

M E M O R A N D U M

Date: May 27, 2015

TO: Town Commission

FROM: Dave Bullock, Town Manager

SUBJECT: Fiber Optic Backbone – Telecommunications Opportunities

At the February 17, 2015 Regular Workshop Meeting during the undergrounding project update, the Town Commission requested that staff provide an overview of what opportunities would be available should a fiber optic backbone be installed in conjunction with the undergrounding project.

In order to provide this information, staff spoke with several telecommunications experts. One group consulted is DAS Advisers. DAS Advisers have provided an overview report to explain the variety of projects available to the Town should the fiber backbone be installed. John Campbell, DAS Advisers, will be present to give a brief presentation about those available opportunities.

This item is placed on the June 1, 2015 Regular Town Commission Meeting for information, no action required.

Please don't hesitate to contact me if you have any questions.



FIBER OPTIC BACKBONE OPPORTUNITIES

June 1, 2015

Regular Meeting



FIBER OPTIC BACKBONE

- **Consistent with Town Core Values**
- **Provides Vast Array of Opportunities**
- **Installed in Conjunction with
Undergrounding Project – Economically
Feasible and Attractive**

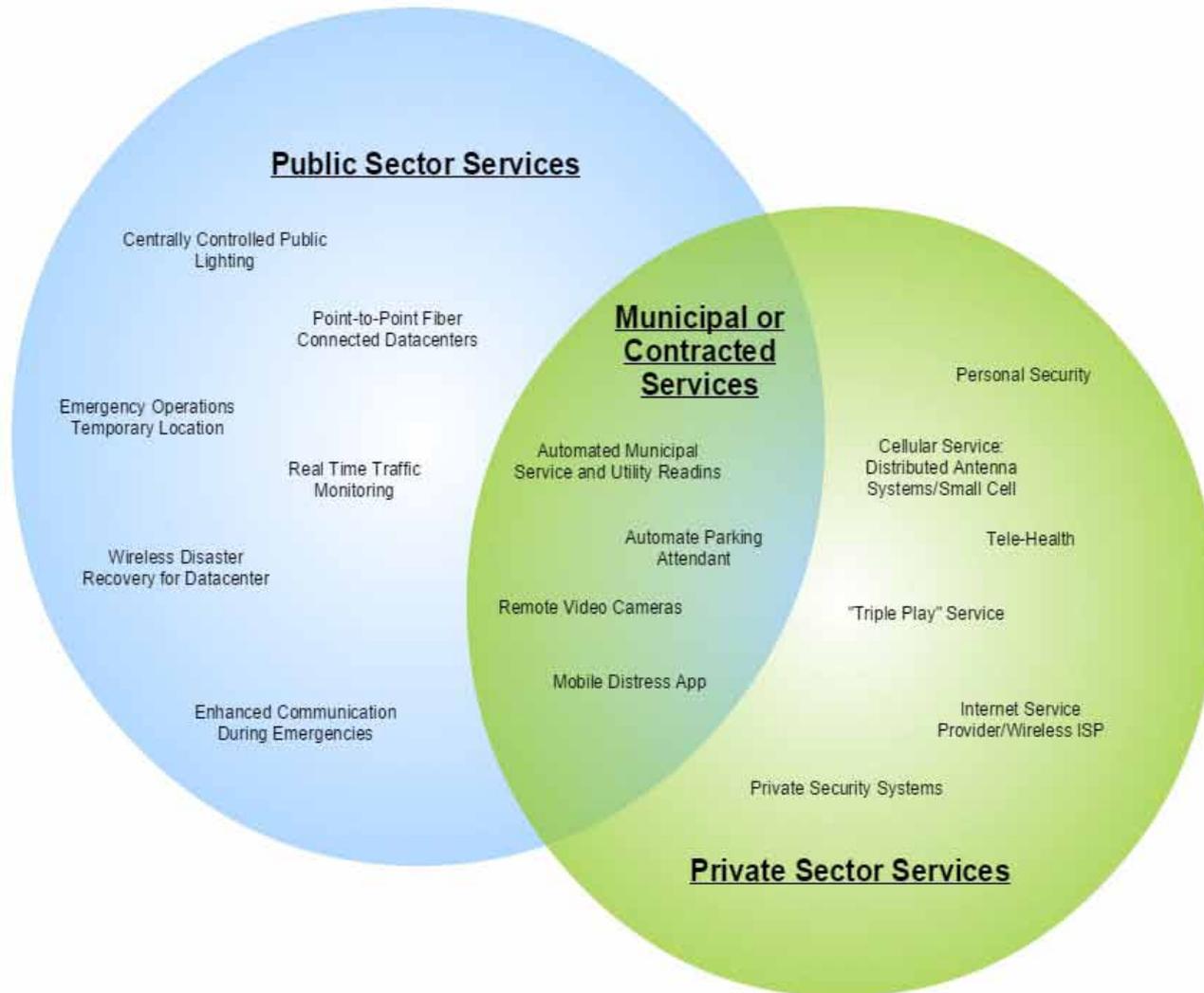


EXAMPLE OPPORTUNITIES

- **Competitively priced Fiber to the Home**
- **Access to a wireless Wi-Fi service on most of the island**
- **State of the art medical monitoring**
- **Enhanced business, home, and personal security (private provider)**
- **Robust cellular services with high data download speeds**
- **Cellular E911 (Next Gen 911) access with GPS location capacity**
- **Emergency and disaster notification services**
- **A foundation for the Internet of Things (IoT) or emerging self connecting technologies**



EXAMPLE OPPORTUNITIES, CONT.



Report on
Fiber and Wireless Networks
for



May 26, 2015



Introduction

Many communities, like the Town of Longboat Key, have been restricted in their ability to apply and enjoy the benefits of multiple technologies because of the lack of fiber infrastructure and/or the cost of access to existing fiber through the private sector.

The typical cost of deploying fiber is a significant barrier in creating a competitive environment for triple play services (broadband Internet, HD television, telephone), using Fiber to the Home (FTTH) and for city government to use in providing its community with the benefits of new applied and emerging technologies. That entry barrier has restricted competition in Longboat Key resulting in a high cost of services and a lack of new investment from the private sector to improve Internet speeds.

Over 400 communities in the United States have found it advantageous to invest in fiber infrastructure and approximately 90 communities have active FTTH. In those deployments the communities have established the legal path for other communities, like Longboat Key, to follow. In March 2015 the FCC ruled in favor of community-owned FTTH and Internet services and thereby in favor of the general right of a community to own, operate, and/or lease fiber.

Communities that have created a competitive market have seen lower consumer costs of FTTH, an overall increase in Internet speeds and a significant increase in new capital invested by the existing providers in the market. As a result of new service levels, communities have seen a positive economic impact and population growth.

Fiber and the Town of Longboat Key

Longboat Key has been recognized nationally as place of beauty, desirable to those seeking a certain quality of life. A fully connected vibrant communications system both Wi-Fi and Cellular to link residents with the world without sacrificing the beauty of the island is possible.

The Town of Longboat Key's Vision Plan, adopted February 7, 2011, establishes multiple paths toward improving city services, protecting the environment, encouraging



commercial business, improving communications technology, and expanding healthcare—all intended to improve the quality of life of the overall community.

The ability for Longboat Key to implement plans to achieve a higher quality of life could be enhanced by its ability to operate fiber-based systems and to use a variety of technologies. Furthermore, the ability to apply current and future technologies to the defined Core Values is dependent on the quality and design of the fiber infrastructure in place. To that end the Town of Longboat Key, through the undergrounding project, has created an opportunity to install, at the least possible cost, an underground fiber project that would provide the Longboat Key community an opportunity to more fully leverage and use both wireless and wire line technologies.

Infrastructure projects, such as middle-mile fiber and final mile fiber build-outs and wireless projects are necessary to maintain quality of service and required bandwidth for future growth and demand. Middle-mile fiber provides the transport of data into and out-of the community where final mile provides direct access to the fiber infrastructure to the buildings, homes, and wireless access points on the island.

Although individually members of the Longboat community can choose not to participate in the technologies made available by a mature fiber infrastructure, the opportunity to create such a system is important to the health and quality of life in the community now and in the future. It is possible, once the opportunities created by the fiber infrastructure are fully developed, for businesses, residents, and visitors to have many amenities:

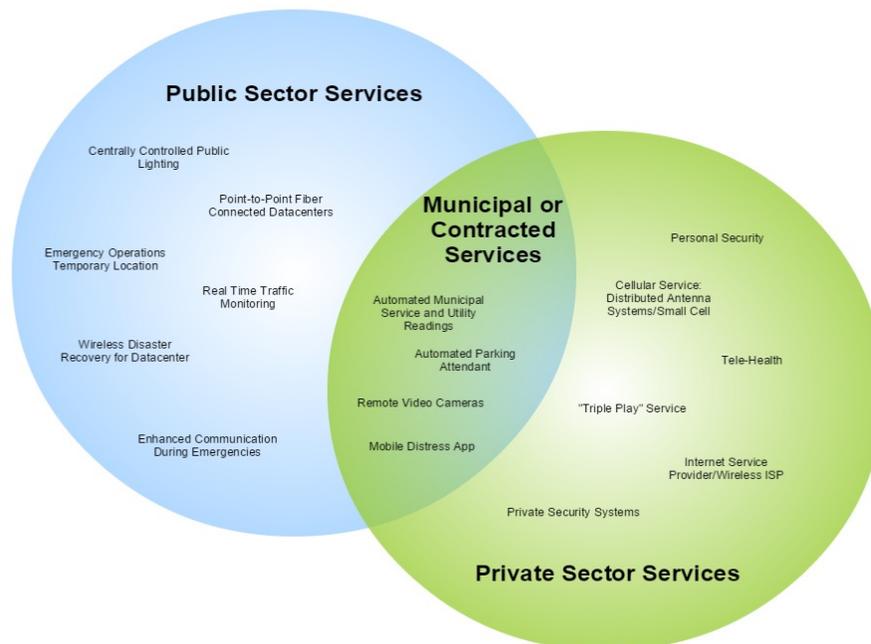
- Competitively priced triple play, Gigabit FTTH service
- Access to a wireless Wi-Fi service on most of the island
- State of the art medical monitoring service throughout most of the island
- Enhanced business, home, and personal security (private provider)
- Robust cellular services with high data download speeds
- Cellular E911 (Next Gen 911) access with GPS location capacity
- Emergency and disaster notification services
- A foundation for the Internet of Things (IoT) or emerging self-connecting technologies [see Exhibit A]



For many members of the community these capacities and others will enhance the quality of life. For some these capabilities, including full connectivity to the world, are a requirement in the context of their profession or a criterion for the community that they choose.

Longboat Key Service Opportunities

A fiber network positions a community to offer a variety of wired and wireless services, both directly to end-users and through private sector providers for their deployment. In addition a fiber network owned by the Town of Longboat Key would allow the Town government to capture cost saving within its operations and implement new services. DAS Advisers has compiled a list of potential services for the public and the private sectors as well as municipal or contracted services to demonstrate the opportunities the fiber would create. Although all these opportunities may not be directly relevant to Longboat Key, they represent the vast array of services a robust fiber network creates. The diagram below depicts those services and who the likely proponent of the services would be (public, private or either). Following the diagram below is a detailed explanation of each service.



Public Sector Services

Service:	Emergency Operation Temporary Location
Description:	Using secure Wi-Fi and the Fiber backbone, municipality and emergency first responders quickly connect to a remote emergency office location and immediately access information necessary to operate city services
Provider:	Municipality – Emergency Operations Center/Joint Incident Command Post
Necessary Infrastructure:	Fiber backbone and Wi-Fi
Service:	Wireless Disaster Recovery for Datacenter
Description:	An internal section of the wireless network designed as a backhaul for Datacenter connectivity if fiber backhaul is damaged.
Provider:	Municipality
Necessary Infrastructure:	Wi-Fi/Commercial Carrier Wireless
Service:	Real-time Traffic Monitoring
Description:	Ability to see and react to traffic patterns and issues in real time, accumulate traffic data (such as radar detection and vehicle counting) on major through-ways such as Gulf of Mexico Drive
Provider:	Municipal
Necessary Infrastructure:	Fiber backbone and Wi-Fi
Service:	Centrally controlled public lighting
Description:	Use of high-tech, green, turtle-friendly lighting solutions to reduce power-footprint, labor costs
Provider:	3 rd party provider and municipally managed
Necessary Infrastructure:	Fiber or Wi-Fi options
Service:	Enhanced communication during emergencies
Description:	During natural disasters or man-made emergencies, the system used as an additional method of communication to the public



Provider: 3rd party and/or Municipality, Emergency Responders
Necessary Infrastructure: Fiber backbone or Wi-Fi

Service: **Point-to-Point fiber connected Datacenter**
Description: Connection between municipal datacenters increases up-time and enhance load balancing, increases access to information for responders during outages and emergencies

Provider: Municipal
Necessary Infrastructure: Fiber backbone

Private Sector Services

Service: **“Triple Play” service**
Description: Provides traditional cable television service, broadband Internet, and telephone service to citizens and businesses
Provider: Recommended 3rd party
Necessary Infrastructure: Last-mile fiber

Service: **Internet Service Provider/Wireless ISP**
Description: Provides broadband level Internet access to end-users and businesses throughout community, provides seamless wireless Internet access across the island.
Provider: Recommended 3rd party
Necessary Infrastructure: Fiber backbone/Wi-Fi

Service: **Tele-health Services**
Description: Uses the wireless infrastructure to provide video and voice data requirements for healthcare monitoring and responses
Provider: 3rd party or multiple 3rd parties
Necessary Infrastructure: Wi-Fi

Service: **Private Security Systems**
Description: Using the data infrastructure for protection of private property, property access, and building monitoring.



Provider: 3rd party or multiple 3rd parties
Necessary Infrastructure: Wi-Fi and/or Fiber

Service: Personal Security

Description: A market trend for personal security firms is to track clients and their vehicles in order to provide better, unobtrusive, personal security. Wireless broadband provides the medium in order to provide such services.

Provider: 3rd party or multiple 3rd parties
Necessary Infrastructure: Wi-Fi

Municipal or Contracted Services

Service: Automated Municipal Service and Utility Readings

Description: Wirelessly read water meters, SCADA monitoring

Provider: Municipal and/or 3rd party

Necessary Infrastructure: Wi-Fi

Service: Mobile Distress apps

Description: Citizen Smartphones with health distress and emergency notification app installed for enhanced public safety, security, and reporting on island

Provider: 3rd party with tie-in to emergency management

Necessary Infrastructure: Wi-Fi with fiber backbone

Service: Remote Video Cameras

Description: Connecting to existing license plate recognition cameras. Installing security cameras in strategic, high-risk locations to deter crime and vandalism, to increase public safety and public peace-of-mind, and/or to monitor traffic issues. Example locations: Marinas, Public Buildings/parks, swimming pools, heavy intersections, and public crossings on major roadways

Provider: Municipal and/or 3rd party

Necessary Infrastructure: Fiber backbone, traditional networking, and Wi-Fi

Service:	Automated Parking Attendant
Description:	Using the network, centrally managed parking and fines without using field personnel, automated payments and penalties.
Provider:	Municipal or 3 rd party
Necessary Infrastructure:	Wi-Fi and fiber backbone

Recommendations

DAS Advisers believes that the Town of Longboat Key should pursue the present opportunity to build the fiber infrastructure to forward the community’s goal for state-of-the-art technology. The positive impact on the island’s businesses, residents, municipal offices, public services, community centers and parks, traffic systems, and continuance of government during emergencies is best realized by undertaking this project.

The location of the future underground utilities is consistent with a middle mile fiber deployment. The underground utility project allows Longboat Key to capture an estimated 80% cost saving in the fiber deployment, which can be leveraged in the private market, and also allows the Town to lower operating costs and expand its municipal services to the public. In addition to the middle mile fiber deployment, DAS Advisers recommends that during any underground utility projects the Town extend fiber beyond what would be considered the middle mile to take advantage of the cost savings.

DAS Advisers does not believe it is in the best interest of Longboat Key to extend the fiber project to create a publicly owned Fiber-to-the-Home (FTTH) but rather to look to the private sector to complete the final mile and to provide triple play services to the community. Based on other communities’ experiences and the relatively non-competitive market in Longboat Key, DAS Advisers believes multiple opportunities will emerge to lease fiber installed in conjunction with the undergrounding project or a Dig Once policy, to providers and create a more competitive market in FTTH services within the Town.



DAS Advisers does, however, recommend that Longboat Key use a new fiber infrastructure to build a Wi-Fi network for resident and visitor use. We believe that the capital investment and operational costs of deploying a Wi-Fi web is likely to be justified by potential revenue and recommends that the Town of Longboat Key further explore the opportunity to attract a third party provider, create a public/private partnership or cooperative [see Exhibit B] to implement a phased island-wide wireless Internet service.

DAS Adviser's believes that the FCC-licensed cellular providers will leverage access the fiber project to greatly improve cellular coverage in the island by using a shared Distributed Antenna System or a series of small cells.

Recommended Next Steps

1. Conduct stakeholder meetings with representatives from business leaders, real estate developers, condo associations, and the public:
 - Define desirable improvements in technological community services
 - Define desirable community technologies to be addressed by the private sector
 - Incorporate those Vision Plan goals facilitated by new fiber options
2. Develop a fiber usage master plan for the Town of Longboat Key:
 - Determine areas of operating cost savings for current services
 - Determine operational and community value of new potential town services
3. Develop a complete Fiber Distribution Master Plan for the Town of Longboat Key to properly define the design and specifications of the system based on information gathered in steps one and two:
 - Initial deployment
 - Guide for the long-term use of a Dig Once policy [see Exhibit C]
 - Guide for the development of the final mile within the project (would most likely be completed by a third party provider, except for those areas where fiber is installed in conjunction with the undergrounding project)
 - Bulk-transport speed requirements, which move the information off-island and to the Internet
 - Network Operations Center requirements



- Fiber backhaul requirements for residential, commercial, Wi-Fi, and cellular services
 - Wireless mesh network design and cost estimate
 - Options for multiple connections off-island: fiber, directional Wi-Fi, microwave (primarily to be used by critical systems during emergencies)
 - Fiber ring to ensure maximum uptime
 - Use of wireless backhaul where fiber is not feasible to create the ring effect
 - Expected bandwidth usage growth
4. Determine the cost-benefit of a 2-party or 3-party model of an Open Access Broadband Network for both the Wi-Fi and additional services to be provided.
 5. Notify the FCC-licensed cellular carriers in the market of the pending fiber project and begin working with those carriers to incorporate a cellular solution for the Town of Longboat Key



Exhibit A. The Internet of Things

The Internet of Things (IoT) refers to “things”—objects, animals, people—with unique devices like electronics, software, and other connectivity identifiers that allow the thing to transfer data over a network without the need for human-to-human or human-to-computer interaction. The embedded computing system is unique to a Thing, so it can be identified and is able to interoperate within the existing Internet infrastructure. Examples of such embedded devices would be heart-monitoring implants, a biochip transponder on a farm animal, and automobiles with built-in sensors—anything that allows the Thing to be monitored or activated remotely. Public Safety also uses IoT, for example field operation devices that assist fire fighters in search and rescue.

Although the concept wasn't named until 1999, the Internet of Things has been in development for decades. The first Internet appliance, for example, was a Coke machine at Carnegie Mellon University in the early 1980s. The programmers could connect to the machine over the Internet, check the status of the machine and determine whether or not there would be a cold drink awaiting them, should they decide to make the trip down to the machine.

Internet of Things systems could also be responsible for performing actions, not just sensing things. Intelligent shopping systems, for example, could monitor specific users' purchasing habits in a store by tracking their specific mobile phones. These users could then be provided with special offers on their favorite products, or even location of items that they need, which their fridge has automatically conveyed to the phone.

Besides the plethora of new application areas for Internet connected automation to expand into, IoT is also expected to generate large amounts of data from diverse locations that is aggregated very quickly, thereby increasing the need to better index, store and process such data.



Exhibit B. Cooperatives

One approach to financing, ownership, and operations that Longboat Key might consider is forming a telecommunications cooperative. Cooperatives, or “coops,” have their roots in rural electric services. Seventeen electric cooperatives operate in Florida.

In recent years many cities, towns, and communities, especially in rural areas, have formed cooperatives to meet residents’ telecommunications needs. The Center for Cooperatives at University of Wisconsin-Madison provides the following overview of how cooperatives are structured.

Note: DAS Advisers recommends the Town of Longboat Key engage legal counsel with expertise in the State of Florida’s laws as they relate to cooperatives in the state.

Business Structure Comparison

The legal structure of any business organization defines ownership, control, and earnings distribution. Like other businesses, cooperatives typically incorporate as a legal entity under state statutes, which provide parameters for governance and operation. State statutes are not uniform, however, so specific legal requirements for cooperative structure will vary by state.

The ownership and control of most business structures is related to the level of capital investment. Profits are returned to investor-owners based on the investment amount.

In contrast, a cooperative business is owned and democratically controlled by its member patrons. Any profit is distributed to member patrons in proportion to their use, or “patronage,” of the cooperative's services.

In some states, cooperatives are treated as a type of nonprofit corporation, since a cooperative’s primary orientation is to benefit members by providing goods or services at cost. However, this type of nonprofit business is different from organizations incorporated under general nonprofit statutes, which legally have no owners, and must retain any net earnings within the organization. Nonprofit cooperative business statutes provide for member ownership, voting rights for boards of directors, profit distributions to members, and member rights to assets sold if the cooperative should dissolve.



Exhibit C. The Dig Once Policy

When estimating the cost to build a fiber optic infrastructure, the fiber cable itself is relatively inexpensive. Depending on how many strands of fiber are required, the cost usually is less than \$2 per foot. By comparison, the federal government estimates that as much as 90 percent of the cost of broadband development projects can be for expenses associated with the significant excavation of roadways and other surfaces that are often necessary for installing underground conduit and fiber optic cables.

With respect to broadband projects that involve placing conduit and fiber cable in rights-of-way along federally assisted highways, President Obama signed an Executive Order in June 2012 intended to facilitate broadband development on federal lands, buildings, rights-of-way, federally assisted highways, and tribal lands. The Order encourages states and local governments to work together on federally assisted highway projects to facilitate placing broadband-enabling conduit and fiber cable as a part of the highway project.

With Longboat Key planning to place its fiber underground, the largest expense likely will be related to trenching and installing the conduit that will house the fiber cable. One strategy that the Town can employ to reduce the overall long-term cost of building a fiber optic network involves adopting a “Dig Once” policy to infrastructure development.

Under a Dig Once policy, Longboat Key would place conduit and, whenever possible, fiber cable as a part of any Town project that involves trenching or other excavation work. For example, when constructing or repairing a street, installing or repairing storm drainage and sewer systems, building or replacing sidewalks, or other infrastructure projects, the Town would use those opportunities to install conduit and, ideally, fiber. By doing so, the Town would stand to realize considerable savings in construction and installation costs associated with establishing its fiber network. A “Dig Once” policy also could shorten the timeframe for expanding Longboat Key’s fiber network.

In essence, the fact that the Town is planning to install fiber in conjunction with the undergrounding project, should it extend into the side streets and neighborhoods, it is implementing a Dig Once policy connected to undergrounding.



A successful Dig Once approach to broadband development for Longboat Key would be based on open communication between the Town's various infrastructure departments, an understanding of the Longboat Key's infrastructure construction schedule, and informed projections of the Town's residential and commercial development.



Exhibit D. Resumes

JOHN W. CAMPBELL entered the wireless industry as a consultant in 1996 with the responsibility of deploying cellular service infrastructure in a multi-state area within the eastern US market. Prior to entering the wireless industry Mr. Campbell was the director of Real Estate Services for a regional consulting engineering firm. For nineteen years, he has been involved in the expansion of cellular and data services for many national clients. Mr. Campbell has provided negotiation services for a number of lease and acquisition projects, including Distributed Antenna Systems (DAS) for major facilities within the United States. He has been directly involved in the development of the business terms and project development of commercial wireless projects on state and federal properties. He has provided consulting services in the public safety sector and has conducted long-range planning for public communications system deployments. Mr. Campbell is often a guest speaker for universities, governmental agencies, and legislative committees on topics related to the wireless industry. He has been involved in developing planning ordinances for various county and city jurisdictions. Mr. Campbell brings a clear understanding of the technical and financial complexities of the current wireless market place and has assisted his clients in obtaining the maximum benefits from both the deployment of wireless service and the financial opportunity it represents.

JOHN GOLDEN has more than 20 years of experience helping businesses, local governments, and communities solve their fiber and telecommunications challenges. A graduate of West Virginia University, Mr. Golden's specific expertise is helping clients explore their goals, whether in operations, revenue, constituent services, or community development. He has assisted private and public entities in identifying infrastructure needs and opportunities and in assisting in the deployment of fiber and wireless infrastructure. Knowing this effort involves a variety of internal and external stakeholders, Mr. Golden has helped private and public-sector clients create an action plan that brings those stakeholders together around an action plan – creating a more robust and effective communications environment.

While with Verizon Mr. Golden developed a clear understanding of the economics of fiber and the operational values and costs associated with providing backhaul infrastructure for wireless communications systems.



JON COOPER has over 20 years experience in the design and development of complex wireless communications systems. He has provided engineering and management expertise to clients in commercial wireless operations in the United States and Europe. Mr. Cooper has also provided management and technical leadership in various US public safety projects at local, state, and national levels. He has a strong foundation in business development, as well as practical knowledge in the fields of radio-frequency engineering and optimization, engineering management, government and regulatory coordination, and site development. Mr. Cooper has solved difficult radio coverage and interference challenges, including underground coverage in subways, tunnels, and mines. For example, Mr. Cooper was involved in solving early challenges in the deployment of shared Distributed Antenna Systems at Denver International Airport, Toyota Manufacturing facilities, and dense urban markets.

While with Deloitte Touche, Mr. Cooper consulted directly with the FCC for various national projects including public safety and commercial frequency projects and provided consulting services to the State of Florida in the development of the statewide E911/public safety wireless communication system.

MICHAEL CAMPBELL is a Technical Strategist with more than 15 years of experience in information technology and project management. He focuses on integrating information systems into the operations of a business to help drive the organization forward. He champions the shift in perception of technology from being overhead to being a valuable force in operations.

Mr. Campbell has experience with many different systems, giving him insight into the correct technology for each situation. His wireless experience includes developing multi-building wireless networks, developing business models for metro Wi-Fi networks in small communities, and adding layers of security to pre-existing networks. As a Certified In Building RF-Engineering Technologist (CIBET), he is qualified to apply the latest scientific principles to wireless networks in buildings.

Mr. Campbell's unique variety of experience, education, and training allows him to take on projects that traditionally do not fall within the Information Technology field.



Exhibit E. DAS Advisers Projects

University of Miami

University of Miami identified a need within its Coral Gables campus for improved cellular service. After considering options that included a series of repeaters installed to address the issue, the University engaged Charter Associates to provide consulting services. Charter conducted site visits and contract reviews of seven existing Wireless Service Provider facilities on campus, performed RF studies on campus, and held stakeholder meetings to determine and prioritize the University's goals. We identified a portion of the campus that required improved service including a 150,000 square foot LEED certified student activity center, which was under construction. During this process the University identified a need within University of Miami Hospital complex, located approximately 6 miles from the first project. The complex included 36 building totaling approximately 8.5 million square feet of medical-oriented buildings. Charter was engaged to perform similar services for the Hospital project. Although comparable in need, Charter identified different goals and opportunities associated with the Hospital. We also identified limits to the economics of the project and made several recommendations the University.

The University agreed with the findings provided by Charter. This study resulted in the development of a combined RFP written and distributed by Charter covering the Coral Gables campus and University of Miami Hospital but reserving the additional medical campus buildings for a second project in the future.

The RFP for a Neutral Host Provider was issued in September 2013. A mandatory meeting held in October resulted in the participation of thirteen NHPs.

West Virginia University

West Virginia University (WVU), a land grant university operating under the laws of the State of West Virginia, engaged Charter Associates to assess its public safety, Wi-Fi, and commercial carrier coverage needs within a 600 acre area that included a 60,000 seat stadium and four additional buildings that included offices, training facilities, and light retail space. The outdoor areas included parking facilities and the green space typical of a campus environment. The existing wireless infrastructure included macro cell on-site and carrier towers in the surrounding areas; Wi-Fi is operated by the University and has a poor public safety communications system. Through a series of stakeholder meetings



and the development of an understanding of the existing infrastructure and networks of the four Wireless Service Providers within the market, Charter recommended that the University continue to operate its Wi-Fi system with upgrades and issue an RFP soliciting proposals for a Neutral Host Provider (NHP) Distributed Antenna System (DAS) to be owned and operated by the NHP, designed to accommodate public safety frequencies and Wi-Fi for future use. Charter prepared the technical portion of the RFP and assisted the University in the selection process. We continued our consulting role through the negotiations of the NHP contract, construction, and final deployment testing.

The project resulted in a revenue positive agreement with Crown Castle Solutions providing a robust commercial and public safety wireless environment in the areas defined by the University.

The positive experience created by the project resulted in Charter Associates being selected by the University as the consultant for a second project involving approximately 900 acres, 35 buildings, and the University's coliseum.

Charleston Area Medical Center

Charleston Area Medical Center (CAMC) is a regional medical facility supporting a Trauma One center, 750 bed training hospital, and supporting medical offices and clinics. CAMC determined that improved cellular services were required in two facilities. Charter Associates was selected to provide consulting services to determine the most advantageous path to addressing the coverage issues.

Charter conducted RF studies within the multiple buildings involved and the surrounding medical campus. During the analysis period meetings with the wireless service providers operating in the market were conducted to assess interest in improving coverage for the client. In addition stakeholder meetings within the hospital were conducted to establish the level of need and goals. Charter submitted its recommendations for a path addressing the issues, which included the release of an RFP for the development of a DAS by a third party and for a cellular roof top management agreement with the same provider. The purpose of the additional rooftop agreement offer was to supplement an otherwise weak DAS RFP. Three responses were received and American Tower was selected as the third party provider based on a positive revenue sharing proposal, which included a deployment deadline of 10 months.



United Regional Health Care System

In a current project, DAS Advisers is working with United Regional Health Care System to enhance its Wi-Fi and cellular environments. Based on information gathered through our Radio Frequency (RF) testing and stakeholder meetings, our goal is to identify solutions to meet the hospital's short and long term needs.

Municipal Wi-Fi

DAS Advisers provided the technical support and equipment deployment for free Wi-Fi services for the city of Huntington WV using white space frequencies as the backhaul component. WVNet, a fiber provider, collaborated with the city of Huntington and DAS Advisers on the project. In an associated project, DAS Advisers deployed a free Wi-Fi project in Glenville WV during a statewide technology conference as a "proof of concept" project for free Wi-Fi in rural areas. WVNet funded both projects.





End of Agenda Item