missoula, MT
- Missoula County, MT
- Colorado EAGLE-Net
- Arizona GovNET, Inc.
- Massachusetts Broadband Institute
- Columbia County, GA
- City of Hamilton, OH
- University of Florida, Public Utility Research Center
- Southwest Florida Regional Planning Council
- State of Florida
- State of Vermont
- Seminole County, FL
- City of Clermont, FL
- Flagler County School District, FL
- City of Wilton Manors, FL
- City of Jupiter, FL
- City of Lake Jackson, TX
- City of Daytona Beach, FL
- City of College Station, TX
- City of Bryan, TX
- City of Riverside, CA
- New Zealand Ministry of Economic Development
- City of Winter Haven, FL
- City of Winter Park, FL
- City of Rock Falls, IL
- North Florida Broadband Authority
- City of Sunrise, FL
- Florida Rural Broadband Alliance
- City of Fort Lauderdale, FL
- City of Jupiter, FL
- City of Bartow, FL
- Yolo County, CA
- City of Fort Morgan, CO
- City of Columbia, MO
- Boone County, MO
- City of Waverly, IA
- City of Palm Coast, FL
- City of Cocoa, FL
- City of Winter Garden, FL
- City of Palm Beach Gardens, FL
- City of Davis, CA
- City of West Sacramento, CA
- City of Woodland, CA
- City of Ormond Beach, FL
- City of Wellington, FL
- City of Hallandale, FL

## B. Broadband Financial & Business Model Experience

Magellan's significant background in broadband business and financial planning will enable Hudson to understand the requirements for funding, timing, return, sources and financial performance of broadband investments. Magellan also has a large network of funding sources that it will bring to the Hudson project to help the City identify the right funding sources as well as potential federal and state grant and loan programs. Our financial planning tools will enable the City to accomplish the following:

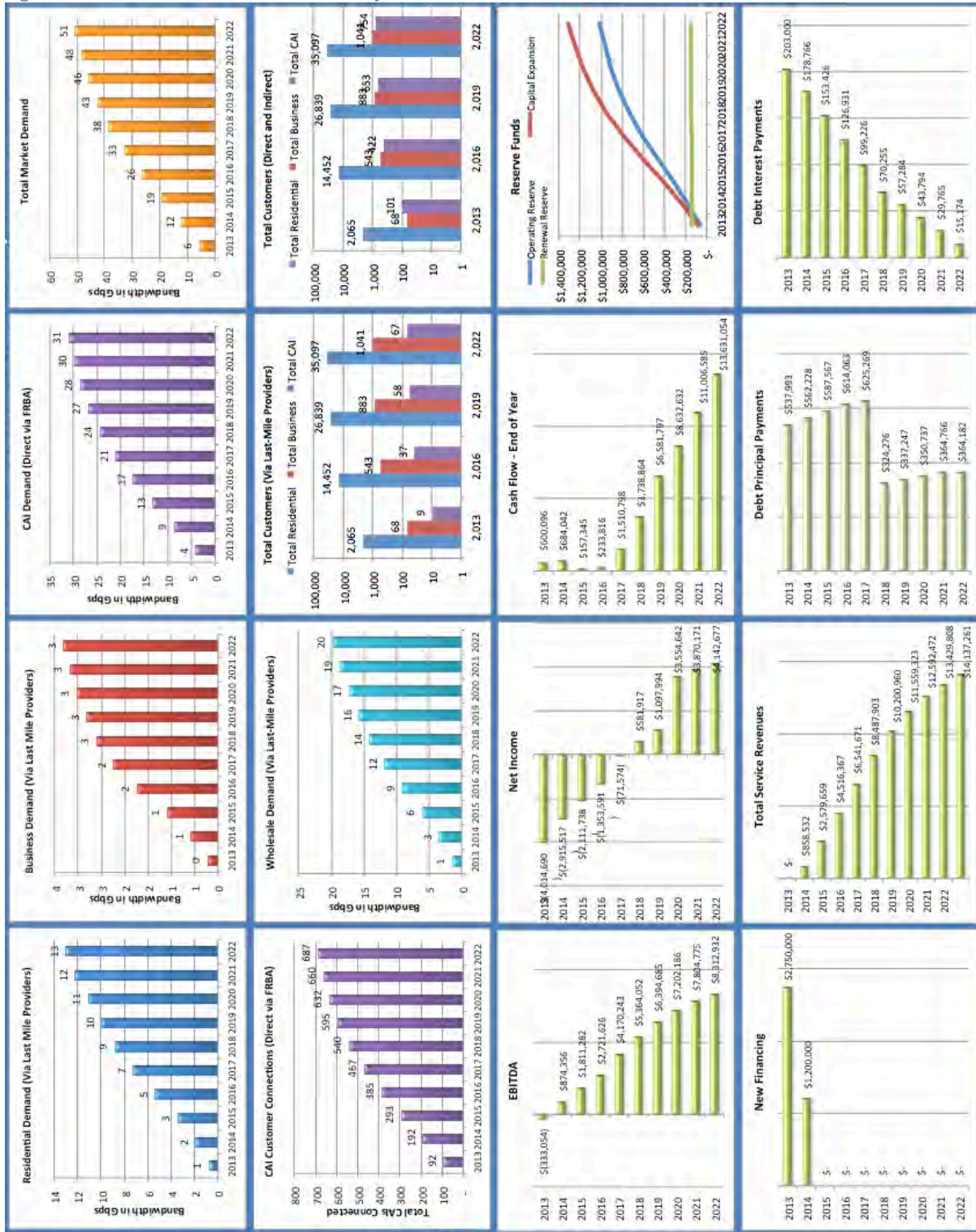
- **Produce an investment-ready Broadband Financial Plan to be used to determine the funding source, identify key grant opportunities and negotiate strategic partnerships**

- Identify demand for broadband services across the City's markets, including types of services, rates, and terms
- Quantify market opportunities for broadband services and identify key customers
- Develop revenue models that will sustain the broadband network
- Provide comprehensive budgets and cost models for the broadband network
- Run sensitivity analysis and multiple scenarios on deploying the broadband network
- Provide financial tools to track the performance of the broadband network

Adding significant value to our clients' projects, we implement our industry-leading **Broadband Financial Sustainability Model ("BFS Model")**, used to validate financial sustainability of broadband projects. Magellan's model has been developed specifically for public sector organizations that need significant financial modeling and planning services in support of business and financial sustainability. Our model has been used to apply for and support over \$500 million in broadband projects across North America. Our BFS Model will provide Hudson with a strategic tool to understand financial feasibility of investing in a broadband network and what funding options should be utilized to do so. Our Model addresses all components of the funding plan and provides strategic planning guidance to decision makers around how to make broadband investments successful. Figure 1 illustrates our **BFS Model** dashboard, which provides a management-level dashboard of the financial sustainability of potential broadband investments. Magellan has implemented its BFS Model across 100 fiber municipal broadband projects in the US. Some of these include:

- Port of Whitman County, WA
- City of Hamilton, OH
- City of Ketchum, ID
- City of Missoula, MT
- Missoula County, MT
- Colorado EAGLE-Net
- Arizona GovNET, Inc.
- Massachusetts Broadband Institute
- Columbia County, GA
- City of Hamilton, OH
- Public Utility Research Center
- Southwest Florida Regional Planning Council
- State of Florida
- Seminole County, FL
- City of Clermont, FL
- New Zealand Ministry - Economic Development
- City of Winter Haven, FL
- City of Winter Park, FL
- City of Rock Falls, IL
- North Florida Broadband Authority
- Florida Rural Broadband Alliance
- City of Jupiter, FL
- City of Bartow, FL
- Yolo County, CA
- City of Fort Morgan, CO
- City of Columbia, MO
- Boone County, MO
- City of Waverly, IA
- City of Palm Coast, FL
- City of Cocoa, FL

Figure 1: Broadband Financial Sustainability Plan Dashboard



## C. Construction & Operations of Broadband Networks

Magellan is the only firm that provides turnkey broadband implementation services to local government organizations, in addition to our full spectrum of broadband planning services. Magellan has managed the construction of thousands of miles of fiber-optic backbone, distribution and drop fiber networks in communities across the country. We have significant experience in project and construction management of broadband networks and understand the process of managing these critical projects, providing quality assurance, inspections and verification of fiber-optic construction.

Our extensive experience in the broadband industry also allows us to advise clients on the best operational models for their networks, including insourcing, hybrid and outsourcing. We help local governments assess their internal capabilities, use their strengths and identify their obstacles to operating community broadband networks. We help you understand the system and human resources necessary to manage broadband networks by developing operations plans that minimize overhead and maximize the performance to the end customer. Key to this process is determining capabilities to meet the service levels required by end users, whether they are residents, businesses, community anchors or service providers. We help you make sure your networks have the right operational structure to achieve 99.999% uptime, high performance and maximum redundancy.

### Network Construction

- Construction of outside plant, inside plant, facilities
- Construction of fiber, copper, wireless and systems
- Systematic evaluation of competing vendors and balanced scorecards
- Cost/benefit analysis of disparate vendor solutions
- Integration testing and pilot projects
- Vendor negotiations and performance management
- Requirements planning for RFX releases
- Evaluation of qualified bids for compliance
- Pre-bid meeting presentations

### Network Operations and Management

- Developing lean operating models for broadband networks
- Operations cost modeling and operations planning
- Identifying network management, provisioning and billing systems
- Determining operational support requirements and staffing needs
- Defining standard operating procedures
- Active management of municipal broadband networks

Some of our projects where we have managed the construction and operations of municipal broadband networks include:

### City of Hamilton, OH – Implementation of Broadband Services

Magellan assisted the City of Hamilton expand its current electric utility-owned fiber optic network to deploy broadband services throughout the community. Most recently, Magellan's team helped the City build and activate gigabit broadband services to the City's schools, turning up QInQ services to the local school district. Magellan is currently implementing a GPON-based network with the City and recently managed the procurement of GPON and Active Ethernet based services to be deployed in the coming year.

### City of Cocoa, FL – Construction & Operations of Municipal Fiber Network

The City of Cocoa embarked on a project to build a City-wide fiber-optic network to connect the City's various facilities; and in the future, be utilized as a resource for local broadband services. Magellan Advisors was retained to provide the feasibility assessment, technical, engineering, and operational planning for this network. Magellan provided all outside route planning and design, splice diagrams, termination diagrams, records, and database management. Magellan managed the construction project, providing oversight, quality assurance, and management of the City's construction contractors. Once the network was completed, Magellan provided full network engineering and integration of the City's existing network and transitioned them onto their new fiber-optic network.

### City of Palm Coast, FL – Construction & Operations of Municipal Fiber Network

Magellan was hired to provide all design and construction management services for development of the City's fiber-optic network, a \$2.5 million dollar project constructed over five (5) years. Magellan provided all construction management, design, implementation, and operations for this network, saving the City \$250,000 per year once the network became fully operational in 2007. Magellan has been instrumental in setting up the City's network operations and monitoring since this time and continues to support the City's open-access network today.

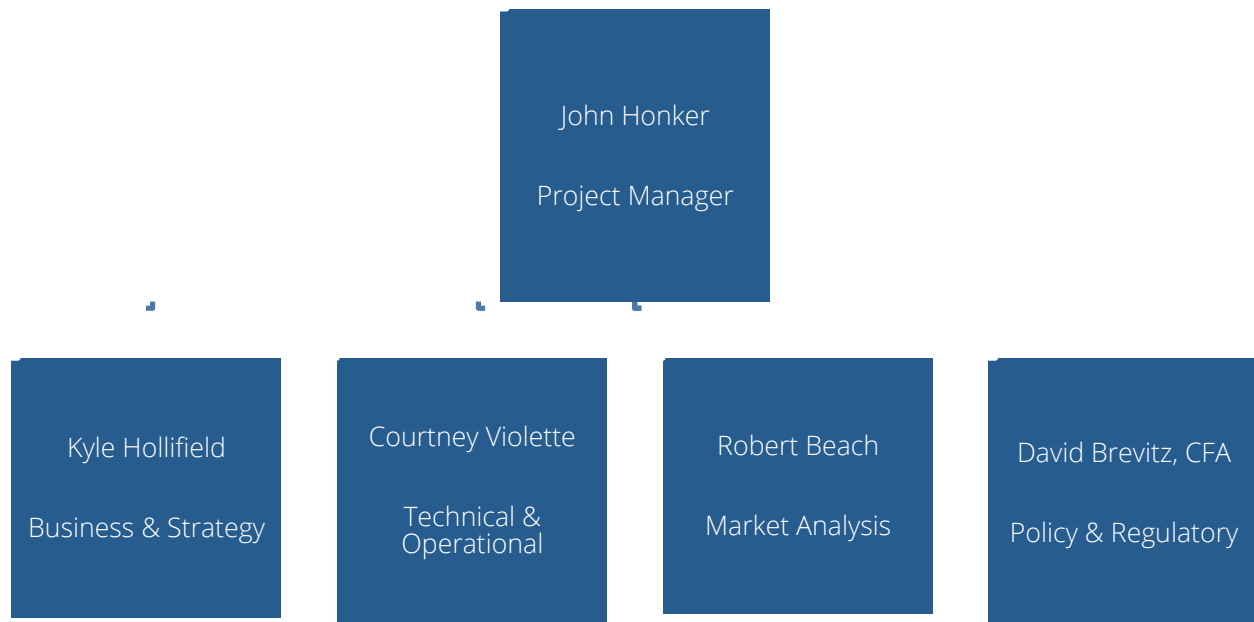
### City of Clermont, FL – Construction of a Municipal Fiber Network

Magellan was hired to provide all design and construction management services for development of the City's fiber-optic network and transitioning this network from its current state to the newly deployed broadband system. Magellan managed the entire design and construction process for the City's network, which was comprised of 20 miles of fiber backbone and distribution infrastructure throughout the City.

## D. Staff & Project Team Experience

Magellan Advisors prides itself in the quality and professional expertise of its staff. The staff at Magellan Advisors has over 200 years combined experience in telecommunications, broadband planning, operations, and business and financial planning. Our team assigned to the Hudson project has either lead or participated on at least 100 local government broadband projects, giving Hudson the most seasoned team of consultants available to ensure Hudson's project is effective, achievable and financially sustainable.

For this project Magellan's staff will complete 100 percent of the work and will not use any outside consultants. The point of contact for this project will be the President of Magellan Advisors John Honker. The following employees will make up the team that will provide services for the City of Hudson.



### John Honker: Project Manager, Business & Financial

John has worked for over 17 years in the telecommunications and broadband industries. Prior to founding Magellan Advisors, he was responsible for leading development of telecommunications products and services for Columbus Networks in 15 countries across the Americas region. John was responsible for bringing emerging IP, Internet and other value-added services to markets in North, Central and South America, growing the business unit from inception to \$50 million in annual revenue. He built advanced carrier-class multi-service networks throughout the Americas region, including carrier Ethernet and IP networks that carried over 50% of the Americas region traffic into the United States.



With a strong background in consulting from his early career, John found Magellan Advisors in 2004 to provide strategic telecommunications and technology services to the public sector market. He has assisted over 100 public and private entities with their telecom, broadband and technology needs and specializes on broadband fiber-optic planning for government entities. John has deep experience in all facets of broadband planning and development, including market planning and analysis, community engagement, design and engineering, financial planning, operational planning and regulatory planning. With a deep understanding of local government operations, utility systems and other public sector areas, John provides expert guidance to municipal organizations interested in broadband development.

John also has significant experience in grant writing, preparation, management and compliance for federal and state programs, such as the NTIA BTOP program and USDA RUS program. He has provided management oversight for broadband grants totaling \$250 million in value and actively works with large awardees across the country. Some of his key clients include Colorado EagleNET, Columbia County, GA, Florida Rural Broadband Alliance, North Florida Broadband Authority and GovNET, Inc.

John received his BA from Stetson University (BA), coupled with minors in Business Administration and Information Systems. He completed his MBA at University of Miami and is actively engaged with the University of Miami School of Business Administration as an active Alum.

### Courtney Violette: Senior Broadband Consultant, Networks & Operations

Courtney Violette has spent nearly 15 years in the IT industry with 7 years serving in executive leadership roles within the public/private sectors. Courtney began his career in the US Army as a Communications Specialist and later moved into the private sector working for Florida Water Services, a private water utility located throughout the State of Florida.

In his most recent role, Courtney served as the Director of Information Technology & Communications/CIO for the City of Palm Coast, shortly after its incorporation in 1999. Courtney planned, implemented and operated the first community broadband network in Florida, launched by the City in 2011 to enhance the City's economic development potential. In this role, he was responsible for the vision, management and operation of the City's technology resources, management of the expansive city owned fiber optic network, implementation and management of all information and communication systems and processes.

Courtney currently serves as SVP of Operations for Magellan Advisors and has participated and/or led dozens of broadband planning and fiber-optic construction management projects across the country. He is a Certified Fiber-To-The-Home Professional and designs advanced Ethernet, GPON and WDM networks throughout the country.

Courtney holds a Masters of Arts in Information Technology Management and a Bachelors of Science in Computer Science from Webster University. He is an Associate Professor in the Computer Engineering Technology Department at Valencia College, and also as an Adjunct Professor at ITT Technical Institute and Strayer University.

Courtney holds several industry certifications to include: Certified Fiber-to-the-Home Professional (CFHP), Certified Information Systems Security Professional (CISSP), ITILv3 Foundation, Cisco Certified Network Associate (CCNA), Microsoft Certified Systems Engineer (MCSE), A+, Network+ and has received the designation of Certified Chief Information Officer (CCIO) from the Florida Institute of Government at Florida State University where he now serves as mentor within the CCIO program.

### Kyle Hollifield: Senior Broadband Consultant, Business & Strategy

Kyle Hollifield is a 25-year veteran of the telecommunications industry and most recently has held the position of Vice President of Business Development and Marketing at Bristol Virginia Utilities Authority (BVU), while managing the FOCUS division providing consulting services to other communities wishing to build or improve high speed broadband networks. BVU Authority is a regional state owned utility offering advanced high-speed broadband networks and telecommunications products and services. The company is known for being a global pioneer in an all-fiber broadband network, and was the first in the nation to offer "triple play" services over an all fiber network. BVU Authority has recently won the National League of Cities Gold award for broadband sustainability and The Intelligent Communities Top 7 for 2009, worldwide for technology applications; Bristol Va. was the only US city to make the final 7.

Mr. Hollifield has served on the Board of Directors of The Fiber to the Home Council, (FTTH), most recently as Chairman of the Board of Directors. Mr. Hollifield also serves as Vice-Chair of Broadband Communities Magazine and has made many presentations on Broadband policy and opportunities through broadband development to the FCC, RUS, NTIA, NATOA, APPA, National League of Cities, Rural Telecom Cooperative, FTTH, Broadband Communities, NCTC and many other interest groups.

During his career, Hollifield has worked in several other key positions, including serving as a unit sales manager and assistant brand manager for The Proctor and Gamble, Executive Vice President for Standard Telephone and Cable of the UK, a world class long haul communications provider, and pioneer of Fiber Optics technology implementing fiber optic communications worldwide. As the prime consultant for the Taiwan government, (Chunghau), in the field of telecom, broadband and connectivity strategies, and as Division Vice President of Thomson-CSF, (Alcatel), providing advanced telecom access gear and products focusing on high speed Internet and fiber optic research and development.

## Robert Beach: Senior Broadband Consultant, Market Analysis

Robert Beach is a Gartner recognized and Computerworld Premier 100 IT Leader with over 19 years of experience; an executive who is results-oriented, driven by professionalism, innovation and teamwork. He is a genuine leader that can effectively communicate with both technical and non-technical personnel to ensure the goals set forth by both the organization and customer are achieved.

In his role as the Information Technology Services Director / CIO for Seminole County Government, he was responsible for the management & operation of the countywide network & information systems. He was directly responsible for crafting the County's IT strategy and its alignment with County business operations. Managing a staff of 70 employees with an annual budget of approximately \$12 million, Beach oversaw operations that consisted of over 1400 workstations, 200 servers, and a 400+ mile fiber optic telecommunications network spanning nearly 70 locations.

Beach currently serves as "Senior Consultant" for both Magellan Advisors and the John Scott Dailey Florida Institute of Government at Florida State University specializing in the areas of IT Strategy, Technology Implementation, Broadband Deployment, and Government Services consulting. In addition to consulting, Beach is also an adjunct professor at Valencia College in Central Florida.

Mr. Beach also holds a Master of Science in Information Technology and a Master of Business Administration from the Florida Institute of Technology, completing his International Marketing and Economics MBA requirements at The University of Oxford in the United Kingdom. Beach is a member of the Phi Kappa Phi National Honor Society and a graduate of the inaugural class of the John Scott Dailey Institute of Government's CCIO (Certified Chief Information Officer) program. He previously held the position of VP in the Florida Local Government Information Systems Association.

## David Brevitz, Certified Financial Analyst – Senior Broadband Planner

Mr. Brevitz has decades of experience in the telecommunications industry based on work for U.S. and international clients. This experience provides depth and capability in the subjects of broadband trends and planning, market analysis and surveillance, telecommunications stakeholder engagement, wireless and wireless broadband trends and developments, industry financial reporting and analysis, telecommunications company operations, back office systems and business plans, interconnection and unbundled network element pricing, telecommunications service costing and pricing, and universal service goals and objectives. Mr. Brevitz has been awarded the designation of Chartered Financial Analyst and is a Senior Fellow at the Public Utility Research Center at the University of Florida. Mr. Brevitz holds both a Bachelor of Arts in Justice, Morality, and Constitutional Democracy and a Master of Business Administration in Finance from Michigan State University.

## E. References

### City of Hamilton, Ohio, Broadband Master Plan

Contact: Mark Murray

Email: <mailto:mmurray@ci.hamilton.oh.us>

Title: Project Manager

Web: [www.hamilton-city.org](http://www.hamilton-city.org)

Office: 513-785-7242

Magellan was retained by the City of Hamilton, Ohio to help the City determine the feasibility of developing a fiber-based community broadband network to serve the businesses, residents, local governments, schools, and institutions of the City. A municipal electric provider to 80,000 residents, the City's fiber-optic network was analyzed to determine how it could expand to become a broadband services network; using an open-access business model. Magellan completed a comprehensive process of needs assessment, technical planning, financial and funds planning and service provider negotiations. Magellan is currently implementing the network with Hamilton. The project's homepage can be found here: <http://hamiltonohiobusiness.com/index.aspx?page=409>

### Waverly Light & Power, Iowa, FTTP Feasibility Study

Contact: Mike Litterer

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Title: Assistant General Manager

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Office: 319-352-6251

Magellan performed a Fiber to the Premise Feasibility Study for Waverly Light & Power focused on deploying fiber optics to every home, business and community anchor within the City of Waverly and the greater Waverly Light & Power electric service territory. Our consultants developed a conceptual design for the FTTP build out, and performed implementation, operational, and financial analysis for the project. The Waverly City Council and Light & Power board both accepted the FTTP Feasibility Study and commissioned the development of a Waverly Communications Utility Business Plan and a Design/Engineering Study. Magellan has delivered the WCU Business Plan and Design/Engineering Study and is currently working with Waverly to secure financing to begin build out of the network.



## City of Columbia, Missouri, Broadband Planning Study

Contact: Ryan Williams, P.E.  
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Web: [www.GoColumbiaMo.com](http://www.GoColumbiaMo.com)

Magellan was selected by the City of Columbia, Boone County and the University of Missouri to perform a Broadband Planning Study focused on the use of the City's existing fiber-optic network. Magellan met with a vast amount of Community stakeholders, businesses and service providers to understand the "State of Broadband" in Columbia. Our consultants analyzed the current fiber-optic network including available capacity to determine the optimal way to expand the network's current use.

## City of Fort Morgan, Colorado, Broadband Feasibility Study

Contact: Bradley A. Curtis  
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Office: 970-542-3901

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Web: [www.cityoffortmorgan.com](http://www.cityoffortmorgan.com)

Magellan assisted the City in identifying strategic use of local fiber-optic infrastructure to bolster available broadband services to Fort Morgan's business community in a mixed urban/rural market. In effort to support economic development within the City, Fort Morgan wanted to identify ways to attract new business and retain existing business through advanced technology and communications services. Magellan helped Fort Morgan develop the right strategies to use its existing fiber-optic network in partnership with local service providers to make more of these services available to local businesses at affordable rates. Magellan is actively working with Fort Morgan to continue building on these broadband strategies.

## City of Bartow, Florida, Broadband Fiber-to-the-Home Master Plan

Contact: Frank Canovaca  
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Web: [www.cityofbartow.net](http://www.cityofbartow.net)

For the City of Bartow, Florida Magellan developed a feasibility study and business case for the City to expand the use of its network to serve the business and residential communities. The project entailed coverage of 90% of homes and businesses in the City. Magellan's thorough needs assessment proved that current providers were not meeting citizens and businesses needs and no new infrastructure investments were being made in the City. As a result, Magellan's analysis concluded that Bartow had the opportunity to expand its network to fill these key gaps. Magellan's engineering design provided an average connection speed of 100Mbps per home and up to 10Gbps to businesses in the area. Magellan documented the utility's current fiber-optic infrastructure and developed an integration strategy to build new fiber-optic infrastructure throughout the City, cost effectively and using a phased approach. Magellan also developed Bartow's Operations Plan for the new network, which detailed the key staffing, support, operations and maintenance services required for the network, including BSS/OSS, network management, provisioning, billing and general management.



## City of Palm Coast, Florida, Fiber-to-the-Business Planning & Operations

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Email: [sviscardi@palmcoastgov.com](mailto:sviscardi@palmcoastgov.com)

Title: Director of Information Technology

Web: <http://www.palmcoastgov.com>

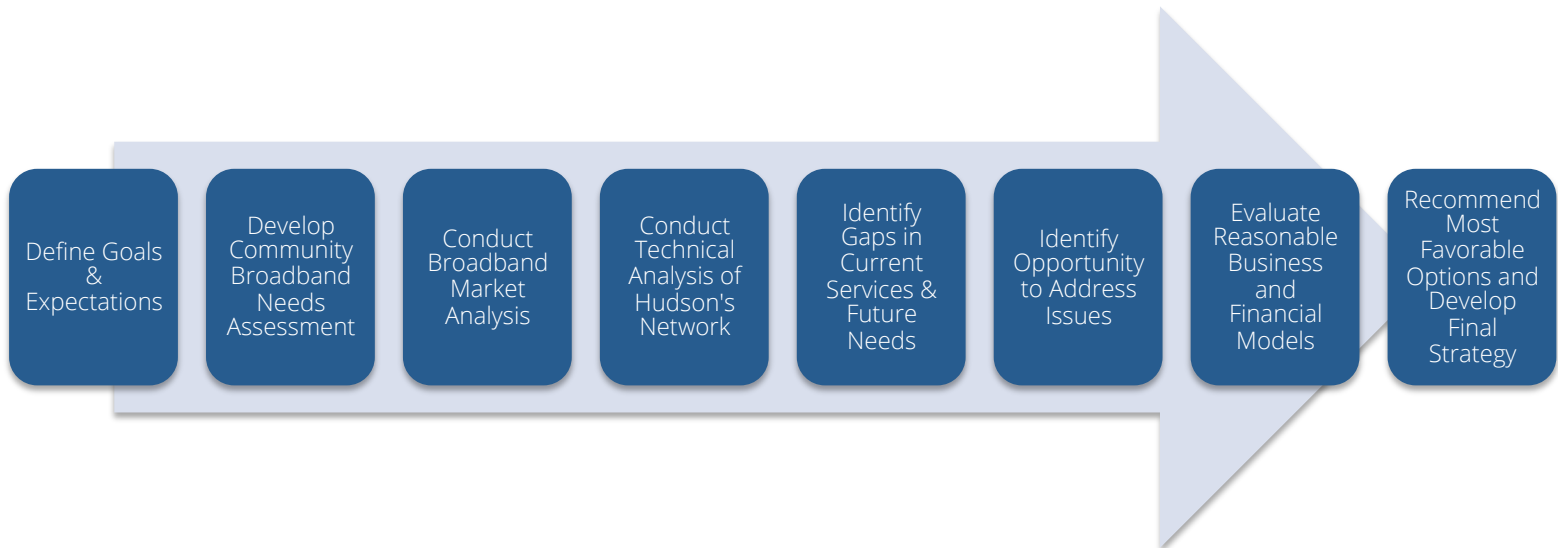
Office: 386-986-4732

Magellan has maintained a long-standing client in the City of Palm Coast, for whom we have provided planning and management of the City's broadband services network, known as Palm Coast FiberNET, a \$2.5 million dollar project constructed over five (5) years. Magellan provided all construction management, design, implementation, and operations for this network, which provides direct fiber-optic services to the City's business community and anchors. 100 businesses are currently active on the network, ranging in speeds from 10Mbps to 10Gbps, as well as 16 schools, city and county offices, libraries and other community anchors. The project homepage can be found here: <https://www.palmcoastgov.com/fibernet>

## II. Scope & Project Approach

Magellan utilizes a unique approach with its municipal clients to determine the most feasible broadband strategies for their communities. Each organization is different so we customize this process for every client to ensure they have the right strategies to bring advanced broadband to their communities. We believe the approach outlined below will ensure that Hudson evaluates all options available and the recommended option creates the most opportunity for the City to expand broadband in a measured, success-based and financially prudent approach. We believe that the following high-level project approach will yield the most successful results for Hudson in developing its broadband strategy.

### High Level Project Approach



### Task 1. Mapping and Needs Assessment

#### A. Needs Assessment

We propose to conduct a thorough community needs assessment and outreach within the Hudson community to determine what businesses, education, healthcare, public safety, libraries, churches and other organizations need in terms of their broadband services. Outreach is a key component to ensure that the strategies developed are representative of the community's needs. It is also crucial to engage stakeholders in the process and build support for the project across the community.

We will work with you to define the best outreach strategy, a combination of the items below, and the best way to execute the strategy. We propose to conduct several types of outreach to develop the community needs assessment, which will be tailored specifically to Hudson's goals that we collaboratively develop in the project. The outreach will potentially include:

### 1. Online Broadband Surveys

Magellan's online surveys will provide important information to understand perceptions around broadband services, inventory current services, test speeds across the community, and identify issues. We generally receive strong response rates from respondents in these surveys, which provides valuable information for the planning process. We propose to survey the business community and community anchors in the Hudson area and utilize local organizations to promote the surveys. We will incorporate GIS analysis and speed testing into our surveys to determine GIS-accurate locations of respondents throughout the City in order to support the demand planning process. We propose to conduct surveys across Hudson's residential, business and community anchor markets.

### 2. Community Anchor Interviews

We will hold interviews with each community anchor in the Hudson area to gain an understanding of their current and future broadband and technology needs. The format for these may be one-on-one in some cases or groups in other cases; depending on the size of each community anchor and importance to the project. We will educate, document, and define the needs of the anchors (now and in the future) and help Hudson determine what its key community organizations will need in terms of type, quantity, and cost of broadband services.

### 3. Enterprise Business Interviews

For large businesses in the Hudson area, we propose to hold one-on-one interviews to understand their current and future broadband and technology needs. We find that individual interviews work best for large businesses because they are able to share more information with us one-on-one versus a group setting.

### 4. Small & Medium Business Interviews

For small and medium businesses in the Hudson area, we propose to hold focus groups to understand their current and future business and technology needs. We find that these can often times be coordinated through local economic development personnel or the chamber of commerce.

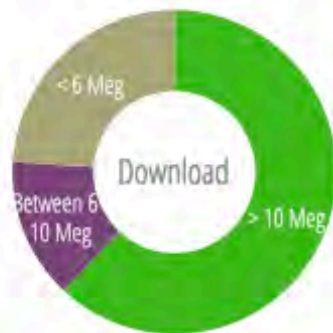
We will collect important information from community anchors in Hudson to develop an inventory of their broadband services, speeds, costs, issues and future needs. This inventory will help Hudson develop a long-range forecast for community anchor broadband services that will be used to project the infrastructure that will be required to meet their needs.



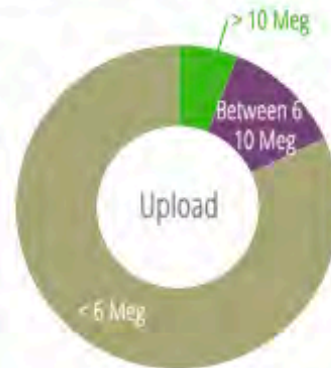
Sample Survey Dashboard from a Magellan Broadband Needs Assessment in Davis, CA

## Business Broadband Services - Davis Survey Data

Business Broadband Download Speed Test Results



Business Broadband Upload Speed Test Results



Reliability of Current Broadband Services



Speed of Current Broadband Services



Why Haven't Businesses Upgraded



This information will determine the community's need for additional broadband services and help Hudson understand how a community broadband network will meet these needs. It will also provide an understanding of the potential customers available to Hudson, which will determine the services Hudson will need to provide, and at what rate. This market information will be fed into our Broadband Financial Sustainability Plan to project uptake of Hudson's services in the City.

We will also work with the City itself to evaluate economic development initiatives and strategies to gain an understanding of the local objectives. We will meet with the City's economic development department (and other departments) to review strategies and understand their goals for recruiting new businesses and retaining existing businesses. We will evaluate any special districts, such as urban renewal districts or economic development zones, in the community that may benefit from enhanced broadband services to complement the City's current economic development strategies. We will also work to educate the various economic development teams on case studies from other communities that have successfully implemented community broadband projects and how economic development personnel were key to the process.

Additionally, we propose to complete a thorough evaluation of educational, healthcare, and public safety needs for broadband; looking in detail at programs such as USAC E-Rate, FirstNET and Healthcare Connect, all of which provide federal subsidies for broadband services. Federal and state mandates are requiring these organizations to upgrade their broadband services to higher speeds and this analysis will determine their future needs and how Hudson may be able to accommodate those needs. These programs may provide opportunities for Hudson to target available broadband grant funding to complement its broadband strategy.

## B. Market Analysis

Magellan's Market Analysis will determine the services that are available, providers, service level, pricing, and access. We will document all publicly owned and privately owned networks in Hudson and build a comprehensive GIS-based broadband map to illustrate how Hudson is served by broadband and through what providers.

We should expect that some private providers will not share their infrastructure maps for the project, but we find that in many cases, providers will cooperate in this initiative as this collaboration often times provides opportunities for them to better understand the local market. Our analysis will document fiber and copper networks, facilities, data centers, and related infrastructure in Hudson to determine how well the community is served by broadband. We will also work with the local providers to understand and document their current needs, as they too are stakeholders in the community. These discussions should lead to potential opportunities for the City and private providers to define potential partnership opportunities in delivering new broadband services to the community.

We will build an inventory of all community anchor, business, residential, and wholesale costs across the City to help Hudson understand how the City compares to other peers. It will also enable Hudson to understand what potential rate structures would be necessary in a community broadband network, if the City decides to pursue building its own infrastructure.

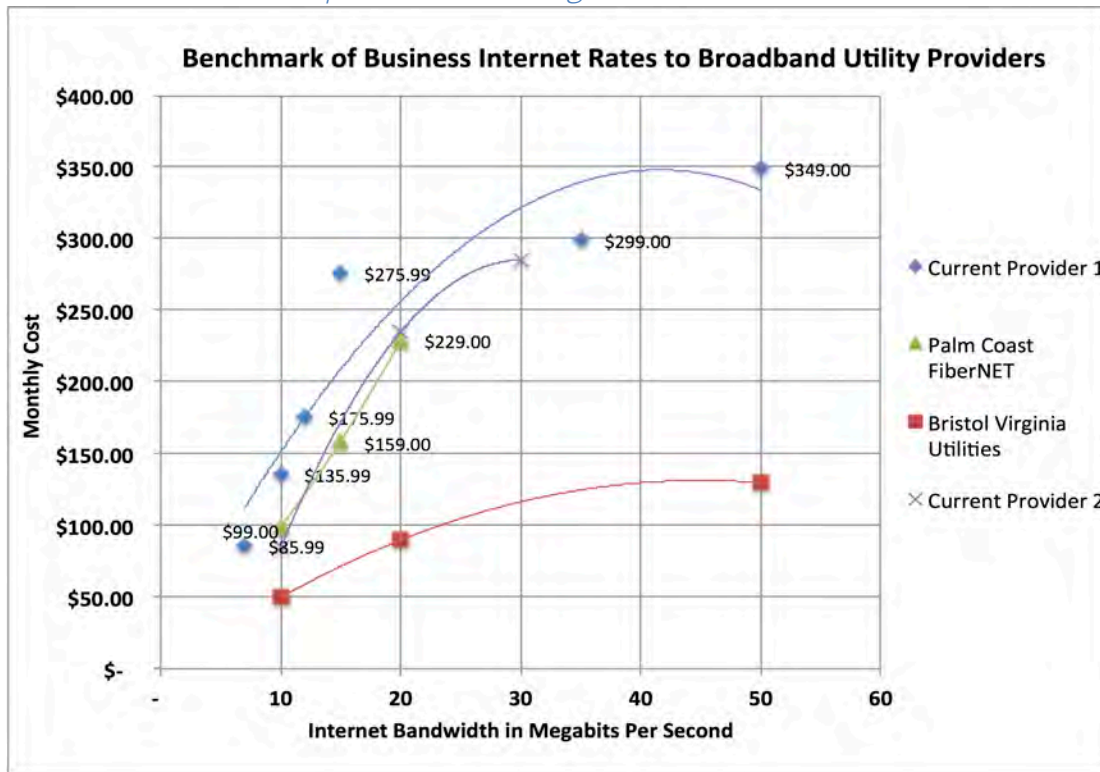
The following step will be to analyze the current market and its propensity for additional Hudson broadband services. This market analysis will include businesses, schools, hospitals, clinics/doctors' offices, and other community organizations determined in the analysis. We will incorporate the City's fiber network into the comprehensive broadband map, which will allow us to begin building layers of potential customer locations on top of the City's infrastructure. Layers will include businesses, schools, hospitals, clinics, government organizations, community support organizations, and others to be determined.

As part of the Market Assessment, Magellan will evaluate similar communities where municipal broadband providers are in operations to benchmark a potential fiber enterprise for Hudson. The goal of this benchmarking study is to determine what the City can expect if it develops a fiber enterprise, in terms of customer uptake, costs, revenues, operational requirements and overall financial sustainability. We believe it is also important to show the impact that similar projects have had in their communities, in terms of the costs of broadband, increases to the tax base and increases in economic development activity. We will work with Hudson to determine the metrics that are important to measure across the benchmarking study and determine how relevant these will be for the City.

Magellan has examples from hundreds of public providers and we will bring this data to the City for the benchmarking study. We will identify 3 or more projects that have similar attributes to the Hudson community and the City.

The benchmarking study will compare the metrics of Hudson's fiber enterprise to similar municipal broadband providers. After Magellan develops the City's Rate Structure and Broadband Financial Sustainability Plan (which we propose to include in this project at no charge to the City), we will benchmark this Plan to the other providers defined in the study.

Sample Benchmarking of Local Broadband Services



### C. Develop Accurate Broadband Maps of Hudson

We believe that Hudson should understand the local broadband environment through an easy to use visual GIS-based mapping tool. We propose to use our extensive mapping capabilities to build a comprehensive broadband map of the Hudson area, documenting the broadband environment in Hudson. It will include:

- Current broadband infrastructure
- Broadband usage and penetration – business and residential
- Demographic analysis of the area
- Community anchors
- Business, TIF & CRA districts
- Maps of all existing businesses
- Public infrastructure
- Private infrastructure

This information will provide Hudson a comprehensive understanding of the broadband environment in the City, where current infrastructure resides and where future infrastructure is required. This information will be critical in helping Hudson identify areas for potential investment in broadband infrastructure and where the City's network will be most effective in providing a resource to enhance local broadband.

*Magellan's sample market analysis maps from a project in Sacramento, CA*

**Underserved Wireline Residential Broadband** *(Download Speeds Only, Upload Speeds N/A)*



## Task 2. Business and Financial Modeling

### A. Business Planning and Determining Feasible Business Models

In this analysis, we propose to evaluate a variety of available business models to Hudson in developing its broadband initiative, including but not limited to:

- Dark-fiber, single-provider
- Dark-fiber, open-access
- Lit-fiber, open-access
- Public-private partnerships, single provider and open-access

We will help Hudson analyze these business models in the framework of financial, operational, and organizational requirements to determine which models are “best fit” for the City, have the greatest chance of success, and will be the most financially sustainable. We will present each analysis of every business model to the Hudson team and provide an analysis of how each meets Hudson’s goals in the project. Based on our analysis and feedback from Hudson, we will help you determine the most favorable business model that meets the needs of Hudson and its community for the long-term. We are prepared to use our Broadband Financial Sustainability Model, described below, to help the City evaluate the financial performance of each business model and decide which is most feasible from a return on investment and funding perspective.

## B. Financial Planning and Our Broadband Financial Sustainability Model

Magellan proposes using our Broadband Financial Sustainability Model to ensure that Hudson has a full understanding of the business and financial sustainability of various broadband initiatives. Using these tools will allow Hudson to evaluate different business models and make informed decisions on which are most adequate for the City and community.

Our financial models have been specifically developed for broadband utilities and are very similar to electric utility rate studies. Our models are widely used tools to model feasibility and financial performance for over 50 municipal broadband providers. Magellan’s financial modeling tools have been utilized to plan and manage broadband network investments for over \$500 Million in broadband projects nationwide, including \$250 Million in Broadband Stimulus investments under the NTIA BTOP grant program.

Using our financial tools, we suggest using the following process to conduct the business model analysis and make recommendations. We would propose using a minimum 10-year period to analyze the project:

1. Develop the cost model for the network, including one-time and ongoing capital expenditures to build the network.
2. Develop the cost model for operations, including O&M, network operations, field services, staffing, billing and customer service.
3. From the market analysis and outreach, determine the customer segmentation and growth on the network, across each type of customer (business, school, hospital, etc.).
4. Determine customer growth rates for the network, based on benchmarking analysis from other utility and municipal providers.
5. Determine a proposed competitive rate schedule for potential services, using pricing information from the market analysis and benchmarking information.
6. Develop financial statements, pro-formas, depreciation schedules, and cash flows.

7. Conduct comprehensive financial analysis on the project to determine overall financial sustainability using key metrics such as free cash flow, debt service coverage, operating margin, and net income.
8. Use scenario analysis to evaluate different business models and determine which are feasible for Hudson to consider.
9. Recommend the most feasible business model based on overall business and financial sustainability, community benefit, and long-term value to the Hudson community.

Our Broadband Financial Sustainability Plan will provide all financial statements and financial analysis needed to provide decision support around potential investments in broadband, including:

- Operating income and cash flows
- Net present value analysis
- Projected revenues and benefits (including off-balance sheet items such as GDP and economic development and job growth)
- Operational expenses
- Depreciation schedules for short and long term assets
- Debt service analysis and cost of capital calculations
- Documentation on all assumptions
- A dynamic model that Hudson can utilize to plan and analyze different scenarios

## Task 3. Development of Governance and Ownership Strategies

This project presents a significant opportunity to leverage public sector assets in conjunction with private sector organizations to serve the greater public good. As many stakeholders are involved in this process, governance and ownership structures must be evaluated to determine what is allowable, appropriate and optimal for the project. In this process, Magellan will assist the City in considering these various structures, some of which may include public/private partnerships, joint ventures, special authorities, non-profit entities and others to be determined. It will also evaluate key policy tools that the City can utilize to incentivize broadband providers to make new investments in broadband within Hudson.

This analysis will identify the key business factors that will influence what governance and ownership structures are utilized in the project. Magellan's deep experience with public, private and non-profit organizations will bring insightful evaluation of these structures to the project and experience with the many structures that we have worked through in our many community broadband projects throughout the Country. Key to this process is an understanding of how publicly-owned assets, such as conduit systems, fiber-optic networks and property may be used in conjunction with private sector telecommunications providers to expand broadband services in the City of Hudson.

We will help the City understand if public ownership is a good fit for Hudson; evaluating the risk/reward tradeoff against other ownership strategies. Our analysis will help Hudson understand how to maintain control over key aspects of broadband in the City to ensure that end users' receive the services they require at the prices they can afford. The City has significant assets to leverage toward this goal and through this section of the project, we will help Hudson understand how these assets can be most effectively leveraged.

Some of the key questions that we will address in this section include:

- How will joint investment in broadband infrastructure be accomplished between the City and private sector organizations?
- What legal and operational structures should be considered by the City of Hudson and private sector organizations in use of the City's broadband infrastructure?
- How will the City balance private sector goals of revenue growth and profitability with public goals of providing affordable and available broadband services across the City?
- How will future system expansion be handled between the City and private sector providers and what contributions will the parties make to this infrastructure?
- How will the City maintain neutrality and open interconnection policies with private sector providers, promoting a competitive environment that benefits the City's broadband user base?
- How will a oversight and management board be structured, who will seat the board and what powers and responsibilities will the board have to the project?



## Task 4. Development of Funding Strategies & Financing Analysis

Magellan proposes to identify the types of investments that will be necessary for development of the City's broadband infrastructure. Implementing our Broadband Financial Sustainability Model in this project will enable the City to understand key financial information related to funding alternatives. We will model projected capital and operating costs related to buildout and implementation of broadband infrastructure. We will also identify potential system revenues generated by the investments in this infrastructure to understand how these cash flows will support future operating and capital costs as the infrastructure expands. This information will be important to accurately predict the type and amount of funding required to ensure a project that is financially sustainable and can meet its debt service requirements.

Based on pro-forma and financial analysis gained through our Broadband Financial Sustainability Model, we will be able to provide the following information to the City to determine the best vehicles and organizational structures to be used for the project. Some of the areas we will analyze include:

- Organizational structures available, for profit, non profit, economic development corporations, joint powers authorities and joint ventures.
- Public/Private contribution models.
- Total amount of funding needed for the project.
- Capital versus operational funding needed for the project.
- Funding term, identifying short-term and long-term portions of funding.
- Taxable versus tax-free financing.
- Short-term and long-term bond analysis.
- Short-term and long-term loan analysis.
- Institutional, regional and local bank financing.
- Debt service coverage analysis.
- Optimizing public and private funding sources.
- State and Federal grant and loan programs such as FirstNET, USDA RUS and the Healthcare Connect Fund.

Based on the above analysis, we will help the City determine how to source funding and what organizational and legal structures are achievable. In this analysis, we will evaluate public and private sector investment requirements, understanding that public options often have a longer investment horizon than private options. Although this generally holds true, we will also identify key private sector partners that utilize "buy and hold" investment strategies and who generally adopt longer-term investments. We have generally found these to be successful when incorporated with revenue sharing and dividend options.

Magellan will also assist the City to identify the most appropriate legal and ownership structures for the broadband infrastructure that meet the needs of the community and support the overall mission of the City. Magellan has successfully led and managed public “Invitations to Negotiate” between public and private partners, which resulted in strategic public/private partnerships. We understand the key public sector requirements and how these must be carefully navigated when structuring deals with private sector organizations. We will work with the City to determine what structures will meet both public and private needs and how these structures can operate efficiently to meet the needs of the City and greater community.

## Task 5. Public/Private Partnership Development

We believe that the City will be most effective in its project by consolidating the needs of the many organizations that can benefit from this project. Critical to this project is aggregation of customer demand throughout the Hudson market that can be served through the City's broadband infrastructure in conjunction with private sector service providers. Developing a core needs assessment across all potential customers will be critical to properly identify demand and incentivize private sector service providers to participate in the project. This needs assessment will document the current state of all stakeholders, identify current gaps, construct strategies to close those gaps and determine the organizations that will implement these strategies.

Demand aggregation is a critical concept in the planning process for the City's project. We will help the City consolidate demand from each market segment, including residential, business, community anchor and wholesale, to incentivize private sector service providers to partner with the City on this project. The cornerstone of aggregating demand is the City's current and future planned broadband infrastructure. We will evaluate the City's conduit and fiber-optic network to determine how this infrastructure may be used to consolidate customer markets in proximity to the networks.

A key strength of Magellan is our deep knowledge and understanding of the relationships between local government organizations, local community groups, regional utilities, economic development organizations, authorities and state and federal agencies. We understand that these organizations have the opportunity to work together to maximize resources, reduce cost, and facilitate greater collaboration between one another. Counties, cities, school districts, public safety, constitutionals, and related organizations can all benefit from this collaborative planning. Based on the needs assessment for all project stakeholders, we will help the City determine what public/private partnership models are most effective to serve the needs of the region.

## Task 6. Infrastructure Recommendations

Magellan will develop a comprehensive recommendation to Hudson on the most feasible options to move forward with its broadband initiative, including:

- Location, capacity and type of broadband infrastructure necessary
- Utilization of this infrastructure with qualified broadband service providers
- Business and operating models for the proposed infrastructure
- Timing of the buildout of this infrastructure to maximize community impact

Magellan will engineer the optimal broadband network architecture and design for the City that will meet the long-term needs of the community and based on the following factors:

1. Input from the needs assessment to determine the location, capacity and type of services that is required in the community. This will be accomplished across all of Hudson's customer classes, including residential, small business, enterprise and community anchor.
2. Reasonable and appropriate business models for the City to consider in expansion of its current network and through partnerships with private service providers.
3. Financially sustainable options for network buildouts for each class of customers, including residential, small business, enterprise and community anchor.
4. Financially reasonable options for buildout of network infrastructure, based on input from the needs assessment, selected business model(s) and budgetary requirements of the City. This analysis will evaluate the opportunities to use a phased approach for buildout over a period of time to achieve the desired goals.

Magellan will create an optimized broadband network architecture and design that will provide the topology, equipment, services, operations and maintenance aspects for Hudson's network. It will include backbone, feeder, distribution and drop fiber components for residents, small business, enterprise and community anchor users based on the requirements defined in items 1-4 above and depending on what business models are acceptable to the City. It will include options for both headend equipment and field equipment and the options for deployment of fiber-based technologies such as Active Ethernet, GPON, DWDM and others.

Magellan will incorporate the network architecture and design into its GIS based mapping tools to provide Hudson with an overlay of the proposed network infrastructure on top of the City's existing network that will enable the City to determine integration of the two networks. This will enable the City to maximize the use of its existing fiber assets to lower the overall cost of the project. These maps will also provide layering of commercial areas, neighborhoods, economic development zones, TIF districts and other focus areas for broadband to enable the City to understand exactly where proposed network infrastructure will be located to serve community

needs. Further, it will provide potential interconnection points with service providers and if required, facilities to integrate providers into the proposed network infrastructure.

Magellan will provide accurate estimates for engineering, construction, operations and maintenance of the proposed network architecture, whether insourced by the City or outsourced to a private telecom provider. These cost estimates will be incorporated into Magellan's Broadband Financial Sustainability Model to provide capital and operational costs for the project and determine overall financial performance of a potential broadband enterprise. We will provide a high accuracy of cost information, drawing on recent broadband construction contracts in the Midwest, and specifically from several recent construction bids in Ohio.

Having analyzed the various opportunities, business models and financial implications with the Hudson team, Magellan will recommend a broadband strategy to the City based on the following factors:

1. Long-term financial sustainability
2. Long-term benefits to the community
3. Availability of funds and long-term funding commitments
4. Participation of service providers where required
5. Commitment from the community
6. Commitment from City Council
7. High probability of overall success

We understand that implementation of broadband is a balancing act between financial sustainability and community benefits. Our recommendations to Hudson will be conservative in nature and ensure that the proposed broadband strategy is financially sustainable, first and foremost. **We believe that Hudson's initiative should maintain long-term focus and take a measured, phased and success-based approach to building a lasting, next-generation broadband infrastructure for its community.**

Magellan will develop a final Broadband Financial Sustainability Model that includes all customer, revenue, cost, and pro-forma schedules that Hudson can utilize to continue implementation of the recommended strategy. We will provide a set of investment ready financial statements that will support the development of funding sources, whether those are bond, loan, grant, or a combination. Many times, once these projects are ready for funding, we support our clients with lending institutions and bond writers to ensure they receive the best rates and terms on debt. We also use our financial models to support broadband grant investments in these projects where they are applicable.

Along with the BFS Model, we will revisit the plan with Hudson's stakeholders to gain feedback from them on the selected model. Doing so will help ensure that it meets their needs and they will have a propensity to use the network if it is constructed. Without stakeholder buy-in, these

projects can be challenged in meeting their financial sustainability requirements, therefore; we want to ensure Hudson’s stakeholders are supportive of the City’s selected approach. This includes community anchors, businesses, residents, and service providers.

We will help Hudson develop a phasing plan for the broadband network, first focusing on a pilot project that will create a proof of concept with limited financial and political exposure for the City. We will create a detailed project pre-implementation project plan for all tasks leading to the pilot project as well as an implementation plan for the pilot itself. This will include a technical design, pilot area or group of customers, product and service definition, contracting agreements, service level agreements, and related information.

Table of Expected Final Deliverables

#	Deliverable	Description
1	Comprehensive Broadband Maps	GIS-Correct broadband maps illustrating broadband utilization, availability and gaps. Mapping of City broadband infrastructure, facilities, local businesses, CRAs, economic development districts and other information.
2	Needs Assessment Inventory	Inventory of community needs, including survey data, mapping, broadband availability, usage, and gaps. Baseline data on residential, business and community anchor broadband inventory, costs, current and future needs.
3	Preliminary Engineering Design & Cost Estimates	Broadband network design for buildout of the City’s infrastructure to cover certain residential, business, municipal and anchor customers in the community. Cost estimates based on actual construction costs from Magellan’s database of local contractor materials and labor costs for construction. Equipment and services costs to be included from recent public sector RFPs from companion projects.

4	Broadband Financial Sustainability Model and Comprehensive Financial Plan	Financial model and funding plan to support the City's Broadband Business Plan. Comprehensive financial metric analysis including cost of capital, net present value, internal rate of return and other valuation metrics. Balance sheets, income statements, owners equity statements and cash flow statements.
5	Final Broadband Needs Assessment and Broadband Business Plan Documents	Final business plan incorporated the recommended business model, engineering design, cost estimates, financial plan, ownership/operating models, action plan and timeline.

### III. Timeline

The timeline below illustrates the proposed schedule for the project over the four-month period, beginning in September 2014. Magellan will commit to having the project completed by December 31, 2014 in accordance with the terms of the RFP.

Task #	Description	Sept	Oct	Nov	Dec
1	Mapping & Needs Assessment	█	█		
2	Business & Financial Modeling		█	█	
3	Development of the Governance & Ownership Strategies		█	█	
4	Development of Funding Strategies & Financing Analysis		█	█	
5	Public/Private Partnership Development			█	█
6	Infrastructure Recommendations			█	█
7	Final Report & Deliverables			█	█

## IV. Pricing

Task #	Description	Hours	Hourly Rate	Total
1	Mapping & Needs Assessment	110	\$130	\$15,600
2	Business & Financial Modeling	80	\$130	\$10,400
3	Development of Governance & Ownership Strategy	60	\$130	\$7,800
4	Development of Funding & Financing Analysis	60	\$130	\$7,800
5	Public/Private Partnership Development	80	\$130	\$7,800
6	Infrastructure Recommendations	80	\$130	\$10,400
7	Final Report & Deliverables	0	\$0.00	
	<b>TOTAL</b>	<b>450</b>		<b>\$58,500</b>

### 1. Hourly Rates for Specific Types of Work

Magellan's hourly rate for the proposal is \$130 per hour inclusive of overhead and travel for all work and expertise provided with regard to the scope of this RFP.

### 2. Total Projected Cost to Fulfill Scope of Work Requirements

Total cost to the City of Hudson is \$58,500. Pricing for the project is lump sum and includes all work to be completed by Magellan for the City as stated in this Proposal. Our hourly rate for the proposal is \$130 per hour inclusive of overhead and travel. We estimate that over the 5-month duration of the project, approximately 10 days onsite will be required for successful completion of the project. During this time, Magellan will meet with Hudson staff, hold stakeholder meetings, review plans, visit sites and make presentations to the project team as well as other activities to be determined between Hudson and Magellan. Schedules will be determined cooperatively between the City and Magellan and Magellan will build a comprehensive project plan to be approved by Hudson for the project.



## Appendix I. Letters of Reference



### TOWN OF JUPITER

October 19, 2012

**RE: Letter of Reference**

To Whom It May Concern:

We are pleased to provide this letter of reference for Magellan Advisors. They have contracted with the Town of Jupiter over the past several years providing broadband consulting services in the areas of Broadband Planning, Broadband Financial Planning/Sustainability, Broadband Architecture, Market Analysis and Demand Forecasting, Broadband Outreach and Intergovernmental Cooperation as it related to broadband deployment. The projects they've completed have always met or exceeded our expectations and have brought true value to our organization.

Magellan and its staff are exceptionally knowledgeable in all areas of broadband consulting and always conduct themselves in a professional manner.

The Town of Jupiter has always been highly impressed with the quality of their work and looks forward to working with Magellan in the future.

Should you have any questions, please feel free to contact me at (561) 746-5134.

Sincerely,



Melinda S. Miller  
Director, Information Systems

# **FRBA** Florida Rural Broadband Alliance

October 17, 2012

To whom it may concern,

We are very happy to provide this letter of reference for Magellan Advisors. They have contracted with the Florida's Rural Broadband Alliance, LLC providing broadband consulting services in the areas of Broadband Planning, Broadband Financial Planning/Sustainability, Broadband Architecture, Market Analysis and Demand Forecasting, Broadband Outreach and Intergovernmental Cooperation as it related to broadband deployment. We are extremely pleased with their product, professionalism and willingness to go above and beyond.

They are also very experienced in the Federal Governments American Recovery and Reinvestment Act (ARRA) of 2009, specifically in the area of the Broadband Technology Opportunities Program (BTOP) of which Florida's Rural Broadband Alliance, LLC was a recipient. Magellan has also been instrumental in assisting and being present for various meetings with the NTIA.

Magellan and its staff are exceptionally knowledgeable in all areas of broadband consulting and always conduct themselves in a professional manner.

Florida's Rural Broadband Alliance, LLC has always been highly impressed with the quality of work they produce and looks forward to working with Magellan in the future.

Sincerely,



Gina Reynolds  
Managing Member Representative

December 1, 2012

To whom it may concern,

We are very happy to provide this letter of reference for Magellan Advisors. EAGLE-Net Alliance is a Colorado based Intergovernmental entity and Magellan Advisors has supported us over the past six months by providing professional consulting services in the areas of Broadband Business Planning, Broadband Financial Planning/Sustainability, Broadband Architecture, Market Analysis and Demand Forecasting, Broadband Outreach and Intergovernmental Cooperation as it relates to broadband deployment. Their services have always met or exceeded our expectations and have brought true value to our organization.

Magellan's staff is exceptionally knowledgeable in all areas of broadband and telecom consulting and has always added value to our organization through their services. We highly recommend Magellan Advisors and their broadband planning services for public and government organizations.

Sincerely,

EAGLE-Net Alliance



Perry Movick  
Chief Operations Officer



## Southwest Florida Regional Planning Council

1926 Victoria Avenue, Fort Myers, Florida 33901-3414  
(239)338-2550 FAX (239)338-2560 SUNCOM (239)748-2550

October 18, 2012

To whom it may concern,

We are very happy to provide this letter of reference for Magellan Advisors. They have contracted with the Southwest Florida Regional Planning Council over the past few years providing broadband consulting services in the areas of Broadband Planning, Broadband Financial Planning/Sustainability, Broadband Architecture, Market Analysis and Demand Forecasting, Broadband Outreach and Intergovernmental Cooperation as it related to broadband deployment. The projects they've completed have always met or exceeded our expectations and have brought true value to our organization.

Magellan and its staff are exceptionally knowledgeable in all areas of broadband consulting and always conduct themselves in a professional manner. Magellan has added significant value to Broadband Planning for the region especially through outreach and the intergovernmental component. They are always ready to engage an audience with best practices and capture valuable participation from diverse groups.

The Southwest Florida Regional Planning Council has always been highly impressed with the quality of work they produce and looks forward to working with Magellan in the future.

Sincerely,

The Southwest Florida Regional Planning Council

Jennifer Pellechio, MBA  
Planner III/Network Administrator



October 19, 2012

To Whom It May Concern,

We are very happy to provide this letter of reference for Magellan Advisors. They have contracted with the Columbia County Georgia the past several years providing broadband consulting services in the areas of Broadband Planning, Broadband Financial Planning/Sustainability, Broadband Architecture, Market Analysis and Demand Forecasting, Broadband Outreach and Intergovernmental Cooperation as it related to broadband deployment. The projects they've completed have always met or exceeded our expectations and have brought true value to our organization.

They are also very experienced in the Federal Governments American Recovery and Reinvestment Act (ARRA) of 2009, specifically in the area of the Broadband Technology Opportunities Program (BTOP) of which Columbia County Georgia was a recipient.

Magellan and its staff are exceptionally knowledgeable in all areas of broadband consulting and always conduct themselves in a professional manner.

Columbia County has always been highly impressed with the quality of work they produce and looks forward to working with Magellan in the future.

If you have any questions, please don't hesitate to contact me at (706) 312-7325, or by e-mail at [lfoster@columbiacountyga.gov](mailto:lfoster@columbiacountyga.gov).

Sincerely yours,

A handwritten signature in black ink that reads "Lewis Foster". The signature is written in a cursive style with a small flourish at the end.

Lewis Foster  
Broadband Utility Manager



## CITY OF BARTOW

October 17<sup>th</sup>, 2012

To Whom It May Concern:

I am happily writing to you today to provide this letter of reference for Magellan Advisors. The City of Bartow has contracted with Magellan Advisors over the past several years so that they would provide broadband consulting services in the areas of Broadband Planning, Broadband Financial Planning/Sustainability, Broadband Architecture, Market Analysis and Demand Forecasting, Broadband Outreach and Intergovernmental Cooperation as it related to our broadband deployment. The projects they have completed with us always have exceeded our expectations and have added true value to our organization.

Magellan and its staff are exceptionally knowledgeable in what they do and always conduct themselves in a professional manner.

We have always been highly impressed with the quality of work they produce and look forward to working with Magellan in the future.

If you have any questions or concerns, please feel free to contact me at your earliest convenience.

Sincerely,

Frank Canovaca  
IT Manager  
City of Bartow  
T: 863.534.0252  
E: fcanovaca.cis@cityofbartow.net

450 N. WILSON AVENUE • P.O. BOX 1069 • BARTOW, FLORIDA 33830 • (863) 534-0100



October 15, 2012  
1101 East 1<sup>st</sup> Street  
Sanford, FL 32771

To Whom It May Concern,

In 2009, Seminole County Government's Information Technology Department contracted with Magellan Advisors, LLC to perform a detailed analysis and recommendation for a "Telecommunications Enterprise Plan" and a "Strategic Telecommunications Plan". This effort defined the current state of our telecommunications network and supporting systems, integrated a series of "best practice" processes, systems, architecture and financials, and proposed a maturity path (with alternates) for our telecommunications services program.

Magellan Advisor's analysis and recommendation was very detailed, well supported, and provided an excellent foundation for improving and potential expanding telecommunications services within the county.

Security continues to be a critical component of our telecommunications infrastructure and Magellan Advisors performed an exemplary job of addressing our existing security processes, systems and architecture as well as suggestions for improvements.

Magellan Advisor's work was exemplary and well worth the cost. Please contact me at (407) 665-1148 or [sfussell@seminolecountyfl.gov](mailto:sfussell@seminolecountyfl.gov) if you have additional questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen P. Fussell".

Stephen P. Fussell  
Manger – Office of Organizational Development  
Seminole County, FL