An Interim Report on the Economic Impact of Telecommunications Reform in Indiana

A White Paper by the
Digital Policy Institute
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An Interim Report on the Economic Impact of Telecommunications Reform in Indiana

A White Paper by the Ball State University Digital Policy Institute

Executive Summary

On March 14, 2006 Indiana Governor Mitch Daniels (R) signed into law the state’s most comprehensive telecom reform bill (HEA 1279) in two decades. An update and review of some of the early benefits since this legislation was passed is appropriate. The major findings are:

- **Indiana Remains a Leader in Telecom Reform Legislation**

  Indiana’s HEA 1279 continues to serve as model legislation as over 20 states have passed telecom reform measures, representing over 50 percent of the U.S. population. Indiana was the first state to ensure that incumbent cable systems were allowed to take fair advantage of the state’s new franchise terms upon competitive entry. Indiana leads as one of the few states to encourage long-term, outside capital investment by reducing risk and uncertainty from unwarranted sunset provisions.

- **New Wireline Deployments – DSL**

  Digital Subscriber Line (DSL) services have been expanded by major providers since the passage of HEA 1279, reaching a combined 102 new communities across the state. Verizon added DSL capability to central offices in 69 rural communities serving 70,000 southern Indiana customers, while AT&T completed the upgrade of its remaining central offices in 33 rural communities across the state. According to FCC data, from July 1 to December 31 of 2006, nearly 400,000 new high-speed technology lines were installed in Indiana, a 33% increase from the previous six-month period. As of December 31, 2006, Indiana had 1.5 million high-speed technology lines, a 72% increase over 2005.

- **Improved Workforce Opportunities**

  Deployment of broadband technology is a well established driver of economic growth. Fortunately, Indiana’s regulatory climate is generating increased competition and investment in all forms of digital communications. This leads to better job opportunities for Hoosiers: jobs that will keep our young people in Indiana, jobs that will continue to make our state a leader in the transition to the new global economy. To date, over 2,200 new jobs have been created as a direct result of Indiana’s reform legislation.
• **New Capital Expenditures - Infrastructure**

Reform is driving capital investments in Indiana. Telephone companies have reported investment of more than $516 million thus far in Indiana to bring high-speed broadband and video services to consumers during the past 18 months.

• **Indiana is a Leader in Broadband Wireless Deployment**

Indiana’s largest wireless providers, AT&T and Verizon, have invested heavily in the upgrade and expansion of their wireless networks. AT&T has invested over $21 million in central and northern Indiana in 2007 on new cell sites and enhancements as it continues the migration to third generation (3G) services allowing laptop users to access the Internet, email, download large files and run business applications in these enhanced service areas. In addition, the expanding broadband infrastructure in Indiana allows deployment of new wireless technology. Research by Ball State University has helped Indiana become a leader in broadband wireless testing and deployment.

Washington, Indiana became the third city in the nation and the first in the state of Indiana to launch next-generation WiMAX wireless service in September 2007, reaching more than 6,000 homes and businesses. Other Indiana markets scheduled for WiMAX deployment during the first quarter 2008 will provide new, high-bandwidth Internet services to roughly 35,000 households in both underserved and rural areas.

• **New Competition for Video Impacts Price for Hoosiers**

Indiana’s national standing as a leader in high-speed technology has expanded after the passage of telecommunication deregulation. As of January 28, 2008, the IURC had granted 36 certificates of franchise authority (CFA), with one application pending. This includes nine cable firms and 11 telephone companies. The legislation has helped facilitate new video and high-speed Internet competition throughout Indiana. Competing video service is now available from AT&T (U-verse) in select areas of Anderson, Bloomington, Indianapolis, Kokomo, Muncie and Bloomington. Verizon is offering fiber to the household Internet TV service (FiOS) in Fort Wayne, New Haven and Huntertown. National research from the FCC and GAO suggest where competition exists, the price of cable service will drop on the average of 15% to 20%. Where direct competition is available or is on the horizon, some cable firms are responding to consumer negotiation and beginning to lower prices to maintain market share. In one case, the cable bill went from $90.60 to $65.65. The reduction represents a 27.5% decrease, or a savings of nearly $300 per year.

• **FCC Attempt to Preempt Indiana Franchise Laws Averted**

In 2006, the IURC successfully argued before the FCC that states were in the best position to deal with their markets, rather than having a single, monolithic policy that could increase the risk of unanticipated or dysfunctional results. Indiana’s deregulation laws, along with those of other reform states, were grandfathered.
1.0 Telecommunications Deregulation: Indiana’s Role in National Reform

1.1 Introduction

On March 14, 2006 Indiana Governor Mitch Daniels (R) signed into law the state’s most comprehensive telecom reform bill (HEA 1279) in two decades. It has been heralded as the most far-reaching of state deregulation efforts to date, surpassing Texas as the nation’s leading-edge telecommunication reform legislation.\(^1\) Of perhaps more importance was the strong bi-partisan support this reform issue received.\(^2\) A review of the impact of Indiana’s reform legislation would seem appropriate.

In February 2006, the Digital Policy Institute (DPI) at Ball State University issued a report entitled, *The Economic Impact of Telecom Reform in Indiana: 2006*.\(^3\) This report supported the bulk of earlier research including a 2004 report by the General Accounting Office,\(^4\) independent studies by major research universities, and reports from major think tanks. The common conclusion was that deregulation would lead to increased capital investment, increased competition for broadband services, and lower costs for Indiana consumers.

After Indiana’s reform bill was enacted, the Department of Justice (DOJ), in a May 10, 2006 filing at the FCC, said it supported statewide video franchises for their promise to increase competition and lower prices.\(^5\) Further, a Brookings Institution report, published in May 2006,

\(^1\) Unlike Texas, Indiana lawmakers were the first to ensure that cable incumbents were allowed to fairly take advantage of the state’s new franchise terms upon competitive entry. Indiana is one of the few states to encourage long-term, outside capital investment by reducing risk and uncertainty from unwarranted sunset provisions.

\(^2\) The Republican-controlled Senate approved S.B. 245 on a vote of 40-6, while the Democratic-led House approved H.B. 1279 on a vote of 78-18.

\(^3\) *The Economic Impact of Telecom Reform in Indiana: 2006,* Digital Policy Institute, Ball State University, February 14, 2006. Available at: www.bsu.edu/digitalpolicy.


found that state video franchises across the country would contribute to enhanced consumer value, new employment, new investment and competition.\(^6\) Finally, in a January 2007 report, the Reason Foundation indicated that evidence now exists that franchise reform has accelerated competition, improved service and increased the value of cable TV, telephone and high-speed Internet services.\(^7\)

### 1.2 Deregulation Background

Members of Indiana’s General Assembly have long been aware of the importance of telecommunication to the state economy.\(^8\) The decision to deregulate telecommunications evolved over a number of years based on a number of factors. First, there was the general recognition that the regulatory and economic landscape of the telecommunications industry had changed drastically since the divestiture of AT&T in 1984 and the passage of the Telecommunications Act of 1996.\(^9\) The dramatic shift in the competitive landscape was evident by the fact that in 1996, some 90 percent of the telecommunications market was voice, while wireless and data each were only five percent. Nine years later, those numbers shifted to where voice was only 40 percent of the total telecom market, while wireless and data increased to 30 percent each.\(^10\)

Second, since 1996, a highly deregulated cable industry had been aggressively targeting new markets and capturing voice and data business from the residential and business sectors of a

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\(^8\) The need for telecom reform was recognized by the Indiana General Assembly as early as 2005 when separate deregulation bills sponsored by state Rep. Eric Koch (R-Bedford) and state Rep. Michael Murphy (R-Indianapolis) were introduced but eventually died in conference committee.


highly regulated telephone industry.\textsuperscript{11} Coupled with the explosive growth of cellular telephone, the erosion of the core wireline voice market alone indicated there was an uneven playing field. The monopoly for residential voice service was gone as most in Indiana had a multitude of choices for telephony service (ILEC, CLEC, cellular, cable modem voice, and Internet-VoIP),\textsuperscript{12} and the ILEC’s control of the residential marketplace had dwindled to below 50 percent. In this new “information age” economy, it became apparent for firms to be successful in this competitive broadband environment, they must all be regulated equally, fairly and allowed to compete, unencumbered, across multiple (voice, data and video) services.

Third, Indiana legislators recognized that in a highly competitive telecommunication environment “market forces,” where they are present, would serve Indiana consumers better than “regulation” to maintain just and reasonable rates for public telecommunication service and encourage innovation in the telecommunications industry. Given an open market for voice, data, and video service, the bulk of all research suggests it is “direct competition” that will lower prices and improve services for Indiana consumers.

Finally, a desired policy byproduct of deregulation was to encourage the introduction of new services, entry of new service providers, and increased investment in the telecommunications infrastructure in Indiana.

In order to accomplish all these goals Indiana had two choices. Indiana could wait for Congress to pass some form of national reform legislation. History shows us, however, that waiting on the federal government to act is clearly not expedient or prudent. The chance for federal intervention on this issue in the near term is a matter of speculation. Reform legislation


failed last session as special interests and lobbyists weighed in on the national reform debate and it became bogged down as a victim of the fight over net neutrality.

As an alternative, Indiana decided to be proactive and craft meaningful reform policies that promote competition and attract investment into Indiana from the private sector. The Indiana General Assembly wisely chose the latter path.

1.3 National Statewide Franchising Trends

The national movement toward statewide video franchise reform is approaching critical mass. Since 2005, an additional 19 states have joined with Texas and Indiana to pass new telecom reform measures, including video franchising, with over 50 percent of the U.S. population now covered by new legislation.\(^\text{13}\) These include Indiana’s neighboring states of Michigan, Ohio, Wisconsin and Illinois, plus Arizona, California, Connecticut, Florida, Georgia, Iowa, Kansas, Missouri, Nevada, New Jersey, North Carolina, South Carolina, Virginia, Alaska and Hawaii. One additional state, Oklahoma does not require a statewide franchise for IPTV systems under a May 2006 opinion by their Attorney General.\(^\text{14}\)

Not all states are ahead of the curve, however. As indicated in the map below, legislatures in three states (Colorado, Idaho, and Utah), all of which are in Qwest’s service territory, have rejected statewide video franchising under telecom deregulation.

Also, new reform legislation failed in Tennessee this session when the bill became laden with amendments. For another state, Louisiana, the legislature passed statewide franchising with strong bi-partisan support (HB 699/S. 386), but the governor vetoed the bill over concerns about

\(^{13}\) As of December 2007.
lowering local “franchise fee” revenues. There is strong indication that both Tennessee and Louisiana will likely revisit this issue next year.

1.3 Map 1: State of Video Franchise Reform January 2008

Virginia and Arizona also enacted a form of franchise reform but without a statewide franchising requirement. In 2006, Virginia passed a law, which mandates a shorter time period for municipalities to review video franchise applications, and established a statewide franchise
template, but did not remove the authority of localities to regulate the franchising process. In a similar fashion, Arizona codified and streamlined its local franchise application process.

Legislatures in four other states (Massachusetts, Minnesota, New York, and Washington) are on the fence, examining the option of introducing reform legislation this session.

The rationale for continuing the national movement toward statewide franchising and the need to codify these efforts in future national reform initiatives is best captured by a resolution of the National Conference of State Legislatures (NCSL), unanimously adopted at their General Business Meeting, April 8, 2006, that stated:

In order to preserve the states’ sovereignty, [NCSL] endorses state action to streamline and expedite the administration of video franchising. If national franchising is enacted the right of states to enact state level administration or reform and the grandfathering of existing state level reform should be preserved. Government should encourage competition and consumer choices for broadband and video services and promote the deployment of broadband services and technologies. Reducing the number of jurisdictions for which a video provider would be required to seek a franchise from 33,000 to one per state will encourage more competition, promote the deployment of broadband services and enhance state and local economies.

1.4 Litigation of IPTV

For two additional states (Oklahoma and Connecticut), the issue of statewide franchising took a different direction. For Oklahoma, a May 2006 opinion by the Attorney General indicated that no franchise was required for new entrants deploying video over Internet protocol (IPTV). Oklahoma’s Attorney General Drew Edmondson said, “A telephone line does not cease to be a telephone line because it is used for transmitting video service in addition to voice service," and

15 HB 1404/SB 706. Note: A peculiarity of the Virginia Constitution prevented the type of statewide video franchise that Indiana and other states adopted.
16 HB 2812/SB 1421
noted in his opinion that that telecom companies that already have statewide rights-of-way for their phone lines don't need to obtain separate municipal franchises for additional services like video.18 In the same month, a separate opinion by Connecticut’s Department of Utility Control (DPUC) came to the same conclusion in a 3-2 decision that was later challenged, and overturned, in U.S. District Court.

While considered a bold move by some, the actions of these two states were grounded in a 2002 FCC declaratory ruling19 and a Supreme Court decision in NCTA v. Brand X Internet Service,20 which effectively deregulates IP-enabled network traffic as an “informational service” and holds it not subject to Title II (common carrier) regulation. This decision did not address, however, whether video services provided over Internet protocol might be regulated as a “cable system” under Title VI (cable communications) of the Communications Act of 1934.

The Attorney General for Connecticut appealed the DPUC ruling in federal court, and on July 26, 2007, U.S. District Court Judge Janet Bond Arterton ruled in Office of Consumer Counsel v. Southern New England Telephone Co.,21 that IPTV service constitutes a “cable service,” and that existing federal law22 preempts the Connecticut DPUC’s conclusion to the contrary. While the case was in litigation, Connecticut passed a new state law23 that provided existing cable firms the same statewide franchising rights covered under the original DPUC

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20 NCTA v. Brand X Internet Services, 125 S. Ct. 2688 (2005)
22 47 U.S.C. 541
23 PA 07-253
ruling. The ability of new entrants to qualify for a statewide franchise was later upheld in a declaratory ruling on October 31, 2007, in a Connecticut Superior Court (Hartford).²⁴

In the end, the experiences in Connecticut serve to validate the road Indiana’s General Assembly traveled in passing statutory, statewide reform that expedites video competition while providing a level playing field for incumbents and new entrants alike. Wisely, the potential for extensive and costly litigation has been avoided for Indiana.

1.5 National Trends by Service

1.5.1 High Speed Data Deployment

In 1996, Congress directed the FCC and the states, in section 706 of the Telecommunications Act, to encourage deployment of advanced telecommunications capability in the United States on a reasonable and timely basis. Twice a year, the Commission gathers standardized information about high-speed services, including advanced services, from wireline telephone companies, cable system operators, terrestrial wireless service providers, satellite service providers, and any other facilities-based providers of advanced telecommunications capability.

The FCC’s most recent report entitled, High-Speed Services for Internet Access: Status as of December 31, 2006,²⁵ reflects the exponential growth in total number of high-speed lines (business and residential) deployed over the past seven years (1999-2006).²⁶ The data in Chart 1

²⁶ The FCC’s criterion for “high-speed” lines is 200 Kbps service in one direction. The FCC considers broadband connections a synonym for “high-speed connections.”
below show that for the twelve-month period ending December 31, 2006, high-speed lines increased by 31.1 million nationally.

**1.5.1 Chart 1: Total High-Speed Lines**

The raw data, by technology, are reflected in Table 1 below. Analysis indicates that ADSL lines increased by 2.8 million lines during the second half of 2006, compared to an increase of 3.2 million lines for cable modem service. For the full year (2006), however, ADSL lines increased by 5.9 million lines compared to an increase of 5.5 million for cable modem service.

**1.5.1 Table 1: High-Speed Lines**

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<td>Dec</td>
<td>Dec</td>
<td>Dec</td>
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<tr>
<td>ADSL</td>
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<td>SDSL</td>
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<td>-</td>
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<td>417,751</td>
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<td>Traditional Wireline</td>
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<td>-</td>
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<td>495,637</td>
<td>546,152</td>
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<td>Cable Modem</td>
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<td>16,446,322</td>
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<td>Fiber 3</td>
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<td>Satellite and Wireless</td>
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<td>298,655</td>
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<td>4,172</td>
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Finally, the data from December 2006 are represented in Chart 2 below, and show that “cable modem” was still the dominant high-speed technology (38.9 percent) overall, compared with ADSL (30.8 percent), for business and residential broadband lines.

**1.5.2 Chart 2: High-Speed Lines by Technology**

The accelerated pace of xDSL residential deployment in the United States is worth further comment. Beginning in the fourth quarter of 1999, numerous telephone firms began to upgrade their central offices and networks to accommodate high-speed digital traffic. The reason, according to one research firm, was a tremendous pent-up demand for high-speed access from consumers and small businesses. While 2006 FCC figures reflect cable modems lead ADSL in residential high-speed lines (53.6 percent to 39.1 percent), the gap between technologies is quickly narrowing.\(^\text{27}\) In a different national study published in May 2006, Pew Internet found that:

Home broadband adoption has doubled over the past two years with 42% of all Americans using a high-speed connection at home.

Broadband is fueling a digital renaissance with 35% of all Internet

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users posting content to the Internet, most of which are on broadband. DSL has passed cable in the US, and broadband penetration among active Internet users jumped 1.3 percentage points up to 71.76% in May 2006. 28

1.5.2 Cable Price as a Catalyst of Reform

A major factor leading the national movement toward statewide franchising has been the unbridled increase in cable industry prices over the past 15 years. Since the deregulation of rates for basic cable television service in 1992,29 increases in price have outpaced the rate of inflation.

A study published in the RAND Journal of Economics indicated that real basic cable prices increased 18 percent following deregulation in 1992. The study estimated the demand elasticity of basic cable did not change after deregulation, with the price increase due to greater exercise of existing market power made possible by the elimination of price regulation, rather than an increase in market power caused by a change in the demand elasticity for cable.30 Given cable deregulation by Congress, reluctance by the FCC to intervene, coupled with the absence of effective competition,31 the trend of rising cable prices continued over the next fifteen years.

One barometer of price change over time, and a measure against inflation, is the Consumer Price Index (CPI). According to a recent FCC report, since 1995, the year prior to the enactment of the Telecommunications Act of 1996, cable prices have risen by 93 percent while the Consumer Price Index (CPI) rose only 25 percent during that same 10-year period (see Chart 3 below).32

31 See 47 CFR 76.905 for the FCC’s definition of effective competition.
Another study by the Telecommunications Research and Action Center (TRAC) found similar results between 1998 and 2004. The study found,

Consumers of cable television have been placed under an increasing strain as annual cable rate increases have far outpaced the rate of inflation. According to the Federal Communications Commission (FCC), from 1998 to 2004, cable rates increased at an average annual rate of 7.5\%. Conversely, the rate of inflation as measured by the Consumer Price Index increased by 2.1\% over the same period. Cable companies like to claim that their rate increases are caused by rising programming costs. The real reason consumers are feeling the pinch is not higher costs for the cable monopolies, but rather because of a lack of competition.\(^3\)

Over the years, the cable industry has consistently claimed that programming costs were largely responsible for driving up the bulk of cable prices. In a recent article in *Variety*, a spokesman for the National Cable and Telecommunications Association (NCTA) maintained cable rates have actually decreased if you look at it in price-per-channel. In contrast, the GAO and most critics find it hard to believe that a “price-per-channel” metric, which includes channels that you never watch, but are charged for, is somehow the same as decreasing your cable bill.

Perhaps more telling is a 2003 report from the Consumer Federation of America (CFA), which finds programming costs are not the principle factor in cable price increases for consumers. The study, using historic FCC data, concluded that if programming costs were really the cause of raising prices, then operating margins for the cable industry, that is the difference between its revenues and costs, would not be rising faster than inflation. Their research found just the opposite was the case:

Operating margins have been increasing dramatically since 1997... The operating margin for the industry as a whole will reach $18.8 billion per year in 2002, $7 million more than it was in 1997. Operating revenues per subscriber have increased dramatically over that period, from $208 per year to $273... That is, after taking out all the operating costs, including programming costs, cable operators have increased their take per subscriber by over 30 percent.

The impact of direct competition on “price” can be dramatic over time. In Texas, the first state to adopt statewide video franchising, the early results from competition were encouraging.

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35 CFA is an advocacy, research, education, and service organization. As an advocacy group, it works to advance pro-consumer policy on a variety of issues before Congress, the White House, federal and state regulatory agencies, state legislatures, and the courts. See http://www.consumerfed.org/about.cfm.
According a 2006 report by The Heartland Institute:

As Verizon rolled out service, first in Keller and then in Plano and Lewisville, Charter Communications, the incumbent cable TV company, dropped its prices. Verizon priced its FiOS TV service at $43.95 a month for 180 video and music channels. The company also offered a 35-channel plan for $12.95 a month. Shortly thereafter, Charter began offering a bundle of 240 channels and fast Internet service for $50 a month, compared to $68.99 Charter had been charging for the TV package alone.37

A more recent study in Texas has provided mixed results, and suggests that “published prices” for tiers of service by incumbent cable firms may not automatically decline across every market, even with the introduction of competitive providers. The study cited a number of Texas markets where published cable prices increased, while the price of the competing service remained the same. For example, the Milwaukee Journal Sentinel reviewed the Texas study and noted that in Irving, where the cost of basic cable service by Time Warner rose by 29.6 percent, there was no change in basic service provided by Verizon.38

Another publication stated, “According to the survey, the disparity in rates was greatest in Southlake (TX), where Verizon charges $34.95 for what it terms standard service, compared with $48.99 charged for the same type of service from Charter, a 27 percent difference.”39 Regardless whether you concur with the conclusions of the Texas study, a number of inferences can be drawn from this research.

First, “published rates” for cable service may differ from market-to-market for similar tiered services based on the mix of competition present. Consumer savings, in some instances, may be represented by the difference in total price between competitors rather than a reduction in

37 Steven Titch, “Texas Gets Cable Competition, Lower Prices,” The Heartland Institute, May 2006. Available at: http://www.heartland.org/PrinterFriendly.cfm?theType=artId&theID=18899.
one service over another. Second, consumer savings should properly be measured using “actual rate” versus “published rates” in order to weigh the economic impact of new competition into the market. The Texas study did not measure discounted, introductory pricing as new entrants came into the market. Finally, the “value” of a competing service to each household may not be reflected in price comparisons of the “published rates” of the lowest tier alone, since each competing service rarely offers an identical lineup of channels or services, and more households see economies of scale across bundled packages that may include wireline voice, data and/or cellular service. In Indiana, for example, Comcast offers a lower cost, bundled service for voice, broadband data and TV of $99 per month. That offer didn't exist before deregulation and Comcast says the bundle pricing is not increasing.40

In summary, rising prices continue to be a problem for all consumers regardless of economic strata, and absent federal statutory relief or regulatory constraint, reform initiatives that promote the entry of new competition would seem to be warranted if individual states seek a “market based” solution to help moderate future price increases for consumers.

1.5.3 Early Effects of Video Competition

Regardless of what the FCC indicates to be “effective” competition for cable, all studies indicate several marketplace factors need be in place before any positive impact can be anticipated.41 Several GAO studies have found that incumbent cable operators will respond to competition only after terrestrial new entrants achieve “measurable” market penetration. That hasn’t happened yet in Indiana.

41 The Telecommunications Act of 1996 provides that a cable operator's rates are not regulated if the cable system is subject to effective competition. The 1996 Act added a new effective competition test addressing competition from local exchange carriers ("LECs"), LEC affiliates, or multichannel video programming distributors using LEC facilities.
Neither existing DBS competition alone, nor the potential for ILEC (wireline) competition in video has shown any impact on cable prices, customer service, or the emergence of independent video programming. The GAO concludes, absent effective price regulation, policies that promote the entrance of new competition in the marketplace will have a significant impact on price over time.42

1.5.3 Chart 4: Average Price for Cable Programming as of January 1, 2005

In Chart 4 above, using the most recent data from the FCC (January 2005), shows the impact of competition on price, and indicates that prices were 20.6 percent higher in

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noncompetitive communities compared to prices in communities with a second wireline cable operator in the market.\textsuperscript{43}

While the FCC and GAO both conclude that competition from satellite (DBS) providers has helped consumers by forcing cable operators to improve their quality of service, real rate relief comes only when a competing wire-based competitor enters and becomes established in a market. According to the GAO study in 2003, cable television rates, in markets where there is a competing wireline video provider, are 15 percent lower than in markets where there is no wire-based competitor.\textsuperscript{44}

While there have been no qualitative studies of cable prices in Indiana to date, there is anecdotal evidence that new competition, even at this early stage, is having an impact on the marketplace. While competing services in Indiana have not yet achieved measurable market penetration, evidence from some Indiana households suggest that “existing cable rates” do not necessarily equate to “actual rates” negotiated by consumers. Both the FCC and GAO find where direct competition exists, the price of cable service should drop on the average of 15 percent to 20 percent. In select competitive markets in Indiana, where direct competition is now available or is on the horizon, we found through interviewing a handful of current cable subscribers that one cable firm was willing to lower prices from $20 to $25 per month, when negotiated by the subscriber, to maintain market share. In one case, the monthly cable bill went from $90.60 to $65.65. The reduction represents a 27.5 percent decrease, or a savings of nearly $300 per year.\textsuperscript{45}

\textsuperscript{44} Ibid.
\textsuperscript{45} Testimonials from existing Comcast cable subscribers where competing AT&T’s U-verse service enters the marketplace.
In summary, regardless of which national study you use, the conclusion is that cable prices can decrease substantially (from 15 percent to 20 percent or more) when a second wireline cable operator enters the market, and that competition from DBS alone does not appear to effectively constrain cable prices. Indiana’s decision to adopt reform measures that promote the rapid introduction of competition into the marketplace is justified.

1.6 Global Broadband Trends

The United States continues to lag behind other industrialized nations in the deployment of broadband services. The most current global broadband data released June 2007 by the Organization for Economic Cooperation and Development (OECD) show the United States ranked 15th out of 30 member nations in per capita broadband use. This erases recent gains as the U.S. slipped from 12th place in 2006, dropping from 4th place in 2001. Data in Table 2 show the historic trend for U.S. broadband subscribers per 100 inhabitants from 2001 to 2006. While these data show marked improvement year-to-year, the slow rate of growth has placed the United States firmly behind other nations in the global marketplace.

1.6 Table 2: Broadband Subscribers per 100 Inhabitants Timeline

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
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<td>United States</td>
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<td>6.9</td>
<td>9.7</td>
<td>12.9</td>
<td>16.3</td>
<td>19.6</td>
</tr>
</tbody>
</table>

Source: OECD [oecd.org/sti/ict/broadband]

As indicated in Table 3 below, for 2007, the United States is the largest broadband market in the OECD with just over 66 million subscribers. Yet Denmark, the Netherlands,
Switzerland, Korea and Norway top the OECD in terms of broadband penetration, each with over 29 subscribers per 100 inhabitants.46

1.6 Table 3: Broadband Subscribers per 100 Inhabitants, by Technology

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>DSL</th>
<th>Cable</th>
<th>Fiber/LAN</th>
<th>Other</th>
<th>Total</th>
<th>Total Subscribers</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Denmark</td>
<td>21.3</td>
<td>9.7</td>
<td>2.9</td>
<td>0.4</td>
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<td>2</td>
<td>Netherlands</td>
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<td>33.5</td>
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</tr>
<tr>
<td>3</td>
<td>Switzerland</td>
<td>20.5</td>
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<td>0.0</td>
<td>0.9</td>
<td>30.7</td>
<td>2 322 577</td>
</tr>
<tr>
<td>4</td>
<td>Korea</td>
<td>10.1</td>
<td>10.6</td>
<td>9.2</td>
<td>0.0</td>
<td>29.9</td>
<td>14 441 687</td>
</tr>
<tr>
<td>5</td>
<td>Norway</td>
<td>23.7</td>
<td>4.5</td>
<td>1.8</td>
<td>0.7</td>
<td>29.8</td>
<td>1 388 047</td>
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<td>6</td>
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<td>0.6</td>
<td>29.8</td>
<td>90 622</td>
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<td>Finland</td>
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<td>4.6</td>
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<td>28.6</td>
<td>2 556 000</td>
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<td>25.0</td>
<td>8 142 320</td>
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<td>18.6</td>
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<tr>
<td>20</td>
<td>New Zealand</td>
<td>14.6</td>
<td>1.1</td>
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<td>0.3</td>
<td>18.8</td>
<td>22 020 785</td>
<td></td>
</tr>
</tbody>
</table>

Source: OECD [oecd.org/sti/ict/broadband]

Unfortunately, the U.S. per capital growth in broadband penetration of 4.21 subscribers per 100, from June 2006 to June 2007, places it firmly behind other nations like Sweden,

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Australia, Norway, Denmark and Luxembourg, each adding more than 5 subscribers per 100 during the past year. Thirteen countries had faster broadband connections, while 20 countries had lower prices.47

If we limit analysis to the industrialized G7 nations,48 representing some of the most influential trading partners of the U.S., the broadband penetration timeline from 2001 to 2007 depicted in Chart 5 shows the dominant position and global leadership of the United States back in 2001. Since then, the linear growth in broadband penetration for the United States has been eclipsed by the exponential growth of other nations like the United Kingdom and France.

Canada maintains its commanding lead in broadband subscribers per 100 inhabitants at 25. The UK (23.7) and France (22.5) came in second and third with higher growth rates than the US and Canada. France passed Japan in the fourth quarter of 2006 to become third among G7 countries

1.6 Chart 5: Broadband Penetration, G7 Countries (2001-2007)

Canada
United Kingdom
France
Japan
Germany
Italy
United States
OECD

Source: OECD [oecd.org]47

47 Ibid.
48 The G-7 consists of the United States, Japan, Germany, France, United Kingdom, Italy and Canada.
in broadband penetration per 100 inhabitants. As of 2007, the US ranked 5th among the seven
G7 nations at 22.1, only slightly ahead of Germany (21.2) and Italy (15.8).

Rankings are one thing, but of more concern would be the staid growth rate which would
seem to suggest the U.S. may well continue to fall further behind over the next few years. This
led one policy analyst to recently conclude,

The status quo is unacceptable. If we watch and wait, trusting
that today’s marketplace will magically solve the broadband
problem, the United States will slip further behind the rest of the
world, and the digital divide will widen – both domestically and
internationally. These consequences are too severe to tolerate.49

There is no consensus on a solution, but the options range from incremental changes in
national telecom policy up to wholesale, dramatic reform of existing telecom laws. If there is a
common ground in Washington, it is the Telecommunications Act of 1996, the first major
overhaul of United States telecommunications law in nearly 62 years, is drastically out-of-date
and out-of-touch with the reality and importance of a sound national telecommunication policy
with respect to global competition and the U.S. economy.

Rep. Edward Markey (D-Mass), chair of the House subcommittee on telecommunications
and the Internet, believes most people would be shocked to know that the U.S. has dropped to
15th place in the global market in terms of broadband penetration. He said, “I think that in the
long run it threatens our economy, our innovation, our health care, our education and job
creation.”50

The loss of our leadership role in the global broadband marketplace has an impact on
commerce and jobs in the U.S. A 2007 study by researchers at the Brookings Institution and

MIT estimated that a one-digit increase in the U.S.’s per capita broadband penetration (the metric used by the OECD) equates to an additional 300,000 jobs nationally.\textsuperscript{51}

A separate paper piggybacked on these national findings and estimated that the:

[The] slide from 12th to 15th place during the latter half of 2006 equals approximately 240,000 lost jobs. If our broadband penetration were as high as No. 1 ranked Denmark, we could expect approximately 3.7 million additional U.S. jobs.\textsuperscript{52}

While reform legislation at the state level cannot substitute for sound national policy, Indiana wisely elected to protect the home turf and establish a home field advantage in the global marketplace while Congress continues to ponder how to correct the U.S. broadband disadvantage in this global economy. Indiana kept a watchful eye on federal regulators as well.

The FCC initiated rulemaking proceedings in late 2005 to partially pre-empt states and local governments on the video franchising issue.\textsuperscript{53} In December 2006, the Indiana Utility Regulatory Commission (IURC) filed comments and made a case for a “carve-out” for states that had already acted to reform the franchising process.\textsuperscript{54}

The IURC argued before the FCC that several states had taken the initiative to streamline video franchising processes through legislative and/or regulatory action in an effort to address the concerns articulated by the FCC in this proceeding. Further, the IURC noted that while we agreed there were likely to be some areas that resisted opening their markets to competition, we believed that the continuing groundswell of state action best addressed these and other concerns outlined in the NPRM. Simply put, the IURC reiterated that states were in the best position to deal

\textsuperscript{53}Notice of Proposed Rulemaking released November 18, 2005.
\textsuperscript{54}Letter from IURC Commissioners to FCC, Re: MB Docket No. 05-311 Implementation of Section 521(a)(1) of the Cable Communications Policy Act of 1984 as amended by the Cable Television Consumer Protection and Competition Act of 1992, dated December 31, 2006.
with their markets, rather than having a single, monolithic policy that could increase the risk of unanticipated or dysfunctional results.\textsuperscript{55}

In summary, the FCC’s attempt to preempt local and state action on the video franchise issue and replace it with a streamlined federal policy was thwarted. Based on the IURC’s recommendation, the FCC provided a specific exemption for Indiana and other reform states which had already adopted statewide video franchising measures.\textsuperscript{56}

\textsuperscript{55} See http://www.in.gov/iurc/RF_07.pdf
2.0 Indiana Statewide Reform: Areas of Impact

2.1 Introduction

What constitutes telecommunications innovation and progress in this era, a 21st-century view of progress, is a difficult policy problem, made complex by rapidly developing technical changes mixed with changing political and economic environments. The most difficult task is the development of measurements or metrics to give reasonable data for policy makers and researchers. The problem is national in scope and has led to the introduction of a number of congressional resolutions and bills attempting to define policy metrics.57

A section of a bill passed in 2007 by the U. S. House of Representatives shows the areas of need and the challenge represented by the problem, from an information research perspective:

[H.R.3919, Section 6] Requires the FCC to conduct and make public periodic consumer surveys regarding the types of technology used, the amounts consumers pay, the actual data transmission speeds, the types of applications and services consumers most frequently use in conjunction with such capability, the reasons given by consumers who decline to subscribe to broadband service, and other sources of broadband service consumers regularly use or on which they rely.58

Lacking any such information in this long list of requirements at present, the following sections of this report provide data on the status of broadband data service availability for Indiana, assembled from a number of sources nationally, regionally and locally. Some data are provided by government entities, and many are made available from public comments or sources in the telecommunications industry.

57 e.g., S. RES. 191, a resolution to establish a “national goal for the universal deployment of next-generation broadband networks” of 100 Mbps bi-directionally by 2015, and S.1492 a “bill to improve the quality of federal and state data regarding the availability and quality of broadband services,” and others.
This report provides the information in two major parts:

Section 2.2 “The Status of Broadband Data Service Availability for Indiana”

Section 2.3 “Metrics of Telecommunications Reform Progress”

The first part further provides interesting data on four major ways that broadband services are presently available to end-users in Indiana, with a subsection on each:

Section 2.2 The Status of Broadband Data Service Availability for Indiana

2.2.1 Cable – Modem
2.2.2 Telecommunications – DSL
2.2.3 Fixed Wireless
2.2.4 Fiber Deployments

The second part is the report’s approach to attempting to measure Indiana telecommunications reform progress given the current status of data availability and reliability. The section is divided into the following five sections:

Section 2.3 Metrics of Telecommunications Reform Progress

2.3.1 Statewide Video Franchises
2.3.2 New Capital Expenditures and Employment
2.3.3 New Service Area Deployment (DSL)
2.3.4 Wireless Broadband Data in Indiana
2.3.5. The Economics of Statewide Franchising in Cable Services

In addition to providing a foundation of data for telecommunications policy makers, the sections also develop a working knowledge base for understanding the present state of the changing telecommunications environment. The authors anticipate rapid change in the field, yet
this interim report gives a historical image of conditions in an innovative state of the union today.

2.2 Status of Broadband Data Service Availability in Indiana

2.2.1 Cable - Modem

High-speed (broadband) lines connecting homes and businesses via cable modems to the Internet at speeds that exceed 200 Kbps in at least one direction increased 59 percent in Indiana during 2006, growing from 324,689 to 550,127.59 That growth rate was more than double the national growth rate of 20.9 percent for cable modem lines during 2006. Indiana also increased its national ranking to 19th from 20th for the number of high-speed cable modem lines per state.60

Cable modems represented 34.6 percent of all of high-speed technology line categories in the state at the end of 2006. That compared to 38.9 percent nationally.

The number of providers of high-speed cable modem service in Indiana increased from 10 to 11 during 2006. That placed Indiana 23rd nationally (tied with Colorado) for the number of cable modem providers per state. Providers of high-speed cable modem service in Indiana include Adelphia, Brighthouse Networks, Cebridge Connections, Charter, Comcast, Insight, MediaCom, Sigecom, Susquehanna Communications, Time Warner Cable and TVCable.61

High-speed cable modem service was available to 95 percent of Indiana residential end-user premises where cable systems offered cable TV service, as of December 31, 2006. That was a one percent increase from June 30, 2006.62

59 FCC Local Telephone Competition and Broadband Deployment Statistical Reports (FCC Form 477). Available at www.fcc.gov.
60 FCC Form 477 – Table 8, December 31, 2006. Available at www.fcc.gov.
2.2.2 Telecommunications – DSL

Digital Subscriber Line (DSL) services have been expanded by telecommunication providers since the passage of HEA 1279. High-speed (broadband) lines connecting homes and businesses via DSL to the Internet and other telecommunication services increased 35.4 percent in Indiana during 2006, growing from 383,772 to 519,606. From July 1 to December 31 of 2006, 71,581 new ADSL (Asymmetric DSL) were installed in Indiana, a 16 percent increase from the previous six-month period. As of December 31, 2006, Indiana had 515,054 ADSL services, a 35.7 percent increase over 2005. ADSL lines are used primarily for residential service. SDSL (Symmetric DSL) lines grew 5.6 percent during 2006, reaching 4,552. SDSL services are used primarily by businesses for services such as video conferencing.

According to FCC data, 74 percent of residential end-user premises with access to high-speed services in Indiana had DSL available as of December 31, 2006, a one percent increase over the end of 2005. Indiana increased its ranking for the number of ADSL lines to 14th of the 45 states reporting at the end of 2006, up from 15th place at the end of 2005.

DSL service availability has been expanded by major providers since the passage of HEA 1279, reaching a combined 102 new communities across the state. Verizon added DSL capability to central offices in 69 rural communities serving 70,000 southern Indiana customers, while AT&T completed the upgrade of its remaining central offices in 33 rural communities across the state.

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64 Asymmetric digital subscriber line (ADSL) technologies provide speeds in one direction greater than speeds in the other direction (FCC Form 477 – Notes.) ADSL lines are used typically for residential services. FCC Consumer Facts – High-Speed Internet Access – Broadband. http://www.fcc.gov/cgb/consumerfacts/highspeedinternet.html
67 AT&T-BellSouth FCC merger commitments, December 29, 2006.
The gap between the penetration of new DSL versus cable modem broadband lines in Indiana began to narrow after implementation of HEA 1279. There were 71,484 DSL lines added between June 30 and December 31, 2006, a growth rate of 15.9 percent, compared to 60,107 cable modem lines, an increase of 12.2 percent. For all of 2006, DSL line penetration grew by 135,834, or 35.3 percent; cable modem line penetration increased by 104,707, or 23.5 percent.68

There were 39 DSL service providers in Indiana during 2006, the same as 2005. 69

2.2.3 Fixed Wireless

The number of high-speed fixed wireless lines and wireless Internet service providers (WISPs) in Indiana has grown significantly since 2006. According to FCC data, there were 9,330 high-speed fixed wireless lines as December 31, 2006, an increase of 3,112, or 50 percent, over 2005.70 The fastest growth in wireless lines in 2006 occurred during the last six months of the year and after implementation of HEA 1279, when 3,034 wireless lines were added, a 48.19 percent increase.

Nationwide, Indiana ranked 16th for the number of fixed wireless lines at the end of 2006, of the 39 reporting states and commonwealths. As of December 31, 2005, Indiana ranked 14th nationally for the number of fixed wireless lines, of the 40 reporting states and U.S. territories.71

The total number of WISPs in Indiana has grown significantly since passage of telecom reform. According to FCC data, there were 27 WISPs serving Indiana residential and business customers at the end of 2005. By June 30, 2006 that number had fallen to 24. But during the last

69 FCC Form 477 – Table 8, December 31, 2006. Available at www.fcc.gov.
70 FCC Form 477 – Table 9, December 31, 2006. Available at www.fcc.gov.
six months of 2006 the number of WISPs increased to 26. Since then the number of wireless 
broadband providers in Indiana has soared.

According to an analysis of the Indiana Office of Utility Consumer Counselor (OUCC) 
Broadband Service Provider Search Web site, there were 68 WISPs serving Indiana residential 
and business customers as of January 31, 2008, a 187.5 percent increase since implementation of 
HEA 1279.72

According to Susan Macey, the Indiana Utility Consumer Counselor, in a presentation at 
the “Connecting Rural Indiana 2007 - A Conversation About Broadband” conference in July 
2007, there were “200 plus wireless providers now penetrating over 90 percent of zip codes in 
the state.” 73 Macey also noted that wireless broadband:

- May be the panacea for rural broadband connectivity
- Availability throughout state (is) fairly ubiquitous, particularly in the east central and northeast parts of Indiana
- Biggest problem in southern Indiana is line-of-sight
- Expansion and coverage is increasing

In summary, the continued and increasing deployment of wireless broadband services in 
Indiana offer new opportunities for residents in underserved and rural areas to gain cost-
effective, high-bandwidth access to the Internet at greater speeds than dial-up. The technical 
limitations of Wi-Fi (IEEE 802.11) that prevent a true ubiquitous solution across most 
underserved areas of the state may soon be addressed as newer, licensed technologies like Wi-

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72 OUCC Broadband Service Provider Search Web site. http://www.in.gov/oucc/utilsearch/. The information on the site is current as of November 8, 2006 and includes active service providers that are known to the OUCC. Information on the site states that the OUCC does not endorse or sponsor particular providers and cannot guarantee that information on providers' Web sites is correct, complete or up to date.

MAX (IEEE 802.16) are deployed, augmenting existing services by providing greater reach and higher throughput speeds. A complete listing of the 68 WISPs is provided in the Appendix.

2.2.4 Fiber Deployments

When it comes to Indiana’s future business expansion and economic development, a necessary ingredient to be competitive in the information economy is a robust, statewide high-speed fiber network infrastructure. Fortunately, Indiana boasts an impressive collection of firms providing fiber-based network services spanning most areas of the state.

The importance of outside capital investment in an extensive fiber optic infrastructure is best captured by the 2007 Regulatory Flexibility Report from the IURC:

Economic development for Indiana communities is dependent upon the availability of state-of-the-art, high-speed broadband communications services. One of the largest impediments to the deployment of these services in Indiana is the high cost of infrastructure, which affects large and small providers alike. The legacy copper network of the phone companies, without upgrades, cannot sustain the broadband speeds required to provide both data and video service.74

Each of the major incumbent inter exchange carriers (IXC) have extensive optical fiber networks throughout Indiana that connect each telephone central office (CO) with the rest of the world, commonly via ATM links, and support voice, high-speed data, and in some cases video traffic.

Since the passage of HEA 1279 each carrier has increased investment in their respective networks, predominately in rural Indiana. AT&T, for example, declared its intent to invest $250 million to deliver next-generation video and broadband services to Hoosiers.75 Thus far, it has completed the upgrade at 33 central offices in rural communities to become the first carrier to

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74 See http://www.in.gov/iurc/RF_07.pdf
offer high-speed DSL service throughout their entire network in Indiana. Further, AT&T has engaged in extensive fiber deployments associated with the initial launch of its trademarked “U-verse” broadband video and high-speed digital DSL service in areas of Anderson, Bloomington, Indianapolis, Kokomo and Muncie, in direct competition with local cable TV firms.76

Verizon has recently completed upgrades that will give 70,000 southern Indiana customers, in 69 rural towns, greater access to high-speed DSL service. As a result, nearly all Verizon-served markets south of I-70 will now have access to high-speed Internet services, as well as four towns in northern Indiana. In addition, Verizon launched its trademarked fiber-based video service “FiOS” in Ft. Wayne and New Haven, again in direct competition with a local cable TV firm.77

Embarq has increased high-speed DSL broadband availability to 80 percent of its access lines since 2006, with the number of installs increasing 98 percent over prior years. Further, Embarq continues to invest in infrastructure improvements at more than $20 million annually.78

The cumulative impact of these investments is best represented in the FCC statistics for calendar year 2006 that show Indiana experienced the largest net increase in high-speed Internet lines ever. The national growth rate for high speed services from 2005 to 2006 was 61 percent. FCC figures show that in 2005 Indiana had 922,568 high-speed lines, while the 2006 data shows a jump to 1,586,501 high-speed lines, an increase of 72 percent.79 Projections now indicate that 2007 figures, when released by the FCC later this year, will likely show Indiana in excess of two million high speed lines, a 100 percent increase since passage of HEA 1279.

79 See www.fcc.gov/web/stats.
Like the major carriers, the independent rural local exchange carriers (RLECs) also boast an impressive fiber optic infrastructure within the state. The Indiana Fiber Network (IFN) was formed in 2002 as a fiber backbone and transport firm, owned by 19 independent local telephone firms across Indiana. With more than 1,000 route miles of fiber optic cable across the state, IFN provides necessary interconnect and broadband services to smaller telephone firms and their customers in predominately rural areas of Indiana.80

There are other fiber backbone networks serving portions of Indiana. Three of the largest are Zayo Bandwidth, U.S. Signal and Time Warner Telecom. In 2007, Zayo Bandwidth of Louisville, Colorado purchased the assets of Indiana Fiber Works (IFW). The acquisition provided Zayo Bandwidth with immediate access to an existing robust optical network connecting 21 of Indiana’s top 25 cities via more than 2,200 miles of fiber. The network runs through 10 of the 13 major technology parks and is close to or interconnects most of the colleges and universities in the state.81

U.S. Signal also maintains an extensive optical network that spans the state, with points of presence in 15 of the largest cities, including Bloomington, Columbus, Fort Wayne, Gary, Indianapolis, Lafayette, Muncie and South Bend. In addition, U.S. Signal’s regional fiber optic network extends to other Great Lake states, allowing Indiana businesses high-speed interconnection with clients, branch offices, manufacturing facilities or vendors in out-of-state metropolitan cities like Chicago, Detroit, Grand Rapids, Lansing, Madison and Milwaukee.82

Time Warner Telecom, headquartered in Littleton, Colorado, has a significant fiber presence in the Indianapolis metropolitan area allowing businesses to utilize their national network to connect with counterparts in 75 markets spanning 30 states. Time Warner Telecom

80 See www.indianafiber.net.
81 See www.zayo.com.
82 See www.ussignal.com.
integrates data, dedicated Internet access, and local and long-distance voice services for long-
distance carriers, wireless communications companies, incumbent local exchange carriers, and
enterprise organizations in healthcare, finance, higher education, manufacturing, and hospitality
industries, as well as for military and government.83

Most recently, Time Warner Telecom announced it was deploying a 1-Gigabit Ethernet
Internet connection to the Indiana GigaPoP at Indiana University – Purdue University
Indianapolis (IUPUI). The Indiana GigaPoP manages fiber optic connectivity to IU, Purdue and
Ball State as well as most of Indiana’s other higher education institutions under the I-Light
project started in 2001.84 This latest deployment is part of the national Quilt CIS project,
supporting high-speed network services to more than 200 Internet2 universities and thousands of
other educational institutions from coast to coast.85

Connection with the Internet is generally done through a co-location and interconnection
facility. For example, one of the largest interconnect firms is Switch and Data Facilities
Company, Inc., which currently operates a carrier-neutral interconnection service in Indianapolis
(Henry Street).86 Here, broadband firms, carriers and businesses can connect directly to one or
more of the nine Tier 1 Internet service providers (ISPs) that actually form the backbone of the
Internet.87 From here, all Internet traffic is generally routed to the closest Internet exchange
provider (IX or IXP) in Chicago.

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84 I-Light is Indiana’s statewide higher education optical fiber network, connecting 22 universities and colleges to
each other, the Internet, and to major research networks like Internet2. When completed, the 1,000 route miles of
fiber will rank it among the largest networks per capita in the Midwest. For additional information and network
maps see www.ilight.net.
85 “Time Warner Telecom Delivers Gigabit Connectivity to Two Major Universities Under Quilt Agreement,”
86 See www.switchanddata.com.
87 There are only nine networks that are considered Tier 1 ISP’s, including the carriers AT&T, Verizon, Qwest and
Sprint. Others are AOL Transit Data Network, Global Crossing, Level 3, NTT and SAVVIS.
Fiber optic networks connecting Indiana’s cities and towns are important, but equally impressive is the growing list of communities that are deploying fiber-to-the-home (FTTH)

2.2.4 Table 1: Fiber Optic Communities (Indiana) – 2006

<table>
<thead>
<tr>
<th>Development or City</th>
<th>Area Planned</th>
<th>Infrastructure Provider</th>
<th>Architecture¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bay Creek - McCordsville</td>
<td>Development</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
<tr>
<td>Cloverdale</td>
<td>Entire community</td>
<td>ILEC</td>
<td>GPON</td>
</tr>
<tr>
<td>Emerald Springs – McCordsville</td>
<td>Development</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
<tr>
<td>Evansville</td>
<td>Entire community</td>
<td>CLEC</td>
<td>BPON</td>
</tr>
<tr>
<td>Fort Wayne</td>
<td>Entire community</td>
<td>ILEC</td>
<td>BPON</td>
</tr>
<tr>
<td>Fox Hollow – McCordsville</td>
<td>Development</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
<tr>
<td>Gateway Crossing – McCordsville</td>
<td>Development</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
<tr>
<td>Greensburg</td>
<td>Entire Community</td>
<td>CLEC</td>
<td>GPON</td>
</tr>
<tr>
<td>Newburgh</td>
<td>Entire Community</td>
<td>CLEC</td>
<td>BPON</td>
</tr>
<tr>
<td>Reserve at Geist – Fortville</td>
<td>Development</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
<tr>
<td>Rochester</td>
<td>Entire community</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
<tr>
<td>Stone Ridge – Maxwell</td>
<td>Development</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
<tr>
<td>StrongBow Gate – McCordsville</td>
<td>Development</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
<tr>
<td>Woodhaven – McCordsville</td>
<td>Development</td>
<td>ILEC</td>
<td>EPON</td>
</tr>
</tbody>
</table>

Source: “U.S. Optical Fiber Communities,” TIA, April 2006. See www.tiaonline.org

¹GPON, EPON and BPON are all flavors of passive optical network (PON) technology with fiber run speeds up to 2Gbps or greater. Bandwidth to each customer can be static or dynamically assigned to support voice, data and video services.

locally, and offering up high-speed Internet as well as video services. As indicated in the table above, there were 14 communities or developments that offered fiber connections directly to the household as of April 2006.

Of significant note is that vendors in four of the FTTH communities have filed for statewide franchise authority. These include Verizon, serving Ft. Wayne and portions of Allen
County; Endeavor Communications, formerly Clay County Rural Telephone, serving Cloverdale; and WideOpen West (WOW), formerly SIGECOM, covering both Evansville and Newburgh. Two additional rural ILEC’s, Hancock Telecom (McCordsville) and Rochester Telephone (Rochester) initiated FTTH services under local franchise authority prior to passage of HEA 1279. In the latter case, services offered by Rochester Telephone are in direct competition with another cable company (Comcast).

There are additional municipal-owned fiber networks that supply services for area residents and businesses. Crawfordsville and South Bend have municipal-owned fiber networks. Crawfordsville Electric Light & Power (CEL&P) established a separate telecommunications division known as Accelplus to provide advanced data and video services to residents. South Bend has the St. Joe Valley Metronet, a 40-mile fiber network that offers high-speed data connection to area businesses, health care facilities and other entities.

Most recently, Columbus announced the selection of Smithville Digital, a subsidiary of Smithville Telephone, to install and manage a fiber network within the city-owned 7.2 miles of conduit that is intended to provide access to high-speed technology for area businesses and spur economic growth by attracting high technology industries. The network is scheduled to come on line in 2008.88

Rural Indiana’s access to fiber optic cable got a boost in 2008 with the awarding of a $16.2 million grant to the Indiana Telehealth Network from the FCC’s Rural Health Care Pilot Program. The Indiana Telehealth Network provides an electronic health information exchange and distance care through a dedicated broadband health network to address unmet health needs for rural patients in Indiana. Funds will be used to improve telemedicine capabilities by connecting the 35 Critical Access Hospitals throughout the state. The grant allows Indiana

commercial companies to bring broadband capacity in the form of fiber optics to rural communities. A secondary benefit of bringing fiber optics to rural Indiana will be the increased potential of heightened economic development as the health care entities in each community make fiber connectivity available to their communities.89

In summary, Indiana’s continued progress in the deployment of a robust fiber optic infrastructure is positive. Post-HEA 1279 activity includes upgrades at central offices and networks at incumbent local exchange carriers (ILEC), plus the aggressive technology push by a number of rural local exchange carriers (RLEC) and competitive local exchange carriers (CLEC). Also, new deployment of advanced broadband technology to rural communities allows for new high-speed digital Internet services, and offers new opportunity for fiber backhaul necessary for deployment of new wireless technology. When coupled with the independent investment by municipalities, Indiana’s high fiber diet is a testimony that it is gaining in recognition as a good place to do business in the information age. As Indiana’s digital landscape improves, more outside investment will occur.90

In closing, the recognition of the importance of a strong high-speed infrastructure to future economic growth of an Indiana city is best captured by Columbus Mayor Fred Armstrong who said:

As today’s economy changes, so do our needs. Expanding the economic benefits of broadband is one way to help businesses increase their efficiency and support economic growth. This [fiber] project will provide data redundancy that is a key requirement to attract high tech industry, reduce the cost of entry for service providers and increase competition.91

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2.3 Metrics of Reform Progress

2.3.1 Statewide Video Franchises

On June 30, 2006, the provision contained in HEA 1279 authorizing statewide franchising for video went into effect. The IURC stated that it would begin accepting applications beginning July 3, 2006. As of January 28, 2008, 36 applications for Certificates of Franchise Authority (CFAs) had been approved by the IURC, and one was pending. Proponents of statewide franchising assert that it increases the number of competitors for video services, thereby improving service and lowering rates. Industry journal Television Week, which began covering video issues when it launched in 1982 as Electronic Media, applauded Indiana’s move to statewide franchising and encouraged other states to follow suit. According to an FCC study, the average price for cable TV in 2005 was $43.34, but in markets with another wired video provider the average price was $35.94. Hassett and Shapiro show that reducing the barriers to franchising will result in additional investments in Indiana of from $589 million to $1 billion. Titch asserts, “Where enacted thus far, franchise reforms benefits have been undeniable.” When Indiana passed HEA 1279, AT&T announced that it would invest $250 million statewide in infrastructure as a result of the legislation.

Classifying each applicant as either a telephone company or a cable company uses an outdated paradigm, as both industries are increasingly providing services traditionally offered by

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92 The analysis in this section is based on the documentation filed by the applicants for CFAs. It is available online through the IURC’s Electronic Portal, [http://www.in.gov/iurc/portal/](http://www.in.gov/iurc/portal/).
94 “Statewide Franchise Systems Benefit All,” Television Week, March 6, 2006.
95 L. Cauley, “FCC Hopes to Speed Phone Companies’ Entry into TV,” USA Today, December 1, 2006.
the other sector. In New Jersey, Comcast and Cablevision began offering telephone service over their cable lines, and Verizon responded by offering video services over its phone lines.99

It is quite obvious that AT&T has been historically a telephone company, and that Comcast has historically been a cable system, but those distinctions may be more difficult to make with some of the other applicants. Avenue Broadband was granted a CFA to serve more than 70 Indiana townships. Avenue, a Texas company, purchased existing Indiana cable systems and prior to its CFA application was not offering any video services anywhere in the U.S. Still it would be relatively easy to classify Avenue as a “cable provider,” but what of Sigecom? The Evansville-based company was acquired by WideOpenWest (WOW), a Denver company, in 2006.100 Sigecom began in 1999 as a division of the energy company Vectren (the merged Indiana Energy and Southern Indiana Gas & Electric companies), thus its corporate heritage was neither cable nor telephone. Since its inception it has provided “triple play” service.101 At the time of Sigecom’s acquisition by WOW, both the incumbent provider and the purchaser provided both video and telephone services; so which is it?102 The industry has adopted the term Multichannel Video Program Distributor (MVPD) as a more neutral way of referring to these entities.

In spite of the inherent fallacy of labeling a service as telephone or cable, for the purpose of this analysis, the following section will do precisely that – analyzing the CFAs by companies that have been traditionally telephone companies and those that have been traditionally cable

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101 Triple play is an industry term for bundled provision of Internet, video and telephone.
102 For the purposes of this analysis, Sigecom will be listed among the cable service providers. At the time of its CFA application, Sigecom was already providing video services and had local franchise authorization in place.
companies. Applicants within each category are listed in chronological order by the date they filed their first Certificate of Franchise Authority application.

The early introduction of video service by telephone firms has resulted in direct competition with incumbent cable operators in select markets as indicated in the table below.

2.3.1 Table 1: Indiana MVPD Competition by County

### Indiana MVPD Competition by County

**CFA Granted as of December 2007**

<table>
<thead>
<tr>
<th>Community</th>
<th>County</th>
<th>Existing Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muncie</td>
<td>Delaware</td>
<td>Comcast</td>
</tr>
<tr>
<td>Bloomington</td>
<td>Monroe</td>
<td>Comcast</td>
</tr>
<tr>
<td>Anderson</td>
<td>Madison</td>
<td>Insight Communications</td>
</tr>
<tr>
<td>Kokomo</td>
<td>Howard</td>
<td>Insight Communications</td>
</tr>
<tr>
<td>Indianapolis</td>
<td>Marion</td>
<td>Comcast/Bright House</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community</th>
<th>County</th>
<th>Existing Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ft. Wayne</td>
<td>Allen</td>
<td>Comcast</td>
</tr>
<tr>
<td>New Haven</td>
<td>Allen</td>
<td>Comcast</td>
</tr>
<tr>
<td>Huntertown</td>
<td>Allen</td>
<td>Comcast</td>
</tr>
</tbody>
</table>

**Traditional Phone Companies**

As Crandall and Litan have demonstrated, “entrance of telecommunications companies into the MVPD market will cause prices of video services to decline and subscriptions to rise.”

When Verizon stepped up its deployment of FiOS deployment in Ft. Wayne, Comcast responded

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103 This approach is not without merit. Media coverage of the debate over statewide franchising in Indiana frequently aligned the combatants as either phone companies or cable companies. See, for example, S. Ante, “Thinking Globally, Stuck Locally,” *Business Week*, April 17, 2006; M. Richtel, “In Phones vs. Cable, a New Turn,” *New York Times*, December 21, 2006.


by increasing the speed of its broadband offering. When AT&T began rolling out enhanced services in northeast Ohio, both Time Warner and Cox responded by expanding their available services.

Critics have suggested that the major phone companies (such as the former Bell companies) may be able to provide advanced telecommunication services but locally-owned rural telephone companies (and their customers) will be left behind. In fact, the National Exchange Carrier Association’s 2007 Trends report asserts that 400 of their members in the “traffic sensitive pool” (out of 1,054 nationally) provide video services and another 132 plan to do so in the near future. In 2006, 34 companies serving primarily rural Indiana provided 15,042 DSL access lines. In 2007, 35 companies provided 29,592 DSL access lines, a 96.7 percent increase over 2006. Other broadband services (fiber; fixed, licensed and unlicensed wireless broadband technologies; Wi-Fi or WiMAX; cable modem; and satellite) were provided by 74 percent of the Indiana companies.

**AT&T:** AT&T is the quintessential “traditional” telephone company, serving as a local exchange carrier but also as a competitive local exchange carrier, inter-exchange carrier and wireless provider. The first Certificate of Franchise Authority granted by the Indiana Utility Regulatory Commission was filed by AT&T Indiana on August 8, 2006, just six weeks after HEA 1279 allowed for such an application, and approved by the IURC on August 30, 2006. The precise service areas that AT&T proposed to cover are part of their confidential filing (along with the target roll-out dates), but stated that the areas are “within its local exchange territory in Indiana.”

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One interesting aspect of the AT&T application is the fact that it states, “Fiber will be used in ‘greenfield’ areas, i.e., where there is no existing network. A combination of fiber and copper will be used predominantly where an existing copper wireline network exists.” It is worth noting that most companies with existing infrastructure are likely to use what is already available to them, but when developing new areas these same companies are more likely to use the most modern technology available to them. It may be a significant capital expenditure, but new entrants are likely to have the most modern systems and may be able to use that as a competitive edge over incumbent providers. AT&T had previously publicly stated its trademarked U-verse service was being made available in areas of Anderson, Bloomington, Indianapolis, Kokomo and Muncie.\(^{109}\)

**Daviess-Martin County Rural Telephone Corporation:** Less than one week following AT&T’s CFA filing, a significantly smaller telephone company filed. Daviess-Martin County Rural Telephone Corporation (RTC), headquartered in Montgomery, Indiana, was established in 1949 as a not-for-profit telephone co-op. Over the decades RTC has expanded and upgraded and today it offers wired and wireless Internet services. The CFA granted September 13, 2006, enables them to offer triple-play packages.

RTC proposes a hybrid system, using fiber as the backbone but economical copper twisted pair to residences. Provision of video services will be within their existing local exchange service areas in Daviess, Martin and Lawrence counties. In April 2007, RTC reported that it was upgrading and adding capacity, including approximately 30 miles of fiber optic and copper cable to its plant.

**E.Com Technologies:** E.Com, a subsidiary of FirstMile, filed for a CFA on November 1, 2006, which was granted on December 20, 2006. In partnership with major telecommunications

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hardware company Nortel, FirstMile provides broadband services for residential developments. The company is authorized by the IURC for inter exchange and local exchange carrier telephone services. The company’s presence in Indiana includes a 900-lot Intranet in Westfield. Headquartered in Indianapolis, FirstMile was established in 2001 and included financial partnerships with Vectren (an energy company) and four homebuilding companies: Centex, Pulte, D.R. Horton and Lennar. FirstMile’s application was to serve three counties in metropolitan Indianapolis where the company had already established service: Boone, Hamilton and Marion counties. The company had originally filed with Marion County for a franchise agreement to provide cable service but withdrew the application when statewide franchising was enacted.

LigTel Communications: LigTel filed a CFA to operate LigTV on November 6, 2006, which was granted on November 30, 2006. LigTel is a subsidiary of Ligonier Telephone Company, which has been providing phone service in northern Indiana since 1896. Rather than offer to provide video service throughout its entire telephone service area, LigTel instead simply purchased an existing cable system serving the Topeka, Indiana area and proposed to continue operating it.

Perry-Spencer Communications: PSC is another traditional telephone company that has as its roots a rural telephone cooperative. Perry-Spencer Rural Telephone Cooperative was founded in 1953 and serves a six-county area. In 1995 the cooperative established PSC as a subsidiary to provide Internet access. Headquartered in St. Meinrad, it has now expanded to provide triple play service, but only for a portion of the service area. The CFA it requested on
November 22, 2006 (and was granted December 13, 2006) is only for the town of Ferdinand, population 2,277.\textsuperscript{110}

\textit{Verizon North}: As indicated by the name, Verizon North is a subsidiary of Verizon. The company operates telephone systems in Indiana and is in the process of upgrading its systems by installing FiOS fiber to the premise. As part of that upgrade, Verizon proposed to offer video services within four service areas (Fort Wayne, New Haven, Huntertown and unincorporated Allen County) and requested a CFA on November 28, 2006, (which was granted December 20, 2006, just days after it received statewide authorization in New Jersey\textsuperscript{111}). Verizon is the first traditional telephone company to mimic some of the language used by several of the traditional cable company applicants in describing its proposed designated service area. “Availability of the service within the described area, which is all local phone service territory, is subject to available facilities, commercial and technical feasibility and/or access to property.” Verizon uses the identical phrasing provided in the Insight application (discussed below) almost four weeks earlier with the simple insertion of the clause “which is all local phone service territory.” It becomes clear that the CFA applicants have monitored the earlier applications and have modeled their comments accordingly. Precise information about Verizon’s proposed service areas are part of a confidential filing with the IURC and are not available publicly.

\textit{Craigville Telephone}: Craigville Telephone, which provides telephone service in Adams and Wells counties, formed AdamsWells TV to provide video services within its existing telephone coverage area. The company is using both copper and fiber technology to distribute video offerings.

\textsuperscript{110} 2000 U.S. Census Data.
Clay County Rural Telephone Coop: Clay County Rural Telephone created Endeavor Communications in 1950 as a traditional local exchange carrier. The Cloverdale-based company still provides service to more than 10,000 customers over an eight county area.\(^{112}\) The company is rolling out triple play service within its area with a fully fibered network. Endeavor, which began building out its fiber network in 2006, expects the rollout of video services to take through 2009.

Acme Communications: Acme is a division of Automated Data Systems, the first ISP in Northwest Indiana.\(^ {113}\) Automated Data began in 1984 as a computer company and became an ISP in 1994. On April 16, 2007, the Michigan City-based company applied to provide service over a fiber network to 21 townships in LaPorte County, where the company already operates as a competitive local exchange carrier. Acme has no existing franchises with local authorities. The CFA was granted June 6, 2007.

Citizens Telephone: Warren-based Citizens Telephone began in 1904 as Warren Telephone, changing its name to Citizens in 1947 when it added an exchange beyond Warren’s boundaries.\(^ {114}\) Citizens has already been offering triple play within its coverage area in the counties of Grant, Huntington and Wells. The application was filed July 5, 2007, and approved that same month. Citizens states in its CFA application that it will terminate its existing franchise agreements with local authorities at the end of 2007. Nothing in the application implies an expansion or upgrade beyond what Citizens already provides.

New Paris Telephone: New Paris created the subsidiary Quality Cablevision (QC) to provide cable television within its service area in LaGrange County. New Paris/QC offers triple play service to its customers. Although New Paris is a traditional telephone company, its

\(^{112}\) [http://www.crrtweb.com/about/](http://www.crrtweb.com/about/).


\(^{114}\) [http://www.citznet.com/about.html](http://www.citznet.com/about.html).
proposal as a video provider is to use existing infrastructure from a cable system that abandoned the Shipshewana market, therefore the service is not available to all its telephone customers.

Clearly many of the rural local exchange carriers have been as active as the largest carriers in deployment of new broadband services as the table below suggests.

### 2.3.1 Table 2: RLECs/ Municipalities Infrastructure to Provide High-Speed Services

<table>
<thead>
<tr>
<th>RLECs* and Municipalities That Have Deployed Infrastructure to Provide High-Speed Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Telephone Company</strong></td>
</tr>
<tr>
<td>Citizen’s Telephone</td>
</tr>
<tr>
<td>Clay County Rural Coop.</td>
</tr>
<tr>
<td>Craigville Telephone Co.</td>
</tr>
<tr>
<td>Daviess-Martin RTC</td>
</tr>
<tr>
<td>Enhanced Communications</td>
</tr>
<tr>
<td>Hancock Telecom</td>
</tr>
<tr>
<td>Ligonier Telephone</td>
</tr>
<tr>
<td>Mulberry RTC</td>
</tr>
<tr>
<td>New Paris Telephone Co</td>
</tr>
<tr>
<td>Perry-Spencer Rural Telephone Co-op, d/b/a PSC</td>
</tr>
<tr>
<td>Pulaski-White RTC</td>
</tr>
<tr>
<td>Rochester Telephone Co.</td>
</tr>
<tr>
<td>Smithville Telephone</td>
</tr>
<tr>
<td>Swayzee Telephone</td>
</tr>
<tr>
<td>Sweetser Telephone</td>
</tr>
<tr>
<td>Tri-County Telephone</td>
</tr>
<tr>
<td>Washington County RTC, d/b/a Tele-Media Solutions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crawfordsville, d/b/a Accelplus</td>
</tr>
<tr>
<td>Lebanon</td>
</tr>
<tr>
<td>South Bend</td>
</tr>
</tbody>
</table>

*RLEC – Rural Local Exchange Carriers (telephone companies that serve primarily rural areas).

Traditional Cable Companies

The traditional cable industry was unified in its opposition to statewide video franchising, but once HEA 1279 was enacted cable companies took advantage of the state statute. Unlike legislation in some other states that created a disparity between telephone and cable companies by requiring incumbent franchise holders to remain under local control, Indiana’s law allows existing video providers to terminate franchises immediately upon receipt of a statewide Certificate of Franchise Authority.

Charter Communications: The first traditional cable company to apply for a CFA from the IURC was Charter Communications, headquartered in St. Louis, Missouri. Nationwide, Charter is the fourth largest cable television company, serving more than five million subscribers. Charter actually filed for three CFAs on October 3 – just over three months after statewide franchising went into effect and slightly less than two months after the first CFA applicant. As the first CFA applicant that was operating a cable system, it was also the first to terminate an existing franchise agreement with a local authority as part of its statewide application. In the application for Hendricks County, Charter notified Hendricks County that it would terminate the agreement (set to expire in 2016) upon approval of its CFA, which Charter received on November 30, 2006. Charter Communications’ CFA for Hendricks County is now incorporated into Avenue Broadband. Avenue Broadband acquired additional Charter systems in southern Indiana and Illinois in December 2007.

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116 See, for example, D. Halonen, “Cable Group: Telcos Paying for Support; NCTA Intensifies Franchise Fight,” Television Week, February 27, 2006.
118 Two of the applications were by Charter; one actually was by Interlink Communications, doing business as Charter Communications.
In addition to the Hendricks County system, Charter on the same day filed a CFA application to provide video service in 32 other Indiana communities. Like its system in Hendricks County, Charter sent letters of termination to local cable franchise authorities in those 32 communities. As in Hendricks County, Charter is no longer the owner of those systems, having sold them to Avenue Broadband.

Charter’s third CFA was for systems under the jurisdiction of 27 different franchise authorities but operated from only four headends: Brazil, Mitchell, Nashville and Vincennes. Letters were sent to all 27 jurisdictions to terminate existing franchising agreements. Although this CFA appears under the “Traditional Cable Company” heading, it is worth noting that these 27 existing franchises were operated by a wholly-owned subsidiary of Charter, Interlink Communications. Charter purchased Interlink in 1996. At the time, Interlink was a Georgia-based telephone company.

On December 14, 2007, Charter filed notice with the IURC that it was terminating its three CFA requests, having sold those systems to Avenue Broadband.

**Time Warner:** On October 27, 2006, Time Warner Cable filed two applications for Certificates of Franchise authority. Time Warner is the nation’s second-largest cable Multiple System Owner (MSO), reaching more than 13 million homes in 37 states. One CFA was requested for a portion of Union City served by Time Warner. The second was requested by TW Fanch-one (a company owned and operated by Time Warner) for six communities in Marshall County. Both CFAs were approved by the IURC in December 2006.

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119 The requested service areas were the towns of Amo, Clayton, Coatesville, Dale, Edinberg, Elberfeld, English, Ferdinand, French Lick, Loogootee, Lynnville, Marengo, Milltown, Morgantown, Oakland City, Petersburg, Prince’s Lake, Santa Claus, Stilesville, Troy, West Baden and Winslow and the counties of Bartholomew, Crawford, Daviess, Dubois, Gibson, Martin, Morgan, Orange, Pike, Spencer and Warrick.
120 A headend is the point where a cable system “collects” all the different video signals and sends them out to subscribers.
Comcast: Comcast is the nation’s largest MSO, serving more than 24 million homes.\textsuperscript{122} Comcast’s first slate of CFA applications came on October 30, 2006, when the company applied for 13 CFAs. All were granted by the IURC the following month. The 13 different applications came from 13 different Comcast subsidiaries:

- Cablevision Associates of Gary
- Comcast of the South
- Comcast of Illinois/Indiana
- Comcast of Indiana/Kentucky/Utah
- Comcast of Muncie
- Comcast of California/Colorado/Illinois/Indiana/Michigan
- Comcast of Fort Wayne
- Comcast of Indianapolis
- Comcast of Indiana/Michigan
- Comcast Cable of Indiana/Michigan/Texas I
- Comcast of Indiana/Michigan/Pennsylvania
- Comcast of Illinois/Indiana/Michigan
- Comcast of Northern Indiana

Obviously, the geographic area, number of subscribers and number of franchise authorities for each application varies. The CFA for Cablevision Associates of Gary involved only one franchising authority, while the application for Comcast of Indiana/Kentucky/Utah included 82 local franchise jurisdictions. To summarize, in each CFA application Comcast terminated existing franchise agreements with local franchise authorities and requested to provide service to areas where it was already providing cable television service. Contained in all 13 applications is the assertion, “Expanded deployment of the existing service will be subject to available facilities, commercial and technical feasibility often related to density and/or access to property.”

Comcast filed a second CFA application on September 28, 2007, through its subsidiary, TCI of Indiana. It anticipates offering video service within the service area in the first quarter of

\textsuperscript{122} Ibid.
2008. This application did not require termination of any exiting franchise agreements with local authorities. The application lists all or parts of 123 cities, 194 townships and 32 counties. The CFA was granted October 30, 2007. On December 12, 2007, the CFA of TCI of Indiana was transferred to another Comcast subsidiary, Illinois/Indiana Systems Group, LLC. TCI of Indiana Holdings, LLC will become their parent company upon completion of acquisition and transfer their authority to them. The transfer of certificate was granted on December 23, 2007.

Insight: Insight’s CFA application includes more service areas than any other request: more than 200 different franchising authorities are listed. Insight has a presence in 45 Indiana counties. Insight’s single CFA application on November 1, 2006 (granted the same month) removed the company’s onerous task of dealing with all those different jurisdictions. The application states the company’s plan to provide service in areas currently served. Phrasing similar to the Comcast application, but with an important nuance, states that “Availability of service within the described areas is subject to available facilities, commercial and technical feasibility and/or access to the property.” Insight had obviously drawn upon the language of Comcast’s earlier application but diverges from the original. It can be read that Comcast will offer expanded services to all current subscribers and build out to additional households in its service areas while Insight only plans to provide expanded service to some of its current customers. The difference might be merely semantic but it is worth noting that the language was used as a model but purposefully deviated from. Insight, headquartered in New York, is the nation’s ninth largest cable MSO with more than 1.3 million subscribers. Although Insight is listed in this section as a “Traditional Cable Company,” it should be noted that the company is certified with the IURC as a Competitive Local Exchange Carrier and Inter Exchange Carrier.

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123 This is the identical language used by Comcast in its most recent CFA application as TCI of Indiana.
Bright House Networks: Bright House filed its CFA application on December 20, 2006. The nation’s sixth largest MSO (with 2.3 million subscribers) requested that all the information it filed with regard to its designated service area and expected deployment dates be confidential. The IURC made public that the requested service areas included portions of Grant, Hamilton and Hendricks counties and that the IURC was maintaining the confidentiality of one of the requested service areas. The CFA was granted on December 20, 2006.

WideOpenWest: On December 29, 2006, Sigecom filed for its first CFA in the area where it was already providing video services, in the southern Indiana counties of Posey, Vanderburgh and Warrick. Sigecom now offers triple play service under the trademarked name of “WOW!” WideOpenWest is the 11th largest MSO in the U.S. with more than 300,000 subscribers. WOW! service is available in Indiana and three bordering states. The service was already deployed in some of Sigecom’s service area (for example, Evansville), but in other areas the company’s predicted roll-out would occur over the next 10 months (for example, Mt. Vernon). Sigecom terminated eight franchise agreements with local authorities.

A second WOW! Service filed for its CFA on February 28, 2007 and was granted a CFA on March 22. WOW Illinois, headquartered in Naperville, Illinois, owns cable systems in the Chicago metropolitan area, including Hammond, Indiana. The WOW Illinois CFA application is for existing video service in the current service area. Their application does not state any change that will occur other than the discontinuation of the franchise agreement with the local franchise authority in favor of the statewide authorization.

Suddenlink: St. Louis-based Suddenlink applied for a CFA on August 24, 2007. The CFA was granted on January 4, 2008. Suddenlink is the nation’s seventh-largest MSO serving

\[\text{\textsuperscript{125}}\text{Ibid.}\]
\[\text{\textsuperscript{126}}\text{To be precise, the application was filed by Cequel III Communications, LLC. The company is doing business as Suddenlink.}\]
more than 1.4 million customers. Suddenlink currently provides video services in the proposed coverage area and proposes no changes. It serves the towns of Elnora and Farmersburg, and Vigo County. The application reports that it is not terminating any franchise agreements with local authorities (franchises expired in both towns and there was no franchise with the county). Suddenlink offers phone and Internet service but has no IURC certification as an exchange carrier.

_Avenue Broadband:_ Avenue purchased existing cable systems from Charter and Interlink. Avenue did not need to terminate any existing franchise agreements with local authorities, as those had already been terminated by Charter. Avenue states on its Web site that it intends to offer telephone service to its Indiana customers in the first quarter of 2008, but that it has no immediate plans to increase rates, change its channel lineup or access channels. Avenue is promoting its Voice over IP telephony, even to households that do not subscribe to cable (although there is a discount for those that do). The CFA granted on October 24, 2007, covers 24 counties where Avenue (or the previous owner) was already providing video service.

_Not All Operators Have Filed for Certificates of Franchise Authority_

In addition to those that have filed for state-issued Certificates of Franchise Authority, there are traditional telephone and traditional cable systems that have not filed for CFAs. It is possible that some are waiting to see what happens, while others may never file. Following are a few examples.

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128 [http://www.avenuebroadband.com/AvenueBroadband.html](http://www.avenuebroadband.com/AvenueBroadband.html).
• TV Cable: Serving Rensselaer, Winamac and Morocco, TV Cable is a traditional cable company.\textsuperscript{129} While it does not offer telephone service, it does afford its customers combination cable TV/high-speed Internet packages.

• Rochester Telephone: A traditional telephone company, Rochester Telephone was created in 1895 by five local businessmen. The company now offers six different triple play packages to its customers in Rochester through RTC FiberConnect, and three triple play “Viking” packages to its customers in Akron.\textsuperscript{130}

These examples demonstrate that there are likely to be other applicants for statewide franchise authorization in the future, both from telephone and cable companies looking to offer triple play services.\textsuperscript{131} The IURC noted in its 2007 report that as of July 1, 2007, there were only 31 video franchises;\textsuperscript{132} that number has already grown 20 percent. It also serves as evidence that not all video providers may seek certification from the IURC. Certainly 18 months has been adequate time to prepare an application, yet some have not moved to do so.

\textit{Section Summary: Reform has Generated Significant though Incremental Activity}

In the 18 months that Indiana has allowed applications for statewide video franchising, 11 traditional telephone companies and 9 traditional cable companies have filed for 37 Certificates of Franchise Authority.\textsuperscript{133} The cable companies involved represent seven of the 11 largest MSOs in the nation. The telephone companies that have applied run the gamut from the nation’s largest (AT&T and Verizon) to small, rural telephone cooperatives with just a few thousand customers.

\textsuperscript{129} \url{http://www.rensselaer.tv/}
\textsuperscript{130} \url{http://www.rtc1.com/index.html}
\textsuperscript{131} During the time this research was being conducted an additional CFA application was filed by MediaCom Indiana. The application was pending as this report went to press and is therefore not included in the analysis.
\textsuperscript{132} \url{http://www.in.gov/iurc/RF_07.pdf}
\textsuperscript{133} Because Charter sold all its Indiana systems, there are currently only 7 traditional cable companies with active CFAs. \url{http://www.in.gov/iurc/video/video_vsp_121707.pdf}
In most of the instances where video services were already in place, providers (both telephone and cable companies) for the most part have not offered any significant changes in cost or services. It is the new service providers who have volunteered information about expansion or new services planned. Some of the providers have already begun system upgrades. Those planning upgrades expect them to take anywhere from six months to three years. As stated earlier, when HEA 1279 passed, AT&T announced its plan to increase infrastructure investment. AT&T announced additional investment plans in Nevada134 and Florida135 when those states passed franchise reform. It appears to be the case that investment flows to those states where the regulatory climate is most inviting.

Other states that have instituted statewide franchising have seen the same sort of incremental involvement in the process. Ohio’s statewide franchising rules went into effect September 24, 2007 (more than one year after Indiana). As in Indiana, AT&T was the first granted state authorization (Ohio’s is a 10-year authorization) on November 7, 2007. The second franchise was awarded to Time Warner on December 14, 2007. So far eight other companies have applied for authorization.136 The pattern established in Indiana seems to be holding true for Ohio.

The video franchising system is still new, and video providers, the IURC and consumers still have a great deal to learn about the system. Since July 1, 2006, the Consumer Affairs Division of the IURC has fielded more than 300 complaints. The majority of the complaints related to billing disputes and service quality, but some of the complaints were about companies

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that had not sought a CFA from the Commission.137 One of the concerns that has been expressed by opponents of statewide franchising is that customers outside the state capital will have to be burdened by travel to register any complaints about video service providers.138

The Consumer Affairs Division of the IURC and the Indiana Office of Utility Consumer Counselor are to be commended for creating a system that streamlines the complaint process. The electronic system makes it reasonably easy for anyone to be heard at virtually no cost. As Indiana moves forward and more systems fall under statewide franchise, these offices should engage in an active campaign to better inform the public of their services, including public service announcements.

137 E-mail from Ja-Deen Johnson, Director of Consumer Affairs, IURC, December 12, 2007.
138 See, for example, the guest column by Nolan Bowie of the Joan Shorenstein Center on the Press, Politics and Public Policy, “Consumer Benefit in Cable Franchising,” *Boston Globe*, June 4, 2007.
These are the companies who have been awarded a CFA to provide video service in Indiana since implementation of HEA 1279 on July 3, 2006:

- ACME Communications/Automated Data Systems/Accelerated Networks (ACME Communications, Inc.)
- AdamsWells TV (Craigville Telephone Co., Inc.)
- AT&T Indiana (Indiana Bell Telephone, Incorporated)
- Avenue Broadband (Avenue Broadband Communications, Inc.)
- Bright House Networks (Bright House Networks, LLC)
- Citizens Telephone Corporation
- Charter Communications (Charter Communications Entertainment I, LLC, Charter Communications VI, LLC, Interlink Communications Partners, LLC)
- Endeavor Communications (Clay County Rural Telephone Cooperative, Inc.)
- First Mile/First Mile Technologies (E.Com Technologies, LLC)
- Insight (Insight Communications Midwest, LLC)
- Ligtel Communications, Inc.
- New Paris Telephone's Quality Cablevision
- PSC/ Perry- Spencer Communications, Inc. (Perry- Spencer Communications, Inc.)
- Sigeecom, LLC/Sigeecom (Sigeecom, LLC)
- Suddenlink Communications (Cequel III Communications II, LLC)
- Time Warner Cable (TW Fanch-one Co., Time Warner Entertainment Co. L.P.)
- TRC Communications (Daviess-Martin County Rural Telephone Corporation)
- Verizon North Inc.
- WOW! Internet, Cable and Phone (WideOpenWest Illinois, LLC)
2.3.1 Statewide Video Franchises – Map 1: CFAs Granted by County

CFAs Granted by County
Planned and Existing MVPDs as of January 2008*

*Includes no Bright House CFAs. Coverage area not disclosed in the CFA application.

CFA = Certificate of Franchise Authority
2.3.1 Statewide Video Franchises – Map 2: New Indiana MVPD Competition

MVPD = Multichannel Video Program Distributor
2.3.1 Statewide Video Franchises – Map 3: MVPD Projects Planned

MVPD = Multichannel Video Program Distributor
2.3.2 Employment and Capital Expenditures

Deployment of broadband technology is a well established driver of economic growth. Fortunately, Indiana’s regulatory climate is generating increased competition and investment in all forms of digital communications. This leads to improved job opportunities for Hoosiers: jobs that will keep young people in Indiana, jobs that will help Indiana in the transition to the new global economy.

To date, at least 2,200 new jobs have been announced by telecommunications firms as a direct result of Indiana’s reform legislation. AT&T officially opened a call center in Evansville on October 24, 2007. The call center serves business-to-business wireless customers, employed 330 workers at the time of the announcement and is slated to employ a total of 600 workers by April 2008. The company also announced it will hire 475 workers statewide to upgrade its Internet protocol-access net and to install its U-verse TV network in residences. On February, 6, 2008, the company revealed that 150 additional jobs would be added at the Evansville center in its advanced network services division. New jobs created have by no means been limited to large carriers: the Indiana Telecommunications Association reports that among 31 small rural telephone companies 92 permanent and 94 contract jobs have been created to “serve broadband

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140 AT&T press release, “AT&T Indiana Cuts Ribbon on Evansville Call Center” Evansville, Indiana October 27, 2007
141 AT&T press release, “AT&T Indiana Continues Creating Jobs Across the State” Anderson, Indiana September 18, 2007
142 AT&T press release, “AT&T Indiana to bring 150 more Jobs to Evansville; Reform legislation continues to spark expansion” February 6, 2008
and video customers." New jobs directly created by telecommunications reforms are enumerated below by company and location when known:

### 2.3.2 Table 1: New Job Creation–Indiana

<table>
<thead>
<tr>
<th>Company</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT&amp;T</td>
<td>1650</td>
</tr>
<tr>
<td>Verizon</td>
<td>300</td>
</tr>
<tr>
<td>Comcast</td>
<td>225</td>
</tr>
<tr>
<td>Small Telcos</td>
<td>92</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>2,267</strong></td>
</tr>
</tbody>
</table>

The 2,267 figure is likely an underestimate for a number of reasons. Recent reports indicate a great deal of activity by telecommunications providers that are not necessarily listed above. It should be noted that HEA 1279 opened not only the market for cable competition, but broadband service in general. Ellettsville-based Smithfield Digital is currently wiring Columbus, Indiana with broadband. Smithville Digital’s President Cullen McCarty directly attributed this to HEA 1279:

> Governor Daniels and our state legislature deserve tremendous credit for passing the telecom reform act. While previously we would have been constrained, we now have the opportunity to expand and grow our network, and help cities like Columbus create jobs and strengthen the economy in the process.

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143 Correspondence with ITA. The ITA survey does not reveal the identity of any of the individual members.
144 Includes 425 Indianapolis; 750 Evansville; 475 statewide.
145 "Verizon to Hire 100, Make Investment in Indiana" Inside Indiana Business, November 28, 2006; "Verizon Seeks to Fill 50 Positions" Verizon Press Release August 7, 2006. Other data from ITA.
147 Correspondence with ITA. The ITA survey does not reveal the identity of any of the individual members.
148 A recent newspaper report indicated activity by Time Warner Telecommunications, Zayo Bandwidth, Smithfield Digital and Cincinnati Bell. Small telecom job creation data, as noted in footnote 4, is confidential, so Smithfield may or may not be included in the above listed estimates. See “It’s all about Bandwidth” Indianapolis Star, January 21, 2008.
But more importantly, the numbers do not count new jobs in firms, either existing or newly created, that are facilitated by newly available or lower cost broadband services. As noted above broadband is a documented driver of local economic growth. A U.S. Commerce Department report indicates analysis of local employment data from 1998 to 2002 shows “that the availability of broadband added over one percent to the employment growth rate in the typical community”\textsuperscript{150} Although as the report pointed out, one percent may seem small, over time such acceleration of job growth is quite significant. Currently, Indiana employs just fewer than three million workers. If that number grows by two percent per year by 2017 employment in Indiana will approximate 3.65 million. If increased availability of broadband that results from HEA 1279 leads to only a modest increase in employment growth, (say from 2-2.2%), Indiana’s employment level will be 3.73 million in 2017, or an addition of 72,000 jobs above the baseline estimate.\textsuperscript{151}

Reform is also driving capital investments in Indiana. Telephone companies have reported investment of more than $516 million thus far in Indiana to bring high-speed broadband and video services to consumers during the past 18 months.\textsuperscript{152} This is approximately equal to the investment expected from the much heralded Honda plant in Greensburg, Indiana. As in the employment estimates, note that the $516 million estimate only includes investments by existing telecommunications companies and does not include new entrants or any investment stimulated by the increased availability of broadband and other services.

\textsuperscript{150} U.S. Department of Commerce, “Measuring Broadband’s Economic Impact,” p.22.
\textsuperscript{151} As of Dec 2007, state employment in non-farm occupations came to 2,986,400. Data from Ball State Bureau of Business Research, \url{http://www.bsu.edu/mcobwin/ibb/STATE/INDIANA/msa 1.htm}. Growth calculations provided by the author.
\textsuperscript{152} These estimates are from company press releases and include $250 million by AT&T, $136.0 million by Verizon, $112.6 million by small telecoms, and $18.0 million by Embarq.
2.3.3 New Service Area Deployment (DSL)

Attempting to measure the economic impact of DSL broadband is challenging. Broadband would seem not to act on the economy by itself, but in conjunction with other IT and associated organizational changes. Data is not available, however, to observe these behaviors at the local level across the entire nation.\footnote{U.S. Department of Commerce, “Measuring Broadband’s Economic Impact,” U.S. Department of Commerce, Economic Development Administration, Project #99-07-13829, February, 2006.} Consistent with that observation, hard evidence of the impact of Indiana’s HEA 1279 is at best difficult to document. What surfaces is that among the business community there has not been sufficient time since the passage of HEA 1279 for tangible effects to be measurable. The evidence, primarily anecdotal, does suggest, however that among residential consumers, a greater impact has been felt.

**DSL Subscriber Competition**

Just the promise of significant and expanding profits is bringing competition to Indiana. The effect has been that consumer and business service charges are steadily declining. Regional telecoms Zayo Bandwidth and Smithville Digital among others are moving into the state’s communities providing high-speed service to residential consumers and businesses, according to a recent article in the *Indianapolis Star*.\footnote{Smith, Erika D., “It’s all about the bandwidth,” *Indianapolis Star*, January 21, 2008.} “Competition is rising at a fever pitch here . . . . It’s amazing how many new entrants are coming into the market, especially in the Central Indiana area, but also all over the state.”\footnote{Smith, “All about the bandwidth.”} For example, new Verizon customers can purchase 768 Kbps DSL service for just $15.49 per month for the first year, which is 38 percent cheaper than 56
Kbps dial-up service was ten years ago.\textsuperscript{156} For 768 Kbps service AT&T is currently charging $14.99 in Indiana; $14.95 in much of the rest of the U.S.\textsuperscript{157}

DSL, (both ADSL and SDSL) is driving the high-speed service. Wireless solutions are not yet sufficiently well developed or in some situations sufficiently reliable to handle the current demand. A Federal Communications Commission report indicates the number of ADSL lines (with over 200 Kbps in at least one direction) has grown very rapidly. From June of 2000 when 951,583 ADSL lines were reported in use to December of 2006 (the most recent report) the number had grown to more than 22.4 million lines that were operational, a 2571 percent increase. Adding SDSL, cable lines, power lines, satellite and wireless the total number of communication-carrying lines in the U.S. was greater than 82.5 million as of June 2006\textsuperscript{158}

The FCC reports that the cable modem, however, remains the most popular delivery mode for residential high-speed customers as noted in the chart below.\textsuperscript{159}

\textbf{2.3.3 Table 1: Residential High-Speed Lines by Technology}

\begin{center}
\includegraphics[width=0.5\textwidth]{table1.png}
\end{center}

\textsuperscript{156} Verizon High Speed Internet, http://www22.verizon.com/content/consumerdsl (as of January 24, 2008).
\textsuperscript{157} AT&T.com (as of January 25, 2008).
\textsuperscript{159} Ibid.
The growth of high-speed lines to residences at the national level has been impressive. From 3,163,666 residential high-speed lines in June of 2000, the telephone industry had installed 50,262,193 lines as of June of 2006 based on FCC data. While more recent data has not been located, a projection would indicate that about 65.5 million lines were in place at the beginning of 2008, a growth of approximately 2000 percent in seven and a half years. Corresponding data for Indiana has not been found; however, as of December 2006 (the most recent data available) the state had 1,586,501 high-speed lines operational. However, there is significant concern regarding the quality of the FCC’s collection of data concerning broadband distribution, and even the definition of the term “broadband.” The FCC is currently considering changes to its data collection methodology.\(^{160}\)

Rich Higgins, Director of Governmental Affairs at Embarq, notes that the rate of installation of their high-speed lines in 2006 nearly doubled over the preceding year.\(^{161}\) Higgins said, “Increased availability of both business and consumer bundles have, for many signing up, actually (reduced total spending). Basic local service rates have not increased.”

While AT&T and Verizon comprise the largest share of subscribers in Indiana, there are other substantial players. Regional telecoms are joining forces here to leverage their resources in an effort to compete with the larger companies, according to Barbara Hansen, Time Warner Telecom vice president and general manager.\(^{162}\) For example, according to Hanson, Cincinnati Bell is seeking Indiana customers by purchasing eGIX, a Carmel provider of voice and data services.

\(^{160}\) See Broadband Data Collection NPRM, supra n. 14; C. Boles, “FCC’s Martin Proposes Changes to Broadband Data Collection,” Dow Jones Newswires (October 31, 2007).


\(^{162}\) Smith, “All about the bandwidth.”
According to the Phoenix Center, as of June 2006, Indiana had a broadband subscription rate of .51 subscribers per household, placing the state somewhat below the national norm of .535. New Jersey had the nation’s highest subscriber/household ratio of .87, while Mississippi was the lowest at .25.163

As noted elsewhere in this white paper, Indiana has become a broadband communications leader with the passage of HB 1279. Observing the table below, it is evident that, separating by

### 2.3.3 Table 2: Indiana High-Speed Lines by Technology164

<table>
<thead>
<tr>
<th>Date</th>
<th>ADSL</th>
<th>SDSL</th>
<th>Traditional Wireline</th>
<th>Cable Modem</th>
<th>Fiber</th>
<th>Fixed Wireless</th>
<th>Power Line and Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/31/2006</td>
<td>15,054</td>
<td>4,552</td>
<td>12,822</td>
<td>550,127</td>
<td>29,907</td>
<td>9,330</td>
<td>4</td>
<td>1,586,501</td>
</tr>
<tr>
<td>6/30/2005</td>
<td>304,810</td>
<td>4,226</td>
<td>10,197</td>
<td>397,481</td>
<td>11,881</td>
<td>4,244</td>
<td>4</td>
<td>745,511</td>
</tr>
<tr>
<td>12/31/2004</td>
<td>239,454</td>
<td>4</td>
<td>445,420</td>
<td>4</td>
<td>37,266</td>
<td>441,507</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6/30/2004</td>
<td>179,842</td>
<td>4</td>
<td>304,866</td>
<td>4</td>
<td>34,708</td>
<td>519,514</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/31/2003</td>
<td>129,341</td>
<td>4</td>
<td>257,023</td>
<td>4</td>
<td>32,767</td>
<td>419,131</td>
<td></td>
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<tr>
<td>6/30/2003</td>
<td>85,669</td>
<td>4</td>
<td>122,331</td>
<td>4</td>
<td>28,724</td>
<td>237,030</td>
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<tr>
<td>12/31/2002</td>
<td>63,463</td>
<td>4</td>
<td>114,237</td>
<td>4</td>
<td>28,248</td>
<td>205,946</td>
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<tr>
<td>6/30/2002</td>
<td>36,885</td>
<td>4</td>
<td>90,414</td>
<td>4</td>
<td>24,293</td>
<td>159,312</td>
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</tr>
<tr>
<td>12/31/2001</td>
<td>22,365</td>
<td>4</td>
<td>70,837</td>
<td>4</td>
<td>22,482</td>
<td>123,704</td>
<td></td>
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</tr>
<tr>
<td>6/30/2001</td>
<td>2,375</td>
<td>4</td>
<td>56,441</td>
<td>4</td>
<td>21,548</td>
<td>80,364</td>
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<tr>
<td>12/31/2000</td>
<td>6,442</td>
<td>4</td>
<td>37,052</td>
<td>4</td>
<td>17,080</td>
<td>60,414</td>
<td></td>
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</tr>
<tr>
<td>6/30/2000</td>
<td>4</td>
<td>4</td>
<td>33,431</td>
<td>4</td>
<td>10,509</td>
<td>40,509</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


years, growth has occurred in each year from 2000 through 2006. The most dramatic change has come in 2006, the latest data available, with the rapid growth of ADSL, SDSL and Fiber reaching the level of Cable Modem lines, the traditional high-speed technology leaders from 2000-2005. Indiana’s deployment of high-speed lines jumped about 72 percent overall in one year.

**The Indiana Scene**

Anecdotal evidence of local growth includes the city of Columbus which built its own system of conduit and went searching for a bidder to install fiber throughout the conduit and lease it from the city. Smithville Digital beat out other competitors and now holds the rights for the business sector of the Columbus market. Chris Price, chair of the Technology Advisory Committee in Columbus, said “What we see is that businesses are voting with their wallets, and they’re taking the lowest cost option, and right now that seems to be Smithville.”

Fishers, likewise, installed its own conduit. However Fishers added the fiber to connect municipal buildings including fire stations. Currently the town is, like Columbus, considering leasing the fiber and conduit to a telecom to recoup some of the construction costs and hopefully enhance economic development in Fishers. “We need it for ourselves, but it can really facilitate other businesses coming to town if they can connect to it” according to Thane Morgan, Fishers’ director of IT.

Additional confirmation from among business and industry includes an aluminum ingot plant that has located in Craigsville, Indiana. Craigsville attracted that plant in competition with an undisclosed Ohio location. Although Mike Rau, the Chamber of Commerce spokesperson, stated that the decision to locate in Craigsville was not a direct consequence of HEA 1279, but

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165 Smith, “All about the bandwidth.”
166 Smith, “All about the bandwidth.”
believed it was the generally more progressive stance of Indiana in telecommunications deregulation. However, since the plant has just recently opened, there has not been any measurable impact other than a boost in the town’s general morale.\textsuperscript{167}

Further, Accelplus, a division of Crawfordsville Electric Light & Power, the municipal electric utility owned by the City of Crawfordsville, delivers video and data services to the residents and businesses of the city and surrounding area via BPL. As the oldest municipal electric utility in Indiana, Crawfordsville Electric Light & Power goal is leveraging their host utility billing system to generate separate statements and manage the receivables for each subscriber’s IPTV and broadband services. What appears to be driving the competition for business is a growing demand for such high-bandwidth services as video-conferencing, VoIP and telecommuting.

Most recently, in early February of this year AT&T announced that 150 new jobs will be brought to Evansville in 2008. This brings AT&T’s total to 1,650 additional positions to Indiana since HEA 1279 passed. The 150 new employees will be part of an Advanced Network Services division that supports AT&T’s wireless business customers.

The cumulative impact of these investments is best represented in the FCC statistics for calendar year 2006 that show Indiana experienced the largest net increase in high-speed Internet lines ever. The national growth rate for high speed services from 2005 to 2006 was 61 percent. FCC figures show that in 2005 Indiana had 922,569 high-speed lines, while the 2006 data shows a jump to 1,586,501 high-speed lines, an increase of 72 percent.\textsuperscript{168} Projections now indicate that 2007 figures, when released by the FCC later this year, will likely show Indiana in excess of 2 million high speed lines, a 100 percent increase since HEA 1279.

\textsuperscript{167} Rau, Michael, Telephone conversation with spokesperson for Craigsville, Indiana, Chamber of Commerce, January 8, 2008.
\textsuperscript{168} See www.fcc.gov/web/stats.
For the future, industry policy leaders would be well advised to pay attention to factors other than technology and distance. The Phoenix Center for Advanced Legal and Economic Public Policy Studies recently found that 91 percent of the variation among adoption rates for broadband service was explained by demographic and economic conditions such as household income, education and most significantly, income inequality, more so than rural-versus-urban factors. “In fact, the effect of income inequality is of far larger magnitude than income itself or the presence of rural and farm households in a state. Combined, these findings indicate that programs that focus upon low-income communities with school age children may provide the largest ‘bang for the buck’ in terms of increasing broadband penetration,” the report concludes.\(^{169}\) They cited programs, particularly ConnectKentucky’s “No Child Left Offline” initiative, that has raised broadband adoption rates considerably as they leverage demand-side factors such as having a child in school to produce increased penetration compared with supply-side factors including subsidies for networks or regulation of providers.\(^{170}\)

### 2.3.4 Wireless Broadband Data in Indiana

The post-HEA 1279 investment in broadband wireless technology in Indiana is significant, and suggests inroads are being made to provide broadband service to new areas of the state. Wireless broadband communication includes terrestrial fixed wireless (Wi-Fi and WiMAX), satellite, plus next-generation, mobile high-speed cellular data communication with smart phones, lap top computers and PDA devices.

\(^{169}\) S.E. Gillett, W.H. Lehr & M. Sirbu, “Measuring Broadband’s Economic Impact.”

\(^{170}\) Ibid.
**Third Generation (3G)/Enhanced Cellular**

Indiana’s largest wireless providers, AT&T and Verizon, have invested heavily in the upgrade and expansion of their cellular networks to accommodate broadband data.\(^{171}\) AT&T has invested over $21 million in central and northern Indiana in 2007 on new cell sites and enhancements as it continues the migration to third generation (3G) services allowing laptop users access to the Internet, email, download large files and run business applications in these enhanced service areas. This will bring AT&T’s three-year investment in enhanced wireless service in central and northern Indiana to nearly $77 million.\(^{172}\)

Verizon Wireless invested more than $136 million in 2007 to enhance its digital network in Indiana. Thirty-eight (38) new cell sites were activated statewide to improve network coverage and capacity, enabling more customers to use their phones concurrently to make calls; send and receive email and text, picture and video messages; download music, games and ringtones; and view high-quality videos while enjoying clearer reception and fewer dropped calls. Verizon Wireless expanded its high-speed wireless broadband network to 154 cell sites across Indiana. Equipment on 193 existing cell sites throughout the state was upgraded, which further improved network capacity.\(^{173}\)

**Worldwide Interoperability for Microwave Access (WiMAX)**

The promise of WiMAX has been around since 2001,\(^{174}\) but for Indiana, the deployment of high-speed wireless is now a reality. Since January 2007, researchers at Ball State University were among the first in the United States to test the potential of the IEEE 802.16 standard, also

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\(^{171}\) The FCC considers data traffic of 200 Kbps or higher in one direction to be broadband.


\(^{174}\) The IEEE 802.16 standard was originally adopted in December 2001.
known as WiMAX, and have been assisting firms in the deployment of broadband services to rural and underserved areas in the United States, starting first with Indiana.

Early experiments in the deployment of WiMAX and fixed-wireless technology have demonstrated the potential of various technology solutions, using both licensed and unlicensed spectrum, to deliver high-speed, broadband Internet service to rural customers not normally reached by other access services.

For example, AT&T began testing the potential of fixed-wireless technology in 2005 in Aniak and Northway, Alaska. Aniak is a village of around 500 residents located 400 miles west of Anchorage, while Northway is a village of 250 residents situated 500 miles north of Anchorage. These deployments included a total of 215 sites and successfully demonstrated that next-generation wireless technology can assist consumers in remote areas become connected to the global economy.

The success of the early wireless experiments in Alaska suggested that this new technology also had great potential to reach households in remote, rural and underserved areas of Indiana. The promise that WiMAX would facilitate communication with rural Indiana customers at faster speeds and over longer distances then conventional IEEE 802.11 (Wi-Fi) wireless networks was worth investigation.

The differences between broadband wireless technologies are significant. Standard Wi-Fi connections have a theoretical limit of 54 megabits per second under ideal conditions, with a range of 100 feet. The WiMAX standard, on the other hand, suggests up to a 30-mile maximum radius from base station tower with a speed of up to 70 megabits per second.

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176 Students in Aniak are now able to take advanced online university classes without leaving their villages.
In early 2007, researchers from Ball State University’s Office of Wireless Research and Mapping (OWRM), in concert with graduate students and faculty from the Center for Information and Communication Sciences (CICS), began testing WiMAX connectivity, throughput, capacity, signal strength and penetration from inside area homes, while accounting for variables such as weather, trees, elevation and distance. In areas adjacent to the Muncie campus, field tests were conducted using self-installed customer premise equipment (CPE), outdoor CPE, as well as signal strength measurements at various distances from the base station tower atop BSU’s LaFollette dorm complex.\(^{177}\)

Test results show that the WiMAX equipment performed much better at obtaining a consistent and usable high-speed signal from obstructed and non line-of-sight (NLS) locations than traditional point-to-multipoint technology. Further, the test measurement data was used by AfterImage GIS\(^ {178}\), a Muncie firm that specializes in modeling of radio frequency (RF) signals, with the results useful in predicting the coverage footprint and indoor and outdoor customer premise equipment (CPE) penetration of WiMAX signals within other urban or rural communities.\(^ {179}\) The impact and application of this research for rural and underserved Indiana residents was quickly apparent.

In September 2007, using results from the Ball State study and an available frequency in the 2.5 GHz Educational Broadband Service (EBS) spectrum,\(^ {180}\) DigitalBridge Communications

\(^{177}\) WiMAX equipment was supplied by Alvarion Corporation, with on-site technical support provided by DigitalBridge Communications. The full research report is available at www.bsu.edu/owrm.

\(^{178}\) See http://www.afterimagegis.com/.


\(^{180}\) EBS is formerly known as the Instructional Television Fixed Services (ITFS) with licenses assigned to educational entities that also hold licenses for PBS television stations. DigitalBridge leases the EBS frequency from Ball State University.
(DBC), based in Ashburn, Virginia, launched the first high-speed WiMAX service in the state, and the third in America, from the top of a water tower in Washington, Indiana.¹⁸¹

Kelley Dunne, CEO of DBC, believed Indiana was an ideal place to launch high-speed, next-generation wireless service. He said the decision to deploy in Indiana was based on a number of factors, including a regulatory climate that encourages deployment of high-capacity (hi-cap) circuits and fiber optics lines statewide, and the availability of and access to licensed spectrum at 2.5 GHz.

Further, Dunne believes the economic conditions and business case for further expansion in Indiana are clear. According to Dunne, by end of the second quarter of 2008 (2Q08), his firm will have launched high-speed WiMAX services in Vincennes, Connersville, Liberty and Richmond, covering roughly 35,000 Indiana households and businesses.¹⁸²

**Satellite Broadband**

There are a number of places in Indiana where it is impossible to gain access to high-speed, broadband Internet because there is no network or infrastructure capable of providing service to those areas. Choices are limited to dial-up service at 56 Kbps, or the little-recognized option of satellite broadband.

In a manner similar to providing links for satellite video service, satellite broadband is simply another form of wireless communication capable of delivering download speeds from 500 Kbps up to 1.5 Mbps or greater, and upload speeds from 80 Kbps up to 256 Kbps. While slower than some DSL or cable modem services, where those options are not available satellite


broadband is a current option for Indiana’s rural and underserved homes and small businesses at speeds up to 30 times faster than dial-up.

The primary requirement for broadband satellite is an unobstructed view from the satellite to the receiver dish location. In general, this means a clear view to the equator from the home or business receiver site. Using very small aperture terminal (VSAT) technology, a small dish about 26 inches in diameter is used for two-way communication. Vendors provide service between the residence or business and gateways throughout the United States that connect the subscriber directly to the Internet.

There are a number of broadband satellite vendors offering a wide range of service packages and prices, including HughesNet183 and WildBlue.184 The provision of satellite broadband can be an expensive alternative to traditional DSL or cable modem, running about one-half or more per month over equivalent service. In general, the one-time, upfront costs are up to $500 for equipment purchase and installation; however AT&T is the example of one provider that has partnered with Wild Blue to bring upfront costs closer to $200. Monthly service fees range from approximately $60 up to $80 depending on the speed of service desired. Depending on the length of contract, promotions, incentives and referral programs are often available to reduce the upfront costs to $300 or less.

2.3.5 The Economics of Statewide Franchising in Cable Services

Indiana’s adoption of a statewide franchising law in 2006 was one of the nation’s first. As outlined in other parts of this report other states have followed Indiana’s lead and adopted statewide franchising rules. The issue addressed in this section is what is the likely lag between

approval of statewide franchising and availability of newly offered home services for television? Indeed, the IURC opined in its June 30, 2007, report: “while HEA 1279 has attempted to provide the means for increased competition, new competitors have been somewhat slow to emerge in Indiana.”\textsuperscript{185} The report did expect to see new video franchising in the future and mentions AT&T’s U-verse service and Verizon’s FiOS TV as viable competitors.

Before we analyze the entry of new competitors in the cable market in Indiana it is useful to outline some background about the two services mentioned in the IURC report. Both services (U-verse and FiOS) are provided by national companies that were originally in the land-line telephone business. Their entry into the market is based on a national company strategy. It should also be noted that “wiring up” new markets, even through existing land-based lines is not technically trivial or easy. Anecdotal reports indicate that connecting U-verse service takes less than a day for most households.

Moreover, it is not likely that a new service provider will reveal much detail about where they are planning to offer services or even where current services are being offered. This makes sense if a new provider wanted to be insulated from potential counter-offers of competitor or incumbent providers. Again, anecdotal reports indicate that offerings of new video services often vary neighborhood by neighborhood, even block-by-block. This may be driven by technical and/or market strategy reasons which would understandably be closely held by the firm.

Despite the frustration that regulators (and researchers) may experience from this lack of data, we can utilize and construct public source data that gives insight into the impact that statewide franchising has on the availability of alternative cable services. First, some summary statistics: As of June 11, 2007, it was reported that FiOS had signed up 348,000 customers

nationwide, while U-verse had signed up 30,000 customers.\textsuperscript{186} AT&T had signed up its 100,000\textsuperscript{th} customer in “early September” 2007.\textsuperscript{187} These numbers continue to expand as time goes on. It is estimated that as of January 2008 the FiOS nationwide customer base was 1,000,000\textsuperscript{188} and the U-verse nationwide customer base was 231,000 by the end of the fourth quarter in 2007.\textsuperscript{189}

How much of this expansion is attributable to statewide franchising? Before that question can be answered it is important to reflect on the economic decision of a large telecom to enter the cable market in a particular region or state. Profit maximizing firms seek markets that offer revenues in excess of costs. Revenues from any given market are a function of the price the provider can obtain for the service, times the number of new customers who utilize the service. Clearly, the number of customers and the population density of the customers in the market are factors in the entry decision.

Profit maximizing firms will also seek markets that impose fewer costs on the firms. Statewide franchising to service providers is attractive precisely because it reduces the costs of entry. However, one would be naïve to suggest that these are the only costs relevant in the decision to enter a market. Having an existing network (e.g. land lines) reduces the costs of access to a new customer base. Higher population and higher population density also reduces these entry costs.

As more states adopt statewide franchising, estimating the partial impact of statewide franchising in influencing the firm’s decision to enter a market becomes problematic. If all 50 states had statewide franchising laws and all had new service providers it would be empirically

\textsuperscript{189} U-Verse “4th Quarter 2007 Summary” at http://www.uverseusers.com/content/view/171/1/.
impossible to discern any impact franchise reform had on a new entry. In order to test for the efficacy of statewide franchising on the provision of new cable services a data set must be constructed for a point in time that indicates: 1) whether each state has statewide franchising; with sufficient variation between states that do and states that don’t to allow for statistical testing, and: 2) whether a new provider has entered the market in each state, again with enough variation to allow for statistical testing.

Regression Analysis of Cable Availability by State

Fortunately, we were able to find data that allows us to examine this issue. The data was compiled in June 2007 by journalist Raymond McConville (see footnote 2 for reference) and are reported in Table 1 and Table 2 below. Table 1 reports for the 22 states in which AT&T has a wireline footprint: the states having statewide video franchising and the states where AT&T’s U-verse services were available at that point in time. Table 2 reports similar data for states with a Verizon wireline footprint. Casual inspection reveals that statewide franchising seems to be predicting service availability, although there are exceptions in densely populated states.

Is this casual observation corroborated by a more statistically rigorous analysis? Using a binary regression analysis we can provide a preliminary answer. The data offer 50 observations at a particular point in time. The dependent variable to be explained is whether video services are offered or not. If it is SERVICEAVAILABLE it is noted as “1”, if it is NOTSERVICE AVAILABLE it is noted as “0”.
2.3.5 Table 1: AT&T's Video Franchising as of June 11, 2007

<table>
<thead>
<tr>
<th>States in AT&amp;T's Residential Wireline Footprint</th>
<th>Has Statewide Video Franchises Available</th>
<th>Has AT&amp;T's U-verse Service Available</th>
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<tr>
<td>Alabama</td>
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<td>Wisconsin</td>
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<td>X</td>
</tr>
</tbody>
</table>

*Sources:* Raymond, McConville, “Statewide Franchising Push Grows” *Light Reading*  
### 2.3.5 Table 2: Verizon's Video Franchising as of June 11, 2007

<table>
<thead>
<tr>
<th>States With Verizon Wireline Presence</th>
<th>Has Statewide Video Franchises Available</th>
<th>Has Verizon's FiOS Service Available</th>
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<tbody>
<tr>
<td>Arizona</td>
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<td>California</td>
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<td>District of Columbia</td>
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<tr>
<td>Wisconsin</td>
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</tbody>
</table>

**Sources:** Raymond, McConville, “Statewide Franchising Push Grows” *Light Reading*
The independent variables that explain whether service is available are postulated to be the presence of a statewide franchise law. If such a law is in place STATEWIDEFRANCHISE takes the value of 1, if not its value is 0. In addition, population and geography are likely to matter: the more urban the state the more likely it is that services will be offered. Each state’s PERCENTAGEURBAN is included in the estimating equation. A number of statistical tests were run on the data, including a probit, logit and ordinary least squares (OLS) analysis. All three methods yielded essentially the same results. Table 3 reports the ordinary least squares analysis.

The estimating equation is explaining enough of the variation to be significant in a statistical sense. Not surprisingly, percentage urban strongly associated with having access to new services. There is less than a one in 120 chance that the statistical association between service provision and percentage population urban would occur by random chance. The coefficient indicates that a one percent increase in the urban population of the state generates a one percent increased chance that the state has access to new services.

Interestingly, the presence of video franchising laws also influences the availability of services although not in a way as statistically significant as percentage urban. There is, however, only a one in 17 chance that the statistical association between service provision and statewide franchise would occur by random chance. The data also suggest that the presence of a statewide franchise increases the probability that a state has service provision by 24 percent.

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190 Percentage population urban from U.S. Census Bureau
2.3.5 Table 3: OLS results

Dependent Variable: SERVICEAVAILABLE
Method: Least Squares
Date: 12/11/07   Time: 17:03
Sample: 1-50
Included observations: 50

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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R-squared 0.207444     Mean dependent var 0.360000
Adjusted R-squared 0.173718     S.D. dependent var 0.484873
S.E. of regression 0.440750     Akaike info criterion 1.257446
Sum squared resid 9.130243     Schwarz criterion 1.372168
Log likelihood -28.43616     F-statistic 6.150907
Durbin-Watson stat 2.335828     Prob(F-statistic) 0.004238

The analysis was replicated as of January 2, 2008. The updated data is listed in Tables 4 and 5 below; note, dark x indicates a change in state status.191 Interestingly, the updated regression as reported in Table 6 indicates that while percentage state population urban is still statistically significant, the statewide franchise variable no longer exhibits statistical significance. One is led to conclude that the statewide franchising laws do lead to early access to new services, but have decreased importance as markets expand and more states adopt similar legislation.

191 Data from www.dslreports.com were used in the following fashion: states that that showed a cluster of U-verse or FiOS on the map as of January 2, 2008 were added as having service from the provider. A cluster implies more than one report of service. States with single isolated reports of service were not included.
### 2.3.5 Table 4: AT&T's Video Franchising/ as of January 2, 2008

<table>
<thead>
<tr>
<th>States in AT&amp;T's Residential Wireline Footprint</th>
<th>Has Statewide Video Franchises Available</th>
<th>Has AT&amp;T's U-verse Service Available in cluster</th>
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<tr>
<td>Alabama</td>
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</table>

Raymond, McConville, “Statewide Franchising Push Grows” Light Reading
### 2.3.5 Table 5: Verizon's Video Franchising as of January 2, 2008

<table>
<thead>
<tr>
<th>States With Verizon Wireline Presence</th>
<th>Has Statewide Video Franchises Available</th>
<th>Has Verizon's FiOS Service Available in cluster</th>
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<tbody>
<tr>
<td>Arizona</td>
<td>x</td>
<td></td>
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<tr>
<td>California</td>
<td>X</td>
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<td>Connecticut</td>
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<td>Delaware</td>
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<td>District of Columbia</td>
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<td>Illinois</td>
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<td>Michigan</td>
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<tr>
<td>Maine</td>
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<td>Massachusetts</td>
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<td>x</td>
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<tr>
<td>Nevada</td>
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<td>New Hampshire</td>
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<td>x</td>
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<td>New York</td>
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<td>x</td>
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<tr>
<td>North Carolina</td>
<td>X</td>
<td></td>
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<tr>
<td>Ohio</td>
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<td>x</td>
</tr>
<tr>
<td>Pennsylvania</td>
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<tr>
<td>Rhode Island</td>
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<tr>
<td>South Carolina</td>
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<tr>
<td>Texas</td>
<td>X</td>
<td>x</td>
</tr>
<tr>
<td>Vermont</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>X</td>
<td>x</td>
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<td>Washington</td>
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<td>x</td>
</tr>
<tr>
<td>West Virginia</td>
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<td></td>
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<tr>
<td>Wisconsin</td>
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</table>

**2.3.5 Table 6: OLS results**

<table>
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<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-0.296857</td>
<td>0.346861</td>
<td>-0.855840</td>
<td>0.3964</td>
</tr>
<tr>
<td>PERCENTAGEURBAN</td>
<td>0.010480</td>
<td>0.004792</td>
<td>2.187200</td>
<td>0.0337</td>
</tr>
<tr>
<td>STATEWIDEFRANCHISE2</td>
<td>-0.036070</td>
<td>0.149426</td>
<td>-0.241388</td>
<td>0.8103</td>
</tr>
</tbody>
</table>

R-squared                  | 0.095778    | Mean dependent var | 0.460000   |
Adjusted R-squared         | 0.057301    | S.D. dependent var  | 0.503457   |
S.E. of regression         | 0.488820    | Akaike info criterion | 1.464482  |
Sum squared resid          | 11.23044    | Schwarz criterion   | 1.579203   |
Log likelihood             | -33.61204   | F-statistic         | 2.489194   |
Durbin-Watson stat         | 2.238997    | Prob(F-statistic)   | 0.093856   |

**Length of Access to U-verse**

A second set of statistics that shed insight on statewide franchise and offering of cable services is from the Web site DSLreports.com. Self-described as “DSLreports.com is the largest online community based on interest in consumer broadband (and related) information, news and tools,” the Web site relies on information provided by consumers of broadband products. The site obviously appeals to and draws from those consumers most motivated and interested in digital technology and use. These consumers are clearly NOT a random sample of all consumers of these services, but do likely reflect the preferences of the “first adopters” or in more casual language the digital “geeks.”

One of the tools available for public inspection is the national maps that reflect the location of U-verse and FiOS services. A number of data points are offered from these maps.
First, one can observe the frequency of either service in any state. This information is provided by Web site users who “pin” their residential location on the map. Although given the small size of the sample the numbers cannot be seen as an accurate reflection of the penetration of the service in the state, another metric is of interest: the date of the posting.

If a service has been available for a longer period of time in any given state, one would expect that the average length between adoption of service and the current date to be larger than in a state where service had not been available until recently. Table 7 below lists the number of claims of U-verse service available in Indiana, Michigan and Wisconsin recorded on December 18, 2007; and the average length of time the user has had the service, plus the standard deviation of the service time and the co-efficient of variation of the service time.\footnote{Verizon excluded from the sample because its high-speed data service existed prior to the study period.}

Indiana’s average length of time for a customer having U-verse service is higher than in either Michigan or Wisconsin. Although there may be other explanations for this difference, it is readily attributable to Indiana’s early adoption of statewide franchise compared to Michigan and Wisconsin. This indirect evidence suggests that Indiana has been getting “wired-up” for competing video services quicker than other Midwestern states.

### 2.3.5 Table 7: U-verse Service Duration

<table>
<thead>
<tr>
<th>Metric</th>
<th>Indiana</th>
<th>Wisconsin</th>
<th>Michigan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sites w/ U-verse</td>
<td>9</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Average Time Since reported</td>
<td>147.6</td>
<td>102.2</td>
<td>80.1</td>
</tr>
<tr>
<td>Coefficient of Variation</td>
<td>.625</td>
<td>.887</td>
<td>.730</td>
</tr>
</tbody>
</table>

\footnote{http://www.dslreports.com/gmaps/verse}
Section Summary and Conclusions: Early State Reform Seems to Pay Off

Does being the first “out of the box” with statewide franchise reform lead to early access to new services? The evidence tentatively appears to corroborate this conjecture. Indiana is not a large or particularly densely populated state. It is not the type of state where vigorous competition is expected to be forthcoming from its geographic-demographic characteristics. However, the evidence in this and other sections of our report clearly shows a lively market in the provision of a variety of digital services in Indiana.

It will be interesting to follow actual availability and adoption of FiOS and U-verse state-by-state over the next 18 months. Will households find more alternatives to local cable sooner and in more abundance in states that were early adopters of statewide franchising? Ball State’s Digital Policy Institute and its Bureau of Business Research will continue to collect data and follow developments in this interesting market.
3.0 Summary and Conclusions

By all relevant measures, the passage of HEA 1279 has resulted in benefits clearly predicted by the Digital Policy Institute in its 2006 report titled “The Economic Impact of Telecom Reform in Indiana.” But, even beyond these expected results, the legislation has created other beneficial externalities that even further bolster the view that the legislation was needed and justified. We can conclude that Indiana adopted the ideal approach to fostering competition and bringing service and economic advances to its citizens and its businesses, and dramatically advancing the economic environment in the state for business investment and job creation. Indiana learned from the legislative failures and shortfalls in other jurisdictions and was able to craft a legislative direction that truly has become the model for other states to adopt and emulate. The state did not wait for a federal solution; instead, it took forceful action now reaping significant benefits for Hoosiers.

The drafters of HEA 1279 carefully observed regulatory, legislative and judicial trends in developing a structure that minimizes regulatory delay and the often substantial costs of compliance with superfluous laws and regulations, and assures full consumer protection. The growth in vibrant competition in Indiana is readily apparent. A wide range of communications policy experts have lauded the Indiana experience and have developed data underscoring the benefits of “Indiana-like” deregulation. Many states have followed Indiana’s lead in creating a legislative and regulatory environment that spurs competition and assigns great value to consumer choice. One salient example is that of Connecticut, which adopted a statewide video franchising law to end what was ongoing, protracted litigation that simply was impeding firms’ entry into video competition.
In fact, as discussed in this report, the recent behavior of past HEA 1279 opponents – namely, incumbent cable television operators – paints a picture that is quite compelling and that further substantiates the notion that Indiana’s telecom reform legislation was the right step. For one, virtually all these cable operators now also have filed for statewide franchises in order to terminate, upon grant of their statewide franchises, their existing franchises with local communities. Moreover, and to underscore the fact that telephone entry into video is having a significant competitive effect on incumbent cable operators, we only need to look at the frequency, tone and content of the flood of cable-promotional announcements now being distributed by these operators over popular cable channels during those times when local promotional or advertising announcements are permitted.

Selling local and regional advertising for insertion in cable channel programming is a significant element of a cable system’s income generation activities. However, cable systems all over the state are foregoing this non-subscriber revenue and – instead – are airing “attack ads” about phone companies entering the cable business. These announcements clearly serve as a testimonial to the enhanced level of competition in video in Indiana. Correspondingly, this competition has resulted in reduced rates by cable television system operators facing new competition from telephone companies entering the multichannel video business. Such a new phenomenon is in stark contrast to the steady increase – well higher than the growth in Consumer Price Index – of cable subscriber fees.

The key element of the legislation – establishing a statewide video franchise system – had become the catalyst for rapid deployment of not only video service but of broadband service in general, across copper, fiber and wireless. Providers are finding easier entry into the video arena using their new infrastructure to provide the entire panoply of electronic communications
offerings in their service areas. It is to be hoped that expedited entry, created by reduced regulatory and legislative barriers, can help advance this nation’s lackluster broadband penetration status.

This new business activity in the Hoosier State is resulting in thousands of new jobs in the telecommunications industries themselves. And as the availability of broadband becomes more prevalent across the state, it fully is expected that huge job growth will be created by companies and entrepreneurial individuals with good business sense and clear understanding of the benefits of broadband and advanced communications capacity when deciding the jurisdiction to locate and/or expand a business.

In order for Indiana to continue and enhance its lead in telecommunications policy development, it is important for the legislature and the IURC to continue to take a deregulatory approach where entry is not impeded by regulations and other burdens that simply delay or withhold benefits for the public. By allowing the market to work in the ever evolving field of electronic communications, Indiana best can advance the interests of consumers, enhance the employment levels in the state and provide a welcome economic and entrepreneurial environment for all those living in, conducting business in or doing business with those in the state. The steps taken by HEA 1279 have provided Indiana and the rest of the country with a generally “hands off” framework for wireless, broadband and Internet protocol video services, while providing a mechanism to ensure that consumer interests are protected in terms of access to service at a reasonable cost especially for low income users.

In conclusion, this is the beginning of the parade, not the end. Observed gains in infrastructure investment, employment, and competition for digital broadband services will continue in a deregulated environment that encourages not only growth for existing technologies
but welcomes deployment of new, broadband wireless solutions as well. The purpose of this report was to document Indiana’s early progress under a deregulated landscape. As Congress considers new national policy down the road, Indiana must continue to be diligent in protecting these statewide gains against future, poorly-crafted national policy. For now, the digital welcome mat is out in Indiana.
APPENDICES

A.1 Report Acknowledgements

A.2 Indiana Wireless Internet Service Providers by County

A.3 About the Ball State University Digital Policy Institute
Appendix 1

Acknowledgements

The purpose of this project was to provide an independent third-party assessment--by Ball State University’s Digital Policy Institute--of the progress of Indiana telecommunications reform and develop an interim report for the state’s policy makers. Because the Institute developed substantial research to assess this progress, the report serves a broader community of policy observers and participants regionally and nationally.

Ball State’s Digital Policy Institute appreciates and acknowledges the following organizations and individuals, for their assistance in the project:

AT&T Corporation for its partial support of the project overall. Many organizations and individuals provided information, background and professional perspectives they kindly and cooperatively made available for the research including AT&T, Embarq, Indiana Telecommunications Association, Indiana Utility Regulatory Commission (IURC), Verizon and others.

Digital Policy Institute team of researchers and research staff: Cecil E. Bohanon, Dom Caristi, Fritz Dolak, Jay Gillette, Michael Hanley, Michael J. Hicks, Alan Richardson, Barry D. Umansky, Robert E. Yadon, Ryan Wolfgang.

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NOTICE

The opinions expressed in this paper are those of the individual authors and the Digital Policy Institute (DPI) alone and do not necessarily represent the views of Ball State University. The Digital Policy Institute may be contacted at policy@bsu.edu.
## Appendix 2: Table 1 - Indiana Wireless Service Providers by County

<table>
<thead>
<tr>
<th>Counties</th>
<th>Wireless Service Providers</th>
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</thead>
<tbody>
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<td><a href="https://www.indiana.gov">Indiana Data Center</a></td>
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<td>Allen</td>
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<td>Benton</td>
<td><a href="https://www.northcentralcommunications.net">North Central Communications</a></td>
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*No current wireless providers listed. Source: OUEC Broadband Service Provider Search. [http://www.in.gov/opec/techsearch/default.aspx](http://www.in.gov/opec/techsearch/default.aspx)

**Advanced Computer and Communication Systems, Inc.**
Appendix 3

About the Digital Policy Institute
Ball State University
www.bsu.edu/digitalpolicy

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- Michael J. Hicks, Director, Bureau of Business Research
- Stephan Jones, Professor of Information and Communication Sciences, Director of Center for Information and Communication Sciences
- Alan Richardson, Professor of Telecommunications
- Barry D. Umansky, Edmund F. and Virginia B. Ball Professor of Telecommunications
- Robert E. Yadon, Professor of Information and Communication Sciences, Director of Applied Research Institute, Center for Information and Communication Sciences

Digital Policy Institute Research Associate
- Ryan Wolfgang, Graduate Assistant, Center for Information and Communications Sciences
**Digital Policy Institute Mission**

The mission of the Digital Policy Institute (DPI) is to foster a mutually beneficial relationship among faculty of various disciplines across the Ball State University (BSU) campus by:

1. Promoting the active participation and involvement of BSU faculty in public policy research related to the information age;
2. Serving as a vehicle to support faculty research in the areas of law, regulation, economics and technology as they relate to public policy issues of local, state and national interest;
3. Establishing a collegial environment that will foster critical thinking across disciplines on national public policy issues; and
4. Promoting student involvement and immersion in timely public policy research questions at the graduate and undergraduate levels across various disciplines. In fulfilling this mission, the Institute will insure that all of its efforts and activities are consistent with the university's mission, values, strategic objectives, policies, and procedures.

**Digital Policy Institute Purpose**

The Digital Policy Institute serves the 21st century as an interdisciplinary association of faculty who have a collective research interest in digital media.

These digital interests include the structure of, and competition within, electronic communications industries and further includes the public policy issues of digital creation, storage, transmission, reception, consumption, and legal intellectual property protection of digital information including:

- Written
- Voice
- Data
- Still images
- Video
- Computer graphics

The DPI is a vehicle for faculty research that coalesces around the arenas of law, regulation, economics, intellectual property, and technology as these relate to public policy issues of local, state and national interests.

The DPI is a neutral entity on digital media issues allowing it to provide unbiased and balanced presentations from multiple sides of any given issue. The DPI’s neutrality allows society and its governing bodies to make educated decisions on relevant, digital issues.