Broadband Public-Private Partnerships:
Delivering Solutions for America’s Communities

NTIA Webinar Series

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March 21, 2018
Participants

Moderator

• Scott Woods, Manager, BroadbandUSA Technical Assistance, NTIA, Department of Commerce

Presenters

• Kara Silbernagel, Management Analyst, Pitkin County, Colorado and Evan Biagi, Vice President of Colorado Operations, Mammoth Networks, Inc.

• James Fortune, Town Administrator, Town of Cranberry Isles, Maine & Mark Ouellette, President, Axiom Technologies

• Dennis Gakunga, Chief Sustainability Officer, Economic Development Department, City of Chula Vista, CA
Helpful Information

Questions

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Presentation

• The presentation along with a transcript and recording will be available on the BroadbandUSA website within 7 days of this webinar under Events/BBUSA Webinar Archives. ([https://www2.ntia.doc.gov/webinars](https://www2.ntia.doc.gov/webinars))

Audio

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Goals and Objectives

Pitkin County Broadband Initiative (PCBI)

▪ Leverage existing infrastructure and partnerships to create an open access middle-mile network that enables high speed internet (Broadband) to homes, businesses, schools, libraries, medical facilities, government offices and other public places throughout Pitkin County & Roaring Fork Watershed

▪ Network must be:
  ▪ Affordable ($70 monthly)
  ▪ Abundant (25 MBPS down / 3 MBPS up or FCC definition)
  ▪ Redundant (Multiple paths in and out of the Roaring Fork Valley)
  ▪ Resilient (Minimum service disruption)
Network Design Overview

- Lease lit fiber to feed the microwave middle-mile
- Use multiple carriers for diversity
- Add fiber aggregation points into middle mile

- Leverage existing mountain top infrastructure
- Deploy a flexible, open-access network that can serve a variety of project models
- Fully-redundant, self-healing 4GB microwave loop for high availability

- Identify relay tower location, types and cost
- Determine ownership and capital risk
- Develop ISP standards (equipment, location on tower, cost for access, etc.)
4-Layer Approach

- **Network Owner**: Pitkin County owns the network infrastructure for the Open Access Network.
- **Network Operator**: Mammoth Networks manages, maintains and provisions the network for Open Access.
- **Network Providers**: Entities provide services to be re-sold on the Open Access Network.
- **Service Providers**: Last Mile Service Providers deliver services to customers utilizing the Open Access Network.
PPP Revenue Share Model

5% of Revenue
Network Owner

45% of Revenue
Network Operator

50% of Revenue
Internet Service Provider

Middle-Mile Infrastructure
Middle-Mile Backhaul
Last Mile
End User

PPP Revenue Share Model

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Tactical Plan Stages

- **Analysis**
  - Coverage Maps
  - Household / Population Data Analysis
  - Stakeholder Analysis and Outreach

- **Financial Modeling**
  - Cost Modeling Scenarios / Sustainability
  - Business Case Development / Roles

- **Funding**
  - Evaluating Various Funding Sources
  - Labor and Support Expenses

- **Deployment**
  - Finalize Network Operator Agreement (Summer 2018)
  - Begin Service Deployment (Summer/Fall 2018)
RFV Coverage Analysis
Network Deployment

- **M** = Meet Me Center
- **P** = Primary Tower
- **S** = Secondary Tower
- Microwave Link
- Fiber
- Phase 1 (7/18)
- Phase 2 (11/18)
- Phase 3 (7/19)
- Phase 4 (11/19)
Contacts

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Public-Private Partnership
Town of Cranberry Isles

PRESENTED BY:
JAMES FORTUNE, CRANBERRY ISLES ADMINISTRATOR
&
MARK OUELLETTE, PRESIDENT OF AXIOM
Cranberry Isles Facts

5 Islands off the coast of Bar Harbor, Maine

2 islands year round - commute via ferry

Year round population - Approximately 140

Robust summer population - 600-800

Internet provider was leaving -

Poor service
Town Process

- Broadband Committee formed 2 years to discuss how to deal with inadequate service
- Unfortunate event of removal of equipment from home that was used to accept signal on Islesford
- Sense of urgency of what to do?
- Not a significant amount of interest from providers
Town Goals

- Preserve island way of life
- Attract new families to island
- Help islanders create their own economy
- Keep summer visitors longer
- Internet system built to last - invest in our future
- Telemedicine - Education - Ecommerce - Netflix
The Axiom Process

1. Assess
   Evaluate community needs and determine leveragable assets
2. Define Goals
   Collaborate with leadership and citizens to define needs and goals
3. Plan
   Develop the strategic and tactical plan for community
4. Implement
   Execute rural broadband deployment plan
5. Measure
   Monitor, measure, and manage network
6. Evolve
   Refine based on feedback, monitoring, and community involvement
7. Enhance
   Ongoing commitment to deliver innovative solutions and enhancements
Public-Private Partnership-Axiom’s commitment

- 5-10% of yearly gross revenue to a community directed and controlled Technology Fund
- Committing up to 20% of our labor cost to the project construction
- An evaluation of equipment every three years
- Potential for Community HotSpots, Digital Literacy classes or other resources at Axiom expense
- Identified and supported efforts to secure grant funding
- Hired on-island installer and troubleshooter
Public-Private Partnership—Town’s Commitment

- Committed $1.3M to build system
- Create a Technology Fund for 10 years
- Work closely with Axiom to identify barriers
  - Utility Right of Way
  - Property boundaries
  - Pole and cable placement
- Leverage town assets—Website/town bulletin board to promote service and other announcements
Issues

- Revenue projections
  - Summer resident discounts
- New Poles
- Placement of tower
- Sutton Island
Ingredients for success- Rule #1

Need a champion

A BB Committee
Ingredients for success—Rule #2

Lady Gaga Rule

“I’ve got a 100 million reasons to walk away, I just need one good one to stay”

Good goals will carry you through the negative
Ingredients for Success- Rule #3

Talk about money last
Contacts

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Define “smart”

“A smart city uses information and communication technology to enhance livability, workability and sustainability.”

—Smart Cities Council
Public benefits

- Strengthen public safety
- Grow businesses and add jobs
- Advance environmental sustainability
- Improve government efficiency
- Better engage residents
Strategy need

- Smart Bayfront assessment reports
- Traffic Signal Master Plan
- Telecommunications Master Plan

How do we tie it all together in a unified, intentional way?
Structure of the plan

4 Goals
10 Objectives
39 Initiatives
If you want to go fast, go alone.
If you want to go far, go with others.

African Proverb.
Goal 1: Connected City

- Build a comprehensive municipal network connecting city sensors and facilities
- Ensure universal internet access for all communities
- Integrate smart city philosophy into policy documents
Goal 2: Responsive City

- Foster vibrant community engagement
- Strengthen intergovernmental relations
- Lay the groundwork for economic development opportunities
Goal 3: Transparent City

- Use data and analytics to improve City services and broaden public access to information about City performance
Goal 4: Innovative City

- Position the Bayfront as a model smart neighborhood
- Advance environmental sustainability goals
- Enhance public safety and traffic safety capabilities
Contact:
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Questions and Comments

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**Topic:** Smart States  
April 18, 2018  
2:00 pm EST

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BroadbandUSA is available to help communities with their broadband access and digital inclusion efforts

BBUSA Resources:

- Implementing a Broadband Network Vision: A Toolkit for Local and Tribal Governments
- Community Broadband Roadmap Toolkit
- Guide to Federal Funding of Broadband Projects
- Using Partnerships to Power Smart Cities

For General Information:

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To Request Technical Assistance:

- Submit Intake Form