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It's a Series of Tubes: Network Neutrality in the United States and How the Current Economic Environment Presents a Unique Opportunity to Invest in the Future of the Internet

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It's a Series of Tubes: Network Neutrality in the United States and How the Current Economic Environment Presents a Unique Opportunity to Invest in the Future of the Internet

By Andrew Seitz*

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I. INTRODUCTION

Imagine logging onto the Internet through AOL. You try to access Google.com, but typing in the familiar uniform resource locator (URL) redirects you to Yahoo!, Google's competitor. Unbeknownst to you, Google had just made an exclusive deal with AT&T; now only AT&T's broadband customers can access Google, just as how iPhone users must get their service through AT&T.¹

It is almost an accident that the Internet developed the way it did. In the late 1990's large internet service providers (ISPs), such as AOL, that had their own proprietary networks failed to fully realize that their business model was becoming obsolete, and instead the Internet developed into the open network that it is today.²

But is an open network the best model for the Internet? Could more of a free market deliver a better product to the consumer? Broadband providers such as AT&T and Verizon believe that in order to give their customers the best product, they should be able to exert more control over their network.³ Content providers such as Google and Microsoft believe that innovation on the part of the providers is what would be best for consumer.⁴ The two colossal sides have been butting heads over the issue for several years. Could the issue be decided in the near future?

After a brief introduction to network neutrality, including a definition and what the two sides say, this article will go through its

* J.D. Candidate at Pepperdine School of Law. I would like to thank Emma, who made every day I spent writing this, and every day in between, a little brighter.

1. *Apple's iPhone seen luring other subscribers*, CNNMONEY, June 15, 2007, available at http://money.cnn.com/2007/06/15/technology/iphone_att_apple/index.htm. It is also similar to Direct TV's deal with the National Football League for the NFL Sunday Ticket package, where cable companies are prohibited from offering the NFL game package.

2. AOL at one time had content that only the subscribers of AOL could access. They held onto it as long as they could, eventually attempting to sell just the content (and not the Internet access) for around \$5 a month. However, once users became sophisticated enough to realize that they could get nearly identical content for free through such sites as hotmail.com (email) and cnn.com (news), they fled AOL.

3. *See infra* Section I(B).

4. *Id.*

history, including the actions of the FCC and the failed regulation attempts by both sides in Congress. Then this article will look at what other countries have done and are doing to resolve the issue. Finally, the article will discuss what the United States' policy should be, and how to best implement that policy.

A. What is Network Neutrality?

Network neutrality is a network design principle that encourages equal treatment of everything going through the network and everything connected to the network.⁵ An example of a neutral network is the electric grid in the United States.⁶ The electric grid does not care whether you plug in a toaster or a television, or whether the television is a Sony or a Samsung, it delivers power just the same. The electric grid also does not care if the power running through the grid is created by a large power substation or small solar panels on a residential home; the power in either case may be used to power any manner of toaster or television.⁷ This has allowed remarkable innovation in the field of electronics, from the radios of the 1920's to the plasma screen televisions of today.⁸

An example of a non-neutral network is the cable television network.⁹ Cable providers do not just allow anyone to create a channel and start using their network; instead they strike deals with different television content providers.¹⁰ The cable providers in this

5. Timothy Wu, *Network Neutrality FAQ*, available at http://timwu.org/network_neutrality.html.

6. *Id.*

7. See Keith Pandolfi, *Boost Home Value, Get Cheaper Bills*, CNN, March 4, 2008, available at <http://www.cnn.com/2008/LIVING/homestyle/03/04/solar.power/index.html>. Several states allow homeowners that have solar panels to sell back excess wattage that the panels generate when it is sunny for credits they can use when the sun is not shining. *Id.*

8. See Wu, *supra* note 3.

9. Lawrence Lessig & Robert W. McChesney, *No Tolls on the Internet*, WASHINGTON POST (June 8, 2006), available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/06/07/AR2006060702108.html>.

10. See Arlene Martell, *How Cable TV Works*, HOWITWORKS.NET, Aug. 25, 2008, <http://www.howitworks.net/how-cable-tv-works.html>. See also, e.g., Ron Musselman, *Big Ten Network, Comcast standoff continues*, PITTSBURGH POST-

way act as gatekeepers; the stations available to you depend on the decisions that the cable companies make.¹¹ If a cable company does not want you to watch a channel, and the market pressure for the channel is not high, they can see to it that a customer does not get that channel.¹²

In reference to the Internet, what network neutrality means is that all content, sites, and platforms are treated equally, and that there is fair competition between networks, applications, service providers, and content providers.¹³ The non-neutral set-up makes sense for cable television because of the nature of the network; there are only so many channels that can be broadcast at a time.¹⁴ Cable television is always streaming into the home, the television just decides which stream to display.¹⁵ The Internet is different in that a request for a stream must be made before the stream is downloaded.¹⁶ Therefore, because they are not all active at one time, as opposed to cable television, there can be almost an infinite number of potential streams for the consumer to pick from.¹⁷ This allows the ISPs to offer consumers the choice between almost limitless “channels,” as opposed to cable television networks which can only offer a set number of them.

There is no set definition of network neutrality; if you go to a dozen sources you will get about a dozen different definitions. But

GAZETTE, Aug. 18, 2007, available at <http://www.post-gazette.com/pg/07230/810467-143.stm>. Comcast, a large cable provider, could not strike a deal with the fledgling Big Ten Network, which covered the colleges of the Big Ten. *Id.* As a result, viewers in several markets had the games of their local school blacked out. *Id.*

11. See Martell, *supra* note 10.

12. If the market pressure were high, for example if the cable company decided to stop offering ESPN, the company would not be able to unilaterally make the decision as customers would defect to alternatives en masse.

13. See Wu, *supra* note 5. See also Matthias Kurth, *Presentation at the NITA-Conference: Network Neutrality- Implications for Innovation & Business Online: Network Neutrality in a Regulatory Perspective* (Sept. 30, 2008), available at <http://cdn.netamia.com/itst/netneutrality/133.pdf> (last visited Oct. 20, 2009).

14. See Martell, *supra* note 10.

15. See *id.*

16. See How Does the Internet Work?, http://www.theshulers.com/whitepapers/internet_whitepaper/index.html (last visited Feb. 13, 2009).

17. See *id.*

proponents often fall into one of two camps, either advocating for an absolute view of network neutrality or a more narrow view of network neutrality.

1. Absolute View of Network Neutrality

Those taking an absolute view of network neutrality do not recognize any exceptions to the principles.¹⁸ Any discrimination is deemed to be wrong and unproductive. Thus, broadband providers, under the absolute view, would not be permitted to charge different rates to different users based on quality of service, or prioritize different types of information.¹⁹ The absolute view has widely fallen out of favor, as concessions have been made to the other side of the debate. But because of its absolute nature, the wide view of network neutrality is often used by opponents of neutrality as a straw-man; any network neutrality position is deemed to be an absolute one, and attacked accordingly.²⁰

2. Narrow View of Network Neutrality

In many areas outside of network management, even where discrimination is frowned upon, complete bans on discrimination are seen as counter-productive.²¹ For example, in the business world discrimination on the basis of gender or race is rightly frowned upon.²² However, companies are still able to fire people that do their job poorly; in other words, they can discriminate based on ability.²³

Therefore, proponents of a narrow view believe that some types of discrimination should be allowed, but exactly how much is open to debate. Columbia law professor Timothy Wu was an early proponent of limited network neutrality. Wu, along with fellow professor

18. Timothy Wu, *Why You Should Care About Network Neutrality*, SLATE, May 1, 2006, available at <http://www.slate.com/id/2140850/>.

19. *Id.*

20. See Christopher Yoo & Timothy Wu, *Keeping the Internet Neutral?*, LEGAL AFFAIRS, May 1, 2006, available at http://www.legalaffairs.org/webexclusive/debateclub_net-neutrality0506.msp.

21. *Id.*

22. *Id.*

23. *Id.*

Lawrence Lessig, sent a letter to the FCC in 2003 proposing that users should have the general right to use their broadband connections in any manner that they see fit, with the exception of behaviors that were “publicly detrimental.”²⁴ The exceptions were put into place in order to prevent harm to the network and to other users.²⁵ Among the list of behaviors listed by Wu and Lessig that ISPs would be permitted to regulate were: any activity that would physically harm the network, the sending of mass unsolicited emails (i.e., spam), the use of too much bandwidth, anything compromising the security of the network, and distributing viruses.²⁶ These restrictions formed the basis of much of the discussion surrounding network neutrality today.

Quality of service (QoS) price tiering is an issue of some debate.²⁷ Current networks use a protocol that routes traffic on a “first come, first served” basis, which can frequently lead to snarled networks as popular nodes get hit with a disproportionate amount of traffic.²⁸ There is also no guarantee that the packet of information

24. Letter from Tim Wu & Lawrence Lessig to the FCC (Aug. 22, 2003), available at http://www.freepress.net/docs/wu_lessig_fcc.pdf.

25. *Id.*

26. *Id.* The relevant portion of the statute proposed by Wu and Lessig was: Broadband Operators shall impose no restrictions on the use of an Internet connection except as necessary to: (1) Comply with any legal duty created by federal, state or local laws, or as necessary to comply with any executive order, warrant, legal injunction, subpoena, or other duly authorized governmental directive; (2) Prevent physical harm to the local Broadband Network caused by any network attachment or network usage; (3) Prevent Broadband users from interfering with other Broadband or Internet Users' use of their Internet connections, including but not limited to neutral limits on bandwidth usage, limits on mass transmission of unsolicited email, and limits on the distribution of computer viruses, worms, and limits on denial-of-service-or other attacks on others; (4) Ensure the quality of the Broadband service, by eliminating delay, jitter, or other technical aberrations; (5) Prevent violations of the security of the Broadband network, including all efforts to gain unauthorized access to computers on the Broadband network or Internet...

Id.

27. Yoo & Wu, *supra* note 20.

28. *Id.*

being sent will be received at its intended destination.²⁹ QoS price tiering is when a broadband provider charges websites or users a different rate to either give preferential treatment to their data packets, or ensure that the traffic gets to its destination.³⁰ It is like your local electric grid making a deal with Whirlpool that makes a Whirlpool refrigerator work better than a Maytag refrigerator.³¹ The problem with this is that it creates artificial competition based on who can make the best deals with Internet service providers rather than who has the best quality service or best value service.³²

Google, a major content provider, is an example of a prominent corporate supporter of network neutrality, and specifically of a narrow view of network neutrality.³³ Google believes that broadband companies should not be able to charge fees to content providers in exchange for preferential treatment, prioritize data packets based on content ownership, source, destination, or build separate tiers of service for content.³⁴ On the other hand, Google believes that broadband providers should be able to prioritize packets of a general type, such as streaming video, and charge customers extra for faster service.³⁵ The key difference between the two is that the former “do not rely on the carrier's unilateral control over the last-mile connections to consumers, and also do not involve discriminatory intent.”³⁶

Edge caching is another area of some debate. Google recently came under fire from proponents of network neutrality when a *Wall Street Journal* article announced that they had changed their

29. *Id.*

30. *Id.*

31. *Id.*

32. *Id.* See also Kurth, *supra* section I(B)(1).

33. Richard Whitt, *What Do We Mean By “Net Neutrality?”*, GOOGLE PUBLIC POLICY BLOG, June 16, 2007, <http://googlepublicpolicy.blogspot.com/2007/06/what-do-we-mean-by-net-neutrality.html>.

34. *Id.*

35. *Id.*

36. *Id.* Google believes that certain data types can be discriminated for, such as streaming video, as long as long as the ISPs do not discriminate between different content providers, for example YouTube's videos getting priority over Google's videos.

position.³⁷ The article dealt with Google's support for edge caching, which is defined as "temporary storage of frequently accessed data on servers that are located close to the end user..."³⁸ By locating the data physically closer to the user, the user experiences slower wait times, and network traffic is cut down because both the packets do not have to travel as far and local networks do not have to send traffic to other networks.³⁹ Google and many others do not find this to violate the principles of network neutrality.⁴⁰ All of the edge-caching deals that Google makes are non-exclusive, and none of the agreements make it so that Google's traffic is given a higher priority than any other traffic.⁴¹

B. The Players

The battle for network neutrality is not a classic battle with huge corporations on one side and lowly consumers on the other; there are huge corporations on both sides.⁴² Broadband providers like Comcast and Cox Communications would like to extract fees from content providers and do not want extra broadband competition, while content providers like Google and Microsoft would prefer not to pay those fees and would prefer it if broadband providers had the extra competition.⁴³

In the end, United States policy should focus on what is best for the consumer, not what will maximize the profits of either side. Most

37. Vishesh Kumar & Christopher Rhoads, *Google Wants Its Own Fast Track on the Web*, WALL ST. J., Dec. 15, 2008, available at <http://online.wsj.com/article/SB122929270127905065.html>.

38. *Network Neutrality and the Benefits of Caching*, <http://googlepublicpolicy.blogspot.com/2008/12/net-neutrality-and-benefits-of-caching.html> (Dec. 15, 2008, 12:14 EST).

39. *Id.*

40. *Id.*

41. *Id.*

42. See Dave Davies, *What In The World Is Net Neutrality?*, WEBPRONNEWS, Aug. 28, 2008, available at <http://www.webpronews.com/expertarticles/2008/08/28/what-in-the-world-is-net-neutrality>.

43. Google and others are afraid that if given complete control, the large broadband companies could shut them out. It is one reason why they helped San Francisco develop their own wireless broadband network. See Yoo & Wu, *supra* note 20.

everyone on either side argues from that position, they just differ in what they say they believe will lead to the most innovation.⁴⁴ Those opposed to network neutrality believe that large companies drive innovation.⁴⁵ Those in favor of network neutrality believe that innovation is driven by new firms that enter the marketplace, whose small size and upstart mentality more easily lends itself to new ideas.⁴⁶ They believe that recent history has discredited the notion that large companies without competition lead to innovation in the marketplace.⁴⁷

1. Arguments for Network Neutrality

Proponents of network neutrality believe that such a design, as applied to the Internet, results in the maximization of the value of the network, both in terms of economic benefits, such as enhancing innovation, and social benefits, such as allowing the interaction of as many people as possible.⁴⁸ The Internet has historically benefited from a competition of ideas rather than relying on who could put together the most capital, resulting in the Internet rewarding the best ideas rather than the best-funded ideas.⁴⁹ It is largely a meritocratic system: if more users prefer *cnn.com* over *foxnews.com*, the former will receive more readers.⁵⁰ However, if broadband companies begin making deals with content providers, for example giving network priority to Yahoo!Mail over Gmail, the area of competition will shift.⁵¹ The email services will no longer be competing in the area of the best and most innovative ideas, but rather will be competing to see who can make the most deals and most profitable deals with broadband Internet providers.⁵² More than likely, this would be a bad development for the consumer, similar to the current cell phone situation where consumers are not able to base their cell phone

44. *Id.*

45. *Id.*

46. *Id.*

47. *Id.*

48. Wu, *Network Neutrality FAQ*, *supra* note 5.

49. *See* Wu, *supra* note 18.

50. *Id.*

51. *Id.*

52. *Id.*

purchase on who makes the best cell phone or who has the best network, but rather must base their decision on who has the best combined cell phone and cell network.⁵³

Allowing the broadband companies to make centralized decisions also could lead to the mobster business model: competition squelched by companies using their position as gatekeeper “to make threats and extract payments.”⁵⁴ The mobster business model spills over from competition into the area of information control. In general, broadband providers have an incentive to create the most all-encompassing network possible, in order to increase the value of the network.⁵⁵ However, there are times that it makes business sense for the provider to block certain applications or data types, such as when a data type interferes with a revenue stream.⁵⁶ For example, voice over Internet Protocol (VoIP) is telephone service over the Internet rather than over the telephone network.⁵⁷ VoIP streams over the broadband network, but most broadband companies receive revenue from phone lines.⁵⁸ Broadband companies do not want to offer the VoIP themselves, because their traditional phone plans cost more.⁵⁹ Hence, it makes sense for them to block the VoIP traffic from going over their network.⁶⁰ For example, in Canada, broadband and telephone provider Shaw Communications in 2006 started charging a fee to their customers that used a competing VoIP service, creating an unfair competition where Shaw artificially drove up the price of their competitor's service.⁶¹ This may be good for business, but it is

53. This results in a dead-weight loss, with consumers potentially stuck with an inferior network in order to use a better cell phone.

54. See Wu, *supra* note 18. Wu notes that it is similar to the pay-to-play schemes in the radio business, which make money but are not good for consumers. *Id.*

55. See Yoo & Wu, *supra* note 20.

56. *Id.*

57. See FCC website, Voice-Over-Internet Protocol, <http://www.fcc.gov/voip/> (last visited Oct. 9 2009).

58. *Id.*

59. *Id.*

60. *Id.*

61. *Vonage Protests Special Fees on VoIP Telephones*, CBC NEWS, March 7, 2006, available at <http://www.cbc.ca/money/story/2006/03/07/vonage-060307.html>. Shaw argued that the extra fees were necessary to maintain the quality of service due to the excess bandwidth taken up by the VoIP traffic. *Id.*

not good for the consumer, who is stuck with the choice of either paying an inflated fee for a new service that may better suit their needs or doing without the service completely. Also, innovation and new products entering the market are linked to economic growth, which means that stifling innovation and keeping new products from entering the marketplace ultimately leads to a decrease in the growth rate of the economy.⁶²

There are numerous examples from the past few years suggesting that when left to their own devices, broadband and telecommunications providers censor all types of information, most of the time without the knowledge of their customers. In 2005, Canadian broadband giant Telus, in the midst of a labor dispute between management and the union, blocked its customers' access to the union's website.⁶³ In 2006, AOL blocked email messages that contained a link to websites critical of one of the broadband provider's proposals.⁶⁴ Both of these examples show how, if left unregulated, communications companies can abuse their monopoly power. In these examples, the market created pressure that caused the broadband providers to back down, but the pressure came only after the policies were discovered. With the lack of laws requiring that broadband providers divulge their censoring practices, there is no telling what other policies the broadband companies have implemented that have gone unnoticed.

Besides internal business matters, there are also numerous examples of broadband companies censoring political speech. In 2007, AT&T blocked a portion of a live Pearl Jam concert when the lead singer critically sang of then-President George W. Bush.⁶⁵ Also

62. *Id.*

63. *Telus Cuts Subscriber Access to Pro-Union Website*, CBC NEWS, July 24, 2005, available at <http://www.cbc.ca/canada/story/2005/07/24/telus-sites050724.html>.

64. Stefanie Olsen, *AOL Charged with Blocking Opponents' Email*, ZDNET, April 13, 2006, http://news.zdnet.com/2100-9595_22-147636.html. The website, DearAOL.com, was against AOL's recently announced plan to implement email filtering software that required marketers to pay AOL to send email to AOL's customers, essentially creating an email tax. *Id.* AOL blamed it on a software glitch. *Id.*

65. Jon Healey, *AT&T Drops Pearl Jam's call*, L.A. TIMES: BIT PLAYER, August 8, 2007, available at <http://opinion.latimes.com/bitplayer/2007/08/att-drops-pearl.html>. The lyrics dubbed out were fairly benign: "George Bush leave

in 2007, Verizon Wireless was accused of blocking its customers from receiving pro-choice text messages requested by the customer, seemingly against its financial interests.⁶⁶

Broadband providers have also shown a willingness to block certain applications without the consent or knowledge of their customers. In 2007, the Associated Press conducted tests which showed that Comcast “actively interfere[d] with attempts by some of its high-speed Internet subscribers to share files online,” blocking or slowing the traffic from peer-to-peer applications such as BitTorrent and Gnutella.⁶⁷ Comcast explained that they needed to manage traffic over the network during peak hours,⁶⁸ but the next year a study determined that both Comcast and Cox Communications slowed peer-to-peer traffic at all hours of the day, not just during the times of peak usage.⁶⁹

Proponents of network neutrality also point to the increased benefits from competition that unbundling the network infrastructure brings.⁷⁰ In many of the markets in the United States, as opposed to

this world alone / George Bush find yourself another home.” *Id.* Video of the incident is also available: *AT&T Censors Pearl Jam*, available at http://www.youtube.com/watch?v=JQH1tp8_zAA.

66. Adam Liptak, *Verizon Blocks Messages of Abortion Rights Group*, NY TIMES, September 27, 2007, available at <http://www.nytimes.com/2007/09/27/us/27verizon.html>. Pro-choice group Naral Pro-Choice America had requested a short code for users to use to sign-up to receive text messages. *Id.* Naral's program, called Text4Choice, had already been accepted by the other leading wireless carriers. *Id.* Verizon initially denied the request, observing that they had the right to block “controversial or unsavory” text. *Id.* What is interesting about this incident is that Verizon in this case seemed to be acting against their financial interests, as they would have received a small fee for each text message sent. *Id.*

67. Peter Svensson, *Comcast Blocks Some Internet Traffic*, S. F. CHRON., October 19, 2007, available at <http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2007/10/19/financial/f061526D54.DTL>.

68. *Id.*

69. Grant Gross, *Study: Comcast, Cox Slowing P2P Traffic Around the Clock*, PC WORLD, May 15, 2008, http://www.pcworld.com/businesscenter/article/145952/study_comcast_cox_slowing_p2p_traffic_around_the_clock.html. Officials for the telecommunications companies made the explanation that peak times of peer-to-peer traffic did not necessarily correspond to peak traffic for other usages. *Id.*

70. “Unbundling” is the term to describe government regulations that force the broadband companies that own the network infrastructure to open up that

many places in Europe and Asia, there is a broadband duopoly: consumers have the choice between getting broadband Internet from either their cable company or their telephone company.⁷¹ According to many, this is part of the reason why innovation and performance has been slow to come to the United States, which ranks fifteenth in the world in broadband penetration and has average broadband speeds one tenth that of Japan.⁷² The problem is that broadband infrastructure is expensive to put into place, but relatively inexpensive to maintain.⁷³ This huge initial start-up cost places a large market barrier in the way of new competitors that wish to enter the marketplace, and discourages new investment in infrastructure, especially during rough economic times.⁷⁴ The first company to put down the infrastructure is assured a large share of the market, but that is not the case for subsequent companies.⁷⁵ Therefore, because there are low entry costs everywhere else, there is widespread market entry at every level of the Internet except for service providers.⁷⁶ The unregulated nature of broadband in the United States tends to keep it that way, as opposed to the situation in Europe and Asia.⁷⁷ Proponents of network neutrality would therefore prefer a situation more like that in Europe and Asia, where a number of broadband providers vie for market share.

2. Arguments Against Network Neutrality

The major argument put forward by the large broadband providers opposed to network neutrality is that because the cost of putting into place broadband infrastructure is high, increased revenue is needed to expand service, and monies raised by charging

infrastructure to competitors for a fee. See Discussion on other countries, *supra* section V.

71. *Congress Approves Broadband to Nowhere*, WALL ST. J., Feb. 1, 2009, <http://online.wsj.com/article/SB123353476246637693.html>.

72. *Id.*

73. See Yoo & Wu, *supra* note 20. It is similar to a road, in that putting down the road is expensive but the marginal cost of having one additional car on the road is very low. *Id.*

74. *Id.*

75. *Id.*

76. *Id.* For example, there are always new websites being created.

77. *Id.* See also Discussion on Europe & Asia, *infra* section V.

companies that make use of the infrastructure could be put towards improving the infrastructure.⁷⁸ The United States is behind other industrialized countries in broadband usage, with connections to only twenty-two out of every one hundred inhabitants.⁷⁹ Out of thirty countries studied, the United States ranked fifteenth in broadband penetration.⁸⁰ Proponents of network neutrality point out, however, that those companies that make the investment in broadband infrastructure can still earn a return on their investment because owning the infrastructure gives them certain benefits, even with network neutrality principles in place.⁸¹ They are able to offer quality of service guarantees that the companies who share the network with another company that owns the network are not able to make.⁸²

Broadband companies also cite the need for shaping the traffic that goes through their network. Traffic shaping is when a broadband provider discriminates against certain types of traffic at certain periods, and according to broadband officials is necessary to “provide a quality experience for all...subscribers,” so that the few do not ruin the network for the many.⁸³ Bandwidth usage in the United States has been steadily rising over the past couple of years, and currently forty-four percent of bandwidth usage is peer-to-peer traffic.⁸⁴

78. Yoo & Wu, *supra* note 20.

79. John Irons & Ian Townson, *U.S. Lags Behind in Broadband Infrastructure*, ECON. POL'Y INST., April 23, 2008, available at http://www.epi.org/economic_snapshots/entry/webfeatures_snapshots_20080423/.

80. *Id.* The top country was Denmark, with broadband penetration measured at 34.3 inhabitants out of 100.

81. See Timothy Wu, *Network Neutrality, Broadband Discrimination*, 2 J. TELECOMM. & HIGH TECH. L. 141, 173-75 (2003).

82. *Id.* Under network neutrality, broadband providers would not be able to compete on who has access to the better websites, but would still be able to compete on the more traditional quality of service and price of service. See *id.*

83. Svensson, *supra* note 67.

84. Todd Spangler, *Study: 44% Of Internet Traffic Is Peer-to-Peer*, MULTICHANNEL NEWS, June 23, 2008, [http://www.multichannel.com/article/83907-](http://www.multichannel.com/article/83907-Study_44_Of_Internet_Traffic_Is_Peer_to_Peer.php)

[Study_44_Of_Internet_Traffic_Is_Peer_to_Peer.php](http://www.multichannel.com/article/83907-Study_44_Of_Internet_Traffic_Is_Peer_to_Peer.php). Web browsing only accounted for 27.3%, while streaming media accounted for 14.8%. *Id.* Peer-to-peer accounted for 75.0% of the upstream traffic and 35.6% of the downstream traffic. *Id.* During the night, peer-to-peer traffic can account for as much as 95% of the traffic in a network. Nate Anderson, *Nocturnal P2P Transmission Accounts*

Broadband providers therefore, during times of peak congestion, face a choice between allowing all users to have a poor experience, and limiting the usefulness of what they see as inefficient applications.⁸⁵ Recently, Cox Communications, the third-largest cable company in the United States, announced plans to take the latter approach.⁸⁶ They intend, on their network, to slow down traffic that is not time-sensitive during the hours of peak congestion.⁸⁷ Time sensitive traffic such as voice calls, streaming video, and online gaming would go on unhindered, while file uploads and peer-to-peer applications would be held back.⁸⁸ However, this problem can again be solved with an improvement in infrastructure.

Those opposed to network neutrality also believe that allowing broadband providers the ability to discriminate will actually increase innovation and be good for consumers.⁸⁹ At first, Internet traffic was dominated by email and web browsing where delays of half a second were hardly noticeable.⁹⁰ Today, however, the type of traffic—video, music, etc.—that users download means that delays in traffic can seriously disrupt the experience of the consumer.⁹¹ The theory is that all broadband providers will come up with different solutions to this problem, thus creating a situation where the market rewards the best innovator.⁹² Moreover, network neutrality forces broadband providers to compete almost exclusively on price and speed, which favors only larger companies, while, in the absence of network neutrality, niche markets could be created.⁹³ Much like how certain specialty stores are able to survive in the era of Wal-Mart, broadband providers that specialize in different areas, such as those optimized for traditional web uses like Internet and email and those optimized

for 95 Percent of Internet Traffic, ARS TECHNICA, Nov. 28, 2007, <http://arstechnica.com/news.ars/post/20071128-nocturnal-p2p-transmissions-account-for-95-percent-of-internet-bandwidth.html>.

85. See Yoo & Wu, *supra* note 20.

86. Cade Metz, *US Cable Giant to Throttle P2P*, THE REG., Jan. 28, 2009, available at http://www.theregister.co.uk/2009/01/28/cox_traffic_delay/.

87. *Id.*

88. *Id.*

89. See Yoo & Wu, *supra* note 20.

90. *Id.*

91. *Id.*

92. *Id.*

93. *Id.*

for multimedia, could co-exist in the same market.⁹⁴ DirecTV has used this technique to gain market share in the cable business.⁹⁵ Their exclusive deal with the National Football League to broadcast all of their football games, an obvious violation of neutrality, helps to give consumers more options than just their local cable company.⁹⁶ However, consumers can also feel the pain of such an arrangement: if a consumer is unable to receive DirecTV, such as if a building is blocking the satellite signal, they cannot get the NFL package from their cable company no matter how much they are willing to pay.⁹⁷

Other applications that are a net positive to consumers could also be done away with by network neutrality legislation. For example, when Apple began offering movie downloads off of their iTunes site, the increased bandwidth from consumers demanding the latest Walt Disney movie could have brought traffic in and out of the Apple servers to a halt.⁹⁸ However, Apple is a customer of Akamai, a company that maintains content of several websites, Apple included, on 20,000 servers in seventy countries.⁹⁹ When a request for an iTunes download comes in, Akamai uses a complex algorithm that, instead of sending the request to the Apple server in California, re-routes it to the destination that would be able to handle the request the fastest.¹⁰⁰ The rub, however, is that companies need to pay to make use of the services provided by Akamai, a violation of network neutrality.¹⁰¹

94. *Id.*

95. See Yoo & Wu, *supra* note 20.

96. *Id.*

97. In southeast Pennsylvania, Comcast has responded to DirecTV's monopoly over the NFL package by creating their own station, which carries the local professional sports games, such as the 2008 World Series Champion Philadelphia Phillies. Consumers are, therefore, forced to make a choice between the NFL and watching their local teams. See, e.g., John Eggerton, *NFL, Time Warner Cable Scrimmage on Capitol Hill*, BROADCASTING & CABLE, Mar. 5, 2008, http://www.broadcastingcable.com/article/96464-NFL_Time_Warner_Cable_Scrimmage_on_Capitol_Hill.php.

98. *Traffic Cops of the Net*, BUS. WK., Sept. 25, 2006, available at http://www.businessweek.com/magazine/content/06_39/b4002094.htm.

99. *Id.*

100. *Id.*

101. See Yoo & Wu, *supra* note 20.

Those opposed to network neutrality address the competition issue by proclaiming that there is already competition in that a majority of the country is a duopoly and not a monopoly.¹⁰² They also contend that other means of accessing broadband Internet will appear in the future, such as wireless broadband or broadband over powerline.¹⁰³ In fact, San Francisco will soon have five broadband providers to choose from.¹⁰⁴ Moreover, San Francisco has the kind of competition that they do because of the FCC's decision not to require broadband providers to open up their networks to competitors, the very same decision that proponents of network neutrality contend will decrease competition.¹⁰⁵

II. GENERAL HISTORY AND THE FCC'S INVOLVEMENT

Advocates of network neutrality trace the idea back to the 1860s, when Congress was in the process of regulating the newest means of communication: the telegraph.¹⁰⁶ The Pacific Telegraph Act of 1860 provided, in part, "[t]hat messages received from any individual, company, or corporation, or from any telegraph lines connecting with this line at either of its termini, shall be impartially transmitted in the order of their reception, excepting that the dispatches of the government shall have priority."¹⁰⁷ Over one hundred years later in 1968, the FCC ruled that the AT&T telephone network was a common carrier, and as such the messages over the telephone network had to be sent without preference.¹⁰⁸

Interest in network neutrality with respect to the Internet began in the early 2000s when the broadband companies were faced with increasing bandwidth usage and application connections.¹⁰⁹ Their

102. *See id.*

103. *Id.*

104. *Id.*

105. *Id.*

106. Daniel Berninger, *Net Neutrality Not an Optional Feature of Internet*, GIGAOM, Feb. 6, 2006, <http://gigaom.com/2006/02/06/net-neutrality-not-an-optional-feature-of-internet/>.

107. Pacific Telegraph Act of 1860, ch. 137 12 Stat. 41(1860).

108. *In re Carter v. AT&T*, 13 F.C.C.2d 420 (1968) (Commission opinion).

109. Timothy Wu, *Network Neutrality, Broadband Discrimination*, 2 J. ON TELECOMM. & HIGH TECH. LAW 141, 18 (2003), *available at* <http://www.cdt.org/speech/net-neutrality/2005wu.pdf>.

response was to cut down on certain consumer and business behaviors that they deemed undesirable.¹¹⁰ For example, home networking, which today we consider to be commonplace, was in 2002 considered "theft of services" according to the AT&T Broadband subscriber agreement.¹¹¹

In 1996, in the wake of the federal antitrust suit that broke up AT&T, Congress passed the Telecommunications Act of 1996.¹¹² It set up regulatory regimes for two different types of services: information services and telecommunications services.¹¹³ The question became: is broadband service an information service or a telecommunications service? Telecommunications services were much more highly regulated, so if broadband Internet was ruled a telecommunications system the cable companies would have to unbundle their networks.¹¹⁴ An information service was defined as:

the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service.¹¹⁵

Telecommunications services was defined as a service offering telecommunications, in turn defined as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."¹¹⁶ The question was sent to the FCC.

In February of 2003, the FCC ruled that broadband Internet was an "information service," meaning that the Bells would not be required to lease any of their new fiber-optic networks to their

110. *Id.*

111. *Id.* at 19.

112. Telecommunications Act of 1996, S. 652, 104th Cong. 2nd Sess. (1996).

113. *Id.*

114. *Id.*

115. 47 U.S.C. § 153(20) (2008).

116. *Id.* at § 153(43).

competitors.¹¹⁷ On the same day, the FCC also ruled that the Bells would no longer have to lease to their competitors their high-frequency copper networks, the networks that carry broadband.¹¹⁸ This created a monopoly for the telecommunications companies.¹¹⁹ Competitors required access to the network in order to offer their own DSL; laying down their own infrastructure was too high of a start-up cost.¹²⁰ The decision was bolstered later on that same year, when the FCC ruled that the Bells did not have to share fiber-optic networks in apartment buildings.¹²¹ A court challenge to the FCC's ruling went all the way to the Supreme Court.¹²² In *National Cable and Telecommunications Association v. Brand X Internet Services*, Justice Clarence Thomas, writing for the majority, noted that in technical issues such as those before the Court, the Court should defer to those with the most expertise, in this case the FCC.¹²³

The FCC thus created a situation where local competition was between types of services, rather than between different companies offering the same service.¹²⁴ For example, since in many parts of the country there is only one company offering phone service, if someone wants to get DSL they have only one choice: their local phone company. Because in most of the country there is only one cable provider, their only choice in broadband is between DSL and cable, rather than multiple DSL providers. This situation set the stage for the network neutrality movement, as the broadband providers now had the power to block certain traffic, or shape traffic

117. Brad Charny, *FCC Loosens Broadband Rules*, CNET NEWS, Feb. 20, 2003, http://news.cnet.com/FCC-loosens-broadband-rules/2100-1033_3-985313.html.

118. *Id.*

119. *Id.*

120. *Id.*

121. Marguerite Reardon, *Baby Bells Win Another FCC Victory*, CNET NEWS, Aug. 5, 2004, http://news.cnet.com/Baby-Bells-win-another-FCC-victory/2100-1036_3-5298098.html.

122. Marguerite Rearden, *Cable Wins Supreme Court Battle*, CNET NEWS, June 27, 2005, http://news.cnet.com/Cable-wins-Supreme-Court-battle/2100-1036_3-5764120.html.

123. *Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Serv.*, 545 U.S. 967, 991-92 (2005).

124. Many other countries, such as France and Japan, have made it so that competition is within a service, rather than among services. *See, e.g., infra* section V.

in certain ways, and the customer would be left without alternative options.

The FCC gave its first direct response to the network neutrality movement in 2004, when then Chairman of the FCC Michael Powell announced that in order to facilitate the continued growth of the Internet, consumers should continue to enjoy the freedoms that they have become accustomed to.¹²⁵ These "Internet Freedoms" consisted of the freedom to access content, the freedom to use applications, the freedom to attach personal devices, and the freedom to obtain service plan information.¹²⁶ In 2005, new FCC Chairman Kevin Martin tweaked the four freedoms espoused by Powell and released an official policy statement on the subject:

(1) consumers are entitled to access the lawful Internet content of their choice; (2) consumers are entitled to run applications and services of their choice, subject to the needs of law enforcement; (3) consumers are entitled to connect their choice of legal devices that do not harm the network; and (4) consumers are entitled to competition among network providers, application and service providers, and content providers.¹²⁷

The FCC vowed to follow these basic principles, but declined to actually put into place any regulations.¹²⁸ This caused many observers to wonder if the principles were merely for show,¹²⁹ but future events showed that the FCC would not sit back and allow the broadband companies to do whatever they pleased.

125. Michael Powell, Chairman, FCC, Silicon Flatirons Symposium: *The Digital Broadband Migration: Toward a Regulatory Regime for the Internet Age* (Feb. 8, 2004) http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-243556A1.pdf.

126. *Id.*

127. *New Principles Preserve and Promote the Open and Interconnected Nature of Public Internet*, FCC 05-151 (2005), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-260435A1.pdf.

128. *Id.*

129. *See, e.g., Susan Crawford* blog, http://scrawford.blogware.com/blog/_archives/2005/8/5/1111877.html (Aug. 5, 2005 19:21 EDT). Crawford, a law professor at Michigan, called it "faith-based policymaking" because of Martin's stated belief that the market would regulate itself without the need for regulations. *Id.*

III. SUBSEQUENT FCC ACTIONS

The FCC quickly used the principles espoused by Chairman Martin to influence broadband providers. For example, two large mergers of telecommunications companies occurred in 2005: Verizon with MCI and SBC with AT&T.¹³⁰ In order to obtain FCC approval for the merger, the companies needed to pledge not to interfere with any legal content or software traveling through their network for two years.¹³¹

Also in 2005, Madison River Communication, a broadband provider in North Carolina, was accused of blocking the VoIP service of Vonage.¹³² Madison River Communication's parent company was Madison River Telephone, a competitor of Vonage's VoIP service.¹³³ The ease at which a broadband provider could block the competitors to the broadband provider's telephone business, along with the large financial incentive to do so, made an action like this by a large telecommunications company all but inevitable.¹³⁴ After Vonage complained, the FCC conducted an investigation which resulted in a consent decree fining Madison River \$15,000 and enjoining them from blocking any VoIP for thirty months.¹³⁵ Considering the \$194.4 million in revenue that Madison River earned in 2004, the fine was

130. Justin Fox, *The Broadband War of 2006*, CNN, March 22, 2006, http://money.cnn.com/2006/03/21/technology/pluggedin_fortune/index.htm.

131. *Id.* Jeff Pulver, a VoIP pioneer and proponent of network neutrality, had "mixed feelings" regarding the process, believing as he does that there should be blanket rules in place instead of using merger approval to extract temporary concessions. Jeff Pulver Blog, <http://pulverblog.pulver.com/archives/003264.html> (Oct. 31, 2005).

132. Declan McCullagh, *Telco Agrees to Stop Blocking VoIP Calls*, CNET News, March 3, 2005, http://sfgate-cnet.com.com/2100-7352_3-5598633.html. VoIP allows a consumer to use their broadband Internet connection as a phone line.

133. *In re* Madison River Comm'n, No. EB-05-IH-0110, (March 3, 2005), http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-05-543A1.pdf.

134. Ben Charny, *VoIP Provider Fears Predatory Practices*, CNET NEWS, Sep. 20, 2004, http://sfgate-cnet.com.com/2100-7352_3-5374268.html. Jason Telley, Chief Executive of VoIP company Nuvio, claimed that it took one of his company's engineers five minutes to write code that would block one VoIP company while allowing the VoIP calls of another provider to go through. *Id.*

135. McCullagh, *supra* note 132.

merely a slap on the wrist,¹³⁶ but the FCC for the first time did back up the principles set forth in Chairman Martin's policy statement.¹³⁷

The FCC took a large step toward network neutrality in early 2008 when they voted to cite Comcast Corporation for slowing the Internet traffic of subscribers using certain applications.¹³⁸ Comcast was found to be selectively discriminating against peer-to-peer applications such as BitTorrent,¹³⁹ including rival video-on-demand services such as Vuze, making the downloads and uploads of the program slower than they would otherwise be.¹⁴⁰ Vuze C.E.O. Gilles BianRosa made an equine racing analogy: "What we have here is a horse race, and in this contest Comcast owns the race track – in fact, the only track in town. They also own a horse. We are being told they are only slowing down our horse by a few seconds."¹⁴¹ The hearings were a contentious affair, with Comcast perfectly playing the part of the evil corporation by hiring people off of the street to pack the meeting room in order to keep its opponents out.¹⁴² The cable behemoth argued that the amount of bandwidth that the programs took up required Comcast to take action in order to

136. *Id.*

137. Powell, *supra* note 125.

138. Fawn Johnson, *FCC Votes 3-2 To Reprimand Comcast for Slowing Internet*, CNNMONEY.COM, Aug. 1, 2008, http://money.cnn.com/news/newsfeeds/articles/djf500/200808011213DOWJONESDJONLINE000741_FORTUNE5.htm.

139. *Id.* BitTorrent allows users to download and share videos, music, and other files. In 2007, BitTorrent had 30 million active users, according to the company. Paul LaMonica, *Is BitTorrent the next big IPO?*, CNNMONEY.COM, March 28, 2007, <http://money.cnn.com/2007/03/28/commentary/mediabiz/?postversion=2007032812>.

140. Sam Gustin, *FCC Warns Comcast Over Web 'Blocking'*, Portfolio, Feb. 25, 2008, <http://www.portfolio.com/views/blogs/daily-brief/2008/02/25/fcc-warns-comcast-over-web-blocking>. Vuze is a peer-to-peer video application that uses the BitTorrent protocol. Users either pay to download video content or watch ads to support their download. Networks such as Showtime, Starz, and BBC are content partners. Janko Roettgers, *Vuze Confirms Layoffs*, CNNMONEY.COM, Oct. 31, 2008, http://money.cnn.com/news/newsfeeds/gigaom/media/2008_10_31_vuze_confirms_layoffs.html.

141. *Id.*

142. Sam Gustin, *Grassroots Support? Or Astroturf?*, PORTFOLIO, Feb. 26, 2008, <http://www.portfolio.com/news-markets/top-5/2008/02/26/Comcast-FCC-Hearing-Strategy>. What appeared to be homeless people were sleeping in the crowd during the hearing at Harvard University. *Id.*

properly maintain their network, otherwise all traffic could slow to a crawl.¹⁴³ The FCC, in a close three to two vote, rejected that argument.¹⁴⁴ They found that Comcast restricted the peer-to-peer traffic at all times of the day, not just peak times, and therefore the restrictions were not reasonable network management techniques.¹⁴⁵ Supporters of network neutrality hailed the decision as a landmark case, finally establishing a precedent that could be followed in the future.¹⁴⁶ However, other supporters warned that the small victory could lessen pressure on Congress to pass formal legislation on the issue.¹⁴⁷ Comcast, on the other hand, believed that they should not have been cited for violating rules which technically do not exist, and are pondering future legal action.¹⁴⁸

Legal action is already being taken against Comcast, however.¹⁴⁹ The FCC ruling may on its face seem nothing more than a censure of Comcast, but it has great implications for consumer fraud class-action lawsuits currently being brought against the cable and broadband giant.¹⁵⁰ Plaintiffs allege that Comcast did not deliver what they promised when the customers purchased their broadband service from them.¹⁵¹ The catch is that the FCC ordered Comcast to divulge their network management practices, essentially giving the

143. See Johnson, *supra* note 138.

144. *Id.*

145. *Id.*

146. *Id.*

147. Robert Poe, *FCC's Comcast Ruling No Great Victory for Network Neutrality*, VOIP-NEWS, Aug. 4, 2008, <http://www.voip-news.com/feature/fcc-comcast-ruling-080408/>. They may well have been correct, as Congress has yet to take formal action on network neutrality. See Failed Regulation Attempts by Congress *infra* section IV.

148. Declan McCullagh, *FCC formally rules Comcast's throttling of BitTorrent was illegal*, CNET NEWS, Aug. 1, 2008, http://news.cnet.com/8301-13578_3-10004508-38.html.

149. Cade Metz, *Comcast Rolls Out Brand New Bandwidth Throttles*, THE REG., June 5, 2008, available at http://www.theReg.co.uk/2008/06/05/comcast_blacklists/. At least five suits are pending against Comcast, all on similar consumer protection grounds, in California, District of Columbia, Illinois, New Jersey, and federal court. *Id.*

150. Cade Metz, *Please Ignore the Net Neutrality Sideshow Haunting Comcast's BitTorrent Bust*, THE REG., Aug. 6, 2008, available at http://www.theReg.co.uk/2008/08/06/comcast_lies/.

151. *Id.*

plaintiffs in the class actions exactly the evidence they need to win the lawsuit.¹⁵² So even though FCC action has so far been light, it has still been impactful.

IV. FAILED REGULATION ATTEMPTS BY CONGRESS

In a November 2005 interview, SBC Communications C.E.O. Edward Whitacre galvanized network neutrality supporters by announcing his desire to charge companies such as Google for the right to access their broadband customers.¹⁵³ The rapid growth of broadband subscriptions in the United States – 42.8 million in 2005 compared to 33.2 million the year before¹⁵⁴ – combined with the new desire of broadband companies for a greater return on their investment led to an increase in consumer demand for action from Congress.

A. Internet Nondiscrimination Act of 2006

Congress' first attempt at regulation occurred when Senator Ron Wyden (D-OR) introduced the Internet Nondiscrimination Act of 2006 on March 2nd.¹⁵⁵ The Act proposed that the information that passed through the network, access to the information, and rates and conditions for accessing the information be provided in a non-discriminatory manner.¹⁵⁶ Furthermore, the Act would preserve the authority of the broadband companies to protect their networks and subscribers from “nefarious application[s] or service[s]” such as viruses and spam.¹⁵⁷ The Act never got off the ground in the Senate and died in the Committee on Commerce, Science, and Transportation.¹⁵⁸

152. *Id.*

153. *At SBC, It's All About "Scale and Scope"*, BUS. WK., Nov. 7, 2005, available at http://www.businessweek.com/@@n34h*IUQu7KtOwgA/magazine/content/05_45/b3958092.htm.

154. *See* Fox, *supra* note 130.

155. Internet Nondiscrimination Act of 2006, S. 2360, 109th Cong. (2006).

156. *Id.* § 4.

157. *Id.*

158. S. 2360, Library of Congress, <http://thomas.loc.gov/cgi-bin/bdquery/z?d109:SN02360:@@X>.

B. Network Neutrality Act of 2006

Introduced by Edward Markey (D-MA), the Network Neutrality Act of 2006 was a proposal to amend the Communications Opportunity, Promotion, and Enhancement Act of 2006 (COPE) by adding a provision in support of network neutrality.¹⁵⁹ It sought to enable consumers to use their broadband service for all lawful activities and also did not allow broadband providers to discriminate against certain websites.¹⁶⁰ The Act also would have required broadband companies to “clearly and conspicuously disclose to users, in plain language, accurate information about the speed, nature, and limitations of their broadband service.”¹⁶¹ It did, however, allow broadband providers to discriminate based on data type, but all data of that type would need to be subject to the restrictions or benefits.¹⁶²

The Act was defeated in the Subcommittee on Telecommunications and the Internet, going down by a 23-8.¹⁶³ After intense lobbying on both sides, the amendment was reintroduced when COPE was debated in the Energy and Commerce Committee.¹⁶⁴ It failed there as well, but was defeated by the closer margin of 34-22.¹⁶⁵ Most Democrats voted for the amendment, while most Republicans, who held a majority in the Committee, opposed it.¹⁶⁶

C. Communications, Consumer's Choice, and Broadband Deployment Act of 2006

The first network anti-neutrality act introduced in Congress was the Communications, Consumer's Choice, and Broadband

159. Network Neutrality Act of 2006, H.R. 5273, 109th Cong. (2nd Sess. 2006).

160. *Id.* § 4.

161. *Id.* § 4(A)(3).

162. *Id.* For example, if the broadband provider chose to give VoIP a priority in the network, it would have to give the same priority to all VoIP traffic, and thereby not give any one company a competitive advantage.

163. Declan McCullough, *Democrats Lose House Vote on Net Neutrality*, CNET NEWS, Apr. 26, 2006, http://news.cnet.com/2100-1028_3-6065465.html.

164. *Id.*

165. *Id.*

166. *Id.*

Deployment Act of 2006 introduced on May 1st by Senator Ted Stevens (R-AK).¹⁶⁷ The Act provided, in part, that the FCC conduct a study on the development of Internet traffic and “how such developments impact the free flow of information” over the Internet.¹⁶⁸ It goes on, however, to prevent the FCC from developing any regulations to deal with the issue, effectively rolling back the authority that the FCC had asserted in dealing with the issues of network neutrality.¹⁶⁹ In committee, an amendment that would have assured that broadband providers were non-discriminatory in the speed and quality of their service failed by a tie vote of 11-11.¹⁷⁰ The Act, sans the amendment, was subsequently passed by a vote of 15-7.¹⁷¹ Senator Wyden put a legislative hold on the amendment minutes after it passed in committee.¹⁷²

167. Communications, Consumer's Choice, and Broadband Deployment Act of 2006, S. 2686, 109th Cong. (2006).

168. *Id.* § 901.

169. *Id.*; see also Jeannine Kenney et al., *Opposing Consumers' [sic] Choice and Broadband Deployment Act of 2006*, HEARUSNOW.ORG, June 20, 2006, <http://www.hearusnow.org/other/6/20/35/>.

170. Brad Waller, *Net Neutrality Loses a Close One*, REVENEWS, June 28, 2006, <http://www.revenews.com/bradwaller/net-neutrality-loses-a-close-one/>.

171. Press Release, Senator Olympia Snowe, Snowe Supports Telecommunications Bill (June 29, 2006), <http://snowe.senate.gov/pressap/record.cfm?id=258121>.

172. Waller, *supra* note 170. See also Presentation by Senator Ron Wyden, Powell's Books, Portland, OR (Oct. 2006), <http://www.youtube.com/watch?v=jf0VcJJ4Ss> (explaining his actions and the reasons for his actions). A “hold” is an informal practice in the Senate where a member can ask that a bill not reach the floor, with the expectation that if it does reach the floor the member will proceed with a filibuster. United States Senate Glossary, *hold*, http://www.senate.gov/reference/glossary_term/hold.htm. The resulting debate in the Senate over the Act was the setting for Senator Stevens' infamous take on the inner workings of the Internet:

Ten movies streaming across that, that Internet, and what happens to your own personal Internet? I just the other day got-- an Internet was sent by my staff at 10 o'clock in the morning on Friday. I got it yesterday [Tuesday]. Why? Why? Because it got tangled up with all these things going on the Internet commercially...They want to deliver vast amounts of information over the Internet. And again, the Internet is not something that you just dump something on. It's not a big truck. It's a series of tubes. And if you don't understand, those tubes can be filled and if they are filled, when you put your message in, it gets in line

D. Internet Freedom and Nondiscrimination Act of 2006

The first bill introduced in the House meant to deal solely with network neutrality issues was the Internet Freedom and Nondiscrimination Act of 2006, a bipartisan effort whose major sponsors included Jim Sensenbrenner (R-WI) and John Conyers (D-MI).¹⁷³ The Act intended to amend the Clayton Antitrust Act with the purpose being “to promote competition, to facilitate trade, and to ensure competitive and non-discriminatory access to the Internet.”¹⁷⁴ The Act would compel broadband providers to give the same treatment to competitors' content, applications, and services that it gives to its own or its affiliates.¹⁷⁵ It would also prevent broadband networks from interfering with anyone's ability to access lawful content, as well as prevent them from not allowing any device to be connected to the network, provided that it does no harm to the network.¹⁷⁶ Finally, it proposed to give users the right to know exactly what is in their broadband subscriber agreement, requiring plain language information regarding the terms, conditions, and limitations of the service.¹⁷⁷ Several of the tenets put forward by the FCC Chairmen in the early 2000's are evident in the Internet Freedom and Nondiscrimination Act of 2006.¹⁷⁸

The Act did not, however, propose to take away all of the rights of the broadband companies. It echoed FCC thoughts again by proposing to allow the service providers to “manage the functioning of its network, on a system wide basis, provided that any such

and it's going to be delayed by anyone that puts into that tube enormous amounts of material, enormous amounts of material.

Senator Ted Stevens, Remarks on the Senate Floor, July 11, 2006, *available at* <http://www.youtube.com/watch?v=f99PcP0aFNE>. Senator Stevens at the time was the chair of the committee in charge of regulating the Internet. *See also* Series of Tubes Music Video, Dec. 2006, http://www.youtube.com/watch?v=_cZC67wXUTs.

173. Internet Freedom and Nondiscrimination Act of 2006, H.R. 5417, 109th Cong. (2006).

174. *Id.* §§ 2-3.

175. *Id.* § 3.

176. *Id.*

177. *Id.*

178. *Compare* Internet Freedom and Nondiscrimination Act of 2006, *supra* note 173, § 3, *with* Powell, *supra* note 125, and *New Principles Preserve and Promote the Open and Interconnected Nature of Public Internet*, *supra* note 127.

management function does not result in discrimination between content, applications, or services offered by the [broadband] provider and unaffiliated provider.”¹⁷⁹ The Act also proposed allowing the broadband providers the ability to offer consumer protections, such as parental controls, which discriminate against certain content, as long as there existed an option for a consumer to disable it.¹⁸⁰

The Act was sent to the House Judiciary Committee, and passed the Committee by a vote of twenty to thirteen.¹⁸¹ However, it was not taken to the floor by the Republican House leadership.¹⁸²

E. Internet Freedom Preservation Act

Introduced by Senators Olympia Snowe (R-ME) and Richard Durbin (D-IL) on May 19, 2006, the Internet Freedom Preservation Act attracted high-profile co-sponsors, including John Kerry (D-MA), Hillary Clinton (D-NY), and freshman Barack Obama (D-IL).¹⁸³ The Act was very similar to the Net Neutrality Act of 2006 in terms of the rights it gave to consumers and the rights it kept in the hands of the broadband providers.¹⁸⁴ The bill proposed to add a section to the Communications Act of 1934 in favor of a narrow view of network neutrality, allowing consumers the freedom to use whatever applications they like as long as the activities are lawful and do not harm the network.¹⁸⁵ In other words, if enacted,

179. Internet Freedom and Nondiscrimination Act of 2006 *supra* note 173, § 3.

180. *Id.*

181. H.R. 5417, Library of Congress, <http://thomas.loc.gov/cgi-bin/bdquery/z?d109:HR05417:@@X>.

182. *Id.*

183. Internet Freedom Preservation Act, S. 2917, 109th Cong. (2nd Sess. 2006); S. 2917, Library of Congress, <http://thomas.loc.gov/cgi-bin/bdquery/z?d109:SN02917:@@P>. It is casually known as the Snowe-Dorgan bill.

184. S. 2917 § 2. *See also* Net Neutrality Act of 2006, *supra* note 159.

185. *Id.* The complete text of what was to be added:

It is the policy of the United States--

(1) to maintain the freedom to use for lawful purposes broadband telecommunications networks, including the Internet, without unreasonable interference from or discrimination by network operators, as has been the policy and history of the Internet and the basis of user expectations since its inception;

broadband providers could only discriminate on the basis of illegal activities and activities that would be harmful to the network.¹⁸⁶ One difference though was the added ability of broadband providers to discriminate based on a certain type of content.¹⁸⁷ The Act was re-introduced in the 110th Congress on January 1, 2007, but never made it out of committee.¹⁸⁸

F. Internet Freedom Preservation Act of 2008

With the Democrats taking control of Congress after the 2006 midterm elections, proponents of network neutrality believed that conditions for passage of a pro-neutrality bill were greatly improved.¹⁸⁹ Though the first post-Democratic majority effort failed in the Senate, a milder effort, the Internet Freedom Preservation Act of 2008, was introduced to the House by Edward Markey (D-MA) on February 2, 2008.¹⁹⁰ The only provision it sought to codify was a policy statement averring the United States' desire to maintain the

(2) to ensure that the Internet remains a vital force in the United States economy, thereby enabling the Nation to preserve its global leadership in online commerce and technological innovation;

(3) to preserve and promote the open and interconnected nature of broadband networks that enable consumers to reach, and service providers to offer, lawful content, applications, and services of their choosing, using their selection of devices, as long as such devices do not harm the network; and

(4) to safeguard the open marketplace of ideas on the Internet by adopting and enforcing baseline protections to guard against unreasonable discriminatory favoritism for, or degradation of, content by network operators based upon its source, ownership, or destination on the Internet.

Id.

186. *Id.*

187. S. 2917 § 2. For example, a broadband provider could prioritize all video requests, but would not be able to just prioritize Google's video requests. *Id.*

188. S. 215, Library of Congress, <http://thomas.loc.gov/cgi-bin/bdquery/z?d110:s.00215>.

189. Democrats gained control of both the House and the Senate in the 2006 elections. See America Votes 2006, CNN, <http://www.cnn.com/ELECTION/2006/> (last visited Jan. 12, 2009).

190. Internet Freedom Preservation Act of 2008, H.R. 5353, 110th Cong. (2nd Sess. 2008).

freedom of the Internet, ensure that the Internet remain a vital part of the economy, promote the interconnectedness of the Internet, and protect against discrimination.¹⁹¹ It also sought to order the FCC to assess whether broadband providers adhere to the FCC's Broadband Policy Statement of August, 2005, as well as if the broadband providers add charges for quality of service.¹⁹² All in all, this was a somewhat weak bill that did not give much authority to the FCC to actually do anything other than make findings. Hearings were held by the Subcommittee on Telecommunications and the Internet in May of 2008, but the measure was never voted on.¹⁹³

G. Direction

It is clear that with the Democrats, traditionally in favor of network neutrality, ascending to control both the executive and legislative branches, the stage is set for pro-network neutrality legislation to become law, especially considering President Barack

191. *Id.* § 3. The full text:

It is the policy of the United States--

(1) to maintain the freedom to use for lawful purposes broadband telecommunications networks, including the Internet, without unreasonable interference from or discrimination by network operators, as has been the policy and history of the Internet and the basis of user expectations since its inception;

(2) to ensure that the Internet remains a vital force in the United States economy, thereby enabling the Nation to preserve its global leadership in online commerce and technological innovation;

(3) to preserve and promote the open and interconnected nature of broadband networks that enable consumers to reach, and service providers to offer, lawful content, applications, and services of their choosing, using their selection of devices, as long as such devices do not harm the network; and

(4) to safeguard the open marketplace of ideas on the Internet by adopting and enforcing baseline protections to guard against unreasonable discriminatory favoritism for, or degradation of, content by network operators based upon its source, ownership, or destination on the Internet.

Id.

192. *Id.* § 4. Discussion of the FCC's Broadband Policy Statement of August, 2005, can be found *supra* Section II.

193. H.R. 5353, Library of Congress, <http://thomas.loc.gov/cgi-bin/bdquery/z?d110:HR05353:@@@X>.

Obama's unflagging support of network neutrality since entering the Senate.¹⁹⁴ However, with the multitude of problems facing Obama at the beginning of his term, it is likely that network neutrality legislation will, for the most part, have to take a back seat for the time being.

Much of what is in both the original Internet Non-Discrimination Act of 2006 and the most recent Internet Freedom Preservation Act of 2008 is the same, both in terms of what the broadband provider is allowed to do and what it is not allowed to do.¹⁹⁵ What the more recent bill has added, however, is a provision allowing the broadband providers the ability to prioritize all traffic of one type.¹⁹⁶ This could be an example of a bill first being introduced by those firmly on one side of the issue, only to have it watered down in order to gain supporters. Overall though, the changes are for the better, and the movement as a whole is moving in a positive direction.

V. HOW FOREIGN COUNTRIES ARE DEALING WITH NETWORK NEUTRALITY

Besides the United States and Canada, throughout the world the debate over network neutrality has been thrust center stage as large telecommunications companies have begun to implement non-neutral technologies. In 2007, Vodafone and T-Mobile in the United Kingdom blocked Truphone, a VoIP technology for cell phones, from accessing their systems.¹⁹⁷ Nokia, a Finnish company, recently released a product that allows network operators the ability to block peer-to-peer and VoIP applications.¹⁹⁸

194. See Discussion of Obama's history of support of network neutrality, *infra* section VII(A).

195. Compare Internet Non-Discrimination Act of 2006, *supra* note 173, with Internet Freedom Preservation Act of 2008, *supra* note 190.

196. Internet Freedom Preservation Act of 2008, *supra* note 190.

197. Hanna Sistik, *Truphone's VoIP app dials up iPhone*, CNET NEWS, July 11, 2008, http://news.cnet.com/8301-1035_3-9989269-94.html. Truphone allowed users to send text messages and make calls at a much lower rate than the wireless company, using the cell phone's Internet connection rather than the phone connection. *Id.*

198. Adam Gosling, *Nokia Promises An Easy Way To Kill Mobile VoIP*, VOIP NEWS, Nov. 23, 2006, <http://www.voipnews.com.au/content/view/1338/107/>.

A. European Union

The policies of the European Union have recently come under attack by European broadband providers, who make the same arguments as the carriers in the United States.¹⁹⁹ As broadband has become increasingly more important to the economy, so too does the importance of broadband policy increase.²⁰⁰ The European Union has instituted what has been termed by some to be “net neutrality lite.”²⁰¹ The European Union allows companies to build new networks and discriminate on the basis of price and speed.²⁰² However, they do not allow discrimination in existing networks.²⁰³ This has the effect of giving incentives to companies to put down new infrastructure, but at the same time allows for competition and innovation on the already existing networks.²⁰⁴

The United Kingdom has created a committee to study broadband access called the Digital Britain Report.²⁰⁵ Broadband experts in government are calling for plans similar to the regulations that they have with phone lines: an industry-wide regulation requiring them to put access to a phone wire in every home.²⁰⁶ The plan would require broadband providers to provide broadband connections to the remaining forty percent of the country that does not already have it,²⁰⁷ and would also set as a goal giving every British citizen access

199. Ian Scales, *European carriers lobby to loosen network neutrality*, TELECOM TV, Dec. 12, 2008, <http://web20.telecomtv.com/pages/?newsid=44246&id=e9381817-0593-417a-8639-c4c53e2a2a10>.

200. Gordon Brown, *Digital Britain is a Necessity*, THE TIMES, Oct. 17, 2008, available at http://business.timesonline.co.uk/tol/business/industry_sectors/media/article4959822.ece. In Britain, information technology (ITC in Britian) accounts for six percent of gross domestic product. This equates to about 500,000 jobs and, as Gordon Brown notes, information technology touches every part of the economy.

201. Chris Marsden, *The Net Neutrality Zombie and Net Neutrality 'Lite'*, SOCIETY FOR COMPUTERS & LAW, <http://www.scl.org/editorial.asp?i=2045>.

202. *Id.*

203. *Id.*

204. *Id.*

205. *Plans Target Digital Britain Push*, BBC, Jan. 29, 2009, <http://news.bbc.co.uk/1/hi/technology/7857402.stm>.

206. *Id.*

207. *Id.*

to a two megabyte per second connection by 2012.²⁰⁸ This is much more ambitious than any plan in the United States.

France has become a leader in broadband technologies by promoting competition.²⁰⁹ In 2006, customers in France could take advantage of a “triple play” package for under forty dollars a month, which included unlimited broadband Internet, unlimited phone calls to France and fourteen other countries, and eighty-one television channels.²¹⁰ This is partly the result of when, in 2000, France deregulated the broadband industry, and forced the country's dominant telephone company, France Telecom, to allow other phone and Internet providers to use their infrastructure.²¹¹ This is in sharp contrast with the United States, where competition is between cable, phone, and Internet monopolies rather than competition within the same type of technology.²¹² The comparative results of the two systems sees French users receiving downloads at twenty-four megabytes per second compared to one and a half for American users.²¹³ French customers also have many more features, such as being able to watch one channel on their television and another on their laptop or computer screen.²¹⁴ Besides allowing any competitor the right to use the broadband infrastructure, the French government does not have a view on network neutrality.²¹⁵ The competition in the marketplace allows them not to have to worry about the other

208. Adam Hartley, *Digital Britain Is 'Barmy' Says Lord Putnam*, TECHRADAR, Feb. 5, 2009, <http://www.techradar.com/news/internet/digital-britain-too-much-regulation-too-little-reality-523506>.

209. Leila Abboud, *How France Became a Leader in Offering Faster Broadband*, WALL ST. J., Mar. 28, 2006, available at http://online.wsj.com/article/SB114351413029509718.html?mod=technology_featured_stories_hs.

210. *Id.*

211. *Id.* Government regulators in France determine how much other providers have to pay to rent the lines from France Telecom, as well as how long France Telecom has to fix any complaints from their equipment that their competitors have. *Id.*

212. *Id.*

213. *Id.*

214. *Id.*

215. Marc Lebourges, *Presentation at Telecom Paris: Net Neutrality Workshop, Net neutrality: an issue in Europe and France?*, available at: <http://www.telecom-paristech.fr/chair-innovation-regulation/Bios/lebourges.pdf>.

neutral network principles, as the market takes care of it.²¹⁶ If one company begins to regulate content, a company allowing its customers more freedom would take the former's place.

B. Asia

The broadband providers in China are state-owned, and, in 2007, China was adding new broadband customers at the rate of sixteen million per year.²¹⁷ China is on the extreme end of anti-network neutrality. As an example, in March of 2008, the government blocked YouTube, Yahoo!, and other popular websites because foreign news reports of the ongoing violence in Tibet had begun showing up on the sites.²¹⁸ This is an extreme example, however, and obviously there is no large scale movement in the United States to create state-owned broadband monopolies that could be in the position of being able to block news reports that went against their interests.

Other parts of Asia, however, are in many respects the leaders in terms of Internet technology. Singapore, for example, is considering giving every citizen a gigabyte per second connection by 2012.²¹⁹ Japan currently delivers the world's fastest Internet connections for the lowest cost.²²⁰ By 2003, Japan had placed a fiber optic node, a critical piece of broadband infrastructure for DSL, within a kilometer

216. *Id.*

217. Ed Gubbins, *Asian Broadband Dominance Grows*, TELEPHONY ONLINE, Mar. 24, 2007, http://telephonyonline.com/home/news/asian_broadband_ftth_052407/.

218. Jonathan Richards, *ChinaBblocks YouTube, Yahoo! Over Tibet*, THE TIMES, Mar. 17, 2008, http://technology.timesonline.co.uk/tol/news/tech_and_web/article3568040.ece. For several weeks there were protests in the area around Lhasa in Tibet in which dozens of people died. The Chinese government wanted to filter this information from its citizens. *See Tibet protestors claim death toll now 140*, CNN, Mar. 25, 2008, <http://edition.cnn.com/2008/WORLD/asiapcf/03/25/tibet.arson/index.html>.

219. Hartley, *supra* note 208. This is several orders of magnitude lower than Britain's goal of two megabytes per second. *Id.*

220. Blaine Harden, *Japan's Warp-Speed Ride to Internet Future*, WASH. POST, Aug. 29, 2007, http://www.washingtonpost.com/wp-dyn/content/article/2007/08/28/AR2007082801990_pf.html.

of eighty percent of its population.²²¹ Such infrastructure is impractical in the United States due to the larger geography, but deregulation also played a role.²²² In sharp contrast to the United States during the Bush Administration, in 2000 Japan opened up its infrastructure to new Internet providers, much like France.²²³ The competition caused Japan's phone titan Nippon Telegraph and Telephone (NTT) to invest in government subsidized infrastructure improvement.²²⁴ As a result, fiber-optic lines, which can bring speeds seventeen times that of the cable companies in the United States, reach 8.8 million Japanese homes, more than nine times the number of American homes serviced by fiber-optic lines.²²⁵ NTT admits that without the competition, they would not have made the investment at the same pace that they did.²²⁶

VI. WHERE SHOULD UNITED STATES POLICY GO FROM HERE?

Innovation has served the Internet well since its inception, but on the other hand the networks must be protected from both malicious attempts to do it harm and also the effects of the tragedy of the commons.²²⁷ Websites should be able to continue to be rewarded based off of their appeal to consumers. Because of these reasons, the

221. J. Mark, Lytle, *Full Speed Ahead for Japan's Broadband*, BBC, Nov. 19, 2003, <http://news.bbc.co.uk/1/hi/technology/3278375.stm>. The shorter the distance between the modem and the node, the faster the connection can be. Connections can be as fast as fifty megabytes per second if the node is within a mile of the end user. *Id.*

222. *Id.*

223. *Id.*

224. *Id.*

225. *Id.*

226. *Id.*

227. The "Tragedy of the Commons" is a metaphor for a situation where there is free access and unrestricted demand for a finite resource, and predicts that such a situation destroys the resource through over-exploitation. The original metaphor included shepherders sharing a common parcel of land. Each herder gained the benefits of putting more cows on the land, while the damages were shared. Eventually the land was overused and lost its economic worth. Similarly, broadband networks can be overused by people using an inordinate amount of bandwidth, slowing down everyone's connection. See Garrett Hardin, *The Tragedy of the Commons*, SCIENCE, Dec. 13, 1968, available at <http://www.sciencemag.org/cgi/content/full/162/3859/1243>.

United States should strive for some kind of limited, narrow view of network neutrality.

There should also be competition in the broadband service industry. The example of other countries is clear: unbundling the broadband infrastructure allows upstart companies to come in and challenge the established players.²²⁸ The experiences of both Japan and France, when compared to our experience in the United States, disavow the notion that larger corporations lead to more innovation.²²⁹ If there is enough competition, other network neutrality regulations would be superfluous, as the market would dictate that providers provide service in a non-discriminatory fashion.

But how can we get the large broadband providers on board? If their arguments can be taken at face value, one way would be for the country to take it upon itself to improve the broadband infrastructure using public money.²³⁰ This would eliminate the argument from those opposed to network neutrality that keeping to network neutrality principles would result in less broadband infrastructure. There is already some support in Congress for using public money to increase the broadband infrastructure.²³¹

VII. HOW SHOULD UNITED STATES POLICY GET TO WHERE IT NEEDS TO BE?

A. Future FCC Actions

First of all, the FCC should adhere to the policy position set forth in 2005.²³² The FCC should also take steps to strengthen its position by issuing actual regulations, and use their authority to investigate

228. See How Foreign Countries Are Dealing With Network Neutrality, *supra* section V.

229. *Id.*

230. Part of the broadband providers' reluctance to embrace network neutrality, most likely, is due to the potential vast sums of money that they could rake in from bidding wars between competing websites. Therefore, eliminating one of the given rationales against network neutrality may not get the telco's on board, but it would make it much harder for them to resist the movement.

231. See Advanced Broadband Infrastructure Bond Initiative of 2009, H.R. 760, 111th Cong. (1st Sess. 2009). If passed, it would give tax incentives to investors who invest in improving broadband infrastructure.

232. See General History & the FCC's Involvement, *supra* section II.

broadband providers for potential violations. Any broadband provider that does violate the principles set forth by the FCC should be dealt a penalty sufficient to deter them or another provider from conducting the same activity.

The future for pro-network neutrality policy from the FCC appears to be bright. President Barack Obama has been committed to network neutrality since entering the Senate.²³³ During his campaign for President, his campaign website's "Technology" section's first two points were a pledge to support the principles of network neutrality and a pledge to "get true broadband to every community in America."²³⁴ On the campaign trail, Obama remarked that he "will take a back seat to no one in [his] commitment to network neutrality."²³⁵ Obama, once elected, followed up the rhetoric by selecting the pro-network neutrality Julius Genachowski as FCC chairman.²³⁶ However, not only should President Obama continue to support network neutrality legislation, but he should also use the

233. See, e.g., Senator Barack Obama, Podcast, June 8, 2006 ("We can't have a situation in which the corporate duopoly dictates the future of the internet and that's why I'm supporting what is called net neutrality.").

234. Barack Obama, *Technology*, <http://www.barackobama.com/issues/technology/> (last visited Jan. 14, 2009).

235. Barack Obama, President of the United States of America, Address at Google headquarters in Mountain View, CA (Nov. 14, 2007), available at <http://www.youtube.com/watch?v=g-mWlqccn8k>.

236. Julius Genachowski was quickly named by President Obama as the new FCC chairman. Cecilia Kang, *Obama Picks Julius Genachowski to Head FCC*, WASH. POST, Jan. 12, 2009, available at <http://www.washingtonpost.com/wp-dyn/content/article/2009/01/12/AR2009011203417.html>. His only blog post on the Obama campaign website touted the benefits of open networks. Posting of Julius Genachowski to Organizing for America, <http://my.barackobama.com/page/community/blog/juliusgenachowski> (Dec. 8, 2007). Genachowski also helped to write President Obama's Technology and Innovation Plan, which states that an Obama presidency would ensure "the Full and Free exchange of information through an Open Internet and Diverse Media Outlets;" stated in classic network neutrality language. Cade Metz, *Obama Eyes Net Neut Man for FCC post*, THE REG., Jan. 13, 2009, available at http://www.theReg.co.uk/2009/01/13/genachowski_next_fcc_chair/ (quoting OBAMA FOR AMERICA, BARACK OBAMA: CONNECTING & EMPOWERING ALL AMERICANS THROUGH TECHNOLOGY & INNOVATION (2007), available at http://www.barackobama.com/pdf/issues/technology/Fact_Sheet_Innovation_and_Technology.pdf).

opportunity of the current economic climate to encourage Congress to invest in broadband infrastructure.

B. Future Congressional Actions

Congress should foremost solidify the principles of network neutrality into network management. It should take action to codify the principles already laid down by the FCC, so that they will be less mutable in the future. A good bill to base future legislation on would be the Internet Freedom and Nondiscrimination Act of 2006.²³⁷ It mirrors many of the protections that the FCC already believes in and gives broadband providers protections for their networks.

Assuming the goal is increased broadband usage, greater infrastructure is also needed both in the form of new broadband connections in areas that currently lack broadband, and also faster broadband capability in places where there are existing but inferior broadband connections. Congress has three options: do nothing, build the infrastructure itself, or subsidize the building of infrastructure by other companies.²³⁸ The do nothing option has the advantage of allowing the market to dictate where broadband goes, which presumably would be the most efficient.²³⁹ However, it will be much slower than the other options, as evidenced by the slow pace, as compared to the rest of the wired world, that broadband providers have thus far laid down infrastructure.²⁴⁰

Critics of any government spending on broadband infrastructure say that the do nothing approach is best because increasing infrastructure will not necessarily lead to more Americans choosing better Internet connections.²⁴¹ According to polling data compiled by the Pew Research Center, only five percent of Americans do not have broadband because it is unavailable in their area, and less than a third of those that do have broadband have the best download speed offered by their local provider; the customers likeliest to obtain a

237. *See* Internet Freedom and Nondiscrimination Act of 2006, *supra* section IV(D).

238. Yoo & Wu, *supra* note 20.

239. *Id.*

240. *Id.*

241. *Congress Approves Broadband to Nowhere*, *supra* note 71.

faster connection if it becomes available.²⁴² Another six percent do not have broadband because the price is too high, while sixteen percent do not believe that broadband would be relevant to their lives.²⁴³

But as broadband becomes more prevalent there will be more broadband applications, such as those that exist in Europe and Asia.²⁴⁴ As this expansion of options occurs, the value of a broadband connection will increase.²⁴⁵ This will lead to more users wanting to obtain broadband access, as well as more users willing to pay a higher price for the service.

Government building the infrastructure itself would not be unprecedented.²⁴⁶ Broadband could be considered a type of public utility, and the government already builds other public utility networks, such as the nationwide system of roads and the networks of water pipes.²⁴⁷ Municipalities have already taken it upon themselves to build local broadband networks where the large telecommunications companies were not meeting their needs.²⁴⁸ However, the absence of market considerations in this approach lead

242. John Horrigan, *Stimulating Broadband: If Obama Builds It, Will They Log On?*, PEW INTERNET & AM. LIFE PROJECT, Jan. 21, 2009, http://www.pewinternet.org/PPF/r/273/report_display.asp. In the poll, 71% either did not have the highest speed offered by their provider or did not know if they had the highest speed or not. *Id.* A customer not knowing if they have the best speed implies that speed is not a priority to them, and so is not one that is likely to be swayed into purchasing faster speeds. Either way, that particular customer would not be a good bet to purchase a faster plan if one were to become available.

243. *Id.*

244. For example, in Hong Kong users can get Internet even while on the subway, while in Germany BMWs come standard with Internet access capabilities. *See Congress Approves Broadband to Nowhere*, *supra* note 71.

245. The value of any network increases with the amount of connections to that network and with the capabilities of those connections. *See, e.g.,* Martha Arias, *Theories on the Value of Networks*, INTERNET BUS. LAW SERVC., May 9, 2007, http://www.ibls.com/internet_law_news_portal_view.aspx?id=1752&s=latestnews.

246. *Id.*

247. *Id.*

248. *See, e.g.,* Jeffrey Lee, *Why Towns Have Built Their Own Broadband*, MEDILL NEWS SERVC., Oct. 17, 2005, http://www.baller.com/pdfs/Princeton_econ.pdf. Princeton, a small town near Chicago, built its own fiber optic line to prevent a large corporation, Ingersoll-Rand, from moving its plant elsewhere. *Id.*

to a greater chance of pork projects or the building of one type of infrastructure when another is required.²⁴⁹

The third way, subsidizing the building of the infrastructure, allows quicker development while still taking into account market considerations.²⁵⁰ With lower installation costs, broadband providers will not be as reticent at expanding or improving service.²⁵¹ At the same time though, the companies will still build the network in the most efficient manner.²⁵²

The ultimate decision Congress makes between the options should be based on the current economic situation. The current situation presents a unique opportunity to invest in broadband infrastructure for the future.

1. The Current Situation

The collapse of the housing boom has led to an economic recession accompanied by unemployment that has spiraled out of control, with two million jobs lost in the final four months of 2008 and another three to five million jobs expected to be cut in 2009.²⁵³ The federal government will spend hundreds of billions of dollars in economic stimulus in order to jump start the economy.²⁵⁴ Although spending in the form of short-term tax cuts could produce short-term results, economists have called for much of the stimulus to be spent on infrastructure improvements that will provide returns for

249. Yoo & Wu, *supra* note 20. “The bridges to nowhere” could turn into fiber optic lines to nowhere, or fiber optic lines could be put in where wireless has the greater utility.

250. *Id.*

251. *Id.* This is similar to how mortgage deductions leads to an increase in people purchasing homes by making them artificially cheaper.

252. *Id.* The broadband providers will still put down the cable where they believe it will generate the most profit, and therefore, as opposed to when government directly builds the infrastructure, decisions will be made with efficiency in mind rather than constituencies.

253. *See, e.g.,* Timothy Morgan, *US Stimulus Bill Smiles on IT*, THE REG., Jan. 16, 2009, available at http://www.theReg.co.uk/2009/01/16/us_house_stimulus_bill/.

254. *Id.*

decades.²⁵⁵ Projects that will be undertaken include highways, bridges, and mass transit such as fast trains between major cities and improvements in light rail inside of cities.²⁵⁶ However, there are not enough of these projects ready to go that would cost even close to the projected stimulus that the country must have in order to close the GDP gap—the amount between what the economy is capable of producing and what it actually does produce.²⁵⁷ During normal economic times, the government must worry about efficiency when deciding on which projects to fund.²⁵⁸ However when the goal is just injecting capital into the economy, efficiency is no longer as big of a goal as getting money into the hands of those most likely to spend it.²⁵⁹ The economist John Maynard Keynes, during the depression, suggested as a means to stimulate the economy burying money in old coal mines and watching a money-mining industry flourish.²⁶⁰ Therefore, when attempting to fill the GDP gap, we can consider government solutions that may not be as efficient as methods involving the free market.

255. See Christian E. Weller, *The Shape of Fiscal Stimulus: Spending vs. Tax Cuts*, ECON. POL'Y INST., Oct. 4, 2001, http://www.epi.org/publications/entry/webfeatures_viewpoints_stimulus_memo/.

256. Alec MacGillis & Michael Shear, *Stimulus Package to First Pay for Routine Repairs*, WASH. POST, Dec. 14, 2008, http://www.washingtonpost.com/wp-dyn/content/article/2008/12/13/AR2008121301819_pf.html.

257. The GDP gap is expected to reach 8% of GDP, while the entire stimulus itself will only be 3% of GDP. Paul Krugman, *Conscience of a Liberal: Paul Krugman*, <http://krugman.blogs.nytimes.com/> (Jan. 7, 2009). Shovel-ready projects are the ones that can get going fast enough to quickly inject capital into the economy, and there are not enough shovel-ready projects to consume the entire stimulus bill. Paul Krugman, *Conscience of a Liberal: Paul Krugman*, <http://krugman.blogs.nytimes.com/> (Jan. 11, 2009).

258. See, e.g., Citizens Against Government Waste, <http://www.cagw.org/> (last visited Feb. 13, 2009).

259. Michael Grunwald, *How to Spend a Trillion Dollars*, TIME, Jan. 15, 2009, <http://www.time.com/time/politics/article/0,8599,1871769,00.html>.

260. *Id.* Building, for example, houses with the money, rather than burying it, would be a more efficient use of the money, but burying it would be a better stimulus than nothing.

2. What We Should Do

Because there are not enough projects available and because efficiency is not as great a concern in the current climate, Congress should look to invest money in improving the broadband infrastructure. The Obama Administration showed support early for broadband infrastructure, as its transition team is working on a broadband infrastructure effort that would cost between \$20 billion and \$30 billion, consisting mostly of tax breaks for companies that invested in under-served areas.²⁶¹ The American Recovery and Reinvestment Bill of 2009 initially contained \$6 billion to improve broadband access in rural areas and inner cities—the areas that traditionally are last to receive technological improvements.²⁶² The final bill increased that amount to \$7.2 billion.²⁶³ This \$7.2 billion is however only a small fraction of the \$800 billion stimulus bill, and is an amount similar to what was earmarked for helping people to weatherize their homes.²⁶⁴ On the other hand, highways are set to receive \$30 billion.²⁶⁵

It is clear, though, that at least in the short term more than just greater access and higher speeds will be necessary to bring the United States up to par with the rest of the world. There needs to be an improvement in price and innovation. Perhaps most important then to the future of American network neutrality, the stimulus bill passed by the House called for “open access” as a requirement for

261. Arik Hesseldahl, *Obama's Broadband Plan*, BUS. WK., Jan. 7, 2009, http://www.businessweek.com/magazine/content/09_03/b4116027365196.htm. Part of the plan also called for bonds to be offered to companies wishing to expand broadband service. *Id.*

262. Morgan, *supra* note 253. The broadband companies were hoping that the aid would come in the form of tax cuts, but the draft form of the bill calls for government grants. Amy Schatz, *Obama's Stimulus Plan Includes \$6 Billion for Broadband*, WALL ST. J.: Digits blog, Jan. 15, 2009, <http://blogs.wsj.com/digits/2009/01/15/obamas-stimulus-plan-includes-6-billion-for-broadband/>. Also of note is that the grants are called for both broadband and wireless networks. *Id.*

263. Stacey Higginbotham, *Broadband Stimulus Package Nears Finish Line*, GIGAOM, Feb. 13, 2009, <http://gigaom.com/2009/02/13/broadband-stimulus-package-nears-finish-line/>.

264. Morgan, *supra* note 253.

265. *Id.*

obtaining funds from the stimulus passage.²⁶⁶ What does “open access” mean? It could mean a wide view of network neutrality where any company that uses money from the bill to give broadband access to rural areas must leave the network open to anyone, even competitors, or it could just mean an extremely narrow view of network neutrality.²⁶⁷ The less progressive Senate moderated the language in the final bill, requiring grant recipients to follow “non-discrimination and network interconnection obligations.”²⁶⁸ In any case, the phrase will ultimately need to be interpreted by the FCC.²⁶⁹

With the incoming head of the FCC, an avowed network neutrality advocate, there could be major changes in the broadband regulatory front in the coming months.²⁷⁰ The FCC should take this opportunity to increase competition in the broadband market as much as it can, in order to catch America up with the rest of the world in an area important to the future of the economy.

266. *Congress Approves Broadband to Nowhere*, *supra* note 71.

267. *Id.*

268. Higginbotham, *supra* note 263.

269. Scott Fulton, *Senate Passage of Stimulus Bill Could Fuel Latest Broadband Debate*, BETANEWS, Feb. 10, 2009, http://www.betanews.com/article/Senate_passage_of_stimulus_bill_could_fuel_last_broadband_debate/1234305700.

270. *See* Discussion on New FCC Chairman, *supra* note 236 and accompanying text.

