Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Development of Nationwide Broadband Data	)	WC Docket No. 07-38
to Evaluate Reasonable and Timely	)	
Deployment of Advanced Services to All	)	
Americans, Improvement of Wireless	)	
Broadband Subscribership Data, and	)	
Development of Data on Interconnected Voice	)	
over Internet Protocol (VoIP) Subscribership		

COMMENTS OF THE NATIONAL ASSOCIATION OF TELECOMMUNICATIONS OFFICERS AND ADVISORS IN RESPONSE TO THE FURTHER NOTICE OF PROPOSED RULEMAKING

I. INTRODUCTION

The National Association of Telecommunications Officers and Advisors ("NATOA") submits these comments in response to the Further Notice of Proposed Rulemaking ("FNPRM"), released June 12, 2008, in the above-captioned proceeding. NATOA's membership includes local government officials and staff members from across the nation whose responsibility is to develop and administer communications policy and the provision of services for and by the nation's local governments.

NATOA commends the Commission for seeking to ensure that policymakers at the federal, state and local levels have access to detailed broadband data. As explained below, we believe that such information is vital to policymakers at all levels, as they cannot make enlightened decisions concerning the deployment and adoption of broadband services without such information.

As important as such data is to policymakers, it is also very important to consumers across the nation. The Commission has the opportunity in this docket to provide all existing and potential

broadband consumers – residences and businesses – powerful tools to evaluate broadband service offerings, not just in their immediate areas, but also in areas to which they may seek to relocate or expand.

As a final note before proceeding to our comments, NATOA would like to take this opportunity to share with the Commission NATOA's Broadband Principles in support of the development of a National Broadband Strategy (attached as Appendix A). NATOA, along with a growing chorus of like-minded organizations and persons, believes the lack of a comprehensive National Broadband Strategy is impairing America's ability to take full advantage of the promise of the Information Age and is threatening America's ability to remain competitive in the emerging knowledge-based global economy. The availability to policymakers and consumers of detailed broadband data on geographic deployment, speed, and price will greatly assist the development and implementation of such a strategy.

II. COMMENTS

A. Broadband Availability Mapping

NATOA strongly supports the development of a publicly-available, highly detailed interactive mapping capability utilizing data collected by the Commission. Broadband mapping applications can and should utilize all information that broadband providers make available to prospective consumers on request, including identification of the broadband provider itself. As described further in section E, below, we believe that no legitimate or reasonable claims for "confidentiality" can exist for information pertaining to availability, speed, price, or other data that consumers can obtain simply by calling a broadband provider or accessing their website. Nor can broadband providers appropriately use claims of "confidentiality" to withhold information that would undermine or reveal limitations in their offerings to consumers.

Mapping information should be available in both electronic form for users who already have access to broadband and in non-electronic form for those who do not. The electronic application(s) should enable users to zoom in on a particular Census Tract, identify providers serving that Tract, and obtain access to all relevant information concerning price, speed, and availability. It also should facilitate comparisons among the variables, so that users may, for instance, identify all areas in a given boundary (Census Tract, state, nationally, etc.) for which the highest speed tier is or is not available. Non-electronic applications should be in written form that consumers can obtain from libraries, government offices, and other convenient locations.

Local geographic information systems (GIS), of the kind that many local governments and other organizations now maintain, could be very useful in advancing the Commission's mapping objectives. At the very least, we urge the Commission to adopt approaches that would be consistent with existing GIS standards. To create national broadband mapping application(s) that would be unusable by local GIS would be to ignore a vast, localized resource.

Similarly, we suggest that the Commission make publicly available the raw data used to create mapping applications, so that other organizations may create their own applications with it. Making the raw data available in a usable format would enable the proliferation of potentially useful analyses by academic, business, and consumer advocate organizations.

With regard to the semi-annual Form 477 as a means to collect the relevant mapping data, we note that certain data elements, such as pricing information, have a limited shelf-life. While this may be sufficient for certain national policymaking purposes, it is not adequate for consumers seeking current information on their competitive choices. NATOA urges the Commission to weigh the benefits of more frequent reporting – for example, on a quarterly basis

– against the additional costs and burdens involved. The Commission may wish to consider requiring only certain discrete parts of Form 477 to be reported quarterly or when providers make material changes to their offerings, with complete updates semiannually or upon certain other events (transfer of ownership of a system, etc.)

Finally, as a general matter we urge the Commission to look beyond ConnectKentucky and its parent company, Connected Nation. That organization collects only a relatively limited amount of broadband penetration data, and it relies upon information voluntary provided by self-interested providers. While all such entities[1] are to be commended for stepping in to fill a gap left by the Commission's previous data gathering efforts and for focusing national attention on the need for broadband mapping data, the Commission, itself, should at last step forward and assume responsibility for gathering, and assuring the reliability of, the data addressed in these comments. .

B. Delivered Speed Information Gathering

In the Further Notice, the Commission sought comment on how it might acquire information concerning "actual broadband connection speeds experienced by customers rather than the theoretical maximum that a given network can support or the particular service configuration allows."[2] We commend the Commission for recognizing the importance of actual speeds, rather than advertised speeds. The implementation of a national broadband strategy and other policymaking tasks requires the use of actual performance data, not theoretical best-case assertions or outright puffery by certain broadband providers.[3]

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1 *e.g.*, North Carolina's e-NC Authority (http://www.e-nc.org/); Final Report of the California Broadband Task Force, January 2008 (http://www.calink.ca.gov/taskforcereport/); Pew Internet & American Life Project (http://www.pewinternet.org/data.asp).

2 FNPRM, ¶ 3

3 For example, AT&T recently conducted field trials to test the veracity of certain cable industry claims that download speeds would be "up to" 6-8 Mbps. According to AT&T, actual speeds fell far short of these promises:

In its Report and Order of June 12, 2008, the Commission noted that AT&T, Verizon and Time Warner Cable have expressed skepticism about the ability to report meaningful information pertaining to actual speeds.[4] We believe these sentiments likely are motivated more by public relations concerns than by a valid technical objection. In fact, there are several reasonable means by which the Commission can obtain and report meaningful data on actual "delivered" speeds.

For example, the Commission could require service providers to report an average of multiple speed tests over a particular period of time, for a certain percentage or range of subscribers to a particular tier. Such tests should reflect a variety of times per day, including peak and off-peak hours. Service providers could arrange to gather such information automatically (and quite possibly already do). The Commission could also arrange for a disinterested third party or parties to conduct speed tests for service providers. While not optimal, the Commission also could adopt a "trust but verify" approach, requiring reporting of actual speeds as suggested above but ensuring accountability through periodic verification.

In the Data Gathering Order, the Commission indicated that it would establish a public speed test website, whereby broadband customers could visit the web page, enter certain information, and submit to a speed test for their connection.[5] We encourage the Commission to do this, and we note that several other entities currently are offering such services, including

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> The result was quite different from what the cable company advertised. While AT&T saw peak speeds in the 3-4 Mbps range, average throughput was closer to 400 kbps. "Peak might be something that occurs at 3 am, when the network is lightly loaded," said [AT&T Telecom Operations Group president John] Stankey. "Even at peak, the performance on these types of transactions was well below the 6 or 8 Mbps access speeds."
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> `Eric Bangeman, "AT&T talks serious smack about cable broadband speeds," *Ars Technica* (February 28, 2008), http://tinyurl.com/36vdj7.

[4] Report & Order, ¶ 22, n.75.

[5] Report & Order, ¶ 22.

BroadbandCensus.com, Virginia Tech's eCorridors program, and the Communications Workers of America's Speedmatters.com, among others. We urge the Commission to consider means of cooperating with or coordinating its efforts with those of similar projects already in existence or to be developed in the future.

Second, we note that a voluntary consumer speed test, reliant on broadband consumers visiting a website, can provide useful verification, but it is unlikely to provide as useful information as a more formalized verification process involving the service providers. Broadband customers who visit the website are unlikely to represent a statistically valid cross-section of users – it will likely reflect a self-selected pool of users who are concerned about their broadband speeds and who have the motivation to do something about it. In addition, it is unclear whether enough users will participate to provide a useful data point that can be included in a Census Tract mapping application. And, even if enough users do so at the inception of a voluntary FCC speed test, it seems unlikely that users will return with sufficient frequency to make the data usable over time.

Regardless of how the Commission ultimately proceeds on the issue of actual speed reporting, we urge the Commission not to delay progress on the overall mapping and data gathering effort while the issue is debated. We believe it would be reasonable to start with provider-reported, as-advertised speeds, while adopting measures for and ensuring progress toward an actual-speed reporting process for the near future.

C. Broadband Price Information

As indicated above, NATOA strongly believes that the Commission should collect broadband price information and make it publicly available, both in raw form and as part of electronic and non-electronic mapping applications. Such data should be publicly accessible by

Census Tract, should correspond to the FCC's broadband speed tiers, and should be associated with the service provider. Pricing information is absolutely essential for consumer advocates, competitive businesses, and public interest organizations to make the best use of the data collected by the Commission.

Again, NATOA believes that confidentiality concerns have no merit in this context. As any MBA or economist is likely to agree, a free market relies on the smooth exchange of relevant information:

> The theory of demand and supply is an organizing principle to explain prices and quantities of goods sold and changes thereof in a market economy. In microeconomic theory, it refers to price and output determination in a perfectly competitive market. This has served as a building block for modeling other market structures and for other theoretical approaches.[6]
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> …
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> In microeconomics, a state of perfect information is required for perfect competition. That is, assuming that all agents are rational and have perfect information, they will choose the best products, and the market will reward those who make the best products with higher sales. Perfect information would practically mean that all consumers know all things, about all products, at all times, and therefore always make the best decision regarding purchase. In competitive markets, unlike game-theoretic models, perfect competition does not require that agents have complete knowledge about the actions of others; all relevant information is reflected in prices.[7]

Obviously, for prices to have their effect in competitive markets, consumers must have access to timely information about them. Permitting price information to be excluded from public view out of concerns of "competitive sensitivity" is in fact antithetical to the idea of competition and a free market.[8]

We recognize, though, that valid issues have been raised with regard to how pricing information should be reported. The Commission has asked for comment on how pricing information should be reported across various speed tiers, how to isolate broadband services that

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6 Wikipedia, "Economics," http://tinyurl.com/cknhp (last visited July 16, 2008).

7 Wikipedia, "Perfect Information:, http://tinyurl.com/yvcafg (last visited July 16, 2008).

8 AT&T Reply Comments, WC Docket No. 07-38, at 3, 8 (July 16, 2007).

include different service characteristics, and how to account for bundled offerings.[9]

We believe that the Commission's suggestion that providers offering multiple broadband services with different service characteristics within a speed tier should report both the lowest and highest prices is a reasonable approach. We would add that providers should do so for both services sold on a stand-alone basis and services sold on a bundled basis. This information should be collected on at least a quarterly basis.

We do not believe the Commission should necessarily require providers to report the Average Revenue Per User (ARPU) for their services, as this would seem to add unnecessary burden and complexity to the data reporting process, and is not information readily available to a consumer currently. It is not clear to us that such information would be of sufficient value to policymakers and the public to outweigh potentially valid concerns about competitiveness and confidentiality for such information.

D. Confidentiality

As we have noted throughout, NATOA strongly believes that the FCC should collect, and make publicly available at a Census Tract granularity, all information that is currently available to a prospective broadband consumer. This includes but is not limited to: a) the local broadband service providers available; b) the monthly price of each service offering by those providers; and c) the actual speeds delivered by those providers.

The role of the FCC is not to protect the competitive interests of particular providers, or a particular industry. To the contrary, it can best ensure the development of a competitive broadband market by working to ensure that the public has full access to relevant information about the providers and their offerings.

Businesses and residential broadband customers make choices based on publicly

[9] FNPRM, ¶ 36.

available information. Increasingly, they make decisions about where to live, relocate, or expand based upon the specific broadband offerings available in that area. An interactive map including *current* information at a Census Tract granularity could be invaluable for businesses and an increasingly mobile workforce who rely heavily on broadband capabilities. Furthermore, availability of such information would stimulate competition among communities to attract businesses and institutions, thus enhancing America's overall competitiveness.

Making the raw data available, as suggested in section A, above, could enable organizations other than the FCC to create a variety of useful resources tailored to the needs of various sectors of our society. For example, a map could be produced that shows all areas within the nation where actual broadband speeds exceed 50Mbps (or 100Mbps, or 1 gigabit), and where the population density and average income meet certain parameters. A wireless provider could identify areas of the nation that are perhaps sparsely populated, who pay an exorbitant amount for wired broadband, and where geographic features fit well with their particular wireless offering.

In short, permitting certain information to remain secret from the public in the name of competitiveness concerns would thwart the very competitiveness that the FCC wishes to facilitate. While there certainly may be elements that can reasonably remain confidential (such as ARPU), NATOA strongly believes that the FCC should not "preserve confidentiality"[10] of any information that can reasonably be acquired from a service provider by a prospective customer.

E. Broadband Customer Surveys

The Commission has asked for input on whether it "should conduct and publish a periodic survey of broadband customers by the FCC to obtain information about price,

[10] FNPRM, ¶ 39.

technology and speed of their connections. . . ." [11] This idea seems useful at first glance, but we believe it ultimately would be unnecessary, and the expense of doing so could be avoided, if the data gathering and broadband mapping efforts are executed in the ways we have suggested above.

III. CONCLUSION

Again, NATOA commends the Commission for its efforts so far in evaluating and improving its broadband data collection process. Accurate broadband data is fundamental to the creation and implementation of a national broadband strategy. The collection and public availability of such data by the Commission, both in an interactive map and in raw form, will provide an invaluable resource to local, state and federal policymakers, in addition to private business, public interest organizations, and American broadband consumers.

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[11] FNPRM, ¶ 40.

APPENDIX A

NATOA Broadband Principles
Adopted 2008

Introduction to NATOA's Broadband Principles

For centuries, the United States has been a world leader in economic development and social initiatives. From the 19th century railroad systems and the early 20th century electric and telephone networks' expansion, to the post-World War II highway system and airport construction, investments in physical infrastructure have been instrumental in supporting social and economic progress.

Today, the United States is at a critical juncture. Economic and social development increasingly depend on advanced communications infrastructure. However, there is no strategy in place for widespread deployment of next-generation broadband networks. Our failure to take immediate action threatens to relegate our country to second-class status in the broadband age.

The future of broadband is about more than viewing television, surfing the Web and making phone calls. It is about new forms of communication and mass collaboration through the virtually unlimited potential for sharing information, storage capacity, processing power and software made possible through high-capacity bandwidth connections. This collaboration will generate new ideas, accelerate economic development and lead to opportunities for wealth creation, social development and personal expression.

While other industrialized nations have developed strategies for next-generation broadband infrastructure, the United States still lacks a national broadband strategy. The lack of a proactive strategy has effectively ceded control of our broadband destiny solely to the private market without sufficient regard for the public interest or the unique needs of local communities. This approach has not resulted in the investment needed and has failed to realize the many positive externalities created by next-generation broadband networks. The effects of this failure are clearly manifest: fading international rankings for broadband penetration; relatively low bandwidth at high costs; throttling of peer-to-peer communications; and little competition among service providers. Moreover, the future contours of broadband in the U.S. are being defined by a small number of private entities.

NATOA is increasingly concerned that the communities we represent are losing their competitive advantage to communities in Europe and Asia due to the lack of federal and state broadband leadership. This inaction will likely harm the competitive status of local communities with respect to education, healthcare, economic development, standard of living, and the level and quality of civic discourse. Inaction will adversely affect local governments' ability to provide public safety or to create a more sustainable environment for the future.

Local governments have always played an essential role in ensuring that the benefits of communications infrastructure would be available in communities across the United States. Localities will, by necessity and by choice, be part of the solution to our national broadband deficit. To that end, NATOA has adopted its Broadband Principles.

BROADBAND PRINCIPLES

The National Association of Telecommunications Officers and Advisors (NATOA) supports the development of a National Broadband Strategy consistent with the following principles.

1. NATOA calls for the immediate nationwide deployment of advanced broadband networks.

The United States faces a broadband crisis. Broadband network infrastructure is critical to economic growth. New and emerging applications and services demand more bandwidth than can be delivered by most current domestic networks. The gap between the United States and other industrialized nations is growing wider. Our country is becoming a digital also-ran with serious adverse consequences to our economic competitiveness and quality of life.

The United States has a proud history of deploying electric, telephone and transportation infrastructure to all parts of the country. Now we are challenged again. We are behind and the buildout of advanced broadband networks will take time. We must act now!

2. True broadband requires high capacity bandwidth in both directions.

To grow and enhance economic opportunity, local communities must have access to interactive, open, broadband networks with sufficient capacity to meet the increasing information, communications and entertainment needs of their residents, businesses, institutions and local governments. US competitors in Europe and Asia are building broadband networks that can provide bandwidth of 100 Mbps to 1 Gbps to each premise. Those networks serve as platforms for continuing innovation and allow the delivery of new services and applications that will transform these nations' economies and enhance the quality of life. To remain globally competitive, networks in this country should meet or exceed those standards and be designed so that capacity can be expanded by replacing electronics without having to rebuild the networks.

It is important for America's networks to offer symmetrical, high capacity bandwidth in both directions, as with many of the new networks in Europe and Asia. Ample upstream bandwidth empowers network users to become creators and distributors of content and applications, as well as recipients of services. NATOA believes that the success of Web sites featuring user-provided content, as well as the successes of traditional educational, government and public access television, demonstrate that people can and will become content creators if they are afforded the tools to do so.

3. Fiber to the premises is the preferred broadband option.

Broadband networks use several wire-based and wireless technologies, including: copper and other metal wires; coaxial cable, multimode fiber optics; single-mode fiber optics;

microwaves; Wi-Fi; and WiMax. The transmission bandwidth and reliability characteristics and capabilities of each technology vary based upon many factors, including: the specific technology; the transmission distance and the connecting and terminal equipment being used. Currently, single-mode fiber optic networks are capable of transmitting the most bandwidth with the highest reliability. They show the best potential to handle increasing future demands for higher speeds and greater quantities of information.

NATOA recognizes that it will not be economically feasible to bring fiber optics to all communities in the near term. Where fiber connection is not practical, other technologies, such as high capacity coaxial cable or wireless, may be viable if they achieve the bandwidth levels described above. In the long run however, the goal should be to make fiber to the premises universally available.

Wireless networks are an important part of the broadband picture. Wireless allows mobility, and offers a competitive choice for Internet access with quick and relatively low cost deployment. Wireless will not be a substitute for an all fiber network but will play a complementary role.

4. High capacity broadband connectivity must be affordable and widely accessible.

An informed citizenry requires knowledge and opportunities for expression. NATOA believes that everyone should be able to access the information and services that high capacity broadband networks will provide. Without reasonable prices and equitable access many of our citizens will not be active participants in the broadband age. Our residents and our society will benefit from wide availability, since the communicative power of the network increases exponentially as more network endpoints are created. High capacity broadband networks can bring to bear the collective ingenuity and enterprise of our citizens to find solutions to the many problems confronting us. NATOA believes that everyone should have access to high capacity networks at reasonable prices.

5. High capacity broadband requires open access networks.

Fiber optic networks continue to demonstrate economies of scale. This characteristic gives the owner of the fiber platform an unbeatable advantage over other service providers. It is expensive – perhaps prohibitively so - to build multiple fiber networks in one community. Thus the owner of the first and therefore dominant network can set unfair terms and prices for others to use it. On the other hand, multiple service providers who can compete over a common platform will fuel innovation in broadband services, which will benefit local communities and society. Thus structural or regulatory measures must be employed to protect the right to non-discriminatory access to networks for all competing service providers and to forestall unfair business practices by network owners. NATOA recognizes that private developers of new fiber networks must be able to seek a realistic return on investment. This is consistent, however, with providing access on non-discriminatory terms.

6. Network neutrality is vital to the future of the Internet.

It is vital to the future of the Internet that network owners not discriminate in terms of content transport or unnecessarily interfere in communications between end points on the network. Where packet prioritization is necessary network owners must provide similar treatment to all providers of like services. NATOA believes that everyone must have the unabridged freedom to create, post or access any lawful content and services and to attach any devices to the network as long as they do not impair network performance. Many current network traffic management strategies are a function of scarce bandwidth capacity and should not be necessary with high-capacity networks.

7. All networks and users have the right and obligation to non –discriminatory interconnection.

Broadband communications at the local access level can be fast and economical. However, data packets that leave the local access network and traverse the public Internet will flow only as fast as the slowest connections between end points. To facilitate reliable, high-bandwidth, symmetrical, peer-to-peer communications between our communities and to promote the expansion of open access networks, NATOA supports the direct linkage of local broadband fiber network peering points through the use of long haul fiber. All local broadband networks must have the right and obligation to non-discriminatory interconnection with other broadband networks using common, interoperable standards and protocols.

8. Local governments must be involved to ensure that local needs and interests are met.

The desired development of high capacity broadband networks and broadband services will require extensive collaboration among all parties: local communities, regions, state governments, national government, the private sector, interest groups and others. While the U.S. has plenty of broadband capacity in the "long haul" routes, fiber connections rarely reach homes and small businesses. Local governments are central players in ensuring that this "last mile" fiber connection to homes and businesses is achieved. Local elected officials are well positioned to evaluate the infrastructure and economic development tools needed to sustain viability, encourage growth and ensure that the unique needs and specific interests of local communities are addressed. NATOA believes local governments must be recognized as key partners to industry and the states and federal government in broadband development.

9. Local governments must be allowed to build and operate broadband networks.

Local geographic communities share common interests and offer the best opportunity for acceptance and growth of high capacity broadband. The right of local governments to build and operate broadband networks must not be infringed. Public agencies and community-based non-government agencies also need to have equal opportunity to participate through

meaningful investments in communications infrastructure. Communities must have the freedom to meet their unique communications needs. NATOA believes that local governments and the communities they serve must be able to preserve the policy option to own and operate public broadband networks. Any existing prohibitions on local government communications initiatives must be abolished.

10. A variety of options must be considered to cover deployment costs.

It is not yet clear which methods of funding deployment are best. Different methods may be preferable in different communities. For example, networks may be financed by private investment, by government investment, by public-private partnerships, by tax incentives, or by other means. None of these approaches should be prohibited by law or burdened by special restrictions (such as laws that forbid cross-subsidy by governments but allow it for private entities).