

The Universal Broadband Initiative

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Introduction

High-speed broadband service is a significant technological development of the late 20th century. Broadband can provide access to many opportunities in education, healthcare, public safety, and communications, and can also enhance economic development. Governor Spitzer’s State of the State message recognized that “access to affordable, high-speed broadband is just as important in today’s economy as access to a paved road, to a telephone line or to reliable electricity” and provided for a Universal Broadband Initiative “to ensure that every New Yorker has access to affordable, high-speed broadband.”

This report summarizes the development and penetration of broadband services in New York. It notes that while everyone does not have access to broadband, the vast majority of citizens and businesses do (from more than one provider, in most cases).

The Public Service Commission (the Commission) considered broadband in its generic telephone competition proceeding (Competition III Proceeding or Comp III), where it agreed that “...broadband is an increasingly valuable tool with a variety of social, political, and economic applications, [and that it remained] convinced that competitive markets are the best tool to ensure appropriate widespread deployment.”¹ The Commission also concluded that “because broadband services are already available to the majority of New Yorkers, with prices declining

¹ Case 05-C-0616, Proceeding on Motion of the Commission to Examine Issues Related to the Transition to Intermodal Competition in the Provision of Telecommunications Services, Statement of Policy on Further Steps Toward Competition in the Intermodal Telecommunications Market and Order Allowing Rate Filings, (Issued and Effective April 11, 2006), p. 76.

and the number of customers steadily increasing, it is not yet clear that governmental intervention is needed to achieve ubiquitous access to broadband.”²

The universal broadband initiative requires that we reevaluate this paradigm. Most importantly, we need to be more exact about penetration levels and identify citizens and businesses that do not have access to broadband. That seemingly simple question is not easily answered inasmuch as most of the data describe access in terms of geographic areas (for example zip codes) and not residences or customers. In addition an evaluation of access to the service must also consider affordability. Very expensive satellite access for example, may not be a reasonable alternative for many citizens.

In addition, a broad set of additional issues related to the role of government must be considered. Rural areas may never generate revenues sufficient to encourage businesses to provide service, so some role for government may be warranted. Policy goals need to be explicit. Universal service hasn't been achieved for telephone customers, so there's some question about whether that goal is reasonable for broadband. An evaluation of existing approaches for providing universal access to broadband should be undertaken in the near term (such as whether further encouragement of broadband access over electric utility power lines is reasonable).

Whether access should be subsidized – and how -- is also an issue. One possibility is to fund broadband access through the State General Fund. An alternative approach is to create a regulatory subsidy through general rates or surcharges. This approach may require resolution of jurisdictional issues.

Creation of a multi-agency broadband task force should be considered to evaluate these issues. The task force could be charged with, among other things, proposing resolution of the access and affordability issues discussed above.

Broadband Defined

For purposes of this report broadband refers to high-speed Internet access services. Initially the primary means to access the Internet was through a dial-up connection using a standard telephone line. This dial-up connection offered data transmission speeds of up to 56 kilobits per second (Kbps). By the late 1990s broadband access became available to the residential market through the introduction of cable modem and Digital Subscriber Line (DSL) services. There are a number of significant differences that distinguish a dial-up from a broadband connection. The primary difference is the speed of the connection, or the rate at which data is transferred both upstream (from the consumer to the Internet) and downstream

² Id.

(from the Internet to the consumer). Higher speed broadband connections allow consumers to receive information much faster and enable certain applications to be used and content to be accessed that is not possible with a dial-up connection. Broadband connections also provide the capability for a connection to always be on, eliminating the need to establish a connection each time a consumer goes online.

The Federal Communications Commission (FCC) generally defines a broadband connection as one that exceeds data transmission speeds of 200 kbps in one or both directions. Internationally, the Organization of Economic Cooperation and Development (OECD) defines broadband as having transmission speeds of at least 256 kbps in one or both directions.

Service Offerings

Many consumers have a variety of broadband connection alternatives available to them:

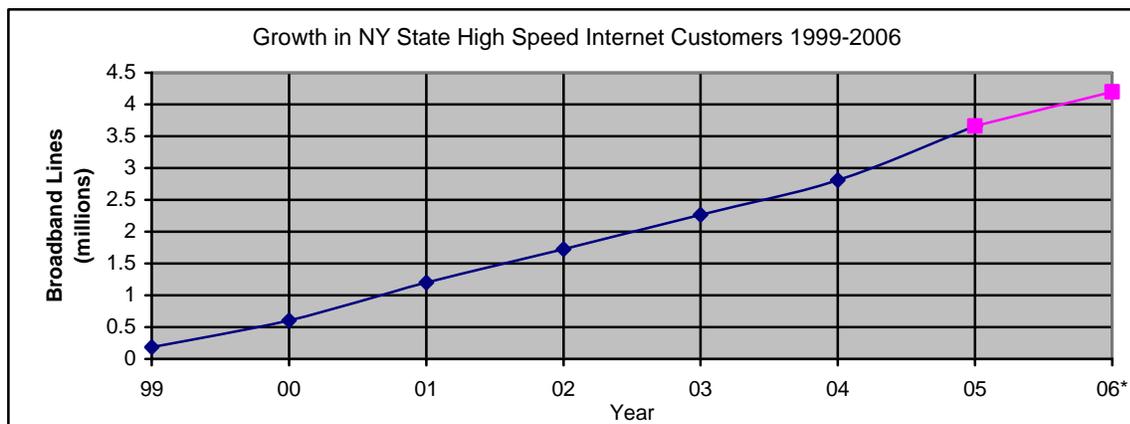
- **DSL:** Local telephone companies offer digital subscriber line service. DSL is provided over traditional copper telephone networks and can provide broadband service with download speeds that range from less than 1 Mbps to 3 Mbps. Newer DSL technologies, which can achieve even higher speeds, have been deployed in some areas.
- **Fiber:** Verizon recently introduced a “fiber optics to the premises” product under the brand name “FiOS” that is designed to deliver high-speed Internet, video and telephone services through a fiber optic network connection directly to the home. Such services are being deployed in several areas of the state and can offer very high-speed data services.
- **Cable Modem:** Cable television companies first began to provide broadband Internet service in the mid-1990s. One of the industry’s first deployments was in Elmira, NY in 1996. Cable modem service, which provides typical download speeds of upto 6 Mbps, is now widely available throughout all regions of New York State. Cable companies are also introducing tiered services which offer considerably higher speeds of up to 30 Mbps.
- **Wireless:** Wireless networks can offer a variety of broadband connections. The most prevalent wireless broadband connection is through Wi-Fi networks. Wi-Fi provides broadband access in “hot spots” or areas approximately 300 feet from a transmitter. Hot spots are commonly found in cafes, hotels, airports and offices. Developing technologies, such as WiMAX, may provide wireless broadband service over a much broader area, of up to 30 miles from a transmitter. Wireless telephone companies that provide traditional cell phone service are also beginning to offer wireless broadband access. These services allow customers access to the Internet through mobile phones or laptops wherever a provider supports the service.
- **Satellite:** There are a number of satellite service providers that offer nearly ubiquitous broadband service in the United States. These providers

use geosynchronous satellites that transmit and receive data directly to and from subscribers. Signals from these satellites can be accessed as long as a user can position a reception dish with a view of the southern sky. Therefore, there may be limits based upon where the satellite dish can be located on a property. Satellite companies provide both upstream and downstream connections with speeds that are comparable to some wireline connections. The price for satellite service is generally higher than most other broadband technologies.

The Deployment of Broadband

The Current State of High-Speed Internet Service

The FCC collects detailed data regarding broadband Internet service availability from all providers which, when combined with similar data resulting from analytical efforts of the Department of Public Service (DPS), describes the status of broadband services provided within New York:



Source: Years 1999-2005 - FCC Broadband Data, Total High-Speed Internet lines; Year 2006 is a DPS estimate based on prior trends. Actual FCC data for 2006 is expected by mid-summer 2007.

Of particular relevance is the estimated potential number of users, which in the case of residential users is the number of actual occupied households which choose to purchase high-speed broadband service. US Census data indicate that in 2005 there were 7,114,431 occupied residences in New York State. According to the FCC data 3,130,657 residences were purchasing high-speed Internet services during the same period. This is a "take rate" of about 44% of all occupied homes within New York State as of the end of 2005. It is estimated that less than 85% of all New York residences actually have a computer that is new enough (less than 10 years old) to make full use of a high-speed Internet service. Therefore, as of December 2005 approximately half of all of the households with high-speed Internet capable computers in New York State were purchasing high-speed Internet service. As of December 2006, it is likely that more than 50% of the New York State households are purchasing broadband service.

Providers of Broadband Service

As of the end of 2005, there were approximately 75 companies providing high-speed Internet service, using one of several different technologies, within New York State. Cable modem service continues to be the largest provider and most widely available type of high-speed Internet service. Within New York, FCC figures for December 2005 show high-speed data is provided to business and residential customers via the following technologies:

Cable Modem	2,444,565
DSL	889,169
Fiber	28,566
Traditional Wireline	16,403
Fixed Wireless	438
Total High-Speed	3,660,501

Source: FCC High-Speed Internet Data as of December 2005

The FCC data also show that, at the end of 2005, 97% of all New York State residences had access to high-speed cable modem Internet service. That data also indicates that 87% of residences had DSL available from the local phone company. These two provider technologies account for over 91% of all high-speed Internet service.

During late 2006 the Department conducted a statewide survey of residential wire-line customers. An estimated 85% of the survey respondents subscribe to both high speed Internet service and cell phone service or are aware of the availability of both services. The survey also found that 54% of the respondents were subscribers of high speed Internet service.

Detailed provider information on the reach of broadband technology into rural areas is not readily available. The FCC uses the number of different high-speed Internet providers serving the percentage of U.S. postal zip code areas in a state as a means of determining availability. The FCC's use of this simple method implies that the more providers in a zip code, the more available and competitive the service is. The presence of one or more service providers within a zip code area is a positive indication of some degree of broadband service availability; conversely, zero providers clearly indicates that no service is available in that area, which is most likely rural. The December 2005 FCC data indicate that New York has the following broadband providers by percentage of zip codes served:

New York State Compared to National Average
Percent of Zip Codes Served by Number of High-Speed Service Providers

Providers	0	1	2	3	4	5	6	7	8	9	10+
New York State	1%	4%	10%	13%	13%	10%	7%	6%	6%	6%	25%
National Avg.	1%	11%	12%	15%	14%	10%	8%	6%	5%	4%	21%

Source: FCC High-Speed Internet Data December 2005

Within geographically diverse states like New York, areas represented by a zip code can vary widely. Zip code data provides an idea of the availability of broadband in an area but isn't granular enough to show whether everyone in a particular area in the zip code has a service available to them. Still, this data is useful and, absent detailed specific area studies, it can be assumed that beyond the zero provider level some level of service should be available in a given area. An accurate assessment however, requires detailed area-specific data. It is very important to note that this data does not represent satellite based high-speed Internet services which are universally available in all areas of New York and most other states.

Comparison to Similar States

New York can be reasonably compared with the nation's five most populated states since they each have a mix of large urban and agricultural or remote rural areas. Comparisons with states of dissimilar population density, size or non-diverse geography could give misleading indications.

A useful comparison between these states is the total number of customers who choose to purchase broadband services. One way to look at this is to review the total number of high-speed Internet lines per occupied household. The table below shows that of the five states in the study, in 2005 New York ranked second in the number of high-speed Internet lines per occupied household. It is also significant to note that New York State with .4400 high-speed Internet lines per household is significantly above the National average of .3865 high-speed Internet lines per household. This represents a penetration rate of 44% for New York compared to a national penetration rate of 38%.

Population Rank	Geographic area	Comparison of Five Largest States With Diverse Geography				
		US Census Population 2005*	Occupied Households 2005*	High-Speed Residential Internet Lines Dec. 2005**	High-Speed Residential Internet Lines per Occupied Household Dec. 2005	Rank Based on High-Speed Residential Internet Lines per Occupied Household
Nationwide	United States	296,410,404	111,090,617	42,938,142	.3865	-
1	California	35,278,768	12,097,894	6,135,685	.5072	1
2	Texas	22,270,165	7,978,095	2,978,965	.3734	4
3	New York	18,655,275	7,114,431	3,130,657	.4400	2
4	Florida	17,382,511	7,048,800	2,997,216	.4252	3
5	Illinois	12,440,351	4,691,020	1,672,730	.3566	5

* Source: U.S. Census Bureau – 2005 American Community Survey Data

** Source: FCC High-Speed Internet Data as of Dec. 2005

In low-density areas, cable and telephone providers may not have enough customers per mile of outside plant to allow for recovery of capital costs. Cable companies, for example, have a cost of construction of about \$20,000 or more per mile. Thus, in an area of five homes per mile, plant construction can cost \$4,000 or more per home. In the lowest-density remote areas, a provider may not be able to generate enough revenue to support the annual maintenance, pole rentals and operating costs of serving customers. Nevertheless, most of New York's rural communities have continued to see modest improvements in broadband availability from providers who have been willing to invest capital in broadband even where population densities are marginally profitable. This is evidenced by cable companies such as Time Warner, which has extended, and rebuilt lines, and has interconnected smaller rural cable systems. Likewise, telephone companies such as Frontier have been extending the reach of DSL by deploying improved DSL technology. For the most rural locations, the cost of satellite Internet service has continued to decline and performance has improved to match DSL Internet service performance. Even with evolution in broadband technology, expansion into very low-density population areas will not be easily achieved. These low-density areas will likely not generate adequate revenues to recover capital or operating costs of landline broadband infrastructure, and may lose money for providers of this service. Satellite providers are apparently able to recover their costs at their current pricing levels for even the lowest density single case user. Wireless approaches may hold promise in low-density regions as well.

Regulation and Policies

The Public Service Commission: Jurisdiction

There are essentially two methods for offering broadband: those services offered by a cable company over a cable modem, and those offered by a wireline telephone company whether by copper wires (DSL) or by fiber optic lines (FIOS). Under the New York Public Service Law, the Commission has jurisdiction over both types of companies, and, unless pre-empted, over Internet access services offered over the companies' lines. Thus, whether the Commission retains jurisdiction depends on whether regulation of the specific broadband service has been classified by the FCC as an "interstate" service, whereby state jurisdiction is subject to federal preemption, or an "intrastate" service, where necessary, the state remains free to impose regulation.

The FCC has classified broadband offered over a cable modem as an "interstate information service,"³ thus subjecting Commission regulation of this service to federal preemption. The FCC has also classified broadband over telephone wireline facilities as an "information service"⁴ and did not disturb its earlier finding that Internet access via DSL facilities is jurisdictionally interstate.⁵ Therefore, the FCC has subjected all state regulation of wireline broadband Internet access services to federal preemption.

The Public Service Commission: Initiatives

The Commission has taken a number of actions, either directly or indirectly, during the past decade related to and regarding broadband access.

Cable System Rebuild Initiatives

During the 1980s and early 1990s, initial cable franchise agreements were expiring and municipalities and Cable Companies were experiencing their first round of franchise renewals. Generally speaking, by that time cable system deployments in New York were ahead of national deployment trends. With construction activity increasing exponentially at the time outside the state and initial in-state construction activities winding down after the initial surge, the New York State Commission on Cable Television (the Cable Commission, which was merged with the Public Service Commission in 1995) was concerned: (1) that rapidly rising cable revenues

³ Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, et. al., GN Docket No. 00-185, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) (emphasis supplied).

⁴ Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, et. al., CC Docket No. 02-33, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005).

⁵ GTE Telephone Operating Cos., GTE Tariff No. 1, GTOC Transmittal No. 1148, CC Docket No. 98-79, Memorandum Opinion and Order, 13 FCC Rcd 22466, 22480 (1998).

generated by the state's large and growing subscriber base would be diverted to deployments outside of the state; and (2) the resulting lack of investment in systems within the state would cause those systems to lag technologically.

Consequently, the Cable Commission devised an informal policy of reserving long-term (e.g. 10 year) renewal approvals for franchisees that committed to an immediate reinvestment of revenues toward system rebuilds guaranteeing a minimum capacity of 550 MHz. By the early 1990s, with further advances in cable system technology and large increases in available service offerings, most companies were voluntarily committing to guarantee a minimum capacity of 750 MHz or more.

The benefits of that policy continue to the present time, as cable systems in New York were poised at a level of technical capability which allowed seamless engineering and deployment of digital broadband technology, as well as high-speed Internet and digital voice services. As a direct result, these advanced services have been made available throughout the state and to a much wider subscriber base ahead of most other states.

2003 Rural Broadband Study

A 2003 study mandated by the Legislature found that there were 250,000 DSL lines in service and 1.15 million cable modem customers in New York.⁶ The study evaluated the various factors involved in the deployment of high-speed broadband services and the unique problems that may apply to the state's less populated rural areas. The study recommended the creation of an advanced services Rural Access Task Force to be charged with evaluating the potential efficacy of proposed inducement mechanisms and, if appropriate, recommending the means for their implementation. It suggested that incentives might include tax or other financial incentives, demand aggregation, and the use of government controlled facilities.⁷ The study also determined that the least densely populated areas were likely to have limited options due to the cost of construction and technology limitations. The study noted that in 2003 broadband services were available to more than 85% of the state's population from at least one wireline provider, and that this growth seemed to be continuing.

Declaratory Ruling on Verizon System Improvements

The Commission determined that Verizon has existing authority to improve its telecommunications system and therefore, does not require further state or local authorization to

⁶ Study of Rural Customer Access to Advanced Telecommunications Services, New York State Department of Public Service (Report to Legislature), Feb. 1, 2003.

⁷ Id., p. 36.

upgrade its facilities to fiber.⁸ A cable franchise would be required if and when Verizon desired to provide cable (i.e. video) service to subscribers or if the nature of its system improvements involve the installation of equipment to be used exclusively for cable service.

This ruling clarified state law on the subject and ensured that Verizon's efforts to improve the technological capabilities of its telecommunications system would not be slowed or impeded by unnecessary regulation. On the other hand, the ruling carefully spelled out the circumstances under which a cable franchise would be necessary and preserved legitimate local authority over the deployment of cable service.

Pole Attachments

In August 2004 the Commission reviewed and reformed the pole attachment process that telephone and electric utility pole owners must follow in order to accommodate all pole attachments including telecommunications and cable pole attachments.⁹ In undertaking these reforms, the Commission sought to expedite the attachment process, minimize delays and disputes, and create incentives conducive to achieving the goal of vibrant competition in New York. The Commission recognized that in order for attachers to be competitively viable, they would need pole access on an accelerated schedule to complete upgrades and new builds for deployment of important services, including broadband.

In Orders issued January 24, 2006¹⁰ and June 19, 2006¹¹, the Commission approved petitions filed by National Grid Communications, Inc. (Gridcom) and Niagara Mohawk Power Corporation (NMPC) which permits the attachment of wireless equipment on NMPC transmission facilities. These Orders allow for the installation of cellular antennas and base

⁸ Case 05-M-0250 – Joint Petition of the Town of Babylon, the Cable Telecommunications Association of New York, Inc. and CSC Holdings, Inc. for a Declaratory Ruling Concerning Unfranchised Construction of Cable Systems in New York by Verizon Communications, Inc. and Case 05-M-0247 - Petition of the City of Yonkers for a Declaratory Ruling Concerning the Installation by Verizon New York Inc. of a Fiber to the Premises Network, Declaratory Ruling on Verizon Communications, Inc.'s Build Out of Its Fiber to the Premises Network, (Issued and Effective June 15, 2005)

⁹ Case 03-M-0432, Proceeding on Motion of the Commission Concerning Certain Pole Attachment Issues, Order Adopting Policy Statement on Pole Attachments (Issued and Effective August 6, 2004)

¹⁰ Case 05-M-1481 – Petition of National Grid Communications, Inc. (Gridcom) and Niagara Mohawk Power Corporation for Approval Authorizing Installation of IWO's Wireless Facilities on Niagara Mohawk Property in the Town of Halfmoon; Case 02-M-1288 – Joint Petition of Niagara Mohawk Power Corporation and National Grid Communications, Inc. for Approval to Authorize National Grid Communications, Inc. to Attach Wireless Facilities on Niagara Mohawk Transmission Facilities, Order Approving Petition, (Issued and Effective January 24, 2006)

¹¹ Case 06-M-0411 – Joint Petition of Niagara Mohawk Power Corporation and National Grid Communications, Inc. Under Public Service Law Section 70 to Authorize Attachment of Cingular Wireless Facilities to Niagara Mohawk Electric Transmission Facilities on Niagara Mohawk property in the Town of Brunswick; Case 02-M-1288 – Joint Petition of Niagara Mohawk Power Corporation and National Grid Communications, Inc. to Attach Wireless Facilities on Niagara Mohawk Transmission Facilities, Order Approving Agreement (Issued and Effective June 19, 2006)

equipment attachments to poles further expanding wireless telecommunications coverage in New York. The ability of wireless carriers to attach to existing utility infrastructure will fill in gaps in wireless service coverage areas including rural areas in the state, and will allow for the increased availability of wireless broadband service throughout the state.

Broadband Over Powerline (BPL)

On October 18, 2006 the Commission issued a Statement of Policy on Deployment of Broadband Over Powerline Technologies¹² which concluded that the use of BPL technology on the electric utility system may provide unique benefits to the public.

“We requested comments from parties to more clearly understand the technology, its potential uses, and the regulatory issues it may create. We have considered these comments and have concluded that deployment of BPL is in the public interest. This Policy Statement provides guidance on how that deployment may proceed without the potential of undue risk for electric utility customers.”¹³

¹² Case 06-M-0043, Proceeding on Motion of the Commission to Examine Issues Related to the Deployment of Broadband Over Power Line Technologies, Statement of Policy on Deployment of Broadband Over Powerline Technologies (issued October 18, 2006)

¹³ Id., p. 8.

Competition III Order

In April 2006 the Commission issued its Comp III Order.¹⁴ This Order acknowledged the state of competition in New York's telecommunications markets and set forth the Commission's view of the appropriate level of regulation needed to maintain basic consumer protections while supporting advances in telecommunications technologies and increased customer choice, value and quality of service offerings for New Yorkers. The Commission found that 90% of New Yorkers have the choice of at least two facilities-based alternatives to the incumbents' wireline network for telephone service. This competition will spur innovation, promote investment and will continue to add to customer choice. The Commission "agreed that broadband is an increasingly valuable tool with a variety of social, political, and economic applications, we remain convinced that competitive markets are the best tool to ensure appropriate, widespread deployment." Moreover the Commission concluded that "because broadband services are already available to the majority of New Yorkers, with prices declining and the number of customers steadily increasing, it is not yet clear that governmental intervention is needed to achieve ubiquitous access to broadband."¹⁵

An overarching objective of the Comp III proceeding is to rely more on market forces where competition is sufficient to discipline service providers' behavior. Where competition is not yet pervasive, certain regulatory protections and oversight will be necessary. The Commission believes that the policies and conclusions reached in the Comp III proceeding will foster further development of the competitive market in New York and lead to more customer choice. While initiating a proceeding (Case 06-C-0481) to consider streamlining various service quality standards and Commission regulations on telephone companies, the Commission acknowledged the important role of regulation as it relates to network reliability, public safety and consumer protections such as E911.

The Commission also addressed the issue of municipally owned networks. As a general policy matter, the Commission has subscribed to the principle that government should support, rather than enter, a competitive market, recognizing that municipally owned networks may in certain situations, have unfair advantages over networks provided by incumbents or their competitors, given the municipalities' tax and financing status. Further, such systems may constrain market development and the provision of new services and choices to consumers, a result that is not in the public interest. The Commission did, however, acknowledge that under

¹⁴ Case 05-C-0616, Proceeding on Motion of the Commission to Examine Issues Related to the Transition to Intermodal Competition in the Provision of Telecommunications Services, Statement of Policy on Further Steps Toward Competition in the Intermodal Telecommunications Market and Order Allowing Rate Filings (issued April 11, 2006).

¹⁵ Id., p. 76.

certain circumstances (such as where the deployment of broadband is unlikely for several years) municipally owned networks could be justified and directed Staff to consider how to best address the concerns of underserved municipalities.¹⁶

Broadband and Universal Service Funding

Section 254 of the 1996 Telecommunications Act allows the FCC, after consulting the Universal Service Joint Board (Joint Board), to define what service/capabilities may be supported by federal Universal Service Funds (USF). The Act suggests that only services/capabilities that 1) are essential to public health and safety and 2) are already subscribed to by a substantial majority of consumers should be supported by the USF.¹⁷ To date, the Commission has argued that "broadband" does not meet these tests, and both the Joint Board and the FCC have agreed. While this may change in the future, current political realities in Washington don't point to a significant federal undertaking to fund universal broadband anytime soon. The Bush Administration's clear preference is for market-based deployment, rather than government aid programs. Add to that the possibility of the USF getting bigger under almost any form of inter-carrier compensation reform and the odds of further expansion to support broadband look slim.

An obvious concern about USF as a vehicle for supporting broadband is the probability that New York would pay more into such a system than it would get back in support. The FCC estimates that in 2003 New York lost about \$2 million (net) in USF funding; in 2004 the loss was almost \$90 million. The difference resulted largely from more funding for New York in the schools and libraries program in 2003 (\$254 million) than in 2004 (\$181 million). But, a USF program for broadband is much more likely to mirror the current USF high cost fund. With respect to this fund, New York experienced a loss of \$161 million in 2003 and \$177 million in 2004. While it is possible that a federal program for broadband could result in a net gain for New York, odds seem higher that the state would experience a net loss of funds.

¹⁶ Id., p. 128.

¹⁷ The USF provides funds for four separate programs: high cost; low income (Lifeline/LinkUp); rural health care; and school and library. While the rural health care and school and library programs are aimed at ensuring affordable high-speed Internet services to those types of facilities, the low income program provides subsidies for basic telephone services to low income households and the high cost program provides support to telephone companies for providing basic telephone service in rural and high cost areas. In 2004, the total USF costs were approximately \$5.7 billion – high cost \$3.5 billion, schools and libraries \$1.4 billion, low income \$760 million, rural health <\$20 million. Funds for the USF are generated by assessments on interstate telecommunications revenues. The current assessment, approximately 10%, is widely considered to be the politically acceptable maximum and a variety of methods of revising the contribution methodology are under consideration. The 1996 Telecommunications Act established a Joint Board, consisting of three FCC members, four state Commissioners and one consumer advocate, to advise the FCC on matters related to universal service programs.

Another consideration is that a federal program would minimize any comparative advantage New York might seek to gain by virtue of offering universal broadband, because other states would also be doing so. A state-funded program, however, could advance the state relative to those states that do not similarly support universal broadband. Moreover, with a state broadband program, New York would make the decisions about what to support, and where, and how to pay for it, while we would have limited ability in designing a federal program.

A state-operated program also poses many issues. The Commission lacks the authority to use traditional ratemaking techniques to restrict broadband prices to "affordable" levels. Efforts to surcharge telephone and cable services to subsidize broadband services will raise serious competitive and jurisdiction issues. A program to support the affordability of broadband access and computers based on general tax revenues may be preferable.

Other Broadband Initiatives

New York City Studies

The City of New York issued a request for proposals in June of 2006 for the selection of a consultant to look into the current state of broadband availability within the city. Earlier studies, such as "Telecommunications and Economic Development in New York City: A Plan for Action", which was issued in March 2005,¹⁸ reported that broadband availability is already high in many neighborhoods but identified some underserved areas such as the Red Hook area of Brooklyn.

The Center for an Urban Future (a New York City based think tank that produces reports and policy solutions on issues facing cities) in a report funded by the Alfred P. Sloan Foundation found a number of pockets in New York City where businesses do not have reliable access to broadband services.¹⁹ The problem was most prevalent in industrial neighborhoods such as the Brooklyn Navy Yard, Hunts Point and parts of Long Island City. Residential neighborhoods, mixed-use areas and dense office districts have a high level of availability and in most cases choice between broadband providers. The report concluded with a number of recommendations including: the need for increased emphasis on telecommunications infrastructure by city and state officials; education efforts for businesses on wireless technology; incentives to providers to extend service; aggregation of users to improve affordability; and extending authority to cities to write universal service requirements into telecommunications franchises.

¹⁸ This Report to Mayor Michael R. Bloomberg was prepared by the New York City Economic Development Corporation, the New York City Department of Information Technology and Telecommunications and the New York City Department of Small Business Services.

¹⁹ New York's Broadband Gap, Center for an Urban Future, December 2004.

A current study funded by the New York City Economic Development Corporation will look into what may be needed to improve the availability of broadband service using existing providers, wireless networks or municipally owned facilities. The study is organized into two parts. The first part focuses on determining the status of current availability and needs and should be completed in early 2007. The second part will look to possible solutions if significant deficiencies are found. New York City has also undertaken some sponsored wireless projects in areas of the city which have been widely publicized. This study may have an impact on the future deployment of these types of projects.

Empire State Development Corporation (ESDC)

The Legislature passed a bill that created a Rural Broadband Taskforce to examine what incentives are needed to further improve broadband availability to support economic development in rural areas. In mid 2006, the Legislature designated a Rural Broadband Task Force, led by ESDC, to evaluate the economic incentives that may be needed in order to provide service to rural businesses. This work of the ESDC is supported by the New York State Department of State, the New York State Office for Technology and the DPS. This activity will reference work previously included in the DPS Rural Advanced Services study released in February 2003. Staff of the DPS provided ongoing support to this effort through various meetings and discussion sessions and the report is forthcoming.

Wired Buildings - Wireless Communities Grants

The New York State Wired Buildings Grant program is a multi-year grant program funded by the Legislature and administered by the ESDC. It provides matching funds for broadband projects which have a positive economic impact on the communities involved. These grants have been distributed to qualified projects proposed by businesses and municipal agencies around the state. Grants for these projects have been limited to amounts of \$70,000 and typically have required at least 50% or greater cost matching by the recipient. To date grants have funded a number of different projects including building broadband wiring and wireless projects both within buildings and in outside areas of communities. Since 2005, 14 wireless projects and 7 wired buildings projects have been funded across the state. For the current round of funding, there are applications for 22 wireless projects including 16 in rural communities.

Suffolk County

Suffolk County has undertaken an effort to provide “WiFi” service to areas of the county not well served by wireless or other broadband services. The county has issued a request for information and expects to move further on this project as funding becomes available. Various entities have responded to the first inquiry and the other incumbent broadband providers (cable and telephone) have also indicated that they are interested in responding to further county initiatives.

Glens Falls

The City of Glens Falls has deployed the “Glens Falls Broadband Initiative” and has received a grant for some of the costs from ESDC. This project offers low cost “WiFi” service in the area surrounding downtown Glens Falls and became operational in the fall of 2006.

Ontario County

The Ontario County legislature has formed a non-profit corporation, the Finger Lakes Regional Telecommunications Development Corporation, to fund and offer fiber optics services to government, healthcare, education, business and cooperating telecommunication providers (telephone companies) in their area. The project is in the planning and contracting stages.

Northern New York

The Development Authority of the North Country (DANC) has formed a non-profit corporation to provide broadband fiber-optic backbone services to several counties in northern New York. At present, DANC is providing services to several organizations and telephone companies. Currently DANC is constructing a 450 mile fiber optic backbone network that connects Syracuse with locations in St. Lawrence, Lewis, and Jefferson counties. This network also has points of presence at a number of telecommunications facilities in Pulaski and Syracuse. Services are also provided to Jefferson-Lewis BOCES and agreements are in place with various telecommunications and cable providers to provide further retail services.

Conclusion

State and federal governments have increasingly relied on the market to provide telecommunications services. That approach has resulted in broadband being available in most areas of New York, and often by more than one provider. As of 2005 New York ranked 2nd amongst the five most populous states with 0.4400 high-speed Internet lines per occupied household. The national average was 0.3865. The Commission has determined that

competition should be relied upon when feasible in order to maximize innovation and efficiency, and it appears that the market has worked efficiently to provide broadband Internet access.

Markets do not accomplish everything, however, and should it be determined that the state has an interest in all New Yorkers having affordable access to broadband, reliance on markets may not be enough. There are low-density areas within the state that do pose challenges for wireline service providers. These low-density areas will likely not generate adequate revenues for companies to recover capital or operating costs of wireline broadband infrastructure and, as such, other technologies including wireless and satellite may need to be considered. There are a number of on-going initiatives and efforts throughout the state to address underserved areas including New York City's Broadband Study and ESDC's "Wired Buildings-Wireless Communities" grant program. As underserved areas become more fully defined and identified, initiatives such as these should be expanded in order to encourage investment in low-density areas. Other technologies may also be able to provide adequate broadband service to meet the demand in underserved areas. These technologies include wireless and satellite delivered high-speed Internet services.

More direct government intervention may be required. One possibility would be to amend the USF, which is designed to ensure affordable telephone service in rural and low-density areas. USF does not currently apply to the deployment of broadband service. So far, New York has argued that broadband should not be added to the USF program, in part because New York would likely pay far more into USF for universal broadband access than it would receive. Another possible solution would be to fund broadband access from the State General Fund, an approach that would avoid federal preemption issues, and that may also avoid the possibility of unequally burdening broadband service providers.

Creation of a multi-agency broadband task force should be considered to evaluate these issues. This task force could be charged with conducting the definitive data collection and analysis necessary to fully and accurately define and identify underserved areas and develop policy recommendations designed to address these inequities without adversely affecting aspects of broadband deployment that are working. This task force might also undertake a full review of state law and regulations which impact or influence the deployment of broadband technologies. Composition of such a task force could include the DPS, the Office for Technology, ESDC, representatives of regional development organizations, municipal representation and various stakeholders and service providers.