**Executive Summary**

CharMeck Connect is a collaborative effort to deploy critical, middle mile infrastructure that will serve as the footprint for a regional public safety wireless broadband network throughout the Charlotte Urban Area Security Initiative (UASI) region. The strategy developed by the Charlotte UASI is to build on the current CharMeck communications system which has established the framework for regional interoperability within the urban area. BTOP funding is requested for CharMeck Connect - Phase 1 of the Charlotte Urban Area Regional Broadband Network. A. Utilizing 700 MHz spectrum, CharMeck Connect will deploy a state of the art middle mile broadband interoperable network based on 4G Long Term Evolution (LTE) technology that will provide the public safety community with the tools they need for the 21st century (wireless broadband, multimedia applications, enhanced voice and data interoperability) and provide for true interoperability in emergencies requiring a multi-jurisdictional and multi-disciplinary response. The standards based system will allow CharMeck to be interoperable with other public safety agencies on LTE networks and also for the planned National Public Safety Broadband Network.

B. The Charlotte UASI is centered on the city of Charlotte and encompasses 10 counties covering two states: the North Carolina counties of Cabarrus, Catawba, Gaston, Iredell, Lincoln, Mecklenburg, Stanly and Union; and the South Carolina counties of Lancaster and York. Partners to Phase 1 of the UA Regional Public Safety Broadband Network - are the City of Charlotte, County of Mecklenburg and the communities of Cornelius, Huntersville, Davidson, Mathews, Mint Hill and Pineville.

C. The 526 square-mile service area of Mecklenburg County has a population of 890,515 with 273,416 households and 28,305 businesses with an unemployment rate of over 12 percent. Over 62,000 area residents have lost their jobs since the recession began.

D. CharMeck Connect service area includes 16 public safety entities, 346 community anchor institutions including 3 community colleges, 176 K-12 schools, 24 libraries, 4 medical providers, and 75 other government facilities. CharMeck network will have the ability to provide a limitless number of virtual private networks, which will allow CharMeck to work with any governmental agencies including transportation, public works as well as community anchor institutions such as colleges, libraries, public housing authorities that have the need for a robust wireless platform. If the FCC modifies its position to allow for participation by non-public safety agencies, CharMeck will deploy a Public Access Subsystem to provide for these entities.

E. LTE technology to be deployed will provide the public safety community with applications currently not available and will significantly improve the public safety response to incidents through: 1. Mobile data and high speed internet connection in every police and fire vehicle. 2. Live Incident Video - the ability to stream on-scene video to responding units, communication centers and supervisors. 3. Broadband Data Dispatch - ability to transmit broadband data to to field units. 4. Automatic Vehicle Location - allow
dispatch to monitor the exact whereabouts of each vehicle through a sophisticated AVL tracking device.
5. Transmission of suspect/vehicle photographs. 6. Broadcast of blueprints and building plans. 7. Allow medical personnel to examine a patient in detail. 8. Enhance surveillance and monitoring activities immeasurably The ultimate core benefit of deploying the infrastructure for this network is to improve public safety and emergency services response for the health and welfare of the citizens facing an emergency and our public safety officers. As the FCC has stated, broadband will allow more expeditious response of the correct resources to benefit of the citizen facing an emergency and responding officers. F. CharMeck is committed to the development of an open access and vendor neutral network. CharMeck network is designed for multiple operators and to allow public safety, residential and commercial customers, government, education and medical facilities to acquire broadband services from a wide variety of service providers. It is specifically designed to seamlessly interface with all major communication carriers in North America and worldwide. Existing deployments of the proposed network carry critical medical records, backhaul cellular carriers, provide wholesale long distance connections as well as direct connections to the peering points. G. Utilizing 700 MHz spectrum, CharMeck Connect will deploy a state of the art middle mile broadband interoperable network based on 4G Long Term Evolution (LTE) technology standards. H. Successful regional multi-disciplinary, multi-jurisdictional communication projects are the result of careful planning and working together to develop the vision, goals, objectives and operational plan. Leadership is the key to developing and implementing broad based communication technology strategies. Strong leadership in Charlotte Mecklenburg initially led to the development of a regional multi-jurisdictional, multi-disciplinary interoperable public safety communications network. In 2001, the city of Charlotte and Mecklenburg County began their joint efforts to build a shared county-wide network by modernizing critical infrastructure. What ensued was a consolidation of management and support, the development and execution of a strategic technology plan, a solid business plan and the beginning of an advanced regional wireless network. CharMeck is extremely qualified to deploy and operate the proposed broadband network. CharMeck has a documented history of successfully deploying and managing large complex public safety communication systems that were accomplished through leadership, planning, partnership development across disciplinary and jurisdictional lines, consensus building, development of technology roadmaps and solid businesses cases. CharMeck's original communication plan reached completion in March 2010 with the acceptance of the P25 digital radio system which lays the foundation for future technology direction. Leadership in CharMeck then contracted with a consultant to work with them to develop a strategic business plan for the evolution of the network which included needs assessment, data collection, data analysis, technology evolution and presentation of recommendations. In order to address the need for very high speed and high speed mobile data identified by the public safety users, the consultant recommended that CharMeck build out a wireless data network using 4G Long Term Evolution (LTE) technology as the most technically viable solution for the higher speed speed wireless and mobile applications delivering the following benefits and complementing the voice communication network: 1. Cost reductions of up to 50% compared to public carrier leasing services, 2. Consolidation of networks and services, 3. Secure wireless network operation, 4. High speed mobile data in the Megabit range and 5. Very high speed, low latency, non-mobile wireless data. I. The CharMeck Connect Project is requesting $16,702,490 in broadband stimulus funds and will provide a match of $4,389,953 for a total project cost of $21,092,443. Without the support of the stimulus funds, financial constraints will prohibit the
implementation of this project and will leave the public safety entities in our service area without the benefits associated with this project. J. Overall expected subscriber projections for the project is 11,420.

K. CharMeck Connect is a shovel ready project that will commence upon grant award. It is expected that the construction component of the CharMeck Connect project will create 10 jobs immediately, but the ongoing impact will be the jobs created by the service provider for the continued operations of the project. Jobs involved in the ongoing operations will include customer service reps, provisioning technicians, and system support technologists for a total of 14 newly created long-term jobs and 90 jobs will be induced from this project. CharMeck Connect will serve as a model for municipal entities across the country as well as other UASI regions in the development, deployment and management of regional multi-jurisdictional, multi-disciplinary public safety networks utilizing 700 MHz spectrum based on LTE technology. In summary, BTOP funding is the cornerstone for the deployment of a wireless broadband public safety network for the Charlotte UASI region. Charlotte UASI member agencies are all experiencing high unemployment rates and limited resources. CharMeck Connect is maximizing existing infrastructure investments, leveraging existing towers, and other infrastructure to complete this project. CharMeck Connect can not be completed without BTOP funding.