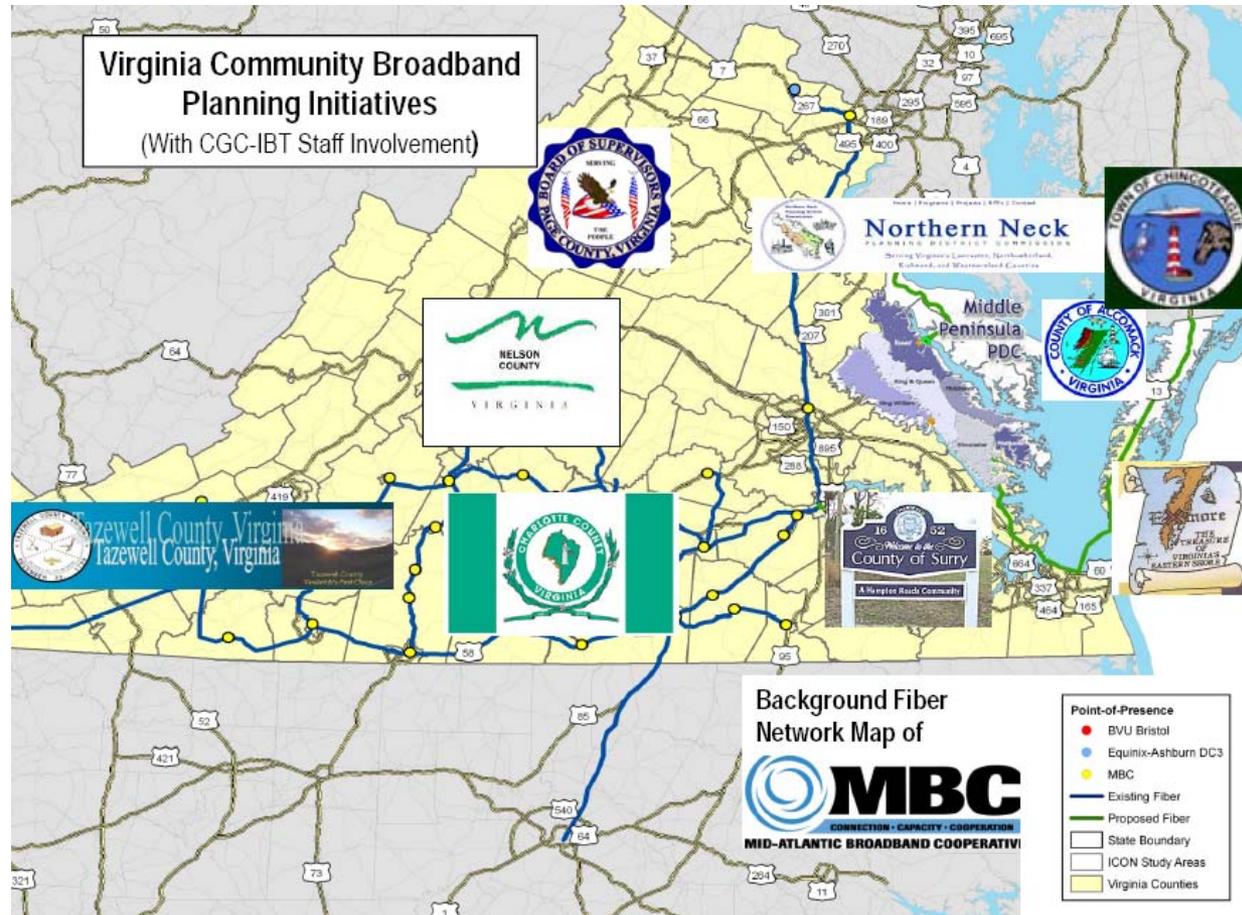**Consulting Gateway Corporation**

ICON BROADBAND TECHNOLOGIES

Virginia Association of Counties Annual Conference

Broadband Deployment in Virginia

Monday – November 9, 2009
Part I: 11:15 AM – 12:20 PM

Presentation by:
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Virginia Community Broadband
Planning Initiatives
(With CGC-IBT Staff Involvement)

Northern Neck

Middle
Peninsula
PDC

NELSON
COUNTY
VIRGINIA

Tazewell County, Virginia

County of Surry
A Hampton Roads Community

Background Fiber
Network Map of

MBC
CONNECTION · CAPACITY · COOPERATION
MID-ATLANTIC BROADBAND COOPERATIVE

Point-of-Presence
● BVU Bristol
● Equinix-Ashburn DC3
● MBC
— Existing Fiber
— Proposed Fiber
▭ State Boundary
▭ ICON Study Areas
▭ Virginia Counties

VDHCD **Community Broadband Projects** Grant Focus

Goal: *Create strong, sustainable communities that can compete in a global marketplace*

Objective: *Provide tools for communities to build, utilize, and capitalize on telecommunications infrastructure to compete with larger urban areas* for

- Economic development growth
- Enhanced educational opportunities
- Improved medical services
- Improved quality of life

Tools and Approach:
- DHCD providing financial assistance for business planning
- Local stakeholder involvement mandatory
- Economic development focus – education, healthcare, businesses and municipal services
- Open Access Network Architecture for collaboration between Public and Private Sectors

Outcome of the Assessment:
Build a business case that:
1. Identifies technology currently available in the area,
2. Measures the demand by residents and businesses for advanced technology, and
3. Provide options to address current gaps and long term requirements.

Outcome of the assessment and strategic planning → a road map that:
- Prioritizes efforts to meet economic development goals and provides tools for the community to implement solutions,
- Brings together all stakeholders to insure achievable solutions are developed that meet the needs of all sectors of the community.

Project Management Approach
"Funnel-Down" Study Approach To Focus on Needs and Solutions

1. Establish Base Map of County Boundaries

2. Overlay Municipal Boundaries

3. Overlay Road Infrastructure (Used for R.O.W and ID)

4. Overlay Urban, Suburban, and Rural Population

5. Overlay Service Provider Areas

6. Overlay Services of Providers, i.e. DSL, Cable

7. Overlay Planned Development Projects

8. Overlay Survey Response Data

9. Identify Gaps in Service Area

10. Locate Populated Areas Not Served

11. Locate Planned Development Projects Not Served

12. Overlay Fiber and Other Communication Infrastructure

Identification of Needs and Potential Solutions

Both Statewide & Community Approaches

- *Existing Data Collection* -Studies, Zoning Maps, Comprehensive Plans, Infrastructure Maps, Economic Development Features, Community Demographics (Population/Housing Densities)
- *New Data Collection* -Hardcopy and On line Surveys, Face-to-Face Interviews, Phone Interviews, Service Providers & Public Meetings
- *Funnel-down Study Approach* - GIS Mapping and Analysis including priorities
- *Solicit Service Providers to Meet Needs*

Community Approach - Finding Solutions

- *In-Field Make Ready Assessment* - Review existing conditions, determine quantities /costs, determine optimal route and planned facilities
- *Preliminary Cost Estimates and Engineering*
- *Research of Applicable Laws* for Organizational Structuring and Role
- *Research* of Funding Opportunities
- *Business Modeling Standards* including Estimated Penetration/Take Rates
- *Implementation Assessment*
- ✓ Select Last Mile & Network Connectivity Solution
- ✓ Determine Extent of Network Architecture Design/ Cost Estimate, Timeline, Agreements, etc.
- ✓ Create and Apply for Funding Plan

Typical GIS Data Collected

- Major Employers
- Health Care Facilities
- Higher Education
- Libraries
- Police and Fire
- Power Generating Stations
- Towers

- Airports
- Schools
- Industrial Parks
- Museums
- Recreation
- Utilities
- Telecom Facilities

- Zoning (Commercial and Industrial)
- Growth Corridors
- 911 Call Centers (PSAPs)
- County Comprehensive Plans
- DOT Maintenance Buildings
- Housing Density
- Population Density

- Downtown Business Districts (Incorporated Areas)
- Enterprise and Opportunity Zones (Tax Incentive Zones/Development Growth Areas)
- Municipal Facilities such as Public Works Garages, Water Tanks, Treatment Plants, etc
- Fiber Optic Networks / Cable TV / DSL / Wireless (Towers and Antennae Structures)
- Survey Responses (Type Connection, Satisfaction, Wireless Interest, Service Provider)

Perform Gap Analysis and Research Education Needs

Analysis Performed

Gap Analysis
- Residential/Business
- Education
- Health Care
- Funding
- E-Gov/ Public Safe

Current & Future Education/Resource Gaps
- Training
- Help Desk Support
- Computer Training
- Libraries

Broadband Education Development Strategies

- Training
- Funding
- Computer Refurbishing/Purchase Programs
- E-Gov / E-Commerce Recommendations
- Help Desk Support
- Broadband Connection Kiosk

Now that a Community Plan is Developed, Determine Next Steps

- **Solicit a Request for Interest (RFI)** from Service Providers for use of an open access network

- **Pursue developing a Master Plan** w/Commonwealth of Virginia and Local Service Providers

- Assuming some level of interest based on the outcome of the RFI, **seek commitment from the communities for funding public portion of the solution** and modify plan as need be to fit the commitment level **(phased-in approach)**

- **Do not commit extensive funding towards further design and construction until service providers are committed** to using an open access network and all business and government obligations are secured

- **Seek the best source of funding** that would not place a financial burden on the communities if final business plan does not become implemented within expected time frames. Have fall back position to mitigate such a potential financial burden such as the ability to sell the network and recover investment costs. **Develop a business plan** difficult to challenge under VA Law pertaining to the permissible role of municipalities in communication networks

- Work with service providers to **develop last mile access models to determine best solutions**

- **Continue to educate local government constituency and officials** of contributing role broadband plays in economic development, educational opportunities and overall improvement of quality of life

- **Continue to investigate/review popular business models** the County would be comfortable with.

- **Keep the momentum moving forward**; once stalled, difficult to get moving again and rekindle support

Decision- To Own or Not To Own

Owning a Network		Not Owning a Network	
Pros	*Cons*	*Pros*	*Cons*
• Governance Control	• Requires Long Term Commitment to an Activity	• Not Responsible for Quality of Services and Need to Generate a Profit	• Reliant on Others Actions
• Asset to Borrow Against	• Inherent Risk w/Start-up Initiative (There are No Guarantees)	• Less Development Pressure (If County Wants No Change)	• Limit on Choice, Price, Services, Competition
• **Economic Development Tool / Helps Remove Cost Barrier to Private Sector**	• May Require Additional Staffing / Equipment / Software, etc. for Operations	• No Need to Rely on Third Party Expertise to Run Network	• May Not Be Able to Compete for Employers w/Other Counties
• Direct Input on Future Innovation / New Services (Player in the Game, Not on the Sidelines)	• Another Infrastructure to Maintain and Support	• No Accusations of Government Competing w/Private Sector / Unfair Subsidized Funding, etc.	• No Consideration for Full or Partial Services From Conveyance or of a Network (No Negotiating Leverage)
• Enhance Government Services	• More Regulatory Oversights Ensuring Compliance w/Law	• **No Capital Investment / No Debt Service Incurred**	• No input on Price Control to the Customer / Constituent

Develop the Network Governance Plan

- A Legally viable governance system for the network to address issues related to system maintenance, operations, upgrades, troubleshooting, usage, and financing.

Would the Network Be Sustainable? Explore Partnerships

(1) **Investigate Service Provider Interest - Issue a Request for Interest (RFI);**
(2) **Develop a Financial Model for Operations**

RFI to private providers, regional fiber owners, long haul network carriers, and wireless firms exploring partnership opportunities with the County to deploy high bandwidth services. Provide results of the needs assessment, demographic profile, locations and number of potential subscribers, and planning information to determine the business case for deployment.

- Share the study findings with current and prospective providers , County stakeholders

- Goal of encouraging collaboration in planning for the County's communication future

- Demonstrate the business case for private provider deployment of broadband services

- Invite interested providers to enter into discussions on how the interests of County citizens can be served while meeting satisfactory return on investments

- Consider all business models, partnering arrangements, service delivery methods

- Explore interest in partnering with any other entity which might need access to fiber optic connectivity such a AMR, remote metering control, substation connectivity, etc.

Create a Funding Plan – Common Funding Opportunities

A. Community Development Block Grant funds
B. DHCD Local Innovation Grant ($200,000 Job Creation, LMI Benefit) Greater than 51% LMI Households Benefit) Non-competitive grant applications are accepted as long as funding is available. Funding from the Local Innovation Program can again be sought for additional phases so long as the objectives are met.
C. RUS→ "Community Connect" Grants; Broadband Loans; Distance Learning and Telemedicine Programs
D. Public-Private Partnerships

E. President Barack Obama 's "Economic Stimulus Program" – **THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009** - **$7.2 Billion towards Broadband**

- Grants awarded on a competitive basis

- $4.7Billion-NTIA (U.S. National Telecommunications & Information Administration);$2.5 Billion RUS

- NOFA (General)-July 1, 2009; NOFA (Mapping)-Released July 6, 2009;

- Grant Guidance Workshops-Summer 2009; Submit 1st Round Applications: July – Aug. 14, 2009 + 1 Week (**Original Notice**→ 2nd Round NOFA Commence End of 2009 and 3rd Round NOFA Spring 2010) **Currently believed only a total of 2 Rounds of Funding will be offered**

- (**Original Notice** →1st Grant Awards-Nov. 7, 2009) **Currently start Mid-December Announcements w/rolling basis**

- Completion of Grant Awards Sept. 10, 2010; Broadband Map Posted to Website Feb. 17, 2011 Substantial Completion of Grant Projects Sep. 30, 2012; Final Program Audits/Shut-down Sep. 30, 2014

- Grants will be awarded at 80 percent of project costs with a local share of 20 percent required local share. The local match can include other grant funding that is not from a Federal source

The American Recovery and Reinvestment Act of 2009

ARRA Application Review and Scoring Measures:

Job Creation	**High Speed Access to "Strategic Institutions"**	**Meets Definition of "Open Access"**
Expand Broadband Access (Meets expectation of reaching unserved or underserved areas. Identifies areas where service will be made available or improved and number homes and businesses passed by network)	**Encourage Broadband Demand** (Public Education, Aggregation-Regional Projects)	**Meets Definition of "Shovel Ready"**
Stimulate Private Sector Investments (Public-Private Partnerships)	**Meets Definition of "Broadband"**	**Would not be Otherwise Funded**

BIP or BTOP ?

➤ RUS will only give a maximum of 50% in grants <u>unless</u> your proposed service area is at least 50 miles from the nearest urban area containing 20,000 or more in population.

• Most of our clients cannot meet this remote definition even though they may be totally unserved by broadband providers. Unless you are interested in applying for a loan or loan/grant combination, you will want your application to be rejected by RUS so it will go to NTIA for BTOP grant consideration.

➤ For BTOP, remember that you will need a minimum of 20% in matching funds. (You must answer all of the BTOP questions in the application)

Application Approach and Extent

The BTOP Grant Guidelines provides the most helpful information with examples of what they are looking for. If you don't have this document you can download it here: http://www.broadbandusa.gov/info_lib.htm under Application Guidelines.

Generally, your approach to the applications should include the following **checklist** using your Community Planning Study Report and Local Government Documents:

A. **General Application Information** including Rural Area Determination
B. **Eligibility Factors**
C. **Executive Summary** (Last Mile, Middle Mile or both)
D. Proposed **Funding Summary including proposed service area maps**
E. Proposed **Service Offerings** for Last Mile and/or Middle Mile
F. **Technology Strategy** (Design and Diagrams)
G. Project Milestones and **Completion Factors** (Including Organization Chart)
H. **Project Budget** and Sustainability (Including Capital Budget Funding Source Breakdown, Subscriber Estimates, Pro Forma Forecasts, Revenue /Expense Projections, Balance Sheets, Cash Flows, Financial Narrative, Commitment of Capital Funding)
I.   **Secondary Self Scoring** once application is significantly complete (RUS only)
J.   **Attachments** for Specific Items (Proposed Service Providers and Broadband Service Offerings-Last Mile and/or Middle Mile Offerings, Distance Band or P-T-P, Min. Peak Load Network Bandwidth Capacity, Monthly Pricing, and Competitor Service information, Project Plan with Key Phases and Milestones, Build Out Timeline, Project Costs, Subscriber Schedule and Rates, Income Statements, Cash Flows, and Legal Opinion)
K.   **Certifications** and Other Federal Form Requirements (Equal Opportunity and Nondiscrimination, Architectural Barriers, Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970, Certification Regarding Debarment, Suspension, and Other Responsibility Matters-Primary Covered Transactions, Certification Regarding Lobbying for Contracts, Grants, Loans and Cooperative Agreements)
L.   **Schedules** (Congressional Districts)
M.   **Step Two Description for BIP and BTOP Infrastructure Applications** (Information in Step Two not required to be submitted in Step One; Highest scoring applications from Step One will be notified and invited to participate in Step Two)

> Remember you must answer all of the BTOP questions in the application to be considered for NTIA funding .

Recovery Act Broadband Technology Opportunities Program (BTOP)

Broadband Infrastructure Eligible Expenses
- Network and access eequipment (switching, routing, or transport)
- Outside Plant (cables, conduits, ducts, poles, tower, or repeaters)
- Buildings and land (new construction, improvements, renovations, or lease)
- Customer Premise Equipment (modems, routers, etc.)
- Billing and operational support systems (IT systems or software)
- Operating equipment (vehicles, office equipment, etc.)
- Professional services (engineering, design, project management, or consulting)
- Testing (network elements, IT system elements, user devices, test generators, lab furnishings, servers/computers)
- Site preparation

Broadband Infrastructure Ineligible Expenses
- Operating expenses of the project, including fixed and recurring costs of a project [applicable to broadband infrastructure projects funded by BTOP and BIP]
- Costs incurred prior to the data on which the application is submitted, with the exception of eligible pre-application expenses
- Costs of an acquisition, including the acquisition of the stock of an affiliate, or the purchase or acquisition of any facilities or equipment of an affiliate
- The purchase or lease of any vehicle other than those used primarily in construction or system improvements
- Broadband facilities leased under the terms of an operating lease
- Merger or consolidation of entities
- Costs incurred in acquiring spectrum as part of an FCC auction or in a secondary market acquisition

Expanding Computer Center Capacity by:

- Acquiring broadband-related equipment, instrumentation, networking capability, hardware and software, and digital networking technology for broadband services
- Developing and providing training, education, support and awareness programs or web based resources
- Facilitating access to broadband services, including, but not limited to, making public computer centers accessible to people with disabilities
- Undertaking such other projects and activities as the Assistant Secretary finds to be consistent with the purposes for which the program is established

Aimed at providing broadband education, awareness, training, access, equipment, and support to community anchor institutions, organizations serving vulnerable populations (e.g., low-income, unemployed, aged)

or

Job creating strategic facilities located in state or federally-designated economic development areas

Additional Eligible Costs:

Job-training programs and job-related instruction, computer training workshops, digital literacy programs and web-based resources, as is reasonable compensation for qualified instructors

Purchase of computer software (such as word processers; computer peripherals, such as nice and printers; and computer maintenance and trouble-shooting programs, such as systems guarding against computer viruses (Applicants must demonstrate the ability to sustain the projects beyond the funding period)

Ineligible Costs:

Expenses or purchases that are not used predominately for expanding public access to broadband service or enhancing broadband capacity at public computer center locations

Sustainable Broadband Adoption

Encourage Sustainable Adoption of Broadband Services by:
- Acquiring broadband-related equipment, hardware and software, and digital network technology for broadband services
- Developing and providing training, education, support and awareness programs or web-based content
- Conducting broadband-related public education, outreach support and awareness campaigns
- Implementing innovative programs to facilitate greater access to broadband service, devices, and equipment
- Undertaking such other projects and activities as the Assistant Secretary finds to be consistent with the purposes for which the program is established

Aimed at providing broadband education, awareness, training, access, equipment, and support to community anchor institutions, organizations serving vulnerable populations (e.g., low-income, unemployed, aged)
or
Job creating strategic facilities located in state or federally-designated economic development areas

Additional Eligible Costs:
Conducting Broadband Awareness Campaigns, computer training workshops digital literacy programs and developing web-based content, as is reasonable compensation for qualified instructors (Applicants must demonstrate how any costs associated with training and/or recurring expenses will be covered after the grant expires)

Ineligible Costs:
Expenses or purchases that are not used predominantly for the provision of broadband education, awareness, training, access, equipment and support

Fiber

E911 Planning

Interoperable Communications

Thank You for Your Time and Attention!

Wireless

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Questions and Open Discussion

Consulting Gateway Corporation
Consulting Turn-key Solutions and Project Management Services
Telecommunications • Private/Open Access Networks • Fiber Optics • Wireless • Security • Cameras • RFID • Emergency-911 Planning • Interoperability • Utility Provisioning Services • Infrastructure Management • SCADA • Strategic Planning • Business Modeling • Marketing/Education Programs • GPS-CAD-GIS Mapping • Public Works and Transportation Engineering • QA-QC Programs • Operations Consulting • Information Technologies (IT) • Funding Applications • Facility-Site Engineering and Development • Mechanical, Plumbing, Electrical • Project and Construction Management • Design, Specifications, Bid Documents