

*Paralyzed Municipalities: The “Chilling Effect” of Municipal ICT Investments:
A Case Study of the Legal and Policy Environment for South Carolina
Municipal Investment in Advanced ICT*

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Abstract

This paper provides a case study of existing policy barriers to local municipal information communications technology investments in one U.S. state, South Carolina. This analysis also describes local survey results to clarify the role of restrictive state policy on the incentives for local communities to make these investments. Initial interviews of state municipal leaders support the idea that the states legal interpretation of municipal responsibilities has likely constrained local telecommunications investments across the state. Survey results reveal that approximately one-third of local municipal leaders believe they are constrained by the state’s definition of the purview of municipal responsibilities. Even with these constraints, the overwhelming majority of respondents acknowledge the importance of these investments for community and economic development. Understanding the results of state barriers to telecommunications investment provides important insight into the nature of policy incentives and moreover, provides insight into how states and localities can change policy to encourage these investments.

Keywords:

Telecommunications
Municipal Electric Utilities (MEU’s)
Economic Development

1. Introduction

A substantial body of research documents a shift in regional economic development research and policy from one focused on traditional supply-side variables, like land and labor, to a demand-side approach emphasizing local business retention and the creation and expansion of existing local business. The so-called third wave of economic development policies are often referred to as “high-road” or knowledge based policies. These encompass a broad range of policy efforts aimed at entrepreneurship and technology-based economic development efforts, including projects like ICT infrastructure investment, business incubators, developing and nurturing industry clusters, and education and technology training programs.

For these economic development policies to be successful, states and regions have begun to recognize that core infrastructure must be in place to support innovation and entrepreneurial

activity. In today's technology driven marketplace, it is commonly understood that advanced Information Communications Technology¹ (ICT) infrastructure is a prerequisite to developing a tech-savvy workforce, developing local competitive advantage, and, generally, ensuring economic development success. High-speed Broadband access, in particular, has received much attention since most computing applications with promise to deliver competitive advantage to firms and regions require this access (Eberts, et al, 2005).

While firms and regions may require this technology, it is not ubiquitous. In the United States there continue to be an ongoing digital divide across communities, regions, racial groups, age groups, and income classifications. The most recent statistics² indicate that 73 percent of American adults are using the Internet. Internet use falls to 32 percent for adults 65 years and older, 61 percent for African-Americans, 63 percent for rural residents, 53 percent for those with household incomes below \$30,000 per year, and 40 percent for those with less than a high school education (www.pewinternet.org). While, rural broadband penetration rates have been increasing steadily since at least 2001, Pew's tracking indicates that rural Broadband penetration rates continue to lag behind the rest of the country. In 2001 the gap between rural and other users was 6 percent (3 % rural, 9 % suburban, and 9 % urban) and by the end of 2005, the gap, in absolute terms, had widened to 15%.

In acknowledging the importance of advanced ICT investments, many communities are beginning to consciously take steps towards enhancing their access to Broadband infrastructure. Traditionally most communities have relied upon incumbent local exchange carriers (ILECs) and/or competitive local exchange carriers (CLECs) to provide the necessary infrastructure at competitive prices. However, nearly all ILECs and many CLECs are publicly-traded business concerns whose operations are driven by maximizing profit and increasing shareholder value. Thus deploying advanced Broadband networks to sparsely-populated and/or economically disadvantaged regions does not necessarily advance these objectives. As a result, many self-defined "underserved" communities are left in the difficult position of ongoing disadvantage or attempting to undertake advanced ICT investments on their own.

As more communities have undertaken these investments, a whole host of state laws have been erected as barriers to entry for municipal investments. In addition, ILECs have lobbied for the promulgation of policies that create supposed "level playing fields" between private and public providers, further reducing the ability of municipalities to capture the benefits associated with these investments. As well, the perception of ubiquitous availability of competitive broadband services from private sector providers also tends to reduce the impetus for public sector initiatives. These barriers place underserved communities at risk of falling further behind other communities in relation to technology infrastructure investment, and economic development more generally.

South Carolina provides an interesting case study in the race for advanced telecommunications. South Carolina has many of the characteristics (rural, poor, high percentage of minorities, elderly) that make the digital divide a very real issue. In addition, South Carolina has a complicated legal

¹ For the purposes of this research we define ICT as all forms of technology used to create, store, exchange, and use information. It can include any communication device or application, including telephones, cellular phones, computer and network hardware and software, and regular and advanced bandwidth infrastructure.

² February-April 2006 check

and policy history surrounding municipal involvement in ICT investments. To date, there are only a small number of successful municipal advanced telecommunications investments across the state, though many communities continue to express interest in making investments that would enhance bandwidth and its effective use for economic development purposes.

This paper will begin by reviewing the current literature on the economic benefits of municipal investment in advanced ICT infrastructure investment. This will be followed by a discussion of the unique legal and policy environment that has purportedly hampered or even immobilized South Carolina municipalities from making investments in ICT infrastructure for over a decade. The third part of this research reviews and analyzes the results of a survey of South Carolina electric cities. These results highlight several examples of the kinds of hurdles that communities around the state are faced with when they consider pursuing these investments. In conclusion, this research hopes to clarify the complex policy environment that often surrounds these local investments and to also contrast this against the perceived benefits that local decision makers believe these investments could bring to their communities. If our nation and each state are to fully embrace a “knowledge-economy,” understanding the full scope of opportunities and constraints to this development is critical to the ongoing research agenda.

2. Economic Benefits of Broadband Investment

The first available studies on the broad economic effects of Broadband adoption began appearing by 2001. A Verizon-commissioned study by Criterion Economics (Crandall & Jackson, 2001) estimated that Broadband would contribute an extra \$500 billion in GDP by 2006. The New Millenium Research Council (Pociask, 2002) estimated 1.2 million jobs would be created from the construction and use of a nationwide Broadband network. While, Ferguson (2002) argues that without improving Broadband networks and performance the U.S. could see substantial productivity losses. While these early studies provided important forecasts of the nationwide potential of Broadband technology, these early studies did not clarify how local communities would benefit from this investment or moreover how all local communities would have access to Broadband technology.

One early local study (Strategic Networks Group, 2001) of South Dundas, Ontario found significant positive impacts from the local deployment of a Broadband network in South Dundas, Ontario. Following this, two 2003 studies (Kelley, Ford & Koutsky) began to further clarify the benefits of local public investment in technology infrastructure. Kelley (2003) compared the economic effects of a municipal broadband deployment in Cedar Falls, Iowa with nearby Waterloo, Iowa. Ford & Koutsky’s study compared Lake County, Florida with similar counties where advanced telecommunications networks were not deployed. All of these studies indicated that investments in advanced ICT systems have a positive influence on economic growth and development. More recently still, a 2006 (Gillett, et al) nationwide study by researchers at Massachusetts Institute of Technology and Carnegie Mellon Institute provided estimates of the economic impact of Broadband deployment at the zip code level. While controlling for a host of other factors known to lead to economic growth they concluded that broadband deployment has a significant economic impact on local economies.

Along with estimations of community level benefits, research has also explored the different alternatives for public involvement in ICT infrastructure investment. Gillett et al (2004) describe four possible roles of government involvement in broadband infrastructure; stimulator of demand, rule-maker, source of funds, and/or developer of infrastructure. This research also begins to clarify the role of municipally based electric utilities (MEUs) in the provision of this infrastructure. Gillett et al (2006) follow up this research with a more in-depth analysis of the role

of municipal electric utilities in providing ICT infrastructure. Their results reveal that MEUs are more likely to invest in ICT infrastructure if they can exploit scope economies in supporting their own electric utility operations and if they are “underserved” by private competitors. MEU’s closer to metropolitan areas and less constrained by state regulatory barriers are also more inclined to make these investments.

The idea of government involvement in ICT infrastructure investment continues to generate a strong debate over the potential benefits and costs of this infrastructure. Papacharissi and Zaks (2006) note that in the U.S. a number of groups view the discussion of any government regulation or involvement in as threat to the foundation of capitalism. Patek (1992) argues that this type of regulation will not only bring cumbersome bureaucracy but also will discourage technological innovation. However, Papacharissi, Zaks and others correctly note that the government has and continues to be an important investor in nationwide research and development efforts. It is because of government investment from the Department of Defense, National Science Foundation, and several institutions of higher education that the United States has the nationwide technology backbone that allows for the current development of local and regional technology networks.

The ongoing question continues to be what is the public role for ICT infrastructure investment? If, as a number of researchers have argued, market incentives are not likely to eliminate all of the gaps in access and service, many advocates believe some form of government intervention is necessary to ensure adequate deployment and uptake of Broadband infrastructure. Feser (2007) calls for a bottom-up approach to Broadband investment. This approach calls for the government to be a catalyst for these investments and possibly a partner in developing local initiatives. The locally-driven nature of a bottom up approach increases the likelihood that the unique needs of diverse communities can be met with unique and creative solutions.

Even if local communities want to make these investments, there are many states where these investments continue to be constrained by restrictive state policy. Swirbul (2006) reports that in 2005 14 state legislatures in the U.S. sought to impose new barriers to municipal investments in ICT initiatives, while in 2006 only two states sought additional barriers. While, incumbent cable and telephone companies fought to ensure the passage of these legislation, only one state, Nebraska, saw the passage of new barriers to municipal ICT investment. Even with this success, many states continue to have restrictive legislation that discourages or disallows local communities from creating local solutions to these investments. Furthermore, when one considers that each state has its own unique policy environment, in addition to Federal telecommunications policy and regulation, providing opportunities for locally driven solutions appears daunting at best.

3. A Chilling Effect: Municipal Investments in South Carolina

The slow pace of ICT infrastructure investment and deployment in South Carolina originates, in part, with a South Carolina Supreme Court case that dates from the early 1990’s. The city of Orangeburg, South Carolina chose to pursue building and offering its own public cable service after numerous complaints over quality and service of the local cable franchised monopoly. As the city pursued its plans the local cable company sued the city. The city claimed it had the right to build cable infrastructure and offer cable service under Articles eight and sixteen of the state constitution, claiming that local municipalities “may acquire or purchase and operate gas, water, sewer, electric, transportation, or *other* public utility systems and plants upon majority vote of the

electors.³”

The lower court decision held that a local, public referendum could be held to determine whether this local investment could be made. On January 28, 1992, a public referendum on the issue was held. A majority of citizens voted to *authorize* the City of Orangeburg to construct, purchase, and operate a cable television system. Even with overwhelming local support, the local cable company continued to pursue a legal case against the city. The case went to the South Carolina Supreme Court where a decision in favor of the local, incumbent cable company resulted. The Supreme Court argued the enumerated utilities described in Article eight and sixteen are of the same general kind or class of utilities that provide essential services to the public.

“We do not believe that the value and necessity of cable television is so self-evident that this court should declare that cable television system provides an essential service...moreover, we do not find that the supplying of cable television is necessary for the security, general welfare, and convenience of the municipality or for preserving health, peace, order, and good government as required by section 5-7-30.”⁴

The court effectively decided that providing cable services was not within the purview of municipal service provision. As a result, this ruling left many communities cautious of using Articles eight and/or sixteen to justify the provision of additional public services that are outside of those explicitly outlined in South Carolina law and currently provided by municipalities.

In addition to the Orangeburg case, the South Carolina 2001-2002 legislative session saw the passage of what has come to be referred to as level playing field legislation.⁵ Specifically, this legislation broadly regulates telecommunications provision by any South Carolina state or local agency, excluding the State Budget and Control Board. The definition of provision is broadly interpreted as:

“Any state or local political subdivision or person or entity providing telecommunications service to the public for hire over a facility, operation, or system that is directly or indirectly owned by, operated by, or a financial benefit obtained by or derived from, an agency or entity of the State or any local government. The term “government owned telecommunications service provider” does not include any state or local governmental entity or agency that obtains or derives financial benefit solely from leasing or renting, to any person or entity, property that is not, in an of itself, a facility used to provide telecommunications service.”⁶

The legislation upholds that government owned telecommunications providers are subject to the same local, state, federal, statutory and legal obligations as any privately owned providers. Publicly-owned providers are not to receive any financial benefits that are not also available to privately-owned providers, including, but not limited to, tax exemptions and governmental subsidies. There is an additional restriction on government telecommunications providers that disallows subsidization of telecommunications service from non-telecommunications revenue sources. As well, if the state determines that a direct or indirect subsidy has been applied, the

³ South Eastern Reporter 1994, South Carolina Supreme Court Records, p.602

⁴ South Eastern Reporter 1994, South Carolina Supreme Court Records, p.602.

⁵ South Carolina Legislature Online, Session 114 (2001-2002), S1151.

⁶ South Carolina Code of Laws Title 58, Chapter 9, Section 2600, Retrieved from <http://www.scstatehouse.net/code/titl58.htm>

government telecommunications provider is required to change the pricing structure such that no subsidy is necessary.

The level-playing field legislation additionally places constraints on publicly-owned telecommunications providers in its collection and payment of taxes. As an example, government owned providers are mandated to pay all property taxes, including property that would otherwise be exempt, if it is utilized in any manner towards the provision of telecommunications services. This legislation has sparked widespread criticism that South Carolina's level playing field legislation effectively blocks municipal provision of telecommunications services. The argument can be made that similar burdens are not applied to local governments in the provision of public services like police, fire, or education. As well, it begs the ongoing question of what types of benefits or advantages should be allowed for public goods and/or services that are deemed critical to the economic success of a community.

Between the Orangeburg Supreme Court case and more recently, the level playing field legislation, South Carolina's municipalities face considerable constraints in any effort to pursue public involvement in ICT infrastructure investments. Anecdotal evidence from officials across the state seem to be in agreement that the Orangeburg case was a defining moment for municipalities in determining the types of services that cities could deliver. This court case appears to have placed a sort of "chilling effect" on the willingness of municipalities to engage in projects that are not specifically defined as within their legal purview. In addition, while the "ideal" of level playing field legislation is positive, on further inspection this legislation has the potential to seriously constrain small and medium communities that do not have substantial bargaining power with private telecommunications providers. In the end, if there is any value to the argument that ICT investments generate public benefits with social returns to investment, this legislation may place serious restrictions on the ability of South Carolina municipalities to benefit from these investments. While it is understandable that South Carolina municipalities would want to avoid any unnecessary legal or political battles, the potential disadvantages of underserved communities not gaining access to this infrastructure are potentially substantial.

4. Methodology and Results

4.1 Interviews with Key Individuals

Several methods were used to better understand the issues surrounding local technology infrastructure investments in South Carolina. In the fall of 2007 several interviews were conducted with leadership from the Municipal Association of South Carolina (MASC) and the Piedmont Municipal Power Association (PMPA).⁷ These agencies were chosen because of their extensive recent and historical contact with South Carolina municipalities on ICT issues. From these interviews it became evident that many municipalities remain concerned with the legal ramifications of municipal involvement in activities not well-defined as "appropriate" for municipalities.⁸ In addition, representatives from MASC uphold that for the smallest communities across the state, ICT infrastructure investment is not a priority. Further, the uniqueness of each community and region of the state inhibits the direct replication of telecommunications solutions across communities.

⁷ PMPA provides electrical power and technical support to 10 municipalities with municipal electric utilities ("electric cities") in SC. MASC maintains a sub-committee of 21 "electric cities", including the 10 served by PMPA.

⁸ Bridgland, Jeff. Piedmont Municipal Power Agency. Personal Interview. 5. September. 2007

⁸ Hair, Miriam. Municipal Association of South Carolina. Personal Interview. 27. August. 2007.

In reality very few cities across the state have engaged in municipal broadband projects. Those that have are almost exclusively one of the twenty-one⁹ electric cities across the state.¹⁰ Electric cities (Gillett et al, 2006) can often make these types of investments more efficiently as they already have much of the necessary physical infrastructure and staff expertise in place. Table One presents a brief description of several municipally led projects in the state. Currently, Rock Hill has the most comprehensive municipal project in the state, though the network is not providing access to non-municipal customers (households, institutions, businesses). Newberry, however, is close behind as it is in the active stages of planning a comprehensive municipal project. A number of cities across the state have also tried to get involved in municipal-led Broadband projects but have been unsuccessful. Given the policy context, many cities are looking to the Newberry project with great anticipation. The anticipation primarily centers on concerns of community financial feasibility and ongoing concerns of the potential for frivolous lawsuits filed by incumbent providers.

Table One: South Carolina Municipal Broadband Projects

City	Project
Camden	Small Wi-Fi project
Clinton	Third party partner for Wi-Fi hotspots
Greenwood	City leases dark fiber
Newberry	Planning a comprehensive Municipal broadband project; Anticipated to be available for non-Municipal use
Rock Hill	Most comprehensive Municipal project in the State, It Is currently exclusively dedicated to Municipal use

Source: PMPA, Jeff Bridgland

Representatives of both the PMPA and MASC emphasized that a large part of the public policy problem is the fact there is not a “one size fits all” strategy for local broadband access. With a diversity (size, economics, infrastructure, geography, etc.) of communities across the state, proposals that attempt to standardize technology policy are, according to the PMPA executive,

⁹ The 21 electric cities are Abbeville, Bamberg, Bennettsville, Camden, Clinton, Due West, Easley, Gaffney, Georgetown, Greenwood, Greer, Laurens, McCormick, Newberry, Orangeburg, Prosperity, Rock Hill, Seneca, Union, Westminster, Winnsboro,

¹⁰ Municipal Association of South Carolina, Retrieved on March 1, 2008 from http://www.masc.sc/affiliates/scamps/SCAMPS_Membership_Roster.pdf.

doomed to failure. Thus, the state must have a better understanding of different policy options that can work across a range of communities. Further, the rapid pace of technological change makes it imperative that state and local leaders begin to clarify and resolve any barriers that currently exist for local and regional participation in ICT infrastructure investment.

4.2 Survey Results: Community Motivation for ICT Projects

Given the purported nature of the South Carolina political climate for municipal investments in ICT projects, a survey instrument was developed to learn more about local municipal and utility leaders' experiences with ICT planning and investments. The survey has three primary objectives: first, to clarify which communities were participating in ICT projects and to what degree; second, to gain an understanding of the perceptions of local leadership with respect to the political climate surrounding ICT investments; and finally, to ascertain how local policymakers view the relationship between ICT investments and community and economic development.¹¹

The survey instrument was initially sent to South Carolina local municipal and utility leaders of the ten electric cities represented by the Piedmont Municipal Power Association (PMPA). An online survey platform, QuestionPro™, was used in place of a traditional mail survey. An initial cover letter was e-mailed to a list of twenty-three municipal and utility leaders from the ten electric cities.¹² This was followed approximately a week later by a reminder email.¹³ Out of the original twenty-three leaders surveyed, fourteen responded to the online survey (61%).

While a response rate of 61% can generally provide an informative sample, the nature of this survey lends itself to issues of selection bias, since those with prior interests in ICT issues will be more likely to respond. Even so, an important hypothesis that this research sets forth is that local leaders that are generally more knowledgeable about communication and technology issues will be more interested and involved in these types of local projects. Thus, they will self-select themselves and their community to be involved in these efforts. The survey results also revealed that a number of questions were left unanswered by participants with some questions receiving as few as eleven responses. This reinforces the earlier idea that these respondents are the most ICT issue-informed representatives in their communities, while the survey results shed some additional light on the information asymmetries across this sample of community representatives.

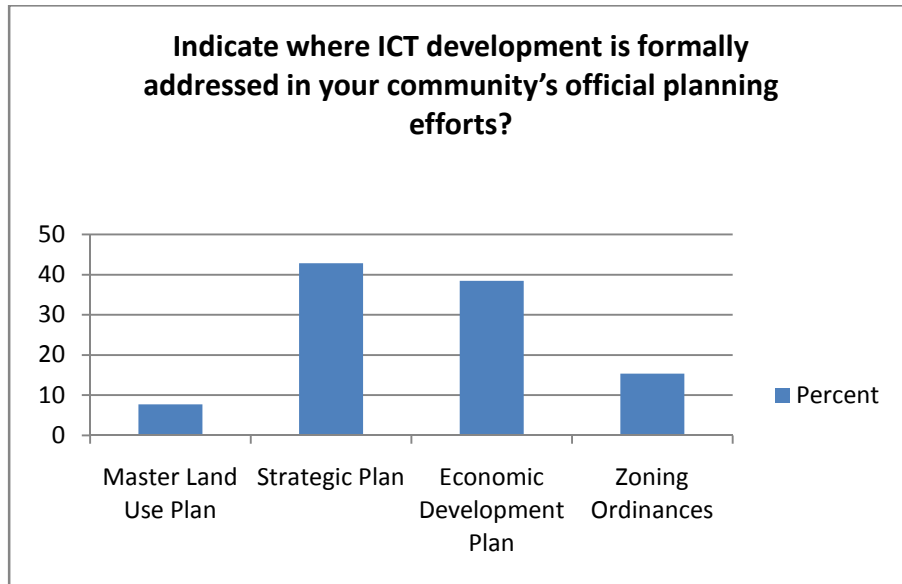
With respect to the first objective of the survey --- to clarify which communities were participating in ICT projects and to what degree---, several interesting conclusions can be drawn from these responses. Over sixty percent of respondents revealed that their city does not have an ICT master plan. When asked if ICT development efforts were included in other areas of city planning, there was considerable uncertainty where, if at all, ICT planning and development would be included. Chart One illustrates a summary of where survey participants identified ICT planning and investment in community planning efforts. While not a majority, a number of respondents indicated that ICT development was addressed in their communities' strategic planning efforts (43%) and community economic development plans (38%).

Chart One: Community ICT Planning Efforts

¹¹ The survey instrument is available from the authors upon request.

¹² This list was comprised of municipal utility directors and executive managers of the municipalities. The list was provided by PMPA.

¹³ Several browser compatibility issues were brought to our attention by survey participants, which resulted in an additional follow-up email and reminder to all participants approximately two weeks later.



When asked to identify which phase of community ICT infrastructure development communities had been involved with, five respondents (45%) indicated planning efforts. Two respondents (18%) indicated that their community was involved in either ICT plan implementation/deployment, provision of service, or all phases of ICT infrastructure investment. In conclusion, while a few local leaders have begun to consider ICT planning as an important component in their communities overall planning efforts, taking action with respect to deployment or service provision of ICT investments is rare. From this sample of respondents we can conclude that few (less than 25%) of these communities are actively participating in any aspect of locally-initiated ICT projects.

The survey results also provide additional clarity concerning the motivation (s) of communities that undertake these types of ICT projects. For these respondents, the provision of a public service is the most important reason to undertake these municipal investments. Other reasons given for community involvement in ICT infrastructure investment include; local economic development initiatives, provision of a key government services, increase the regional/national competitiveness of the community, and the private sector is not adequately providing these services. In a separate question, survey results also reveal that the majority of participants believe ICT investments are important for the future development of local community sectors. Over half of respondents indicated that ICT investments were either critical or very important to the future of their main street/small business environment; over eighty-five percent of participants specified that ICT is critical or very important to their industrial/large business environment; and over seventy percent of respondents specified ICT as critical or very important for the government, health, and education sectors of their communities.

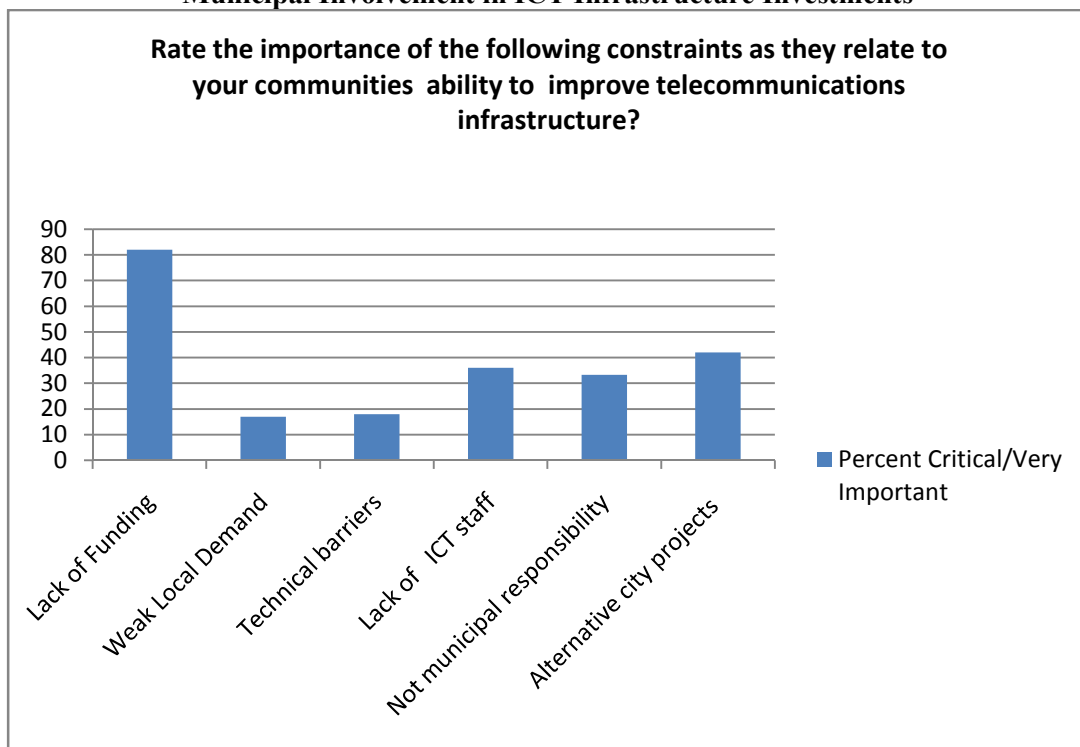
In terms of specific economic development areas, the majority of respondents identified ICT investments as very or critically important for improving new business recruitment efforts (69%), increasing employment opportunities (62%), enhancing regional marketing (62%), improving communication with customers (53%), and enhancing workforce development skills and training (62%). However, over seventy percent of respondents identified ICT investment as very important or critical for ready access to suppliers and enhancing competitiveness.

In South Carolina, in particular, a portion of the gap between the perceived importance of ICT investments and the lack of specific local policy efforts may be local policymaker’s perceptions of where responsibility lies. We hypothesize that the political climate in South Carolina is such that local policymakers have been conditioned to view issues related ICT investments as beyond their local purview --- “someone else’s job”. However, when specifically asked whether ICT planning and implementation was within the purview of local community responsibilities, more than half (57%) either agreed or strongly agreed. Equally as informative is that none of the respondents disagreed with this statement and the other respondents neither agreed nor disagreed. With over half of survey participants indicating that this is within their purview the question then becomes what are the local constraints to ICT planning and investment opportunities?

4.3 Survey Results: Barriers and Constraints to Local ICT Investments

Survey participants were specifically asked to assess the importance of several possible barriers to their communities’ participation in ICT investment opportunities. Chart two highlights what respondents identified as the main barriers to municipal involvement in ICT projects. Lack of funding appears to be, by far, the most important barrier to local community participation in ICT planning and investment. After funding, alternative city projects, a lack of knowledgeable ICT staff, and the idea that this is not a municipal responsibility were identified as the most critical or very important barriers to ICT participation. In earlier interviews with representatives from PMPA and MASC, it was noted that many small municipalities do not have the appropriate resources for locally driven ICT investments. Many communities do not have ICT staff even for city functions and thus would be unable to accommodate the demands of a municipally driven ICT project on their own, unless these functions were out-sourced.

Chart Two: Critical or Very Important Barriers to Municipal Involvement in ICT Infrastructure Investments



The open-ended response questions concerning barriers to improving ICT infrastructure enhance earlier question responses. Almost 40% of respondents indicated that costs were critical barriers that constrained their community from investments in ICT infrastructure. One respondent revealed that political barriers were the most important issue; specifically those dealing with an incumbent local utility. Along these same lines, one participant said that effective cooperation between government entities was a primary barrier to ICT investments and another participant indicated that a lack of knowledge in the legislature was also a significant barrier. Finally, two participants mentioned that a lack of public knowledge and/or awareness of these issues were a potential barrier and one participant mentioned that community access to speeds greater than what cable or DSL can currently provide is a substantial barrier for their community.

The questions addressing the types of opposition that communities may face when participating in ICT investment projects reveal important clues concerning the general political and business climate for these investments in South Carolina. Approximately thirty percent indicated that the opposition to local government involvement in a community ICT project was moderate or strong. One community specifically indicated strong opposition from a local cable company, while two additional respondents indicated strong opposition from a local telephone company. This type of opposition is challenging for small communities, as these providers are often positioned as entrenched, exclusive gatekeepers in the provision of this key service. These providers often have the advantage of political influence that allows them to discourage or even block municipalities from entering this market. On a positive note, no participant indicated local municipal authorities, county government officials, state government officials, local citizens groups, or the local business community as strongly opposed to public involvement in ICT investment projects.

While this survey provides only a limited sample from which to analyze the stated survey objectives, it does provide insight into these issues and further, provides a useful foundation from which to do additional research. The results begin to answer and clarify the three primary objectives laid out earlier in this section. The first objective was to clarify which communities were participating in ICT projects and to what degree. This sample reveals that municipal leaders recognize the importance of ICT planning efforts and, in a few cases, have been involved in the implementation or deployment of this service to enhance local development and services.

The second objective was to gain an understanding of the perceptions of local leadership with respect to the political climate surrounding municipal ICT investments. The results reveal that a number of communities continue to feel constrained by ongoing questions concerning the purview of municipal responsibility. The degree of uncertainty and confusion about where municipal responsibility lies is likely a disincentive for communities that are interested in undertaking ICT investments. This is especially true if this uncertainty is grounded in any positive expectation of a lawsuit. Thus, it appears that state public officials could do more to inform communities of the scope and breadth of municipal responsibilities and any legal issues surrounding ICT investments and provision or services.

Finally, the last objective was to ascertain how local policymakers view the relationship between ICT investments and community and economic development. The majority of respondents see value in ICT investments as they relate to community and economic development. Given the obvious importance that the majority of these respondents attach to these investments in advancing specific business and economic development goals it begs the question, why are these municipalities not more involved in investing and deploying ICT services? While factors like funding are important hurdles to making these investments, the uncertainty surrounding the political and legal climate of municipal ICT investments understandably creates an unsettling

climate for communities interested in these types of projects. Thus, questions continue to remain concerning the scope and breadth of constraints that maybe preventing communities from fully engaging in these investments.

In conclusion, these survey results have shed partial light on the potential role of municipalities in advanced ICT deployment in South Carolina. The core research question, “under what conditions do local investments in ICT projects make sense for underserved communities?” continues to be only partially answered. Given the paucity of municipal ICT projects in the state, the development of municipal ICT case studies could provide a more complete understanding of the complexities and nuances specific to different communities across the state. Additional case studies could allow for generalizations that would be instructive for state and local policy, eventually leading to a better decision-making environment for other communities across the state. In addition, state-wide comparisons of municipally led ICT projects could allow for a more detailed quantitative analysis of community and state characteristics that drive locally driven ICT investments.

5. *Conclusions and Discussion*

There are compelling arguments that communities and regions are more likely to be competitive in the global knowledge economy when they have advanced telecommunications infrastructure, along with savvy individuals, businesses, institutions, and local government who effectively use it. Some fortunate communities and regions provide sufficient reasons for private sector providers to provide multiple robust, redundant bandwidth options. Other communities, however, are at a disadvantage and must actively pursue locally-initiated ICT planning and investments opportunities if they are to effectively compete in the modern global economy. The environment is such that local, grassroots ICT planning initiatives, specifically addressing individual community needs are required for many underserved communities across the nation.

These survey results illustrate that municipal leaders across South Carolina value ICT investments as they relate to both general and specific issues of economic development. It is also evident that without a different approach to ICT infrastructure investment, many South Carolina communities and regions are likely at risk of falling further behind. The pace of technological change is not slowing and public policy is not necessarily keeping pace with this change. However, change is in the air. The Federal Government has indicated that it will consider several bills that would impact local municipal investments in advanced ICT. Several bills that have been proposed would eliminate restrictions on municipal investments in ICT infrastructure, as well as require telecommunications providers to provide information to accurately map broadband access and service areas. In addition, South Carolina currently has a Broadband Study Commission that is actively exploring different options to expand broadband service in under-served areas across the state.

In order to explore these questions more thoroughly, a quality set of case studies, comparative analysis across individual case studies, and a framework for community decision-making would increase the likelihood of sound investment decisions. The survey results reported are a start in that direction. While case studies have their limitations, they can be instructive tools for other local decision makers faced with similar policy choices. Given the current legal and legislative environment for municipal utilities in South Carolina, successful community case studies can be especially important for communities considering these investments. As well, given the diversity of communities across any state, case studies of a variety of diverse communities would be instructive as a guide to local decision makers and even state policy decisions.

While telecommunications policy is not likely to be any less contentious in the near future, National and State attention to these issues are positive signs that these issues have made it onto the policy agenda. However, as our survey research has illustrated, making it onto the agenda does not guarantee action or implementation of a particular policy. Time will tell, but national, state and local economies are at continued risk of falling behind other states and nations without a more thorough and proactive approach to ICT policy.

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