

Telecommunications Policy Research Conference
Arlington, Virginia, September 2007

Policy and Plan Convergence for Municipal Broadband Networks

Andrea H. Tapia

329G IST Building

College of Information Sciences & Technology

The Pennsylvania State University US

814-865-1524

atapia@ist.psu.edu

Julio Angel Ortiz

307G IST Building

College of Information Sciences & Technology

The Pennsylvania State University US

814-865-8952

jortiz@ist.psu.edu

Abstract

It is clear that the growth of municipal wireless networks remains exponential in the US. This paper makes several observations on where municipal broadband policy is being made, what the dynamics are, what the implications are, and several ways to understand the similarity between municipal policy choices. We draw from three bodies of literature (policy transfer, policy diffusion and policy convergence) in order to understand and explain the similarity of actions and business plans of municipalities in states with no passed anti-municipal broadband legislation. Each mechanism implies a different form of motivation to the exchange of policy elements. The goal is to help researchers and policy makers begin the process of developing more robust models for analyzing the policy arena around the development and deployment of municipal broadband systems.

Keywords: Municipal broadband networks, policy transfer, policy diffusion, policy convergence, phantom legislation

INTRODUCTION

The United States of America has poor broadband penetration compared with the rest of the industrialized world--blamed on unreliable/slow service, high prices, and a low-density/distributed population (Bleha 2005). Compounding this is the fact that telecommunication policy in the United States is being outpaced by technology change and development. These issues leave local governments continually struggling with a population demanding universal, high quality broadband service at affordable prices and slow-to-respond telecommunication incumbents and federal policy makers. Complicating matters further is the advent of unregulated wireless broadband technologies that permit the provisioning of broadband access at minimal cost (Gillett, Lehr and Osorio 2004).

This tension has prompted many municipalities to take matters into their own hands, developing and deploying affordable wireless broadband networks (Gillett 2006; Bar and Park 2006). In some cases municipalities have entered into public-private partnerships in which they do not offer broadband service directly, but instead offer rights of way, government employee contracts, among other things to either an outside non-profit or local Internet service provider to offer the service on their behalf. These negotiations usually result in hybrid organizations offering service to consumers at reduced prices, covering more square miles and reaching underserved populations, as well as complying with some of the more restrictive state policies.

As of January 2007, 385 municipalities in the United States have entered the telecommunications arena with the intent to develop and deploy some form of municipal broadband Internet. This continues a trajectory that has been developing for the last four years. In 2004, as newer technologies making offering wireless Internet possible, municipalities entered the broadband market as a technological imperative. Municipalities were creative, hopeful and idealistic. 2005 can be characterized as the year of intense incumbent lobbying, a policy backlash against these first municipal entrants, unleashing a torrent of proposed state legislative restrictions. However, 2006 became the year of compromise and accommodation in which municipalities developed creative business plans so as to accommodate the needs to incumbents as well as gain higher quality broadband service for more of its citizens. Telecom incumbents backed off from their intense lobbying efforts and many proposed legislation in the states were passed in a less-stringent form, or failed altogether. We see this trend continuing in 2007 with additional municipalities entering the telecom arena, however, with more and more of them outsourcing ownership and management of the service. We predict that more municipalities will form complex partnerships with local incumbents, thus reducing the need for lobbying and future legislation.

We continue our efforts to understand the policy arena around the development and deployment of municipal broadband networks in the United States. We use the term *phantom legislation* as applied to the municipal broadband arena to understand and explain the similarity of actions and business plans of municipalities in states with no passed anti-municipal broadband legislation. We have further developed the term to include legislation enacted in one jurisdiction that has power to influence the behavior of organizations in other jurisdictions even though there is no legal requirement to do so. The phenomena we seek to document and more fully understand is that municipalities in all states, regardless of the status of their state and federal legislation, have incorporated accommodations in their development of their municipal networks. Theoretically, we draw from literature discussing policy transfer, policy diffusion and policy convergence.

Each mechanism implies a different form of motivation to the exchange of policy elements. Transfer implies a push of policies from a more powerful country to a less powerful one. Diffusion implies a spreading, contagion of dispersion of policy elements, giving agency to the elements themselves. Convergence implies that countries develop structural elements that bring one municipality or state into a state of economic or social similarity with another, causing the policy elements to share.

Our research question is,

What are both the mechanisms and motivations for municipalities to develop similar development and deployment strategies and policies in regard to municipal broadband networks?

In order to answer this question we draw from our database of all municipal wireless initiatives in the United States (see Ortiz and Tapia 2006; Tapia 2006; Tapia, Maldonado and Ortiz 2006; Tapia, Maitland and Stone 2006; Tapia and Ortiz 2006). We currently have a total of 357 entries. The data that we have collected spans multiple categories including information on the shape, form, uses, and technologies of the municipal network itself; the business plan and or service delivery plan; the status of the development/deployment of the network; the social impacts of the network; and the marketing language used by the owners and users of the network. The database has been populated through a variety of methodologies. In most cases, information was obtained through the use of the Internet, using crawling techniques through municipal sponsored websites, press releases, public documents and online news and weblogs. In addition, when information proved scarce or dubious, municipalities were called, and information was supplemented and verified via phone.

This paper is organized in four following sections. First, we present the current wireless broadband setting. Second, we present the policy theories we draw from. Third, we present and discuss tables of our findings. Lastly, we develop our ideas of phantom legislation and discuss the policy situation within the United States.

THE SETTING

Municipalities have decided to enter the telecommunications realm because of the cost savings opportunities that new Wi-Fi technologies offer. Municipalities are making claims that Wi-Fi networks would enhance economic development, provide for additional tourism, support city services and personnel, and perhaps decrease the digital divide. Municipalities enjoy certain advantages in this space. While local governments do not have control over state and federal policies, they do have control over local policies. These local policy efforts can influence communications infrastructure deployment, business and residential demographics that shape demand, and the nature and quality of existing infrastructure all which can have a direct impact of the development and deployment of municipal wireless networks (Gillett and Lehr 1999). Given existing municipal assets such as buildings, rights of way and structures that can house wireless antennas, another incentive is that municipalities may enjoy lower cost of broadband infrastructure deployment.

As municipal wireless broadband deployments have become more high profile in the past few years, private sector providers have expressed a number of concerns. Private providers understandably express concern that cities providing wireless broadband service have an

unlimited base from which to raise capital, act as a regulator for local rights of way and tower permitting, own public infrastructure necessary for network deployments including street lights, and are tax-exempt organizations. Several reasons have been discussed for dissuading municipalities from developing and deploying broadband networks. First, it has been argued that these broadband networks may cost more than the cities anticipate, resulting in money and attention being diverted away from other public interests. Second, it is feared that if these networks were allowed to flourish, the municipality would have unfair regulatory and economic advantages (Lenard, 2004).

Many telecommunications companies have sought legislative relief at the state level to regulate or restrict a municipality's ability to provide wireless broadband services to the public. With no guidance from the Telecommunications Act of 1996, the Supreme Court sided with the FCC and various incumbent ILEC lobbyists in its decision in *Nixon v. Missouri Municipal League*, to allow states to bar their subdivisions from providing telecommunications services. The opinion gave states the authority to determine when and where municipalities can deploy communications services.

Currently, most states have legislation proposed, pending or passed that prohibits municipalities from providing telecommunication services directly or indirectly. In some cases state legislatures have prevented municipalities from expanding existing networks. In other cases, state legislatures have not outrightly prohibited the development and deployment of municipal broadband networks, they have created organizational and bureaucratic barriers causing these networks to be curtailed, reconfigured or resized.

Municipal-led wireless broadband efforts are a relatively recent development existing in a relatively policy-free zone, at least at the federal level. Since 2004 policy makers at the state level have been proposing legislation to prevent local municipalities from developing or deploying some form of broadband Internet infrastructure. Many of the bills that have passed have done so through amendment and compromise. Many of the bills that have died in committee have failed to pass because of the failure of legislators, private providers and municipalities to compromise.

According to Tapia and Ortiz (2006) the municipalities located in the states in which legislation that restricted or prohibited municipal wireless networks had passed had a variety of responses to the legislation, with the single most predominant response as the development of public-private partnerships between municipalities and private service providers. These public-private partnerships typically fall into two business models, the private consortium and the cooperative wholesale model (see Tapia, Maitland and Stone 2006).

The private consortium model involves one or many private sector provider(s) offering broadband service to end users. Funded by private investment, the provider offers access to both the city and to subscribers for a monthly fee. The provider is responsible for operating and maintaining the network and providing technical support, customer service and billing. The vast majority of broadband networks in the U.S. are built to support this business model. Since the private sector bears the responsibility for funding the network deployment and maintenance costs under this model, no taxpayer funds are required and no city employees are needed to provide service. Businesses provide the service where they can do so profitably, thereby creating local jobs.

Opportunities for partnerships exist between the local government and the private provider under this model. Private firms often need access to city assets including street lights or traffic lights to deploy a wireless network. Cities often provide these assets to private providers at low fees in exchange for low-cost wireless broadband access. Some wireless broadband providers agree to revenue sharing agreements with the city, creating a new revenue stream for the local government. Since the network is professionally monitored and can be secured, government agencies including public safety can use the network for mobility applications. In addition, many states have created tax incentives for private providers who extend broadband networks into rural areas. However, deciding where to deploy broadband networks under this model is often based on building business cases and return on investment models. Such profit-driven decisions can limit the addressable markets for broadband providers and prevent the deployment of ubiquitous broadband networks.

In the cooperative wholesale approach the city builds a broadband network to provide its broadband and telecommunications needs. Funding for the network comes from taxpayer dollars, state and federal grants, foundation grants, and/or bonds. After securing funds, the city issues a Request for Proposals (RFP) for the design, deployment, and management of the network. After the network is deployed and the city has completed in sourcing its broadband needs, the excess capacity is sold to private providers (WISPs, ILECs, CLECs, MSOs, dial-up ISPs) at wholesale prices. The private providers then compete for business and residential subscribers while providing marketing, technical support, customer care, and billing. Free cash flow (or the total positive cash flow remaining after network upgrades and maintenance) generated from the wholesale fees can be used to fund a number of programs including economic development and digital divide initiatives.

Alternatively, instead of the city funding and managing the network, the community can create a non-profit organization to raise funding for the wireless broadband network deployment, outsource network design, deployment, and management to a private sector company, provide broadband service directly to city agencies and employees (fixed and mobile), market wholesale service to WISPs, ILECs, CLECs, MSOs, and dial-up ISPs, develop social and/or economic development programs that are funded by free cash flow. The non-profit partners with private companies to both build and manage the network, resulting in a smaller staff.

The cooperative wholesale model allows cities to have influence over a broadband network build out and the wholesale price offered to retail providers without necessarily relying on taxpayer funding. However, the model does rest upon attracting enough funding from loans and grants to fund the initial capital expenses without using tax dollars. In addition, cities or non-profits must recruit private providers to offer their service over a network owned by another party to support operational costs.

THEORETICAL UNDERPINNINGS

Our central question is how can we explain how cities all over the United States of America have made very similar decisions regarding developing municipal wireless broadband networks and the resulting public-private business plans, despite having radically different needs, demographics, socio-economic conditions and policy environments at the state level.

In order to understand this policy development at the municipal level, we look to the immediate policy environment, the state level, where much of the legislation involving municipal broadband is in some state of development. While not all states have passed legislation that restricts or prohibits municipal broadband networks, most cities in the US act as if their state has.

We seek to understand this similarity between municipal policy choices. To accomplish this we draw on three mechanisms that have been used to explain how a policy may move from one entity to another: policy transfer, policy diffusion and policy convergence. Each mechanism implies a different form of motivation to the exchange of policy elements (McAdam and Rucht 1993). Transfer implies a push of policies from a more powerful entity to a less powerful one. Diffusion implies a spreading, contagion of dispersion of policy elements, giving agency to the elements themselves. Convergence implies that countries develop structural elements that bring one entity into a state of economic or social similarity with another, causing the policy elements to share. In a wide, very general sense, all three of these theories are concerned with “knowledge about how policies, administrative arrangements, institutions and ideas in one political setting (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political setting” (Dolowitz and Marsh 2000: 5; May, 1992). In all three cases these theories have been mostly used on a global scale, describing how a policy might move between nations or regions (Robertson, 1991). In this case, however, we seek to bring their use down to a more micro level, as we look at policy movement between municipalities within a single nation.

Policy transfer is defined as “straight-forward copying of policy, legislation or techniques as well as various forms of emulation, synthesis and hybridization, and inspiration” (Dolowitz and Marsh 1996: 351; Nedley 1999; Page 2000). In some cases policy transfer is seen as an umbrella term for both diffusion and convergence theories. Policy transfer is often seen as a meso-level theory that focuses on processes of transfer, rather than on the policy itself (Stone, 2000). The principal theorists in the area, Dolowitz, Marsh, Rose and Bennett treat transfer as the dependent variable (Stone 1999, 2000). Policy transfer can take place across time, within countries and across countries, can also take place across policy fields, and lastly can take place between the private and public sectors. Policy transfer can be effectively linked with the concepts of policy learning and policy networks (Börzel 1998; Knoepfel and Kissling-Näf 1998). Through this we see that policy transfer is not an independent process but is part of the wider policy process and shaped by such a process (Wolman, 1992: 44). Perhaps most importantly, policy transfers can be voluntary or coercive or combinations thereof (Dolowitz 1997; Dolowitz and Marsh 2000: 13-17). The nature of transfer can be seen on a continuum. This includes indirect coercion, which may suggest a perceived need to transfer, often without exerted influence. This indirect coercive transfer (Dolowitz and Marsh 2000: 13) suggests that this is voluntary but driven by a perceived necessity to change policy. In this case entity may feel obliged to adopt the policy of entity B, either because entity B is an important market for A’s exports, entity B’s policy causes externalities, entities A and B have an interest in working together, or if an entity perceives the need to keep up with international (or in our case, national) policy developments. The perceived need to transfer also varies over time according to the immediacy of the issue and its place on the policy agenda (Radaelli 2000).

Policy diffusion has been defined as policy that diffuses, contagious, rather than chosen. It connotes spreading, dispersion and dissemination of ideas or practices from a common source or point of origin (Mintrom 1997). This suggests incremental changes in policy with the

advancement of knowledge and awareness. Diffusion theories focus on the process and the conditions for transfer rather than the content of new policies (Freeman 1999). Diffusion theories are often apolitical (Peters 1997: 76; Freeman and Tester 1996: 9). In the macro use of this policy the goal is to identify patterns according to which policies spread and the geographic and structural characteristics of countries, which might explain them. Although not the preponderance of policy diffusion studies, micro applications of this theory are less concerned with public policy and more focused on local patterns in the adoption of new ideas, technologies and social practices. The majority of this literature is sub-national in its scope (Freeman 1999: 5). Other terms associated with policy diffusion are lesson-drawing (Rose 1993), 'policy bandwagoning' (Ikenberry 1990), 'policy borrowing' (Cox 1999) or 'policy shopping' (Freeman 1999) and 'systematically pinching ideas' (Schneider and Ingram 1988).

Policy convergence is a consequence of structural forces; a pattern of increasing similarity in economic, social and political organization between countries that may be driven by industrialization, globalization or regionalization (Stone 2000; Walter 1999). Convergence is often seen as a macro-level theory. Where policy transfer and policy diffusion theories focuses on the spread of policies and ideas between countries, policy convergence theory allows for the possibility of similar policy developments taking place in different countries with or without any direct link between them. Countries with comparable economic, social, cultural and political formations develop broadly comparable policy arrangements. Convergence is seen as caused by one of four mechanisms (Bennett 1991; Bennett and Howlett 1992) emulation, harmonization, elite networking and policy communities and penetration. The most useful mechanism of these four for the case of municipal broadband network policy is emulation, the borrowing of ideas and adapting policy approaches, tools or structures to local conditions. In this case, another city may be viewed as a policy innovator and an exemplar where policy practice can be monitored by policy elites and analysts elsewhere for lessons and insights to shape policies at home. Ideas or policies are imported.

From these three theories we learn that policies, administrative arrangements, institutions and ideas may all move from one jurisdiction to another. For the case of municipalities developing municipal wireless broadband networks this means that the original idea to deploy, the business plans, the not-for-profit organizations and partnership relations may all move between cities. By drawing on the policy transfer data we highlight the process of moving these elements. Transfer theory grants agency to the municipality who copies policy elements from another city. Most interesting from the policy transfer data is the idea of perceived coercion or indirect coercion which may suggest a perceived need to transfer, often without exerted influence. By drawing on the policy diffusion data we highlight the conditions in which municipal wireless policy is spread. This theory grants agency to the policies themselves, focusing on the political, economic and social environment in which the policies are diffused to other cities. Drawing from the policy convergence literature, as the structures and institutional factors within each municipality become more similar, they naturally develop similar policies. Convergence theory grants agency to the similarity in circumstance in which each city find itself. Alone, this theory would have nothing to offer our study since each of these cities is in a radically different position. However, convergence theory provides the mechanism of emulation that may explain how municipal policies and business plans become more similar across municipalities.

In the following section we provide data to demonstrate the municipal policy and plan similarities across divergent policy jurisdictions.

METHODS AND DATA

Since June 2005, we have created a dynamic and evolving database of all municipal-community wireless initiatives in the United States (see Ortiz and Tapia 2006; Tapia 2006; Tapia, Maldonado and Ortiz 2006; Tapia, Maitland and Stone 2005; Tapia, Maitland and Stone 2006; Tapia and Ortiz 2006). As of June 2007, we have a total of 357 entries. The data that we have collected spans multiple categories including information on the shape, form, uses, and technologies of the municipal-community network itself; the business plan and/or service delivery plan; the status of the development/deployment of the network; the social impacts of the network; and the marketing language used by the owners and users of the network.

This database has been populated through a variety of methodologies, including in-depth interview from another larger, multi-year study. In most cases, information was obtained through the use of the Internet, using crawling techniques via municipal-community sponsored websites, press releases, public documents and online news and web logs. In addition, when information proved scarce or dubious, municipal-community communities were called, and information was supplemented and verified via phone.

FINDINGS

As of July 2007 there are 385 municipal wireless projects in the United States. Thirty-five new projects have been added since January 2007. There are only six states in which there are no municipal sponsored wireless networks; Arkansas, Idaho, North Dakota, South Dakota, Utah and West Virginia.

In Table 1 below, we list and detail the municipal projects in states in which legislation that prohibits, restricts or regulates municipalities entrance into the broadband services arena as a provider. We list eighteen states within which there are 137 active municipal projects. Despite anti-municipal legislation, only two states have no municipal projects (Arkansas and Utah). Municipalities in sixteen other states have found mechanisms to create city-sponsored networks in conjunction with restrictive legislation. In earlier work we queried the States in which legislation has been passed regarding municipal wireless initiatives. We compiled the statuses of all cities within those states concerning their efforts to build municipal wireless broadband networks. We developed a typology in order to better categorize the results of our search. All of these municipalities can be placed in at least one of five categories. (1) Development/Deployment Slow Down, (2) Development/Deployment Acceleration, (3) Reduction/Limitation of Services, Customers or Network, (4) Business Plan Change, and (5) Technical/Delivery Change. (For more details on this legislation and the response mechanisms on part of the individual municipalities please see Tapia and Ortiz, 2006.)

Table 1: ACTIVE LEGISLATION

Municipalities within States with Legislation that Prohibits, Restricts or Regulates Municipal Networks

There are 18 states in which anti-municipal wireless legislation has passed.

Within these states there are 137 active municipal projects.

Arkansas (Ark. Code § 23-17-409). Arkansas prohibits municipal entities from providing basic local exchange services. **NO PROJECTS**

Colorado (SB 05-152) lawmakers passed a bill in 2005 - after lobbying from Comcast and Qwest - intended to

keep municipalities from building their own wireless broadband networks. But the law simply prevents cities from spending tax dollars to build telecommunications networks without voter approval. Cities in Colorado design their works as public-private partnerships. TOTAL: 17 PROJECTS			
Aspen Broomfield Golden Vail	Longmont Denver Aurora Salida	Louisville Northglenn Superior Arvada	Lakewood Wheat Ridge Westminster Thornton Boulder
Florida imposes various taxes to increase the prices of telecommunications services (as distinguished from other services) sold by public entities. (Florida Statutes §§ 125.421, 166.047, 196.012, 199.183 and 212.08). TOTAL: 19 PROJECTS			
St. Cloud Monticello Daytona Beach Panama City Sarasota	North Miami Beach Sarasota County Riviera Beach Cocoa Beach Sarasota County	Miami-Dade County Leon County Smyrna Beach Dunedin Miami Beach	St. Petersburg Treasure Island Orlando Delray Beach
Louisiana (SB 126) amends a compromise legislation to require a municipality to conduct a referendum before providing a communications service. The old legislation allowed local governments to choose whether to conduct the referendum. The bill also relieves any incumbent from meeting important obligations. SB 126 passed in the Louisiana legislature. On July 16, 2005, Lafayette, became the first city to conduct a referendum - as required under this new law - asking the residents whether they would approve a city-wide fiber-optic initiative. TOTAL: 5 PROJECTS			
Vivian New Orleans	Baton Rouge	Washington	Lafayette
Michigan (SB 528 & HB 4600) has two bills, one in the House and another in the Senate, with identical provisions that ban municipalities from providing communications services. TOTAL: 17 PROJECTS			
Coldwater Bronson Quincy Tekonsha Washtenaw County	Grand Haven Ferrysburg Spring Lake Gladstone	Muskegon Marquette Genesee County Ottawa County	Oakland County Grand Rapids Traverse City Macomb County
Missouri bars municipalities and municipal electric utilities from providing telecommunications services or facilities, except, under certain conditions, to telecommunications carriers; does not prohibit services for internal uses, for educational, emergency and health care uses; and "Internet-type" services. (Revised Statutes of Missouri § 392.410(7)) TOTAL: 2 PROJECTS			
Nevada	Lewis & Clark County		
Minnesota requires municipalities to obtain a super-majority of 65% of the voters before local exchange services. (Minn. Stat. Ann. § 237.19) TOTAL: 8 PROJECTS			
Buffalo Chaska	Moorhead Burnsville	Osseo Minneapolis	St. Louis Park St. Paul
Nebraska prohibits any agency or political subdivision from becoming a certificated telecommunications common carrier or a permitted telecommunications contract carrier. The law allows municipals to lease dark fiber with these stipulations 1) the lessee must be a certified common carrier; 2) the lease price and profit distribution is approved by the PSC as follows: a) the lease price must not be greater than the market rate, as determined by the PSC, and b) the profit earned by the municipal is remitted to the Universal Service Fund; finally, 3) interconnection agreements must be approved by the PSC. (Legislative Bill 827, approved by the Governor May 25, 2001). (Note: New barriers imposed in 2005) TOTAL: 2 PROJECTS			
Lincoln	Columbus		
Nevada generally prohibits municipalities with populations larger than 25,000 or counties with populations of 50,000 or more from providing retail "telecommunications services," as defined by federal law. (Nevada Statutes § 268.086, § 710.147) TOTAL: 2 PROJECTS			
Las Vegas	Jamestown		
North Carolina. The version of HB 1587 that passed the North Carolina House Public Utilities Committee yesterday (see links below) no longer contains a referendum requirement, but it would still impose numerous			

significant barriers that would effectively stop community broadband initiatives in their tracks. TOTAL: 5 PROJECTS			
Wilmington Wake County	Winston-Salem County	Rock Hill	Charlotte
Pennsylvania prohibits political subdivisions from providing advanced telecommunications and broadband services for a fee to the public unless no such services are provided by the local telephone company and the local telephone company has refused to provide such services within 14 months of a request by the political subdivision for those services at the requested data speeds (Became Law 12/1/2004, Act No. 183). TOTAL: 8 PROJECTS			
Philadelphia Wilkes-Barre	Kutztown Dublin	Pittsburgh Bethlehem	York County Cambria County
South Carolina imposes significant restrictions and burdensome procedural and imputed-cost requirements on municipal providers of communications services. (S.C. Code § 58-9-2600) TOTAL: 3 PROJECTS			
Charleston	Rock Hill	Columbia	
Tennessee bans municipal provision of paging and security service and allows provision of cable, two-way video, video programming, Internet and other "like" services only upon satisfying various public disclosure, hearing and voting requirements that a private provider would not have to meet. (Tennessee Code Ann. § 7-52-601 et seq.) TOTAL: 1 PROJECT			
Kingsport			
Texas bars municipalities and municipal electric utilities from offering certain telecommunications services to the public either directly or indirectly through a private telecommunications provider. (Texas Utilities Code, § 54.201) TOTAL: 18 PROJECTS			
Richardson Linden Burleson Plano Farmers Branch	Houston Addison Granbury Southlake Corpus Christi	San Antonio Richardson Garland Colleyville	Colleyville Longview Dallas Texas City
Utah imposes burdensome procedural and accounting requirements that are virtually impossible for municipal providers of retail services to meet. NO PROJECTS			
Virginia allows municipal electric utilities to become certificated municipal local exchange carriers and offer all communications services that their systems are capable of supporting, provided that they do not cross-subsidize services, impute costs that private sector providers would incur, and comply with numerous procedural, financing, reporting and other requirements that do not apply to the private sector. (VA Code §§ 15.2-2108, 56-265.4:4, 56-484.7:1). TOTAL: 8 PROJECTS			
Alexandria Radford	Dickenson County Arlington County	Fairfax King County	Reston Spotsylvania
Washington effectively limits public utility districts to providing wholesale telecommunications services. (Revised Code of Washington §54.16.330). Washington municipalities often have greater authority and flexibility. TOTAL: 13 PROJECTS			
Stevenson Federal Way Benton County	Renton Pasco Southeast Washington	Bellevue Spokane Vancouver	Kent Seattle Snohomish County Pierce County
Wisconsin imposes burdens on municipal communications providers not imposed on nongovernmental providers. Generally, it prohibits non-subscribers of the cable television services from paying any cable costs. Further, it requires municipalities to conduct a feasibility study and hold a public hearing prior to providing telecom, cable or internet services. It also prohibits "subsidization" of most cable and telecom services and prescribes minimum prices for telecom services. (2003 Wisconsin Act 278, effective July 1, 2004) TOTAL: 9 PROJECTS			
Sun Prairie Waupaca Jackson	Madison Racine County	Milwaukee Waukesha	Cedarburg Marquette

For the 137 municipal projects listed above it stands to reason that each will have developed creative responses to restrictive state legislation. Each municipality will have developed specialized business and deployment plans that take into account the state-level regulations as well as the needs of their own citizens. These state regulations have led to municipal compromises and continued negotiations between municipalities and telecommunications incumbents. Many cities have changed their approach to offering municipal broadband. The five forms of change that we described above can be placed into two very broad categories: first, the deployment of a network (e.g. rate of deployment) and secondly, those municipalities who have responded by changing the nature of their organization, either through a change in business plan, change in partners, change in services offered, or a change in the technological platform upon which the services are offered. In response to passed state legislation regarding municipal broadband initiatives municipalities have blurred the boundaries between public and private. Municipalities have created and entered into complex partnerships that allow them to have access to high quality affordable broadband service, while staying within the letter of their state's law.

Much more interesting are the states in which there exists no legislation that prohibits, regulates municipalities from entering the wireless broadband arena as a provider. We have categorized these states in three forms. First are the states in which there has never been any municipal broadband legislation proposed. Second are those states who have some general broadband statutes (these statutes might or might not involve municipal wireless broadband initiatives, for instance, mandates for monitoring broadband deployment and utilization statistics, establishment of committees for broadband investing, etc.) but have no legislation. Lastly we group the remaining states into a category in which either legislation was proposed and failed, legislation died in committee, or legislation is still pending.

The following states have no legislation either passed, failed or pending: Alaska, Arizona, Delaware, Massachusetts, New Mexico, Oklahoma, South Dakota, Washington D.C. and West Virginia.

Table 2: NO LEGISLATION-- 93 PROJECTS OVERALL			
Municipalities within States with No Legislation (Never Proposed)			
34 PROJECTS			
Alaska: 1 PROJECT. Anchorage			
Arizona: TOTAL: 11 PROJECTS			
Tempe Chandler Rio Rico	Yuma Sahuarita Mesa	Phoenix Scottsdale Gilbert	Queen Creek Flagstaff
Delaware : 1 PROJECT : Wilmington			
Massachusetts: TOTAL: 13 PROJECTS			
Framingham Springfield Boston	Princeton Cape Cod	Nantucket Worcester Pepperell Malden	Brookline Orleans Cambridge Newton
New Mexico TOTAL: 5 PROJECTS			
Albuquerque Los Lunas	Rio Rancho	Red River	Sandoval County
Oklahoma TOTAL: 2 PROJECTS			
Tulsa	Oklahoma City		

South Dakota: NO PROJECTS			
Washington DC 1 PROJECT			
West Virginia: NO PROJECTS			
NO LEGISLATION (SOME STATUTES) 27 PROJECTS			
Alabama: 1 PROJECT: Clark County			
Georgia: 10 PROJECTS			
Macon Adel Rome	Alpharetta Atlanta	Decatur Augusta Thomasville	Dublin-Gwinett County Milledgeville-Baldwin County
Idaho: NO PROJECTS			
Kentucky: 4 PROJECTS			
Lexington	Owensboro	Louisville	Frankfort
Mississippi: 2 PROJECTS			
Southaven	Armory		
Montana: 1 PROJECT: Sheridan			
Oregon: 9 PROJECTS			
Beaverton Portland Lebanon	Sandy Umatilla County	Corvallis Forest Grove	Medford Washington County
NO LEGISLATION (FAILED, DIED IN COMMITTEE OR PENDING) 32 PROJECTS			
ILLINOIS: 11 PROJECTS			
Highland Park Urbana	Chicago Cook County Park Ridge	Rockford Aurora Springfield	Rochelle Crystal Lake Naperville
IOWA: 2 PROJECTS			
West Des Moines	Marshalltown		
INDIANA: 10 PROJECTS			
Linton Scottsburg	Brownsburg Marion	Meridian South Bend Ketchum	Beech Grove Evansville Pocatello
OHIO: 8 PROJECTS			
Dublin Dayton	Cleveland Cincinnati	Akron Cuyahoga Falls	Dayton Canton
WYOMING: 1 PROJECT: Cody			

ANALYSIS: PHANTOM LEGISLATION

From the tables above we see that slightly less than one third (93) of the 385 municipal wireless broadband projects have been initiated in states that have no passed legislation that prohibits, restricts or regulates municipalities in this telecommunication area. Of these ninety-three we have identified 72 municipalities, which have chosen to develop some form of public private partnership as its business model for network deployment.

Table 3: MUNICIPALITIES IN STATES WITH NO LEGISLATION WHICH HAVE DEVELOPED PUBLIC-PRIVATE PARTNERSHIPS AND DO NOT ACT AS THE SOLE OWNER/MANAGER OF THE NETWORK
-- 72 PROJECTS OVERALL
Arizona: TOTAL: 10 PROJECTS

Tempe Chandler Rio Rico	Yuma Sahuarita Mesa	Phoenix Scottsdale Gilbert	Flagstaff
Delaware : 1 PROJECT : Wilmington			
Massachusetts: TOTAL: 11 PROJECTS			
Boston Malden	Princeton Cape Cod Newton	Nantucket Worcester Pepperell	Brookline Orleans Cambridge
New Mexico TOTAL: 5 PROJECTS			
Albuquerque Los Lunas	Rio Rancho	Red River	Sandoval County
Oklahoma TOTAL: 2 PROJECTS			
Tulsa	Oklahoma City		
Washington DC 1 PROJECT			
Alabama: 1 PROJECT: Clark County			
Georgia: 10 PROJECTS			
Macon Adel Rome	Alpharetta Atlanta Milledgeville-Baldwin County	Decatur Augusta	Dublin-Gwinett County Thomasville
Kentucky: 4 PROJECTS			
Lexington	Owensboro	Louisville	Frankfort
Mississippi: 2 PROJECTS			
Southaven	Armory		
Montana: 1 PROJECT: Sheridan			
Oregon: 9 PROJECTS			
Beaverton Portland Lebanon	Sandy Umatilla County	Corvallis Forest Grove	Medford Washington County
ILLINOIS: 11 PROJECTS			
Highland Park Urbana Naperville	Chicago Cook County Park Ridge	Rockford Aurora Springfield	Rochelle Crystal Lake
IOWA: 2 PROJECTS			
West Des Moines	Marshalltown		
INDIANA: 10 PROJECTS			
Linton Scottsburg Pocatello	Brownsburg Marion Ketchum	Meridian South Bend	Beech Grove Evansville
WYOMING: 1 PROJECT: Cody			

This is the list of municipalities that we find the most interesting. In earlier research (see Tapia and Ortiz 2006) we investigated the effects of state-level legislation on the choice municipalities made concerning entering the telecommunication market. We found that among other effects, the strongest result was a change in business plan so that the municipality would not be the sole owner of the network.

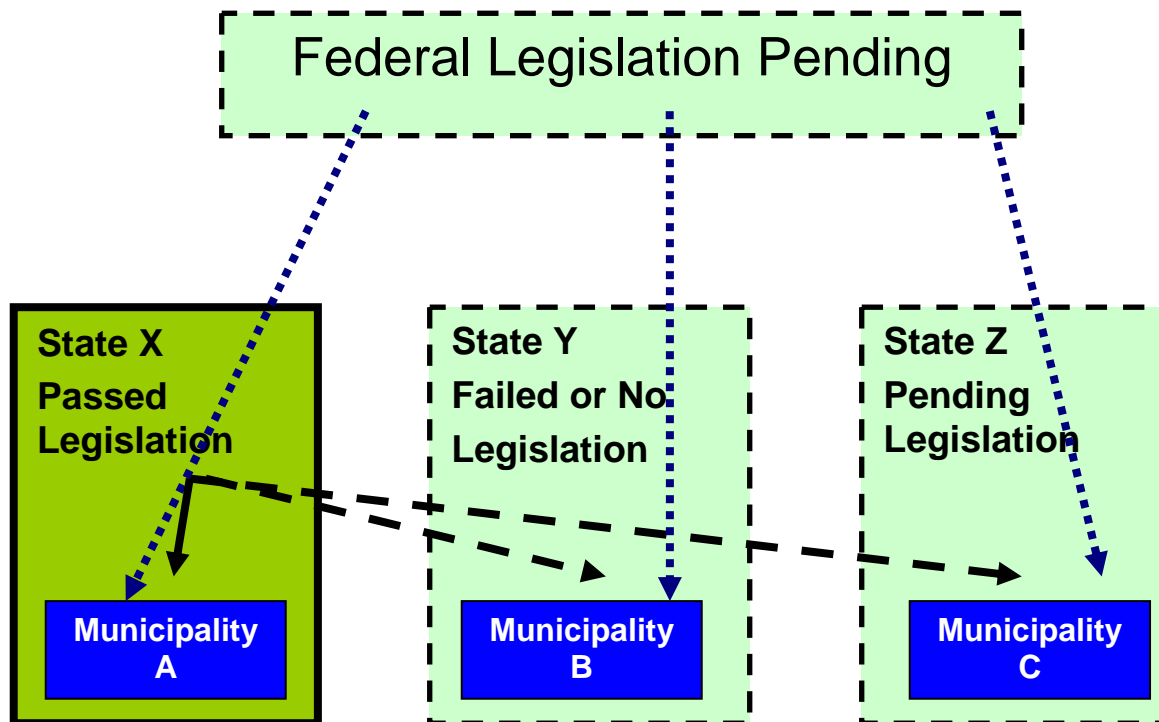
We understand that there are many reasons why a municipality might choose to build, deploy and manage their network via a third party in the form of some public-private partnership. In a general sense, a public-private partnership represents considerable advantages such as improved service quality, lower project costs, less risk, framework, conducive to innovation, more rapid project execution, easier budget management, and a potential source of additional revenue. In a traditional public-private partnership, ownership of the assets remains with the municipality,

while the private company takes over day-to-day operations and management of municipal services. A private company brings in a level of specialization that often is too expensive for a municipality to develop alone. Private companies also bring the years of experience gained from working with other municipalities with similar and unique challenges.

We see these reasons for selecting a public-private partnership as the mechanism through which a municipality may provide ubiquitous low cost internet services to its citizens and employees as necessary but not sufficient. For those municipalities located within a state, which has passed restrictive legislation, this legislation serves as the sufficient driver to push the municipality into a partnership with private telecom providers. In states where this legislation does not exist this begs the question as to what the driver may be for this choice.

We have coined the term phantom legislation to describe the actions taken by these cities within states that have no current restrictive legislation. By phantom legislation, we mean legislation enacted in one jurisdiction, which may have power to influence the behavior of organizations in other jurisdictions even though there is no legal requirement to do so. Fundamental to this definition is the fact that municipalities in all states, regardless of the status of state and federal legislation, have incorporated accommodations in their development of municipal networks.

In diagram 1 below, municipalities A, B and C all have chosen similar business models which are based on a public-private partnership in which the city is not the owner, or sole owner of the network. However, each municipality finds itself in a very different legislative environment.



We propose that there exist some forms of policy transfer, diffusion and convergence that is occurring that causes these municipalities to result in similar policy situations.

Looking back at the literature on policy transfer, diffusion and convergence, we draw two concepts that we believe will help us understand the dynamics of this situation, perceived or

indirect coercion in policy transfer and emulation. In both cases the municipality is seen as possessing agency in creating its own policy, selecting elements from its environment and reacting to potential threats from that environment, real or perceived.

Perceived or indirect coercion suggests a municipality may perceive a need to transfer policy from one jurisdiction to their own, despite without exerted influence from any other jurisdiction. This indirect coercive transfer is voluntary but driven by a perceived necessity to change policy. We suggest that a municipality may perceive the need to keep up with potential state or national policy developments.

These potential national level policy developments are found in the multitude of federal level proposed bills that concern the municipality's future rights to participate in the telecommunications market. In the last session of congress, more than a dozen bills relating to Internet and Broadband adoption were proposed. Some of these bills include: Internet Freedom and Nondiscrimination Act of 2006 (HR 5417), Internet Freedom Preservation Act (S. 2917), Prepackaged News Story Announcement Act of 2005 (S. 967), American Broadband for Communities Act (S. 2332), Broadband Rural Revitalization Act of 2005 (S. 497), Broadcast Ownership for the 21st Century Act (HR 1622), Fairness and Accountability in Broadcasting Act (HR 501), Internet Non-Discrimination Act of 2006 (S. 2360), Media Ownership Reform Act of 2005 (HR 3302). These bills never became law.

In the current congressional session several new bills have been proposed. All of these bills are in the first stage of the legislative process where the bill is considered in committee and may undergo significant changes in markup sessions. Most of them have been referred to the Senate Commerce, Science, and Transportation Committee. S 101 USA Act, S 1492 Broadband Data Improvement Act, HR 42 Serving Everyone with Reliable, Vital Internet, Communications, and Education Act of 2007, S 711 Universal Service for the 21st Century Act, S 1190 Connect The Nation Act, HR 2054. Universal Service Reform Act of 2007, HR 1818 Broadband Deployment Acceleration Act of 2007, S 215 Internet Freedom Preservation Act, S 1493 Advanced Information and Communications Technology Research Act, S 428 IP Enabled Voice Communications and Public Safety Act of 2007, S 385 Interoperable Emergency Communications Act, S 761 America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act, HR 1 Improving America's Security Act of 2007, S 541 Rural Opportunities Act of 2007, S 1032 Rural Broadband Initiative Act of 2007, S 1439 Rural Broadband Improvement Act of 2007, HR 2569 Rural Broadband Deployment Act.

This level of federal activity may act as a signal to these municipalities that future legislation concerning municipal roles in telecommunications provision will be determined at the federal level rather than at the state level. Municipalities who have created networks managed via public-private partnerships may be preemptively transferring ownership or sole ownership of the network in anticipation of future mandates to do so. In this way this is a form of perceived or indirect policy coercion in that while there exists no current regulation of the municipal telecom space these municipalities anticipate there will be. To protect their investment of capital, rights of way and tax dollars, these municipalities are hedging their bets.

Another potential source for policy transfer are the very public legal battles, negotiations and compromises that have taken place in such cities as Philadelphia, San Francisco and Chicago concerning their entrance into the telecom market. In 2006 Adam Christensen in his Federal Communication Law Journal piece stated that the city of Philadelphia must be seen as a policy

model for all other US municipalities. He believes that the successful and very public Philadelphia model has the power to influence city-level policies around the US. He states,

...the Philadelphia compromise would serve as a reliable model for other municipalities seeking to provide their constituents with wireless broadband access without being denied by strained readings of words like “any” judicial interpretations. Furthermore, the statute could serve as a building block for municipalities seeking to offer wireless service as a public good (206:703)

Without a federal statute dictating otherwise, the Philadelphia compromise remains the most promising option for municipalities that want to provide free or subsidized wireless broadband access. Wireless Philadelphia is scheduled for complete implementation by the summer of 2006. It may well be years before Congress implements a plan for fulfilling the goal it set out for itself in the 1996 Act to make reasonably priced communications services available to all the people of the United States. Until then, Philadelphia once again finds itself with a revolution taking shape in its legislative halls, and the country waits to see what will become of the Philadelphia compromise (2006:704)

Though the proposal is in its earliest stages, it is a spark that may yet be kindled so as to spread the message that municipally-sponsored wireless service is a desired public good all the way to Washington. (206:703)

Drawing from the policy convergence literature, as the structures and institutional factors within each municipality become more similar, they naturally develop similar policies. Convergence theory grants agency to the similarity in circumstance in which each city finds itself. Convergence theory provides the mechanism of emulation that may explain how municipal policies and business plans become more similar across municipalities. Emulation is the borrowing of ideas and adapting policy approaches, tools or structures to local conditions. In this case, another city, like Philadelphia, may be viewed as a policy innovator and an exemplar where policy practice can be monitored by policy elites and analysts elsewhere for lessons and insights to shape policies at home.

Lastly, we have to take into account the role of policy entrepreneurs and policy innovators. For the most part the theories of policy transfer, diffusion and convergence see either the government, the policy or its environment as the agent moving policy elements from one entity to another. In some cases these agents are non-governmental organizations, third parties, and in some cases a handful of individuals. A transfer broker or policy entrepreneur often come from international organizations, think tanks, consultancies, law firms and banks often perform this role.

These consultants can provide essential services for decision-makers by

1. acting as resource banks for information where experts utilize their intellectual and scholarly base to provide expertise and informed judgements; 2. advocating policy ideas and inculcating awareness of experience in different domains; 3. spreading ideas and information through their networks, domestically through ‘insider strategies’ into the political parties and bureaucracy, or via ‘outsider strategies’ into media and civil society, and internationally with other NGOs. 4. Judging, evaluating, synthesizing and

weeding out 'useful' or 'valid' research and analysis from among the cacophonous welter of information pressed upon public bodies by NGOs, corporations, lobbyists and others (Stone 2000)

Consultancy companies have acquired a high profile in the transport of policy ideas, management principles and social reforms from one context to another (Saint-Martin 2000). Dolowitz and Marsh (2000: 10) are critical of the manner in which consultants 'push' models but pay 'little attention to the particular context in the borrowing political system' when proffering or imposing advice on 'best practice'. The 'one-size-fits-all' method can often result in inappropriate transfer (Stiglitz 2000). Consultancy companies have acquired a high profile in the transport of policy ideas, management principles and social reforms from one context to another (Stone 2000). A few very select consulting firms have cornered the market on providing consulting services to cities considering municipal wireless initiatives. The largest of these players is Civitium. Civitium has provided services to the following municipalities; Arvada, CO, Broomfield, CO, Boulder, CO, Chicago, IL, Corpus Christi, TX, Golden, CO, Houston, TX, Irvine, CA, Lakewood, CO, Las Vegas, NV, Louisville, CO, Miami Beach, FL, New Haven, CT, Northglenn, CO, Philadelphia, PA, Phoenix, AZ - Downtown Phoenix Partnership, Portland, OR, Riverside, CA, San Francisco, CA, Stamford, CT - Stamford Partnership, Inc., State College, PA, Superior, CO, Thornton, CO, Wheat Ridge, CO, Clark County, NV, Henrico County, VA, Nassau County, NY, Suffolk County, NY, Georgia Technology Authority, Township of Upper Dublin, PA, WinstonNet, NC, Wireless Harlem, NY, Wireless Philadelphia, PA.

CONCLUSIONS AND POSSIBLE FUTURE RESEARCH

In February of 2007 the Wireless Internet Institute Digital Cities meeting was held in Tempe Arizona. Reporting on the meeting, Khali Henderson stated, "The pendulum for public-private partnerships building sustainable municipal wireless networks may be swinging back toward center...RFPs for city-owned-and-operated wireless networks that characterized early initiatives seem to be on the downswing. But so too are models that are subsidized completely by the provider (2006)."

Henderson goes on to quote from Bo Larsson, CEO for Firetide, "Partnering is all over the map. In the beginning it was city-owned RFPs, but when EarthLink came along, the pendulum swung the other way...I think it's coming back to a happy medium." He also quoted from Brian Carlson, of Motorola, "EarthLink approached it differently. The evolution continues from Philadelphia/EarthLink to service providers rolling out some city networks to some cities not getting responses to their RFPs because the business case doesn't work." While this does not represent a causal link, it shows the power of the Philadelphia model.

The three forces we see at work in this environment are (1) the power of future federal law in this space, (2) the power of the Philadelphia model and (3) the power of few, well-connected consultants. These three factors act as mechanisms to transfer policy elements and business models to municipalities that do not have state legislative restrictions acting as the impetus to change.

If our predictions are correct, we should see more cities adopting complex public-private partnerships, using the Philadelphia example as a point of reference, and the creation of more consultancy groups. Still, for the foreseeable future, most of the legislative activities will

continue to occur at the state level. Thus, the creation of effective municipal broadband models must respond to these differences to be considered sustainable endeavors.

Follow-up projects to this research study could address a number of issues, including the implications of consultancy companies, and the impact of the Philadelphia model or other cities. Some future work could offer additional baseline analysis of how the various policy categories differ across time. As shown for the projects included in our database, we used the database to show a categorical view of all municipal broadband initiative in the US (fee, business model, service type, coverage grid, etc). If more information regarding these networks becomes available (i.e. public-private agreements details, broadband subscription and network coverage data, demographic surveys by the provider, etc), this information could be incorporated in this baseline analysis as well.

Although we touched upon the policy transfer, diffusion and convergence literature in this project, a more comprehensive and detailed study that focused solely on explaining how a policy may move from one entity to another would be much more insightful. A study that systematically analyzed this process would help researchers and policymakers better understand and anticipate the specific implications of such regulation.

More generally, greater use should be made of available data on municipal broadband programs and on the dataset constructed for this analysis. As more is understood about the data, more equitable and more cost-effective policies can be put in place to better steer this projects toward success.

Although this analysis provides some answers, other questions remain. Therefore, future research might consider addressing the following questions:

- 1. In-depth study of consultancy groups vis-à-vis municipal broadband.** To what extent does the ‘one-size-fits-all’ model fulfill (or not) the promise of universal service?
- 2. Policy-free zone analysis.** To what extent does the lack of federal legislation around municipal wireless change broadband diffusion, adoption and use in the United States?
- 3. Sustainability of public-private pelationships.** In what ways can we measure the effectiveness of the public-private partnership model in achieving ubiquitous, universal service in the digital knowledge economy?

REFERENCES

- Bar, F., & Park, N. (2006). Municipal Wi-Fi Networks: The Goals, Practices, and Policy Implications of the U.S. Case. *Communication & Strategies*, 61(1), 107-125.
- Bennett, Colin. J. & Howlett, Michael. (1992) 'The lessons of learning: Reconciling theories of policy learning and policy change', *Policy Sciences*, 25(3): 275-94.
- Bennett, Colin. J. (1991) 'Review Article: What is Policy Convergence and What Causes It?' *British Journal of Political Science*, 21: 215-233.
- Bleha, T. (2005). Down to the Wire. *Foreign Affairs*, May/June 2005.
- Börzel, Tanja. (1998) 'Organizing Babylon -- on the different conceptions of policy networks', *Public Administration*, 76 (summer): 253-73.
- Christensen, Adam (2006). " 'Wi-Fi'ght them when you can join them? How the Philadelphia compromise may have saved municipally-owned telecommunications services." *Federal Communication Law Journal*. June 2006.
- Cox, Robert. (1999) paper presented to the conference on Global Trajectories: Ideas, International Policy Transfer and 'Models' of Welfare Reform, the Robert Schuman Centre, European University Institute, Florence Italy 25-26 March.
- Dolowitz, David. (1997) 'British Employment Policy in the 1980s: Learning from the American Experience', *Governance*, 10 (1).
- Dolowitz, David. & Marsh, David. (2000) 'Learning From Abroad: The Role of Policy Transfer in Contemporary Policy Making', *Governance* 13 (1): 5-24.
- Dolowitz, David. & Marsh, David. (1996) 'Who Learns from Whom: A Review of the Policy Transfer Literature', *Political Studies*, 44(2): 343-57.
- Freeman, Richard. (1999) 'Policy transfer in the health sector', a working paper (http://www.pol.ed.ac.uk/research/working_paper1.html)
- Freeman, Richard & Tester, Susan. (1996) 'Social Policy Diffusion', paper presented to the Conference on Policy Transfer, University of Birmingham, October.
- Gillett, S. E. (2006). Municipal Wireless Broadband: Hype or Harbinger? *Southern California Law Review*, 79, 561-594.
- Gillett, S. E., Lehr, W. H., & Osorio, C. (2004). Local Government Broadband Initiatives. *Telecommunications Policy*, 28, 537-558.
- Ikenberry, G. John. (1990) 'The International Spread of Privatization Policies: Inducements, Learning and 'Policy Band wagoning'', in E. Suleiman & J. Waterbury (eds.) *The Political Economy of Public Sector Reform and Privatization*, Boulder: Westview Press.
- Knoepfel, Peter & Kissling-Näf, Ingrid. (1998) 'Social Learning in Policy Networks', *Policy and Politics*, 26(3); 343-367.
- Lenard, Thomas, L. (2004). "Government Entry Into the Telecom Business: Are the Benefits Commensurate With the Costs?" *Progress on Point*, Release 11.3 February 2004, Periodic Commentaries on the Policy Debate, The Progress and Freedom Foundation. <http://www.pff.org/issues-pubs/pops/pop11.3govtownership.pdf>

- May, Peter. (1992) 'Policy Learning and Failure', *Journal of Public Policy*, 12(4): 331-54.
- McAdam, D. & Rucht, D. (1993) 'Cross National Diffusion of Movement Ideas', *Annals of the American Academy of Political and Social Sciences*, 528 (July): 56-74.
- Mintrom, Michael (1997) 'Policy Entrepreneurs and the Diffusion of Innovations', *American Journal of Political Science*, 41(3): 738-70.
- Nedley, Anthony. (1999) 'Policy Transfer and the Developing-Country Experience Gap: Taking a Southern Perspective' (<http://www.york.ac.uk/depts/poli/esrc/papers/nedley.htm>).
- Ortiz, J. and Tapia, A. (2006) "The Digital Divide Discourse in Municipal-community Wireless Networks," *American Conference on Information Systems (AMCIS)*, Acapulco, Mexico, August.
- Page, Ed. (2000) 'Future Governance and the literature on policy transfer and lesson drawing' prepared for the ESRC Future Governance Programme Workshop on Policy Transfer, January 28th, Britannia House, London.
- Peters, B. Guy. (1997) 'Policy Transfers Between Governments: The Case of Administrative Reforms', *West European Politics*, 20(4): 71-88.
- Radaelli, Claudio. (2000) 'Policy Transfer in the European Union: Institutional Isomorphism as a Source of Legitimacy', *Governance*, 13(1): 25-43.
- Reinicke, Wolfgang. H. (1999-2000) 'The Other World Wide Web: Global Public Policy Networks', *Foreign Policy* (winter). <http://www.foreignpolicy.com/articles/winter19999-20000/Reinicke.htm>
- Robertson, David Brian. (1991) 'Political Conflict and Lesson-Drawing', *Journal of Public Policy*, 11(1): 55-78.
- Rose, Richard. (1993) *Lesson Drawing in Public Policy: A Guide to Learning Across Time and Space*, Chatham, N.J., Chatham House.
- Saint-Martin. Denis (2000) 'The Formation of the New Entrepreneurial State and the Growth of Modern management Consultancy', in Dietmar Braun & Andreas Busch (eds.) *Public Policy and Political Ideas*, Cheltenham, Edward Elgar.
- Schneider, Anne. & Ingram, Helen. (1988) 'Systematically Pinching Ideas: A Comparative Approach to Policy Design', *Journal of Public Policy*, 8(1): 61-80.
- Stiglitz, Joseph. (2000) 'Scan Globally, Reinvent Locally: Knowledge Infrastructure and the Localization of Knowledge', in D. Stone (ed.) *Banking on Knowledge: The Genesis of the Global Development Network*, London, Routledge.
- Stone, Diane (1999) 'Learning Lessons and Transferring Policy Across Time, Space and Disciplines', *Politics*, 19(1): 51-59.
- Stone, Diane. (2000) 'Non-Governmental Policy Transfer: The Strategies of Independent Policy Institutes', *Governance* 13 (1): 45-70.
- Tapia, A. & Ortiz, J., Deploying for Deliverance: The Digital Divide Discourse in Municipal-community wireless networks. *Sociologica Focus*. Forthcoming, 2007.
- Tapia, A. & Ortiz, J. (2006) "Bandwidthing Together: Municipal-community Wireless Broadband Networks as Social Movement," *American Sociological Association Annual Meeting*. Montreal, Quebec, Canada. August 2006.
- Tapia, A., Maldonado, E., and Ortiz, J. (2006). "Making Good on Municipal-community Promises: Can Municipal-community Wireless Broadband Networks Reduce Information Inequality?" *Information Resources Management*

Association (IRMA), Conference Proceedings, Washington, D.C. May 2006.

Tapia, A., Maitland, C. and Stone, M. (2006) "Making IT Work for Municipal-community communities: Building Municipal-community Wireless Networks," *Government Information Quarterly*.

Walter, Andrew. (1999) 'Globalisation and Policy convergence: The Case of Direct Investment Rules', in R. Higgott, G. Underhill & A. Bieler (eds) *Non State Actors and Authority in the Global System*, London, Routledge

Wolman, Harold. (1992) 'Understanding Cross National Policy Transfers: The Case of Britain and the US', *Governance*, 5(1): 27-45.