



The John C. Stennis
Institute of Government

**BRINGING BROADBAND TO RURAL MISSISSIPPI APPALACHIA:
An Examination of Current Environment, Issues and Alternatives**

"I think that the opportunity for the growth of individuals and for our society by increasing that connectiveness through broadband is critical, so I think that is our No. 1 priority."

- FCC Chairman Kevin Martin, May 31, 2005

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EXECUTIVE SUMMARY

The stated public policy of the United States and the State of Mississippi is to bring high-speed (Broadband) Internet access to all citizens of America and all citizens of Mississippi.

On August 13, 2002 at the Waco Economic Forum, President Bush stated:

In order to make sure the economy grows, we must bring the promise of broadband technology to millions of Americans. My Administration is promoting investment in broadband. We will continue to work to prevent new access taxes on broadband technology. If you want something to be used more, you don't tax it. And broadband technology is going to be incredibly important for us to stay on the cutting edge of innovation here in America. The Federal Communications Commission is focusing on policies to encourage high-speed Internet service for every home and every business in America. The private sector will deploy broadband. But government at all levels should remove hurdles that slow the pace of deployment.

President George W. Bush, August 13, 2002
Waco Economic Forum

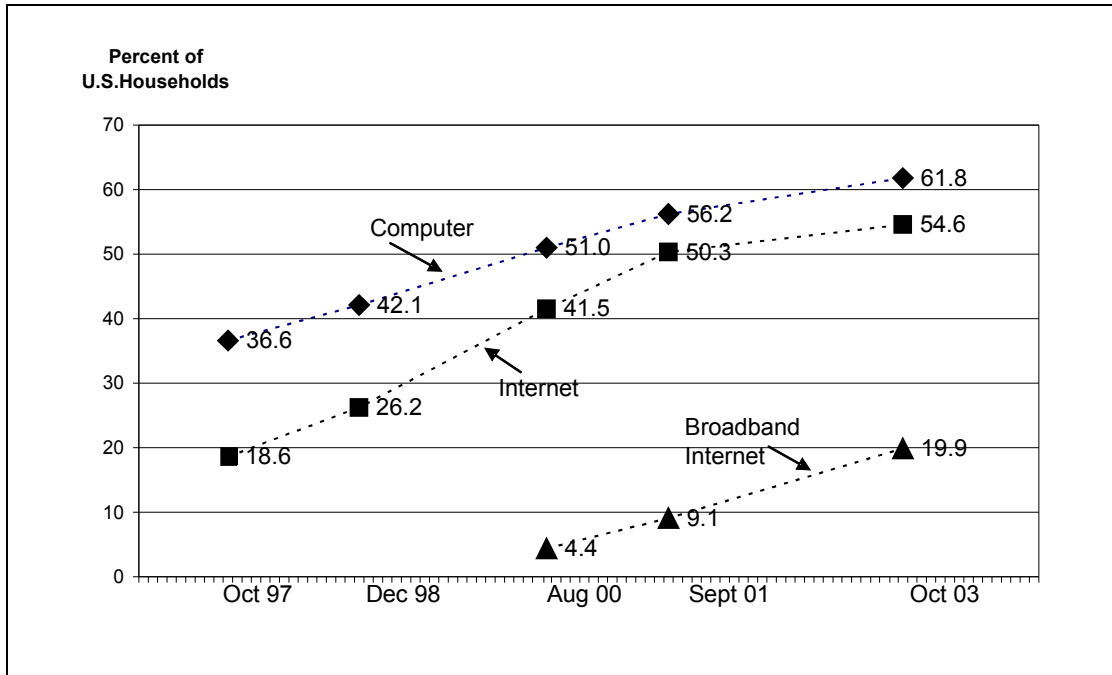
On July 1, 2003, the Mississippi Broadband Technology Act went into effect. The first paragraph states:

(1) The Legislature finds that the long-standing telecommunications policy of this state has been to ensure that all citizens have access to telephone service. The increasing reliance upon access to computer information services for jobs, housing and other necessities requires that this concept be broadened to include high-speed access to the Internet as well.

Section 57-87-3(1), Mississippi Code of 1972, as amended

These policies reflect the growing use of the Internet in our society.

Figure 1: Percent of Households with Computers and Internet Connections, Selected Years, 1997-2003*



Source: *A Nation Online, Entering the Broadband Age*, September 2004, U.S. DEPARTMENT OF COMMERCE, Economics and Statistics Administration, National Telecommunications and Information Administration

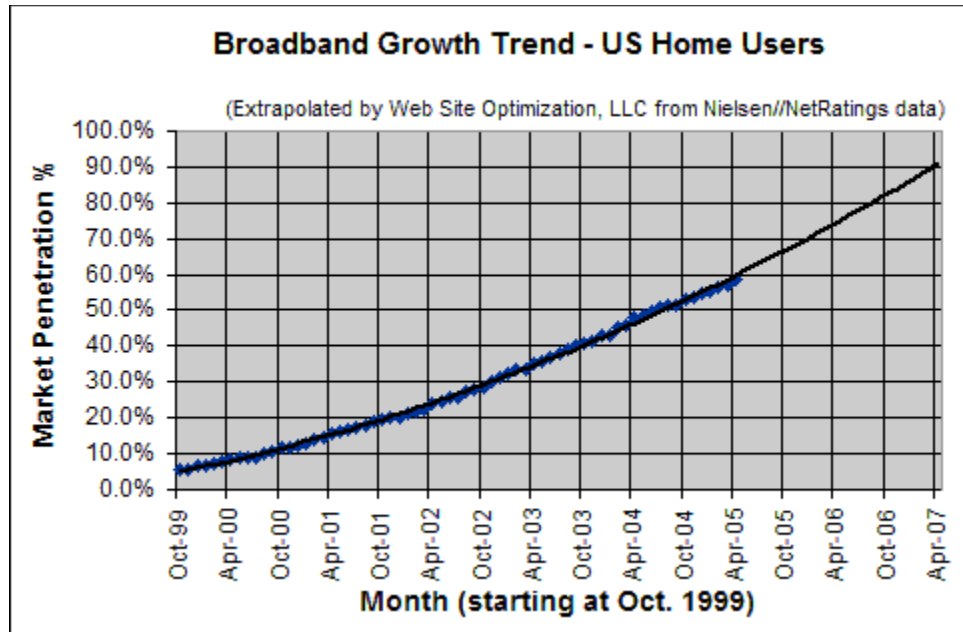


Figure 2: Broadband Connection Speed Trend - Home Users (US)
Extrapolated from Nielsen/NetRatings data

According to the Arthur D. Little Global Broadband Report, Update 2005, the Broadband market has seen an annual growth rate exceeding 40% from 2002 to 2004. It predicts that the near future will see some significant changes, the continuous decline in Broadband access prices, fierce competition between infrastructure providers, evolving applications and new content offerings, all of which will drive Broadband penetration and dramatically change the industry landscape.

Unfortunately the United States is slipping behind the rest of the world in penetration of Broadband to users. Also, the United States dropped from 1st to 5th place in the ranking of economies exploiting information and technology during the past five years, according to The World Economic Forum's Global Information Technology Report, which noted that the United States did not lose rank because of a drop in performance, but because of a rise in other countries.

The above policies have resulted in actions.

The federal government, especially the Rural Utility Service and other sections of the U.S. Department of Agriculture are actively making loans and grants to rural communities that desire Broadband Internet service. The Federal Communications Commission is actively involved in several initiatives to bring wireless and satellite service to rural America. Several states have created specific initiatives to employ

broadband throughout their states. Dozens of local communities have found ways to bring broadband to their areas.

Mississippi lags behind the rest of the United States.

Many communities in Mississippi have high-speed Internet access nearby. It may be at the local library, the community college or the nearest school. Although 99 percent of public schools have Internet access and over 90 percent have high-speed Internet access, 47.7 percent of the students who attend those schools go home to a residence without Internet access, according to a Mississippi Department of Education survey.

According to the Pew Internet and American Life Survey, the South lags far behind the rest of country in Internet use, with only 48 percent Internet penetration while the New England region had 66 percent penetration. Mississippi is ranked as the lowest state for Internet penetration at 41.9 percent in 2002, according to the U.S. Census Bureau. It is also ranked as having the 3rd highest poverty rate. There is a strong relationship between lack of broadband and the income and population density of a state.

Nevertheless, the pace is accelerating. Infrastructure investments by BellSouth, cable companies and government organizations are resulting in an environment in which broadband access will widely available soon. State government contracts have had an impact on the deployment of telecommunications technology throughout our state. Mississippi has done a good job of aggregating the telecommunications needs of public entities and bundling them in large volume contracts that drive deployment of private infrastructure. This infrastructure in turn is available to business, industry, and citizens. The recent availability of newer telecom services was primarily driven by the aggregate demand, and statewide presence of government agencies and educational entities.

The New Digital Divide

The above statistics can be explained by examining the so-called digital divide. Previously, the term was used to explain differences in Internet use by minority versus majority populations. However, the Annenberg School Center for the Digital Future noted in a recent report that the fastest-growing Internet user populations are groups that were once considered the primary victims of the digital divide: Latinos, African Americans, and older Americans. The new digital divide is between those who have broadband and those who use traditional telephone modem access. The real issue for Mississippi might relate as much to affordability as to its rural characteristic. Thus, affordability becomes a major issue and communities seek to provide Broadband at *affordable* rates.

How to Provide Broadband

Current technology is such that Broadband can be delivered by direct satellite connection, wirelessly, cable, fiber, telephone line or over an electricity line. The technology is changing rapidly. There is no one preferred way to deliver Broadband. Each case is

different depending on the situation. Satellite might be the most feasible solution in a remote area even though it may be more expensive than cable service in a populated area. When it is not economically feasible for the private market to provide Broadband it may be appropriate for the provider to be a local unit of government or nonprofit organization. The task force found several examples where different methods and business models were used to bring affordable Broadband service to citizens – it being noted that in all of the examples some form of government assistance was provided, usually in the form of infrastructure development.

Case 1 - MEGAPOP, or Mississippi Economic Growth Alliance and Point of Presence, is a nonprofit organization formed to bring affordable Broadband to its region through installation of fiber optic cable. It is an alliance that includes businesses, economic developers, educational institutions, foundations and others.

Case 2 – Air2Lan, a for-profit company, was provided partial funding and a partnership arrangement with the Enterprise Corporation of the Delta to bring wireless Broadband to communities in the Mississippi and Louisiana Delta.

Case 3 – The City of Benoit received USDA funding for a project that will bring a wireless broadband system to the Mississippi Delta agricultural community of Benoit, which has a population of 611. The project will utilize the city's already existing water tower as the location for base station antennas. The broadband control center will be located in the municipal offices in downtown Benoit and the town will deploy residential and commercial antenna units at the various locations as needed by subscribers. The project will connect the Ray Brooks School (K-12), the Benoit Public Library, as well as the police and fire departments. The community center will be established on the school campus and offer all community residents broadband access, including continuing adult education, such as professional certifications and GED classes via Mississippi Virtual GED.

Case 4 – IBEC, or International Broadband Electrical Communications, Inc., is a full service Internet Service Provider. It concentrates on Broadband-Over-Powerline (BPL) services, and partners with electric cooperatives to offer dial-up Internet access under the PowerNet™ brand to the service territories covered by Cherokee Electric Cooperative in Cherokee County, Alabama and Cullman Electric Cooperative in Cullman County, Alabama and under the IBEC brand in the area covered by South Central Indiana Rural Electric Membership Cooperative in Martinsville, Indiana. IBEC is currently installing high-speed Broadband-Over-Powerline market pilots in partnership with Central Virginia Electric Cooperative in Nelson County, Virginia and South Central Indiana Rural Electric Membership Cooperative in Martinsville, Indiana.

Case 5 – BellSouth is the predominant, traditional wire-line telecommunications company in Mississippi. The 2003 Broadband Technology Development Act, tax incentives decrease costs of deploying high-speed data equipment, and had immediate impact at BellSouth. The President of the company recently noted that “...BellSouth significantly increased our DSL capital spending in Mississippi from \$3.5 million to

\$10.8 million in 2003." In 2005, another bill passed the state Legislature to ensure broadband services are exempt from regulation from the Public Service Commission. That bill prompted an announcement from BellSouth that it would spend another \$12 million on deployment of DSL services in Mississippi.

As the above cases illustrate, there are various technologies as well as various business models to deliver Broadband Internet access to rural areas.

Recommendations

(1) Mississippi should implement a statewide initiative to encourage all citizens to use technology, especially the Internet, to improve their lives. There should be an effort to communicate to citizens, especially those in rural communities, the benefits of broadband Internet access.

(2) Mississippi should adopt a Broadband strategy and a formal plan. The plan should include and identify existing broadband infrastructure.

(3) There should be an entity at the state level to serve as a coordinating council, resource center, communications arm, etc. for communities, private providers, citizens and local organizations to turn to for information. With proper support, the Mississippi Technology Alliance is an existing organization that may be best to take on this role.

(4) The state should maximize federal funding by providing information, guidance and technical assistance to communities.

(5) The state should encourage the private market to bring broadband Internet access to rural communities.

(6) Mississippi should allow local units of government to provide wholesale services with their own broadband networks, but only as a last resort. The State of Mississippi, like every other state, has limited capital resources and therefore must prioritize its funding to communities in such a way that the most people receive the most benefits possible. A model for evaluating funding requests for local units of government that are desirous of bringing broadband Internet access to their communities is offered. It is based on reviews of other states' funding processes as well what might logically be best for Mississippi. This evaluation model (decision matrix) utilizes six criteria and assigns a weight to each. Evaluators would score each proposal on a 1-5 basis, with 5 being the highest score. Scores would then be multiplied by weight to arrive at a total score for each proposal.

The decision matrix would be as follows:

| CRITERION | WEIGHT | Community A | Community B | Community C |
|--|--------|----------------|----------------|----------------|
| Community Technology Plan | 3 | | | |
| Funding by the Community | 2 | | | |
| Outside Funding | 2 | | | |
| Evaluation/identificati on of Existing Providers | 2 | | | |
| Impact on Community | 3 | | | |
| Affordability to customer | 3 | | | |
| Total Score | | | | |

Scoring: 1 = low 2 = medium 3 = high

(7) Mississippi should encourage more government usage of Broadband, especially at the local level.

(8) Broadband service should be encouraged through the use of a variety of technologies, including wireless, Broadband over power line (BPL), cable/fiber and others.

(9) Mississippi should adopt policies that expedite and standardize rights-of-way permitting while minimizing fees.

Part 1 – The Current Environment

INTRODUCTION

Mellany and Larry Kitchens, co-owners of Kitchens Unique, are two of Mississippi's most talented and successful kitchen designers. In 2002, Mississippi Magazine's "Sensational Spaces" edition recognized their ability when it named one of their creations as "Best Kitchen." One of the keys to their success is a website filled with graphic images of their work. Fortunately, when they are at the office in downtown Madison, Mississippi they can send and receive graphics-loaded email to customers with ease. Unfortunately, when they are at home just a few miles outside the city limits and want to send a customer a graphics-laden proposal from their home computer they face the agonizing wait afforded by dial-up Internet service. They tried satellite service, but it was high-speed in only one direction and it was expensive. They say that they can hardly wait for broadband Internet service to their home.

Travis and Nelda Rushing live in rural Copiah County. Nelda is what one would consider a micro-enterprise. Using a computerized sewing machine, she can embroider a company logo on a golf shirt or create unique quilts that sell for hundreds of dollars. Being in a rural area is tough for any small business, but the arrival of the Internet has helped minimize that disadvantage because she can communicate by email with customers worldwide. Unfortunately, she too must wait when communicating with customers who send digital photos and other graphics via email. She checked with her local Internet Service Provider (ISP) and found that broadband was not available, but was "coming soon." She hopes that broadband is available soon, and that the price goes down soon after that. Her ISP informed her that the cost for broadband would be as follows:

| | |
|-----------------------|---------------------|
| 256K x 128K DSL Price | \$35.00 (Flat Rate) |
| 1.5M x 256K DSL Price | \$60.00 (Flat Rate) |
| 3M x 384K DSL Price | \$70.00 (Flat Rate) |

The Kitchens and the Rushings are two examples of residents who live in areas of Mississippi where broadband Internet service is not available, except by expensive satellite service. The Kitchens' residence is considered suburban; the Rushing residence is definitely rural. Both families are eager for high-speed Internet to arrive because they know that it will help their businesses. They are not typical of Mississippi residents however because they live in a household that is connected to the Internet. Most Mississippians live in a house that is not connected to the Internet. This is by choice

because connectivity is possible if one has a telephone line or a satellite connection and a computer with the appropriate equipment.

Just as electricity, roads, water/sewer, the telephone and other public utilities have come to be regarded as essential infrastructure for communities, broadband (high-speed) Internet service is now regarded as such by most economic developers. In August 2003, FCC Commissioner Michael Copps said, "The reason is clear: Without broadband Internet access a community is left out of the running when it comes to recruiting new industry that requires broadband Internet access, and it places a strain on local entrepreneurs who need to use broadband to expand their businesses."

Although bringing broadband Internet access does not guarantee a community's economic success as Dickinson County, Virginia discovered after it landed a Travelocity call center in 2001 only to have it outsource the 275 jobs to India three years later. It is clear that the lack of broadband stymies economic development efforts and deprives local citizens access to Internet-related features that other communities take for granted. Broadband service to a rural community allows recording and showing of sports, cultural events, civic activities and school programs that can be recorded, sent and/or viewed at any time. Teleconferencing, medical technology/communications and numerous other services are available when broadband is present.

The purpose of this paper is to examine the state of broadband Internet access in rural Mississippi, to survey the existing infrastructure, to examine the issues related to affordable access to broadband Internet service in rural Mississippi and to provide a resource to policymakers as they make decisions regarding implementation of broadband Internet access to rural areas of the state.

Due to rapid changes in technology, law, regulations, and numerous other facets of this subject, some parts of this paper will most likely be out of date in a short time. On the other hand, many other parts of the discussion herein will remain relevant for a much longer time. Therefore, users should use this report accordingly. The effect of high-speed Internet access on communities is still under study.

As the reader will discover, the real issue is not access to broadband service. Indeed, every household has access to broadband Internet access as long as there are available funds to invest in the proper equipment and pay a monthly fee to a provider that uses satellite technology. The issue is access to AFFORDABLE broadband service. And what constitutes "affordable?"

The Federal Communications Commission defined the term as it relates to universal telephone service when it said, "...the definition of affordability contains both an absolute component ("to have enough or the means for"), which takes into account an individual's means to subscribe to universal service, and a relative component ("to bear the cost of without serious detriment"), which takes into account whether consumers are spending a disproportionate amount of their income on telephone service." In that matter

(Case 97-157) the FCC determined that there is no national standard for “affordability” per se because it is based on local factors.

Although affordability varies depending on local market conditions, our study found that it is reasonable to conclude that in Mississippi in May 2005 broadband service under \$35 per month for residential service is considered affordable.

The work represented in this report is the result of the task force and research conducted by the John C. Stennis Institute at Mississippi State University. Numerous interviews were conducted with economic developers, government officials, industry representatives, providers of broadband services and others. Also, dozens of research reports, white papers, newspaper/magazine articles and academic research were surveyed and reviewed.

The task force met a total of five times. An organizational meeting was held on October 19, 2004 to discuss the issues and the process that would be involved. Two public meetings were held, one in Tupelo, Mississippi on January 25, 2005 and one in Jackson, Mississippi on April 12, 2005. Following the Jackson meeting, representatives of the task force met to further define the issues and the structure of the final report.

THE TECHNOLOGY – WHAT IS BROADBAND?

According to the Federal Communications Commission, the term “broadband” refers most commonly to a new generation of **high-speed transmission services**, which allows users to access the Internet and Internet-related services at significantly higher speeds than traditional modems. It is generally defined as digital transmission at speeds greater than 200 Kb/s.

Section 77-3-3(k), Mississippi Code of 1972, as amended, provides the following definition:

The term "broadband services" means any service that consists of or includes a high-speed access capability to transmit at a rate that is not less than two hundred (200) kilobits per second either in the upstream or downstream direction and either:

- (i) Is used to provide access to the Internet, or*
- (ii) Provides computer processing, information storage, information content or protocol conversion, including any service applications or information service provided over such high-speed access service.*

There are several types – or methods of delivery of broadband. The ConnectKentucky initiative uses the following definitions:

- **Digital Subscriber Lines (DSL)** use existing copper telephone wire to deliver data at high rates of speed. Two adapters on either end of the copper wire encode and interpret the signal. Computers need a special DSL modem.
- **Cable modems** allow the Internet to travel over the same coaxial cable lines that carry cable television. In many cases, if cable television access exists, a special cable modem can be used to provide broadband Internet service.
- **Wireless Internet** untethers computers from a physical connection by a distance ranging from 25 feet to many miles. One of the most common wireless technologies, known as Wi-Fi, has distance capabilities from a few hundred feet to several thousand feet. New laptops often have an internal antenna for Wi-Fi. Wireless can provide broadband connections for a single computer in a home, multiple computers in a business, several neighborhoods, or even an entire city. **Satellites** bring broadband Internet connections to areas that otherwise do not have access, even the most rural of areas. Historically, higher costs and lower reliability have prevented the widespread implementation of satellite service, but providers have begun to overcome these obstacles and satellite broadband deployment is increasing.
- **Broadband over Power Lines (BPL)** is an evolving technology whereby radio waves are sent over power lines, generating a broadband connection through the utility power lines to subscribers' homes and businesses. During the last quarter of 2004, the Federal Communications Commission (FCC) issued rules requiring utility companies to establish systems that allow BPL providers to remotely adjust their operations, thereby encouraging the widespread deployment of BPL. This technology is deployed in limited markets, but is still being perfected. Some amateur radio organizations complain that the technology is controversial due to radio interference issues.
- **Fiber** connections transmit Internet traffic using rays of light. Fiber gives users the fastest Internet broadband connection commercially available. A single strand of fiber, which is the thickness of a human hair, will allow data transfers at up to nearly 80 gigabits per second or more than 1 million times faster than dial-up.

Service Types and Bandwidth Profiles

| Type of Service - Residential | Speed | Description |
|-------------------------------|------------|--|
| Dial-up | 56 Kbps | Basic Dial-up modems |
| Satellite | 500Kbps | Usually 150-500 Kbps downstream, 40-60 Kbps upstream |
| DSL (ADSL)) | 1.544 Mbps | 128 Kbps to 1.5 Mbps downstream, 64 Kbps to 1.5 Mbps upstream - technology allows high-speed data communications |

| | | |
|-------------|------------|--|
| | | over existing copper cables while a subscriber can simultaneously use their regular voice capability |
| Cable Modem | 2 Mbps | Usually 200 Kbps to 2 Mbps upstream and downstream |
| SDSL | 2.048 Mbps | 1.544/2.048 Mbps upstream and downstream |

| Type of Service – Business | Speed | Description |
|----------------------------|------------|---|
| Fractional T1/ISDN | 128 Kbps | 128 Kbps to 1.544 Mbps Basic T1 speed with some of the 24/64 Kbps channels turned off |
| Frame Relay | 1.544 Mbps | 56 Kbps to 45 Mbps |
| DSL (ADSL) | 1.544 Mbps | 128 Kbps to 1.5 Mbps downstream, 64 Kbps to 1.5 Mbps upstream |
| T1, DS1 | 1.544 Mbps | Point-to-point dedicated, digital circuit supporting data rates of 1.544 Mbps |

A more detailed discussion of broadband technology and terms can be found in Appendix I of this report, as provided by BellSouth.

Also, there is an emerging wireless technology that will affect rural broadband. According to a recent Intel white paper the so-called last mile is an excellent use of this technology. It is further described as follows:

| Technology | Description |
|------------|--|
| Wi-Fi | Short for wireless fidelity, Wi-Fi technologies include the approved IEEE 802.11 a, b and g specifications, as well as the yet-to-be-ratified 802.11n specification. Wi-Fi is the first high-speed wireless technology to enjoy broad deployment, most notably in hotspots around the world – including homes and offices, and increasingly cafes, hotels, and airports. Wi-Fi is limited by its range: high-speed |

| | |
|-------|--|
| | connectivity is possible only as long as a user remains within range of the wireless access point, which is optimum within 300 feet. |
| WiMAX | <p>Short for Worldwide Interoperability of Wireless Access, WiMAX is an emerging technology that will deliver last mile broadband connectivity in a larger geographic area than Wi-Fi, enabling T1 type service to business customers and cable/DSL-equivalent access to residential users. Providing canopies of coverage anywhere from one to six miles wide (depending on multiple variables), WiMAX will enable greater mobility for high-speed data applications. With such range and high throughput, WiMAX is capable of delivering backhaul for carrier infrastructure, enterprise campuses and Wi-Fi hotspots. WiMAX will be deployed in three phases. Phase one will see WiMAX technology using the IEEE 802.16d specification deployed via outdoor antennas that target known subscribers in a fixed location. Phase two will roll out indoor antennas, broadening the appeal of WiMAX technology to carriers seeking simplified installation at user sites. Phase three will launch the IEEE 802.16e specification, in which WiMAX-Certified* hardware will be available in portable solutions for users who want to roam within a service area, enabling more persistent connectivity akin to Wi-Fi capabilities today.</p> |

Source: Intel Corporation – *Broadband Wireless, the New Era in Communications* (2005)

WHO DELIVERS BROADBAND

Broadband service is delivered to customers via cable, telephone line, wireless transmission or over electrical power lines. Cable Internet service is up to 50 times faster

than a typical dial-up connection. DSL Internet service is up to 50 times faster than a typical dial-up connection. Satellite Internet Service is up to 10 times faster than a typical dial-up modem.

Satellite companies, as the name implies, use satellites orbiting the earth to transmit data to a satellite dish that is connected to a computer. Downloads can be 10 times faster than when using a dial-up modem, however uploads can be significantly lower because the data must travel over a telephone line to be uploaded to the satellite. The advantage of satellite technology is that it can be used in remote areas where DSL and cable are not available. However, it tends to be the most expensive way to get high-speed Internet access.

Many cable companies provide high-speed Internet service through the same cable that is used to provide TV service. Downloads can be 50 times faster than dial-up modems, but may be slower if too many users are connected at the same time. Current examples of high-speed cable in Mississippi include Time-Warner's Roadrunner service in the Jackson, Mississippi area with service to its cable customers for \$44.95 per month with advertised speeds of 5 Mbps downstream, and Comcast Cable in Tupelo with similar service at \$42.95 per month to existing customers and \$57.95 per month to new customers. These rates are typical of cable high-speed rates in communities in Mississippi where cable is available.

Telephone companies typically offer DSL service over telephone wires. Download speeds are up to 50 times faster than dial-up modem connections. The subscriber can still talk on the telephone even though the signal comes through the wire.

Internet Services Providers using telephone lines are another provider of broadband service.

Wireless companies also market directly to consumers in rural communities where the infrastructure has been established.

Electricity cooperatives using broadband over power line (BPL) are in the beginning stage of offered the service.

To illustrate the types of high-speed service available to a medium-sized city and a rural area in Mississippi, the MSN High Speed Marketplace web site (https://broadband.msn.com/v_internet/index.asp) was accessed. At this web site, consumers can enter their address and be provided with the name of a sponsored high-speed Internet provider and current prices. Although the web site does not provide a list of all providers in the area it does provide an indication of price ranges in the area.

We entered an address of 300 West Main Street, Tupelo, Mississippi and were provided with the following information:

| Provider | Plan Details | Promo | Access Method | Download Speed | Service Fee |
|----------|---|---|---------------|----------------|---------------|
| Comcast | Comcast High-Speed Internet - Cable Customer | \$19.99 for 6 Months | Cable | 4Mb | \$42.95/month |
| Comcast | Comcast High-Speed Internet - Non-Cable Customer | 4mb Upgrade | Cable | 4Mb | \$57.95 month |
| DIRECWAY | "Home" Plan - Upfront Purchase | GET A \$100 MAIL-IN REBATE WHEN YOU BUY DIRECWAY! | Satellite | Up to 500K | \$59.99 |
| DIRECWAY | "Home" Plan - Upfront Purchase with Extended Warranty | GET A \$100 MAIL-IN REBATE WHEN YOU BUY DIRECWAY! | Satellite | Up to 500K | \$59.99 |
| DIRECWAY | "Home" Plan with Easy Monthly Payments | GET A \$100 MAIL-IN REBATE WHEN YOU BUY DIRECWAY! | Satellite | Up to 500K | \$99.99 |

Next, we entered the address of 1162 Millsaps Road, Crystal Springs, Mississippi 39059 and were provided with the following:

| | | | | | |
|----------|--|---|-----------|------------|---------|
| DIRECWAY | "Home" Plan - Upfront Purchase | GET A \$100 MAIL-IN REBATE WHEN YOU BUY DIRECWAY! | Satellite | Up to 500K | \$59.99 |
|----------|--|---|-----------|------------|---------|

| | | | | | |
|----------|---|---|-----------|------------|---------|
| DIRECWAY | "Home" Plan - Upfront Purchase with Extended Warranty | GET A \$100 MAIL-IN REBATE WHEN YOU BUY DIRECWAY! | Satellite | Up to 500K | \$59.99 |
| DIRECWAY | "Home" Plan with Easy Monthly Payments | GET A \$100 MAIL-IN REBATE WHEN YOU BUY DIRECWAY! | Satellite | Up to 500K | \$99.99 |

The use dial-up modem is declining as a percentage of users and the use of Broadband is growing dramatically. A Harris Poll survey dated May 12, 2005 asked "What type of Internet connection do you have for your home computer or other primary computer?"

The following table presents the results:

Base: Adults online

| | February/ March 2002 | November/ December 2002 | October/ December 2003 | June/ August 2004 | April 2005 |
|-------------------------------|-------------------------------------|--|---------------------------------------|----------------------------------|-------------------|
| | % | % | % | % | % |
| 14.4k modem | 1 | 2 | 2 | 1 | 2 |
| 28.8k modem | 4 | 5 | 4 | 4 | 3 |
| 33.6k modem | 2 | 2 | 2 | 2 | 1 |
| 56k modem | 39 | 29 | 20 | 23 | 18 |
| ISDN line* | 1 | 1 | 1 | 1 | 1 |
| Cable modem* | 13 | 14 | 21 | 22 | 24 |
| ADSL/DSL* | 7 | 11 | 14 | 19 | 28 |
| T1 or T3 line* | 1 | 1 | 2 | 2 | 1 |
| Other | 4 | 6 | 6 | 4 | 7 |
| Not sure | 27 | 27 | 25 | 21 | 14 |
| Decline to answer | 1 | 2 | 2 | 1 | * |
| TOTAL BROADBAND (NET)* | 22% | 27% | 37% | 44% | 54% |

*Includes ISDN, cable, ADSL/DSL, T1 or T3 lines.

Source: The Harris Poll® Survey # 40, May 12, 2005

CURRENT FEDERAL AND STATE POLICY

The current federal policy regarding broadband had its genesis in December 2001, when the President's Council of Advisors on Science and Technology (PCAST) began an examination of broadband issues, held public hearings and issued a report regarding implementation relating thereto. A key statement in its report is as follows:

This PCAST report will not call for federal intervention in the marketplace. We will not call for federal funding of last-mile infrastructure, although, of course, federally supported R&D will continue to contribute to technical innovations. On the contrary, we look for creative interaction among public and private sector scientists and executives to address the roadblocks with fresh approaches to technological design, public policy, and industry cooperation that have been characteristic of the public advisory committee process.

On August 13, 2002 at the Waco Economic Forum, President Bush stated:

In order to make sure the economy grows, we must bring the promise of broadband technology to millions of Americans. My Administration is promoting investment in broadband. We will continue to work to prevent new access taxes on broadband technology. If you want something to be used more, you don't tax it. And broadband technology is going to be incredibly important for us to stay on the cutting edge of innovation here in America. The Federal Communications Commission is focusing on policies to encourage high-speed Internet service for every home and every business in America. The private sector will deploy broadband. But government at all levels should remove hurdles that slow the pace of deployment.

In March, 2004 the President made several speeches and public statements that this goal would be achieved by 2007. In April 2004 the goal of access to high-speed Internet access for all Americans was included in President Bush's Technology Agenda

Although it appears that there appears are some inconsistencies in dates, such is not really the case. This was a period of intense public and federal discussion of broadband initiatives. Often draft reports were referred to that had not been formally issued.

Around the country, communities are spending millions of dollars, and the federal government is pouring tens of millions into bringing broadband Internet access to every American. Although articles and white papers appear almost daily, it is difficult to actually determine the true extent of broadband coverage. In a statement dated April 19, 2004, FCC Commissioner Michael J. Capps said:

Broadband is the great infrastructure challenge facing this generation. Statistics show we rank 11th in the world in broadband penetration. This is simply unacceptable. We must do better. To develop better broadband policy, we need better broadband data.

The national public policy is therefore very clear and concise. Lest there be any doubt, the FCC has the following statement posted on its web site (www.fcc.gov/broadband):

The FCC's strategic goal for Broadband is to establish regulatory policies that promote competition, innovation, and investment in broadband services and facilities while monitoring progress toward the deployment of broadband services in the United States and abroad.

The current public policy of the State of Mississippi is enumerated in Section 57-87-3 Mississippi Code, as amended, as follows:

SEC. 57-87-3. Legislative findings.

(1) The Legislature finds that the long-standing telecommunications policy of this state has been to ensure that all citizens have access to telephone service. The increasing reliance upon access to computer information services for jobs, housing and other necessities requires that this concept be broadened to include high-speed access to the Internet as well.

(2) The Legislature further finds that the ability of the citizens in all parts of this state to access the Internet, also known as the information superhighway, is an important component in the ability of the state to remain competitive in the fields of business and education, as well as the ability of government to provide services to these people both now and in the future. The ability of the citizens of Mississippi to access the full potential of the Internet is predicated on having the most advanced telecommunications infrastructure – the backbone to the information superhighway.

(3) The Legislature further finds and declares that it is the policy of the state to provide incentives for "telecommunications enterprises" (as defined in Section 57-73-21(13)) to invest in the infrastructure needed to provide broadband technology throughout the state to keep this state competitive and to promote economic development within the state.

(4) The Legislature further finds that despite the significant growth of computer ownership and usage, the growth has occurred to a greater extent within developed areas within this state, thereby leading to what has been termed a "digital divide" between Tier One areas within the state and areas within this state that are Tier Two and Tier Three areas (as such areas are designated in accordance with Section 57-73-21(1)).

(5) The Legislature further finds that it is in the public interest for people living in Tier Two areas and people living in Tier Three areas of the state to have high-speed access to the Internet and to adequate technology, infrastructure and advanced telecommunications service.

(6) The Legislature further finds and declares that additional incentives are warranted to encourage telecommunications enterprises to invest in the infrastructure needed to provide broadband technology in Tier Two and Tier Three areas of the state.

CURRENT STATE OF INTERNET USE AND BROADBAND PENETRATION

WORLDWIDE USE OF THE INTERNET AND BROADBAND

Internet use worldwide continues to grow. According to Internet World Stats, it is estimated that 888,681,131 people (or 13.9%) of the world's population of 6,412,067,185 now have access to the Internet. North America has 5.1 percent of the world's population, 24.9 percent of the world's Internet users and a penetration (percent of population who uses the Internet) of 67.4 percent. Internet use in North America had a growth rate of 104.9 percent during the period 2000-2005. In contrast, Asia has 56.3 percent of the world's population, 34 percent of the world's Internet users and a penetration of 8.4 percent. Internet use in Asia had a growth rate of 164.4 percent during the period 2000-2005.

When comparing individual countries the United States ranks 8th in terms of percentage of penetration of broadband service.

| COUNTRY | STAGE OF GROWTH | PERCENTAGE |
|----------------|-----------------|------------|
| | | |
| Korea | Mature | 79.2 |
| Taiwan | Mature | 56.1 |
| Japan | Mature | 43.0 |
| Singapore | Mature | 42.2 |
| Switzerland | Growing | 40.1 |
| Netherlands | Growing | 39.0 |
| Belgium | Growing | 29.5 |
| USA | Growing | 27.4 |
| Sweden | Growing | 26.6 |
| Austria | Growing | 25.0 |
| France | Growing | 16.3 |
| Spain | Growing | 14.7 |
| Portugal | Growing | 14.5 |
| Italy | Growing | 13.9 |
| Germany | Growing | 13.5 |
| United Kingdom | Growing | 11.0 |
| Malaysia | Emerging | 4.6 |
| Brazil | Emerging | 4.1 |
| Czech Republic | Emerging | 4.1 |
| China | Emerging | 4.0 |
| Croatia | Emerging | 2.8 |
| Venezuela | Emerging | 2.8 |
| Columbia | Emerging | 0.9 |

SOURCE: The Arthur D. Little Global Broadband Report, Update 2005

According the Arthur D. Little Global Broadband Report, Update 2005, the Broadband market has seen an annual growth rate exceeding 40% from 2002 to 2004. It predicts that the near future will see some significant changes, the continuous decline in Broadband access prices, fierce competition between infrastructure providers, evolving applications and new content offerings, all of which will drive Broadband penetration and dramatically change the industry landscape.

UNITED STATES USE OF THE INTERNET

The United States dropped from 1st to 5th place in the ranking of economies exploiting information and technology during the past five years. The World Economic Forum's Global Information Technology Report notes that the United States did not lose rank because of a drop in performance, but because of a rise in other countries. It also points out that the United States remains the clear leader in business readiness, scientific research institutions and business schools. One of the reasons that the U.S. dropped in ranking was a change in technology. In the eighties and nineties a substantial effort was

made in the U.S. to deploy fiber optic cable. When wireless technology came on the scene as a viable alternative in densely populated areas, the smaller countries with high population densities were able to deploy broadband faster,

Broadband use continues to grow in the home. A report from the Nielsen/Net Ratings service of Broadband penetration in the United States (as opposed to North America as mentioned above) grew by 1.42 points to 58.46% in April, up from 57.04% in March. The company estimates that at the current growth rate, broadband penetration among active Internet users in the US should break 60% by mid-summer 2005 (see Figure 2).

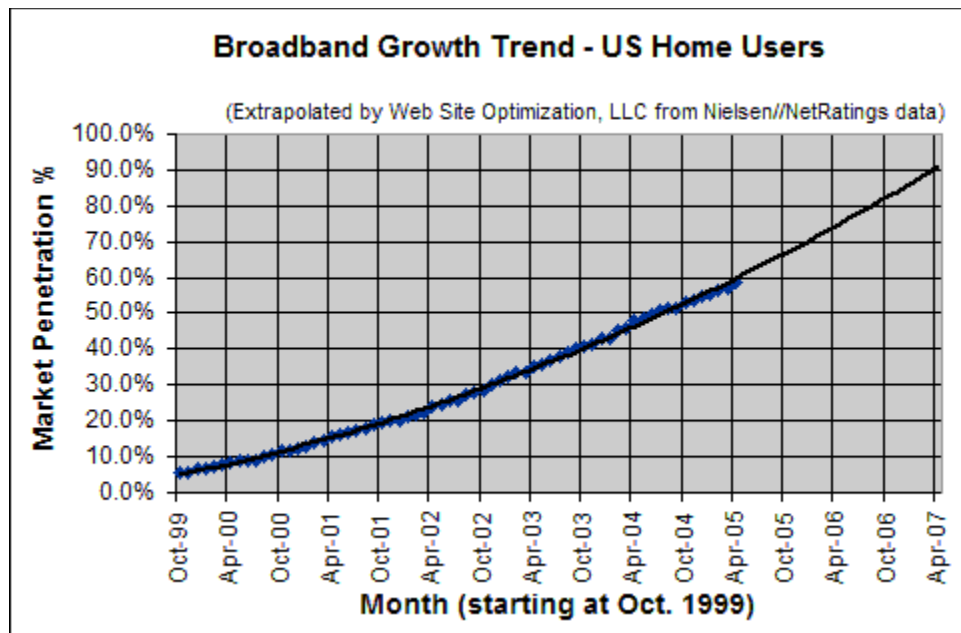


Figure 2: Broadband Connection Speed Trend - Home Users (US)
Extrapolated from Nielsen/NetRatings data

A May 2005 Harris Poll survey found that 74 percent of American adults are now online compared to only 9 percent when Harris began surveying Internet use in 1995. The biggest increase in use is related to broadband, which now stands at 54 percent of all those online.

The so-called digital divide has taken on a new meaning. Previously, the term referred to the disparity between minorities, primarily because they did not have as wide access to the Internet, and those of the majority race. The latest data reveals that Latinos, African Americans, and older Americans are the fastest-growing Internet user populations. Today, “digital divide” refers to those who have broadband and those who do not.

A recent report by the Annenberg School Center for the Digital Future identified ten significant trends that have emerged in North America. The ten trends identified by the “Surveying the Digital Future” study are:

1. In North America, the Digital Divide Is closing, but is not yet closed as new divides emerge.

Does the “digital divide” still exist? The Digital Future Project found that about 75 percent of Americans can access the Internet from some location – home, work, school, libraries, and other locations. The fastest-growing Internet user populations are groups that were once considered the primary victims of the digital divide: Latinos, African Americans, and older Americans. Now a new divide is here, the divide between those who have broadband and those who use traditional telephone modem access.

2. The Media habits of the Nation have changed, and continue to change

For the past 50 years, Americans’ time at home has been dominated by television. Increasingly over the last 10 years, Internet users have “bought” their time to go online from the time they previously spent watching television. And, the more experience users have with the Internet, the less television they watch.

3. The credibility of the Internet Is dropping

The credibility of information on the Internet was high among users through the first three years of the Digital Future Project, and that credibility remains generally high in Year Four. The study shows that most users trust information on the Web sites they visit regularly, and on pages created by established media and the government. The information that users don’t trust is on Web sites posted by individuals.

4. We have just begun to see the changes to come in buying online

Several issues that affect online purchasing have changed dramatically in the last four years. There is no question that concerns about credit card security while buying online remain extremely high. And, while concerns remain high, Internet users are buying more frequently. In 2001, they bought online about 11 times each year; now they buy about 30 times per year. And, as Internet use increases, buying online increases dramatically.

5. The “Geek-Nerd” perception of the Internet is dead

Since the beginning of the Digital Future Project, its studies found that going online did not put the social lives of users at risk. The Internet has little or no impact on time spent with family or friends, or on sleeping, exercising, or most other personal activities (other than watching television). In fact, the Digital

Future Project continues to show that Internet users are often more socially active than non-users, and are less alienated from others. And because of e-mail and instant messaging, the Internet has become a useful tool to build relationships; Internet users communicate with others more, not less.

6. Privacy and security concerns remain high, but levels are changing

In all four studies by the Digital Future Project, Internet users and non-users alike have expressed very high levels of concern about privacy and security. They fear not only for their personal security, but are also concerned about companies or individuals tracking what they do online.

7. The Internet has become the number one source for information for Internet users

The Internet has become the most important source of current information for users – the primary place they go for research, general information, hobbies, entertainment listings, travel, health, and investments. The “always-on” function of broadband has accelerated this importance. As Internet experience increases, perceptions of the importance of the Internet as an information source also increase.

8. The benefits and drawbacks of the Internet for children are still coming into focus.

There is no question that the Internet opens a whole new world to children. But it's a world that is also strewn with pitfalls. The issues involving children and the Internet are extensive: Does the Internet help my children with their schoolwork? (Children say yes.) But, does the Internet improve grades? (Adults say no.)

9. E-mail: “E-Nuff” Already?

E-mail is still the single most important reason people go online. E-mail is a tremendous convenience, and for most users, it is a free service with enormous benefits. E-mail opens opportunities to communicate more often and with a much broader circle of people than we ever reach by telephone or by mail.

10. Broadband will change everything again

Just as the arrival of the Internet created a flood of social change, the proliferation of broadband technology as a method of accessing the Internet is beginning to cause its own revolution. Broadband is changing entirely our relationship with the Internet at home – how often we go online, how long we stay online, and what we do online. Simply, modem use is disruptive; broadband use is integrative. The ‘always on’ feature of broadband will have significant effects on Internet use.

THE STATE OF RURAL BROADBAND AND INTERNET USE IN MISSISSIPPI

Even though things are changing rapidly, Mississippi ranks low in almost every survey of Internet use and availability of Broadband telecommunications.

In a February, 2002 report, the National Telecommunications & Information Administration reported that 58% of Mississippi's households do not own a computer and 64% do not have Internet access (national average is 43% and 49%, respectively). That meant that in this survey Mississippi ranked 50th among the states when it came to Internet access.

Mississippi ranks 47th in Broadband telecommunications in the Progressive Policy Institute's 2002 New Economy Index. The report points out that there is a direct relationship between population density and income characteristics and the degree to which a state had broadband. Because Mississippi is a rural and low income state it had a low deployment of broadband and thus a lower ranking.

Education Week reported that there are 8.4 students for every Internet-connected computer in Mississippi's public schools, yet in high-poverty schools this figure jumps to 8.3 students per connected computer (national average is 6.8 and 8.1, respectively). In *Education Week's* 2005 survey Mississippi public schools ranked 36th in Access to Technology, 23rd in Use of Technology, and 29th in Capacity to Use Technology.

The Children's Partnership reports that 83% of households in Mississippi earning less than \$15,000 per year do not own a computer and 87% do not use the Internet at home (national average is 77% and 82%, respectively).

According to a 2002 U.S. Department of Labor,

- 19 out of every 1,000 private sector workers in Mississippi are employed by high-tech firms (51st highest rate in the nation).
- Mississippi is 41st in the U.S. for overall number of high-tech workers and 47th for average high-tech wage.
- High-tech industry workers earn an average of \$36,300 more per year than other private sector workers.

Obviously, it is impossible to arrive at an exact figure because of rapid computer use growth and lack of reliable data. Nevertheless, some reasonable estimates can be made based on general surveys that have been conducted within the past two years.

One such survey was done by the State Department of Education. It asked teachers and students about the Internet and use of computers in schools and homes. Known as the 2004 Mississippi Technology Inventory Summary Report of the Mississippi Department of Education, it found that statewide 80.2 percent of teachers/staff have access to the

Internet in their homes, while 52.3 percent of the students have access to the Internet in their homes. One aspect of the survey that deserves mention is that contrary to national survey results, there appears to be no relationship between use of the Internet at home and median household income in the school district. A table summary of the survey is included in this report as Appendix IV.

This project made a good faith attempt to survey the current infrastructure in Mississippi with mixed results. Thirty-two economic developers responded to an email survey that asked how available broadband service was in their counties, and whether or not they had lost an economic development prospect because of a lack of broadband service. All 32 respondents said that broadband was not available in the rural areas of their counties. Regarding economic development prospects, all said that they were not aware of any specific cases in which a project did not relocate to their area. A representative of BellSouth said that the company's broadband map was not available because of confidentiality requirements related to homeland security.

The Federal Communications Commission receives information from broadband providers every six months on its Form 477. The latest states that high-speed connections to the Internet increased 15% during the first half of 2004 for a total of 32 million lines in service, and that 64 percent of Mississippi zip codes have at least three providers and that 97 percent of Mississippi zip codes have at least one provider. Although these numbers are impressive, they can be misleading because they do not represent the percentage of households with high-speed connections, only the percentage of zip codes.

Surveying for Internet use and broadband availability is difficult because of the rapidly-changing environment. To illustrate the extent how expensive and difficult it is to gather reliable data at the local level, Michigan State University recently received a \$408,000 grant to survey residents of Huron County, Michigan "...to identify barriers to home broadband adoption." Nevertheless, we did find one study in Mississippi where a community was surveyed with reasonable accuracy.

In 2001, Cleveland, Mississippi, a city of 17,000 residents, was the subject of a technology readiness assessment. At the time, Cleveland residents had access to dial-up Internet service, but no broadband service. The survey discovered that the majority of residents used the Internet, were interested in broadband service and were willing to pay \$40 per month. Business, government and educational entities were also surveyed about their desire for broadband service. As a result of these surveys, BellSouth, the existing telephone service provider, and CableOne, the franchised cable TV provider, accelerated their plans to bring broadband service to the area.

Several Mississippi communities – all of which are located in the Appalachian Region - are taking advantage of the 2005 USDA Rural Community Connect Broadband Grant Program. As of May 19, 2005 the following Mississippi communities had approved applications:

| COUNTY | CITY |
|-----------|---------------|
| | |
| Adams | Natchez |
| Alcorn | Corinth |
| Chickasaw | Houston |
| Chickasaw | Okolona |
| Clay | West Point |
| Lafayette | Abbeville |
| Lafayette | Oxford |
| Lafayette | University |
| Lee | Baldwyn |
| Lee | Nettleton |
| Lee | Verona |
| Lowndes | Columbus AFB |
| Monroe | Aberdeen |
| Monroe | Amory |
| Monroe | Nettleton |
| Noxubee | Macon |
| Oktibbeha | Starkville |
| Pontotoc | Pontotoc |
| Prentiss | Baldwyn |
| Prentiss | Booneville |
| Tippah | Blue Mountain |
| Tippah | Dumas |
| Tippah | Falkner |
| Tippah | Ripley |
| Tippah | Walnut |
| Union | New Albany |
| Webster | Eupora |
| Winston | Louisville |

Part 2 – Policy Issues

LOCAL GOVERNMENT AS PROVIDER – PRO & CON

The major policy issues involved in deploying rural broadband services are (1) who will provide it, and (2) how will it be paid for if government provides it. In this section, we will examine the views of the proponents and opponents of the first issue and then discuss various alternatives that were discovered in reviewing local case studies in which a local unit of government was involved in providing broadband service.

The first issue is one that has been debated for years, i.e. should government be in the business of providing a service that is offered by the free market? In this case, the service is broadband Internet service. The proponents are mainly municipal governments on the one hand and major cable companies and the former Bell regional operating companies on the other, according to Steven S. Ross, Editor-in-Chief of Broadband Properties magazine.

The proponents argue that government has long been in the business of providing services that benefit the public. These include highways, trash collection, water and sewer systems and many more. Often these are services that are not economically feasible for a private business or of such a nature that government as a provider is most appropriate. They argue that if left to the marketplace many communities, especially those in rural, low income areas, would never be served by the marketplace because it is not profitable for private business to do so.

In any event, when policymakers decide that a service is essential, as appears to be the direction in the case with broadband service, it falls to government to provide that service whether it is interstate highways, air traffic control or public protection. Private business has often been offered subsidies or monopolistic protection in return for providing essential services. In short, proponents of public broadband say that broadband has many public benefits and that if private business will not bring broadband to a community then it falls on local government to do so whether by providing the service itself or offering incentives to someone who will.

The opposition to public broadband offers several arguments. Dave McClure, President of the U.S. Internet Industry Association states in a recent article on the subject that the real beneficiaries are the electric utilities, the government agencies, the hardware manufacturers and the paid consultants. He says that there are five major problems with public agencies owning broadband.

First, there is widespread availability of low-cost broadband. The latest FCC report shows that broadband use has tripled in the U.S. since 2002. Over 108 million households have broadband at an average monthly cost of \$35. Business broadband is available to 99 percent of businesses.

Second, the economics of publicly-owned broadband are not realistic when considering that the market will drive price down. Also, most municipal-owned networks to date have failed to meet their published objectives for revenue. Some of the larger failures include Tacoma, Washington, which spent \$60 million more on its Click! Network than originally forecasted, Marietta, Georgia, which suffered a \$24 million loss, and the Iowa Communications Network, which cost taxpayers \$24 million last year.

Third, municipal networks do not have to pay the fees and taxes paid by private competitors, thus their success is not based on sound business principles, such as return on investment and net income. Furthermore, the community is losing tax and fee revenue that could be spent on other much-needed community services.

Fourth, government will not be able to keep prices low as market competition causes prices to drop.

Fifth, by keeping prices artificially low it will take longer for private companies to make the investment in broadband.

HOW COMMUNITIES PAY FOR BROADBAND

Funding of the infrastructure for a broadband system, regardless of the type of system, is a major expense. Pure Internet, Inc., a Virginia firm that offers wireless Internet service in rural areas, states that it can cost up to \$600 to set up a wireless customer even in counties of 35,000 residents. That cost generally becomes greater as the area becomes more rural and fewer subscribers elect to enroll in the service. Our survey of other states' broadband initiatives (see section below) found a range of assistance from the states. Most states that have established initiatives provide financing for local unit of government, nonprofit organization, educational institutions and even private company projects.

Below are various ways that local communities are financing the cost of the infrastructure.

Grants – In some states, communities receive grants from either the state or a local initiative. Usually, the community is required to match the grant, however there is a federal grant program for rural communities that provides for no matching grant. These grants may be awarded to an entity, such as a school, other than a local government unit. See the Funding Sources section of this report for more details and contact information.

Loans – The Rural Utility Service of the U.S. Department of Agriculture is one of several federal agencies currently offering loans to communities for development of broadband infrastructure.

Revenue Bonds – Using this method, a local unit of government issues bonds to acquire capital for the infrastructure investment and then repays the bonds with the proceeds from operation of the system.

Combination Grants & Loans - This method is more common. An example would be a loan from the federal government, a grant from a state agency, and a contribution (grant) from a local foundation.

Builders Install Infrastructure and Deed to Local Government – This method requires builders to install the infrastructure and turn it over to the city in the same way that a street is transferred. Loma Linda, California, a community of 20,000 people, may be the first town in the country to require broadband infrastructure in new housing. An ordinance requires builders to install structured Ethernet (broadband) cabling in every living space in new homes, as well as run fiber to the homes in the development, and to provide neighborhood co-location space for network equipment. This approach reduces the cost of broadband access. One local study that showed that homes with fiber to the home (FTTH) sell for \$4,000 to \$14,000 more than the same home without broadband access. So the builders easily recoup the additional cost, and the increased value of the home provides tax benefits to the town (which helps pay for maintenance).

RIGHT OF WAY ISSUES

In July 2002, President Bush formed a Federal Working Group to examine the issues and make recommendations regarding right-of-way issues related to nationwide deployment of high-speed Internet access.

The Federal Working Group referred to above issued its report in April 2004 and made the following recommendations in four primary areas:

(1) Information Access and Collection -- to streamline and standardize applications to reduce the administrative burden and costs on broadband providers.

(2) Timely Process -- to speed Federal agencies' consideration of rights-of-way applications.

(3) Fees -- to ensure that fees charged by Federal agencies are reasonable and appropriate.

(4) Compliance -- to ensure that Federal agencies have the proper tools to promote compliance with rights-of-way grants or permits.

In an April 26, 2004 memorandum to executive departments and agencies, the subject of which was IMPROVING RIGHTS-OF-WAY MANAGEMENT ACROSS FEDERAL LANDS TO SPUR GREATER BROADBAND DEPLOYMENT, the President

instructed federal agencies to implement the recommendations called for and to report back within one year.

Part 3 – An Examination of Alternatives

STATEWIDE INITIATIVES IN OTHER STATES

This section contains a listing and brief description of statewide initiatives regarding deployment of broadband Internet access to rural areas. Based on online survey January – March, 2005.

| STATE | DESCRIPTION |
|---------|---|
| CA | <p>The Corporation for Education Network Initiatives in California (CENIC) is a not-for-profit corporation serving the California Institute of Technology, California State University, Stanford University, University of California, University of Southern California, California Community Colleges and the statewide K-12 school system. CENIC’s mission is to facilitate and coordinate the development, deployment and operation of a set of robust multi-tiered advanced network services for this research and education community. According to its website, www.cenic.org, CENIC is leading a bottom-up initiative known as the “One Gigabit or Bust Initiative” to support innovators and early adopters in demonstrating the potential of one gigabit broadband. With the goal of ubiquitous one gigabit broadband to every home, business, and school in California by 2010, CENIC is leading the charge by partnering with industry groups, initiating rapid prototyping to accelerate the transition to next-generation broadband and exploring the late-decadal market now. CENIC has created a 28 page self-assessment guide, “On the Road to a Gigabit Broadband: Are We There Yet? A Self-Assessment Guide for Communities.” It is designed for communities interested in bringing broadband internet access to their communities. The guide is available online at http://www.cenic.org/guide.</p> |
| DC | <p>Internet Open Access Study Act of 2001 The D.C. City Council commissioned the Internet Open Access Study Act of 2001 to determine if broadband services offered in the District should be required to be available to all ISPs. The plan called for the Office of Cable Television and Telecommunications to prepare a report examining whether the city has the authority to impose such a policy and if it is beneficial to do so. Source: http://www.dc.gov/</p> |
| Florida | <p>Digital Divide Council The Digital Divide Council was created during the 2001 legislative session by Senate Bill (SB) 1672 (now Section 445.049, Florida Statutes). Funding was allotted for the Council through the General Revenue Fund and a \$175,000 appropriation to the State Technology Office to provide administrative and technical support. \$450,000 is provided for the design and implementation of the Digital Divide pilot projects. The monies allotted are not a recurring source of funding. The Council has three main objectives:</p> |

Pilot Projects - SB 1672 mandated that the Council implement six model programs providing computer training and usage, Internet access, infrastructure and future ownership of computers for at risk families and underserved communities. The six cities chosen for the projects are: Tampa (Greater Hillsborough), Miami (Greater Dade), West Palm Beach (Greater Palm Beach County), Gainesville (Greater Alachua), Orlando (Greater Orange) and Tallahassee (Greater Leon to include the panhandle). During the 2002 legislative session, funding was appropriated to the Council for the development of the pilot projects. The Council provides funding to these cities through the Local Workforce Development Board that serves that area. Each Board is eligible for a maximum of \$125,000 in funding. The funds are then distributed through a grant program entitled the Digital Divide Workforce Resources And Programs (WRAP).

Digital Divide Council Clearinghouse - serves as a resource tool for locating digital divide efforts throughout the state, as well as best practices in other states.

Marketing - the Council educates the public on the importance of technology infrastructure and services.

Source: <http://www.digitaldividecouncil.com/>

Yamacraw Initiative

Founded in 1999, Yamacraw is Georgia’s strategic initiative to foster growth in the broadband telecommunications industry. The initiative has garnered over \$100 million in funding from the state to leverage the technology resources to improve access to advanced services. The initiative was created with a supplemental Yamacraw Seed Capital Fund (YSCF). The \$5 million fund leverages many other resources to assist companies in their projects. After three years, Yamacraw has partnered with 27 member companies to expand the broadband industry in the state.

Georgia Centers for Advanced Telecommunications Technology (GCATT)

Formed in 1991, GCATT is a program of the Georgia Research Alliance, a public/private partnership promoting technology-based economic development. The centers support the development of the latest technologies and applications in communications, computing and data processing. The centers are the result of a partnership between industry, government and universities working with a three-fold strategy involving Technology, Policy and Commercialization to meet their goals. GCATT supports approximately 20 research centers. The programs run through these centers are funded by industry participants and government grants.

Source: <http://www.gcatt.gatech.edu/index.htm>
<http://www.whistle.gatech.edu/archives/99/jan/18/>
<http://www.tuff.gatech.edu/YAMxtract.htm>

Georgia

HI

No broadband programs were found to exist in Hawaii at this time.

Idaho

Broadband Tax Credit

In 2001, the Idaho Legislature authorized an income tax credit for the installation of qualifying broadband infrastructure in the state. Section 63-30291 of IDA PA 31.01.01.312 allows a tax payer to receive an investment credit against individual tax, corporate tax or franchise tax for eligible broadband equipment installed between January 1, 2001 and December 31, 2005. The credit is equal to 3% of the cost of the

qualified equipment in up to \$750,000 per year.

Source: <http://www.puc.state.id.us/telecom/28784.pdf>

Illinois

Illinois Century Network (ICN)

The Illinois Century Network is a telecommunications backbone providing high-speed access to data, video, and audio communications to schools and libraries, colleges and universities, museums, and local government and state agencies. The network serves 5600 educational institutions, more than any network worldwide, and approximately 2 million Illinois citizens. It is the first state network to become fully multicast enabled. The network provides service, equipment, and management in order to light up dark fiber for the Chicago Housing Authority, City of Chicago, Chicago Public Schools, and Chicago Public Library. They are working with the Department of Central Management Services and the I-Wire Project to further utilize long haul state-owned dark fiber to increase bandwidth and decrease constituent costs. They are also piloting video applications with Illinois Healthcare to provide hospitals with access to critical care and burn care units in rural areas. The network offers the lowest possible cost for constituents to receive access to commercial Internet, saving the state approximately \$12-\$15 million per year.

The Higher Education Technology Task Force (leaders from higher education, state agencies, and public schools) recommended the creation of the Network. The Illinois State Board of Education was building a K-12 network (LincOn Network) that became the foundation for the ICN. ICN provides backbone network, point of presence equipment (central equipment necessary to connect the network), and a predetermined baseline amount of Internet access at no cost to eligible constituents (education, museums, libraries); participants are responsible for Customer Premise Equipment (CPE). ICN has established Regional Technology Centers across the state with network specialists to provide outreach service as needed.

Illinois Healthcare Broadband Network

The Illinois Hospital Association (IHA) created a network linking Illinois hospitals, healthcare providers, and their business partners. In conjunction with an affiliate company, Association of Management Resources (AMR), plans have been made to implement the Illinois Healthcare Broadband Network (IHCBN), a broadband, high-speed network that will securely connect the IHA and Illinois Hospitals. The network will ultimately invite participation from other healthcare providers, insurers, suppliers, health departments and other public partners. The connection will expedite the transfer of data, voice, and video information. It minimizes exposure to hackers by using the Illinois Central network (ICN) for connectivity. Patients will be able to have their records transferred from one doctor's office to another more quickly. Voice and video transmission capabilities will allow authorized medical personnel in rural areas (where 40% of Illinois hospitals exist) to send X-rays and MRI scans to specialists. Healthcare professionals will also have distance-learning options. In the case of a disaster, IHCBN allows for simultaneous communication to all 200+ Illinois hospitals. For the first phase of the project, AMR plans to work with an "early adopter" group of about 50 hospitals to supply and test the equipment and related software needed to access and share information over the network. Tools to be provided include bulletin board, calendar, and secure messaging, as well as camera and telemedicine systems for conferencing and distance-learning functions. The network will operate as a nonprofit entity. AMR will oversee the network's business operations; maintain communications with member hospitals and other network participants. It will also serve as the network coordinator making sure that technology updates are keeping up with the growing expectations. AMR proposes providing hospitals with compatible equipment and offering participating hospitals free access to the network for two years, to ease the reluctance of buying into the network. Estimated costs for the project are approximately \$11.5

million.

School Technology Revolving Loan Program (STRLP)

The purpose of the STRLP is to provide low cost financing to eligible school districts for technology hardware improvements. To date, 379 loans for a total of over \$63 million have been made.

Grades 5-8 are eligible in FY03 and each third year thereafter.

Grades 9-12 are eligible in FY04 and each third year thereafter.

Grades K-4 are eligible in FY05 and each third year thereafter.

Program to Foster the Elimination of the Digital Divide

During the consideration of the state telecommunications law, the General Assembly incorporated language into the Public Utilities Act requiring the Illinois Commerce Commission to develop a rule that requires each telecommunications carrier to notify its customers that if the customer wishes to participate in the funding of the Program to Foster Elimination of the Digital Divide they may do so by electing to contribute on a monthly basis through their telephone bill. Voluntary contributions are used to make grant awards to public and private organizations pursuant to the requirements of the Illinois Eliminate the Digital Divide Law (30 ILCS 780).

Telecommunications customers may elect to contribute between fifty cents and twenty-five dollars, per month per line. The Department of Commerce and Community Affairs, Bureau of Technology and Industrial Competitiveness is responsible for the administration of the grant process. Organizations eligible to receive grants include: Public hospitals, libraries, park districts, state educational agencies, local educational agencies, institutions of higher education, public/private nonprofit educational organizations, etc.

Illinois Community Technology Fund

The Illinois Community Technology Fund (ICTF) is a three-year initiative intended to serve as a catalyst to ensure that citizens are prepared to live and work in a growing technological society. The ICTF has its origins in the Ameritech/SBC Merger. In the merger approval process, Neighborhood Learning Networks petitioned the Illinois Commerce Commission (ICC) to establish a community technology fund to assist low-income and rural populations across the State. The purpose is to provide them with access to advanced telecommunications services and opportunities to develop the skills necessary to improve the quality of their lives.

Ameritech/SBC voluntarily made a three-year commitment to a Community Technology Fund and a Community Computing Center. The Commission's Final Order included that commitment and made it a condition of approval. It requires that SBC/Ameritech make funds available to establish an Illinois Community Technology Fund ("ICTF") and make \$1 million available annually for disbursement by Ameritech/SBC Illinois for three years.

The ICTF is an unprecedented opportunity for Illinois to develop collaborative efforts towards bridging the digital divide in Illinois' low-income and rural areas. The goal of the program is to support the efforts of local, community-based and small business organizations to make technology more available and accessible to low-income and rural individuals, families and communities throughout Illinois. In accordance with its goal to focus on technology and rural and low-income communities, the ICTF organized its grant-making in the following areas of interest:

Community-Building

How will the project assist in catalyzing community change, connectivity and skills development? How will the project use community technology resources and assistance to engage citizens with broader community development, civic involvement, civil rights and quality of life programs?

Community Economic Development

How will the project increase access to technology-related knowledge or training that enhances economic self-sufficiency through workforce development, capital formation, or management assistance?

Health

How will the project provide and enhance community-wide access to health services, information and networking to promote community wellness for underserved members of the community?

Education

How will the project create life-long learning opportunities for communities and individuals to increase knowledge, understand and define the relevance of technology, and promote an education-based culture of use? How will the project assist children and adults to better results in school, job-training, or other school or job-related performance measures?

Source: <http://www.state.il.us/gov/budgetpr/cmsbudget.htm>
<http://www.ictf.org/>

IN

Intelenet

Created in 1986, Intelenet administers the Indiana Telecommunications Network (ITN). It also helps foster and improve the state's public education and economic development through an electronic portal on the world wide web called accessIndiana. Other activities include:

Indiana Web Academy: a web-portal, online curriculum and discount computer resource for K-12 students, their families, and educators.

IN-map: a web portal for county/local government entities providing no-cost web site hosting and web site development; assists local organizations with establishing online information and services to the benefit of citizens; promotes connectivity to ITN and assists community networks.

EPICS: a public health and safety partnership; links 25 public agencies to a secure interagency community network, and ITN on a pilot-project basis; there are 24 geographically-dispersed public safety and healthcare agencies and Orange County Commissioners being connected for coordinated planning, integrated delivery of rural healthcare services, and cooperation with agency counterparts in the state and federal governments.

Grants Program: for K-12 schools; Basic Grant - supports initiatives announced jointly by the Governor and the Superintendent of Public Instruction in July 1994 by providing \$10,000 per year for connectivity to ITN.

Source: <http://www.in.gov/>
<http://www.in.gov/intel/schoolgrants/>
<http://www.in.gov/mylocal/>
<http://epics.ecn.purdue.edu/>
<http://www.in.gov/itn/>

IA

Iowa Communications Network (ICN)

The Iowa Communications Network (ICN) is a statewide fiber optic network designed for connecting government, education, and medical facilities with full motion video and Internet access. Distance learning, telemedicine, and other broadband applications can also be performed on the network. The network is governed by the Iowa Tele-communications and Technology Commission (ITTC). In April 1992 and July 1993, the state issued Certificates of Participation for \$96,030,000 and \$18,500,000 respectively. Proceeds from the certificates, totaling \$88,762,321, were used to build parts one and two of the network. In July 1995, construction began on part three, which was scheduled to be completed by 2001 at a cost of \$94,600,000. Ongoing operations are paid for by receipts for services while some funding comes from state appropriations. From 1992 to 2003, the Federal Government invested \$155.6 million in projects to use ICN as a test bed for other technology projects.

In 2003, the state Legislature approved an amendment requiring the sale of the ICN. The Legislature believed that the state could no longer support the network and that it should be turned over to a private sector company by 2005.

Source: <http://www.icn.state.ia.us/>

KS

Kansas Education Network (KanED)

Established in April 2001, the network is a partnership between the state of Kansas, and Kansas telecommunications providers. KanEd is a broadband technology based network designed to connect all K-12 schools, higher education institutions, public libraries, and hospitals. Benefits include: access to advance medical services, statewide access to electronic databases, and affordable infrastructure. The network is funded through the universal service fund as of January 1, 2003. Up to \$10 million per year can be transferred to the KanED fund, through June 30, 2005. Any funding after that date would come from the State General Fund. The network is guided by a 12 person User Advisory Council.

Source: <http://www.kan-ed.org/>

KY

ConnectKentucky

A public/private partnership between the state's Office of the New Economy, private industry, state universities and the Center for Information Technology Enterprise (CITE,Inc.), ConnectKentucky lays a foundation for statewide broadband deployment through assessments of readiness, usage, etc. In their 2002 report, Kentucky Prepares for the Networked World, three goals are outlined aimed at addressing the program's mission: (1) increase public awareness of e-business and e-government, (2) create market-driven strategies to increase use of technology and (3) create public policy initiatives promoting broadband access. In 2003, the program began a new initiative entitled KY120, which profiles best practices in each of the state's 120 counties.

Kentucky Housing Corporation's (KHC) Broadband in Low-Income Housing Initiative

In 2003, the Kentucky Housing Corporation (KHC), took an innovative step in promoting universal broadband deployment becoming the first state to require that low income housing developments must be equipped with access to high-speed Internet service if they receive more than 50% of their funding from the KHC. The Corporation worked with the nationally recognized One Economy Corporation on the program. In addition, the KHC intends to implement programs to provide low-cost computer hardware, software and Internet service to the low-income families.

Kentucky Information Highway

Created in 1995, it is a ten-year contract with all local telephone companies and a long-distance provider to make broadband services available to all 120 counties in the state. The statewide communications and information network offers access to government services, education, health-care, etc. Rates vary depending on connection service requested. Kentucky Statute 45A.605 outlines who is eligible for participation in the network. Local governments, colleges and universities, schools districts and other public entities fall into this category.

Source: <http://wired-vig.wired.com/news/politics/0,1283,57249,00.html>

<http://www.connectkentucky.org/>

<http://ky.gov/got/kih/>

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| MI | <p>Michigan Broadband Authority The Broadband Authority’s mission is to expand broadband access for Michigan's citizens and businesses. We offer organizations in the public and private sector low-cost financing for the acquisition of hardware, software and services that will improve or increase their use of broadband technologies. http://www.broadbandauthority.org</p> |
| MN | <p>Connecting Minnesota</p> <p>Connecting Minnesota was a public/private partnership created by the Department of Transportation and Administration to expand fiber optic telecommunications across the state. The state contracted with a vendor to build the network in return for exclusive use by the vendor of a specific number of fiber strands. The network was to consist of 2,000 miles of fiber optic cable that will be laid in the interstate highway right-of-ways (ROW). The network will reach about 80% of the state’s population, including rural areas and small towns. The network consists of northern and southern Minnesota loops connected to a central network in Minneapolis/St. Paul metro area. The project was to be completely funded by ICS/UCN, a Denver-based utility developer. The estimated cost for the project was \$195 million. In exchange for access to the rights-of-way, ICS/UCN was to provide telecommunications capacity to state Department of Transportation, K-12 schools, universities, libraries, and state and local governments.</p> <p>February 2003 - The Connecting Minnesota project was shut down indefinitely due to the contractor’s inability to produce sufficient funding,. The network was 10% completed, at a cost of \$30 million, when ICS/UCN failed to meet the states February 15 deadline for the next stage of funding.</p> <p>Sources: http://www.mainserver.state.mn.us/connectingmn/</p> |
| MS | <p>Mississippi Broadband Technology Development Act</p> <p>In early 2003, Senate Bill 2979 proposed a tax credit incentive for the deployment of broadband infrastructure to rural areas of the state. On April 19, 2003, the Governor signed the bill into law and it became effective as of July 1, 2003. The law provides investment tax credits, ranging from 5% to 15% over ten years, and sales tax exemptions, ranging from 50% to 100%, with the greater credits going to those companies investing in the least populous regions of the state. The incentive package is available for investments made between June 30, 2003 and July 1, 2013. The tax credit can be used for nine consecutive years after the year in which it is earned. The law limits the amount of the credit issued in one tax year from exceeding 50% of the taxpayer’s income tax and franchise tax liability. A credit that is not used immediately is good for ten consecutive years after the year in which it was earned. The bill also amends a section of the state code to allow the sale of equipment to telecommunications entities made during the eligible period and installed for use in broadband deployment be exempt from one half of the sales tax. For the same sale made for use in the most rural areas, the sales tax is waived.</p> <p>Sources: http://www.diamondheadnews.com/articles/Features/DSL1.htm http://billstatus.ls.state.ms.us/documents/2003/html/ham/SB2979_H_Amend_01.htm http://www.house.gov/wicker/BellSouth.htm</p> |
| MO | <p>Missouri Research and Education Network (MOREnet)</p> |

Headquartered in Columbia, MO, the network was established in 1991 to provide access to Internet2, Internet connectivity and videoconferencing services to K-12 schools, colleges and universities, public libraries, healthcare, state government, and other affiliates. The network is an independent business unit of the University of Missouri system and reports directly to the VP of Information Systems. MOREnet Network Utility is the foundation infrastructure. High-speed circuits connect 5 MOREnet network centers: Columbia, Kansas City, Springfield, St. Louis, and Jefferson and are based on fail-safe SONET facilities and data circuits from telecommunications providers. In March 2001, the network was among the first five education networks selected to connect to Internet2. Other services provided include access to 11 full text journal, newspaper, business and curriculum databases. Effective July 1, 2000, MOREnet was divided in two sections. MERC serves all higher education groups, while the Affiliates program serves all organizations not served by the former, including private K-12 schools and libraries and nonprofit organizations. The network receives approximately \$27.1 million annually from core funding.

Programs Available to Morenet Customers:

eMINTS (enhancing Missouri's Instructional Networked Teaching Strategies) - operates with the goal of changing the teaching and learning process into a more technology-based process.

K12 Technology Network Program (K12TNP) - emphasizes the use of technology in the classroom to enhance learning and includes access to online resources and data and video services; over 95% of the state's schools participate.

Remote Electronic Access for Libraries (REAL) Program - provides state residents with the opportunity to use the Internet for research, formal and continuing education, business and recreation at their local libraries; the program is sponsored by the State Library, but available to MOREnet customers.

Sources: <http://www.emints.org/>
<http://www.more.net/>
<http://www.kcmetro.cc.mo.us/policy.html>

MT

Advanced Telecommunications Tax Credit

The state enacted a non-refundable advanced telecommunications infra-structure tax credit (Montana Code Ann. § 15-53-202) in 1999. The law allows a credit against the retail telecommunications excise tax of 3.75% (on the sales price of retail telecommunications) for advanced telecommunications infrastructure improvements in the state. The credit is equal to 20% of the total amount of infrastructure investment. The maximum credit is two million dollars.

Montana Educational Telecommunications Network (METNET)

Created by the School Equalization Act in 1989, the statewide network provides satellite television programming, a bulletin board system, email and Internet access. METNET is upgrading systems to provide full two-way interaction through the use of compressed video technology. This service is partially supported by user fees ranging from \$55 to \$170 an hour, depending on the quality, with a discount for educational users. METNET is funded by a combination of state funds, approximately \$100,000 per year, and matching funds from the private sector.

Source: <http://www.metnet.state.mt.us/>

OK

OneNet, Inc.

OneNet is a comprehensive, \$20 million network using fiber optics and wireless technologies to transmit

video, voice, and data throughout Oklahoma. It is a state-led partnership among telecommunications companies, equipment manufacturers, and service providers. The system is Oklahoma's official telecommunications and information network for education and government. It is the only fully integrated, statewide IP-based network serving all of government and education in the United States and the largest distance-learning network in the world. It began in 1992, when voters in Oklahoma approved a statewide capital bond issue of \$14 million for the implementation of the network. In late 1995, state regents approved a business plan and in 1996, the project was underway. The network was built on the statewide talkback television system that had been operated by the state since 1971. Initially, the project was focused on establishing hub sites throughout the state to provide the infrastructure to support the network. Public and vocational-technical schools, colleges and universities, public libraries, governments, court systems, rural healthcare delivery systems, and research programs all were scheduled to be connected to the network. As of December 2000, over 1600 entities were connected to the 42 hub sites that create the framework for the network. These hub sites are located on campuses of the state higher education system and at several career and technology centers. Some of the sites include: The University of Oklahoma (Norman), the Tri-County Technology Center (Bartlesville), and the Tulsa Community College (Tulsa). Through a grant from the state's Department of Libraries, the network offers on-line access to thousands of periodicals and journals, free of charge, to customers. The network has a capacity of 2.5 billion bits per second and serves as a gateway to Internet2.

Oklahoma Municipal Services Corporation (OMSC)

Approximately 400 member cities of the Oklahoma Municipal League (OML) joined together to create the OMSC, charged with assessing broadband services in the areas incorporating the member cities. In the spring of 2001, construction began on the first of three scheduled wireless broadband projects. AARO Broadband Wireless Communications was contracted to install the infrastructure required for broadband services in the town of Durant, the first of three towns scheduled for joint development between AARO and OMSC using OMSC funds. Plans call for Internet access, virtual private networks, video conferencing, email, and e-commerce to be available through the network. In Durant, city hall, police and fire departments, and the library are to be connected via the wireless network. AARO will install a wireless local area network (LAN) allowing the use of laptops and other mobile devices to access the Internet at speeds of up to 11 megabits per second (Mbps). Initially, Voiceover Internet Protocol (VoIP) services were to be available to the business community and residences.

Broadband Deregulation

In 2002, the Oklahoma state House passed a regulatory parity measure requiring the Oklahoma Corporation Commission (OCC) to regulate all broadband providers (cable, DSL, satellite, and fixed wireless) equally. However it was modified to directly prohibit the OCC from regulating DSL or any other high-speed Internet access service.

Sources: <http://www.onenet.net/>

OR

Oregon Telecommunications Coordinating Council (ORTCC)

The Oregon Telecommunications Coordinating Council (ORTCC) was created by the state Legislature in 2001. The Council's mission is "to provide all Oregonians with affordable access to broadband digital applications that will improve the quality of life in Oregon communities and reduce the economic gap between well-served and underserved Oregon communities." The ORTCC is comprised of 12 members that

represent broad telecommunications interest groups including business and industry, telecommunications providers, state and local government, education, and health care organizations, as well as other interest groups. The council provides a coordinated approach to telecommunication investments by giving the ORTCC the authority to facilitate, through its recommendations, greater public/private partnerships and stronger state/local government partnerships.

Broadband Tax Credit

The Oregon state legislature approved a tax credit for deployment of broadband equipment in 2001. The credit is equal to 20% of the cost of the facilities deployed. The tax credits are intended to improve advanced telecommunications capability in underserved areas of the state and to accomplish one or more of the following: enhance individual and business access to advanced telecommunications services at an economically reasonable cost; develop and transition to a fully competitive telecommunications marketplace; provide bi-directional bandwidth capabilities to customers; improve access to competitive local exchange carriers; improve access by public and private educational institutions, rural health clinics and libraries to advanced telecommunications services; improve telecommunications connections between communities in this state; improve last mile connections within this state; and improve access by Oregon health care providers to interactive video and other health care applications requiring advanced telecommunications services.

Sources: <http://www.ortcc.org/>
<http://www.econ.state.or.us/telecom/div106.htm>

PA

The Ben Franklin Technology Development Authority (BFTDA)

Formed by the merger of the Pennsylvania Technology Investment Authority (PTIA) and Ben Franklin Program, the BFTDA is a \$54.3 million technology development organization making it one of the largest state technology development programs in the nation. BFTDA operates a technology development grant program designed to support local grass roots initiatives that promote the advancement of technology in businesses and communities, especially broadband technologies in both rural and urban areas. The following is a list of approved projects for FY2002:

Keystone Community Network, Inc. (Kcnet) - This group was awarded \$70,000 for a project designed to extend the Lock Haven Electronic Village (LHEV) and Kcnet fiber optic, high-speed data network to bring high-speed Internet access to a business park in the eastern region of Clinton County and the Bucktail Medical Center in the Western region of the county. The grant money was to be used for equipment purchases.

Keynet Alliance - Received \$150,000 for FY2002/2003 and another \$150,000 for FY2003/2004 for operating costs of the Commonwealth's Broadband Technology Development Partnership with Adelpia Business Solutions. Adelpia has committed a \$10 million investment in broadband infrastructure development projects to extend broadband technologies to underserved communities and the state committed \$10 million as a match to the Adelpia investment.

I-99 Corridor Project (Altoona Blair County Development Corporation) - Awarded \$405,000 for a project in collaboration with Key-Net Alliance to extend new and enhance existing infrastructure from State College to Altoona along the corridor formed by Interstate 99. The grant money was to be used to make advanced telecommunications services more readily accessible to schools, municipalities, industrial business parks, and the general citizens of the nearby communities.

Digital Divide Projects

In December 2002, the state allotted \$3.38 million in grants to be distributed to 13 educational entities for digital divide projects. The grants are funded through the Temporary Assistance to Needy Families (TANF), a federally funded program that uses money set aside by the Department of Public Welfare. The Office of Technology Investment, located within the Department of Community and Economic Development, administers the funds. Eligible applicants include nonprofit community and economic development organizations, including educational organizations that facilitate one or all of the following - high-speed Internet capabilities, increased computer access and technology skills training for low-income Pennsylvania residents. The following details several of the projects that were awarded grants:

Lycoming County - The Pennsylvania College of Technology, Williamsport, was awarded a \$500,000 grant to deliver introductory computer training and enhanced broadband services to individuals from eligible low-income families.

Philadelphia County - The Nueva Esperanza, a faith-based organization located in Philadelphia, and serving a predominantly Latino community was awarded a grant of \$32,500 to provide public broadband connectivity infrastructure to expand and enhance services to low income families in the area.

Cambria County - The Glendale School District based in Flinton, was awarded a \$457,000 grant to establish the Glendale Area Information Network (GAIN), extending high-speed, wireless, broadband Internet access from the school to the Coalport/Irvona areas in Clearfield County.

Sources: <http://www.inventpa.com/default.aspx?id=30>

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| PR | No broadband programs were found to exist in Puerto Rico at this time. |
| RI | <p>Rhode Island Network for Educational Technology (RINET)</p> <p>Operating since 1994, this state nonprofit organization is a partnership supporting the technology needs of the K-12 educational community. Serving over 98% of the state's K-12 public school districts, parochial and independent private schools, municipal buildings, etc., the network provides advanced Internet services supporting the learning environment. A major milestone for the network passed in the winter of 2002, when Internet2 access was made available for K-12 schools. Pricing varies depending on connectivity and number of connections (for fiscal year 2004 pricing see http://www.ri.net/RINET/documents/year6servicespricing.pdf).</p> <p>Source: http://www.ri.net/RINET/index.html</p> |
| SC | <p>South Carolina Rural Infrastructure Fund</p> <p>The Rural Infrastructure Fund is an initiative designed to aid in the economic development of underdeveloped regions of the state. The fund was created by Bill 4706, which provided for financial assistance to local governments for deploying infrastructure and improving public and private telecommunications systems.</p> <p>South Carolina Information Network (SCINet)</p> <p>SCINet is a network designed to link school systems throughout the state. The network offers high-speed access lines and connectivity free of charge, although individual schools are responsible for providing the</p> |

necessary equipment. Between the years 1996 and 1998, the state Legislature spent \$21 million to link schools to the network. Another \$12 million was appropriated for hardware, software, file servers, routers, etc. Funds remaining afterwards were to be remitted to educational television purposes and help to ensure that every school has a satellite dish and receiver.

Broadband Deregulation

The South Carolina Legislature passed a bill in February 2003, deregulating broadband service in the state. The new law now exempts the incumbent telephone company from having to share its high-speed network with competitors. As a result of the legislation, BellSouth has promised to spend \$10 million to expand its broadband network statewide.

Sources:

http://www.highbeam.com/library/doc0.asp?docid=1G1:120432072&refid=ink_tptd_np&skeyword=&teaser=
<http://www.scprimesite.com/fintax/grants.html>

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| <p>SD</p> | <p>Digital Dakota Network The Digital Dakota Network was established in 1995 as an initiative to advance education, the economy, and technology. The strategy to achieve this goal was divided into two phases: Wiring the Schools Project - beginning in 1996 the wiring of every public, private, and BIA or tribal K-12 school building in the state with 50+ students was begun. Connecting the Schools (CTS) Project - this effort began in 1999 as a follow-up to the Wiring the Schools Project. It implemented educational technologies in the newly wired schools in three phases: Network infrastructure - connects every school in the state to the Digital Dakota Network (DDN), a statewide data and video intranet. Equipment seeding - establishes data networking in schools and places interactive video in middle and high schools. Distance learning infrastructure - establishes standards for distance education. Source: http://www.state.sd.us/deca/DDN4Learning/Conclave/DDNHist.htm http://doe.sd.gov/octa/</p> |
| <p>TN</p> | <p>ConnectTEN A statewide network serving the needs of the state Department of Education, ConnectTen provides networking for approximately 214,000 computers across 1,900 schools and local education agency offices across the state. The network began as an initiative by Governor Don Sundquist designed to give all students direct Internet access by the end of the 1996-1997 school year. Individual sites are linked to routers, which are connected through one of six regional hubs to a central server in Nashville. Source: http://www.connect-tn.org/</p> |
| <p>TX</p> | <p>Telecommunications Infrastructure Fund (TIF) Established by the Public Utility Regulatory Act of 1995, the TIF was intended to generate \$1.5 billion over</p> |

10 years to provide telecommunications access to the state's public schools, nonprofit hospitals, public libraries, and institutions of higher education. By the end of FY2001, a total of \$914 million had been deposited into the fund, with \$81 million earned in interest. In 2001, the legislature designated the TIF as a General-Revenue Dedicated Account. Prior to this legislation, the fund was designated as "Other" funds, outside general revenue. The act also established the Telecommunications Infrastructure Fund Board (TIFB) charged with disbursing the assessments collected into the fund. The Fund for 2002-2003 was estimated to total \$495.6 million. Appropriations to the TIFB for the same period totaled \$400 million, with another \$67.9 million going to other state agencies including the Texas Education Agency, Health and Human Services Commission, and the Texas Department of Health. The remaining \$27.7 million remained in the fund. Of the \$400 million, the administrative budget for the agency totals \$5.1 million, while the remaining \$394.9 million is earmarked for grants to eligible entities. As of June 2001, there were 600,000 recipients of funding, a 380% increase over two and a half years. TIF grant monies can be used to provide equipment, wiring, material, program deployment, and training, and to cover installation costs required to obtain broadband services at public access points. The fund receives 1.25% of taxable telecommunications receipts from each telecommunications utility or commercial mobile service provider operating in Texas. Unless it is renewed by the legislature, the fund will cease to exist on September 1, 2005.

The funds are kept in two separate accounts: (total grants awarded since 1996 - \$935 Million)

Public Schools Account - Dedicated solely to Texas K-12 public school districts and campuses.

Qualified Entities Account - Dedicated to Texas K-12 public school districts and campuses, colleges and universities, libraries, academic health science centers, and public, nonprofit healthcare facilities.

Revenue for FY02 by account: Public School: \$102,998,398

Qualified Entities: \$102,998,39

Source: <http://www.lonestarbroadband.org/>

UT

Utah Telecommunications Open Infrastructure Agency (UTOPIA)

UTOPIA is a consortium, founded in 2002, of 17 cities in Utah with the goal of building a \$400 million, high-speed fiber-optic network among its members. To date it is the world's largest proposed fiber-optics network that will directly connect homes and businesses. In March 2003, Salt Lake City joined the consortium, making it the largest member city. Once constructed, it will be made available to private competitors in telecommunications, cable, and ISPs for leasing access to the system at wholesale prices. All of this has been made possible because of the Utah Interlocal Cooperation Act, which recognizes the right of municipalities to form interlocal operating agreements among other things. In April 2003, a \$700,000 (funded by contributions from member cities) feasibility study, which covered 2000 residences and 700 businesses, found that UTOPIA could finance its network through three phases of bonding over the next 3-5 years. It also found that on average, it would cost \$1408 per household to install necessary infra-structure. Phase one of the implementation process was scheduled to begin on approximately 35,000 homes in northern Utah County and Central Salt Lake City.

Those to have network access:

Total population 723,933*

Total households 248,791

Total businesses 34,580 *

Approximately 75% of state's population.

Utah Education Network (UEN)

UEN is a consortium of education, government, and business organizations, serving the educational needs of 475,000 Utah students through an advanced fiber-optic backbone. The publicly funded network connects public schools and universities, as well as applied technology centers. In 1994, Qwest formed an anchor tenant partnership with Utah to construct a fiber-optic based Wide Area Network (WAN). Working with Qwest engineers, UEN was then able to launch several education technology programs: EDNET, UtahLINK and Utah Electronic High School. In FY2003, \$14,987,300 was allocated for UEN and its component programs, which include:

EDNET - The state's largest videoconferencing system with over two hundred locations, it connects high schools, universities, colleges, and technology centers. The program, which began in 1983, offers a core curriculum to all high school students. In addition, it offers limited college and university courses, teacher recertification courses, etc.

UtahLINK - Implemented in 1993, it connects 790+ elementary, middle, alternative, and secondary schools to the Internet. Benefits of the program include services such as parental access to student records, free Internet connectivity to individual public schools, access to the Utah Electronic High School for rural and remote students and online access to sample lesson plans for teachers and administrators. Along with the state, the program formed a contract with Qwest Communications to become the anchor tenant of a fiber-optic backbone connecting northern and southern Utah. The network uses the state's nine public colleges and universities as hubs along the backbone.

Utah Electronic High School - In 1993, then Governor Mike Leavitt proposed that every high school course be accessible online by 1996. This program, which operates as a division of Utah State Office of Education, has an approximate enrollment of 16,000 high school students, and serves four purposes: (1) early graduation for students completing class work online, (2) opportunity for students in rural and remote areas to take a variety of courses, (3) access to coursework for home school students and (4) opportunity to repeat failed classes.

Utah Telehealth Network (UTN)

UTN is an open network available to every state healthcare facility. It began in 1995 when Governor Leavitt proposed that the state Legislature approve a \$200,000 one-time appropriation to support a telemedicine pilot program. The network, which connects most sites through T1 lines, provides interactive videoconferencing and the electronic transmission of data. Through a single link members can connect with each other and other sites throughout the world. Clinical services such as teleradiology and telepharmacy, are enabled by the network. Members also have videoconferencing connections at no extra charge (except in the case of long distance). The network has been funded by numerous one-time state appropriations, foundation grants, and federal grants, allowing the network to extend its services to more rural areas in the state. The cost of connecting to the network varies depending on the desired application and the sites to be connected (for a fee chart see <http://www.utahtelehealth.net/fees.pdf>). The state universal service fund also provides discounts for network lines for eligible rural healthcare providers.

Sources: <http://www.utopianet.org/>
<http://www.uen.org/>
<http://remote.med.utah.edu/>
<http://www.uen.org/ednet/>

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| VT | <p>Vermont Broadband Council The mission of the Vermont Broadband Council is to promote the use and availability of broadband services throughout the state. The Broadband Council does this through demonstration projects that are designed to give individuals and businesses first hand experience with the benefits of broadband services. They are currently working with the city of Montpelier to develop a wireless system in the downtown business district to provide Internet access, public "hot spots" for easy connectivity to the Internet and better telecommunications services for the city itself.</p> <p>Source: http://www.vtbroadband.org/</p> |
| Virgin Islands | <p>U.S. Virgin Islands, Department of Education (DOE) Initiative The Virgin Island DOE commissioned InstallGuys, a company that specializes in planning and constructing broadband wireless networks, to build one of the largest wireless wide area networks (WANs) in an effort to link schools on the islands of St. Thomas, St. John and St. Croix. The four phase project connected 120 sites and included the installation of unlicensed wireless equipment between the three islands. The network took approximately two years to complete.</p> <p>Source: http://www.installguys.com/vi-userprofile.cfm</p> |
| VA | <p>Center for Innovative Technology (CIT) Created by the General Assembly in 1984, the nonprofit CIT was designed to enhance the research and development capabilities of the state's major research universities. Goals for fiscal year (FY) 2003 included the following: Increase federal research and development (R&D) dollars for colleges and universities. Increase commercialization and transfer of intellectual property from labs and institutions. Promote technology-based economic development (improving government-industry programs that encourage economic growth through applications of science and technology).</p> <p>Recent CIT Projects - In July 2001, CIT awarded a total of \$115,000 in grants to Augusta, Highland, and Nelson counties. The awards were part of the Advanced Communications Assistance Fund (ACAF), a statewide program: Augusta - \$36,000 - Wireless bridges were used to connect existing wired LANs within separate buildings, to create one main LAN at the county government center. Highland - \$29,731 - Dark fiber and T-1 connections were to be installed linking the Highland County courthouse, public library, medical center, and chamber of commerce. Plans were to also assist in creating Bath/Highland Distance Learning Centers in each county high school. Nelson - \$50,000 - The sheriff/E-911 building was connected with fiber optic cables to improve the flow of communication. The economic development and library building was to be wirelessly connected with the main county building using unidirectional antennas to achieve optimal performance and bandwidth.</p> <p>Advanced Communications Assistance Fund (ACAF) This program, established in 1990 by the General Assembly, provides the necessary tools for the implementation of advanced infrastructure in regions served by less than three LECs. In 2001, the fund awarded its second round of grants to nine projects, which officially used up the initial \$500,000 appropriated</p> |

by the state. ACAF, which is administered by CIT, provides up to \$50,000 per award to communities working to improve local telecommunications infrastructure in an effort to increase connectivity in smaller communities.

Blacksburg Electronic Village (BEV)

A joint project between Virginia Tech, the town of Blacksburg, and the local telephone company to offer Internet access to every citizen, Blacksburg Electronic Village became a model for community-driven broadband deployment. In early 1991, the network expanded from the campus to the surrounding town of Blacksburg. The two years following the expansion were spent installing digital switching equipment and a fiber backbone in Blacksburg. In October 1993, the network officially became operational. Initially only dial-up was offered, but that was soon followed by ISDN and Ethernet introduced in 1994. Today, the Electronic Village offers a multitude of services to citizens, including web hosting, streaming video, online community and forums.

E-corridors - An economic development and outreach program of Virginia Tech, E-corridors is focused on a long-term vision of facilitating the development of next generation network infrastructure and services in collaboration with interested communities in Virginia. The program facilitates the deployment of advanced network infrastructure through community partnerships.

Net.Work.Virginia

Net.Work.Virginia is an advanced broadband network delivering Internet and intranet services statewide. It is the result of a project led by Virginia Tech in association with Old Dominion University and the Virginia Community College System to develop universal access to advanced digital communications services for all of Virginia.

With nearly a thousand sites, NWV offers access to an incredibly rich array of educational and information resources. Participants include four-year colleges and universities, the Virginia Community College System, private schools, and K-12 school systems. Also, many state agencies are taking advantage of Net.Work.Virginia including the Department of Health, the Virginia Employment Commission, the Department of General Services, the Virginia State Library, the State Police, the Institute of Marine Science and others. The same infrastructure built by NWV is now open to everyone including commercial customers at low cost. NWV provides access for more than 1.3 million Virginians through educational institutions alone.

Source: <http://www.bev.net/>

<http://www.cit.org/>

<http://www.networkvirginia.net/>

http://www.cit.org/press_releases/01-07-25.PR%20ACAF%20Augusta%20County.pdf

<http://www.it.vt.edu/initiatives/eCorridors.html>

WV

The West Virginia Rural Development Council Telecommunications Initiative

The Rural Development Council was established in 1992 as a medium through which to address issues important to residents of the rural regions of West Virginia. The Telecommunications Initiative is a teletechnology program to educate community leaders on issues surrounding local teletechnology and how it affects community development. Grants awarded by the Appalachian Regional Commission have been used to produce forums to discuss the importance of telecommunications and information technology.

The YAS Broadband Initiative

This initiative, created by the Lane Broadband Telecommunications Center of Excellence in 2000, was built

on a \$500,000, ten-year grant from YAS Broadband Ventures, LLC, who worked in conjunction with West Virginia University's Department of Computer Science and Electrical Engineering. The goal is to help the state in becoming a technological center of the broadband telecommunications industry. The initiative sponsors several activities and programs: (1) annual YAS broadband Venture seminar, (2) graduate fellowships which awards stipends to students working in broadband technology and (3) senior design projects in broadband technology and applications. Long-term goals of the project include: the creation of a broadband laboratory, the start-up of several venture-based companies involving broadband technology and educational initiatives.

The West Virginia Network (WVNET)

This statewide, higher education network provides telecommunications and computing services to the State College and University System through a central computing site and community facilities that interconnect the computing sites. The network was created in 1975 by the Board of Regents as part of a plan to distribute computer resources to higher education institutions across the state. The aim of the network was to provide central computing facilities and (WAN) communications linking the "central site" computing resources in Morgantown with campus computing systems. Originally, the West Virginia University Computer Center (WVUCC) was designated as the "host site". However, in spring 1977, the network separated into its own entity and reported to the Board of Regents. In November of 1998, the Governor's Office of Technology issued Operational Directive 9801, which extended WVNET's range of responsibility to include a major management, control, and support role for the network. In July 2000, Senate Bill (SB) 653 mandated that WVNET report to the West Virginia Higher Education Policy Commission (WVHEPC). The policy board has the final ruling on problem resolution, oversight, direction, policy issues, etc. The network is currently transitioning to services to benefit state government, K-12 institutions, public libraries, and county government.

Source: <http://www.lcsee.cemr.wvu.edu/yas/>
<http://access.k12.wv.us/>
<http://www.wvnet.edu/>

WI

Education Telecommunications Access Program

Initiated in February 1998, the program provides subsidized access to new data lines for direct Internet access and two-way interactive video links, and provides grants for data lines and video link contracts in existence before on or October 14, 1997. Entities eligible for the program include: public and private K-12 schools, private, tribal and technical colleges and public libraries among others. Members are charged a maximum of either \$100 or \$250 per month, depending on the speed of their Internet data line or video link. The program pays for equipment, installation costs of the data lines and video links and ongoing costs in excess of the monthly charges paid by the eligible institutions. The actual access to a data line or video link is provided by telecommunications providers under contract with the Department of Administration. The telecommunications services are part of the state's voice, video, and data network called BadgerNet.

Wiscnet

Wiscnet is a nonprofit membership-based association of private/public organizations that was established in 1989 by 24 colleges and universities in an effort to access high-speed Internet. The modernized version of the program began operations in 1991 under a grant from the National Science Foundation. Members of the network include the state, most colleges and universities, most K-12 school districts, most library systems,

local governments and several nonprofit affiliated organizations.

Source: <http://www.wiscnet.net/>

WY

The Wyoming Equality Network (WEN)

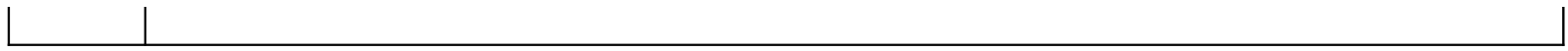
The Wyoming Equality Network is a statewide, broadband digital data access network, designed to connect all of the state's public schools and provide various other applications including telemedicine. One of the goals of the network is to provide distance learning services to remote locations across the state. The network is the result of a state Supreme Court decision in 1995 and legislation in 1997, which mandated the development and implementation of a statewide education technology plan. The state developed a plan for connectivity between schools and interactive video among all high schools in the state. During the first phase of the initiative, Qwest Communications was contracted to provide data connectivity to all schools in the state. The system is constantly undergoing upgrades as the technology and demand change. The Department of Education has sought and received additional funding to upgrade most of its existing 56kbps circuits to full T-1 capacity, a project which should be completed by the end of the spring 2003 school semester. A growing demand required the state to expand the amount of bandwidth from 5 or 7 megabits to 10 megabits. The network now serves all state high schools and community colleges, and all of the University Of Wyoming.

Southwestern Wyoming Enhanced & Expanded Telecommunications Net-work (SWEETnet)

SWEETnet is a \$31 million, publicly owned fiber optic network, still in the process of being implemented, built by the cities in Sweetwater County. This multi-year program is being headed by the Joint Powers Telecommunications Board (JPTB), a 6-member inter-local government agency formed by the two cities of Green River and Rock Springs in 2001. The goal of the project is to help residential and business customers to benefit through the cost effective management of increased bandwidth capacity. Those involved hope that the network will prove to be rewarding in the form of interconnectivity among local government facilities and entities, local high-speed Transparent LAN connectivity for K-12 schools and colleges, attracting new businesses to the area, and eventually providing additional income for the two cities. For the first phase the JPTB hired US Metronets, L.C., a consulting company, to conduct a feasibility study which included a business plan for the delivery of services via an open service provider network model. According to the study, the estimated total cost of the project would reach \$31.5 million, including building the initial facilities and connecting to businesses and residences. In addition, the study projected a 50-70% penetration rate and \$7.3 million in gross annual revenues by the 10th year of operation. For initial financing, each city had to commit \$750,000. From there, the project funding was divided into two categories: 75% was funded by revenue bonds issued by the JPTB, and 25% came from private industrial partners. The project began with the installation, termination, and testing of a fiber optic backbone. The JPTB has since completed the installation of a 96-strand single mode fiber backbone connecting Green River and Rock Springs to a regional point of presence (POP) on Broadwing's trans-continental fiber network. This backbone runs approximately 21 miles long with four main points: Green River City Hall, Rock Springs City Hall, Blairtown, and the initial POP. The next phase was to include extending the network to every home and business in the two cities. The backbone system, open to all retail service providers and wholesale services, was to be operated by a independent network operator. The system is to be capable of Voice over Internet Protocol (VOIP) telephony, instructional programming, video-on-demand (VOD) streams, and video teleconferencing among other things. The revenues generated from the network are reinvested into the construction and operation of the system.

Source: <http://www.sweetnet.us/>

<http://www.k12.wy.us/>



MISSISSIPPI INITIATIVES – 5 DIFFERENT MODELS

CASE EXAMPLES

Our research found five cases in Mississippi that illustrate the types of models currently used in implementation of broadband services to rural areas of Mississippi where such services are not economically feasible as profitable for private companies. The examples presented below different operating models, different technology and differences in funding mechanisms.

On one case, a nonprofit foundation, the Enterprise Corporation of the Delta, provided a grant to a wireless company to bring service to rural communities in the Mississippi Delta. In another case, the federal government provided a grant to an electric cooperative to contract with a broadband-over-power line company to provide broadband services to customers in rural southeast Mississippi. In the third case, an economic development organization spun off a new nonprofit entity primarily for the purpose of installing a fiber optic cable “backbone” to communities in northeast Mississippi. The entity is being funded with a combination of federal grants, utility grants and private contributions. In the fourth case, a local school district in a rural Mississippi Delta community received a federal grant to not only provide broadband access to the school, but to the community as well. In the fifth case, a regulated telecommunications company, BellSouth, is expanding its existing network of broadband aided by the Mississippi Broadband Technology Act.

These examples are not to imply that these are the only models. For example, municipalities are the providers of broadband services in some communities. In others, cooperatives have been formed. The models herein are simply specific examples of what is currently happening in Mississippi.

Air2Lan

Air2Lan is a private, for-profit company that provides broadband internet services. Founded in December 1999 the company provides broadband Internet access, wireless local area networks (WLAN), Wi-Fi roaming services, point-to-point connectivity, and value-added Internet services to businesses, residential complexes, hotels, and municipal governments. Voice over Internet Protocol Service (VoIP) is also offered through a partnership with Level 3 Communications.

AIR2LAN focuses its primary marketing efforts in providing broadband services to small and medium-sized businesses. The company deploys its network in business-dense areas of each market, minimizing the high costs of providing service to an entire metropolitan area. It also offers a national Internet mobility service that allows new and existing customers to access a broadband connection in public areas. Larger markets include Jackson, Mississippi, Memphis, Tennessee, Montgomery, Alabama, New Orleans and Monroe, Louisiana and Houston, Texas. Satellite markets include Vicksburg, Yazoo City, Greenville, Greenwood and Clarksdale in Mississippi, and West Memphis in

Arkansas. The Enterprise Corporation for the Delta (ECD) partnered with Air2Lan by providing the investment needed to bring affordable broadband to the aforementioned small communities.

IBEC

IBEC is an Internet Service Provider that concentrates is on Broadband-Over-Powerline (BPL) services. IBEC also offers nationwide dial-up Internet access and web hosting and both DSL and wireless broadband Internet access select areas of North Alabama. Its business model is to partner with electric cooperatives. Grants provide the capital to install the infrastructure and then the electric cooperative offers the service to customers. IBEC is currently installing high-speed Broadband-Over-Powerline market pilots in partnership with Central Virginia Electric Cooperative in Nelson County, Virginia and South Central Indiana Rural Electric Membership Cooperative in Martinsville, Indiana.

MEGAPOP

MEGAPOP is an intuitive in Northeast Mississippi that was begin to bring a fiber network to the region. According to its website, <http://www.themegapop.com>, MEGAPOP, or **Mississippi Economic Growth Alliance and Point of Presence**, "...is an alliance of interested parties created to facilitate improved broadband access and education. It is a non-profit corporation that will reinvest all resources into education and 'last mile' rural access. The partnership includes business leaders, university presidents, economic developers, government officials and others concerned with the region's future. By enabling the establishment of this broadband network, MEGAPOP will improve North Mississippi 's long-term economic health.

In 2005, MEGAPOP through an association with Telepak Networks, Inc., will install a backbone of high-speed, high-volume Internet access. The backbone will be managed, marketed and operated by Telepak Networks, Inc as a part of their larger network that will serve almost two-thirds of Mississippi . MEGAPOP will feature Points of Presence in Oxford , Tupelo , Lowndes County and Oktibbeha County . The larger ring will provide broadband access from Memphis to Jackson and from Hattiesburg to the Mississippi River Delta.

The MEGAPOP initiative promises a wide range of benefits both for the North Mississippi region and its residents individually in the areas of economy, education, health care and local government. From an economic standpoint, each of the communities will be provided a better climate to strengthen economic development efforts through private enterprise supplying home offices with high speed access, offering affordable rates for small businesses and high capacity for larger users.”

City of Benoit, Mississippi

Benoit recently received a \$370,508 Community Connect grant from the USDA Rural Utility Service to bring a wireless broadband system to the Mississippi Delta agricultural community, which has a population of 611. The project will utilize the city's already existing water tower as the location for base station antennas. The broadband control center will be located in the municipal offices in downtown Benoit and the town will deploy residential and commercial antenna units at the various locations as needed by subscribers. The project will connect the Ray Brooks School (K-12), the Benoit Public Library, as well as the police and fire departments. The community center will be established on the school campus and offer all community residents broadband access, including continuing adult education, such as professional certifications and GED classes via Mississippi Virtual GED.

BellSouth

BellSouth is the predominant, traditional wire-line telecommunications company in Mississippi. The 2003 Broadband Technology Development Act, tax incentives decrease costs of deploying high-speed data equipment, and had immediate impact at BellSouth. The President of the company announced in 2003 that “..BellSouth significantly increased our DSL capital spending in Mississippi from \$3.5 million to \$10.8 million in 2003.” In 2005, another bill passed the state Legislature to ensure broadband services are exempt from regulation from the Public Service Commission. That bill prompted an announcement from BellSouth that it would spend another \$12 million on deployment of DSL services in Mississippi.

Conclusions & Recommendations

As this report documents, there are many ways that states and local communities are using to bring broadband to the so-called last mile. There is no one-size-fits-all plan. The financing methods and the technology are dynamic, creative and changing almost daily. The legal environment regarding broadband also active. Given such an environment, the task force believes that there is no single best method for every community. Each community must determine the financing method, the type of infrastructure and the uses of broadband that it desires to promote. There is little argument that a rural community will benefit from having broadband.

The task force found that Mississippi has a long way to go regarding educating its citizens to the benefits of broadband technology. It also found that local officials also need to be educated about the benefits. Most Mississippi local units of government still do not have websites, much less an active e-government initiative.

In studying other states' plans the task force felt that the Kentucky model was closest to what the Mississippi initiative should look like. It is based on three primary principles:

- (1) increase public awareness of e-business and e-government,
- (2) create market-driven strategies to increase use of technology and
- (3) create public policy initiatives promoting broadband access

Therefore, the task force offers the following recommendations:

- (1) Mississippi should implement a statewide initiative to encourage all citizens to use technology, especially the Internet, to improve their lives. There should be an effort to communicate to citizens, especially those in rural communities, the benefits of broadband Internet access.
- (2) Mississippi should adopt a Broadband strategy and a formal plan. The plan should include and identify existing broadband infrastructure
- (3) There should be an entity at the state level to serve as a coordinating council, resource center, communications arm, etc. for communities, private providers, citizens and local organizations to turn to for information. With proper support, the Mississippi Technology Alliance is an existing organization that may be best to take on this role.
- (4) The state should maximize federal funding by providing information, guidance and technical assistance to communities.
- (5) The state should encourage the private market to bring broadband Internet access to rural communities.

(6) Mississippi should allow local units of government to provide wholesale services with their own broadband networks, but only as a last resort. The State of Mississippi, like every other state, has limited capital resources and therefore must prioritize its funding to communities in such a way that the most people receive the most benefits possible. This section presents a model for evaluating funding requests for local units of government that are desirous of bringing broadband Internet access to their communities. It is based on reviews of other states' funding processes as well what might logically be best for Mississippi. The evaluation model (decision matrix) utilizes six criteria and assigns a weight to each. Proposal evaluators would score each proposal on a 1-5 basis, with 5 being the highest score. Scores would then be multiplied by weight to arrive at a total score for each proposal. The decision matrix would be as follows:

| CRITERION | WEIGHT | Community A | Community B | Community C |
|---|--------|-------------|-------------|-------------|
| Community Technology Plan | 3 | | | |
| Funding by the Community | 2 | | | |
| Outside Funding | 2 | | | |
| Evaluation/identification of Existing Providers | 2 | | | |
| Impact on Community | 3 | | | |
| Affordability to customer | 3 | | | |
| Total Score | | | | |

Scoring: 1 = low 2 = medium 3 = high

RATIONALE FOR CRITERIA AND WEIGHT

A Community Technology Plan is an essential element of any community's planning effort. Merely desiring broadband Internet access is not sufficient. The plan would assess the current state of technology in the community and the impact on the community if and when it gains broadband. The components of the plan would include an assessment of the following segments of the community: education, business & industry, government, medical, community organizations, agriculture and tourism. Because it is essential and has such an impact on the other criteria it has a weight of 3.

Funding by the community is evidence of the community's desire for broadband. If a community really wants broadband then it should itself be willing to make an

investment and have something at risk. Local government history is replete with examples of communities receiving grants for infrastructure that fell into disrepair because the community either did not have the funds for maintenance or had nothing at risk if the project failed. Our research found many communities that issued revenue bonds as a way to raise money to fund broadband infrastructure. Conversely, some communities that have the fewest resources may be the ones that need broadband service the most. In such a case, the community may score low on funding by the community, but high on impact on the community, hence a higher weight for impact on the community when compared to funding by the community.

Outside funding in the form of grants and loans is currently available from several sources. A community should be taking advantage of such funding. It is noted that this model does not equate outside funding with local funding. In other words, a grant from a federal agency cannot be counted twice in this evaluation model.

Identification and evaluation of existing providers is an important element of bringing broadband to a community. Very few communities have the expertise or experience to become providers of broadband service, especially in a marketplace in which technology is changing rapidly and which is competitive in terms of providers. Although it may be appropriate to contract with providers, local units of governments should be the provider of last resort. Thus, the State should ensure that grant applicants have determined the state of broadband in the local community.

The impact on the community is given great weight. The community technology plan mentioned above should determine where the impact will be felt most, but if there is little or no impact on the community there has been little accomplished by spending great amounts of money to bring broadband to an area. On the other hand, a community that stands to have little consumer use, but a quantum increase in healthcare benefits due to a rural clinic being able to link to a large medical center would have a higher score.

Finally, affordability to the customer is one component of the national objective of bringing broadband access to rural America. This component therefore is weighted high.

The state should consider additional financial incentives for Broadband deployment, especially to underserved communities. In providing financial assistance to local units of government the state should require that the community have a technology plan outlining how it will promote and utilize broadband technology, and require that the local unit of government provide matching funds. Said matching funds should not be in the form of grants or loans from other agencies, but be funds actually paid by the local unit of government. The matching fund requirement should be a sliding scale reflecting the local community's resources and income level of its citizens. Poorer communities would therefore have less of a matching requirement.

(7) Mississippi should encourage more government usage of Broadband, especially at the local level.

(8) Broadband service should be encouraged through the use of a variety of technologies, including wireless, Broadband over power line (BPL), cable/fiber and others.

9) Mississippi should adopt policies that expedite and standardize rights-of-way permitting while minimizing fees.

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APPENDIX I

BellSouth Comments

BellSouth Comments for Rural Broadband Task Force

BellSouth has been in the business of providing broadband service in Mississippi since the early 1990's, when Deposit Guaranty National Bank in Jackson had an application requiring more "capacity" than its traditional telephone service could accommodate. At that time, BellSouth was launching its first true broadband data service, Frame Relay. In response to the needs of Deposit Guaranty and other customers, including the State of Mississippi, Mississippi had more connections of Frame Relay within the first year than any other state in the BellSouth region.

In 2005 the issue of providing broadband service in Mississippi is still about applications. While digital subscriber line (DSL) availability is the focus of many broadband-related discussions, it should be noted that the applications for DSL are primarily suited for small business and consumer customers. Economic developers attempting to attract major industries like Nissan or to keep existing industries like Northrop Grumman need broadband options with greater capability. In that regard, BellSouth services readily available to medium and large business customers include T-1, DS1, DS3, Frame Relay, ATM, OC3, OC12 and network diversity services. These services are available anywhere in Mississippi. If a prospect needs direct fiber to their premise location, BellSouth will provide the facilities as needed.

As the economy becomes more global and location becomes secondary to the availability of technology, rural broadband for the consumer and small business marketplace is a challenge BellSouth and the many other service providers in Mississippi are working to address. BellSouth provides service in 81 of Mississippi's 82 counties, which collectively rank near the bottom nationally in terms of population density. As a general rule, BellSouth and other providers in Mississippi must place more equipment to reach fewer customers than providers in more densely populated states.

The Mississippi Legislature has been very progressive in providing incentives through laws that help private entities increase their broadband investments in the state. For example, BellSouth worked with economic developers around the state to pass SB2979, the Mississippi Broadband Technology Investment Act, in 2003. The legislation provides for tax incentives for companies willing to invest in building broadband networks in Mississippi. In addition, the Mississippi Legislature in 2005 passed HB1239. This law provides assurances to those companies willing to invest in broadband services that their services will be treated in the same manner as any other broadband provider in Mississippi.

Significant attention has focused nationwide on how best to ensure widespread access to rapidly advancing technology. As evidenced by the companies represented at the recent

taskforce meetings held in Mississippi, broadband is available today across many platforms - cable, landline, wireless, satellite, and power lines. Our industry deserves modernized telecommunications regulations that allow all of these participants to succeed or fail based on the quality of services offered and the wisdom of their business plans.

Critical Issues that need to be addressed include:

- Consumer controlled marketplace
- IP/Broadband relief
- Platform/technology neutrality
- Universal Service Reform
- Government Owned Networks
- Job Creation

Consumer Controlled Marketplace

Consumers have many choices in today's communications marketplace. Telecom policy should embrace and encourage market-based competition, which permits all companies – regardless of technology – to invest and compete head-to-head. This approach allows consumers to determine which products and services succeed, rather than the government. Rules should be based on the services provided – such as voice, video or Internet – rather than the technology used. Phone jacks, cable outlets, wireless devices, satellite dishes, even electrical outlets all provide different means to the same ends: delivery of innovative voice, video and Internet choices. Rather than regulate each company based on how they deliver service, we should adopt technology-neutral rules for the services themselves.

The role of government is to uphold vital social objectives across all technologies. These objectives include universal service, key law enforcement/public safety tools (i.e. E-911, CALEA), access for persons with disabilities, and consumer protection against fraud and abuse. The same requirements should be levied on all service providers without regard to the technology used.

IP/Broadband Relief

Voice over Internet Protocol (VoIP), Internet Protocol Television (IPTV), as well as numerous other Internet Protocol (IP) services limited only by one's imagination are now possible. However, all of these services require robust broadband networks and those networks require billions of investment dollars to turn "the possible" into reality. It is important to note that while VoIP and IPTV are services provided using IP, they are not services that typically traverse the Internet. These are services that use IP packet switching, but the bits of data that are ultimately reassembled from many "packets" into the final voice or video service, travel over a broadband network.

For these services to work there must be a broadband network. For example, VONAGE, a VoIP provider, has no network. Their voice service requires use of someone else's broadband network because VoIP is simply a service or application that rides on a broadband network. Someone must invest in that network to ensure that IP services will work.

Since these new, exciting IP services require a broadband network, we must ensure that federal regulation is not a roadblock for making the necessary investments to support them. Additionally, it should make absolutely no difference what type of technology (cable, wireless or copper wires) a broadband network uses to provide IP services. Consumers don't care what type of technology provides their service. They just want the service and they want it to work.

Platform/Technology Neutrality

While consumers don't care what type of technology underlies their IP services, there are some entities that think the type of technology does make a difference. They argue that if a network contains copper, then it is the "old" network that must be shared (unbundled) with competitors. Those same entities agree that if the network contains no copper (but consists of fiber, coax, wireless or anything other than copper components) then it should not have to be shared (unbundled) with competitors. However, this debate is not about wires, it's about services. Specifically, it's about getting those services to consumers. Legacy economic regulation of copper facilities should not apply when networks containing copper are upgraded by substantial new investments in new technology that use that copper to provide IP services. The bottom line is that any broadband unbundling obligations would impose considerable costs on the incumbent's IP business case and create disincentives for investment. Updated telecom rules must ensure that broadband and IP services are not subject to unbundling. They must be technology neutral with copper receiving the same regulatory treatment as any other network technology to the extent that copper is used as part of the IP network.

Universal Service Reform

A strong, stable Universal Service Fund will ensure community Internet access is available in America's schools, libraries and rural health-care facilities. Universal service is financed primarily by fees collected for long-distance calls placed through landline and wireless companies. As more communications move to VoIP and other technologies that do not contribute to universal service, an ever-smaller base of landline and wireless revenues are forced to unilaterally finance the costs of universal service. The cost burden should be shared equitably among all market rivals, regardless of the technology they use. Similarly, all market rivals should be eligible to receive universal service funds, so long as the resources support networks that meet common technology-neutral standards of reliable service (access to 911, Lifeline, Linkup, etc.). An updated approach should transcend outmoded distinctions between "local" and "long-distance" services that modern technology has rendered largely meaningless.

Government Owned Networks (GON)

Government and quasi-government entities should not be competing with private industry. Unlike other utilities, most government-run telecommunications ventures operate in direct competition with existing landline, wireless, cable and high-speed Internet networks. Building government-owned networks (GONs) diverts finite resources from other priorities, such as education, fire/police and public works. GONs often cost far more than anticipated and rapidly become antiquated due to rapid changes in technology.

- Marietta, GA spent \$34M on its municipal network, only to sell it for a \$23M loss.
- Ashland, Oregon incurred millions in cost overruns.
- The Iowa Communications Network is struggling to find a buyer that will pay “anything near what the state-built system is worth.”¹
- In a paper titled “Wireless Philadelphia: A Leap into the Unknown,” Thomas M. Lenard, Progress & Freedom Foundation senior fellow and vice president-research, writes, “The Wireless Philadelphia business plan does not explain why no private company would take advantage of a technology that would allow it to undersell incumbent DSL and cable modem providers. The most reasonable conclusion is that the business plan has dramatically underestimated the costs and risks of this project and overestimated the demand for ubiquitous Wi-Fi service.”

The Rural Broadband Loan & Grant Program was created by the 2002 Farm Bill and administered by USDA Rural Utilities Service (RUS). Grants are available only if no entity is serving or committed to provide Broadband. Although BellSouth is not eligible for funds because we serve more than 2% of phone subscribers in the United States, our commitment to providing broadband to all the communities we serve is evidenced by our placement of DSL equipment in every central office in Mississippi.

Many years ago the RUS was created to bring electricity to rural areas of our country where there was no electricity. Today there is still only one provider of electricity in those areas. Some would argue government should be allowed to compete with private providers of broadband. Interestingly, many of these same entities that want to use RUS money for competitive broadband networks do not desire any competition in their own single provider electric certificated area.

We believe any government assistance should be used to help those that have no choice for broadband, and not be used to compete with private companies. Government’s role is to assist business, not to put people in business or to run a business with tax dollars, paid by the very same businesses with whom they are competing.

If a government entity is allowed to enter a market served by the private sector, policy makers must ensure it does not do so in an anti-competitive manner that discourages private investment (i.e. with unfair advantages, such as unilateral regulatory exemptions, cross subsidization or tax breaks).

Job Creation

According to the U.S. Chamber of Commerce, allowing private companies to invest in a broadband market free from heavy government intervention could create 212,000 jobs and \$634 billion in U.S. GDP growth in five years.² Longer-term analysis points to a gain of 1.2 million jobs.³ The studies were clear that market-based competition, not government-managed competition, drives this result.

1 Not in the Public Interest – The Myth of Municipal WiFi Networks, New Millennium Research Council, February 2005.

2 Sending the Right Signals, U.S. Chamber of Commerce, 9/22/04.

3. The Effects of Ubiquitous Broadband Adoption on Investment, Jobs and the U.S. Economy, Criterion Economics and the New Millennium Research Council, September 2003.

Basic Telecommunications Terminology

Bits refer to Binary Digits. Digital telephony is based on the Binary Number System, a base 2 numbering system having only the digits 0 and 1. A bit is one binary digit or a pulse of data.

Bps refers to Bits per second.

KBps or Kb/s means Kilobits per second and is equal to 1,000 bits per second.

MBps or Mb/s means Megabits per second and is equal to 1,000,000 bits per second

GBps or Gb/s means Gigabits per second and is equal to 1,000,000,000 bits per second.

Multiplexing means combining or putting together.

Narrowband usually refers to copper based technology operating at speed of less than 1.544 Mb/s.

Broadband, according to the FCC, is digital transmission at speeds greater than 200 Kb/s.

Digital Transport mediums can be either copper cable or fiber optic cable. Fiber optic technology uses light pulses traveling through hair thin glass strands to transmit information. Fiber provides higher quality transmission, has greater information carrying capacity and provides greater reliability and longer life when compared to traditional copper cables.

Digital Bandwidth

DS0 refers to one digital data or voice channel that operates at a transmission rate of either 56Kb/s or 64Kb/s.

DS1 or T-1 equals 24 DS0's and operates at a transmission rate of 1.544 Mb/s. A DS1 can be transmitted over either copper cables or fiber cables. The traditional transmission medium is copper.

DS3 equals 28 DS1's (T1's) and operates at a transmission rate of 45Mb/s. The most common transport medium today is Fiber.

SONET (Synchronous Optical Network) is a standard defining a set of optical performance specifications, transmission rates, and signaling and multiplexing techniques that is that basis for broadband products and services. SONET also provides a generic standard that enables products from different vendors to be connected. SONET technology is used to provide self-healing diversity in the Interoffice Network.

SONET Transmission Rates

| | |
|-------|------------------------|
| OC-1 | 51.8 Mb/s |
| OC-3 | 155.5 Mb/s (3 OC-1's) |
| OC-12 | 622.0 Mb/s (4 OC-3's) |
| OC-48 | 2448.3Mb/s (4 OC-12's) |

Data, Fast Packet, and Transport Services

ADSL stands for Asymmetrical Digital Subscriber Line. The technology allows high-speed data communications over existing copper cables while a subscriber can simultaneously use their regular voice capability. Basically, there are three separate frequency channels over the same phone line. Voice conversations are carried on one channel, data for an ISP to the user is carried downstream on another channel, and data from the user to the ISP runs upstream on the third channel. This equipment is called a Digital Subscriber Line Access Multiplexer (DSLAM) and is located in the serving central office or at a remote site. The voice traffic is split off and goes to the voice switch in that central office and the data traffic is transported to an ATM switch that may be/may not be located in the same central office.

ISDN stands for Integrated Services Digital Network. ISDN allows subscribers to combine voice, data, and video services in a digital format over the same physical facility from their premise to the central office. Subscribers no longer require separate lines for their voice, data terminals, facsimile machine, or other communication devices traditionally offered over a telephone cable facility. The two most common types of ISDN services are discussed below:

Basic Rate ISDN (BRI) allows for three communication paths (called channels) over the same two-wire copper facility (or digital pipe) that provides traditional phone service. Where regular POTS can reliably carry only 2.4 KBPS (kilobits per second), BRI has the

capability of carrying 144 KBPS of information over the same line - enough bandwidth to transmit a 22 page document every second. BRI has two B- channels and a third D- channel. Each of the B-channels can carry voice, circuit switched data, or packet switched data at up to 64 KBPS. The D-channel carries the signaling between the subscriber's ISDN equipment and the central office at up to 16 KBPS. The D-channel may also be used to carry low-speed packet-data. For applications requiring more bandwidth, such as video conferencing or higher speed Internet access, the B-channels can be combined, offering up to 128 KBPS. Also multiple phone numbers can be assigned to one ISDN line.

Primary Rate ISDN (PRI) service utilizes the same digital technology as BRI, but combines 23 B-channels with one D-channel. Like BRI, each B-channel can carry voice, circuit switched data, or packet switched data at up to 64 KBPS. The D-channel carries "signaling" information also at 64 KBPS. The D-channel's only purpose for PRI is for signaling between the subscriber's ISDN equipment and the central office. Therefore, the total usable bandwidth is 1.536 MBPS (megabits per second). Bandwidth for voice, data, and video applications can be allocated dynamically, on a call-by-call basis. That means that the same channels used for voice calls one minute can be reallocated for a video conference the next. Some applications for PRI are ISDN service for a PBX; video conferencing, host computer, enhanced voice, and LAN access applications for business.

Frame Relay Service is a data transport service operating at speeds ranging from 56 KBPS to 45 MBPS. The data is transmitted from end-device terminals, packaged in variable length packets, and transported through the network. Frame Relay is best suited for bursty data applications rather than those where a constant data stream is required. A subscriber uses the Frame Relay technology as an alternative to leasing physical lines to connect their computing environment (i.e. LAN's). The purpose of a Frame Relay network is to provide an end user with a high-speed virtual private network capable of supporting applications with large bandwidth requirements. With Frame Relay many virtual connections may be provisioned over a single physical access circuit.

Asynchronous Transfer Mode (ATM) Technology is a packet-switched transport technology that uses ATM switches and the Synchronous Optical Network (SONET) to simultaneously transport voice, data, imaging, and video at speeds of up to 622 MB/s (622,000,000 bits per second). It provides flexible bandwidth allocation on demand, which is required to support new interactive residential and business broadband services like ADSL. ATM switching is based on cell relay technology, which uses small, fixed-length cells. The ATM switch is connection-oriented and cells are associated with pre-established virtual connections. Information to be transported is segmented into fixed length cells, transported, and re-assembled at the end destination.

Being fixed in length allows the information to be transported in a predictable manner. This predictability allows different types of traffic on the same network.

> ATM's primary value to customers is in its flexibility. It is interoperable with other services, which allow other packet switching data services (Frame Relay) to be

served over ATM backbones. In addition, ATM can transmit different data speeds and different protocols simultaneously. Users are extremely sensitive to the problems that are caused by short-lived network solutions (e. g. cost due to over engineering, excessive maintenance, time to implement, etc.) and are demanding that their service provider demonstrate a migration strategy that supports higher speeds, more sites, and different applications. These types of demands cannot be supported by any single technology other than ATM.

> Since ATM promises manageable and secure bandwidth on demand, it has been envisioned that any kind of information can be transferred and switched in real time or non-real time at fixed or variable speeds, depending upon the characteristics of the data source. This bandwidth-on demand capability means \$\$ savings for customers by allowing them to secure only the most efficient bandwidth needed by any given application.

> Another important value ATM will bring to customers is in its scalability. ATM is not limited to high-bandwidth applications only – it can be utilized to support a wide range of interface speeds ranging from T-1 (1.544Mbs) to speeds higher than SONET OC12 (622.080 MBPS).

> ATM also supports various qualities of service over a single circuit. With its small cell size and high capacity, ATM can handle real-time applications such as voice and video (which can tolerate only minimal delay and require a constant bit rate) while also providing asynchronous data handling for other applications.

Miscellaneous Information

One common Economic Development questions often centers around Points of Presence (POP's) and if a POP is located near the prospective location. Basically the individual Interexchange Carrier determines POP locations and BellSouth delivers their terminating traffic to them at their selected location.

Here is a description of a T-1: Also known as a DS1 is composed of 24 voice channels (DS0's at 64 KBPS or 56 KBPS) or a combined digital pipe with a total bandwidth of 1.544 MBPS (megabits per second) or 1, 544,000 bits per second.

APPENDIX II

PENDING FEDERAL LEGISLATION

(NOTE: This listing reflects legislation that directly affects rural broadband. There are other pieces of legislation, such as telecommunications, that will also affect rural broadband that are not listed herein.)

109th Congress

S.14 - Fair Wage, Competition, and Investment Act of 2005

S.497 - Broadband Rural Revitalization Act of 2005

S. 502 - Rural Renaissance Act

S. 1108 - Rural Access to Emergency Services Act of 2005

S. 1147 - To amend the Internal Revenue Code of 1986 to provide for the expensing of broadband Internet access expenditures, and for other purposes.

S. 1253 - Rural Renaissance Act II of 2005

S. 1294 - Community Broadband Act of 2005

H.R. 3 - Transportation Equity Act: A Legacy for Users

H.R. 144 - Rural America Digital Accessibility Act

H.R. 146 - To establish a grant program to support broadband-based economic development efforts

H.R 1479 - Rural Access to Broadband Service Act

H.R. 2525 - Rural Access to Emergency Services Act of 2005

H.R. 2744 - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2006

H.RES. 230 - To express the sense of the House of Representatives that the Federal Communications Commission should reconsider and revise rules governing broadband over power line systems based...

Source: Thomas Legislative Location Service, Library of Congress,
(<http://thomas.loc.gov/>)

APPENDIX III

MISSISSIPPI PUBLIC SCHOOLS & BROADBAND

The 2004 Mississippi Technology Inventory Summary Report of the Mississippi Department of Education provides a profile of technology availability and use thereof by Mississippi public school students. It noted that statewide 80.2 percent percent of teachers/staff have access to the Internet in their homes, while 52.3 percent of the students have access to the Internet in their homes.

| District | What percent of students in your school have access to the Internet in their homes? |
|-----------------------------------|---|
| ABERDEEN SCHOOL DIST | 32.4% |
| ALCORN SCHOOL DIST | 57.9% |
| AMITE CO SCHOOL DIST | 52.8% |
| AMORY SCHOOL DIST | 46.7% |
| ATTALA CO SCHOOL DIST | 37.4% |
| BALDWYN SCHOOL DISTRICT | 55.7% |
| BAY ST LOUIS WAVELAND SCHOOL DIST | 51.8% |
| BENOIT SCHOOL DISTRICT | 10% |
| BENTON CO SCHOOL DIST | 39.3% |
| BILOXI PUBLIC SCHOOL DIST | 89% |
| BOONEVILLE SCHOOL DIST | 48.6% |
| BROOKHAVEN SCHOOL DIST | 45.2% |
| CALHOUN CO SCHOOL DIST | 53.4% |
| CANTON PUBLIC SCHOOL DIST | 61.3% |
| CARROLL COUNTY SCHOOL DIST | 49.2% |
| CHICKASAW CO SCHOOL DIST | 25% |
| CHOCTAW CO SCHOOL DIST | 52% |
| CLAIBORNE CO SCHOOL DIST | 45.7% |
| CLARKSDALE MUNICIPAL SCHOOL DIST | 17.5% |
| CLAY CO SCHOOL DIST | 15% |
| CLEVELAND SCHOOL DIST | 37.4% |
| CLINTON PUBLIC SCHOOL DIST | 72.5% |
| COAHOMA CO AHS | 15% |
| COAHOMA COUNTY SCHOOL DISTRICT | 24.3% |
| COFFEEVILLE SCHOOL DIST | 17.3% |
| COLUMBIA SCHOOL DISTRICT | 44% |
| COLUMBUS MUNICIPAL SCHOOL DIST | 28.1% |
| COPIAH CO SCHOOL DIST | 50.1% |
| CORINTH SCHOOL DIST | 51.7% |
| COVINGTON CO SCHOOLS | 36.5% |
| DESOTO CO SCHOOL DIST | 68.6% |
| DREW SCHOOL DIST | 35.4% |

| | |
|-----------------------------------|-------|
| DURANT PUBLIC SCHOOL DIST | 90% |
| EAST JASPER CONSOLIDATED SCH DIST | 43.7% |
| EAST TALLAHATCHIE CONSOL SCH DIST | 34.8% |
| ENTERPRISE SCHOOL DIST | 71.1% |
| FOREST MUNICIPAL SCHOOL DIST | 47.4% |
| FORREST COUNTY AG HIGH SCHOOL | 45% |
| FORREST COUNTY SCHOOL DISTRICT | 70.2% |
| FRANKLIN CO SCHOOL DIST | 60.5% |
| GEORGE CO SCHOOL DIST | 49.5% |
| GREENE COUNTY SCHOOL DISTRICT | 41.9% |
| GREENVILLE PUBLIC SCHOOLS | 59.4% |
| GREENWOOD PUBLIC SCHOOL DISTRICT | 94.9% |
| GRENADA SCHOOL DIST | 48.7% |
| GULFPORT SCHOOL DIST | 63.2% |
| HANCOCK CO SCHOOL DIST | 37.5% |
| HARRISON CO SCHOOL DIST | 56.8% |
| HATTIESBURG PUBLIC SCHOOL DIST | 27% |
| HAZLEHURST CITY SCHOOL DISTRICT | 63.7% |
| HINDS CO AHS | 45% |
| HINDS CO SCHOOL DIST | 77.4% |
| HOLLANDALE SCHOOL DIST | 25.5% |
| HOLLY SPRINGS SCHOOL DIST | 14.1% |
| HOLMES CO SCHOOL DIST | 29.9% |
| HOUSTON SCHOOL DIST | 47.2% |
| HUMPHREYS CO SCHOOL DIST | 36.3% |
| INDIANOLA SCHOOL DIST | 48.6% |
| ITAWAMBA CO SCHOOL DIST | 80.6% |
| JACKSON CO SCHOOL DIST | 63.3% |
| JACKSON PUBLIC SCHOOL DIST | 39.7% |
| JEFFERSON CO SCHOOL DIST | 18.6% |
| JEFFERSON DAVIS CO SCHOOL DIST | 38.1% |
| JONES CO SCHOOL DIST | 61.3% |
| KEMPER CO SCHOOL DIST | 38.1% |
| KOSCIUSKO SCHOOL DISTRICT | 75% |
| LAFAYETTE CO SCHOOL DIST | 20% |
| LAMAR COUNTY SCHOOL DISTRICT | 69.1% |
| LAUDERDALE CO SCHOOL DIST | 60.5% |
| LAUREL SCHOOL DISTRICT | 37.2% |
| LAWRENCE CO SCHOOL DIST | 53.4% |
| LEAKE CO SCHOOL DIST | 29.1% |
| LEE COUNTY SCHOOL DISTRICT | 51.2% |
| LEFLORE CO SCHOOL DIST | 25.4% |
| LELAND SCHOOL DIST | 54.4% |
| LINCOLN CO SCHOOL DIST | 50% |
| LONG BEACH SCHOOL DIST | 79.6% |
| LOUISVILLE MUNICIPAL SCHOOL DIST | 56.5% |
| LOWNDES CO SCHOOL DIST | 51.3% |
| LUMBERTON PUBLIC SCHOOL DISTRICT | 26.5% |
| MADISON CO SCHOOL DIST | 68.6% |
| MARION CO SCHOOL DIST | 53.6% |
| MARSHALL CO SCHOOL DIST | 27.5% |
| MCCOMB SCHOOL DISTRICT | 53.1% |
| MERIDIAN PUBLIC SCHOOL DIST | 48% |

| | |
|-----------------------------------|-------|
| MONROE CO SCHOOL DIST | 63.7% |
| MONTGOMERY CO SCHOOL DIST | 50% |
| MOSS POINT SEPARATE SCHOOL DIST | 43% |
| MOUND BAYOU PUBLIC SCHOOL | 20% |
| MS School for Math and Science | 80% |
| MS School for the Blind | 10% |
| MS School for the Deaf | 60% |
| NATCHEZ-ADAMS SCHOOL DIST | 53.4% |
| NESHOBA COUNTY SCHOOL DISTRICT | 50.1% |
| NETTLETON SCHOOL DIST | 72.6% |
| NEW ALBANY PUBLIC SCHOOLS | 64.1% |
| NEWTON COUNTY SCHOOL DISTRICT | 79.9% |
| NEWTON MUNICIPAL SCHOOL DISTRICT | 46.5% |
| NORTH BOLIVAR SCHOOL DISTRICT | 29.9% |
| NORTH PANOLA SCHOOLS | 46.7% |
| NORTH PIKE SCHOOL DIST | 76.3% |
| NORTH TIPPAAH SCHOOL DIST | 50.7% |
| NOXUBEE COUNTY SCHOOL DISTRICT | 31% |
| OCEAN SPRINGS SCHOOL DIST | 78.9% |
| OKOLONA SEPARATE SCHOOL DIST | 42.6% |
| OKTIBBEHA COUNTY SCHOOL DISTRICT | 30.3% |
| OXFORD SCHOOL DISTRICT | 70.1% |
| PASCAGOULA SCHOOL DIST | 63% |
| PASS CHRISTIAN PUBLIC SCHOOL DIST | 62% |
| PEARL PUBLIC SCHOOL DIST | 35.8% |
| PEARL RIVER CO SCHOOL DIST | 55.8% |
| PERRY CO SCHOOL DIST | 40% |
| PETAL SCHOOL DIST | 72.8% |
| PHILADELPHIA PUBLIC SCHOOL DIST | 23.9% |
| PICAYUNE SCHOOL DIST | 43.1% |
| PONTOTOC CITY SCHOOLS | 82.4% |
| PONTOTOC CO SCHOOL DIST | 32.1% |
| POPLARVILLE SEPARATE SCHOOL DIST | 60.5% |
| PRENTISS CO SCHOOL DIST | 60.6% |
| QUITMAN CO SCHOOL DIST | 16.4% |
| QUITMAN SCHOOL DIST | 62.3% |
| RANKIN CO SCHOOL DIST | 58.6% |
| RICHTON SCHOOL DIST | 40.7% |
| SCOTT CO SCHOOL DIST | 41.1% |
| SENATOBIA MUNICIPAL SCHOOL DIST | 59.6% |
| SHAW SCHOOL DISTRICT | 50% |
| SIMPSON CO SCHOOL DIST | 43.2% |
| SMITH CO SCHOOL DIST | 28.2% |
| SOUTH DELTA SCHOOL DISTRICT | 26.6% |
| SOUTH PANOLA SCHOOL DISTRICT | 33.5% |
| SOUTH PIKE SCHOOL DIST | 74.1% |
| SOUTH TIPPAAH SCHOOL DIST | 54.3% |
| STARKVILLE SCHOOL DISTRICT | 48.1% |
| STONE CO SCHOOL DIST | 46.1% |
| SUNFLOWER CO SCHOOL DIST | 31.7% |
| TATE CO SCHOOL DIST | 74.3% |
| TISHOMINGO CO SP MUN SCH DIST | 76.8% |
| TUNICA COUNTY SCHOOL DISTRICT | 21.9% |

| | |
|-----------------------------------|-------|
| TUPELO PUBLIC SCHOOL DIST | 55.9% |
| UNION CO SCHOOL DIST | 44.7% |
| UNION PUBLIC SCHOOL DIST | 65% |
| VICKSBURG WARREN SCHOOL DIST | 55.6% |
| WALTHALL CO SCHOOL DIST | 41% |
| WATER VALLEY SCHOOL DISTRICT | 38% |
| WAYNE CO SCHOOL DIST | 52.6% |
| WEBSTER CO SCHOOL DIST | 50% |
| WEST BOLIVAR SCHOOL DIST | 30% |
| WEST JASPER CONSOLIDATED SCHOOLS | 48.4% |
| WEST POINT SCHOOL DIST | 44.3% |
| WEST TALLAHATCHIE SCHOOL DISTRICT | 31.2% |
| WESTERN LINE SCHOOL DISTRICT | 60.8% |
| WILKINSON CO SCHOOL DIST | 36.1% |
| WINONA SEPARATE SCHOOL DIST | 33.2% |
| YAZOO CITY MUNICIPAL SCHOOL DIST | 72.8% |
| YAZOO CO SCHOOL DIST | 34.3% |

According to the report, there were 4.3 students per Internet-ready computer. Regarding the use of technology by students the report stated that statewide 35.9 percent of students used technology at least daily, 31.8 percent used technology once or twice a week, 20.5 percent used technology a few times a year and 11.8 percent did not use technology at all.

The use of technology was defined as performing the following activities:

- *Gather information/data from a variety of sources (e.g. via Internet, Online services, CD-ROM-based reference software, PDAs)*
- *Organize and store information (e.g. creating databases, PDAs or spreadsheet files)*
- *Perform measurements and collect data in investigations or lab experiments (e.g. using probes and sensors or PDAs)*
- *Manipulate/analyze/interpret information or data to discover relationships, generate questions, and/or reach conclusions (e.g. sorting databases or spreadsheet files, using electronic graphic organizers)*
- *Communicate/report information, conclusions, or results of investigations (e.g. in word processing documents, e-mail, online discussion areas, multimedia presentations, or on a web site)*
- *Create and display graphics or visuals (diagrams, pictures, figures, charts, maps, etc.)*
- *Communicate/interact with others in the classroom/school/outside of school (e.g. using e-mail, bulletin boards, discussion areas)*
- *Plan, draft, proofread, revise and publish written text*
- *Plan, refine, produce multimedia presentations*
- *Generate original pieces of visual art and/or musical composition*
- *Perform calculations (e.g. graphing calculators or spreadsheets or*

PDA's)

- *Design and produce a product (Computer-aided manufacturing)*
- *Control other devices (robotics)*

The percentages below represent the primary type of Internet connectivity.

Statewide Totals 2.1% (Low) 60.4% (Medium) 37.6% (High)

Low Capacity: Examples - Dial-up modem, ISDN, 56K Frame Relay

Medium Capacity: Examples - T-1, DSL, Wireless (less than 11 mbs)

High Capacity: Examples - Multiple T-1, T-3, Cable Modem, Wireless (11 mbs or better)

The percentages below represent the primary delivery resource available to students and the community after school hours.

| | Online (Internet) resources | Interactive Video courses | Teacher Led courses | MOLLI (MS Online Learning Institute) | Teacherline | Other | No other resources available |
|------------------|-----------------------------|---------------------------|---------------------|--------------------------------------|-------------|-------|------------------------------|
| Statewide Totals | 42.3% | 0.8% | 10.8% | 1.9% | 0.6% | 6.4% | 37.2% |

The percentages below represent other delivery resources available to students and the community after school hours.

| | Computer Lab | Library/Media Center | Classrooms | Interactive Video Classrooms (MIVN) | Other |
|------------------|--------------|----------------------|------------|-------------------------------------|-------|
| Statewide Totals | 33.6% | 29.9% | 20.7% | 3.9% | 11.9% |

The percentages below represent the primary type of Internet connectivity.

| | Low | Medium | High |
|-----------|------|--------|-------|
| Statewide | 2.1% | 60.4% | 37.6% |

Low Capacity: Examples - Dial-up modem, ISDN, 56K Frame Relay

Medium Capacity: Examples - T-1, DSL, Wireless (less than 11 mbs)

High Capacity: Examples - Multiple T-1, T-3, Cable Modem, Wireless (11 mbs or better)

| District | Low | Medium | High |
|-----------------------------------|------------|---------------|-------------|
| ABERDEEN SCHOOL DIST | 14.3% | 0% | 85.7% |
| ALCORN SCHOOL DIST | 0% | 100% | 0% |
| AMITE CO SCHOOL DIST | 0% | 75% | 25% |
| AMORY SCHOOL DIST | 0% | 100% | 0% |
| ATTALA CO SCHOOL DIST | 0% | 80% | 20% |
| BALDWYN SCHOOL DISTRICT | 0% | 66.7% | 33.3% |
| BAY ST LOUIS WAVELAND SCHOOL DIST | 0% | 100% | 0% |
| BENOIT SCHOOL DISTRICT | 0% | 100% | 0% |
| BENTON CO SCHOOL DIST | 0% | 100% | 0% |
| BILOXI PUBLIC SCHOOL DIST | 0% | 100% | 0% |
| BOONEVILLE SCHOOL DIST | 25% | 75% | 0% |
| BROOKHAVEN SCHOOL DIST | 0% | 57.1% | 42.9% |
| CALHOUN CO SCHOOL DIST | 0% | 100% | 0% |
| CANTON PUBLIC SCHOOL DIST | 0% | 0% | 100% |
| CARROLL COUNTY SCHOOL DIST | 0% | 100% | 0% |
| CHICKASAW CO SCHOOL DIST | 0% | 0% | 100% |
| CHOCTAW CO SCHOOL DIST | 0% | 0% | 100% |
| CLAIBORNE CO SCHOOL DIST | 0% | 50% | 50% |
| CLARKSDALE MUNICIPAL SCHOOL DIST | 0% | 0% | 100% |
| CLAY CO SCHOOL DIST | 0% | 0% | 100% |
| CLEVELAND SCHOOL DIST | 8.3% | 50% | 41.7% |
| CLINTON PUBLIC SCHOOL DIST | 0% | 100% | 0% |
| COAHOMA CO AHS | 0% | 100% | 0% |
| COAHOMA COUNTY SCHOOL DISTRICT | 0% | 100% | 0% |
| COFFEEVILLE SCHOOL DIST | 0% | 0% | 100% |
| COLUMBIA SCHOOL DISTRICT | 0% | 100% | 0% |
| COLUMBUS MUNICIPAL SCHOOL DIST | 0% | 100% | 0% |
| COPIAH CO SCHOOL DIST | 0% | 0% | 100% |
| CORINTH SCHOOL DIST | 20% | 80% | 0% |
| COVINGTON CO SCHOOLS | 0% | 100% | 0% |
| DESOTO CO SCHOOL DIST | 0% | 42.3% | 57.7% |
| DREW SCHOOL DIST | 0% | 66.7% | 33.3% |
| DURANT PUBLIC SCHOOL DIST | 0% | 100% | 0% |
| EAST JASPER CONSOLIDATED SCH DIST | 0% | 100% | 0% |
| EAST TALLAHATCHIE CONSOL SCH DIST | 0% | 100% | 0% |
| ENTERPRISE SCHOOL DIST | 0% | 0% | 100% |
| FOREST MUNICIPAL SCHOOL DIST | 0% | 33.3% | 66.7% |
| FORREST COUNTY AG HIGH SCHOOL | 0% | 0% | 100% |
| FORREST COUNTY SCHOOL DISTRICT | 0% | 100% | 0% |
| FRANKLIN CO SCHOOL DIST | 0% | 40% | 60% |
| GEORGE CO SCHOOL DIST | 16.7% | 33.3% | 50% |
| GREENE COUNTY SCHOOL DISTRICT | 0% | 0% | 100% |
| GREENVILLE PUBLIC SCHOOLS | 0% | 0% | 100% |
| GREENWOOD PUBLIC SCHOOL DISTRICT | 0% | 0% | 100% |
| GRENADA SCHOOL DIST | 16.7% | 50% | 33.3% |
| GULFPORT SCHOOL DIST | 0% | 100% | 0% |
| HANCOCK CO SCHOOL DIST | 0% | 100% | 0% |
| HARRISON CO SCHOOL DIST | 0% | 80% | 20% |
| HATTIESBURG PUBLIC SCHOOL DIST | 0% | 10% | 90% |
| HAZLEHURST CITY SCHOOL DISTRICT | 0% | 0% | 100% |
| HINDS CO AHS | 0% | 0% | 100% |
| HINDS CO SCHOOL DIST | 9.1% | 90.9% | 0% |

| | | | |
|----------------------------------|------|-------|-------|
| HOLLANDALE SCHOOL DIST | 0% | 66.7% | 33.3% |
| HOLLY SPRINGS SCHOOL DIST | 0% | 100% | 0% |
| HOLMES CO SCHOOL DIST | 0% | 14.3% | 85.7% |
| HOUSTON SCHOOL DIST | 0% | 100% | 0% |
| HUMPHREYS CO SCHOOL DIST | 0% | 0% | 100% |
| INDIANOLA SCHOOL DIST | 0% | 83.3% | 16.7% |
| ITAWAMBA CO SCHOOL DIST | 0% | 100% | 0% |
| JACKSON CO SCHOOL DIST | 0% | 20% | 80% |
| JACKSON PUBLIC SCHOOL DIST | 0% | 100% | 0% |
| JEFFERSON CO SCHOOL DIST | 0% | 0% | 100% |
| JEFFERSON DAVIS CO SCHOOL DIST | 0% | 0% | 100% |
| JONES CO SCHOOL DIST | 0% | 50% | 50% |
| KEMPER CO SCHOOL DIST | 0% | 25% | 75% |
| KOSCIUSKO SCHOOL DISTRICT | 0% | 0% | 100% |
| LAFAYETTE CO SCHOOL DIST | 25% | 0% | 75% |
| LAMAR COUNTY SCHOOL DISTRICT | 7.7% | 38.5% | 53.8% |
| LAUDERDALE CO SCHOOL DIST | 10% | 50% | 40% |
| LAUREL SCHOOL DISTRICT | 0% | 50% | 50% |
| LAWRENCE CO SCHOOL DIST | 0% | 0% | 100% |
| LEAKE CO SCHOOL DIST | 0% | 37.5% | 62.5% |
| LEE COUNTY SCHOOL DISTRICT | 0% | 55.6% | 44.4% |
| LEFLORE CO SCHOOL DIST | 0% | 0% | 100% |
| LELAND SCHOOL DIST | 0% | 50% | 50% |
| LINCOLN CO SCHOOL DIST | 0% | 100% | 0% |
| LONG BEACH SCHOOL DIST | 0% | 100% | 0% |
| LOUISVILLE MUNICIPAL SCHOOL DIST | 0% | 100% | 0% |
| LOWNDES CO SCHOOL DIST | 0% | 100% | 0% |
| LUMBERTON PUBLIC SCHOOL DISTRICT | 0% | 50% | 50% |
| MADISON CO SCHOOL DIST | 0% | 82.4% | 17.6% |
| MARION CO SCHOOL DIST | 0% | 100% | 0% |
| MARSHALL CO SCHOOL DIST | 0% | 0% | 100% |
| MCCOMB SCHOOL DISTRICT | 0% | 100% | 0% |
| MERIDIAN PUBLIC SCHOOL DIST | 0% | 93.3% | 6.7% |
| MONROE CO SCHOOL DIST | 0% | 100% | 0% |
| MONTGOMERY CO SCHOOL DIST | 0% | 100% | 0% |
| MOSS POINT SEPARATE SCHOOL DIST | 9.1% | 27.3% | 63.6% |
| MOUND BAYOU PUBLIC SCHOOL | 0% | 0% | 100% |
| MS School for Math and Science | 0% | 0% | 100% |
| MS School for the Blind | 0% | 0% | 100% |
| MS School for the Deaf | 0% | 0% | 100% |
| NATCHEZ-ADAMS SCHOOL DIST | 0% | 50% | 50% |
| NESHOBA COUNTY SCHOOL DISTRICT | 0% | 33.3% | 66.7% |
| NETTLETON SCHOOL DIST | 25% | 75% | 0% |
| NEW ALBANY PUBLIC SCHOOLS | 0% | 40% | 60% |
| NEWTON COUNTY SCHOOL DISTRICT | 0% | 100% | 0% |
| NEWTON MUNICIPAL SCHOOL DISTRICT | 0% | 25% | 75% |
| NORTH BOLIVAR SCHOOL DISTRICT | 0% | 66.7% | 33.3% |
| NORTH PANOLA SCHOOLS | 0% | 100% | 0% |
| NORTH PIKE SCHOOL DIST | 0% | 66.7% | 33.3% |
| NORTH TIPPAAH SCHOOL DIST | 25% | 50% | 25% |
| NOXUBEE COUNTY SCHOOL DISTRICT | 0% | 100% | 0% |
| OCEAN SPRINGS SCHOOL DIST | 0% | 0% | 100% |
| OKOLONA SEPARATE SCHOOL DIST | 0% | 66.7% | 33.3% |

| | | | |
|-----------------------------------|-------|-------|-------|
| OKTIBBEHA COUNTY SCHOOL DISTRICT | 0% | 50% | 50% |
| OXFORD SCHOOL DISTRICT | 0% | 0% | 100% |
| PASCAGOULA SCHOOL DIST | 0% | 68.4% | 31.6% |
| PASS CHRISTIAN PUBLIC SCHOOL DIST | 0% | 25% | 75% |
| PEARL PUBLIC SCHOOL DIST | 0% | 20% | 80% |
| PEARL RIVER CO SCHOOL DIST | 0% | 100% | 0% |
| PERRY CO SCHOOL DIST | 0% | 100% | 0% |
| PETAL SCHOOL DIST | 0% | 100% | 0% |
| PHILADELPHIA PUBLIC SCHOOL DIST | 0% | 100% | 0% |
| PICAYUNE SCHOOL DIST | 11.1% | 55.6% | 33.3% |
| PONTOTOC CITY SCHOOLS | 0% | 75% | 25% |
| PONTOTOC CO SCHOOL DIST | 0% | 85.7% | 14.3% |
| POPLARVILLE SEPARATE SCHOOL DIST | 0% | 60% | 40% |
| PRENTISS CO SCHOOL DIST | 0% | 62.5% | 37.5% |
| QUITMAN CO SCHOOL DIST | 50% | 25% | 25% |
| QUITMAN SCHOOL DIST | 0% | 100% | 0% |
| RANKIN CO SCHOOL DIST | 5.3% | 52.6% | 42.1% |
| RICHTON SCHOOL DIST | 0% | 100% | 0% |
| SCOTT CO SCHOOL DIST | 0% | 100% | 0% |
| SENATOBIA MUNICIPAL SCHOOL DIST | 0% | 100% | 0% |
| SHAW SCHOOL DISTRICT | 0% | 0% | 100% |
| SIMPSON CO SCHOOL DIST | 0% | 66.7% | 33.3% |
| SMITH CO SCHOOL DIST | 0% | 100% | 0% |
| SOUTH DELTA SCHOOL DISTRICT | 0% | 25% | 75% |
| SOUTH PANOLA SCHOOL DISTRICT | 0% | 100% | 0% |
| SOUTH PIKE SCHOOL DIST | 0% | 0% | 100% |
| SOUTH TIPPAH SCHOOL DIST | 16.7% | 66.7% | 16.7% |
| STARKVILLE SCHOOL DISTRICT | 0% | 11.1% | 88.9% |
| STONE CO SCHOOL DIST | 0% | 0% | 100% |
| SUNFLOWER CO SCHOOL DIST | 0% | 100% | 0% |
| TATE CO SCHOOL DIST | 0% | 83.3% | 16.7% |
| TISHOMINGO CO SP MUN SCH DIST | 0% | 0% | 100% |
| TUNICA COUNTY SCHOOL DISTRICT | 0% | 66.7% | 33.3% |
| TUPELO PUBLIC SCHOOL DIST | 6.7% | 73.3% | 20% |
| UNION CO SCHOOL DIST | 0% | 100% | 0% |
| UNION PUBLIC SCHOOL DIST | 0% | 100% | 0% |
| VICKSBURG WARREN SCHOOL DIST | 0% | 26.7% | 73.3% |
| WALTHALL CO SCHOOL DIST | 0% | 100% | 0% |
| WATER VALLEY SCHOOL DISTRICT | 0% | 100% | 0% |
| WAYNE CO SCHOOL DIST | 0% | 0% | 100% |
| WEBSTER CO SCHOOL DIST | 0% | 100% | 0% |
| WEST BOLIVAR SCHOOL DIST | 0% | 100% | 0% |
| WEST JASPER CONSOLIDATED SCHOOLS | 0% | 80% | 20% |
| WEST POINT SCHOOL DIST | 11.1% | 44.4% | 44.4% |
| WEST TALLAHATCHIE SCHOOL DISTRICT | 0% | 100% | 0% |
| WESTERN LINE SCHOOL DISTRICT | 0% | 80% | 20% |
| WILKINSON CO SCHOOL DIST | 25% | 25% | 50% |
| WINONA SEPARATE SCHOOL DIST | 0% | 100% | 0% |
| YAZOO CITY MUNICIPAL SCHOOL DIST | 0% | 0% | 100% |
| YAZOO CO SCHOOL DIST | 0% | 66.7% | 33.3% |

