The City of Houston is requesting BTOP grant funds to expand its current fiber optic and WiMAX (IEEE 802.16e) network infrastructure into a comprehensive community infrastructure that will provide a foundation for strategic economic growth, job creation, global competitiveness in the Houston area. Houston is the fourth-largest city in the United States and the largest city in the state of Texas. As of the 2009 U.S. Census estimate, the city had a population of 2.2 million within an area of 600 square miles. Houston is the seat of Harris County and the economic center of the Houston‘Sugar Land‘Baytown metropolitan area‘the sixth-largest metropolitan area in the U.S. with a population of 5.9 million. The key government anchor institutions for this grant application include City of Houston, Harris County, the Metropolitan Transit Authority of Harris County, and Alvarion LTD. Houston's freeway system is monitored by Houston TranStar'a partnership of four government agencies that are responsible for providing transportation and emergency management services to the region. Houston TranStar was the first center in the nation to combine transportation and emergency management centers, and the first to bring four agencies (Texas Department of Transportation, Harris County, Texas, Metropolitan Transit Authority of Harris County, Texas and the City of Houston) together to share their resources. Houston is the seat of the internationally renowned Texas Medical Center, which contains the world's largest concentration of research and healthcare institutions. All 47 member institutions of the Texas Medical Center are non-profit organizations. There are 17 school districts serving the city. The Houston Independent School District (HISD) is the seventh-largest in the United States. HISD has 112 campuses that serve as magnet or vanguard schools'specializing in such disciplines as health professions, visual and performing arts, and the sciences. There are also many charter schools that are run separately from school districts. In addition, some public school districts also have their own charter schools. Houston has more than sixty colleges, universities and other degree-granting institutions with a total enrollment of approximately 360,000 students. There are three community college districts with campuses in Houston. The Houston Community College System serves most of Houston and is the fourth-largest community college system in the United States. The northwestern through northeastern parts of the city are served by various campuses of the Lone Star College System while the southeastern portion of Houston is served by San Jacinto College. The City of Houston is proposing to expand its operational 125-mile fiber optic network into a 300-mile comprehensive community infrastructure network that supports the current requirements for principal anchor institutions as well as provide provide infrastructure in unserved/underserved areas where poverty and low household density does not support market driven infrastructure investment. The City estimates that over 300-thousand residents currently live in these unserved/underserved areas. The City of Houston will leverage CCI fiber optic
network to provide high capacity backhaul to its citywide IEEE 802.16e WiMAX wireless broadband network operating in an FCC licensed 3650 MHz radio spectrum. The WiMAX network is being deployed to provide fixed (up to 20 Mbps) locations services intelligent transportation (2500 signalized intersections and 1500 school zone flashers), fixed network water automated meter reading (500-thousand AMR accounts), public safety (nomadic access for 200 patrol cars and 500 fire and emergency vehicles), public service (i.e., code enforcement, inspections, parking management, etc.), community colleges, and anchor institutions in unserved/underserved communities. Harris County will leverage the CCI fiber optic network to backhaul their proposed Long term Evolution (LTE) mobile broadband network operating in the 700'MHz public-safety radio band. This network will provide 4G mobile broadband services for regional public safety organizations. Harris County will leverage the CCI fiber optic network to backhaul their proposed Long term Evolution (LTE) mobile broadband network operating in the 700'MHz public-safety radio band. This network will provide 4G mobile broadband services for regional public safety organizations. The Metropolitan Transit Authority of Harris County will leverage the CCI fiber optic network as well as the WiMAX network to connect their remote operation facilities. The City of Houston qualifications and experience are exemplified through their partnership in the Transtar consortium. Houston TranStar, a national leader in freeway incident management, uses state-of-the-art technologies to reduce congestion on major roadways. Monitoring traffic incidents with more than 660 regional Closed Circuit Television Cameras (CCTVs), staff at the TranStar center dispatch vehicles to remove debris or hazardous materials, communicate with emergency vehicles about the most direct routes to an accident scene, and send tow trucks to stalled vehicles. Dynamic Message Signs (DMS), deployed from Houston TranStar, inform travelers about expected travel times and traffic issues ahead. Synchronized traffic signals, speed sensors, Highway Advisory Radio, ramp meters and other devices also help keep the region’s traffic moving. The total cost of the project is estimated at $34,835,036 with $9,924,006.24 in matching funds from the City of Houston and $24,911,030 in requested federal funds. We estimate that this project will generate 151 direct jobs, 277 indirect jobs, and 381 induced jobs. These estimates have been calculated using the formulas develop Robert Atkinson, Daniel Castro and Stephen Ezell - published by the The Digital Road to Recovery initiative.