



# OPENCAPe

Creating Regional Broadband Opportunities

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## OpenCape Backgrounder

The OpenCape concept addresses the need for a regional communications system to enhance education, research, and economic development, and provide for a reliable and redundant public safety communications network. The non-profit 501(c)(3) OpenCape Corporation was formed to conduct analysis, develop plans, and engineer solutions. Approximately \$250,000 in seed funding was obtained to support the efforts of a regionally representative Board of Directors that committed a great deal of time and energy toward devising a solution for the region. The OpenCape Corporation is collaborating with regional, state, and federal entities to ensure a comprehensive and coherent solution is delivered that will serve the telecommunications needs of the 321,000 households and 26,000 businesses of its proposed service area for the next 50 years.

### **Need & Vision**

**Economic.** Cape Cod and the Islands need ubiquitous, reliable, redundant, and cost competitive telecommunications infrastructure to support economic diversification in a region that has a currently unsustainable economy. The region seeks to create the necessary underpinning technology infrastructure to support the growth of its innovation sector and its entrepreneurial culture. In addition, the OpenCape network will support expansion of services into the communities of the South Coast where unemployment in Fall River and New Bedford is 15 percent.

Cape Cod and the Islands have seen limited investment in middle mile infrastructure largely because the population density is insufficient to deliver a return on investment consistent with traditional provider models and share holder demands. The proprietary nature and closed access of the limited fiber optics in the region create a further barrier to entry for last mile providers. The result is a lack of competition that in turn results in a lack of availability of broadband in low density areas, inadequate capacity, and a high cost of service for consumers and anchor institutions. The infusion of government capital offsets the greatest barrier to entry for last mile providers regardless of size or technology employed. The OpenCape business plan and partnership model ensures an open access and competitive model will be sustained over time.

**Public safety.** The Cape and Islands region requires the robust and redundant communications network of OpenCape to support public safety in both day to day operations and in crisis. OpenCape will link public safety officials within a wide area network and support a 700Mhz wireless mobility network for vehicles in basic functions such as communicating with Cape Cod Hospital during a patient run from Provincetown. OpenCape will also support much broader community needs for more robust public safety communications during frequent storms and potential hurricanes.

**Anchor Institutions.** The many anchor institutions of the region, such as the world-class research institutes of Woods Hole, regional medical facilities, public colleges, school districts, municipalities, and libraries have participated fully in the definition of need and the development of solutions. Barnstable County has partnered with OpenCape and identified the network's construction as a top priority for meeting goals such as the creation of a regional umbrella service model for towns and school districts in the region. OpenCape's ongoing interactions with executive departments of the state government are also ensuring that the Commonwealth's direct interest in building a statewide network are addressed.

### **Regional Commitment**

The OpenCape concept is widely supported throughout the region and the state. One hundred percent of the towns and school districts on Cape Cod and the Islands have submitted letters of support for the effort. Seed funding was provided by Barnstable County, the John Adams Innovation Institute, the Massachusetts Broadband Institute, Woods Hole Oceanographic Institution, and Cape Cod Community College. The Cape legislative delegation successfully increased the Broadband Bill Incentive Fund to \$40 million within the Massachusetts legislature to create a resource for construction of the network. The federal legislative delegation has provided letters of support, as well as essential liaison with federal agencies.

### ***The OpenCape Network***

The OpenCape proposal consists of a core fiber backbone on Cape Cod with extensions to two major regional network connection centers in Providence and Brockton, numerous fiber optic laterals extending off of the backbone, a high capacity optical transport system, a microwave radio overlay, and a regional collocation center. All of these elements combine to provide a robust, high capacity communications infrastructure. Fiber optic based services will range from traditional bandwidth based offerings to dedicated wavelengths of light to dark fiber leases. The OpenCape collocation center will serve as the focal point of network operations and provide leased collocation space for public and private organizations in the region.



OpenCape will connect over 70 anchor institutions to the network using laterals as part of its initial build-out. Highlights of these include twelve emergency shelters (schools), thirty libraries, five colleges, six academic research facilities, and eighteen town or public safety buildings. The OpenCape path also permits many additional anchor institutions the ability to rapidly obtain service from the network including seven hospitals, two additional higher education institutions, eight additional libraries, ten county, state or federal institutions, five commercial/industrial centers, and potentially over 270 public safety and educational facilities.

The cost of commercial middle mile service will be significantly lower than is currently offered in the region, and in addition, non-profits and government entities will receive a deep discount for all network services.

### ***OpenCape Funding***

The total project cost is \$40 million. OpenCape Corporation’s \$32 million Broadband Technology Opportunities Program” (BTOP) grant was awarded by the National Telecommunications and Information Administration (NTIA) on March 2, 2010 under its authority within the American Recovery and Reinvestment Act (ARRA) of 2009. OpenCape has secured commitments for \$8 million in matching funds from the Massachusetts Broadband Institute (\$5 million), RCN Metro Optical Networks (\$2 million), and Barnstable County (\$1 million).

### ***Sustaining Business Model***

OpenCape Corporation will own the physical assets of the network, share in the success of its licensed private operator, and use its revenues to support further network expansion and application development for the benefit of the region. In July 2009, OpenCape’s research and analysis led it to identify RCN Metro Optical Networks (RCN) as its primary operating partner through a competitive process. RCN has a proven track record in middle mile construction and operation. OpenCape has chosen to combine its regional understanding and mission with a partner’s existing capabilities, drawing on the strengths of an established middle mile operator.

### ***Immediate and Long Term Jobs Impact***

The OpenCape project will create 233 jobs in the equipment, construction and manufacturing sectors and an additional 194 indirect jobs. In addition to these direct and indirect jobs associated with the construction and operation of the network, there is the greater long term impact on the broader economy. OpenCape is an essential element of regional economic diversification planning by Barnstable County and business organizations.