**Executive Summary**

New Jersey requests BTOP funds to build a statewide, high speed Middle Mile fiber optic and wireless CCI network to serve community anchor institutions (CAIs) and provide points of interconnection with state and municipal networks and third party providers. The network meets the goals of the FCC National Broadband Plan within 3 years via: affordable access to broadband service, 1GBPS connections to anchor institutions, the latest wireless system, and First Responder access to interoperable broadband. NJ is comprised of 21 counties and 566 municipalities. The landscape ranges from traditional urban cities to rural farmlands. The Partners The public/non-profit/private partnership includes State of New Jersey, NJEDge.net, and Verizon Business, Inc. NJ Office of information Technology (OIT) formed a Statewide Broadband Planning and Coordination Committee representing health care, technology, education, transportation, banking, homeland security, local government and economic development. The Committee developed the statewide broadband strategy. NJEDge.net, a not for profit 501(c)3, operating one of the 37 national Statenets, is a member-driven organization connecting NJ educational, research and health institutions. Their broadband infrastructure reflects an advanced network platform while achieving lower costs through collective buying power. Members collaborate via web conferencing and face-to-face on issues including network security, identity management, e-learning and web 2.0 tools. Verizon Business brings the construction expertise and capabilities to install the network. The state will own the network outright under a contract to be finalized with Verizon. Problem High-speed broadband affordability is a major problem in NJ particularly in the state's inner cities. Gigabit connections typical start at $5k+/month. This limits broadband usage by CAIs, commercial and residential users. There are a few local areas in the state with no broadband access, but the majority of the state has broadband access at some speed. Solution Our design, a collaborative effort of OIT, NJEDge and Verizon, connects CAIs for a more reasonable than current NJ market conditions. Its shared cost model leverages an economy of scales not achievable by an individual institution. NJ is comprised of 3,064,645 households, 790,807 businesses and 4886 CAIs. 52% of households are not connected to broadband. With a presence in every county, our network is within build-able range of ALL households, business and CAIs. Outcomes This BTOP-funded, high capacity, statewide, multi-use network delivers:

- Low cost, improved, 1GB broadband service to CAIs
- Reliable, survivable, high bandwidth, interoperable wireless broadband for public safety agencies and first responders
- Broadband connections for all residents, CAIs and businesses via dozens of interconnect points for third parties
- Access to Internet2 to all eligible institutions from NJEDge.net. But for the availability of BTOP funding, this network could not be built due to the current budgetary conditions. System Description We are offering a blend of services such as 1GB port connectivity and dual -homed Internet access plus dark fiber services for 3rd party last-
mile providers. Our network uses a 48-strand fiber bundle creating a ring of connectivity. We will provision 40+ laterals of 12 strands to CAIs. We have pricing for any last'mile provider wishing to lease capacity. Our network is based on a 40GB primary fiber optic backbone, 1GB fiber user connections, and 155Mbps connectivity to wireless towers. The network is logically connected as rings to provide redundancy. The network will leverage the existing NJEDge fiber network, expanding to new interconnection points at CAIs and wireless towers supporting a 700 MHz LTE 4G wireless network for Public Safety responders. The first phase of the project provides 149+ connection points distributed across all counties, building a foundation from which to grow and connect deeper into user communities. NJEDge offers a suite of applications to be available across the network. NJEDge co-located in two Carrier Hotels providing easy access for service providers. Applications are: Video Conferencing, Telemedicine, Health Information Exchange, increased community internet services by libraries, eLearning and Distance Learning, Public Safety interoperability, cooperative information exchange between institutions and government, NG 911, improved research and development tools, and Internet2 access. Users This network follows the State's strategy to make broadband more available, affordable, and to close the broadband access gap. The network facilitates CCI priorities with multiple interconnection points in each county. These points will interconnect with various state and municipal networks. The initial network serves 19 schools and districts, 20 colleges and universities, 3 libraries, 10 hospitals, trauma centers, and health care facilities, 21 911-answering points and 77 public safety facilities. We will serve all anchor and critical infrastructure locations: 2500+ schools, 300+ libraries, 100+ medical and healthcare facilities, approximately 70 colleges and universities, 2072 public safety agencies and scores of local municipalities. A key interconnection point is the 1GB handoff to the Jersey Connect broadband library network that aggregates the traffic for 300+ municipal libraries. Equally important is our interconnection with the statewide Garden State Network (GSN) which supports 16 State agencies. Our deployment leverages existing dark fiber municipal networks in Monmouth, Morris, Gloucester, Union and Passaic counties and supports cost-effective interconnection to 3rd party providers. Un/Underserved areas Our real underserved areas are economically distressed. The project addresses affordability with lower service rates based upon cost sharing. Several unserved or underserved communities are identified. Each of these is provided with an interconnection point to the network for third party provider access on a shared cost basis. Open Access OIT and NJEDge are committed to support and enforce the requirements for non-discrimination of access, content and fully open connection. CCI Criteria Compliance The network 1. Provides new or upgraded middle mile service to CAIs at speeds of 1 Gbps or greater. 2. Is a public/private partnership between OIT, NJEDge and Verizon. 3. Will serve the entire state, focusing on colleges, schools and CAIs that serve economically distressed communities. 4. Provides high speed Middle Mile broadband infrastructure to serve Community Colleges. 5. Provides Public Safety the bandwidth needed to implement Next Generation 911 services and wireless infrastructure for 700 MHz Public Safety broadband. The network will have presence in each county PSAP. 6. Interconnection is available to third party providers and we have an LOI from Zayo Broadband, LLC. Jobs The 2003 report ‘State Economies Can Benefit from Broadband Deployment’ documents that widespread broadband deployment will drive a net increase of over 47,000 new jobs in NJ. This project increases broadband availability, creating employment opportunity and economic benefit in health care, education, governmental services, retail sales, telecommuting, small and home-based business. 30-40 full-time jobs will be created in manufacturing fiber and thigh
technology switching and network gear, industries supporting the installation, testing, and project management as the network is built. Long-term 4-6 jobs will be directly created in managing and maintaining the network. Cost The cost to acquire and implement the network is $135,872,204. The assets and connectivity of the existing GSN and NJEDge networks is the in-kind match with a value of $39,539,681. Close OIT, NJEDge, and Verizon, will provide an affordable CCI, delivering gigabit bandwidth to CAIs, meeting and exceeding FCC goals in just 3 years with a proven, sustainable, business plan via NJEDge. The project meets BTOP CCI criteria, provides network neutrality, and has a proven, sustainable, business plan.