

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN INVESTIGATION INTO THE)	ADMINISTRATIVE
INTRASTATE SWITCHED ACCESS RATES)	CASE NO.
OF ALL KENTUCKY INCUMBENT AND)	2010-00398
COMPETITIVE LOCAL EXCHANGE)	
CARRIERS		

RLECS' PRELIMINARY COMMENTS ON AT&T'S PROPOSED PLAN

In response to the March 10, 2011 Order (the "Order") of the Public Service Commission of the Commonwealth of Kentucky (the "Commission") in the above-captioned case (the "Intrastate Access Case"), the RLECs¹ hereby submit their preliminary comments on AT&T's² proposed plan (the "AT&T Plan").

I. INTRODUCTION

The AT&T Plan and its supporting comments (the "Supporting Comments") represent the wrong approach to reform in Kentucky for many reasons, including, but not limited to: (i) its myopic focus on a one-size-fits-all, "per line" cost analysis; (ii) its failure to appreciate that wireline facilities will continue to be the backbone for advanced services like broadband; (iii) its headlong rush to intrastate access reform with no reference to federal intercarrier compensation reform; and (iv) its general lack of clarity and specificity regarding how a Kentucky Universal Service Fund ("KUSF") will operate in conjunction with local rate benchmarks. Due to the AT&T Plan's lack of detail and the looming federal proceedings, the RLECs comments on these

¹ Ballard Rural Telephone Cooperative Corporation, Inc.; Brandenburg Telephone Company; Duo County Telephone Cooperative Corporation, Inc.; Foothills Rural Telephone Cooperative, Inc.; Gearhart Communications Co., Inc.; Highland Telephone Cooperative, Inc.; Logan Telephone Cooperative, Inc.; Mountain Rural Telephone Cooperative, Inc.; North Central Telephone Cooperative Corporation; Peoples Rural Telephone Cooperative, Inc.; South Central Rural Telephone Cooperative Corporation, Inc.; Thacker-Grigsby Telephone Company, Inc.; and West Kentucky Rural Telephone Cooperative Corporation, Inc. (collectively, the "RLECs").

² BellSouth Telecommunications, Inc. d/b/a AT&T Kentucky, AT&T Communications of the South Central States, LLC, BellSouth Long Distance, Inc. d/b/a AT&T Long Distance Service, and TCG Ohio (collectively, "AT&T").

issues are necessarily preliminary in nature and will need to be supplemented as the Commission permits.³

The position of the RLECs is that intrastate access reform should be addressed in time. A plan can and should be developed that would not harm Kentucky consumers, especially those living in rural areas. As it stands, the AT&T Plan is the wrong plan for Kentucky.

A.

A One-Size-Fits-All Approach to Reform Is Wrong for Kentucky.

The AT&T Plan imagines a world in which all incumbent local exchange carriers (“ILECs”) are the same. It imagines one where the number of access lines are high and the costs to build and maintain the local loops necessary to support those access lines are low. It imagines a world where these costs are efficiently spread across large numbers of subscribers and cross-subsidized between the many business units of a large national telecommunications company. Such a world, however, is exactly that: imaginary.

In the real world of providing telecommunications service in Kentucky, ILECs run the gamut from large nationally-affiliated carriers like AT&T to small, rural carriers like the RLECs. The economics of providing service, likewise, vary dramatically from carrier to carrier. The RLECs, in particular, have unique costs that are not borne by other carriers, like AT&T, that serve large urban populations. Providing rural telephone service, by comparison, is difficult. It is also expensive, due to low population densities, huge distances, and minimal infrastructure. It costs tremendously more to maintain a line for two customers down a three-mile road in rural

³ The RLECs are also filing simultaneously with their Preliminary Comments a motion respectfully requesting the Commission to (i) schedule an informal conference in the nature of a workshop for all participants in the Intrastate Access Case prior to the May 2, 2011 deadline for filing the first round of data requests; and (ii) amend the procedural schedule to allow for filing supplemental comments on the AT&T Plan after the close of the comment period at the federal level on May 23, 2011 and prior to the August 5, 2011 deadline for serving supplemental data requests.

Kentucky than it does to serve a neighborhood in the heart of Louisville. Make no mistake: these costs are real, not imagined.

These costs are also mandatory and continuing. The RLECs' obligations to serve as a carrier of last resort ("COLR") in their territories mean that these significant costs are unavoidable, even in the face of competition, and cannot be escaped at a whim when the economics are unfavorable. A COLR must maintain facilities "just in case" – regardless of whether a resident or business takes service. A COLR must stand ready to serve all individual customers who ask to return. A COLR may even be required to accept returning customers in a "mass migration" following a competitor's failure. The RLECs, as COLR, have committed to provide these services to any customer in their rural service area that requests it, even if serving that customer would not be economically viable at prevailing rates. In essence, the RLECs have committed to make universal service in Kentucky not just a goal, but a reality.

The point is this: a one-size-fits-all approach to intrastate switched access reform, like the one presented by AT&T, disregards the unique expenses of rural service, would undermine the financial viability of the RLECs, and would lead to diminished, more expensive telecommunications services for rural Kentuckians. Bluntly, local business and residential rates will go up dramatically.

AT&T, as a signatory to the Missoula Plan for intercarrier compensation reform, recognizes this fact. There, it plainly stated that "any reform plan must promote consumer interests, acknowledge the vast differences among types of carriers, and account, in particular, for the unique needs of rural customers and the carriers that serve them." (The Missoula Plan for Intercarrier Compensation Reform at 3.)

Yet, the AT&T Plan does none of this. Instead, it threatens to undermine the financial viability of the RLECs, whose telephone networks provide the backbone for advanced services like broadband internet access and wireless telephones in much of rural Kentucky. The AT&T Plan would seriously harm the small, independent RLECs while simultaneously helping large, nationally-affiliated carriers who can afford \$39,000,000,000.00 (yes, that is billions)⁴ to further consolidate the field of telecommunications providers in this country. And, AT&T's plan for intrastate access reform would enlist Kentucky consumers to help AT&T bankroll its consolidation.

B.

The AT&T Plan Is Good for AT&T, But Bad for Kentucky.

Such a proposal is not surprising. AT&T and other historical mega-monopolists have always ignored Kentucky's rural areas, deeming them either too unimportant or too expensive to serve. But, with the advent of the *National Broadband Plan*, AT&T has recognized a business opportunity to increase its shareholders profits while claiming to champion the interests of consumers in Kentucky.

AT&T contradicts its new-found concern for consumers by the fact that the AT&T Plan, if implemented, would boost AT&T's profits on the backs of all Kentuckians, and disproportionately affect the Commonwealth's rural citizens. The AT&T Plan would do this by significantly raising the local telephone rates of rural Kentuckians, which, in turn, would seriously threaten the future viability of the RLECs as they assuredly would lose subscribers. It would simultaneously cut the RLECs revenues by reducing (or possibly eliminating) intrastate access rates. This rate cut might reduce AT&T's costs, but it would make it financially

⁴ See "AT&T to Buy T-Mobile USA for \$39 Billion," New York Times, located at <http://dealbook.nytimes.com/2011/03/20/att-to-buy-t-mobile-usa-for-39-billion/?scp=4&sq=at&t%20merger&st=cse> (last visited April 11, 2011).

impossible for the RLECs to continue providing high quality, advanced services without a huge consumer rate increase. Of course, this is exactly AT&T's "solution": make up any alleged revenue shortfall by increasing rural customers' local service rates over the next five years by as much as two or three (or worse) times their current rates.

Though AT&T now champions the *National Broadband Plan* in its effort to reap more profits, a paramount goal of intercarrier compensation reform is not to prop up AT&T's ability to compete by putting pressure on local rates, but rather to encourage the expansion of broadband networks. Even without access reform, the RLECs have successfully pursued that goal. They have extended broadband networks to the most remote corners of the Commonwealth and have contributed to making Kentucky a national leader in broadband development – 95% of Kentucky households have access to broadband.⁵ The AT&T Plan would substantially undermine that progress.

In sum, the wrong approach to access reform will have a disastrous effect on the RLECs, their rural customers, and the economic development of rural Kentucky. The AT&T Plan is the wrong approach.

II. RESPONSE AND COMMENTS

In its current form, the AT&T Plan is more of an outline than a substantive plan for reform. Not only does it lack essential detail on significant issues like how an appropriate benchmark for local rates should be developed, but it also fails to address other important issues altogether such as what happens after five years. Combined with the rapidly changing regulatory environment at the federal level, it is impossible for the RLECs to adequately address, comment

⁵ Connected Nation, "The Economic Impact of Stimulating Broadband Nationally," February 21, 2008, attached hereto as Attachment A (hereinafter, "Connected Nation Report"); *see also* Kentucky Cabinet for Economic Development, "Telecommunications in Kentucky," <http://www.thinkkentucky.com/kyedc/pdfs/telecommunications%20in%20ky.pdf> (last visited April 11, 2011).

on, or propose alternatives to the AT&T Plan. As a result, the RLECs comments are necessarily preliminary, sometimes brief, and open-ended.

In addition to commenting on the AT&T Plan, the RLECs also address AT&T's comments filed in support of its proposed plan. AT&T's comments provide what is presumably the underlying rationale for its desperate and feverish push for intrastate access reform. AT&T's comments, however, are demonstrably false and irrelevant when applied to the Kentucky telecommunications market. Because AT&T's comments provide the rationale for its plan, the RLECs will respond to these comments prior to commenting on the AT&T Plan, itself.

A. AT&T'S COMMENTS IN SUPPORT OF ITS PLAN ARE THEMSELVES UNSUPPORTED AND UNSUPPORTABLE.

In support of its plan, AT&T offers three reasons why intrastate access reform is so urgent in Kentucky. AT&T claims that high intrastate access charges in Kentucky are: (i) hindering its ability to compete; (ii) impeding competition and reducing incentives to encourage adoption of new technologies; and (iii) harming consumers. All three of these rationales are demonstrably false or irrelevant, especially in Kentucky. The Commission should, accordingly, disregard them.

1. AT&T Is Not Only Able to Compete, It Is, In Fact, Increasing Its Dominant Position in the Market.

First, AT&T claims that high access charges in Kentucky are hindering its ability to compete. How AT&T can make such a dubious claim while at the same time offering \$39,000,000,000.00 to purchase one of its wireless competitors is absolutely unfathomable. Indeed, any claim by AT&T that it is somehow experiencing financial harm caused by intrastate access rates in Kentucky is simply not credible.

To put this deal into perspective, the T-Mobile price tag is roughly the equivalent of giving \$8,987.00 to every man, woman, and child in Kentucky, or, put another way, it is equal to [REDACTED] times the size of the RLECs' combined total expected intrastate access revenue loss under the AT&T Plan. In other words, AT&T could cover the RLECs expected operating losses under the AT&T Plan for the next [REDACTED] years, or until the year [REDACTED]. By sheer consequence, \$39,000,000,000.00 is roughly the same amount of spending cuts that nearly brought our country's federal government to a standstill. This is an enormous sum of money. AT&T is clearly a company that is in excellent financial health and is not only competing, but increasingly dominant. Any claim to the contrary is preposterous.

Even setting these facts aside, AT&T has failed to demonstrate that there is any correlation whatsoever between its ability to compete and intrastate access rates. As another participant in this proceeding has previously stated, "[t]he fact that AT&T's wireline business may have decreased cannot simply be attributed to intrastate rates. Instead, wireline business has decreased because of competition with newer technology. Consumers are much less willing to maintain a 'landline' when a smart phone provides access to voice, video and data anytime and anyplace." (Electric and Water Plant Board of the City of Frankfort, Kentucky, December 17, 2010 Comments at 4.) This lack of correlation is underscored by the fact that AT&T, like many IXCs, bundles its retail packages at a flat rate so that consumers are both unaware of and unaffected by the costs associated with providing intrastate switched access services.

Thus, AT&T's claim that intrastate access rates are hindering its ability to compete are just not credible. AT&T apparently does not need to compete – it can simply purchase its competitors, to such an extent that the industry is beginning to resemble nothing so much as it existed, pre-divestiture, in 1984.

2. The RLECs Have Led the Way in Making Kentucky a National Model for Broadband Development, and They Have Eagerly Deployed Advanced Technologies.

The second rationale AT&T provides in support of its plan is a claim that high access charges disincentivize those carriers who receive them from adopting new technologies. (Comments at 2.) Nothing could be farther from the truth in Kentucky. The RLECs have invested and continue to invest millions of dollars in their respective network infrastructures to ensure that their customers have access to the same state-of-the-art, comparably priced technology as those who live in urban areas. As a part of that investment, the RLECs are aggressively building and providing universal broadband to their Kentucky customers. The RLECs have been doing this even prior to the *National Broadband Plan*.

In fact, as early as 2007, Kentucky was already being recognized as a national leader in broadband development and adoption rates. (*See generally*, Connected Nation Report).⁶ By that time, 95 percent of households in Kentucky could subscribe to broadband. (*Id.* at 4.) The Connected Nation Report described Kentucky's growth in rural broadband, in particular, as "even more striking" considering its low national ranking for education and income. (*Id.* at 15.) The direct economic impact of Kentucky's pioneering broadband development in 2007 was \$1.59 billion annually. *Id.*

A comparison of the broadband coverage map provided by the Connected Nation Report (Connected Nation Report at 4) to the "Incumbent Local Exchange Carriers" map located on the

⁶ *See also* The Economist, "Wiring Rural America," http://www.economist.com/node/9803963?story_id=9803963 (last visited April 11, 2011) (by the end of 2007, 98 percent of Kentucky residents will have access to inexpensive broadband services); Consumers for Competitive Choice, "Look to Kentucky for Broadband Success," <http://www.consumers4choice.org/c4cc-fcc-look-kentucky-broadband-success> (last visited April 11, 2011); *see also* Kentucky Cabinet for Economic Development, "Telecommunications in Kentucky," <http://www.thinkkentucky.com/kyedc/pdfs/telecommunications%20in%20ky.pdf> (last visited April 11, 2011).

Commission's website⁷ reveals two significant trends. First, with little exception, the areas in Kentucky that had broadband service in existence even prior to January 2004 correlate with the service territories of the RLECs. Second, with little exception, the areas in Kentucky that remained either underserved by broadband facilities as of the time of the Connected Nation Report or that only received broadband service after January 2004 correlate predominately with the large, nationally affiliated ILEC territories like AT&T's. Of course, a principal reason for this is that AT&T prefers to invest and focus on densely populated urban areas where it can get more bang for its buck.

Additionally, the RLECs (every single one) have been forward thinking in their deployment of advanced technologies for their networks by investing in the latest version of switching technology. This includes IP-based or "soft" switches that allow their networks to carry both voice and data. The RLECs have been eager to embrace IP-based network technology and only hope that the regulatory environment can keep pace (by including VoIP and data services in cost recovery so that this development can continue).

Thus, notwithstanding AT&T's unsupported claims to the contrary, even without intrastate access reform or guidance from *The National Broadband Plan*, the RLECs have successfully built the networks that provide the backbone for advanced services like broadband internet access to rural Kentucky. AT&T simply has no basis for its claim that intrastate access charges have created a disincentive for the RLECs to develop broadband infrastructure. They have, instead, led the way.

⁷ "Incumbent Local Exchange Carriers" <http://psc.ky.gov/agencies/psc/images/lecbycounty.pdf> (last visited April 11, 2011).

3. It Is AT&T's Shareholders, Not Its Customers Or Rural Kentuckians, Who Stand to Gain from the AT&T Plan for reform.

AT&T's third, and final, basis for intrastate access reform is that "[t]here is no sound policy reason why subscribers throughout Kentucky should be asked to pay too much for their traditional wireline long distance calls just so a small minority of subscribers in selected parts of the Commonwealth can pay artificially low local telephone rates." Comments at 2-3. Yet, the number of half-truths in this single sentence alone is staggering. "[S]ubscribers throughout Kentucky" are not being asked to pay "too much" for intrastate wireline long distance. *Id.* Intrastate access rates, though higher than their interstate counterpart, are more than justified.

Intrastate access rates are higher than interstate rates because, unlike interstate rates, cost recovery is actually included in the rate. Interstate switched access rates are, by contrast, set artificially low due to the FCC's previous reform measures.⁸ Specifically, the FCC mandated that implicit costs reflected in per-minute rates be transitioned out of the rate and into explicit federal high-cost universal service mechanisms including Interstate Common Line Support ("ICLS"), Local Switching Support ("LSS") and the Subscriber Line Charge ("SLC"). Accordingly, if the annual levels of ICLS, LSS and SLC recovery amounts received by the RLECs were divided by the RLECs' originating and terminating switched access minutes, the RLECs' interstate per minute switched access rates would be in line with corresponding intrastate switched access rates and reflect the RLECs' underlying cost of providing switched access service.

Intrastate access rates, by comparison, are treated differently. The intrastate access rates charged by the RLECs reflect the recognized costs of doing business in high-cost areas like rural

⁸ Much like the FCC's reform of interstate access charges, the AT&T Plan proposes to move implicit costs to explicit costs and then abandon that program after five years.

Kentucky. The costs are reflected in the rate.⁹ Quite simply, telephone networks in rural communities are more costly to build and maintain because there are fewer customers and those fewer customers live farther apart. Given the fact that the RLECs have COLR obligations to provide voice service to all customers residing in their certificated service territories, the above-average costs of providing service in rural areas is still a fact of life for the RLECs. Combined with the fact that the RLECs are already experiencing a significant loss of annual access lines, any proposed restructuring of intrastate switched access rates that results in higher costs for the RLECs' consumers would only serve to further exacerbate the high-cost of rural service during these difficult economic times.

Regardless, major interexchange carriers ("IXCs"), including AT&T, generally bundle telephone plans in a way that results in one flat monthly fee for intrastate and interstate calls, regardless of the underlying access rates. Thus, consumers are both unaware of and unaffected by the costs associated with providing intrastate switched access services. AT&T's suggestion that high intrastate access rates are somehow to blame for any alleged loss in long distance revenue is simply not consistent with its own pricing plans.

Moreover, AT&T's description of Kentucky's rural communities as a "small minority" reflects its historical disregard for those communities, as well as a certain degree of willful ignorance. In 2010, rural Kentucky accounted for 1,815,597 out of 4,339,367 people in the state according to the U.S. Department of Agriculture's Economic Research Service – that's roughly

⁹ AT&T wants these implicit costs removed from the intrastate access rate for one simple, financial reason: it prefers that the RLECs and the RLECs' customers pay for them instead of AT&T and its customers. But, these are services offered to long-distance providers like AT&T and its paying customers that result in real variable and fixed costs incurred by the RLECs. Just like any business, the RLECs have a right to be compensated for these costs. Otherwise, the RLECs' cost recovery options are not aligned with the value of the services it provides to AT&T and its customers. AT&T and its customers should compensate the RLECs for all portions of their respective networks used in providing this service. The Commission should not allow AT&T to shift these costs to the RLECs in the name of its own increased profits.

42 percent of the state.¹⁰ How can a carrier that dismisses 42 percent of the population of Kentucky as a “small minority” be trusted to adequately represent those same interests in its proposed intrastate access reform plan? The answer is that it cannot. AT&T’s interests, instead, align with those of an even smaller minority: its shareholders.

All three of the reasons provided by AT&T in support of its plan fail, as they are each demonstrably untrue. As shown immediately below, the AT&T Plan is, likewise, fatally flawed and should not be followed.

B. THE AT&T PLAN IS FATALLY FLAWED AND SHOULD BE REJECTED.

Inasmuch as the RLECs are not opposed to intrastate access reform as a general matter, the AT&T Plan is seriously lacking. At just five pages, the AT&T Plan is less of a plan for reform and more of an outline in its early stages. It leaves many questions unanswered and is completely untethered to the concurrent federal intercarrier compensation reforms. These flaws make it practically impossible for the RLECs to effectively comment on AT&T’s “plan.” Despite this difficulty, the RLECs provide the following preliminary comments. In short, the plan is fatally flawed and, as is, will result in higher costs for Kentucky consumers and diminished competition, especially in high-cost, rural areas because it ignores the significant expense and investment required to build, operate, and maintain a telecommunications network in rural Kentucky. And, it will retard economic growth in Kentucky, especially rural Kentucky.

1. A “Number of Lines” Approach to Reform Does Not Account for the Unique Nature and High Costs of the RLECs’ COLR Obligations in Rural Areas.

The AT&T Plan proposes a one-size-fits-all approach to intrastate access reform. Specifically, it seeks to have all ILECs (which include the RLECs) align their cost recovery on a “per line” basis. A “per line” or “number of lines” analysis, however, ignores the RLECs’ real

¹⁰ See U.S. Department of Agriculture, “State Fact Sheets: Kentucky,” <http://www.ers.usda.gov/statefacts/ky.htm> (last visited April 10, 2011).

costs of service, and treats all ILECs as though they are similarly situated. As discussed above, such an assumption is fatally flawed.

The RLECs cost per line is exponentially greater than AT&T's cost per line. As COLR, the RLECs' respective networks are active and available regardless of whether a resident or business takes service. Per line recovery for access service costs will not accurately capture the carrier costs associated with the RLECs' duties in high-cost, rural areas. As mentioned above, the RLECs' obligations to serve as COLR in their respective territories mean that these significant costs are unavoidable, even in the face of competition. The RLECs do not have the luxury to exit the market at will when the economics are unfavorable. A COLR must maintain facilities "just in case" – regardless of whether a resident or business takes service. The RLECs, as COLR, have committed to provide these services to any customer in their rural service area that requests it, even if serving that customer would not be economically viable at prevailing rates. The safety net of the RLECs' networks is available at any time and the capital and operational costs of building and maintaining these networks in rural Kentucky exist as a significant network cost.

As a result, the Commission cannot effectively focus its review of this issue solely on a "number of access lines" basis. The RLECs' COLR obligations in rural areas ultimately impose real costs of service that are ignored in a "per line" analysis. Such an approach to access reform will undermine the RLECs ability to maintain and operate their respective networks.

2. The AT&T Plan Fails to Recognize that Wireline Facilities Will Remain the Backbone for Advanced Services Like Broadband and Wireless.

The AT&T Plan fails to recognize the fundamental importance of the traditional wireline infrastructure to advanced services like broadband and wireless. However, broadband cannot operate distinct from traditional, local wireline facilities. Similarly, wireless requires the

wireline network. As a result, any plan, like the AT&T Plan, that undercuts cost support for traditional wireline facilities also necessarily undercuts support for advanced services. Any intrastate access reform must protect the existing wireline infrastructure no less than it encourages new technological development.

3. The AT&T Plan Fails to Address Or Accommodate the Concurrent Federal Intercarrier Compensation Reforms.

In its current form, the AT&T Plan for Kentucky switched access reform fails to address or accommodate the concurrent federal proceedings addressing interstate access rates (and, perhaps, intrastate as well). On some points, the AT&T Plan differs markedly from that put forth by the FCC in its *National Broadband Plan* and the FCC's recent Notice of Proposed Rulemaking ("NPRM"). At best, the plan will serve only to increase the chances that whatever result is reached in Kentucky is likely to be at odds with the federal process, temporary in nature, and wasteful of the parties' and the Commission's limited time and resources. At worst, such incongruity could lead to disastrous results for the participants in this proceeding, especially the RLECs.

In particular, the FCC's treatment of interstate access rates will have a direct effect on cost recovery at the state level for all ILECs. A decrease in interstate rates will serve to increase the financial strain on the RLECs and other carriers as cost recovery is further shifted to local and intrastate rates. Thus, any reduction of intrastate access charges will be exacerbated by the FCC's eventual reduction of interstate access charges. And, any plan that does not take this into account is, itself, seriously flawed.

It is absolutely essential that the Commission recognize that AT&T's recommendation to have intrastate access rates mirror interstate access rates is, in reality, an attempt to adjust all rates to zero – as one possible outcome of intercarrier compensation at the federal level is to

eliminate interstate rates altogether. Such a one-two combination would deal a serious blow to the RLECs and many other carriers in Kentucky. It is also not acceptable. No one knows what the rate structure of interstate access will be in the future and whether such a rate would be appropriate in Kentucky. Any reduction beyond a transition to current interstate rates should not take place automatically without Commission review of how these changes would affect Kentucky consumers. The Commission must take a cautious approach, as anything it does to reduce intrastate access charges will be further exacerbated by the FCC's pending reform of interstate access rates.

The AT&T Plan, moreover, is at odds with federal reform as it proposes a five-year glide path as opposed to the FCC's much longer ten-year glide path. The difference here would be that the FCC is tasked with maintaining a healthy, robust, and competitive telecommunications industry. AT&T's only task, by contrast, is to increase its profits by any means necessary. The Commission should, at minimum, take it as instructive that the FCC would recommend a ten-year glide path out of a desire not to cause an abrupt change in the market for both providers and consumers, alike.

Looking to the federal proceedings for guidance does not have to equate with "waiting for Godot," as AT&T has claimed. (March 31, 2011 Response to Joint Motion of CLECs at 7.) It should, instead, be seen as a significant source of information that can enlighten the state-level proceeding as it cautiously progresses. Whereas AT&T would have intrastate reform run roughshod overtop of anyone who stands in its way, the Commission should continue to take a cautious, measured approach that seeks as much guidance as is necessary from the federal proceedings. No less than the future of Kentucky's telecommunications services is at stake, without which Kentucky will be left behind as an economic backwater.

4. The Proposed Kentucky Universal Service Fund Must Keep Pace with Local Rate Benchmarks.

A state-level universal service fund is absolutely essential to any effort at reform. The RLECs' ability to recover their operating costs, under any plan for reform, will be squeezed from at least four different directions: (i) by lower interstate rates (eventually reaching zero); (ii) by lower intrastate rates (if mirroring interstate rates, then also eventually reaching zero); (iii) by a smaller customer base as subscribers cancel wireline service due to exponentially higher retail rates; and (iv) by anticipated reductions in federal-level Universal Service Fund support. If the RLECs continue to lose customers and are constrained by competition from raising prices to restore lost revenues, state-level universal service funding is the only remaining tool that can ensure continued ubiquitous service. Without a robust state-level universal service fund, the RLECs will not be able to recover their costs.

While AT&T includes a KUSF mechanism as part of its plan, it fails to provide any guidance as to how the KUSF should be applied or funded after the five-year glide path is complete. It is also silent on how the KUSF should operate in conjunction with a local rate benchmark. If access charges are reduced, the proposed KUSF fund will need to grow as local access rates are pushed down. AT&T's Plan is less than specific on these absolutely essential issues.

The AT&T Plan also makes recovery of universal service funds dependent upon the number of access lines an ILEC has. The economics are clear that this will create a downward spiral effect: as retail rates go up, the number of access lines will go down as subscribers leave the market, which will lead to less universal service funds, which will require even higher retail rates to recover costs, and so on. Simply put, cost recovery and universal service funds cannot be determined on a number of lines basis.

The Commission should, furthermore, provide for more discussion regarding the effect of benchmarks on Kentucky consumers. If interstate and intrastate access and universal service revenues are reduced over time, the only place to receive revenues in order to be the provider of last resort will be the customer. Regardless of where the benchmark is set, Kentucky will still require adequate federal and state universal service in the future in order to provide voice and broadband services in rural areas. The costs are simply too high to expect rural consumers to absorb them alone, and will further stunt economic growth.

5. The AT&T Plan contains no mechanism for passing through savings to Kentucky citizens.

For all of the concern AT&T claims to have regarding the alleged harm caused to Kentucky consumers as a result of "inflated" intrastate access rates, the AT&T Plan fails to include any provision whatsoever that would pass along to its customers the alleged cost savings resulting from reduced intrastate access rates in long distance markets. Without adequate market or regulatory pressure, AT&T would presumably pocket those savings as dividends to its shareholders and continue to charge its customers the same rates for its various phone plans and long distance service packages. Accordingly, any reform of access rates should require that any cost savings achieved through reduced access charges must flow through to the Kentucky consumer. Otherwise, it will be the IXCs, and their shareholders that benefit from reform and not the consumer.

For full disclosure, the Commission should require AT&T to produce, as part of this proceeding, the cost savings it has experienced as a result of intrastate access reform in other states. The Commission should, furthermore, require that AT&T provide an accounting for how its alleged cost savings have been allocated, to its subscribers or to its shareholders, and how any alleged cost savings would be allocated under the AT&T Plan in Kentucky.

C. THE RLECS SEEK A BALANCED PLAN FOR REFORM.

The RLECs are not categorically opposed to intrastate access reform. They believe that it is possible to develop a plan that would not harm Kentucky consumers while at the same time encouraging even more investment in forward-looking, progressive advanced technologies. In fact, the RLECs are anxious to embrace such a plan, and, as discussed above, are already implementing network infrastructure that will make it possible. Such a plan, however, must be the result of a deliberative and thoughtful process – not one that is rushed by the interests of AT&T's shareholders.

While it is impossible – certainly at this stage – to provide the specifics of what a balanced plan would look like due to the rapidly changing regulatory environment at the federal level, the RLECs can already provide the Commission with a few general issues that must be addressed in a balanced plan. First, a balanced plan must take into consideration the looming reductions in interstate revenue – both in rates and in USF allocations. The FCC's recent NPRM makes clear that these changes are coming. The Commission must be fully aware of the ramifications that these reductions will have at the state level on rate-of-return carriers like the RLECs in particular. It will fall to the Commission to develop a new cost recovery mechanism that addresses these costs for rate-of-return regulated companies.

Second, a balanced plan must allow for a transition in intrastate rate levels as opposed to immediate cuts. As the RLECs' separately-filed revenue shift data makes abundantly clear, a drop in intrastate rates to interstate rate levels will involve a significant amount of revenue loss. Such a drop should not occur overnight.

Third, the RLECs believe that a balanced plan must take into account the costs incurred by carriers on a system- or network-wide basis, not a per-line basis. This approach will ensure

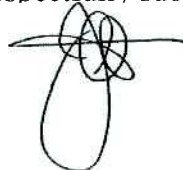
that the unique costs incurred by carriers like the RLECs are adequately addressed. In any event, and as mentioned above, the economics are clear that moving full cost recovery from access rates to local retail rates will only create a downward spiraling effect: as local retail rates go up, the number of access lines will go down (as subscribers are forced from the market). Thus, cost recovery, especially for COLR, cannot be tied to a number of lines analysis.

Again, the RLECs believe that access reform is possible. But, it will require a more balanced and deliberative approach than the one AT&T has proposed. In order to get it right, however, state-level reform will also require more clarity regarding the actions that will be taken at the federal level.¹¹

III. CONCLUSION

For the reasons stated above, the RLECs strongly urge the Commission not to follow AT&T's proposed plan for intrastate access reform. Inasmuch as the RLECs are not opposed to access reform as a general matter, the plan presented by AT&T is fatally flawed. It suffers from a lack of substantive detail, is divorced from the broader federal regulatory context, and would be harmful to Kentucky – disproportionately so to its rural citizens. In its current form, the AT&T Plan represents the wrong approach to reform in Kentucky. The Commission should, accordingly, decline to follow it and work to craft a reform plan that better ensures the economic vitality of rural Kentucky.

Respectfully submitted,



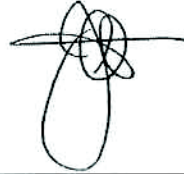
John E. Selent
Edward T. Depp

¹¹ Accordingly, the RLECs' separate motion for Supplemental Comments at the close of the federal proceedings will help to achieve the level of clarity necessary to move this current state-level proceeding forward.

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Counsel to the RLECs

CERTIFICATE OF SERVICE

In accordance with Ordering Paragraph No. 5 of the Commission's March 10, 2011 Order, this is to certify that the RLECs' April 15, 2011 electronic filing is a true and accurate copy of the documents to be filed in paper medium; that the electronic filing has been transmitted to the Commission on April 15, 2011; that an original and one copy of the filing will be delivered to the Commission on April 15, 2011; and that, on April 15, 2011, electronic mail notification of the electronic filing will be provided through the Commission's electronic filing system.

A handwritten signature in black ink, consisting of a large loop at the bottom and a horizontal line crossing through the middle of the loop.

Counsel to the RLECs

846115v1

EXHIBIT "A"



**CONNECTED
NATIONSM**

The Economic Impact of Stimulating Broadband Nationally

A Report from Connected Nation, Inc.

February 21, 2008



Contents

Key Findings	1
Affirmations	2
Executive Summary	4
Introduction	9
Broadband Adoption in Kentucky	11
No Child Left Offline® Program Accelerates Adoption	13
Kentucky Outpaces National Averages for Broadband Adoption	15
Economic Impacts of Increased Access & Adoption in Kentucky	17
Estimating the Economic Impacts of a Connected Nation	20
Policy Recommendations	22

Key Findings

- Kentucky's broadband adoption rate is higher than the national trends due to Connected Nation's first statewide broadband expansion program, ConnectKentucky.
- Adopting a national policy to stimulate the deployment of broadband in underserved areas of the U.S. could have dramatic and far-reaching economic impacts. For instance, just a seven percentage point increase in broadband adoption could result in:
 - ▷ \$92 billion through 2.4 million jobs created or saved annually
 - ▷ \$662 million saved per year in reduced healthcare costs
 - ▷ \$6.4 billion per year in mileage saving from unnecessary driving
 - ▷ \$18 million in carbon credits associated with 3.2 billion fewer lbs of CO2 emissions per year in the United States
 - ▷ \$35.2 billion in value from 3.8 billion more hours saved per year from accessing broadband at home
 - ▷ \$134 billion per year in total direct economic impact of accelerating broadband across the United States
- If Congress passes legislation (such as S. 1190/H.R. 3627, H.R. 3919, or S. 1492) to empower every state to implement programs modeled after ConnectKentucky and experience an increase in the growth rate of broadband adoption over what should be expected without a broadband focused program, the estimate of direct economic stimulus is more than \$134 billion per year for the nation.
- In 2007, the U.S. House of Representatives voted unanimously to pass such legislation, and the U.S. Senate passed a similar proposal as part of a renewal of the Farm Bill. The Senate and the House should complete negotiations on the Farm Bill, including broadband provisions as outlined in the bills listed above.



Affirmations

"The Communications Workers of America has long been pressing for public policies that will allow all Americans to share in today's telecommunications revolution and for our nation to fully utilize the economic engine of the 21st century. Economic growth, quality jobs and the tremendous opportunity for improvement in the personal lives of all Americans depends on substantial improvements in speed, quality and most critically, the build out of true high-speed Internet networks. At the current rates of broadband speed in the United States, the promise of telemedicine, distance learning and civic participation simply isn't possible. And both developed and developing regions – Europe, Korea and parts of southeast Asia, eastern Europe and more – have moved far ahead of us. This economic impact study spotlights not only the positive benefits that will result from the build out of true high-speed broadband networks, but reinforces the critical need for a national broadband policy and the broadband mapping bills that Congress now is considering."

Larry Cohen, President
Communications Workers of America

"Connected Nation provides convincing evidence that the benefits of broadband adoption spill over to society as a whole. Moreover, the report rightly concludes that public policies to spur broadband are critical to ensure the best possible broadband future for the United States."

Dr. Robert D. Atkinson, President
The Information Technology & Innovation Foundation

"Through its experience in Kentucky, Connected Nation provides an incredibly successful model for stimulating broadband build out and demand that should be adopted nationally. Its comprehensive strategy of assessing broadband availability, identifying and aggregating demand through grassroots county planning teams, and bringing providers and users together through a public private partnership has resulted in an expansion of broadband availability that is significant and measurable. Connected Nation's study identifies the economic benefits that can be expected if such a strategy is adopted nationally. This study should strengthen the growing, bi-partisan call in Washington, DC for a national broadband policy and specific legislation that would enable other states to participate in and benefit from this proven and successful model of economic development."

Kenneth R. Peres, PhD, President
Alliance for Public Technology

Affirmations

"The Connected Nation approach to broadband is perhaps the most important public policy innovation for communications services in many decades. In an environment characterized by constant rhetorical divisiveness, Connected Nation pulls people together to share in their relentless focus on expanding broadband availability and subscription. As this new study shows, there is much to gain from expanding broadband availability and use in this country, and Connected Nation has proven itself up to the task."

Lawrence Spiwak, President
Phoenix Center for Advanced Legal & Economic Public Policy Studies

"Connected Nation continues to blaze a trail toward a networked nation that works for everyone. This report demonstrates the powerful economic effects of broadband adoption. More to the point, Connected Nation has proven the tangible benefits of engaging the challenges of 21st Century infrastructure at the community level. The process begun by Connected Nation in Kentucky can and should serve as a model for efforts across the US."

Charles Kaylor, Principal
Public Sphere Information Group

"To retain and gain jobs and to promote learning and earning, every city, town and rural community will need the connected power of broadband. Connected Nation's research shows that job generating power of having people connected to broadband. I look forward to learning more from their groundbreaking work as communities learn how, from them, to use broadband for improving these services and promoting economic development and job gains."

Graham Richard, Former Mayor
Fort Wayne, Indiana

Executive Summary

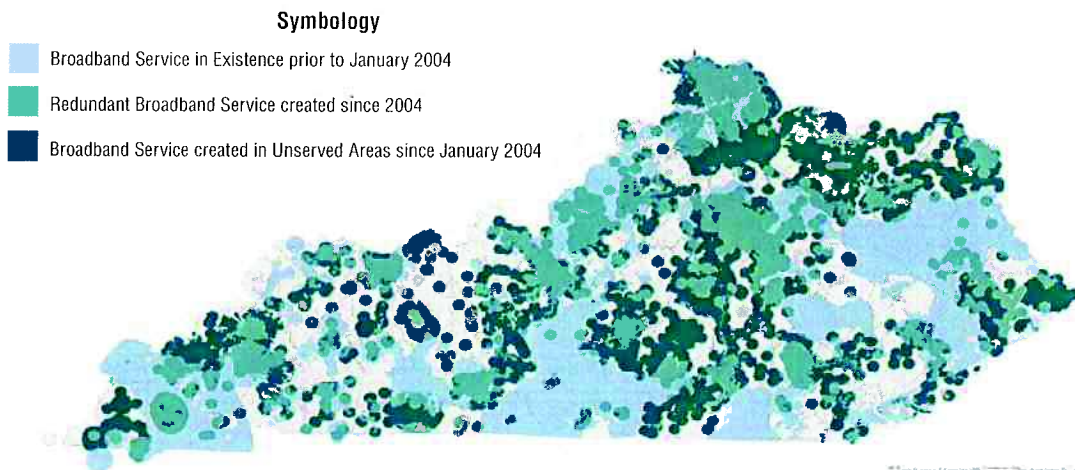
If Congress passes legislation to empower every state to implement programs modeled after ConnectKentucky and experience an increase in the growth rate of broadband adoption over what should be expected without a broadband focused program, the estimate of direct economic stimulus is more than \$134 billion per year for the nation.

It has been widely established that broadband networks provide a constructive platform for addressing a variety of public challenges including healthcare, education, homeland security and workforce/economic development.¹ Yet, at the beginning of 2008, many United States residents still cannot access broadband Internet service.

One state, Kentucky, has made measurable strides in expanding broadband networks. The broadband initiative in Kentucky led by ConnectKentucky brings together partners in the public and private sector to foster both the supply of and demand for broadband. The primary goal of ConnectKentucky is to increase the availability of technology by ensuring broadband service is available to each household and business in the state and to measurably improve computer literacy, ownership and overall technological literacy.

In 2004, only 60% of Kentucky households had broadband available for subscription. Three years later, in December 2007, 95% of households could subscribe to broadband, a statewide increase of nearly 60%. The map below identifies the growth of broadband investment from 2004-2007 (Figure 1)². It is the result of a cooperative mapping effort among more than eighty Kentucky broadband providers (Table 1).

**Figure 1: Broadband Service Growth in Kentucky 2004-2007
Household Coverage Grew from 60% to 95%**



¹ Robert W. Crandall, Robert C. Litan, and William E. Lehr, "The Effects of Broadband Deployment on Output and Employment: A Cross-Sectional Analysis of U.S. Data," *Insights in Economic Policy: The Brookings Institution*, No. 5, July 2007, p. 1.

² ConnectKentucky Broadband Service Growth Map, January 1, 2004 to December 31, 2007

Table 1: List of 81 Providers Represented on the KY Broadband Service Growth Map

Access Cable Television	Henderson Municipal Power & Light Co.	Pritchtech
Access Kentucky	Highland Telephone Cooperative	Riverside Communications
Armstrong Utilities	Hopkinsville Electric System	Russellville Electric Plant Board
AT&T	Insight Communications	Salem Telephone Company
Ballard Rural Telephone Cooperative	Intermountain Cable	SCS Wireless
Barbourville Utility Commission	Irvine Community Television	Shelby Wireless
Bardstown Municipal Utilities	Ken-Tenn Wireless, Llc	Sit-Co (Formerly Ohio Valley Wireless)
Big Sandy TV Cable	Kvnet	South Central Rural Telephone Cooperative Corporation
Blueone.Net - Pendleton County	Kywifi	
Bowling Green Municipal Utilities	Kywimax	Southeast Telephone
Brandenburg Telephone Company	Leslie County Telephone	Speedbeam
Burgin Wireless	Lewisport Telephone Company	Ssinet
Cainpro Communications	Liberty Communications, Inc	Suddenlink
Cebridge Connections	Limestone Cable Vision	TDS
Chapel Communications	Logan Telephone Cooperative	Thacker-Grisby Telephone Company
Cincinnati Bell Telephone	Lycorn	Time Warner Cable
City Of Bellefonte	Mayfield Electric And Water Systems	Tv Service & United Cable
City Of Raceland	Mediacom	Us Digital Online
Coalfields Telephone	Mega-Wi	Vortex Wireless
Comcast Cable	Monticello Plant Board	VVDS
Duo County Telecom	Mountain Telephone Cooperative	Webcats Networks
Duo County Telephone	Netpower, LLC	West Kentucky Networks
Cooperative CorpOration	Newwave Communications	West Kentucky Rural Telephone Cooperative Corporation
Foothills Rural Telephone	North Central Telephone Cooperative	
Cooperative Corporation	Ohio County Direct Net	Williamstown Catv
Frankfort Electric & Water Plant Board	Owensboro Municipal Utilities	Williamstown Utility Company
Galaxy Cablevision	Peoples Rural Telephone	Wimax Express
Harlan Community TV	Cooperative Corporation	Windstream
	Princeton Electric And Plant Board	Worldwide Gap

This important investment in technology infrastructure did not happen in a vacuum. It was fueled by fast growing demand promoted in large part by ConnectKentucky. **From 2005-2007, broadband adoption (the number of homes subscribing to high-speed broadband service) in Kentucky increased 83%, a rate that exceeded what would naturally be expected when compared to nationwide trends for household broadband adoption.** Clearly something unique has taken place in Kentucky (Figure 2)³.

³ KY growth comes from 2 studies: 2005 University of KY D-Communications Report - statewide digit dial telephone survey completed March 2005, N=1,102 +/- 3% at the 95% level of confidence. And 2007 ConnectKentucky Residential Technology Assessment - statewide random digit dial telephone survey completed September 2007, N = 10,830 +/- 1.7% at the 95% level of confidence. National growth: "Home Broadband Adoption 2007" by John Horrigan and Jason Smith, Pew Research and American Life Project, June 2007.

ConnectKentucky's success in promoting broadband adoption is the result of a comprehensive, targeted and locally relevant program that was repeated across each Kentucky county. It is a series of well designed and implemented supply and demand promoting programs that can be readily replicated in other states. Connected Nation, the national non-profit of which ConnectKentucky is a subsidiary, is now implementing the same kind of programming in other states.

Using the device of counterfactual analysis, this paper has conservatively quantified the direct impact of ConnectKentucky as the intervening factor in Kentucky. Additionally, the paper extrapolates this impact to other states to quantify the potential national impact of pending federal legislation that would empower states to accelerate broadband through similar public-private partnerships.

Figure 2: Broadband Adoption Growth Rates 2005-2007

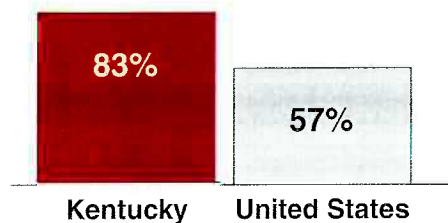
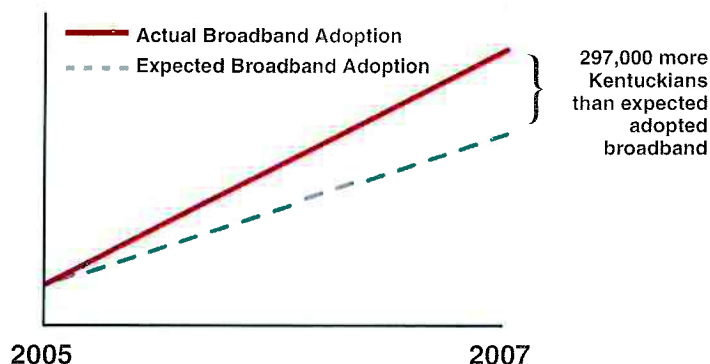


Figure 3: Kentucky's Actual versus Expected Broadband Adoption in 2007



To measure the impact of the ConnectKentucky initiative on broadband adoption in Kentucky, this study compares the growth rate of adoption in Kentucky from 2005-2007 to what one would have expected if no ConnectKentucky program had been in place. In other words, what would we expect adoption rates to be in the absence of a coordinated public-private program such as ConnectKentucky. To this end, we compare Kentucky broadband adoption trends since the start of ConnectKentucky's program with national average broadband growth trends during the same period. In the identified time frame, Kentucky had 297,000 more subscribers than expected when compared

to national growth rates.⁴ For Kentucky, this means 297,000 more subscribers are participating in the benefits of broadband today than would have without the ConnectKentucky program (Figure 3)⁵.

Many have recognized that broadband adoption represents an important source of gaining an economic advantage. A recent Brookings Institution study developed a formula for gauging the growth in jobs that can be associated with growth in broadband adoption.⁶ This study uses the Brookings Institution formula along with direct consumer surveys to estimate the direct economic impacts associated with employment,

⁴ If national broadband adoption rates between 2005 and 2007 were applied to Kentucky's 2005 baseline broadband adoption rate (7.1%), then Kentucky's expected statewide adoption would be only 37% in 2007. However, Kentucky's broadband adoption percentage is actually 44% in 2007, which is seven percentage points above the expected adoption rate. The additional 7% translates into approximately 297,000 more individuals accessing broadband in the state of Kentucky than expected.

⁵ KY growth comes from 2005 University of KY E-Commerce Report - statewide digital telephone survey conducted March 2006, N=1,102 +/- 3% at the 95% level of confidence. And 2007 ConnectKentucky Residential Technology Assessment - statewide random digit dial telephone survey completed September 2007, N = 10,830 +/- 1.7% at the 95% level of confidence. National growth: "Home Broadband Adoption 2007" by John Horrigan and Aaron Smith, Pew Internet and American Life Project, June 2007.

⁶ Robert W. Crandall, Robert E. Litan, and William Lahn, "The Effects of Broadband Deployment on Output and Employment: A Cross-Sectional Analysis Of U.S. Data," Issues in Economic Policy, The Brookings Institution, No. 6, July 2007.

time saved, direct consumer healthcare savings and economic and environmental impact of fewer miles being driven due to online activity enabled by broadband.

To further understand the urgency of a concerted effort to promote broadband adoption and stimulate infrastructure investment, it is useful to extrapolate economic benefits gained through broadband acceleration onto the nation as a whole. By applying the dynamic equivalents to other state demographics and by assuming a similar higher than expected growth rate in broadband adoption, this study reports that if every state were to develop initiatives similar to ConnectKentucky, the United States could expect to gain:

- \$92 billion through 2.4 million jobs created or saved annually
- \$662 million saved per year in reduced healthcare costs
- \$6.4 billion per year in mileage savings from unnecessary driving
- \$18 million in carbon credits associated with 3.2 billion fewer lbs of CO2 emissions per year in the United States
- \$35.2 billion in value from 3.8 billion more hours saved per year from accessing broadband at home
- \$134 billion per year in total direct economic impact of accelerating broadband across the United States

Given the federal government's current search for constructive forms of economic stimulus, Connected Nation encourages the 110th Congress to consider the following bills that directly seek to replicate the ConnectKentucky model nationwide as a relevant means to both short and long term economic stimulus that provides an astounding return on investment.

- S. 1190/H.R. 3627 – the Connect the Nation Act of 2007
- S. 1492 – the Broadband Data Improvement Act
- H.R. 3919 – the Broadband Census of America Act of 2007

Each of these bills in various ways provides legislation that includes:

- Recognition of the critical role of public-private partnerships in broadband expansion
- Federal enabling of state/local response to broadband deployment and demand aggregation
- Recognition of the indispensable role non-profits play in program implementation

Time is of the essence. The United States can ill afford the passing of another year without policies that will stimulate broadband growth, particularly in previously underserved or overlooked areas. Much consensus building has occurred around broadband policy needs during this Congress. The time for action is now.

Table 2: A State-by-State Summary of the Annual Economic Impact Associated with Accelerating Broadband for Each State

	Total Annual Economic Impact	Jobs Created or Saved Annually	Direct Annual Income Growth from the Increase in Broadband	Average Annual Medicare Costs Saved	Average Annual Mileage Costs Saved	Average Annual Hours Saved	Annual Value of Hours Saved	Average Annual lbs of CO ₂ Emissions Cut	Value of Carbon Offsets
Alabama	\$1,692,307,789	33,451	\$1,118,595,872	\$10,187,810	\$99,216,165	57,715,987	\$464,036,535	50,255,886	\$271,408
Alaska	\$317,188,552	4,846	\$212,849,167	\$1,434,307	\$14,018,776	8,408,897	\$88,797,954	7,100,920	\$38,349
Arizona	\$2,498,704,035	46,358	\$1,680,954,424	\$13,659,679	\$129,327,410	77,384,824	\$674,408,744	65,508,111	\$353,778
Arkansas	\$963,684,222	20,577	\$635,196,771	\$6,226,667	\$60,352,819	35,275,319	\$261,742,869	30,570,465	\$165,097
California	\$17,287,110,398	262,042	\$11,577,026,715	\$80,761,066	\$768,277,259	457,527,657	\$4,858,943,717	389,154,873	\$2,101,641
Colorado	\$2,351,248,032	39,665	\$1,644,109,297	\$10,529,720	\$101,888,351	59,652,980	\$594,441,946	51,609,426	\$278,718
Connecticut	\$1,938,746,950	29,765	\$1,368,285,351	\$7,763,882	\$76,465,884	43,983,951	\$486,022,659	38,732,204	\$209,174
Delaware	\$452,660,929	7,796	\$324,919,691	\$1,890,627	\$18,478,024	10,710,782	\$107,322,040	9,359,659	\$50,547
Florida	\$7,531,595,950	143,405	\$5,136,752,665	\$40,072,871	\$399,029,270	227,020,858	\$1,954,649,591	202,119,981	\$1,091,554
Georgia	\$3,907,660,865	71,059	\$2,639,837,894	\$20,743,080	\$197,143,135	117,513,714	\$1,049,397,466	99,858,756	\$539,290
Hawaii	\$578,001,026	10,284	\$397,274,880	\$2,847,646	\$28,011,744	16,132,486	\$149,790,130	14,188,767	\$76,627
Idaho	\$565,942,345	10,859	\$378,002,347	\$3,248,525	\$30,661,907	18,403,549	\$153,945,689	15,531,152	\$83,876
Illinois	\$8,207,888,316	105,622	\$4,321,003,997	\$28,425,487	\$273,919,566	161,036,091	\$1,583,789,952	138,748,261	\$749,314
Indiana	\$2,679,847,808	52,863	\$1,860,248,442	\$13,985,762	\$134,940,477	79,232,151	\$670,303,994	68,351,293	\$369,133
Iowa	\$1,237,290,273	26,064	\$866,632,289	\$6,605,940	\$64,670,465	37,423,974	\$299,204,671	32,757,480	\$176,908
Kansas	\$1,154,893,120	22,828	\$798,081,721	\$6,123,002	\$58,974,133	34,688,036	\$291,552,939	29,872,121	\$161,325
Kentucky	\$1,587,239,467	31,699	\$1,061,603,244	\$9,317,330	\$91,153,941	52,784,546	\$424,915,597	46,172,134	\$249,354
Louisiana	\$1,556,816,993	31,313	\$1,030,199,954	\$9,498,299	\$91,233,861	53,809,773	\$425,635,307	46,212,615	\$249,572
Maine	\$544,607,277	10,577	\$371,878,460	\$2,927,562	\$29,575,200	16,585,225	\$140,145,152	14,980,703	\$80,904
Maryland	\$2,813,857,230	43,922	\$1,933,873,816	\$12,440,005	\$121,232,549	70,475,128	\$745,979,225	61,407,827	\$331,635
Massachusetts	\$3,840,751,425	5,411	\$2,765,167,106	\$14,259,724	\$141,613,044	80,784,197	\$919,324,165	71,731,143	\$387,386
Michigan	\$4,637,508,875.7	6,200	\$3,141,722,166	\$22,363,953	\$217,268,265	126,696,281	\$1,255,500,149	110,052,723	\$594,343
Minnesota	\$2,791,482,532	48,691	\$2,021,172,957	\$11,446,205	\$111,405,012	64,845,051	\$647,153,606	56,429,893	\$304,751
Mississippi	\$905,743,973	18,723	\$570,305,184	\$6,447,452	\$61,452,087	36,526,113	\$267,371,146	31,127,277	\$168,104
Missouri	\$2,501,367,723	48,592	\$1,733,262,586	\$12,942,827	\$126,066,630	73,323,711	\$628,750,822	63,856,431	\$344,858
Montana	\$337,218,046	7,198	\$225,220,226	\$2,092,557	\$20,700,888	11,854,754	\$89,147,748	10,485,604	\$56,628
Nebraska	\$783,129,301	16,280	\$558,411,615	\$3,917,222	\$37,725,489	22,191,847	\$182,971,776	19,109,062	\$103,199
Nevada	\$1,175,028,256	23,482	\$845,359,452	\$5,528,117	\$52,939,525	31,317,891	\$271,056,344	26,815,416	\$144,817
New Hampshire	\$634,062,329	11,374	\$446,419,295	\$2,912,766	\$28,960,278	16,501,406	\$155,690,768	14,669,227	\$79,222
New Jersey	\$4,636,703,229	71,109	\$3,231,890,665	\$19,326,718	\$188,794,006	109,489,738	\$1,196,175,390	95,629,679	\$516,451
New Mexico	\$694,119,894	13,184	\$447,977,912	\$4,329,844	\$41,293,689	24,529,436	\$200,405,489	20,916,460	\$112,960
New York	\$9,909,345,962	147,884	\$6,776,023,161	\$42,767,217	\$420,637,031	242,284,874	\$2,668,767,889	213,064,943	\$1,150,663
North Carolina	\$3,626,061,051	69,432	\$2,466,214,037	\$19,619,004	\$190,523,446	111,145,595	\$949,183,383	96,505,690	\$521,182
North Dakota	\$264,354,171	5,755	\$186,703,927	\$1,408,578	\$13,960,441	7,979,877	\$62,243,037	7,071,371	\$38,189
Ohio	\$5,165,789,104	96,312	\$3,598,197,715	\$25,426,175	\$247,968,322	144,044,384	\$1,293,518,569	125,603,198	\$678,323
Oklahoma	\$1,270,219,076	25,603	\$833,901,696	\$7,928,700	\$76,474,057	44,917,679	\$351,705,426	38,736,344	\$209,197
Oregon	\$1,653,094,131	29,383	\$1,133,296,659	\$8,197,950	\$80,851,438	46,443,033	\$430,526,912	40,953,615	\$221,171
Pennsylvania	\$5,618,124,596	103,916	\$3,905,168,316	\$27,558,567	\$274,060,290	156,124,817	\$1,410,587,724	138,819,542	\$749,699
Rhode Island	\$517,684,416	8,896	\$360,983,164	\$2,364,979	\$23,573,532	13,398,078	\$130,698,255	11,940,682	\$64,486
South Carolina	\$1,628,562,600	32,629	\$1,089,806,446	\$9,572,467	\$93,461,551	54,229,946	\$435,466,470	47,341,006	\$255,666
South Dakota	\$295,051,946	6,718	\$204,642,266	\$1,732,113	\$16,753,192	9,812,771	\$71,878,545	8,485,981	\$45,829
Tennessee	\$2,450,739,704	49,142	\$1,682,608,846	\$13,377,207	\$130,689,201	75,784,562	\$623,706,946	66,197,898	\$357,503
Texas	\$9,424,006,380	173,117	\$6,303,206,537	\$52,074,637	\$486,029,518	295,013,274	\$2,581,366,143	246,188,147	\$1,329,546
Utah	\$1,066,414,382	20,728	\$736,673,777	\$5,648,921	\$50,494,153	32,002,271	\$273,459,402	25,576,764	\$138,128
Vermont	\$275,359,624	5,270	\$191,553,395	\$1,382,086	\$13,953,557	7,829,796	\$68,432,416	7,067,884	\$38,170
Virginia	\$3,764,632,826	63,344	\$2,625,619,577	\$16,930,580	\$165,834,683	95,915,137	\$955,794,341	84,000,111	\$453,645
Washington	\$3,056,439,915	48,365	\$2,075,358,306	\$14,168,025	\$138,603,982	80,264,707	\$827,930,448	70,206,965	\$379,155
West Virginia	\$616,017,781	12,690	\$398,961,244	\$4,028,290	\$40,504,254	22,821,071	\$172,413,192	20,516,588	\$110,800
Wisconsin	\$2,613,219,462	50,748	\$1,863,975,895	\$12,308,818	\$120,871,181	69,731,928	\$615,732,922	61,224,784	\$330,646
Wyoming	\$215,933,328	4,383	\$150,308,706	\$1,140,841	\$11,197,254	6,463,094	\$53,255,896	5,671,736	\$30,630
TOTAL	\$134,235,457,815	2,352,552	\$91,927,439,829	\$ 667,941,807	\$6,413,230,933	3,750,033,246	\$35,215,301,497	3,248,488,796	\$17,543,549



Introduction

It is widely understood that increased adoption of broadband technology speeds the flow of information and sparks innovation. According to the Brookings Institution, "Highspeed Internet access has developed rapidly in the last decade and is increasingly viewed as essential infrastructure for our global information economy."⁷ However, at the beginning of 2008, many United States residents still cannot access broadband Internet service, especially in America's most rural areas.

One state, Kentucky, has significantly accelerated broadband availability and use. In fact, 95% of Kentuckians can now access broadband in their homes, up from just 60% in 2004.⁸ The broadband initiative in Kentucky has been led by ConnectKentucky, an innovative non-profit that brings together partners from the public and private sector to foster the supply and demand of broadband and related technology.

The ConnectKentucky model is rooted in a community-driven technology planning process that creates demand for broadband and information technology services, which in turn drives the investment that extends the supply of those services. The point of contact between supply and demand is within communities themselves. The ConnectKentucky model attempts to foster a sustainable, grassroots coalition of community leaders representing education, healthcare, businesses, government, libraries, agriculture, tourism and community-based organizations. These "eCommunity Leadership Teams" utilize ConnectKentucky's community-level consumer research and other forms of market intelligence to develop customized technology programs, targeted awareness campaigns and community-oriented applications to increase adoption and generates demand for services. Meanwhile, best practices are shared across the state to encourage smart and cost effective investments. In Kentucky, this "human network" of local volunteers numbers greater than 4,000 local citizens, working together to make a better use of technology in their community.

ConnectKentucky pairs this local technology planning with a collaborative engagement among all broadband providers, which yields a statewide, household-level mapping of broadband "gaps" and

customized plans to fill those gaps with highly used services. Mapping these broadband gaps allows for an in-depth market analysis of unserved areas, including household densities, potential collocation resources such as water and cell towers, terrain analysis and proposed infrastructure such as water lines, sewer projects and future roads. *The combination of local knowledge and resources with an effective broadband map allows broadband providers and communities to accurately mesh technology deployment with potential users of application development, all while ideally increasing community awareness and adoption.*

ConnectKentucky has served as an important pilot model whose success and lessons learned are informing policy at the federal and state levels. Currently, there exists legislation in Washington, DC and in multiple states that aims to enable similar programs promoting demand and supply of broadband services. This report attempts to contribute to this discussion. First, this report evaluates broadband trends in Kentucky and compares them with national averages. This comparison helps to quantify the pent up potential for growth in the ITC sector that programs such as ConnectKentucky help to promote. Second, this study attempts to estimate the direct availability economic impact for Kentuckians of the increased growth in broadband adoption. It then extrapolates from these results to estimate the potential economic impact to the entire nation of a national program that similarly accelerates broadband.

This report follows a natural sequence of questions regarding the ConnectKentucky program from 2005-2007 and the implications for state national policy development:

- To what degree has broadband adoption increased in Kentucky?
- How has No Child Left Offline® affected broadband adoption?
- What are the direct economic benefits of this broadband acceleration effort?
- What would be the impact if current legislation passed to empower similar efforts in the rest of the United States to ensure access to affordable broadband?
- What government policies would foster supply and demand of broadband to underserved areas of the United States?



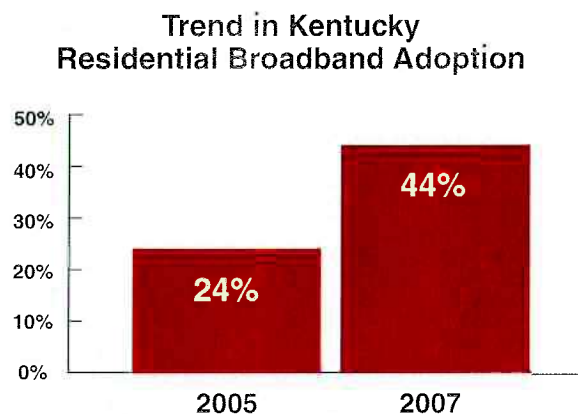
¹ Robert W. Crandall, Robert E. Litan, and William Issac, "The Effects of Broadband Deployment on Output and Employment: A Cross-Sectional Analysis of U.S. Data," *Issues in Economic Policy: The Brookings Institution*, No. 6, July 2007, p. 1.

² ConnectKentucky Broadband Service Availability Map, quarterly update, December 31, 2007.

Broadband Adoption in Kentucky Grew While Grassroots Groups Created Demand Statewide

In March, 2005, only 24% of Kentucky residents subscribed to broadband service. By September 2007, that proportion had increased to 44% (Figure 4)⁹. This represents an increase of 83% in this 28 month period.

Figure 4: Residential Broadband Adoption Rates in Kentucky



In this time frame, ConnectKentucky implemented a statewide program that aimed to increase both the supply of and the demand for broadband. In each of Kentucky's 120 counties, eCommunity Leadership Teams were formed to accomplish the following:

- Create and aggregate demand for broadband
- Identify locally relevant applications
- Foster cooperation across both private and public sectors in order to address the local community's needs that are appropriately addressed through technology and broadband in particular

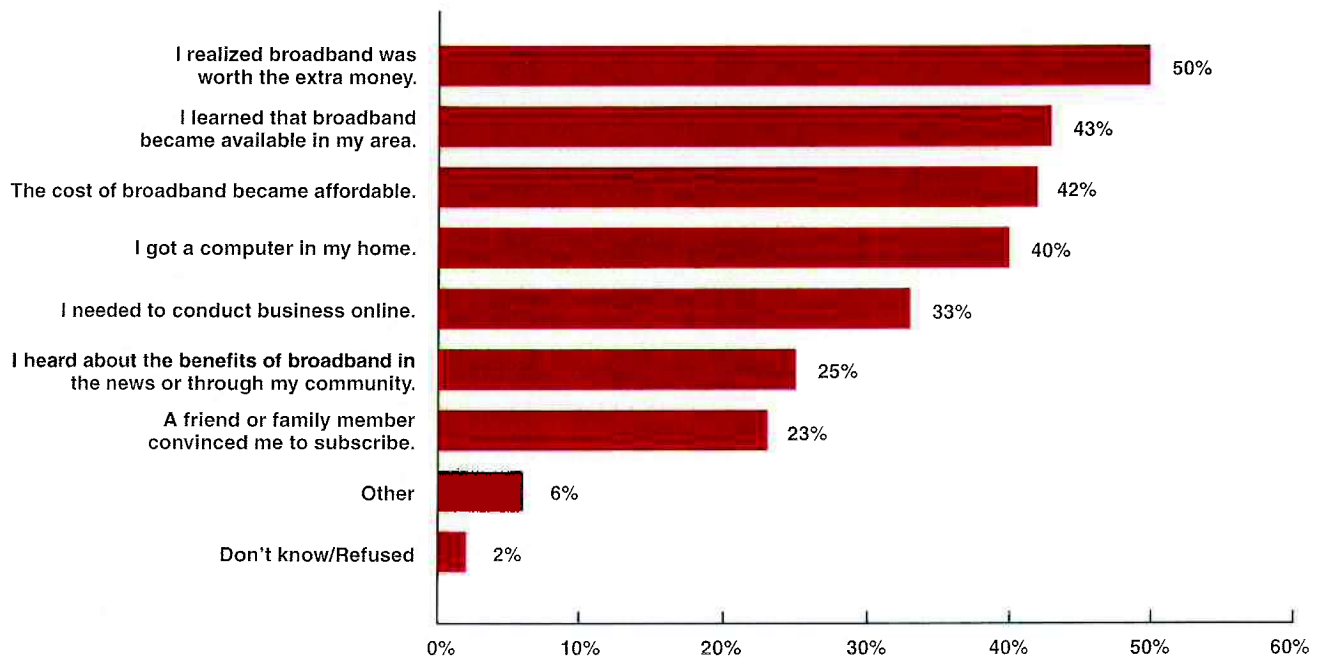
⁹ 2005 University of Kentucky E-Commerce Report - statewide random digit dial telephone survey conducted March 2005, n = 1,150, +0.8% at the 95% level of confidence. 2007 ConnectKentucky Residential Technology Assessment - statewide random digit dial telephone survey completed September 2007, n = 10,830, +1.7% at the 95% level of confidence.

- Create local awareness of the benefits of broadband
- Work with providers of broadband to create a business case for extension of broadband to unserved areas

Constituted by 4,000 plus local volunteers, these ConnectKentucky teams have been successful in their mission to create awareness and drive demand. Extensive direct consumer surveys have also been conducted during the 2005-2007 time frame. Not only did demand for broadband increase, but awareness of its availability and recognition of its value were very important factors identified by those households who chose to subscribe. Note in the data below that availability of broadband and realization of its value are the two most often cited reasons for deciding to subscribe (Figure 5)¹⁰.

Figure 5: Reasons for Broadband Adoption

Which of the following contributed to your decision to subscribe to broadband?



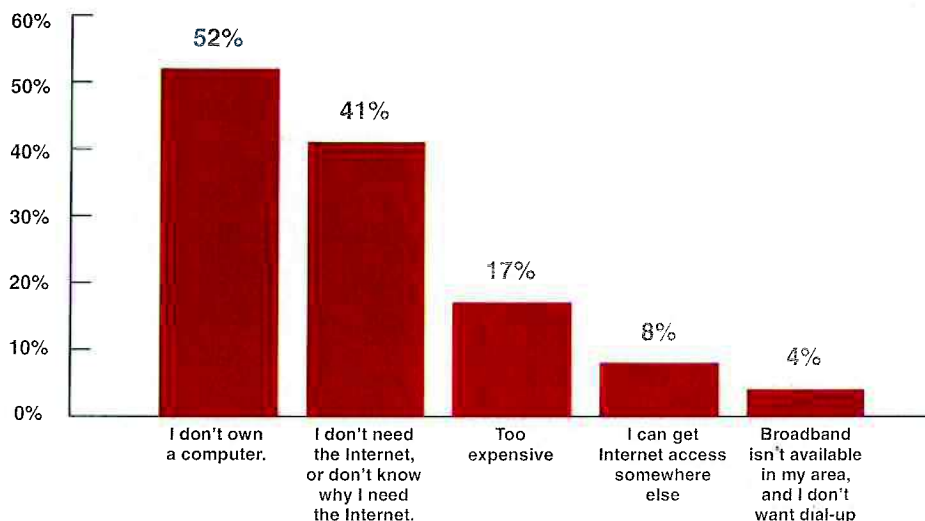
¹⁰ 2007 ConnectKentucky Residential Technology Assessment. "Which of the following contributed to your decision to subscribe to broadband?" n=3,776 Kentucky residents who broadband service at home.

No Child Left Offline® Program Accelerates Adoption Increases in Kentucky Communities

ConnectKentucky's local demand creating planning groups (eCommunity Leadership Teams) have been at work in every Kentucky community. This pervasive technology planning network created the opportunity for program extensions that went even further to address broadband subscription and computer literacy.

One such program extension is No Child Left Offline® (NCLO). No Child Left Offline is a response to consumer research conducted by ConnectKentucky among Kentucky households. That research indicates on a regular basis "lack of a computer" as the primary barrier associated with Internet adoption (Figure 6). According to a 2004 Department of Commerce Report, approximately 56% of Americans who do not access the Internet indicated that the lack of a computer at home was the primary reason for not being online.¹¹ **ConnectKentucky research continues to support this finding – while the number of Internet users has risen in Kentucky over the last three years, the lack of a computer at home continues to be the primary barrier to Internet adoption (Figure 6)¹².**

Figure 6: Barriers to Internet Adoption in Kentucky



To address the computer ownership barrier in Kentucky, ConnectKentucky's No Child Left Offline program brings together public and private partners to provide computers for economically disadvantaged children. The program has not only increased computer ownership, but it has been tracked with remarkable increases in broadband adoption.

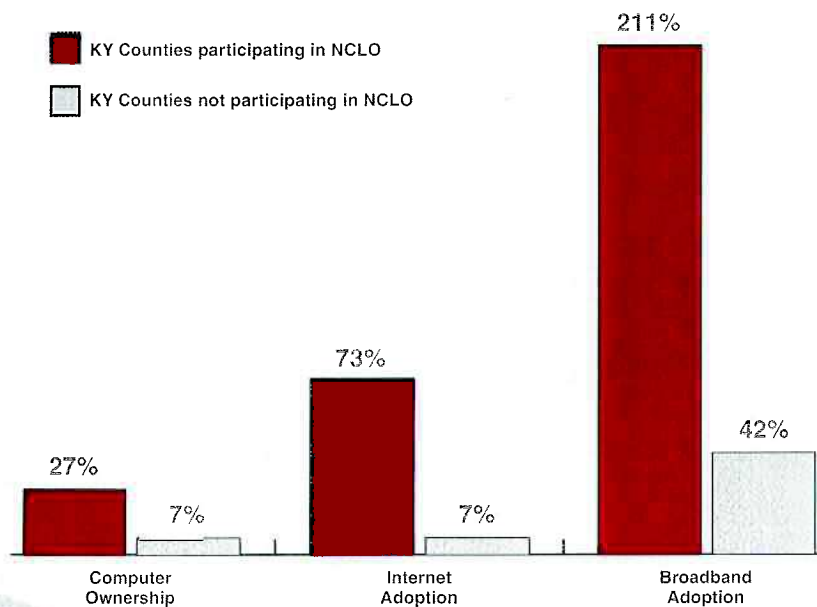
¹¹ National Telecommunications and Information Administration, United States Department of Commerce, *A Nation Online: Embracing the Broadband Age*, September 2004.

¹² 2007 OR Residential Technology Assessment, October 2007. (N = 4,009 KY residents who do not have Internet service at home).

No Child Left Offline has had a dramatic impact on the lives of Kentucky families. According to the ConnectKentucky 2005 and 2007 Residential Technology Assessments:

- In the last two years, computer ownership among low-income families in No Child Left Offline counties grew nearly four times faster than these families in other counties.¹³
- During the same two-year period, Internet adoption among low-income families in No Child Left Offline counties grew more than ten times faster relative to these families in other areas of the state.¹⁴
- Broadband adoption among low-income families grew five times faster in counties that received computers through No Child Left Offline. In the last two years, home broadband adoption among low-income families has grown by over 200% in these participating counties (Figure 7)¹⁵.

Figure 7: Home Technology Adoption Among Low-Income Families



¹³ Counties participating in No Child Left Offline include the Kentucky counties of Johnson, Clay, Wolfe, Mingo, Boone, Carter, Lawrence and Morgan. Low-income is defined as annual household income below \$25,000.

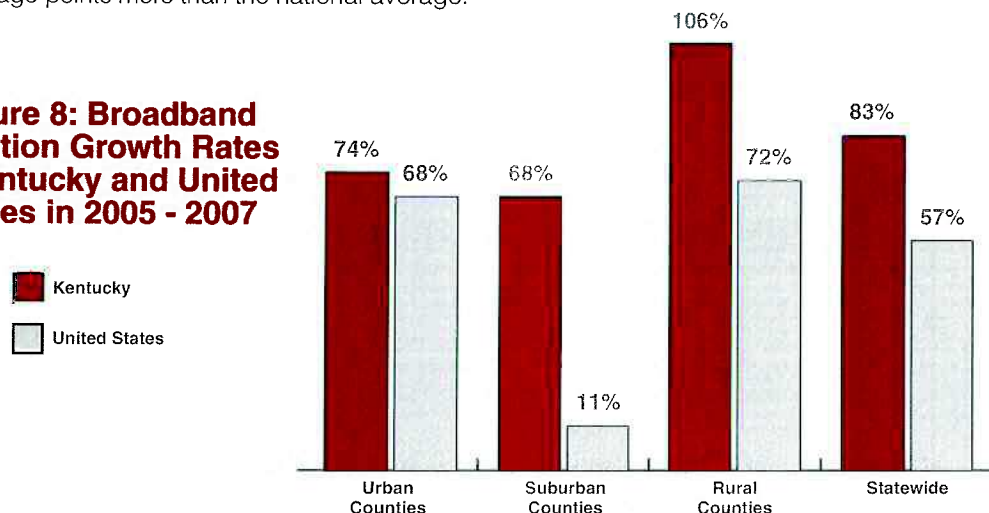
¹⁴ Ibid.

¹⁵ Ibid.

Kentucky Significantly Outpaces National Averages for Broadband Adoption

One way to illustrate ConnectKentucky's impact on broadband adoption is to compare Kentucky's growth rates from 2005-2007 to national growth rates during this same period. As shown in Figure 8¹⁶, national broadband adoption growth rates were much smaller than Kentucky growth rates in broadband from 2005-2007.¹⁷ For example, the statewide broadband adoption rate in Kentucky grew 83% from 2005 to 2007, while the national broadband adoption rate grew only 57%. Kentucky's broadband adoption grew 26 percentage points more than the national average.

Figure 8: Broadband Adoption Growth Rates in Kentucky and United States in 2005 - 2007



If we look at the rural broadband adoption in Kentucky versus the rest of the United States, it is clear that something significant happened in Kentucky from 2005-2007. Kentucky's growth in rural broadband is even more striking considering that Kentucky ranks 48th in educational attainment¹⁸ and 47th in median income¹⁹ in the nation - two indicators that have been shown to significantly affect broadband adoption.²⁰ Indeed, a 2006 GAO report showed that households with high incomes were 39% more likely to adopt broadband than lower-income households, and those with a college-educated head of household were 12% more likely to purchase broadband than households headed by someone who did not graduate from college.²¹

¹⁶ United States adoption rate reported from John B. Horrigan and Aaron Smith, "How Internet and American Life Project: HOME BROADBAND ADOPTION 2007," June 2007.

http://www.pewinternet.org/pdfs/PIP_Broadband%202007.pdf

Kentucky adoption rate reported from the 2005 University of Kentucky's *ConnectKentucky Report* and 2007 *ConnectKentucky Residential Technology Assessment*.

¹⁷ *Ibid.*

¹⁸ American Community Survey, 2003, "Percent of People 25 Years and Over Who Have Completed High School (Including GED/Equivalency), Population 25 years and over (State level) Table" United States Census Bureau.

¹⁹ American Community Survey, 2003, "Median Household Income," United States Census Bureau.

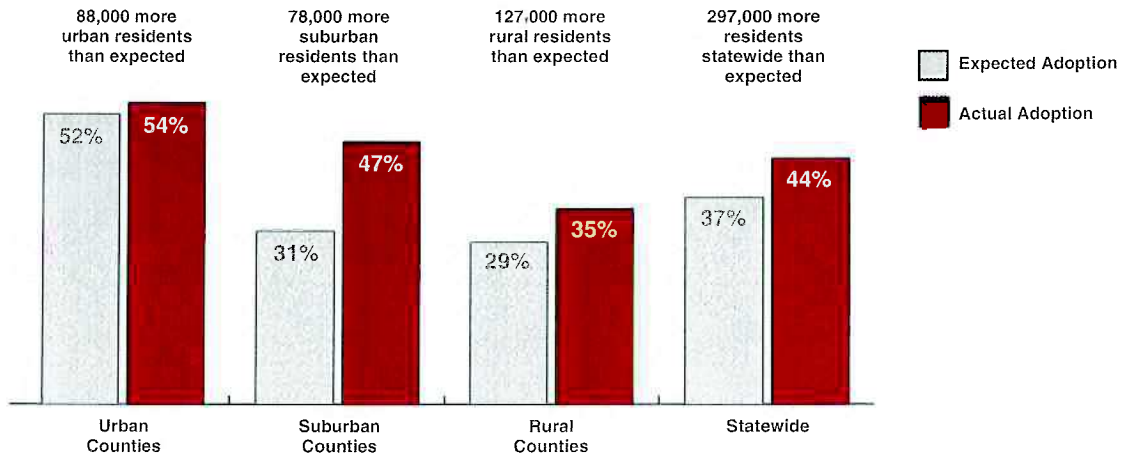
²⁰ John Horrigan and Aaron Smith, "Home Broadband Adoption 2007," *How Internet and American Life Project: HOME BROADBAND ADOPTION*, June 2007, p. 4 and George S. Ford, Thomas M. Knutson and Lawrence J. Spivak, "The Demographic and Economic Drivers of Broadband Adoption in the United States," PHOENIX CENTER POLICY PAPER, No. 31 (November 2007).

²¹ United States Government Accountability Office, *Broadband Deployment Is Extensive throughout the United States, but It Is Difficult to Assess the Extent of Deployment Gaps in Rural Areas*, May 2006, p. 28.

The much larger growth rates in KY household broadband adoption versus national growth (especially in rural areas) as well as Kentucky's lagging levels of education and income – indicate that it is conservative to use the 7% figure. Instead of using the net difference between Kentucky adoption growth and national adoption growth, the study applies a counterfactual analysis to derive the seven percentage point direct ConnectKentucky impact on adoption. Applying the growth rate of the nation to the starting point in the KY time series demonstrates that had Kentucky performed similarly to the rest of the country in terms of broadband adoption growth, the resulting level of household adoption would have been seven percentage points less than what actually occurred. The higher than expected adoption levels that occurred in Kentucky despite the above mentioned negative contributing indicators is attributed to the ConnectKentucky initiative. In other words, what would we expect adoption rates to be without the ConnectKentucky initiative?

If the national growth rate between 2005 and 2007 were applied to the 2005 Kentucky baseline (24%), then Kentucky's expected statewide adoption in 2007 would be 37%. However, Kentucky's broadband adoption percentage is actually 44% in 2007, which represents 297,000 more subscribers above the expected adoption rate.^{22 23} The intervening factor has been ConnectKentucky. (Figure 9)²⁴.

Figure 9: 2007 Actual vs. Expected KY Broadband Adoption



²² 2007 ConnectKentucky Residential Technology Assessment.

²³ United States Population Estimates, 2006, United States Census Bureau.

²⁴ Expected Kentucky adoption rates derived from John B. Horrigan and Aaron Smith, Pew Internet and American Life Project, HOME BROADBAND ADOPTION 2007, June 2007.

http://www.pewinternet.org/pdf/PIP_Broadband%202007.pdf

Actual Kentucky adoption rates reported from the 2007 University of Kentucky's Department Report and 2007 ConnectKentucky Residential Technology Assessment. Sum of urban, suburban and rural figures will not equal total state figure as a result of rounding.

The Economic Impacts of Increased Broadband Availability and Adoption in Kentucky

By conservative measurement, Kentucky had 297,000 new broadband subscribers above and beyond the number of subscribers one would anticipate if Kentucky had followed the national trends for growth in broadband subscription. From 2005-2007, the one question that remains is how the online activity of an extra 297,000 broadband subscribers in Kentucky translates into a specific economic impact. In this section, we examine the impact of an additional 297,000 Kentuckians accessing broadband on the following five economic variables: 1) employment 2) healthcare cost savings 3) mileage costs saved 4) environmental pollution and 5) time saved.

These five basic variables were chosen as the most uniformly realized benefits of broadband subscription and represent a conservative appraisal of the estimated impact. There are additional benefits associated with broadband adoption such as improved education, a more technologically literate workforce and more efficient government services.

Employment: There have been various studies on the impact of broadband growth on employment. While they have had varying conclusions, all indicate a positive correlation between broadband and employment. A recent study by economists at the Brookings Institution concluded that "non-farm private employment and employment in several industries is positively associated with broadband use. More specifically, for every one percentage point increase in broadband penetration in a state, employment is projected to increase by 0.2 to 0.3 percent per year."²⁵ By using this study that is widely recognized for its relevance and conservative coefficient of estimation and by applying it to the data from Kentucky, the seven percentage point growth in broadband adoption in Kentucky over the expected has resulted in an additional 63,417 jobs created or saved in Kentucky between 2005 and 2007.²⁶ **The average annual economic value of these jobs can be estimated at \$1.06 billion in direct wages.**²⁷

Healthcare Cost Savings: According to the 2007 ConnectKentucky Residential Technology Assessment, 72% of home broadband users who use the Internet for healthcare purposes report that access to online health information has empowered them to become healthier.²⁸ Of the residents who have become healthier, 63% report that doing so has saved them money, with an average self-reported savings of \$217 per person.²⁹

To conservatively estimate the impact of the boost in broadband adoption resulting from the ConnectKentucky initiatives, only the actual healthcare costs savings among broadband subscribers are analyzed – and this analysis is limited to broadband adoption above the expected rate. **An estimated 35% of all broadband users report saving an average of \$217 as a direct result of becoming healthier through**

²⁵ Robert W. Crandall, Robert E. Litan, and William Lehr, 'The Effects of Broadband Deployment on Output and Employment: A Cross-Sectional Analysis of U.S. Data,' *Insights in Economic Policy: The Brookings Institution*, No. 6, July 2007, p. 2.

²⁶ For a two-year time frame, the Crandall et al. paper (pages 9-10) generated .593 as the coefficient for a two-year time span from the regression results from the effect of broadband on employment during 2003-2005. Therefore, we used .593 as the coefficient for the two-year effect from 2005-2007. According to the United States Bureau of Labor Statistics, Kentucky's employment was 1.51 million in 2005.

²⁷ Using Kentucky's average annual wage of \$33,480 in 2006, as reported by the United States Bureau of Labor Statistics (www.bls.gov).

²⁸ 2007 ConnectKentucky Residential Technology Assessment - Q150. "Getting healthcare information online has empowered me to be healthier?" n = 191 respondents with broadband service at home who obtain healthcare information online.

²⁹ 2007 ConnectKentucky Residential Technology Assessment - Q1671. "How (how much) money would you estimate you have saved by becoming healthier in this way?" n = 191 respondents with broadband service at home who obtain healthcare information online.

obtaining healthcare information online. This translates into a \$9.4 million dollar annual self-reported healthcare cost savings for the additional 297,000 broadband users above the expected in Kentucky. This does not account for savings to the state in Medicaid or other indirect health savings.

The ConnectKentucky survey also found that 47% of Kentuckians who use broadband to access healthcare information agree that by doing so, they have prevented potentially unnecessary trips to doctors, hospitals, emergency rooms or other healthcare professionals. Each patient's visit to a physician, emergency room or other medical facility costs money. **Among Kentucky broadband users, 37% report that online access to healthcare information has prevented an average of 4.2 unnecessary trips to receive medical care.³⁰ This equals more than 462,000 medical visits avoided among the 297,000 additional broadband users as a result of ConnectKentucky efforts.**

Mileage Costs Saved: The ability to conduct transactions online also means that Kentuckians with broadband spend less time in their cars.³¹ Instant information and broadband-based access to relevant government services means not having to stand in line at shops and at town hall. In the 2007 ConnectKentucky residential survey, 66% of broadband users report driving an average of 102 fewer miles per month because of their online activity.³² This yields a total annual savings of more than 1.2 billion vehicle miles. Of these savings, approximately 190 million miles per year can be attributed to larger than expected growth in broadband adoption. **Using the United States General Services Administration reimbursement rate for driving of \$0.485 per mile, it can be said that the ConnectKentucky initiative has yielded an annual savings of \$92.1 million in consumer driving costs.**

Environmental Pollution: Broadband adoption creates other positive externalities with respect to transportation, such as reduced gasoline consumption and reduced emissions. The estimated cost savings associated with a reduction in miles driven does not account for the significant environmental cost savings that result from fewer cars on the road. According to the World Resources Institute, the average 2005 fuel fleet economy was 21 miles per gallon.³³ According to the Center for Environmental Economic Development, 1 gallon of gas equates to 5.159 lbs. of carbon.³⁴ Given these figures and the savings of 190 million vehicle miles attributed to broadband adoption above expected, it can be estimated that ConnectKentucky efforts generated an annual reduction of 46.7 million pounds of carbon emissions. **In addition to the positive environmental impact and using the standard measurements for CO2 emissions credits, the annual economic impact of 46.7 million pounds of carbon emissions can be estimated at \$252,200.³⁵**

Time Saved: According to the 2007 ConnectKentucky statewide survey, 75% of Internet users agree that conducting online transactions has saved them time.³⁶ Broadband users are significantly more likely

³⁰ 2007 ConnectKentucky Residential Technology Assessment: "Q16E. About how many trips to a doctor, hospital or medical center have you saved by finding information online?" n= 191 respondents with broadband service at home who obtain healthcare information online.

³¹ 2007 ConnectKentucky Residential Technology Assessment: "Q15C. I need to drive less often or fewer miles because of the things I do online" n=243 respondents with broadband service at home.

³² 2007 ConnectKentucky Residential Technology Assessment: "Q16C. About how many miles of driving per month do you save by having Internet service at home?" n=157 respondents with broadband service at home who agree that Internet service at home reduces the amount they need to drive.

³³ <http://embarq.wri.org/documents/Schipper-VehicEfficiency.pdf>.

³⁴ <http://eredweb.org/PDFs/CO2Worksheet.pdf>

³⁵ Using the average cost of carbon emission offsets charged by the 21 major U.S. carbon offset providers, as reported by Carbon Catalog (www.carboncatalog.org/) on 1/26/2006.

³⁶ 2007 ConnectKentucky Residential Technology Assessment.

than dial-up users to agree that doing things online saves them time. Broadband users report saving nearly 40% more time than dial-up users. The average broadband user reports saving 15 hours a month by conducting transactions online.³⁷ The time saved by the additional 297,000 individuals accessing broadband in Kentucky above the expected amount translates into approximately 53.4 million hours saved each year. Assuming that one hour saved is equal in value to at least one half hour of wage earned, these saved hours can account for an estimated \$429.8 million in value.³⁸

Summary of ConnectKentucky Impact: The direct economic impacts of the additional 297,000 individuals accessing broadband in Kentucky can be quantified directly as follows:

- \$1.06 billion in annual direct wages from jobs created or saved in Kentucky
- \$9.4 million in annual self-reported healthcare costs savings
- \$92.1 million per year in mileage savings from broadband preventing unnecessary driving
- 46.7 million lbs of CO₂ emissions reduction per year in Kentucky (\$250,000 emission credits)
- \$429.8 million value in the 53.4 million hours saved per year from accessing broadband at home

Taken together, the combined estimate for the direct economic impact in Kentucky associated with a higher than expected statewide gain in broadband adoption is \$1.59 billion annually.

Looking forward, if Kentucky continues to invest in an effective statewide broadband adoption strategy through ConnectKentucky, the state can expect to realize³⁹:

- **\$1.06 billion** in annual direct wages from jobs created or saved in Kentucky
- **\$9.3 million** in annual self-reported healthcare costs savings
- **\$91.1 million** per year in mileage savings from broadband preventing unnecessary driving
- **46.1 million** lbs of CO₂ emissions reduction per year in Kentucky (\$249,000) emission credits)
- **\$424.9 million** value in the 52.8 millions hours saved per year from accessing broadband at home

The total estimated impact of continuing the ConnectKentucky program in Kentucky is \$1.59 billion annually.

³⁷ 2007 ConnectKentucky Residential Technology Assessment: "Q15B: Doing things online saves me time?" n=243 respondents with broadband service at home, and 143 respondents with dial-up service at home.

³⁸ The estimates regarding the value of time saved is based on the assumption that broadband subscribers can use their extra free time to work more hours, complete in consultation through volunteer time or simply enjoy additional leisure time which has been shown to enhance productivity while on the clock.

³⁹ See Table 3. Kentucky impact figures for future years compared to the Kentucky 2005-2007 impact period will be similar, but not exact, as a result of using consistent methodology with varying employment data from year to year. Additionally, forward projections are rounded down from the exact 1.06 percentage point growth to a seven percentage growth point across states.

Estimating The Economic Impact of A Connected Nation

Despite the widely recognized benefits associated with broadband in the United States,⁴⁰ there are still many areas in the United States where broadband is simply unavailable.

Accentuating the challenge is an overall lack of dependable data regarding exactly where broadband is and is not available.⁴¹

A 2006 GAO report concluded that “when the availability of broadband to households, as well as demographic characteristics, are taken into account, rural households no longer appear less likely than urban households to subscribe to broadband. That is, the difference in the subscribership to broadband among urban and rural households appears to be related to the difference in availability of the service across these areas, and not to a lower disposition of rural households to purchase the service.”⁴² Therefore, it appears that with the universal availability of broadband, the current 31% rural broadband adoption rate would eventually become much closer to the urban broadband adoption rate of 52%.

If the rest of the states in the U.S. were empowered to develop initiatives similar to accelerate broadband, one would expect to see increased adoption in suburban and urban areas, but especially in rural areas, as rural areas are most significantly affected by broadband availability increases. In fact, if every state could accelerate their broadband adoption by seven percentage points above the expected, like Kentucky did with the ConnectKentucky initiative, one would expect the following impact for the United States as a whole (for individual state results see Table 3):

- **\$92 billion** through 2.4 million jobs created or saved annually⁴³
- **\$662 million** saved per year in reduced healthcare costs
- **\$6.4 billion** per year in mileage savings from preventing unnecessary driving
- **\$18 million** in carbon credits associated with 3.2 billion fewer lbs of CO₂ emissions per year in the United States
- **\$35.2 billion** in value from 3.8 billion more hours saved per year from accessing broadband at home
- **\$134 billion** per year in total direct economic impact for the United States

If every state were to implement programs modeled after ConnectKentucky and experience a modest increase in the growth rate of broadband adoption over what should be expected without a broadband focused program, the estimate of direct economic benefit is more than \$134 billion per year (Table 2).

⁴⁰ Robert W. Crandall, Robert E. Litan, and William Lehr, “The Effects of Broadband Employment on Output and Employment: A Cross-Sectional Analysis Of U.S. Data,” Issues in Economic Policy, The Brookings Institution, No. 7, July 2007.

⁴¹ According to a report by John Horrigan, Associate Director of Research for the Fast Internet and American Life Project, “When the Pew Internet Project asked dial-up users in 2004 whether broadband was available where they live, 15% said it was not available, a figure that stood at 27% for rural Americans. Those numbers might be lower in 2007, but there is a dearth of reliable nationwide information on where broadband is unavailable.” U.S. Lags Behind Why it Will Be Hard to Close the Broadband Divide by John B. Horrigan, page 3-4. http://www.pewinternet.org/pdf/Broadband_CoLombentary.pdf, Friday, 10 August 2007.

⁴² General Accounting Office, Broadband Deployment Is Extensive Throughout the United States, but It Is Difficult to Assess the Extent of Employment Gaps in Rural Areas, May 2006, p. 30.

⁴³ Job growth is calculated using 2006 private, non-farm employment from the Bureau of Labor Statistics in accordance with Crandall et al methodology, using a coefficient of .593 to calculate job growth over a two year period. Job growth is estimated over a two year period assuming a seven percentage point increase in broadband adoption above expected growth rates. Job growth is estimated using May 2006 wage estimates for each state from the Bureau of Labor Statistics. All figures are annualized.

Table 2: A State-by-State Summary of the Annual Economic Impact Associated with Accelerating Broadband for Each State

	Total Annual Economic Impact	Jobs Created or Saved Annually	Direct Annual Income Growth from the Increase in Broadband	Average Annual Healthcare Costs Saved	Average Annual Mileage Costs Saved	Average Annual Hours Saved	Annual Value of Hours Saved	Average Annual lbs of CO ₂ Emissions Cut	Value of Carbon Offsets
Alabama	\$1,692,307,789	33,451	\$1,118,595,872	\$10,187,810	\$99,216,165	57,715,987	\$464,036,535	50,255,886	\$271,408
Alaska	\$317,188,552	4,846	\$212,849,167	\$1,484,307	\$14,018,776	8,408,897	\$88,797,954	7,100,920	\$38,349
Arizona	\$2,498,704,035	46,358	\$1,680,954,424	\$13,659,679	\$129,327,410	77,384,824	\$674,408,744	65,508,111	\$353,778
Arkansas	\$963,684,222	20,577	\$635,196,771	\$6,226,667	\$60,352,019	35,275,319	\$261,742,869	30,570,465	\$165,097
California	\$17,287,110,398	262,042	\$11,577,026,715	\$80,761,066	\$768,277,259	457,527,657	\$4,858,943,717	389,154,873	\$2,101,641
Colorado	\$2,351,248,032	39,665	\$1,644,109,297	\$10,529,720	\$101,888,351	59,652,980	\$594,441,946	51,609,426	\$278,718
Connecticut	\$1,938,746,950	29,765	\$1,368,285,351	\$7,763,882	\$76,465,884	43,983,951	\$486,022,659	38,732,204	\$209,174
Delaware	\$452,660,929	7,796	\$324,919,691	\$1,890,627	\$18,478,024	10,710,782	\$107,322,040	9,359,659	\$50,547
Florida	\$7,531,595,950	143,405	\$5,136,752,665	\$40,072,871	\$399,029,270	227,020,858	\$1,954,649,591	202,119,981	\$1,091,554
Georgia	\$3,907,660,865	71,059	\$2,639,837,894	\$20,743,080	\$197,143,135	117,513,714	\$1,049,397,466	99,858,756	\$539,290
Hawaii	\$578,001,026	10,284	\$397,274,880	\$2,847,646	\$28,011,744	16,132,486	\$149,790,130	14,188,767	\$76,627
Idaho	\$565,942,345	10,859	\$378,002,347	\$3,248,525	\$30,661,907	18,403,549	\$153,945,689	15,531,152	\$83,876
Illinois	\$6,207,888,316	105,622	\$4,321,003,997	\$28,425,487	\$273,919,566	161,036,091	\$1,583,789,952	138,748,261	\$749,314
Indiana	\$2,679,847,808	52,863	\$1,860,248,442	\$13,985,762	\$134,940,477	79,232,151	\$670,303,994	68,351,293	\$369,133
Iowa	\$1,237,290,273	26,064	\$866,632,289	\$6,605,940	\$64,670,465	37,423,974	\$299,204,671	32,757,480	\$176,908
Kansas	\$1,154,893,120	22,828	\$798,081,721	\$6,123,002	\$58,974,133	34,688,036	\$291,552,939	29,872,121	\$161,325
Kentucky	\$1,587,239,467	31,699	\$1,061,603,244	\$9,317,330	\$91,153,941	52,784,546	\$424,915,597	46,172,134	\$249,354
Louisiana	\$1,556,816,993	31,313	\$1,030,199,954	\$9,498,299	\$91,233,861	53,809,773	\$425,635,307	46,212,615	\$249,572
Maine	\$544,607,277	10,577	\$371,878,460	\$2,927,562	\$29,575,200	16,585,225	\$140,145,152	14,980,703	\$80,904
Maryland	\$2,813,857,230	43,922	\$1,933,873,816	\$12,440,005	\$121,232,549	70,475,128	\$745,979,225	61,407,827	\$331,635
Massachusetts	\$3,840,751,425	5,411	\$2,765,167,106	\$14,259,724	\$141,613,044	80,784,197	\$919,324,165	71,731,143	\$387,386
Michigan	\$4,637,508,875.7	6,200	\$3,141,722,168	\$22,363,953	\$217,268,265	126,696,281	\$1,255,560,149	110,052,723	\$594,343
Minnesota	\$2,791,482,532	48,691	\$2,021,172,957	\$11,446,205	\$111,405,012	64,845,051	\$647,153,606	56,429,893	\$304,751
Mississippi	\$905,743,973	18,723	\$570,305,184	\$6,447,452	\$61,452,087	36,526,113	\$267,371,146	31,127,277	\$168,104
Missouri	\$2,501,367,723	48,592	\$1,733,262,586	\$12,942,827	\$126,066,630	73,323,711	\$628,750,822	63,856,431	\$344,858
Montana	\$337,218,046	7,198	\$225,220,226	\$2,092,557	\$20,700,888	11,854,754	\$99,147,748	10,485,604	\$56,628
Nebraska	\$783,129,301	16,280	\$558,411,615	\$3,917,222	\$37,725,489	22,191,847	\$182,971,776	19,109,062	\$103,199
Nevada	\$1,175,028,256	23,482	\$845,359,452	\$5,528,117	\$52,939,525	31,317,891	\$271,056,344	26,815,416	\$144,817
New Hampshire	\$634,062,329	11,374	\$446,419,295	\$2,912,766	\$28,960,278	16,501,406	\$155,690,768	14,669,227	\$79,222
New Jersey	\$4,636,703,229	71,109	\$3,231,890,665	\$19,326,718	\$188,794,006	109,469,738	\$1,196,175,390	95,629,679	\$516,451
New Mexico	\$694,119,894	13,184	\$447,977,912	\$4,329,844	\$41,293,689	24,529,436	\$200,405,489	20,916,460	\$112,960
New York	\$9,909,345,962	147,884	\$6,776,023,161	\$42,767,217	\$420,637,031	242,284,874	\$2,668,767,889	213,064,943	\$1,150,663
North Carolina	\$3,626,061,051	69,432	\$2,466,214,037	\$19,619,004	\$190,523,446	111,145,595	\$949,183,383	96,505,690	\$521,182
North Dakota	\$264,354,171	5,755	\$186,703,927	\$1,408,578	\$13,960,441	7,979,877	\$62,243,037	7,071,371	\$38,189
Ohio	\$5,165,789,104	96,312	\$3,598,197,715	\$25,426,175	\$247,968,322	144,044,384	\$1,293,518,569	125,603,198	\$678,323
Oklahoma	\$1,270,219,076	25,603	\$833,901,696	\$7,928,700	\$76,474,057	44,917,679	\$351,705,426	36,736,344	\$209,197
Oregon	\$1,853,094,131	29,383	\$1,133,296,659	\$8,197,950	\$80,851,438	46,443,033	\$430,526,912	40,953,615	\$221,171
Pennsylvania	\$5,618,124,596	103,916	\$3,905,168,316	\$27,558,567	\$274,060,290	156,124,817	\$1,410,587,724	138,819,542	\$749,699
Rhode Island	\$517,684,416	8,896	\$360,983,164	\$2,364,979	\$23,573,532	13,398,078	\$130,698,255	11,940,682	\$64,486
South Carolina	\$1,628,562,600	32,629	\$1,089,806,446	\$9,572,467	\$93,461,551	54,229,946	\$435,466,470	47,341,006	\$255,666
South Dakota	\$295,051,946	6,718	\$204,642,266	\$1,732,113	\$16,753,192	9,812,771	\$71,878,545	8,485,981	\$45,829
Tennessee	\$2,450,739,704	49,142	\$1,682,608,846	\$13,377,207	\$130,689,201	75,784,562	\$623,706,946	66,197,898	\$357,503
Texas	\$9,424,006,380	173,117	\$6,303,206,537	\$52,074,637	\$486,029,518	295,013,274	\$2,581,366,143	246,188,147	\$1,329,546
Utah	\$1,066,414,382	20,728	\$736,673,777	\$5,648,921	\$50,494,153	32,002,271	\$273,459,402	25,576,764	\$138,128
Vermont	\$275,359,624	5,270	\$191,553,395	\$1,382,086	\$13,953,557	7,829,796	\$68,432,416	7,067,884	\$38,170
Virginia	\$3,764,632,826	63,344	\$2,625,619,577	\$16,930,580	\$165,834,683	95,915,137	\$955,794,341	84,000,111	\$453,645
Washington	\$3,056,439,915	48,365	\$2,075,358,306	\$14,168,025	\$138,603,982	80,264,707	\$827,930,448	70,206,965	\$379,155
West Virginia	\$616,017,781	12,690	\$398,961,244	\$4,028,290	\$40,504,254	22,821,071	\$172,413,192	20,516,588	\$110,800
Wisconsin	\$2,613,219,462	50,748	\$1,863,975,895	\$12,308,818	\$120,871,181	69,731,928	\$615,732,922	61,224,784	\$330,646
Wyoming	\$215,933,328	4,383	\$150,308,706	\$1,140,841	\$11,197,254	6,463,094	\$53,255,896	5,671,736	\$30,630
TOTAL	\$134,235,457,815	2,352,532	\$91,927,439,829	\$ 661,941,807	\$6,413,230,933	3,750,833,246	\$35,215,301,497	3,248,488,796	\$17,543,549

Policy Recommendations

Many have recognized the need for a national broadband policy. The case for such a policy has been eloquently captured in Dr. Robert Atkinson's recent "Framing a National Broadband Policy." In that report, Dr. Atkinson suggests that if left to market forces alone and with no intervening factor, broadband is not likely to be adopted at a rate that is universally pleasing or constructive. It stands to reason that national policy-makers would make broadband expanding policy a priority as a platform for developing solutions in a number of critical areas: healthcare, education, environmental degradation and even homeland security.

As federal policy attempts to provide solutions to the need for a nationwide ubiquitous broadband, the data from the Kentucky experience and the assessment of Connected Nation analysts conclude that the most constructive national solution for broadband expansion is to enable state governments to implement demand creating and supply enhancing programming. Given the cultural, structural, regulatory and topographical variables that influence how broadband can expand, a state is the largest subsystem that can be identified in which to enact effective and cost efficient solutions. Supporting this assumption is once again the data from the ConnectKentucky program. From 2005 to 2007, the time frame under consideration for this study, more than \$740 million in private capital was invested in Kentucky telecommunications infrastructure. The public investment in the program implementation and research that encouraged private telecommunications investment was approximately \$7 million dollars. The household availability of broadband in Kentucky went from 60% to 95% during that time.

Based on Connected Nation's experience in Kentucky and after launching similar initiatives in other states, Connected Nation advocates for passage and enactment of legislation that includes:

- Recognition of the critical role of public-private partnerships in broadband expansion
- Federal enabling of state/local response to broadband deployment and demand aggregation
- Recognition of the indispensable role non-profits play in program implementation

Connected Nation has supported the following bills in the 110th Congress that directly seek to replicate and help export the ConnectKentucky model nationwide:

- S. 1190/H.R. 3627 – the Connect the Nation Act of 2007
- S. 1492 – the Broadband Data Improvement Act
- H.R. 3919 – the Broadband Census of America Act of 2007

Connected Nation is encouraged that each of these broadly supported efforts would effectively enable statewide broadband initiatives that can accelerate broadband growth. The stated level of funding authorization among the four currently viable bills ranges from \$40 million per year (S. 1190 or S. 1492) to H.R. 3919's \$145 million for FY2010 (with \$70 million and \$120 million authorized in the two preceding fiscal years). Relative to the expected annual impact of \$134 billion, the return on investment related to the legislation provides a compelling case for passage.

Time is of the essence. The United States can ill afford the passing of another year without policies that will stimulate broadband growth, particularly in previously underserved or overlooked areas. Much consensus building has occurred around broadband policy needs during this Congress. The time for action is now.





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