**Testimony of Timothy J. Regan**
**Senior Vice President for Global Government Affairs**
**Corning Incorporated**

**Before the Senate Commerce, Science and Transportation Committee**

**May 25, 2006**

Mr. Chairman, I'm pleased to accept your invitation to testify today on behalf of both Corning Incorporated and the Telecommunications Industry Association.

As you know, Corning is the inventor of low-loss optical fiber. We invested hundreds of millions of dollars to prove to the world that data can be transmitted over extremely long distances using glass fibers as thin as hair.

Corning is also a member of the Telecommunications Industry Association ("TIA"). TIA provides a forum for over 600 member companies, the manufacturers and suppliers of products, and services used in global communications. Many TIA members manufacture and supply products and services used in the deployment of the broadband infrastructure that enables the distribution of information in all its forms including video programming.

We approach telecommunications policy from a very simple perspective. The question for us is: What policies will facilitate investment in network technologies to promote facilities-based competition in the interest of both producers and consumers?

Contrary to popular view, we do not see the issue before Congress as a matter of choosing sides among the titans. Rather, we see the challenge as one of encouraging and allowing all parties to do their part in developing the most robust broadband communications network in the world. This is the outcome that will provide the greatest benefit to all Americans.

Mr. Chairman, I know that this hearing is about net neutrality. But I think it is important to see the issue in the context of one of the primary objectives of the Stevens-

Inouye bill – accelerating deployment of next generation broadband capacity and capturing the consumer welfare benefits of competition in the cable television market. With this in mind, I will take a few moments to discuss our views on these important matters.

**The First and Second Broadband Technology Shifts**

We think it is helpful to review the recent history of broadband technology. Essentially, we believe there are two technology shifts occurring in broadband.

The first broadband technology shift is from dial-up Internet access to current-generation broadband access. This is characterized as a shift from 56 kilobit-per-second narrowband capability to around 1.5 megabit-per-second ("Mbps") broadband capability – roughly a 20-fold capacity expansion.

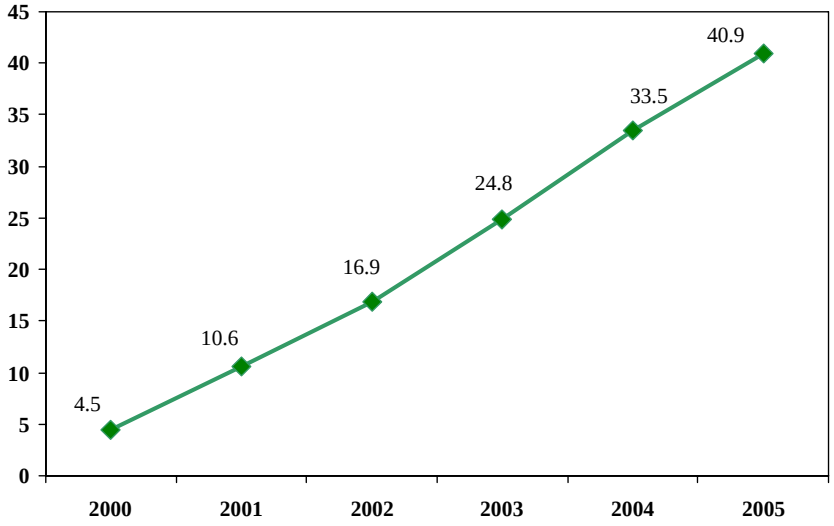
The second broadband technology shift is from current-generation to next-generation broadband access, characterized by yet another 20-fold capacity, from 1.5 Mbps to as much as 25-30 Mbps.

To give you an example of the effect of these two shifts, let me use the analogy of a highway. The first broadband technology shift is like going from a two-lane highway to 40-lane highway. The second shift is like from going from 40 lanes to 800 lanes. Just imagine I-95 going from 2 to 40 to 800 lanes.

The good news is that the first shift is well on its way. Progress in technology deployment is often measured by the substitution of the new for the old. By this measurement, tremendous progress has been made in the deployment of broadband. Broadband subscribership has increased by more than 800% from 4.5 million in 2000 to 40.9 million in 2005, while dial-up subscribership peaked at 47.3 million in 2002 and has since declined to about 40 million subscribers, the level that existed in 2000.[1]

[1] *See* Telecommunications Industry Association , *Telecommunications Market Review and Forecast,* 2005.

**U.S. Current Generation Broadband Subscribers**
**(in Millions)**



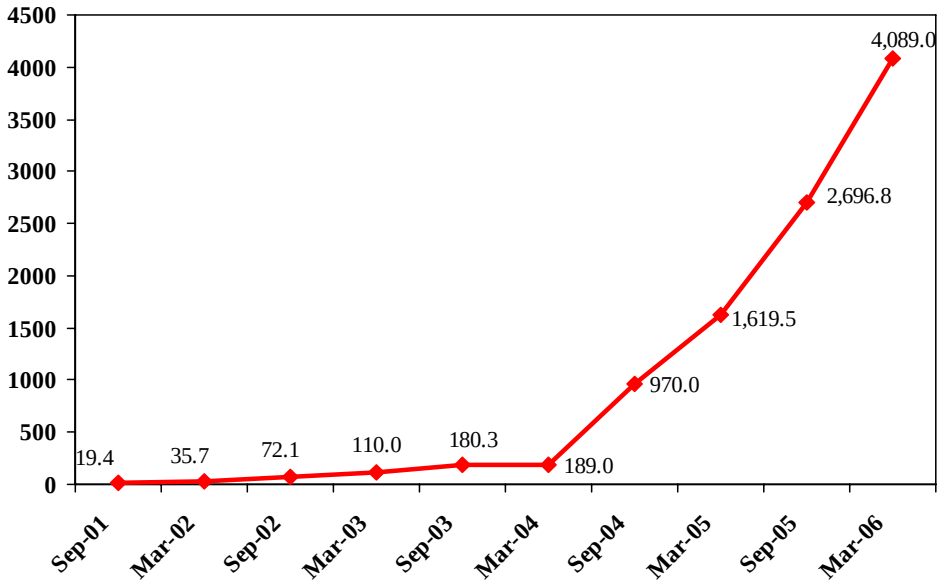

*Source: In-Stat/MDR, FCC, TIA, Wilkofsky Gruen Associates*

The second broadband technology shift has just begun and involves a number of different technologies, including fiber to the premises ("FTTP"), fiber to the node ("FTTN"), fiber to the curb ("FTTC"), VDSL, DOCSIS 2x and DOCSIS 3.0, satellite and various wireless technologies, all of which hold great promise and are in various stages of development and deployment.

Although TIA companies are involved in all of these technologies, I am most familiar with FTTP and will confine my remarks regarding the second broadband shift to that technology. With respect to FTTP, the second stage shift, although in its infancy, has been profound. From September 2001 to March 2006, FTTP deployment increased from 19,400 homes passed to 4.1 million homes passed, a 20,000 % increase in four and a half years. FTTP subscribership increased from 5,500 in September 2001 to 671,000 in March 2006, a 12,000% increase over that period.[2]

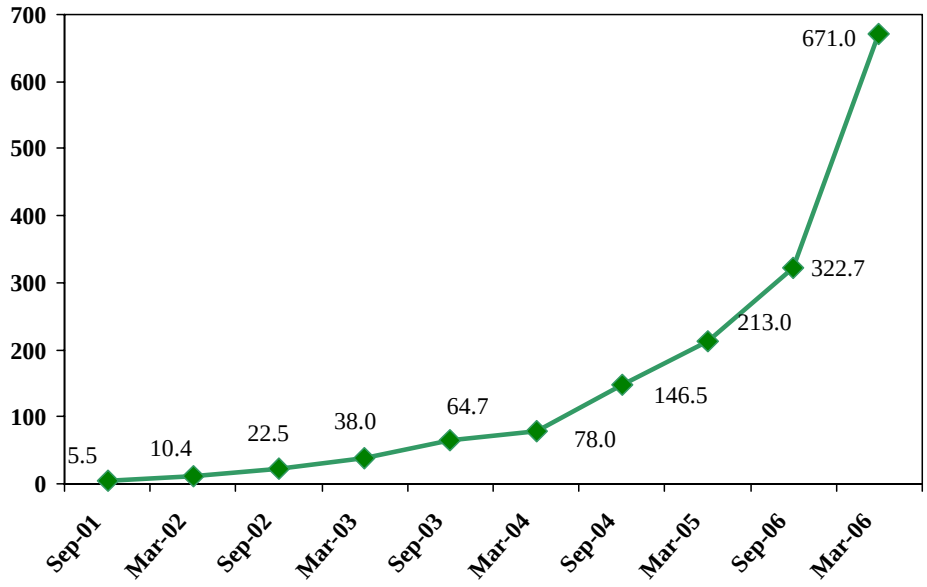
[2] *See* RVA Research, *FTTH/FTTP Update*, Jan. 2006.

**FTTP Homes Passed**
**(Cumulative—North America)**
**in Thousands**




*Source: RVA Research*

**FTTP Homes Connected**
**(Cumulative—North America)**
**in Thousands**




*Source: RVA Research*

While Verizon accounts for much of the FTTP deployment in volume, the FTTP experience is broadly based. As of March 2006, FTTP had been deployed in 936 communities across 47 states, with only a third of those communities served by Verizon.[3]

**The Importance of Pro-Competitive, Deregulatory Telecommunications Policy**

The first broadband technology shift was driven by four forces: competition, deregulation, consumer demand for bandwidth, and technology advancement. The federal government played a positive and significant role in the first two of those factors – competition and deregulation. In fact, significant Congressional support for deregulation spurred three major decisions by the FCC which created a favorable environment for broadband investment: the cable modem decision of 2002[4], the Triennial Review Order of 2003[5], and, most recently, the DSL decision of 2005[6]. Thus, the pro-competitive, deregulatory actions by the FCC and supported by Congress have worked to encourage the first broadband technology shift.

To best facilitate the second technology shift, Congress should continue its pro-competitive, deregulatory stance. And indeed, Congress has already taken steps in this direction. Most recently, Congress adopted a "hard date" for the DTV transition[7] which will release prime spectrum for the development of new wireless solutions. Congress has also encouraged the FCC to facilitate competition in the wireline voice market by applying the light hand of regulation for VoIP, which will enable cable companies and new entrants to compete with incumbent telephone companies.[8]

Promoting competition through deregulation in the video realm is the next logical step. Video is the application driver for the deployment of next generation broadband

[3] *See* RVA Research, *FTTH/FTTP Update*, Oct. 2005.
[4] *See* FCC GN Docket No. 00-185, CS Docket No. 02-52, (rel. March 15, 2002).
[5] *See* FCC CC Docket No. 01-338, (rel. Aug. 21, 2003).
[6] *See* FCC CC Docket No. 02-33. (rel. Sept. 23, 2005).
[7] *See* Deficit Reduction Act of 2005, Pub. L. no. 109-171, Title III Digital Television Transition and Public Safety.
[8] *See* FCC CC Docket No. 04-267. (adopted Nov. 9, 2004).

because video uses an enormous amount of bandwidth. Even with the latest compression techniques, a high definition television signal uses approximately 8 to 9 Mbps, several times faster than current generation broadband. Therefore, a public policy facilitating entry of new video providers will result in the deployment of more robust infrastructure, increased competition, and consequent consumer benefit.

**Specific Problems With The Current Video Franchise Process**

We have spent a significant amount of time analyzing the effects of various local franchise requirements on next generation broadband deployment. For the sake of brevity, we will merely summarize our thoughts in that regard here and provide a more detailed discussion later in an annex to this testimony.

*Problem 1: Delay*

The franchise-by-franchise negotiating process established under the old monopoly framework is simply too slow and unwieldy to encourage the speedy entry of new providers. In recent filings at the FCC, large companies like Verizon and BellSouth, as well as smaller companies like Knology, Grande Communications, Guadeloupe Valley Telecommunications Cooperative and the Merton Group, have all provided examples of very protracted franchise negotiations, in some cases lasting years. The delayed entry of these competitive video providers results in less competition, less consumer welfare benefit, and delay in the second broadband technology shift. The solution is to automatically issue a franchise within a set period of time.

*Problem 2: Build Out*

The second major problem with the current video franchise process is the practice of requiring new entrants to build out facilities beyond the area which they find economical. For example, in the case of a telephone company entering the video market, video deployment logically follows the existing wire center footprint, which typically

does not follow franchise area boundaries. If a telephone company wants to offer video service throughout a wire center which covers, say, 30% of a local franchise area, the requirement to build out to the entire franchise area might well make it economically infeasible to provide video service *at all* within that franchise area. The solution, we believe, is to establish a franchise process which does not require such counterproductive build out requirements.

*Problem 3: Extraneous Obligations*

The Congress has already indicated its intent to limit payments for franchises by establishing in Title VI of the Communications Act that the 5% statutory franchise fee is a ceiling for payments "of any kind".[9] Yet, franchise authorities often seek payments that far exceed the 5% fee. These extraneous requirements increase costs and discourage the investment in next generation broadband capability thereby delaying the second technology shift. The solution, we believe, is to prohibit the imposition of extraneous cost beyond 1% of gross revenues.

Title III of the Stevens-Inouye bill addresses these issues. If it is enacted this year, we believe it will significantly accelerate deployment of next generation broadband capability and capture the consumer welfare benefits of competition in the cable TV space.

**Treatment of Existing Video Providers**

We are also pleased that the Stevens-Inouye bill would make its streamlined franchise process available to existing cable TV providers. We think this is very important in order to encourage investment by all providers and to spur healthy competition.

[9] *See* U.S.C. Sec. 542(g)(1).

**Municipal Broadband**

To promote competition, Congress also should enable municipalities to deploy next generation broadband capability. Particularly regarding fiber to the premises, municipalities were among the early leaders, even though recent court decisions have slowed deployments in a number of states. Although we believe municipalities should consider all options before entering the telecom field, if municipal leaders feel that they must build their own networks in order to provide satisfactory broadband services to their constituents, they should have the freedom to make that decision.

The draft bill before you includes the statutory clarification to allow municipal entry, subject to a right of first refusal provision requiring consideration of private sector offers to provide desired services. While we encourage private sector deployment where possible, we are concerned that the right of first refusal requirement could create opportunities for litigation that delay broadband deployment for protracted periods.

**Net Neutrality**

With the foregoing as background, I will now turn to the topic of net neutrality. We believe strongly that Congress should be very careful to avoid taking action which could, in fact, do harm. This principle must be applied to net neutrality.

As leading manufacturers of network equipment, we have a great interest in ensuring that broadband networks are not only *built* but also *used*. Although consumers typically do not come in direct contact with network equipment, it is still the consumer that determines the success or failure of our technology. If consumers are satisfied with the broadband experience, our technology is in demand. If not, our technology is not deployed. For that reason, consumer satisfaction is extremely important to us.

Accordingly, TIA and other members of the High-Tech Broadband Coalition ("HTBC") were the first to adopt network *Connectivity Principles*. We urged their

adoption by Federal policymakers and were delighted when the FCC did so last year. Pursuing this matter further, TIA recently released its *Broadband Internet Access Connectivity Principles*, which reaffirms and adds to the above-mentioned principles. We attach a copy hereto for your use.

TIA's *Connectivity Principles* support the interests of both consumers and unaffiliated content providers. In short, they state that subscribers should get the capacity they pay for to connect to the Internet, access any content they want on the Internet as long as such content is lawful, use any applications they chose as long as such use does not hurt the network or other users, and attach to the network any device they choose as long as it does not harm the network.

Let me emphasize that we believe unaffiliated content providers, as consumers of bandwidth, should benefit from the *Connectivity Principles* just like retail subscribers.

But going beyond these *Connectivity Principles* gives us great pause because it is unclear what problem the legislation is designed to address. We have yet to see significant evidence of an actual problem. Rather, net neutrality advocates appear to be concerned about potential misdeeds rather than actual misdeeds.

We find this troubling because legislating against potential misdeeds can have very bad unintended consequences. We experienced this following passage of the 1996 Telecom Act and the FCC's use of an unbundling regime which retarded investment in local broadband access by incumbent local exchange carriers. This was an unintended negative consequence.

The goal of the 1996 Act – fostering competition in local telephone service – was laudable. But, the impact on investment in local broadband access was very negative.

The lesson of unbundling is instructive. If policymakers take action which disturb the business models of the companies deploying next generation networks, the result may

well be to delay or stop deployment. Then we all will suffer – the carriers, equipment vendors, content providers, and consumers.

Let me dig into that statement for a moment. To analyze what the carriers will do, it is important to consider three threshold questions they must ask:

1. *What specifically do unaffiliated applications providers want from carriers?* Do they want carriers to offer to them the same bandwidth, speed, and other capabilities that carriers offer to retail subscribers? For example, Verizon offers retail subscribers an Internet access service on their fiber network at a tremendous speed of 30 mbps downstream and 5 mbps upstream. Do unaffiliated providers want Verizon to make the same offer to them so that they can have a 30 mbps connection to all their customers? Similarly, we understand that AT&T plans to build a network that can provide IPTV and Internet access using Internet protocol at a speed of 24 mbps downstream. Do unaffiliated providers want AT&T to provide them with a 24 mbps connection to all their customers? It is simply not enough to say we want "non-discrimination". This is a vague notion. We need clarity in order to make sound policy.

2. *How much will it cost to build a network that is capable of giving unaffiliated applications providers what they want?* Obviously, the more robust the network is in terms of bandwidth, speed, features, and functions, the more expensive it will be to build. In my previous example, if Verizon and AT&T are required to provision a network to provide every unaffiliated applications provider with a 30 mbps or a 24 mbps connection to all their customers, the cost to build the network would increase substantially. We need to understand the cost implications of the obligations unaffiliated providers want to impose on carriers. Again, we need clarity to make good policy.

3. *Who will pay for the network capability that unaffiliated providers want from carriers?* As I said, there is a cost involved in provisioning the network to meet the demands of unaffiliated providers. And, the cost may indeed be very, very high. If carriers build excess capacity to meet the needs of unaffiliated providers and they don't buy it, who pays? The consumer? The shareholder? It is simply unreasonable to require a carrier to build capacity without knowing who will pay for it. Otherwise, it is an open-ended commitment that will simply discourage investment or, worse yet, stop it. Again, we need clarity to make good policy.

For Congress, the third question is probably the most critical. Certainly, Congress does not want to require carriers to build excess capacity into their networks and pass the cost on to retail consumers. If this were to occur, most Americans who use Internet access for simple applications like e-mail will carry an enormous, unfair burden. Clearly, if unaffiliated applications providers want network capability – bandwidth, speed, quality of service, and content – they must pay for it.

We are unaware of any analysis that answers the three questions cited above – what, how, and who. So, we support the study element of the approach taken in the Stevens-Inouye bill to answer these and other questions before legislating.

**Conclusion**

In conclusion, let me suggest that Congress should proceed where there is consensus and continue to work on issues where consensus does not exist. You have an opportunity to achieve real success this year which will accelerate deployment of next

generation networks and benefit consumers through lower prices and improved services. Franchise reform, for example, is an issue which is long over due and where there is great consensus. Net neutrality, on the other hand, is an issue where there is little consensus and even less clarity. I would propose that Congress continue to examine the net neutrality issue until it is clear what the problem is and what the solution should be.

We feel that it is crucial for the Congress to build on the pro-competitive, deregulatory federal broadband policy actions that have been implemented since 2002. I am pleased that the Stevens-Inouye bill builds on these successful policy actions. I urge the Committee to act quickly on franchise reform and other issues where there is a consensus so we can enact them this year. With such action, we can capture the benefits of accelerated broadband deployment and the consumer welfare benefits of competition now.

## ANNEX 1: DETAILED DISCUSSION OF SPECIFIC PROBLEMS WITH THE CURRENT VIDEO FRANCHISE PROCESS

*Problem 1: Delay*

Unfortunately, the current video franchise process does not facilitate the entry of new video providers in a timely fashion. The franchise-by-franchise negotiation process established under the old monopoly framework is simply too slow and unwieldy to encourage the speedy entry of new providers. Verizon has filed documents with the FCC establishing that, to serve its entire target area with video service, it must negotiate between 2,000 and 3,500 franchises, excluding those in Texas.[10] Verizon began negotiations with 320 franchise authorities in November 2004 and, as of February 2005, had only 26 franchises other than those that were automatically issued in Texas.[11] For those franchises that have been successfully negotiated, negotiation time has ranged between two months and 17 months, with an average of 7.65 months.[12] The more important focus, however, are the negotiations in which Verizon has *not* been successful: in over 80% of the franchise negotiations Verizon initiated in November 2004, a franchise still has not been granted.[13]

A similar situation has been experienced by BellSouth, which needs to negotiate 1,000 franchises. As of last month, it had received only 20 franchises, requiring between 1.5 months and 32 months of negotiation time for each, at an average of 10 months.[14]

Moreover, this is not just a problem for the Regional Bell Operating Companies. Smaller companies such as Knology, Grande Communications, Guadeloupe Valley

[10] *See* FCC MB Docket No. 05-311, *Comments of Verizon on Video Franchising*, Feb 13, 2006, Attachment A at 5.
[11] *See* FCC MB Docket No. 05-311, *Comments of Verizon on Video Franchising*, Feb 13, 2006, Attachment A at 4.
[12] *See* FCC MB Docket No. 05-311, Comments of Verizon on Video Franchising, Feb 13, 2006, Attachment A, Exhibit 1.
[13] *See supra footnote 11*.
[14] *See* FCC MB Docket No. 05-311, *Comments of BellSouth Corporation and BellSouth Entertainment*, LLC, Feb. 13, 2006, at 10, 11.

Telecommunications Cooperative and the Merton Group have all reported a similarly protracted period of franchise negotiations, ranging between 9 months and 30 months.[15]

The delayed entry of these competitive video providers results in less competition, less consumer welfare benefit, and delay in the second broadband technology shift.

*Problem 2: Build Out*

The second major problem with the current video franchise process is the practice of requiring new entrants to build out facilities beyond the area which they find economical. For example, in the case of a telephone company entering the video market, video deployment logically follows the existing wire center footprint, which typically does not follow franchise area boundaries.[16] If a telephone company wants to offer video service throughout a wire center which covers, say, 30% of a local franchise area, the requirement to build out to the entire franchise area might well make it economically infeasible to provide video service *at all* within that franchise area.

This is not merely a whimsical example. We recently analyzed telephone company wire centers in Texas – where the characteristics of wire center deployment are typical of the nation on average – and found that only 3% of the wire centers completely overlap the geographic area of franchise areas.

Therefore, the requirement that new entrants build out to an entire franchise area will result, in many instances, in potential competitors delaying or even abandoning plans to enter new video markets.

Again, this is not just a Bell Company problem. The National Telecommunications Cooperative Association has reported that many of its members, which tend to be small rural telephone companies, want to get into the cable business but

[15] *See* FCC MB Docket No. 05-311, *Comments of the Fiber-to-the-Home Council*, Declarations of Felix Boccucci, Andy Sarwal, Jeff Mnick, Terrence McGarty.
[16] *See* FCC MB Docket No. 05-311, *Comments of Verizon on Video Franchising*, Feb. 13, 2006, at 40.

have reported problems with local franchising authorities – particularly unreasonably short build out periods or requirements to build outside the carrier's own service territory.[17]

The solution, we believe, is to establish a franchise process which does not require such counterproductive build out requirements.

*Problem 3: Extraneous Obligations*

The third major problem with the current video franchise process is the imposition of extraneous obligations that exceed 1% of revenues.

The Congress has already indicated its intent to limit payments for franchises by establishing in Title VI of the Communications Act that the 5% statutory franchise fee is a ceiling for payments "of any kind".[18] Yet, franchise authorities often seek payments that far exceed the 5% fee by imposing requirements like the assumption of all Public, Education and Government (PEG) costs incurred by the incumbent cable operator over the entire span of its service, the installation of institutional networks (I-Nets), the requirement to bury aerial plant, the assumption of applications and acceptance fees, etc.[19] These extraneous requirements increase costs and discourage the investment in next generation broadband capability thereby delaying the second technology shift. The solution, we believe, is to prohibit the imposition of extraneous cost beyond 1% of gross revenues.

[17] *See* FCC MB Docket No. 05-311, *Comments of the National Telecommunications Cooperative Association*, Feb. 13, 2006, at 4,5.
[18] *See* U.S.C. Sec. 542(g)(1).
[19] *See* FCC MB Docket No. 05-311, *Comments of Verizon on Video Franchising*, Feb. 13, 2006, at 57-75.

# APPENDIX


**Broadband Internet Access Connectivity Principles**

*TIA has long supported the rights of broadband Internet access service consumers to connect to and utilize their choice of legal Internet content, applications and devices, while also recognizing the needs of service providers in a competitive market to manage the security and functionality of their networks. TIA reaffirms its pro-consumer principles, as outlined below, while continuing to observe that the lack of significant evidence of these principles being abused in the marketplace means there is no need at this time for the Federal Communications Commission to craft rules in this area.*

1. A competitive broadband Internet access market offers consumers choices with respect to "connectivity" – that is, the ability to access any lawful Internet content, and use any device, application, or service over the public Internet – so long as they do not harm the network. In particular:

   1.1. Consumers should receive meaningful information regarding their broadband Internet access service plans.

   1.2. Broadband Internet access consumers should have access to their choice of legal Internet content within the bandwidth limits and quality of service of their service plan.

   1.3. Broadband Internet access consumers should be able to run applications of their choice, within the bandwidth limits and quality of service of their service plans, as long as they do not harm the provider's network.

   1.4. Consumers should be permitted to attach any devices they choose to their broadband Internet access connection, so long as they operate within the bandwidth limits and quality of service of their service plans and do not harm the provider's network or enable theft of services.

2. A competitive broadband Internet access market also gives facilities-based broadband Internet access providers competitive incentives to undertake risky,

new investments, while precluding anticompetitive behavior against unaffiliated businesses. In particular:

2.1. Broadband Internet access service providers should remain free to engage in pro-competitive network management techniques to alleviate congestion, ameliorate capacity constraints, and enable new services, consistent with the technical characteristics and requirements of the particular broadband platform.

2.2. Broadband Internet access service providers should remain free to offer additional services to supplement broadband Internet access, including speed tiers, quality of service tiers, security and spam services, network management services, as well as to enter into commercially negotiated agreements with unaffiliated parties for the provision of such additional services.

2.3. Such network management tools would enable operators to continue to optimize network efficiency, enable new services, and create incentives for continued build-out to meet increasing capacity demands.

2.4. Broadband service providers should also remain free to innovate in the deployment of managed services, such as packaged video programming, which utilize the same networks but are distinct from public Internet access services.

TIA believes that the FCC has jurisdiction to vigilantly monitor the broadband Internet access service market and expeditiously review any complaint of anticompetitive activity. However, as no significant evidence of a problem exists at this time, it is not now necessary for the FCC to promulgate detailed rules in this area. Rather, the FCC should address any such problems on a case-by-case basis in the event they arise.