The New Jersey Office of Information Technology (OIT) is statutorily defined as an 'in but not of' the New Jersey Department of the Treasury. As the state's information technology organization, OIT is submitting this funding request for a statewide public safety network that utilizes wireless 700MHz LTE technology. The application was developed with input and cooperation from the New Jersey State Police and Homeland Security to help ensure that the proposed network meets the needs and requirements of the public safety community. The proposed solution is comprised of two layers: Last Mile and Middle Mile. The Last Mile is based on 700 MHz LTE and the Middle Mile is based on mix optical fiber and microwave. With the availability of public safety broadband spectrum in the 700MHz band, our primary goal is to secure a 700MHz LTE Wireless Public Safety Network that will cover the entire State of New Jersey. The first of two initiatives within this proposed network is to offer police, fire and EMS agencies the ability to utilize the most current and future applications, thereby yielding a more effective and efficient public safety presence. The second is to solve the current interoperability issues that challenge our first responders by allowing the sharing of voice, data and video amongst each other and with other state or federal agencies as the situation may warrant. The following list is representative of the type of applications and capabilities this network will extend to public safety agencies: Public Safety Interoperability - Bridging public safety LTE network to mission critical systems provides rich multimedia applications for improved on-scene decision-making. Public Safety Applications - Unified applications will optimize public safety workflows from the command center to the edge thereby allowing for real-time sharing of rich multi-media content (Voice, Data, Digital Video Streaming, high resolution images, unicast, and multicast, , messaging, Computer Aided Dispatch, Automatic Vehicle Location, running complex criminal database queries, downloading blueprints of a burning building, and transmitting medical data. These Public-safety-grade service features simply cannot be found in commercial systems. Deploying a dedicated network we will increase situational awareness and operational efficiency. Network Availability & Survivability - Hardened LTE systems that self-heal and autonomously reconfigure around network failures dynamically steer traffic to the best networks based on performance and availability. Network Scalability: Private LTE provides options for customization, and scaling of system components that will offer greater cost efficiencies and speed the adoption of wireless public safety solutions throughout New Jersey. Furthermore the flat IP network architecture similar to the Internet architecture drives lower cost application delivery. Devices Optimized - Delivers a portfolio of tiered devices with the necessary ruggedness and ergonomics for government and public safety environments. Devices will be capable of operating in various modes and roaming in different networks 3G to 4G, private to public from home regional systems to another regional system (The regional public safety
network will be part of a single national system). Thus the emergency responders will always remain best connected to the network and use multimedia application without the fear of congestion particularly in the event of natural disasters (such as floods, earthquakes, and hurricanes) and man-made disasters (such as terrorist attacks). Separately, as the design of this network was evaluated, it was discovered that there is an auxiliary benefit to the network. The utilization of some of the backhaul in some locations will allow for Middle Mile access to various state facilities such as community colleges, libraries, or government offices many of which are located in economically distressed or un-served areas. OIT’s partner NJEDge.net, a nonprofit organization, has established itself as a Joint Powers Authority (JPA) whose charter represents multiple Community Anchor Institutions (i.e. community colleges and hospitals). While the Last Mile 700MHz LTE is tailored to serve the Public-safety needs, the Middle Mile will provide both, the backbone support to 700MHz LTE, as well as high speed high capacity backbone to meet certain BTOP priority criteria for Comprehensive Community Infrastructure (CCI), that includes: Academia The middle mile will serve K-12 schools, county colleges and universities, and research universities. In addition, it will facilitate distance learning. Healthcare The backhaul will cater the needs of healthcare facilities, and support NJ’s health reform vision i.e. Health Information Technology (HIT) and Health Information Exchange across the full continuum of health care providers. CAI Will offer or enhance broadband capabilities to scores of municipalities and public libraries that provide free Internet access, and are continuously seeing increased bandwidth demand. The network will provide interconnection points to accommodate Community Anchor Institutions (CAI). These interconnection points will be utilized to serve un-served or underserved CAIs. In addition, these points will allow the growth of diversified programs especially in those county colleges that are involved in a wide range of activities designed to bridge the digital divide in their surrounding urban community. Qualifications & Ability to Implement and Operate a broadband The Public Safety Communications Commission would provide the governance for the proposed network. The commission would have representation from the Office of Information Technology (OIT), Homeland Security, State Police; Department of Health, the State Treasurer; Fire Department and UASI Homeland Security Regions. Our partner NJEDge.net (a nonprofit organization and established itself as a Joint Powers Authority. It is a consortium of academic and research institutions created by the State of New Jersey's President’s Council) will play a major role to handle implementation, management, and operational aspects. NJEDge.Net has proven strong technical, managerial and operational capabilities. Budgetary information (matching contribution, etc.) The State of New Jersey will contribute in-kind match of 21.83% and requests 78.17% funding that takes into account purchasing of components and deployment statewide. Electronic components related to 700 MHz LTE and extensions required in the back haul to realize interoperability solutions will also be funded with BTOP. However, structures such as towers and related locations selected for deployment will be reused as they are owned or controlled by state agencies or local entities. In closing, New Jersey stands to reap multiple benefits upon the deployment of the proposed network throughout the state. A centralized command center along with overall control, monitoring, and management will optimize the efficiency of network operations while greatly reducing its operational costs and increasing field productivity.