



Research Information on States that have Enacted Laws to Ensure Deployment of Broadband Telecommunications Infrastructure in Rural and Underserved Areas

An analysis of:

Broadband Development Authorities
Right-of-Way Fees and Permitting
Tax Incentives and Credits
Universal Fund

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1. EXECUTIVE SUMMARY

Purpose of this Analysis:

The Government Information Technology Agency (GITA), and the Arizona Telecommunications and Information Council's Strategic Plan Committee (ATIC) have the objective and responsibility to ensure that affordable, high quality, high-speed telecommunications services are readily available throughout the State of Arizona. Significant progress has been made, but not all areas of the State have seen these improvements.



The need to ensure broadband telecommunications service availability throughout Arizona is consistent with other states. Most states have faced some degree of limited broadband deployment in rural areas, particularly in the western region. Some states allege eradication of digital divide issues through public sponsored and legislative actions that ensure broadband service offerings throughout their states. They claim that broadband coverage and high speed telecommunication services are available to all geographic areas, all businesses, all agencies, and all citizens in their states.

The purpose of this analysis is to research states that have taken legislation action to initiate programs for broadband deployment in underserved and rural communities. The areas of analysis are: a) legislated authorities, b) tax incentives and credits, c) financing and loan programs, d) Right-of-Way permitting and fee programs.

2. ISSUES

Issues of Concern:

- a) Some rural and underserved areas of the State of Arizona are in desperate need of Internet connectivity to telecommunication fiber optic backbones that are now deployed throughout the State. This middle mile infrastructure is expensive, it often lacks business case incentives to develop, the potential users may have limited needs, and the local exchange carrier may lack sufficient reason to build high speed networks.
- b) Traditional, market driven deployment of broadband infrastructure in rural and broadband deprived rural areas of any state may need governmental sponsored programs based on incentives, aggregation, and funding.
- c) Redundant broadband infrastructure pathways are usually a requirement of any technological astute industry or business seriously considering expanding in, or relocating to, a rural area.



- d) Government sponsored programs for the deployment of broadband infrastructure are prevalent in the country. Successes and failures to meet predefined goals are also widespread. Selecting a single model to meet all the differing needs of the communities is probably impossible.

3. SCOPE

Scope of this Study, Analysis, and Recommendation is to:

- a) Review those states that have legislated broadband deployment programs to improve telecommunications infrastructure and services to rural and underserved areas.
- b) Indicate the lessons that have been learned from these states. Identify innovative programs that may be affable to the State of Arizona, especially programs that are sensitive to government spending and fiscal restraints.
- c) Analyze risks associated with the legislative action.

4. HISTORICAL BACKGROUND

Historically, throughout the United States, the largest barrier to any type of high-speed telecommunications infrastructure build-out has been the cost of planning, engineering, and construction. This is true in wireline (fiber optics or cable), wireless (radio frequency), or satellite telecommunications deployment. Furthermore, the cost of operations and maintenance adds significantly to the long term business case planning and the debt obligation. This must all be expertly and meticulously evaluated in order for a telecommunications service provider to determine their return on investment and the potential revenue of that investment. Many telecommunications companies have been driven to bankruptcy through poor planning, changes in the rural population count, or business economic downturns.



Lower population densities in western rural states, distances between population centers, severe weather, and high costs for telecommunications infrastructure all make broadband infrastructure investment extremely difficult. In accordance with today's lending by traditional banks and financial institutions, a telecommunications service provider must show a 2 - 5 year return on borrowed funds. Many utility companies and community public works, such as power, gas, water, and sewer, use 20 - 30 years as a standard rate of return on their investment.

Some state governments have experimented with various methods of incentive to assist deployment of telecommunications infrastructure. These incentives range from the simple government contracting of aggregated telecommunication services, issuing complex RFPs, up to the founding of Public Works for Telecommunications, which it then finances, builds, owns, and operates.

5. AREAS OF ANALYSIS

This Analysis Considers Legislative Actions that Address:

- a) Telecommunication Broadband Development Authorities
- b) Financing, funding, and loan programs for infrastructure construction
- c) Tax Incentives and Credits
- d) Right-of-Way permitting and fee programs
- e) Universal Funds

6. METHODOLOGY

The approach used in researching and reporting the information for this project included the study and analysis of other state government legislation sponsored broadband assistance programs as made available through traditional media, Internet, books, trade magazines, and historical data available at the State and community level. It also included interviewing service providers, lending institutions, State sponsored agencies, broadband development authorities, and comparing these results with the information obtained in the research.



The measurement used to determine the success or failure of a State sponsored program was how closely it came to reaching the defined goals specified in the Bill, Summary, or Enacted Law. If the program met objectives in a timely manner, showed a measurable assessment standard, was rated positively by the sponsoring government body, and produced a positive impact in a rural or underserved community, it was then considered a success.

Technically, broadband infrastructure, as it relates to the information in this analysis, is defined as any telecommunications platform that provides high-speed services, including voice, video, and data. High-speed service is expected to be transmitting at speeds over .2 megabits per second. Infrastructure platforms may include wireless, wireline, satellite, fiber optics, or coaxial cable outside plants.

7. OVERVIEW OF STUDY AREAS

Development Authorities and Funding:

A Development Authority is generally organized to accomplish objectives that are not possible within traditional government processes. A Development Authority may be legislated into place, tied to an existing agency, or formed as a new single purpose entity. Generally, however, the management of the Development Authority answers to a State organization, agency, or legislation committee. Approximately 15 states have created telecommunications Development Authorities to expand the economic advantages of broadband services in rural or underserved areas. (See Table One below)



Tax Incentives, Tax Credits, and Tax-Exempt Financing:

Approximately 20 states have participated in telecommunications tax incentives and tax credit programs. In this analysis, Michigan, Idaho, and Montana are examined.



When using tax inducements to initiate rural broadband, states usually rely on traditional tax credit programs. These programs are industry specific and acknowledge equipment, product, supplies, software, and other construction required purchases to jump-start the deployment of Outside Plant Facility. The taxpayer can realize a direct recovery of expense up to 50%. (See Table Two below)

Right-of-Way, Permitting, Barriers to Deployment:

Imperative and artificial barriers in the form of well meaning laws, codes, policies, and guidelines have caused confusion and concern among telecommunication infrastructure developers. Government regulation, franchise fees, pole attachment fees, taxes, licenses, ownership controls, and other similar issues are sometimes disincentives to constructing new broadband infrastructure. Right-of-Way permits and landowner negotiation make the process often cumbersome and exasperating. Some states have adopted laws and regulations that break down these barriers into more palatable controlled processes. This analysis shows what changes some states have developed in law and policy that have made a difference.



Michigan sets an example of far-reaching innovative change, since they go beyond policy and guidelines revision to instigate a mandatory statewide Right-of-Way access fee for public lands. Following collection, they pay all the fees back to the cities, towns, and villages that have acquiesced to the

new law, in exchange for a seamless and fair statewide permit process for the developers of telecommunication infrastructure. This process has been embraced by the State government, telecommunications providers, and the local communities, in an unusual showing of cooperation. (See Table Three below)

Universal Service Funding:

Among many goals of the Universal Service Fund concept, as mandated by the TCA Act of 1996, is a requirement to promote the availability of telephone services in low income, rural, insular, and high cost areas at rates that are reasonably comparable to those charged in urban populated areas. All providers of telecommunications services contribute to this Federal Universal Service Fund in some manner.



Telecommunication providers currently contribute about \$5.4B per year to support the universal service programs throughout the United States. Of that amount, the Local Exchange Carriers pay approximately 23%, and wireless carriers pay approximately 14%. The purpose of this fund is to subsidize high cost rural areas with basic telephone services.

Some states have adopted this fund, or created other unique related programs, with mixed review, to bolster rural broadband connectivity initiatives within their states.

Survey Information:



The survey includes information concerning the telecommunications service providers. It details their processes of performing and expanding business within their geographical territory. It also includes basic financial information, raises issues, and asks about the challenges that they may face in deploying broadband services to rural areas. The Right-of-Way permit process information gleaned from the personal interviews sums up issues that may discourage a service provider from seeking a wider broadband service coverage area. The return on investment for deploying broadband infrastructure gives an indication of what services may be needed to support a more vigorous construction schedule. (See Exhibit One below)

8. STATE ANALYSIS SUMMARIES

Michigan Summary:



Through legislation, Michigan passed three revolutionary laws by creating a Broadband Development Authority, passing a standardized Right-of-Way permit process, and issuing a popular tax-incentive program to develop broadband in rural areas of the State.

The main goals of the Michigan Broadband Developmental Authority are to:

- a) Provide low cost, long term, non-traditional telecommunications infrastructure, and equipment financing program, for rural service providers in areas that other lending institutions consider undesirable.
- b) Issue bonds, contract, obligate, collect Right-of-Way fees, and remain self-funded for 30 years.
- c) Enter into joint-venture and partnership agreements with the needy telecommunication developers in rural areas, and share in management and revenues of these companies.

The second law creates a Metropolitan Extension Telecommunications Right-of-Way Oversight Authority, which has been given exclusive power to assess fees from telecommunication providers owning facilities in public Right-of-Way. This law requires a new or replacement Right-of-Way annual maintenance and administration fee for access to public land to build telecommunications infrastructure. This fee, largely supported by the telecommunications developers and providers, streamlines the Right-of-Way permitting process across the State and uses a comprehensive formula to redistribute the access and maintenance fee between cities, towns, and villages. Portions of this fee are also used by the Development Authority to initiate rural broadband development in underserved areas. In addition to the fee, a statewide policy for telecommunications accommodation in Right-of-Way and permitting replaces confusing local municipal codes, rules, regulations, and other Right-of-Way accommodation inconsistencies making the process easier, less expensive, and timelier.

The third law, a tax credit, is used to offset the Right-of-Way access and maintenance use fees that are levied. Rural communities have legislated ability to waiver these fees for hardship. These hardships must show that the broadband developer needs to overcome difficult construction or business case issues in order to deploy.

This Michigan Broadband Legislation has been successful, but some of its opponents have denounced the program as another example of government regulating the utility industry. Other utilities may object to being unfairly treated, and telecom companies that are tax exempt may not be included in

the financial objectives. These non-profit companies account for less than 1% of the entire program. In addition, some small rural communities that depend on the franchise fees for administration of the town government may be opposed to the law, since they could lose significant funding, and the money derived from the access fee must be used for Right-of-Way administration. Rural telecom service providers that consider their current franchise fee agreements excessive may use this new law to void their agreements and even seek retroactive retribution. Even though the new law does provide for unusual considerations and hardships, it may be shown as inconsistent and contradictory by some pundits.

Fiscal Impact: Michigan legislation intended that both State revenue and expenses will be increased by the same amount. This makes the fee collection of \$10M in 2002-3 and \$27M in 2003-4 an offset. No funding is required for the creation or administration of the Michigan Broadband Development Authority.

Analysts determined that Ameritech, the main local exchange carrier with over 80% of Michigan business, would have paid (if the laws were enacted in 2001) almost \$23 M. It was also noted that Ameritech would have received tax relief, and other direct and indirect benefits, that moderately exceed the expenditure made. Pundits interviewed have remained highly skeptical on this point.

Measurement of Success: Since the law is new, the success to date is measurable in the number of applications for loans and grants, which now exceed 100 requests. Internet and local government organizations laud the concept, but only one of the telecom providers, standing to benefit from the new law, announced plans to expand. The others are on the sidelines evaluating the concept of the new law. However, all telecom providers consider the Michigan Broadband Legislation to be a positive step forward. Comcast, another provider, had already invested over \$1B in Michigan, Ameritech has just finished a Detroit infrastructure build-out for a 63% penetration rate, and both will not be able to use the new law to their benefit in these projects. Other smaller providers are enthusiastic about a uniform and streamlined Right-of-Way permitting process to eliminate the bureaucracy of planning new networks.

Skeptics of the Michigan laws indicate that only about 5% of rural broadband wired community potential users sign up for new broadband services. The potential users, not embracing new telecommunication services, indicate that the price must fall about 25% before they will participate. The technological leaders in these communities, on the other hand, indicate that most rural areas are uninformed about their broadband needs. They further indicate that the digital divide gap is due in part to a broadband education gap. The local leaders note that "by the time the rural

areas are informed and educated, if left on their own, it will be too late to catch up, and those business that drive the future of the local economy will have already left, and only the lower paying maintenance - service jobs will remain intact".

Montana Summary:



Montana has passed laws to allow tax credits for telecommunications infrastructure built throughout the State. Since most of Montana is considered rural and underserved by broadband, this 20% of investment tax credit was welcome and immediately used. This tax credit applied to the 3.75 % retail telecom excise tax.

Eight Independent Montana Telephone Companies applied for tax credits when the law was passed. The fiscal impact of this law indicated that each company that applied for the tax credit received it, each built out telecommunications infrastructure as planned, and in the process received \$1.7M in tax credits for 2000. This represented a \$200,000 in lost tax revenue to the State.

North Carolina Summary:



North Carolina legislation has created the North Carolina Rural Internet Access Authority. The goals of this organization, as mandated by law, are to provide Internet connections to rural communities, bridge the digital divide, and fund rural infrastructure projects to meet specific legislated goals. The Authority has the power to enter into joint-partnerships and the associated contracts and agreements with telecommunication companies that plan to deliver Internet connectivity to underserved communities. This Authority is self-funded, and is established as a public-private partnership cooperative organization. The 2002-03 State budget deficits, short-fall in State tax receipts, and other missteps in the State budget planning, eliminated all Authority funding except that necessary for basic service. It is required to be self-funding in total.

The measurement of success of this project has been legislated to include: a) quantitative measurement that ensures that all rural communities have access to affordable high speed Internet services, b) an acceptable number of citizens and business have been educated in technology, the Internet, and job related education, c) demonstration of a measurable improvements in bridging the digital divide, d) need to continue this program and the leadership it offers rural communities.

The Authority has been credited with partnering with the largest telecommunication companies in North Carolina. These partnerships have

shown substantial sustainable improvements in deployment of telecommunication services in rural and underserved areas of the State.

North Carolina policy makers have recognized, through the North Carolina Rural Internet Access Authority, those telecommunication service providers, when given the proper incentives and shown the proper leadership, will work together in a non-competitive coordinated effort to meet broadband infrastructure objectives. This program also showed that revenue sources, outside the State and community general funds, are available to enterprising government and private sector leaders for deploying broadband infrastructure in rural areas.

North Carolina government concluded that they have the obligation to solve rural telecommunications and technological issues, and the Authority is one way of meeting this objective. This responsibility includes providing the leadership, planning, resources, and training necessary to analyze and solve technological lacking areas throughout the State. It also includes having the ability to provide unique approaches in partnerships, funding, and cooperation to alleviate the deficiency.

North Carolina Information Highway Project:



North Carolina, in conjunction with the Rural Internet Access Authority, developed a cooperative agreement between telephone companies in the State. The purpose of establishing a cooperative statewide broadband telecommunications network with BellSouth, Sprint, GTE, and others was to reduce redundancy, limit overbuilding, and stretch the scarce resources available for rural broadband. This program was endorsed personally by the governor of the State to seal its importance and to ensure the cooperation of the industry. Those objectives detailed were:

- Ensure a statewide broadband infrastructure to be used by all providers, businesses, agencies, and citizens in a fair and equitable manner.
- Develop a network that can be used in cooperation and shared equally between all service providers
- Plan and instigate a unique flat rate fee structure for high speed broadband service throughout the State
- Establish public/private partnerships for funding infrastructure, construction, and aggregate all government agency telecommunication requirements. The aggregation was to be supplied through a competitive cooperative procurement process.
- Use a term commitment of up to 10 years, with reassessments of costs every two years.

Minnesota, Arizona, Colorado, and Washington State Shared Resources Projects:

Each of these states began Shared Resources Projects within their respective states' Department of Transportation to exchange freeway and highway Right-of-Way for broadband infrastructure and services. This fiber infrastructure was to be used for government, public, and private use. All these projects terminated following bankruptcy of the main developers, downturn in the economies of telecommunication carriers, and funding shortfalls of service providers. It is believed that improvements in the telecommunication industry, the national economy, and service demands will resurrect these projects.

9. DETAIL INFORMATION OF STATES CREATING BROADBAND DEVELOPMENT AUTHORITIES

Michigan Detail:



Date of law: May, 2001

Legislative Requirements: Senate Bill 881 creates the Broadband Development Authority, linked with 880 & 999, combining Right-of-Way fees and tax credits.

Funding: \$50M capitalization from sale of bonds to Michigan State Housing Development Authority (MSHDA).

Specific Mission: To issue tax exempt and taxable revenue bonds to finance loans for telecommunications broadband infrastructure projects.

Financing Tools: The Development Authority may loan, enter into Joint Venture Partnerships with broadband developers, and participate in revenue with telecom service operators. This law requires the designation of \$500K for use in rural and urban underserved broadband areas per year.

Fiscal Impact to State: The Authority cannot use State funds, must be self-sufficient, and is not authorized to obligate the State on contracts or agreements.

Unique Concepts: Ability of the Authority to provide seed capital for qualified telecommunication entities applying for loans. These companies must have the objective to construct telecom infrastructure in underserved areas.

Organization Concepts: The Authority has 11 members on the Board of Directors.

Measurement of Success: a) Place Michigan as a leading State in broadband infrastructure and services, b) Quickly become a financially self-supporting organization, c) Establish underwriting capabilities, d) Finance broadband infrastructure, services, and enhancements throughout the State.

North Carolina Detail:



Date of law: August 2000

Legislation Requirements: Senate Bill 1343, creates the North Carolina Rural Internet Access Authority

Funding: \$30M from donations (windfall from a quiz-government technology venture), State cash, and other in-kind donations.

Initiative Life: 36 months, with unlimited renewals based on success

Organization Concepts: The Authority has 21 members on the Commission. Commission is made up of government, industry, and private sector leaders. The Authority leads over 2,800 volunteers that staff learning centers. Seven statewide standing committees are used to disseminate information among over 200 members, made up of community, business, and political leaders. County managers and technology champions now represent 94 of 100 counties participating, including one Native American Tribe. The steering committees, which were initially formed, were made up of 6 to 60 local citizens, which met objectives and then dissolved.

Measurement of Success: a) Complete an affordable access method to high speed Internet services for the entire State. This objective was met before the August, 2001 deadline. b) Extend education in technology and bridge the digital divide. These two objectives are slated for completion, along with other non-infrastructure related goals, by December of 2003. c) Analyze and correct other indiscriminant issues to broadband connectivity throughout the State. In addition, it has been advertised that North Carolina will have an influx of skilled technology related jobs, such as computer scientists, engineers, programming, and analyst, and that this job sector will become the faster growing occupation opportunity in the State, due in part to the success of this program.

New York Detail:



Date of Law: March, 2002, creates the New York Development Authority

Organization: The Authority was created as a public benefit corporation made up of members representing education, health care, consumers, emergency services, and appointees of the Governor and Legislation.

Authority Powers: Enter into contracts with the private sector, issue bonds, and loan money, participate in joint-ventures with the telecommunications industry and receive revenues, accept gifts, grants, and contributions, appoint officers, employ administration and technical staff, perform studies and advise the State and policy makers.

Initial Duration: 3 years with unlimited renewals determined by successes.

Measurement of Success: a) Ensure that accessible and affordable high speed Internet connectivity and broadband voice, data, and video services are evenly distributed throughout the State and enjoyed by all equally. b) Ensure that rural and underserved areas of the State receive priority attention, financing in the form of grants, loans, or subsidies, and that

telecommunications providers in those areas receive the full benefits of the legislation.

Funding: No State funding will be obligated by the Authority. No State funding will be used for the Authority other than start-up administrative expenses. These expenses will be paid back to the State within 3 years or less.

Unique Concepts: The Authority is given responsibility to issue obligation bonds, make loans, charge fees, seek grants, and private sector funding to support administrative functions.

Measurement of Success and Objectives: The State Legislation Body expects substantial quantifiable success in the form of economic benefits for all areas of the State due to the passing of this Act.

Tennessee Detail:



Date of Law: January 2002,

Legislation Requirements: House Bill 2322, creates the Tennessee Rural Internet Access Authority.

Initiative Duration: Three years, with unlimited renewals based on success.

Specific Mission: a) to make loans, grants, subsidize, and compensate the building of rural telecommunications infrastructure and providing services to rural areas of the State. b) to recommend policy change and law change to perform mission and meet objectives. b) to solicit cooperation among telecommunications industry leaders in working together to wire the State.

Funding: authority to issue bonds and to solicit and receive contributions, loans, and grants.

Organization: the Authority is created under the Department of Commerce and Insurance, which now already manages, oversees, plans, and monitors provisioning of rural high-speed broadband Internet access within the State of Tennessee. The Authority is made up of 7 members of government, of which 3 are from the private sector. No compensation is given to officers of the Authority.

Measurement of Success: a) local high speed dial-up service to the Internet by all citizens and businesses throughout the State within one year. b) affordable and universally priced broadband services available for all within three years. c) significant ownership in computers, education, information, and measurable economic development due to the program.

Rural: Means less than 200 people per square mile based on 2000 census.

Program Cost to State: None

Virginia Detail:



Date of Law: July, 2000

Legislative Requirements: House Bill 1226, creates the Office of the Broadband Deployment

Specific Mission: To coordinate all public and private efforts to deploy broadband telecommunications throughout Virginia. To seek funding to carry out these objectives and goals.

Organization Concepts: Reports to the Governor, General Assembly, and the Joint Commission on Technology and Science. The Secretary of Technology will be responsible for the new Office.

10. RIGHT-OF-WAY FEES, TAX INCENTIVES, AND TAX CREDITS

Idaho Detail:



Date of Law: April 2001

Project Concept: 12 Idaho Local Exchange Carriers are united in a State legislative process to provide telecommunication services within the State of Idaho. The new organization is called Syringa Networks.

Funding: No direct funding, but there is a loss of revenue through a 3% tax credit for broadband technology equipment, construction, and materials.

Measurements of Success: Upon completion, it is anticipated that \$40M in telecommunications infrastructure will be deployed throughout Idaho in the course of legislating this law.

Unique Concepts: Idaho is considered the first State to provide tax credit incentives to encourage broadband development.

Funding: No direct State funding is authorized. Aggregation of government services for the Syringa Network is allowed under an anchor tenant concept.

11. OTHER FUNDING MECHANISMS FOR INFRASTRUCTURE

California Detail: Universal Fund, Tele-connect Fund, Grant Program



State Universal Service Fund: This fund was established as a supplemental "Carrier of Last Resort" funding for rural high-cost telecommunication service areas. The fund is generated through a surcharge to all users of

telephones. The universal fund generally is used to subsidize basic telephone services for the needy areas of the State. The California Universal Fund can be used to fund broadband backbone to achieve the goals of this basic service.

Tele-connect Fund: A subsidy that is used as a discounted rate structure for rural areas of the State. This fund is user based, not service provider based.

Telecommunications Infrastructure Grant Program: Up to \$10M per year, from the above service funds is used for providing various telecommunication services and infrastructure to needy areas of the State. The grant program is designated for original new telecom infrastructure for qualifying rural communities not serviced by a traditional Local Exchange Carrier. These grants can also be used for subsidizing service in the same strict qualifying manner. It is administered by the Public Regulatory Commission.

Pennsylvania Detail: Universal Service Fund

State Universal Service Fund: This fund was established in March 2000 with the uncertain goal of reducing access charges in Intra-LATA Pennsylvania.

Funding Mechanism: This industry specific fund of \$32M annually came from 300 telecom service providers and was distributed to 32 other service providers. Pennsylvania Legislation did not include wireless providers in the funding concepts. The National Exchange Carrier Association (NECA) is administering the fund effectively.



Illinois Detail: Universal Service Fund

Date of Law: June, 2001

Legislation Requirement: House Bill 2900, creates the Universal Service Fund

Specific Mission: To create and oversee independent funds: a) the Illinois Digital Divide Elimination Fund, b) the Illinois Digital Divide Elimination Infrastructure Fund

Fund Objectives: a) to ensure the continued development of telecom infrastructure in underserved areas, b) to increase the sustainable access to telecommunication services for the impoverished and needy of the State.

Funding Sources: a) legal settlements from the telecommunications industry, b) civil penalties from telecom carriers.

Present Funds Status: \$30M has been received from the Ameritech legal settlements of 2000. \$5M is paid out each year. 40% of the money is used by the fund for telecommunications infrastructure and services, while the other 60% is used to fund educational grants, not associated with infrastructure or services.



Texas Detail: Telecommunications Infrastructure Fund



Date of Law: June, 1995

Legislation Requirement: House Bill 1093, creates the Texas Telecommunications Infrastructure Fund (TIF)

Funding: Money comes from a 1.25% telephone carrier's receipts tax, which is approximately \$1.5B over a 10 year program.

Specific Mission: The fund is created to award grants and loans to bridge the digital divide in rural areas of the State.

Funding: \$1.5B program, from the tax. No State funding is required to run the program or administer it.

Georgia Detail: Universal Access Fund

Date of Law: June, 1997

Project Concepts: Provide infrastructure in rural and underserved inner city areas.

Funding: Temporary user tax on telecommunications. The collection of the tax was halted December 21, 2000, since there were enough funds available to continue the program until June, 2003. It is now self-sustaining.

Georgia Detail: Seed Capital Fund



Date of Law: June, 1999, creating the Yamacraw Seed Capital Fund

Project Concept: Success: To develop broadband infrastructure and services in rural areas of the State

Funding: State funds of \$100M, with \$5M of direct State money, and private sector money.

Objective: To make Georgia a leader in broadband telecommunication systems

Organization: Fund was created under the Advanced Technology Development Center (ATDC), a 20 year old non-profit organization that provides consulting and funding to firms that have the objective to advance and develop broadband infrastructure within the State to assist underserved and rural areas.

Fund Powers: The fund can invest up to \$500K at a 3:1 ratio match with private sector funds. The fund takes an equity position in each funded company, and ensures that the funded companies are successful. The objective is to pay back the loan or grant in full. The loans can be made for longer periods than traditional financial institutions. The receiver of the long term loans must commit to economic development activities, job placement, and participate in research development activities in the areas served.

Measurement of Success: Since inception, over the past three years, the fund has laid claim to having developed 27 telecommunication broadband

infrastructure companies. This has provided a platform for creating a measurable 3,000 jobs, in addition to providing telecommunication services in rural areas of the State.

12. ISSUES TO DEPLOYING BROADBAND IN RURAL AREAS OF THE STATE

Information Obtained from the Telecommunications Service Provider Survey:



- a) Long Loop Lengths in rural areas increases deployment, maintenance, and operation costs. This is the main issue in providing high-speed broadband services to those businesses and consumers living in sparsely populated areas.
- b) Revenues from services sold, including deployment, operation, and maintenance, does not correlate with the costs and expenses of new broadband infrastructure deployment.
- c) There is low demand for new services per household / business in rural areas as compared with urban areas of the State. This low revenue potential, combined with lack of incentive to build, paints a less than stellar picture for rural broadband services.
- d) Rural Local Exchange Carriers lack the ability to purchase cost-effective infrastructure equipment. Software, electronics, switching equipment, materials for construction, and customer premise gear, is not economical or cost effective for small rural service centers. Telecommunication equipment manufacturers have not developed low cost, low volume devices for the 20% population base residing in rural America. Only the labor costs associated with construction of telecommunications infrastructure in rural areas is considered less expensive than in urban areas.

13. CONCLUSIONS AND RECOMMENDATIONS

Other states that are experiencing the same need for telecommunications connectivity in rural and underserved areas as Arizona, have shown that government sponsored programs and incentives have assisted in decreasing the gap in the digital divide. Traditional, revenue driven deployment of broadband infrastructure and services has been shown to be inappropriate in meeting the requirements of some communities. State governments have therefore been required to step forward to assist in solving these issues. Redundant broadband pathways, often overlooked by local community telecommunication planners, are expensive but crucial in allowing telecommunication sensitive businesses to expand and new businesses to emerge.

The Michigan case presents government sponsored initiatives and incentive planning into one program. By developing a Broadband Development Authority, providing tax incentives, tax credits, and streamlining the Right-of-Way permit process, a unique and effective government sponsored program emerges. It appears that the Michigan program is considered successful within the State government sector as well as from all industry and community stakeholders. It is obvious that the sponsors of these Michigan Senate Bills researched the industry and determined the support levels prior to introducing the concepts to the State policymakers. The telecommunication industry, the money lending authorities, and government taxing experts were consulted before proceeding. Even though the geographical terrain and rural definitions are less complicated and differ between Michigan and Arizona, the local service providers in Arizona have similar issues to resolve. The political climate and agenda of Arizona varies from Michigan but the lessons learned in Michigan show a direct correlation to Arizona. A hybrid plan using the Michigan platform, along with the best of other states discussed in this analysis, can make a potent government led program with direct impact and positive results on the deployment of broadband telecommunication services to the underserved areas of Arizona.



TELECOMMUNICATIONS SERVICE

PROVIDER SURVEY: Exhibit One

Objectives of this casual survey: 53 ILEC's, CLEC's, ISP's, and other companies are considered telecommunications service providers within the State of Arizona. These 53 telecom service providers are directly operating, maintaining, and constructing telecommunications infrastructure for their services. In those areas designated as inadequately served, and in need of broadband infrastructure, this survey attempts to uncover the issues that these telecommunications service providers are considering in their planning and decision process.

Telecommunications Service Provider Interview:

- a) What are the main issues that a rural telecom provider has in supplying broadband Internet connectivity to their service area?
- b) What is the availability of broadband in their territory?
- c) Are there inadequately served areas that are not slated for broadband connections in the next year?
- d) Have they built new telecom infrastructure and still bypassed some rural communities due to cost/business case?
- e) In ranking order, what are the main strategic concerns, issues, and decisions that a rural telecom provider makes before deploying broadband services?
- f) What is their cost per mile of constructing telecommunications infrastructure in rural areas?
- g) How long does it take to recover and break even financially on their construction investment?
- h) With all the information now publicized nationally concerning bridging the digital divide, what are the digital divide gaps in their business territories?
- i) Throughout the United States, Federal and State government agencies have been assisting telecommunication broadband provisioning in rural areas. Many programs appear to be successful and popular with ILEC's, CLEC's, and ISP. Do they recognize any assistance from government sponsored programs as being vital to deploying broadband in rural communities?



- j) If they are not tax-exempt, would a tax incentive or tax credit program assist their company in deploying broadband to underserved areas?
- k) Would a low interest, long-term loan, technological grant, or other form of equipment or infrastructure assistance increase the speed of infrastructure deployment to underserved areas of the State?
- l) What assistance is needed by rural telecommunications providers to serve their customers?
- m) Are they being charged by the State, County, or City for using Right-of-Way when constructing broadband infrastructure?
- n) If they are being charged, how much? Do they consider it excessive and detrimental to the construction process?
- o) Are permits and licenses being processed in a timely and efficient manner by ADOT, Counties, and Cities?
 - What is the turn-around time for a typical permit?
 - Is the process timely, when combined with other Federal and State agency involvement in the permitting of Right-of-Way process, such as BLM, State Land, and Forest Service?
 - Would a more streamlined permitting process encourage their broadband deployment plans?

States that have Legislated Development Authorities for Broadband Infrastructure and Connectivity in Rural Areas:

Summary: Table One

State	Begin Date	Yes / No										\$ Millions				
		Interviewed	Studied	New Legislation	Policy Change	Public / Private Agreements	Issues Bonds & Notes	Power to Tax or Levy Fees	Private Sector Contribution	Self-Sufficient	Program Successful *	Grants Made	Loans Made	Infrastructure Built (1)	Rural Builds	Cost to State
Michigan	5/02	Y	Y	Y	Y	Y	Y	N	N	Y	Y	-	-	-	-	1.5
New York	3/02	N	Y	Y	N	Y	Y	N	N	Y	-	-	3.5	8.9	2.5	4.5
North Carolina	1/01	N	Y	Y	Y	Y	Y	N	Y	Y	Y	10.0	4.5	35.0	35.0	0.0
Tennessee	1/02	N	Y	Y	Y	Y	Y	N	Y	N	Y	2.5	1.2	7.0	7.0	2.3

(1) = Estimated in current year

(*) = Successful Program means objectives met on-budget and on-time

States that have Legislated Tax Incentives for Broadband Infrastructure and Connectivity in Rural Areas:

Summary: Table Two

State	Yes / No					\$ Millions				
	Interviewed	Studied	Legislation Required	Policy Change	Program Successful *	Infrastructure Built	Tax Credits Issued	YR 1	YR 2	YR 3
Montana	Y	Y	Y	N	Y	1.8	0.2	0.2	-	-
Idaho	Y	Y	N	Y	Y	3.5	1.5	0.4	0.5	0.7
North Carolina	Y	Y	Y	N	Y	35.0	5.0	0.3	-	-
Michigan	Y	Y	Y	Y	N/A	20.0	3.0	1.5	-	-

(1) = Estimated by Legislation

(*) = Successful Program means objectives met on-budget and on-time

States that have Legislated Action to Remove Barriers to Entry for Broadband Infrastructure and Connectivity in Rural Areas:

Summary: Table Three

State	Yes / No				Provisioning Barriers					Permitting			
	Interviewed	Studied	Legislation Required	Self-Sufficient	Fees to state	Fees to Local	Fees for ROW	Fees In Rural Areas	No Cost to State	DOT		Local	
										Permit too slow	Permit unwieldy	Permit too slow	Permit unwieldy
Missouri	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y
Texas	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y
Florida	Y	Y	Y	N	Y	N	N	N	N	Y	Y	Y	Y
Michigan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
New Mexico	Y	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y