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Intrastate Switched Telephone Access Charges in Kentucky

FINAL REPORT

Prepared for:

Connected Nation

November 28, 2011

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Foreword

Access to and use of broadband service is a goal and focus of our organization since our founding in Kentucky a decade ago, and we have seen firsthand in over 30 states in the U.S. the transformational ability of broadband Internet service to improve the quality of life for individuals and communities, as well as the benefits to our economy realized by increased broadband adoption rates.

Ubiquitous broadband availability continues to be an issue both in Kentucky and across the nation. National estimates of the National Broadband Map show that broadband at the lowest speeds is available to most U.S. households, but there remain millions who cannot subscribe to broadband even if they want it.

Furthermore, initial broadband availability must be followed by continued investment and re-investment in that same network, to maintain its current capabilities and provide for the modernization necessary to increase the network's capacity for more end-users and faster overall speeds.

The National Broadband Plan was released by the Federal Communications Commission in February of 2010 and established broad goals for U.S. broadband availability in the short-term and long-term that includes speeds significantly faster than are available to all U.S. households today. The FCC, as part of many policy recommendations designed to foster fast and efficient broadband deployment, established a recommendation calling for the reform of current telecommunications policies or programs such as the federal Universal Service Fund and Intercarrier Compensation.

Access reform is a sub-part of the larger Intercarrier Compensation regime, for which the National Broadband Plan observed: “[t]he current per-minute [Intercarrier Compensation] system was never designed to promote deployment of broadband networks” (being that the current system was designed to assist long-distance voice telephone providers in compensating each other for long-distance phone calls) and that “[t]he current ICC system is not sustainable in an all-broadband Internet (IP) world.”

The FCC further established in the National Broadband Plan that, “[b]ecause providers’ [a]ccess rates are above costs, the current [ICC] system creates disincentives to migrate to all IP-based networks. [...] While this may be in the short-term interest of a carrier seeking to retain ICC revenues, it actually hinders the transformation of America’s networks to broadband,” and “even rate-of-return carriers...acknowledge that the current system is ‘not sustainable’ and could lead to a ‘death spiral...’”

While an order reforming the USF and ICC is under review at the FCC, it may take some time before the Commission is able to act, and it is for that reason that we were part of a broad effort in Kentucky last year encouraging the Public Service Commission to open a proceeding reforming the access charge system that has been in place in Kentucky since 1984. In short, we encouraged the PSC not to wait on reform to come from Washington, DC but to join many other states in beginning that reform itself.

We seek accurate data and knowledge in all broadband related issues, and the encouragement we offered to the Kentucky PSC last year led to the desire to obtain research into the economic benefits of reforming the access rate system in Kentucky. The study below by the University of Kentucky's Center for Business and Economic Research is the result.

It is our hope that this study can be a useful resource for policy-makers and broadband stakeholders in the Commonwealth as they work to reform the systems necessary to keep Kentucky's telecommunications providers vibrant and foster increased broadband availability across the state.

Connected Nation, Inc.

July 25, 2011

Executive Summary

This report examines the economic consequences of the current access rate system for intrastate long-distance calls, governed by the Kentucky Public Service Commission. At the time Kentucky created an access rate system for telephone service in 1984, the main goal of telecommunication policy was universal wireline access. Since then the telecommunications landscape has changed dramatically, as well as current policy goals. New forms of communication and policy have emerged such as cellular phones and cable telephony, as well as the introduction of the National Broadband Plan and the strong desire both nationally and in Kentucky for ubiquitous broadband availability. Economic theory, along with expert testimony, suggests that the current access system is not socially optimal.

Switched access charges are prices that local telephone service providers charge wireline long-distance providers for connecting long-distance calls to their local exchange customers. A long-distance call can be categorized as one of two types, interstate or intrastate. The former is a long-distance call between individuals in different states, while the latter is a long-distance call between individuals in the same state. Interstate access rates are governed by the Federal Communications Commission (FCC), while intrastate access rates are regulated by the Kentucky Public Service Commission. An economic inefficiency exists with this system because intrastate access charges are not set at the same price as interstate access charges, even though there is no difference to the provider for the cost of the service.

Additionally, the FCC has identified reform of this system, as well as other related programs or policies, as key to reforming the telecommunications investment landscape in the U.S. to allow and incentivize further deployment of broadband networks to reach unserved households and businesses.

Major findings of the report are:

- Each of the states bordering Kentucky has addressed intrastate access rate reform. Illinois, Indiana, Missouri, Ohio, Tennessee, Virginia, and West Virginia have individually implemented policy to decrease intrastate access charges. Several states have gone as far as requiring providers' intrastate access rates to mirror their interstate access rates, which are governed by the FCC, while others have been less aggressive but still requiring providers to lower their rates. Kentucky has not revisited access reform since 1999 and is the only state in the region which has failed to address intrastate access reform.
- There are economically sound reasons why two products with similar functionality and similar costs—intrastate and interstate long-distance connection services to local exchanges—should have similar prices.
- Higher access charges lead to higher prices to consumers for intrastate long-distance services, as well as higher prices for goods whose production processes require intrastate long-distance communication.
- Inefficiently high access charges reduce competition in the intrastate long-distance market, and they lead to suboptimal investment in the present and the future.
- A final economic inefficiency of the current access charge system is that it creates arbitrage opportunities by charging different prices for essentially the same product, resulting in wasteful spending that could be avoided.

I. Introduction

Telecommunications policy throughout most of the twentieth century was driven by the goal of universal access—a goal formally established by the Communications Act of 1934. To accomplish that goal long-distance telephone rates were explicitly set above cost for many decades, and the profits were used to cross-subsidize rates for local telephone service that were set below cost. Competitive long-distance providers began to challenge AT&T's monopoly in the 1970's, leading to the breakup of the AT&T system in the mid 1980's. After the Bell Operating Companies were divested from AT&T, they continued to provide local telephone service while AT&T provided long-distance service in competition with MCI, Sprint, and others.

With the advent of broadband internet services, the information technology market has transformed itself since the early 1990's, and in the 21st century universal access to broadband is assuming the same, if not higher, level of prominence. Importantly, broadband Internet services allow for more than simple voice communication, and have brought changes to the U.S. economy, education and health-care system.

At the time of the AT&T break-up, local wireline telephone service was still a monopoly, provided by incumbent local exchange carriers (ILEC's), even though long-distance carriers were beginning to compete with one another for customers. Interstate telephone rates came under the jurisdiction of the Federal Communications Commission (FCC), but regulation of intrastate rates fell to the various state public service commissions. Thus, the rate charged to a long-distance carrier by a local telephone exchange carrier to connect an interstate call was regulated by the FCC, while the rate charged by the same local telephone exchange carrier to connect a long-distance call that originated within the state was (and is) regulated by the state.

In response to this sea-change in the telecommunication environment, Kentucky created an access rate system for telephone service in 1984. The system of intrastate switched access charges established subsidies that gave financial incentives for ILEC's to provide landline service to hard-to-reach customers, so that all Kentuckians would have access to landline phone service at "reasonable" rates. This system of implicit subsidies was created at a point in time when local residential and commercial customers had only one telephone option for connecting to the outside world—their local wireline provider.

Other than the changes it approved to BellSouth's access charges in 1999, the Kentucky Public Service Commission (PSC) has not revised the implicit subsidy mechanisms built into access charges for intrastate (i.e. within-state) long-distance calls since then.¹ In contrast, the FCC has made several changes in its regulation of interstate long-distance calls, rebalancing revenues away from carrier (access) charges to end-user charges.^{2,3} The result is that many customers pay

¹ Order, *In the Matter of the Tariff Filing of BellSouth Telecommunications, Inc. to Mirror Interstate Access Rates*, before the Kentucky Public Service Commission, Case No. 98-065, (March 31, 1999); Order, *In the Matter of: Application of BellSouth Telecommunications, Inc., d/b/a South Central Bell Telephone to Modify Its Method of Regulation*, before the Kentucky Public Service Commission, Case No. 94-121 (August 2, 1999).

² Order on Remand and Report and Order and Further Notice of Proposed Rulemaking, *In the Matter of High-Cost Universal Service Support and Federal-State Joint Board on Universal Service et al.*, before the Federal Communications Commission, FCC 08-262, (released November 5, 2008), (hereafter FCC 08-262).

substantially more in per-minute charges for intrastate long-distance calls than for interstate long-distance distance calls, as illustrated in the figures and tables in the next section.

The Kentucky PSC has initiated an investigation into the intrastate switched access rates charged by incumbent and competitive local exchange carriers in the state.⁴ This analysis paper is motivated by that investigation. The first part of our analysis provides a general overview of long-distance access charges. The second section summarizes recent changes in other states' access rate systems, including other states in the southeastern U.S. such as Georgia and Tennessee. The third section provides an overview of the underlying economic principles associated with the access rate system, highlighting economic inefficiencies that exist in the current system where prices for functionally identical products—interstate and intrastate access charges—are allowed to differ substantially.

II. Overview of Long-Distance Access Charges

From the days of Alexander Graham Bell until the 1970's, voice communication between persons in different locations flowed over copper wires in one nationally-interconnected system. The advent of wireless communication devices and the internet over the past several decades have drastically changed the current possibilities. Now one person may initiate a telephone call from a cell phone that taps into a copper or fiber-optic long-distance system and ends up connecting with another person who receives the call through an internet connection. Three or more different telephone service providers may be involved in completing the call. It is impractical for all three providers to bill the customer separately for the services each provides, necessitating a system of reimbursement among companies.

What are long-distance access charges? These charges, also known as switched access charges, are the prices that local telephone service providers charge wireline long-distance providers for connecting long-distance calls to their local exchange customers. Local exchange providers fall into two groups, incumbent local exchange carriers (ILEC's) and competitive local exchange carriers (CLEC's).⁵ Wireline long-distance providers are known as interexchange carriers (IXC's). The originating and terminating LEC's incur costs when a long-distance call is placed, and they are allowed to charge the IXC for the origination and termination services provided. The costs that the LEC's incur in connecting a long-distance call do not differ by where the call is going or where it comes from. However, the amount the LEC's charge the IXC for access to their systems can differ greatly depending on whether the call crosses state boundaries.

³ Sixth Report and Order in CC Docket Nos. 96-262 and 94-1; Report and Order in CC Docket No. 99-249; Eleventh Report and Order in CC Docket No. 96-45; commonly referred to as CALLS (Coalition for Affordable Local and Long Distance Service) Order; Federal Communications Commission, May 31, 2000.

⁴ *An Investigation into the Intrastate Switched Access Rates of All Kentucky Incumbent and Competitive Local Exchange Carriers*, before the Kentucky Public Service Commission, Case No. 2010-00398.

⁵ Incumbent Local Exchange Carriers are the companies (or their successor companies) originally franchised by the Kentucky Public Service Commission as the sole provider of local telephone service within a specific geographic area. After the industry was deregulated by Telecommunications Act of 1996, several companies may offer service in a single area. New companies that have entered the market are called Competitive Local Exchange Carriers. See Kentucky Public Service Commission, "Incumbent Local Exchange Carriers," August 27, 2007.

To illustrate the difference a state boundary can make in these charges, consider a call from one individual in Lexington, KY to another individual in Cave City, KY. Suppose the person making the call has Windstream as their local wireline carrier and Verizon as their long-distance carrier, and the person receiving the call has the South Central Rural Telephone Cooperative as their local wireline carrier. Because Verizon does not have a connection to either customer, it must pay a long-distance access fee to Windstream for initiating the call as well as to the South Central Rural Telephone Cooperative for terminating the call. These charges are intercarrier charges from one telephone carrier to another—the customers are not billed directly, and the charges we discuss are made on a per-minute basis.

Although the access services provided by the ILEC are identical regardless of the distance between the callers, the price that Verizon pays for these services is determined by whether the calling and called parties are in the same state or in different states. If they are in different states, then the access charges are *interstate* access charges, which are regulated by the Federal Communications Commission. If they are both in Kentucky, the access charges are *intrastate* access charges, which are regulated by the Kentucky Public Service Commission (PSC).

The access charges also differ according to the types of phones used by the originating and terminating parties. Wireline phones are treated differently than cellular phones, cable telephony, and Voice over Internet Protocol (VoIP) services, such as Skype, Vonage, or Google Voice. Wireless calls are treated as local calls as long as they do not cross the boundaries of a Major Trading Area (MTA), and hence do not incur access charges.⁶ Since almost all of Kentucky falls within MTA #26, the large majority of wireless calls within the state do not incur intrastate switched access charges. The pricing structure for cable and other types of VoIP calls varies from provider to provider, particularly with respect to terminating charges. The provider of such calls, such as Insight or Vonage, may route the calls on its own network or may use another long-distance carrier. In general, it should be noted that the functional service provided by the LEC does not differ across each of these telephone calling methods.

The following example illustrates the effect this differential treatment of different forms of a phone call has on the access charges levied by the LEC's. Figure 1 shows the difference in access charges for a ten-minute call from Lexington, KY to a wireline phone in Shepherdsville, KY based on two different types of originating phone devices in Lexington: (1) wireline with Windstream; (2) wireless with AT&T. For comparison, we also include a VoIP call using Skype from a computer in Lexington to a computer in Shepherdsville. The access charges include originating and terminating charges with the goal of making an “apples to apples” comparison on all three calls.⁷

⁶ MTAs are boundaries that segment the country for telecommunication licensing purposes. MTAs are based on Rand McNally's Commercial Atlas & Marketing Guide.

⁷ Specifically, the access charges are based on AT&T's April 21, 2010 filing in KY PSC Case No. 2010-00162 that were modeled from readily accessible, publicly-available tariffs. As described in Exhibit D of the AT&T filing, the calls originating from landlines assume 50% originating and terminating, 20% tandem usage, tandem facilities mileage at 10 miles, and “direct access” rates where applicable. Cost calculations also include, where applicable, common carrier line, local switching, information surcharge, interconnection charge, common port, common transport, tandem transport, and tandem switching. The wireless call from Lexington to Shepherdsville is an intra-MTA call, and we assume that it is covered under the reciprocal compensation terms of the agreement between AT&T wireless service and Verizon South (now owned by Windstream), with a rate of \$0.0007 per minute. The

Figure 1: Long-Distance Access Charges for Calls to Shepherdsville, Kentucky



| Call from Lexington, KY to landline in Shepherdsville, KY | Cost of 10-minute call |
|---|------------------------|
| (1) Call from landline phone in Lexington to Shepherdsville | \$1.10 |
| (2) Call from wireless phone in Lexington to Shepherdsville | \$0.007 |
| (3) Call from Skype computer in Lexington to Skype computer in Shepherdsville | \$0.00 |

| Call from Seymour, IN to landline in Shepherdsville, KY | Cost of 10-minute call |
|---|------------------------|
| (1) Call from landline phone in Seymour to Shepherdsville | \$0.15 |
| (2) Call from wireless phone in Seymour to Shepherdsville | \$0.10 |
| (3) Call from Skype computer in Seymour to Skype computer in Shepherdsville | \$0.00 |

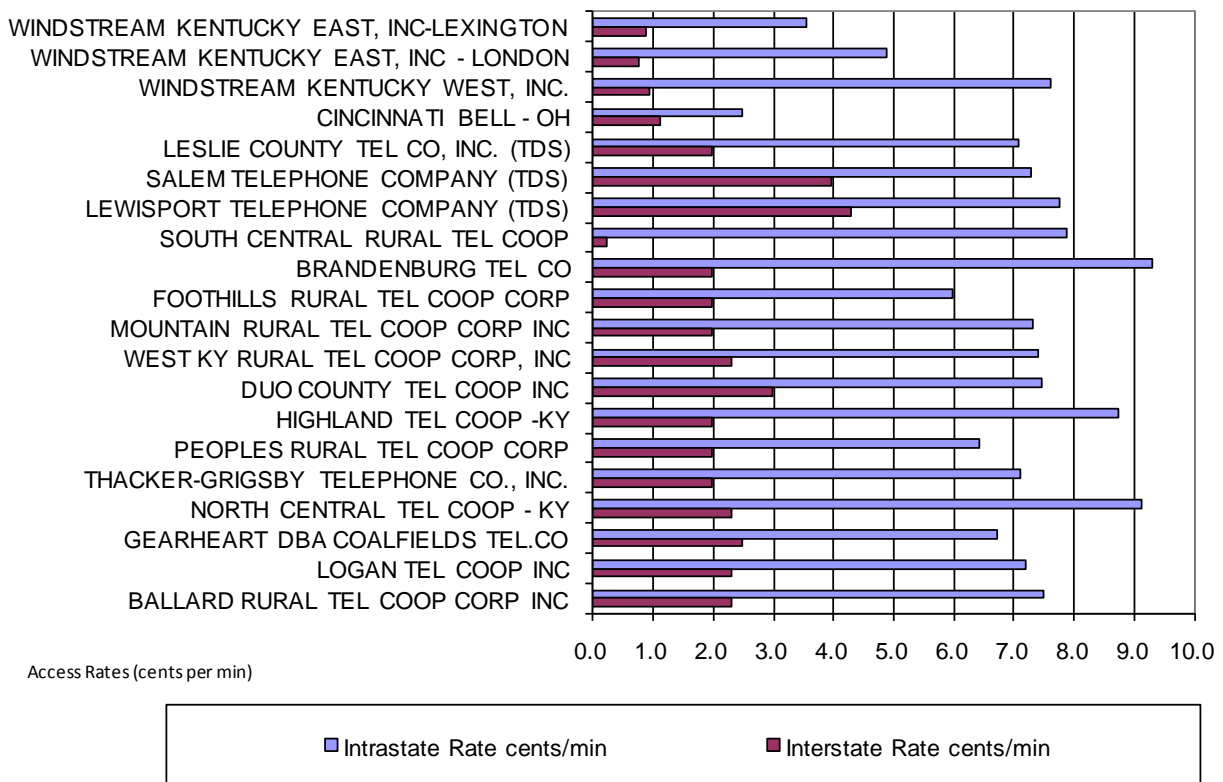
As can be seen, the highest access charge of approximately \$1.10 is for a call from a landline in Lexington. The access charge for a call from the wireless phone with AT&T service is \$0.007

wireless call from Seymour to Shepherdsville uses the per-minute rate for interstate calls from AT&T's Exhibit C of its April 21, 2010 filing, 2010. The actual rate may be lower because these rates include other charges in addition to the access charges.

based on a \$0.0007 per-minute reciprocal compensation rate as articulated in the interconnection agreement between the two providers filed with the PSC. We assume that a call from Skype (VoIP provider) does not enter the PTSN network and therefore does not incur any access charges.

To illustrate the difference a state boundary makes in access charges, Figure 1 also shows the access charge for a call from Seymour, IN to Shepherdsville, KY. Although the distance between Seymour and Shepherdsville is approximately the same as that between Lexington and Shepherdsville (80 miles), the call is an interstate call subject to FCC-regulated interstate tariffs. Thus, the estimated access charge of a ten-minute call between Seymour and Shepherdsville is \$0.15 when the caller in Seymour is using a landline and \$0.10 when the caller in Seymour is using a wireless phone. Again, we assume that the Skype call does not enter the PTSN network and therefore incurs no access charges. This example clearly illustrates that local telephone companies impose different access fees for different types of calls even though the functionality of the service provided—connecting a call from an outside source—is identical across the different types of calls shown in the figure.

Figure 2: Kentucky RLEC Intrastate and Interstate Switched Access Rates



Source: AT&T 2010-00162, Exhibit C.

Access charges differ considerably across local exchange carriers in Kentucky. Figure 2 illustrates the different interstate and intrastate long-distance access charges of Kentucky’s rural local exchange carriers (RLEC’s), and Table 1 lists the intrastate long-distance access charges of Kentucky’s competitive local exchange carriers (CLEC’s). It can be seen that intrastate access

fees vary greatly (by a factor of over twenty) across providers, from over \$0.09 per minute for Brandenburg Telephone Company (Figure 2) to \$0.0043 per minute for Metropolitan Communications (Table 1). The interstate access fees are much more similar across carriers, with most carriers charging around \$0.02 per minute.

Table 1: Kentucky CLEC Blended Intrastate Access Rate Per Minute:

| Kentucky CLEC | Blended Intrastate ARPM |
|--|--|
| Nuvox Communications (Clear Access) | \$.0762 |
| Cinergy MetroNet | \$.0748 |
| Norlight (a/k/a Cinergy Communications) | \$.0748 |
| Business Telecom (Indirect Access) | \$.0655 |
| SouthEast Tel. Co. | \$.0643 |
| Dialog Telecommunications | \$.0637 |
| Business Telecom (Direct Access) | \$.0630 |
| Insight Phone (Zone 4) | \$.0556 |
| Nuvox Communications (Direct Access) | \$.0514 |
| Access Point | \$.0454 |
| BullsEye Telecom | \$.0410 |
| USLEC | \$.0394 |
| XO Communications | \$.0304 |
| Sprint Communications | \$.0286 |
| YMax Communications | \$.0275 |
| Brandenburg Telecom | \$.0272 |
| South Central Telcom | \$.0272 |
| North Central Communications | \$.0272 |
| Insight Phone (Zone 1,2,3,5) | \$.0262 |
| Telcove | \$.0206 |
| Level 3 | \$.0205 |
| Ernest Communications | \$.0200 |
| Armstrong Telecommunications | \$.0147 |
| tw telecom (Cincinnati markets) | \$.0126 |
| MCIMetro Access Transmission Services (Direct Connect) | \$.0103 |
| tw telecom (Lexington, Louisville markets) | \$.0102 |
| MCIMetro Access Transmission Services (Tandem Connect) | \$.0097 |
| TCG | \$.0067 |
| Comcast Phone | \$.0067 |
| Cavalier | \$.0067 |
| Birch Telecom | \$.0067 |
| Sage Telecom | \$.0067 |
| Metropolitan Telecommunications | \$.0043 |

Source: AT&T 2010-00162, Exhibit D.

Even though local telephone companies often have a virtual monopoly on access to their wireline customers, particularly in rural areas, the number of landlines and the number of calls made to those landlines have been decreasing over time as customers continue to substitute other forms of communications, including wireless phones and VoIP such as Insight Phone and Vonage. The FCC documents that the number of wireline phone lines in Kentucky provided by incumbent local exchanges (ILEC's) dropped from nearly 1.7 million at the end of 2007 to approximately 1.3 million in June 2010, a decrease of 21.5 percent.^{8,9} In contrast, the number of wireless subscribers in the Commonwealth grew from 3,291,000 to 3,654,000 over the same period, an increase of 11 percent.¹⁰ And as of June 2010, there were approximately 260,000 VoIP phone lines in Kentucky.¹¹

III. Recent Access Reforms in Other States

Table 2 illustrates that each of the states bordering Kentucky has addressed intrastate access charge reform in varying degrees. Illinois, Indiana, and West Virginia currently require providers to set their intrastate access charges to mirror their interstate access charges. Indiana is the clear leader in the region for reform, with the passage of HEA 1279 in March 2006. This bill served as the catalyst for telecommunications reform in Indiana and is considered the benchmark for other states interested in deregulation. Regarding intrastate access service, this legislation states that rates for intrastate switched or special access service are “just and reasonable” if intrastate rates mirror interstate rates for switched or special access service.

Illinois, Tennessee, and West Virginia have followed Indiana's lead with recently passed legislation requiring their providers to set intrastate rates to mirror interstate rates. In December 2010 Illinois passed PUA Section 13-900.2, requiring each telecommunications carrier providing Illinois switched access service to reduce their rates to mirror their interstate rates by July 1, 2012.

West Virginia has also set legislation in motion, but it is not as uniform as Indiana and Illinois. Traffic-sensitive intrastate switched access rates in West Virginia are being lowered to the interstate level for most of the state as a result of several WV Public Service Commission orders. This is being phased in over different periods of time depending on whether the carrier is an ILEC or a CLEC.

In April 2011, Tennessee House Bill No. 574 amended Senate Bill No. 598 concerning intrastate access rates. Any entity providing switched access service is prohibited from charging intrastate access charges that exceed the interstate switched access charges. There are several ways providers can choose to progress to this outcome, but intrastate rates cannot exceed interstate rates by April 1, 2016.

⁸ Federal Communications Commission. September 2010. *Trends in Telephone Service*. Industry Analysis and Technology Division Wireline Competition Bureau.

⁹ Federal Communications Commission. March 2011. *Local Telephone Competition: Status as of June 30, 2010*. Industry Analysis and Technology Division Wireline Competition Bureau.

¹⁰ Ibid.

¹¹ Ibid.

Table 2: Recent Intrastate Access Reforms in Kentucky and Surrounding States

| | Addressed Access Rate Reform | Access Rate Legislation | Summary of Legislation |
|---------------------------|-------------------------------------|--|--|
| Kentucky | No | Kentucky has not revised access reform since 1999. | ... |
| Surrounding States | | | |
| Illinois | Yes | Illinois Public Utilities Act Section 13-900.2 | By July 1, 2012, each telecommunications carrier must reduce its intrastate switched access rates to mirror its then current interstate switched access rates and rate structure. |
| Indiana | Yes | HEA 1279 | Rates and charges for intrastate switched or special access service are considered to be just and reasonable if the intrastate rates and charges mirror the providers interstate rates and charges for switched or special access service. |
| Missouri | Yes | House Bill 1750 | Beginning March 1, 2011 House Bill 1750 requires large ILECs to annually reduce their intrastate access rates by six percent of the difference between their intrastate and interstate access rates. This reduction will be completed over a period of three years. |
| Ohio | Yes | Case No. 10-2387-TP-COI | The intrastate access rates of mid-sized and small ILECs have been frozen at their 1997 levels. This commission ordered investigation would reduce the intrastate access charges for the carriers to their interstate levels. |
| Tennessee | Yes | House Bill 574 | Any entity providing switched access service is prohibited from charging intrastate access charges that exceeds the interstate switched access charges. There are several ways providers can choose to progress to this outcome, but intrastate rates cannot exceed interstate rates by April 1, 2016. |
| Virginia | Yes | Case No. PUC-2003-00091 | Verizon was ordered to reduce intrastate access charges by August 1, 2005 and again on February 1, 2006. |
| West Virginia | Yes | Case No. 06-1935-T-PC and 05-0040-T-PC | Each of these cases mandated West Virginia's largest and second largest ILECs to reduce their traffic sensitive intrastate switched access rates to the same level as the interstate switched access rates. |

Ohio, Missouri, and Virginia have also instituted measures to reduce intrastate access charges. Of these three states Ohio is the closest to the broad reforms of Indiana, Illinois, Tennessee, and West Virginia. Currently, Ohio's large incumbent local carriers, AT&T and Frontier, as well as all of the competitive local exchange carriers, set their intrastate access charges to mirror their interstate access charges. There is also a current Public Utilities Commission order to investigate whether the remaining carriers should reduce their rates as well. Missouri does not require that intrastate and interstate access rates be equal, but in 2010 the state passed legislation which will lead to the reduction of intrastate rates. House Bill 1750 requires the large ILEC's to reduce their rates annually by six percent of the difference between a company's intrastate access rates and its interstate access rates. This reduction will be completed over a three-year period, beginning March 1, 2011. Virginia has not taken such broad measures as the previously mentioned surrounding states but has targeted specific providers. The Virginia State Corporation Commission ordered Verizon, Virginia's largest telephone company, to reduce its intrastate access charges on August 1, 2005 and again on February 1, 2006.

Intrastate access rate reform is not unique to Kentucky and surrounding states. Many other states have also implemented legislation or have opened investigations to form a plan of action, and Table 3 contains a summary of selected states.¹² Georgia, Kansas, Maine, and Michigan are all examples of states that require their providers' intrastate access charges to mirror interstate access charges. The Georgia Public Service Commission implemented House Bill 168 in 2010. This bill requires ILECs to reduce their intrastate switched access charges to parity with their interstate switched access rates by December 31, 2015. Kansas has required ILECs' intrastate access rates to be at parity with their interstate access rates since 1996 with the passage of the Kansas Telecommunications Act of 1996. Maine was also a national leader with intrastate access rate reduction. The Maine Public Utilities Commission Statutes required intrastate access rates to equal interstate access rates by May 31, 2005. Michigan passed the Michigan Telecommunication Act in 2009, requiring providers to eliminate the differential between intrastate and interstate switched toll access service rates by January 1, 2015. Each of these reforms makes it clear that even though the end goal of rate parity is the same, implementation time tables and legislative language vary across states.

Similar to Kentucky and the surrounding region, there is variation across states in intrastate access charge legislation. Both California and Wisconsin do not require rate parity, but have still taken measures to reform intrastate access charges. The California Public Utilities Commission has made several rulings on revisions to intrastate access charges. Decision 06-04-071 requires the state's two largest carriers, AT&T California and Verizon California, as well as SureWest and Frontier, to remove the non-cost-based rate elements from intrastate access charges. Decision 07-12-020 ordered CLEC's to begin setting their access charges at the higher of AT&T's or Verizon's intrastate access charges, plus ten percent. Wisconsin has also enacted legislation to reduce intrastate access charges, but like California the measures taken are not nearly as broad as what many other states have implemented. Wisconsin Act 496 in 1993 mandated that AT&T set intrastate access rates to mirror interstate access rates. This is the only company that is held to such a standard. On May 24, 2011, the Wisconsin Telecommunications

¹² For a complete summary of states not selected for Table 3, see the Summary of State Actions on Intrastate Access Charges, filed March 14, 2010, Docket No. P-100, Sub 167, Petition of Sprint to Reduce Intrastate Switched Access Rates of Incumbent Local Exchange Carriers in North Carolina.

Modernization Act of 2011 (2011 Wisconsin Act 22) was enacted. Included in this legislation were provisions reforming access charges in the state. Wisconsin Governor Scott Walker said at the time: “This legislation will update Wisconsin’s regulation of the telephone industry for the broadband age. These reforms will encourage more private sector investment and bring jobs to the state.”¹³

Table 3: Summary of Selected States’ Intrastate and Interstate Access Charge Parity

| | Addressed Access Rate Reform | Access Rate Legislation | Intrastate Mirror Interstate |
|---------------------------|-------------------------------------|--|-------------------------------------|
| Kentucky | No | Has not revised access reform since 1999 | No |
| Surrounding States | | | |
| Illinois | Yes | Illinois Public Utilities Act Section 13-900.2 | Yes |
| Indiana | Yes | HEA 1279 | Yes |
| Missouri | Yes | House Bill 1750 | No |
| Ohio | Yes | Case No. 10-2387-TP-COI | No* |
| Tennessee | Yes | House Bill 574 | Yes |
| Virginia | Yes | Case No. PUC-2003_00091 | No |
| West Virginia | Yes | Case No. 06-1935-T-PC and 05-0040-T-PC | Yes |
| Other States | | | |
| California | Yes | (D.) 07-12-020 and (D.) 06-04-071 | No |
| Georgia | Yes | House Bill 168 | Yes |
| Kansas | Yes | Kansas Telecommunications Act of 1996 | Yes |
| Maine | Yes | Public Utilities Commission Statute | Yes |
| Michigan | Yes | Michigan Telecommunications Act | Yes |
| Nevada | Yes | Nevada Administrative Code 704.75295 | Yes‡ |
| Wisconsin | Yes | Wisconsin Act 22 | Yes† |

* AT&T and Frontier, as well as all of the CLEC’s, mirror their interstate charges.

‡ A CLEC can file with the Nevada commission to exceed its FCC rates, but the CLEC must file cost support and receive commission approval.

† AT&T must set intrastate rates to mirror interstate rates.

IV. Underlying Economic Principles

The prices that result from a competitive market process are socially beneficial for the following reason. Competition among sellers leads to prices that reflect the economic costs of supplying a product. Seeing such prices, consumers will choose to purchase products which they value more than the cost of producing and will choose not to purchase products which they value less than the cost of producing. Producers will similarly be induced to supply products where consumers’

¹³ 2011 Wisconsin Act 22, the Wisconsin Telecommunications Modernization Act: <http://nxt.legis.state.wi.us/nxt/gateway.dll?f=templates&fn=default.htm&d=billhist&jd=top>; and BizTimes.com (<http://www.biztimes.com/daily/2011/5/12/state-legislature-passes-telecom-deregulation>): “State Legislature passes telecom deregulation,” May 12, 2011.

valuations exceed costs, but will not supply products where the price consumers pay does not cover production costs. Such an outcome is deemed economically efficient.

Federal telecommunications policy has economic efficiency as a primary goal. In the Telecommunications Act of 1996, Congress directed the FCC and the states to eliminate implicit subsidies for universal service contained in access charges and make support for universal service explicit instead.¹⁴ The FCC has explicitly stated that it seeks “an approach to intercarrier compensation that will encourage efficient use of, and investment in, telecommunications networks, and the efficient development of competition.”¹⁵ The FCC’s pursuit of economic efficiency has led to *interstate* access charges that vary very little across local exchange carriers and largely reflect the economic cost of providing origination and termination services.

Because *intrastate* access charges have remained under the control of state regulatory commissions, reform has occurred more slowly and unevenly. In Kentucky as in some other states, intrastate access charges for some ILEC’s and CLEC’s are set at levels considerably higher than the economic cost of providing origination and termination services to IXC’s. These above-cost access charges distort the economic decisions of consumers of telecommunication services and of other telecommunications providers. As such, the system of intrastate access charges that currently exists in Kentucky is out of step with national telecommunication goals and policy. In 2009 the FCC, directed by Congress, developed the National Broadband Plan (NBP). This plan outlines a course of action toward universal broadband service reaching every American. The NBP explicitly addresses intercarrier compensation (ICC), stating that ICC has not been reformed to accommodate changes in technology and consumer behavior.¹⁶ The plan elaborates on several specific economic disincentives, ultimately concluding that “the current ICC system is not sustainable in an all-broadband Internet Protocol world.”¹⁷

This section of our report provides an overview of the underlying economic principles behind the access rate system. We pay particular attention to how these principles have changed as a result of technological innovation. For example, the access rate system was designed in 1984 in a world without wireless or broadband services. Local telephone companies were natural monopolies due to the large costs of laying copper wire for landlines. Now consumers have broadband, wireline and wireless options and the market is very competitive, so this natural monopoly on telecommunications no longer exists.

Higher Costs for Consumers

Currently in Kentucky, intrastate access charges exceed the costs to provide access service for many local exchange carriers. These excessive charges generate positive profits for the access provider, the local telephone company. However, the excessive charges raise the costs of inter-exchange carriers providing long-distance service who have to pay these access fees. The IXC’s

¹⁴ Federal Communications Commission. September 2010. *Trends in Telephone Service*. Industry Analysis and Technology Division Wireline Competition Bureau, p. 14.

¹⁵ Federal Communications Commission, Notice of Proposed Rulemaking, April 2001, p. 3.

¹⁶ Federal Communications Commission. March 2010. *Connecting America: The National Broadband Plan*. p. 142. Hereafter “National Broadband Plan”

¹⁷ National Broadband Plan, p. 142.

have to include these charges in the prices they charge consumers for intrastate long-distance service. Consequently, consumers end up paying higher prices for intrastate long-distance calls—prices that do not reflect economic costs. As a result, consumers are inefficiently induced to substitute away from landline-to-landline calls handled by an IXC, and end up using other calling options such as wireless or VoIP instead.

If intrastate access charges were reduced to a level that reflected economic costs, intrastate long-distance prices would fall. There is considerable competition among IXC's to provide intrastate long-distance service, and IXC's also compete with wireless providers for many intrastate calls. Competition among firms leads to prices that reflect costs. A reduction in input costs will lead to lower prices being charged by IXC's for intrastate long-distance service. In other words, a reduction in access charges would lead to a reduction in consumers' intrastate long-distance rates. Such a reduction occurred for interstate long-distance calls after the FCC reduced interstate access charges in the 1990s.

Testimony from Dr. Debra J. Aron before the Arizona Corporation Commission supports the conclusions regarding reduced intrastate access charges. Dr. Aron recommended that both ILECs and CLECs of Arizona reduce their intrastate rates to “the levels and structure of their corresponding interstate switched access rates.”¹⁸

Consumers will also benefit indirectly as a result of reductions in intrastate long-distance costs incurred by businesses. When businesses have to pay more for long-distance calls, they pass these higher costs on to consumers by charging higher prices for the products they sell. The amount of the reduction in price by any particular business would depend on how important long-distance communication is in its total cost of production. For example, a large automotive plant in Kentucky often calls its suppliers in the state to coordinate deliveries and other logistical issues that are crucial to the success of the automotive plant. As the price of a long-distance call rises, the plant may call its suppliers less often and suffer production delays and other negative consequences. In an extreme case, they may consider relocating just outside Kentucky in a neighboring state in order to reduce their long-distance telephone costs.

Thus, a reduction in access charges would lead to lower prices for intrastate long-distance services, as well as potentially lower prices for other goods whose input prices include intrastate long-distance calls.

Reduced Competition

Artificially high access charges reduce competition in the intrastate long-distance market. Currently, wireless phone operators generally have lower intrastate access charges than wireline phone operators. In fact, most wireless phone calls in Kentucky would be considered “local” calls because they are made within the same Major Trading Area (MTA), which is the local

¹⁸ Aron, Debra J. testimony before the Arizona Corporation Commission, Docket Nos. RT-00000H-97-0137 and T-00000D-00-0672, December 2009.

service area for wireless calls.¹⁹ The substantial disparities in access rates paid by wireline versus wireless carriers create a competitive advantage for wireless long-distance services.

Because wireless companies have lower access charges, they are able to offer substantially lower prices for intrastate long-distance calls. If the cost that an ILEC or CLEC incurs in providing local exchange access for wireless were lower than for wireline long-distance providers, then this outcome would be efficient. But charging higher access charges for the same access functionality puts the wireline long-distance carriers at a competitive disadvantage for no reason related to relative efficiency or value of service provided. When some companies are favored vis-à-vis other companies by regulatory rules that are unrelated to underlying costs of doing business, the result is economically inefficient. In this case, the inefficiency means that wireline long-distance carriers are less competitive than wireless long-distance carriers due to the higher access fees paid by wireline carriers.

Consequently, people make fewer wireline long-distance calls due to the artificially high access rates, resulting in a “deadweight” or inefficiency loss. The amount of the deadweight loss is the value to consumers from the wireline long-distance calls they would have preferred to make on their wireline network, but that were made in another way or not at all due to the excessive access charges. There is suggestive evidence to support that this may be occurring in Kentucky, discussed earlier in this report. The number of wireline phone lines in Kentucky has decreased by 21.5% while the number of wireless subscriptions has increased by 11% from the end of 2007 to June 2010.

Inefficient Investment

Another economic concern is that the current access charge system leads to inefficient investment in the present and the future. Specifically, it leads to over-investment in landline technologies and under-investment in broadband and wireless technologies. AT&T argues that, over time, such inefficient investment will put the state of Kentucky at a competitive disadvantage for economic development relative to other states with more efficient access charges.²⁰ At the national level, several companies have made similar claims to the FCC that artificially high access charges discourage the adoption of broadband technology.²¹

For example, the current access charge scheme provides the perverse incentive for local carriers to continue to invest in low-quality time-division multiplexing (TDM) networks that are ill-equipped for handling broadband-based traffic rather than investing in networks that are equally adept at voice and broadband traffic. In an extreme example, one provider is forced to convert its broadband-based voice traffic into lower-quality “traditional” voice traffic so that a local carrier can collect access charges.²²

¹⁹ See <http://wireless.fcc.gov/auctions/data/maps/mta.pdf> for a map of MTAs in the U.S. As mentioned previously, Kentucky has four MTAs, but most of the state’s population is covered in a single MTA (number 26 in the map).

²⁰ AT&T 2010.

²¹ National Broadband Plan.

²² National Broadband Plan, page 142.

The greatest concern about infrastructure investment comes from smaller companies, often based in rural areas. These companies argue that, in fact, a reduction in access charges would reduce rather than increase broadband development. However, Beard and Ford (2008) develop a simple economic model showing that reduced charges would actually lead to greater broadband deployment rather than lower deployment.²³ They also note that some of the equipment used for handling broadband traffic does not rely on large economies of scale, so that small, rural systems would not suffer a large cost disadvantage due to the small number of customers using the service. Furthermore, Aron and Ingraham (2011) have documented a positive relationship between the price of local telephone service and broadband adoption even after accounting for broadband availability.²⁴ In other words, people with low prices for local telephone service are less likely to have broadband than otherwise similar individuals with higher prices for local telephone service.

Because the current system provides local carriers with access fees often well in excess of costs, local carriers have reduced incentive to provide broadband access that could potentially compete with its local wireline service, thereby decreasing revenues from these access fees. AT&T argues that the current access charge system provides incentives for “carriers to cling to the traditional voice model, discouraging broadband adoption.”²⁵ Free Press, a consumer advocacy group, states that the current access charge system produces a “strong incentive for rural carriers to delay the full transition to the broadband world.”²⁶

Another potential impediment to investment is the uncertainty regarding future access charges. For example, state regulatory agencies and the FCC have not decided the appropriate access fee structure for VoIP calls. Thus, it seems inevitable that access charges will eventually change, and they will likely be set at or close to economic costs. Such changes should clarify the regulatory environment and therefore reduce the disincentive to investment that exists under the current climate of uncertainty.

Finally, there is a concern that companies will choose to invest in other states with lower long-distance charges than Kentucky.

Arbitrage Opportunities

An additional economic inefficiency of the current access charge system is that it creates arbitrage opportunities by charging different prices for essentially the same product. Because local access providers receive access charges significantly above their costs, they have an incentive to increase the volume of intrastate long-distance calls. It would be very lucrative for

²³ T. Randolph Beard and George S. Ford, “Do High Call Termination Rates Deter Broadband Deployment?” Phoenix Center Policy Bulletin No. 22, October 2008. Hereafter, “Phoenix Center Bulletin, 2008.”

²⁴ Debra J. Aron and Allan Ingraham, “The Effects of Legacy Pricing Regulation on Adoption of Broadband Service in the United States,” *Industrial Organization: Regulation Antitrust, and Privatization eJournal*, Volume 3, Number 75, May 10, 2011.

²⁵ Letter from Brian Benison, AT&T, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 01-92 and 96-45, WC Docket Nos. 05-337, 99-68, 07-135 (Aug. 5, 2008), Attachment at 2, as quoted in Phoenix Center Bulletin 2008.

²⁶ Letter from Ben Scott, Free Press, to Marlene H. Dortch, Secretary, FCC, CC Docket Nos. 96-45 and 01-92, WC Docket Nos. 05-337 and 06-122 (Oct. 13, 2008), at 2, 5, as quoted in Phoenix Center Bulletin 2008.

local access providers to identify or even create businesses within their service areas that receive large numbers of intrastate long-distance calls. The local access provider would make a profit by generating these calls. A fictitious example would be for an access provider to set up a UK basketball chat line. The access provider might give the chat line an extremely low, if not zero, price for local service. In addition, the access provider could even pay the chat line a fee or share of the access margin to make the chat line its customer. Sometimes arbitrage-based businesses like the hypothetical chat line are referred to as “call-pumping” schemes because they use arbitrage opportunities like that created by the access fee differential to create business.

An additional perverse economic effect of the differences in interstate and intrastate access charges is that they create incentives for access providers to misclassify calls as intrastate even if they may actually be interstate or local. Similarly, long-distance carriers have incentives to misclassify calls as interstate rather than intrastate. As a consequence, scarce resources must be devoted to the process of identifying and classifying wireline calls. Mechanisms must be established for identifying whether wireline traffic is intrastate or interstate. Phone call data must be reviewed to ensure that calls are not intentionally or accidentally misclassified. Disputes over phone call classifications must be resolved.²⁷

The bottom line is that arbitrage opportunities resulting from differential intrastate and interstate access charges result in wasteful spending of public and private resources that could be avoided.

V. Conclusions

Kentucky is one of several states where intrastate long-distance access charges in many cases are substantially higher than interstate long-distance access charges even though the two services provided are identical. A number of states have taken steps to bring these two access charges closer to parity. In fact, all of Kentucky’s neighboring states require at least some companies to lower their intrastate access charges to match their interstate access charges. Many states such as Indiana require similar rates for all ILECs. In April 2011, Tennessee enacted legislation requiring parity in rates by 2016.

There are economically sound reasons why two products with similar functionality and similar costs—intrastate and interstate long-distance connection services to local exchanges—should have similar prices. Higher access charges lead to higher prices for intrastate long-distance services, as well as higher prices for other goods whose production processes require intrastate long-distance communication. Inefficiently high access charges reduce competition in the intrastate long-distance market.

Another economic concern is that the current access charge system leads to suboptimal investment in the present and the future. A final economic inefficiency of the current access charge system is that it creates arbitrage opportunities by charging different prices for essentially the same product, resulting in wasteful spending that could be avoided.

²⁷ See, for example, “Complaint of Sprint Communications Company LP against Brandenburg Telephone Company and Request for Expedited Relief,” before the Kentucky Public Service Commission, Case No. 2008-00135.

Furthermore, a proactive effort to reform access charges in Kentucky would allow for a collaborative development process that includes all stakeholders in the existing system, allowing rural local exchange carriers a significant ability to assist in the crafting of new regulation that benefits all parties. The implicit subsidy system is not sustainable, because implicit subsidies are not the price signals the market needs and result in the erosion of long distance usage, thereby further reducing the implicit subsidies themselves upon which rural LECs depend. In addition, the shift in technology to other methods of communication such as wireless voice service, VoIP, and various forms of e-communication continues to move consumers away from a non-access charge mechanism, a fact noted by the FCC in the National Broadband Plan.²⁸

²⁸ National Broadband Plan.

Appendix



Kentucky Chamber

Uniting Business. Advancing Kentucky.

April 22, 2010

Dear Governor Beshear
Dear Attorney General Conway
Dear Senate President Williams
Dear House Speaker Stumbo
Dear KY PSC Chairman Armstrong
Dear KY PSC Commissioner Gardner
Dear KY PSC Commissioner Borders
Dear KY PSC Executive Director Derouen

We are writing today to urge the Kentucky Public Service Commission to reform our state's outdated telecommunications access subsidy system in an effort to protect rural connectivity, encourage investment in high-speed networks, grow jobs for the 21st Century and ensure that all Kentuckians have access to next-generation technology.

In 1984, an access rate system was created to subsidize telephone service for rural communities. That system has worked well for the past 26 years, but its reliance on traditional long-distance phone calls to keep subsidies flowing is unsustainable, given today's technology trends. As consumers and businesses have moved on to wireless and broadband technologies to communicate, the vital subsidies that rural telecom providers receive are quickly declining. Moreover, the access rate subsidy system generates incentives that are not aligned with investment in 21st Century broadband infrastructures.

The Federal Communications Commission (FCC) recently made several correct observations about intercarrier compensation in its National Broadband Plan including:

- *"[t]he current per-minute [Intercarrier Compensation] system was never designed to promote deployment of broadband networks" and that "[t]he current ICC system is not sustainable in an all-broadband Internet Protocol (IP) world."*

The FCC further established that:

- *"[b]ecause providers' [access] rates are above costs, the current [ICC] system creates disincentives to migrate to all IP-based networks. [...] While this may be in the short-term interest of a carrier seeking to retain ICC revenues, it actually hinders the transformation of America's networks to broadband," and "even rate-of-return carriers... acknowledge that the current system is 'not sustainable' and could lead to a 'death spiral...'"*

The Kentucky Public Service Commission has today an opportunity to reform such perverse disincentives to investment in 21st Century technologies. Such leadership would encourage new investment in the advanced broadband services that Kentucky needs to grow jobs and create the best environment possible for economic development in all of our communities.

According to the Communications Workers of America, every \$5 billion invested in broadband infrastructure can create 100,000 new jobs in the telecom and information broadband technology industries the same year. And according to Connected Nation, a seven percent increase in adoption nationwide would lead to the creation of 2.4 million new jobs per year, including 31,699 jobs in Kentucky.

In addition, increased investment in ultra-fast broadband networks will also provide Kentuckians greater access to innovative telemedicine options for improved healthcare and more opportunities to leverage online education options through universities and trade schools. Next-generation broadband access will also allow more of our citizens to telecommute and compete for jobs anywhere in the world.

Clearly, the FCC will address this issue at a national level, but any FCC action could take years to complete. In the meantime, Kentucky should show leadership in reforming the current unsustainable access subsidy system. Understanding what is at stake, other states have already taken action in reforming this system and encouraging investment. We have the opportunity today to create a modern access system that is transparent to consumers, fair to everyone and is sustainable given 21st century technology trends.

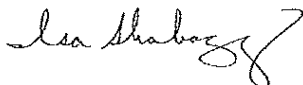
We need a new system that reflects the way consumers and businesses communicate today. We urge you to support access reform regulation that will bring new opportunity to Kentucky by protecting rural connectivity, encouraging investment in high-speed networks, growing jobs for the 21st Century and ensuring that all Kentuckians have access to next-generation technology.

Sincerely,



Dave Adkisson
President and CEO
Kentucky Chamber of Commerce

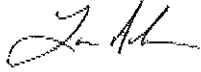
Joe Reagan
President and CEO
Greater Louisville Inc – The Metro Chamber of
Commerce



Isa Shabazz
State Director
Communications Workers of America



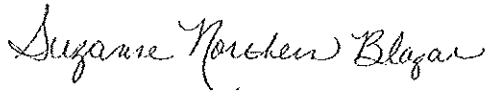
Ben Richmond
President and CEO
Louisville Urban League



Lance Allison
Executive Director
Murray-Calloway County Chamber of Commerce



Jody Wassmer
President
Greater Owensboro Chamber of Commerce



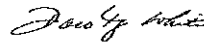
Suzanne Northern Blazar
Chairman of the Board
Greater Owensboro Chamber of Commerce



Hayward Spinks
President
Ohio County Industrial Foundation



Pat Wallace
Executive Director
Henry County Chamber of Commerce




Dorothy White
Executive Director
Bardstown-Nelson County Chamber of Commerce



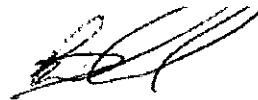
Carter Hendricks
President and CEO
Hopkinsville-Christian County Chamber of Commerce



Helen Sims
Chair of the Board
Paducah Area Chamber of Commerce



David Richey
President
Greater Muhlenberg Chamber of Commerce



Brad Schneider
President
Henderson-Henderson County Chamber of Commerce



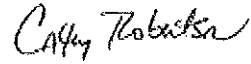
Bruce Carpenter
Executive Director
Southern Kentucky Chamber of Commerce



Debra Boehmann
President
Ohio County Chamber of Commerce



Mendi Goble
Executive Director
Richmond Chamber of Commerce



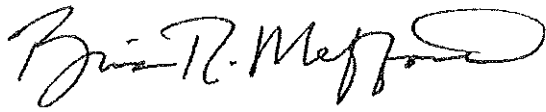
Cathy Robertson
Executive Director
Lyndon Area Business Association



Mike Perros
President
Danville-Boyle County Chamber of Commerce



Nicholas Brake
President
Greater Owensboro Economic Development Corporation



Brian Mefford
Chief Executive Officer
Connected Nation

cc: All Members of the Kentucky General Assembly