

Broadband Strategies for the LDDs

Communications Plan

Prepared for
The Local Development Districts of
Pennsylvania

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Overview

As is discussed in the Broadband Primer, communities and local governments have been taking on support and maintenance of various kinds of infrastructure for six hundred years. Yet for each kind of infrastructure (e.g. roads, water, sewer, electricity) there was an initial period when the idea was simultaneously foreign and apparently complex—largely because of a lack of knowledge about the characteristics of the particular system.

Sewer systems are more expensive to build and maintain than fiber, and can have disastrous consequences in the case of a rupture on a portion of a pressurized sewer line. The same is true of water systems, which require constant monitoring for water quality, can have serious public health consequences if water quality is not maintained, and can turn streets and yards into sink-holes in a matter of hours in the case of a break in a water line.

Yet despite all these apparent difficulties, communities routinely finance, build, and successfully maintain water and sewer systems. Many communities also provide electric service and even natural gas, both of which are extremely dangerous and life threatening in the case of line breaks or mishandling.

Broadband systems, by comparison, are quite benign. Nothing life-threatening occurs if a cable is cut or damaged. Instead of installing 36” concrete sewer mains in extensive and expensive trenches, pencil thin fiber cables can be easily plowed (direct buried) right in the ground in many cases, or hung on existing utility poles at even less cost, if pole rights and reasonable attachment fees can be obtained.

New advances in telecom duct like microduct and blown fiber have greatly simplified the installation and maintenance of community duct and fiber. Specialized microduct is now available for installation in slots cut quickly and easily in concrete or asphalt paving using standard rotary diamond saws that are usually standard equipment for a public works department.

Here are some facts about community broadband infrastructure:

- Telecom duct and fiber is easy to install and maintain.
- Telecom duct, fiber, and wireless towers are less expensive than many other kinds of existing community infrastructure.
- Community investments in broadband systems can have significant economic development impacts.
- Community broadband systems, using an appropriate business and financial model, can generate revenue for local government.

What is needed to help communities is a regular program of education and training to demystify telecommunications infrastructure.

Education and Communications Challenges

There are challenges to the implementation of a successful broadband education and training program:

- There is a lack of qualified instructors who are familiar with community broadband needs and issues. Most telecom experts have little or no experience with community broadband systems, and often recommend overly complex systems and/or prepare lectures that are overly technical.
- There is a large demand and need for training, leading to a severe mis-match between supply (instructors) and demand (those who have a need to learn more about community broadband systems).
- Many of those most in need of additional information and training are not always convinced of that need, and may be reluctant to make the time to attend a workshop or seminar.
- Culturally, we are a very busy society, and few people are willing to make the time to attend workshops of more than a half day or at most, a full day, even though not all relevant and critical material can be presented in depth in a half day or full day workshop.
- Colleges and universities with professional planning programs still rarely cover telecommunications in any depth, if at all, so even younger planners lack adequate knowledge of the general topic area.
- Given the unfamiliarity of the topic, some repetition is required.

With the needs and challenges outlined above, we can now define the characteristics of a successful broadband communications effort.

- A variety of workshops and seminars are needed, with the material customized for the specific needs of a particular group. For example, the level and type of material presented to elected leaders would be different from that presented to professional planners.
- Given the general lack of appropriate materials, who develops the materials and presents the workshops is critical. An overly technical discussion of arcane network design issues could reinforce the notion that broadband infrastructure is too complex for communities and local governments to manage.
- Workshops and seminars must be relatively short to accommodate busy schedules. Very few people may be able to attend anything longer than a one day workshop.
- Because of the amount of material that must be explained, schedule restrictions, and the need for repetition, courses must be offered over a sufficient period of time to ensure that everyone who needs to attend is able to make at least some workshops, and that there are enough workshops to cover all topics of importance.

Broadband Management Team

The Broadband Management Team concept is a way of focusing individual and community energy around the topic of broadband over a period of time. By creating a management team (or task force, or working group), individuals, businesses, and leaders can work together to reach a consensus on a direction for the community or the region.

Organizing a Broadband Management Team is especially efficient with respect to education and training efforts, because more of the “right” people can be provided with information and learning opportunities with less effort.

The Management Team concept is most often successful when:

- There is public support from elected leaders for the effort.
- At least two elected leaders are part of the team and actually attend meetings.
- There is a limit on the length of time the group will meet (typically six months to one year, but no more than one year).
- The group is given clear direction about what outcomes are expected (e.g. a set of recommendations, a preliminary plan, a funding request, etc.)
- The group is led by a respected local “broadband champion” who understands the importance of the mission and who also has excellent management and delegation skills.

Representation in the group should be as broad as possible, but the group should not be so large that interaction is unwieldy (12 to 20 people is about right). Specific individuals should be invited to be part of the group, not institutions. By this, we mean that if the group wants a representative from the local K12 schools to attend, a particular person in the schools with a known interest in broadband should be invited, rather than just requesting that the school system “send someone.” Typical representatives may be from:

- Public schools
- Higher education institutions
- Workforce development
- Health care
- Small business/entrepreneur
- Local telephone and Internet service providers
- Professional (legal, engineering, accounting)
- Police department and emergency services
- Service sector (banking, insurance)

- Local government, including elected and appointed officials, and especially planners
- Economic development professional
- Industry/manufacturing
- Retail/commercial business

Elected Leaders

Ensure that elected leaders have adequate information about the community and economic development benefits of community broadband to make an informed decision about whether to invest in community broadband and/or participate in a regional effort.

Overview

The support of elected leaders is necessary for success. Elected leaders have many demands on their time, and so any education efforts must deliver information in small, manageable chunks over a period of time. Few elected leaders will make a commitment after a single talk or presentation, so there must be a steady flow of information and learning opportunities.

Key Concepts

- Community broadband is less expensive and less complex than other types of infrastructure routinely provided by communities.
- Community broadband offers substantial opportunities for local governments to save money on existing telecom purchases, especially for K12 schools.
- Community broadband can spur economic growth and make a town or region more competitive and more attractive to entrepreneurs and relocating businesses.
- Community broadband investments have the potential to create new sources of revenue for local government.
- Community broadband will be managed like roads, with private sector businesses selling services, NOT the government.

Activities

- Short presentations (e.g. 30 to 40 minutes) at town and county council work sessions (not public sessions).
- Half day invitation only workshops (only elected leaders) that focus on business and management issues and revenue potential.

Resources

- One page handouts on key topics; no more than one topic or subject per page.
- Financial modeling exercises to help understand costs and revenue potential.
- Information on funding alternatives.
- Case studies that demonstrate positive community impacts, especially on economic development and/or cost savings to local government.

Appointed Officials and Public Works

Ensure that key appointed officials in local government have the information and knowledge about community broadband infrastructure to make informed decisions and/or to guide local implementation efforts.

Overview

Local appointed leaders (e.g. town and county managers, department heads) play a key role in developing funding for local infrastructure efforts. They also have the primary responsibility to oversee such projects once they have been approved for implementation.

These officials need assistance understanding the “big picture” issues (e.g. economic development, business attraction, jobs, quality of life) that can be positively affected by community investments in broadband. They also need more specific information about the appropriate kinds of community level infrastructure investments, when and how to make them, and how to select appropriate vendors and consultants.

Key Concepts

- Community broadband investments can enhance a community’s ability to attract and retain businesses.
- Broadband infrastructure is less expensive and less complex than many other kinds of community infrastructure like water and sewer.
- Maintenance of more complex system electronics is typically outsourced to qualified private sector firms, so new, specialized staff are usually not required.
- Public works departments can successfully install and manage broadband infrastructure.

Activities

- Half day introduction to community broadband infrastructure.
- One day “field day” that offers hands on vendor demonstrations of key systems and products, and/or in the field live installations of items like duct or wireless towers.

Resources

- Handbook that explains the basics of broadband infrastructure (e.g. the *Broadband Primer*).
- Vendor handouts and technical spec sheets for key kinds of materials and products.
- One page overviews of key kinds of investments (e.g. duct, fiber, pedestals, neighborhood cabinets, wireless sites).
- Product samples.

Planners

Ensure that planners working for local governments and regional agencies have the requisite skills and knowledge to plan appropriately for community investments in broadband infrastructure.

Overview

Even today, few college and university level academic programs in planning provide any comprehensive courses on telecommunications infrastructure. Even recent graduates of planning programs, despite a higher comfort level with technology generally, often need help understanding how and when to incorporate telecommunications infrastructure into other community projects. Local governments need particular help understanding how to better manage and preserve public right of way as more telecom cable is deployed by public and private entities.

Many telecom and broadband investments can be added at low incremental cost to other kinds of community development efforts (e.g. downtown revitalization projects; water, sewer, and road projects; building rehab efforts, etc.), but the necessary planning and funding has to take place at the right time in the overall project effort. Well-informed planners can accelerate a community's competitiveness and save the community money when making those investments.

Key Concepts

- Local governments have a key role to play in the oversight of both both public and private broadband infrastructure deployment, especially right of way management.
- Broadband can often be included at low incremental cost as part of other community and economic development projects.
- Many changes can be put in place through small and large policy and/or ordinance adjustments that require little or no direct funding.

Activities

- One workshop on community broadband infrastructure, with particular attention to public policy issues.
- One day “field day” that offers hands on vendor demonstrations of key systems and products, and/or in the field live installations of items like duct or wireless towers.
- Off site two day broadband infrastructure workshop that includes some hands on planning exercises.

Resources

- Handbook that explains the basics of broadband infrastructure (e.g. the *Broadband Primer*), and one page overviews of typical community investments (e.g. duct, fiber, pedestals, neighborhood cabinets, wireless sites)..
- Case studies and broadband plans from other localities.

Economic Developers

Ensure that economic developers understand the economic development and business attraction potential of strategic investments in broadband infrastructure.

Overview

Businesses and entrepreneurs seeking to relocate are increasingly basing their decisions in part or in whole on two key factors: availability of affordable broadband services and community quality of life. Businesses most likely to create new jobs and to grow quickly are small entrepreneurial ventures that are often less interested in traditional economic development infrastructure like water, sewer, and large tracts of undeveloped land.

A balanced economic development strategy for the Knowledge Economy includes prudent and regular public and private investments in broadband infrastructure. Economic developers should be well versed in key aspects of broadband infrastructure and services, and should be incorporating broadband investments into all economic development projects.

Key Concepts

- Affordable broadband is now a basic business necessity, and access to large amounts of bandwidth at competitive prices is essential.
- Redundant cable paths in and out of a region are frequently a short list requirement of relocating businesses.
- Every business and industrial park should have a full fiber and colocation infrastructure in place, which will enhance property values and improve occupancy rates.

Activities

- Half day workshop on infrastructure for business and industrial parks.
- Half day workshop on broadband infrastructure needs of businesses.
- Site visits to business parks that have already made appropriate investments in broadband infrastructure.
- Site visits to communities that have made community-wide broadband investments.

Resources

- One page handouts on broadband infrastructure for business parks, on cable path redundancy, and on entrepreneurial attraction and retention.
- White paper on broadband investments from an economic development perspective.
- Case studies of increased business and jobs growth that have resulted from strategic broadband investments.

Community Leaders and Business People

Ensure that key groups of people and leaders in the community understand the social, civic, and economic development benefits of community broadband investments.

Overview

Community support is essential to a successful broadband effort. Community leaders, business people, nonprofit civic groups, youth groups, sports groups, and other interest groups in the community need to know why local government may be investing, and what the benefits area.

Service providers—that is, those businesses that are already offering broadband and Internet-related services in the community, require special attention, as their firms can and should be the first ones to offer services on the new community digital roadway.

Key Concepts

- Community quality of life can be enhanced through prudent investments in shared broadband infrastructure.
- Opportunities for youth and families in socioeconomic stress can be improved through access to affordable broadband services.
- Affordable residential broadband expands work from home opportunities for mothers, the disabled, and other family situations.
- Affordable residential broadband can provide new and less expensive ways to provide high quality health care and can extend independent living.
- Local and regional businesses and service providers can expand their businesses and tap new markets because of appropriate community broadband investments.

Activities

- Short courses and seminars (2-3 hours) on the community benefits of broadband.
- Quarterly meetings with service providers to discuss their business needs and to help them understand how community-managed infrastructure can expand their business opportunities.

Resources

- One page handouts on community benefits of broadband, including K12 education, local government tax savings, reduced costs of phone and TV services for those on fixed incomes, and the potential for small business expansion.

Suggested Timeline

Realistically, a regional broadband education effort will require a minimum of a year of regular effort, and some communities may need the opportunity to participate in regular workshops and seminars over two years.

Specific broadband implementation projects do not have to wait until the entire training effort is complete, and in fact, early adopter communities and projects can be valuable case studies and/or provide hands on opportunities for training.

Most people will not have the time to attend more than one or two sessions per quarter, so an LDD might try to schedule a half day or full day workshop once a month so that over the course of a year, members of all five groups (elected leaders, appointed officials, planners, business people, economic developers) have an opportunity to attend a minimum of two workshops of one kind or another.

Recommendations

- Hire a qualified firm or individual (i.e. documented experience with the design and implementation of community broadband systems and excellent communications skills) to develop a complete set of training and education materials that can be used by all the LDDs, to avoid duplication of effort and/or “reinventing the wheel.”
- In each LDD region, plan at least one or two major “events” that bring in a qualified outside expert on some particular community broadband topic. This usually increases attendance, and can obtain favorable press coverage for the LDD and for the effort.
- Focus most workshops and training on localities and regions that assemble a Broadband Management Team.
- Adjacent LDDs may find it useful to coordinate efforts for things like vendor field days and outside speakers.
- Provide a statewide Web site with a variety of broadband information relevant to communities that is updated regularly and is vetted by one or more qualified individuals who understand the long range goals of the LDDs with respect to broadband.