Fields of Opportunities

STATE OF IOWA

THOMAS J. VILSACK
GOVERNOR
SALLY J. PEDERSON
LT. GOVERNOR

IOWA UTILITIES BOARD
IOWA DEPARTMENT OF COMMERCE

Memo to: Members of the General Assembly

From: The Iowa Utilities Board

Date: January 20, 2005

Subject: **Report on the Current Status of Local Telecommunications in Iowa**

Iowa Code chapter 476.29(15) directs the Iowa Utilities Board (IUB) to:

> "Provide a written report to the general assembly no later than January 20, 2005, describing the current status of local telephone service in this state. The report shall include at a minimum the number of certificates of convenience issued, the number of current providers of local telephone service, and any other information deemed appropriate by the board."

In accordance with that directive we are providing to you this report on "The Current Status of Local Telecommunications in Iowa." Included in the report is the specific information required by the statute plus additional information that we thought would be helpful in your understanding of this subject. The Board, therefore, submits the following information for your consideration:

(1) Empirical data
   a. Certificates of convenience - 266
   b. Current providers of local telephone service – A certificate of convenience does not necessarily mean the provider is currently providing service. It does mean that the company has filed a tariff and is ready to provide service. There are companies who have been granted certificates but are not providing service.

(2) "Key Telecommunications Issues." This report was prepared for the Iowa congressional delegation in June 2004. It was updated for the Governor in October 2004 and further updated for the General Assembly in January 2005.

(3) "Telecommunications Competition Survey for Retail Local Voice Services in Iowa." This report was prepared by the IUB in January 2004.

(4) Iowa Utilities Board Order in Docket No. INU-04-1, Deregulation of Local Exchange Services in Competitive Markets.

(5) Iowa Utilities Board 2004 Assessment of High-Speed Internet Access in Iowa.

Should you have questions or require further information, please contact our legislative liaison, Joan Conrad at 515.281.4874(o) or 515.229.4771(c).

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Iowa Utilities Board

Key Telecommunications Issues
Originally Issued June 2004
Updated October 2004 and January 2005

IUB Telecommunications Competition Survey

In January 2004 the **Iowa Utilities Board (IUB)** released its survey report on the extent of competition in local exchange services in Iowa as of July 1, 2003. A copy of the survey is attached. Below are several conclusions from this report.

- Most local exchange telephone customers in Iowa do not have a significant choice of providers (see chart below).
- Overall, the 161 incumbent local exchange carriers continue to maintain a significant portion of market share by generally not competing with one another; i.e., they serve their own separate service territories.
- Effective competition for local phone service (the choice of multiple comparable service providers) is emerging in a few areas of the state for some customer classes in certain exchanges.
- The growth of local exchange competition in Iowa will be affected by a variety of factors, including economic conditions, pending **Federal Communications Commission (FCC)** actions, federal court actions, and state and national elections.
- New technology may provide the necessary catalyst to spur future growth and competition.

2004 Competition Survey Findings			
Carrier	**# of Communities/ Exchanges Served**	**Average Residential Market Share**	**Average Business Market Share**
Qwest	200 communities 126 exchanges	90%	70%
Iowa Telecom	378 communities 296 exchanges	93%	81%
Frontier	49 communities 37 exchanges	100%	99%
Independents	419 communities	99%	99%
Municipals	17 communities	5 – 70%	5 – 70%
Competitive companies	Sporadically throughout 410 communities	8%	24%

IUB Deregulation Proceeding

As a result of its 2004 Competition Survey, the IUB initiated a deregulation proceeding on its own motion. On November 23, 2004, the **Board issued an order deregulating the rates for local telephone service in 20 Iowa exchanges** where it found effective competition. The price of local telephone service in these exchanges will be set by the market, rather than by regulation. However, the Board will continue to regulate service quality in these exchanges and monitor the markets.

The Board found effective competition for local telephone services in the Armstrong, Coon Rapids, Delmar, Forest City, Harlan, Laurens, Lowden, Mapleton, Oxford, Oxford Junction, Primghar, Saint Ansgar, Solon, Spencer, Stacyville, Stanwood, Storm Lake, Tiffin, and Whiting exchanges. These are communities where at least one competitor provides service through its own wireline facilities and that competitor has captured a market share of more than 50 percent of both business and residential customers. The Board also found effective competition exists in the Council Bluffs market where multiple competitors are providing service, some using their own facilities. In each of these exchanges, customers now have a choice of providers for local telephone service, making traditional rate regulation unnecessary.

The Board will monitor the rates for local telephone service in these markets to ensure that the market remains competitive. Under Iowa law, the Board has authority to re-regulate rates if any of the competitors use anticompetitive practices to gain unfair market power or if the competitive situation changes. A copy of the order is attached.

The Board intends to follow this proceeding with a second phase in which it will consider other areas of competition provided by CLECs. This second phase may involve, among other things, the impact of emerging technologies and provider of last resort responsibilities. The Board may also consider 8 to 12 additional exchanges for deregulation that were brought up during Phase I. Finally, an inquiry into wireless substitution is being considered.

IUB Assessment of High-Speed Internet Access in Iowa

In July 2004 the IUB completed its fourth statewide community-by-community assessment of Internet access in Iowa, an on-going effort to quantify the availability of high-speed Internet deployment. Telecommunications companies, cable providers, wireless providers, and satellite companies were included in the assessment. **The survey concludes that the deployment rate of high-speed technologies continues to increase, although at a slower rate.** One of the reasons for this may be that the remaining communities are harder or less profitable to reach. The figures below indicate the percentage of communities with access services over 200 kilobits per second (FCC standard). A copy of the assessment is attached.

Deployment of High Speed Internet Access	2001	2002	2003	2004
Rural communities <2,500 inhabitants	**27.8%** 246 of 879 communities	**47.0%** 431 of 917 communities	**67.8%** 634 of 935 communities	**72.6%** 679 of 935 communities
Non-rural communities	**41.7%** 111 of 266 communities	**60.9%** 167 of 274 communities	**67.5%** 185 of 274 communities	**72.9%** 199 of 273 communities

NOTE: These deployment rates mean high-speed access is available at some place(s) in a community; it does not mean all customers in the community can access high-speed services.

Universal Service Reform

Issue: The federal **Universal Service Fund (USF)** was established to ensure that affordable telephone service is available throughout the United States. **It provides financial support to local telephone companies for high-cost customers** (typically, though not exclusively, in rural areas). Money to support this fund is obtained from customers as a percentage of the total amount a customer spends each month on interstate phone services, a surcharge that is currently 10.7 percent. The USF provides: (1) a high-cost support program for telecommunications service providers in areas where the cost per customer is much higher than the national average, (2) funding of telecommunications services for low-income consumers, (3) funding for schools and libraries for Internet access, and (4) funding for rural health care programs such as remote telemedicine diagnosis/procedures.

Currently, voice transmission services provided over the Internet are exempt from surcharges for federal USF programs. As customers migrate from traditional wireline voice services to those being provided over the Internet, assessable revenues from wireline customers will decrease. As the level of assessable revenues decreases, the level of contributions from each remaining wireline consumer must increase if USF program funding is to remain level.

Both the size of the Universal Service Fund and the potential for increased surcharges on customers' monthly bills have recently raised concerns in the telecommunications industry and many government agencies. The FCC, the Federal-State Joint Board on Universal Service, and numerous industry groups have begun to evaluate USF program offerings and seek solutions to limit the overall size of the fund while still fulfilling the goal of universal service.

Effect on Iowa/Update: In August 2004 the FCC's Federal-State Joint Board on Universal Service[1] (Iowa Utilities Board Member Elliott Smith was appointed in

[1] On February 8, 1996, President Clinton signed into law the Telecommunication Act of 1996. This Act expanded the scope of the existing Universal Service provisions. The Federal-State Joint Board on Universal Service was established in March 1996, to make recommendations to implement the universal service provisions of the Act. This Joint Board is comprised of FCC Commissioners, State Utility Commissioners, and a consumer advocate representative.

November 2004 to serve as one of four state commissioners on the Joint Board) asked for comments on whether the FCC should change its policies regarding high-cost universal service funding for rural carriers. The Joint Board is also considering whether to revisit the definition for "rural telephone company" in the 1996 Telecommunications Act, specifically as it identifies carriers to qualify for high-cost support purposes. Currently, the Act's definition provides four numeric tests, any one of which qualifies a carrier as a rural telephone company "that generally serve[s] fewer subscribers, serve[s] more sparsely populated areas, and generally do[es] not benefit as much from economies of scale and scope." For example, any carrier that provides exchange service to a study area with fewer than 100,000 access lines qualifies. Although a carrier's study area generally corresponds to its entire service territory within a state, for various reasons a carrier may have more than one study area per state.

The actual impact on Iowa under the different definitional tests is difficult to predict without obtaining additional information from local service providers regarding current individual company support levels. Quite often local service providers in the state consider such information proprietary because it contains access line counts, which is data that a competitor could find useful and advantageous.

Prior to any decision on major changes in universal service funding, **individual states should be given the opportunity to evaluate potential financial impacts.** In 2003 Iowa telecommunications providers received approximately $88.2 million from federal universal service support programs. Based on total dollars disbursed in these programs, Iowa ranked 21 out of 56 states and territories receiving funding. Based on a May 2001 report by The National Regulatory Research Institute entitled *Striking a Balance: An Analysis of Inflows and Outflows for Universal Service Support in 56 Jurisdictions (1998-1999),* Iowa's ratio of disbursements received versus contributions made is 93 percent. Thus, Iowa is a net contributor to the federal fund, despite the rural character of the state.

Intercarrier Compensation

Issue: Intercarrier compensation (ICC) establishes the rates between carriers for originating and terminating telephone calls. The original system was set up after the divestiture of the AT&T/Bell System telephone monopoly in 1984 and continued after the passage of the Telecommunications Act of 1996. Under the current system, compensation rates vary depending upon whether the call is interstate, intrastate, local, or bound for an Internet service provider. Using an interstate call as an example, if a Qwest local phone customer in Iowa places a call to a Verizon local phone customer in Virginia, the customer's long distance carrier (MCI) must pay Qwest an originating fee and Verizon a terminating fee for the use of their networks.

As new technologies such as **Voice over Internet Protocol (VoIP)** emerge, the viability of traditional intercarrier long distance access fees and local service reciprocal compensation schemes is being questioned. VoIP uses digitized data packets to transmit voice over networks. This makes it difficult, if not impossible, to identify and measure the source of a telephone call using this technology. As a result, intercarrier

compensation for use of the local loop or for interexchange transport over the Public Switched Telephone Network cannot be measured by traditional phone companies, which transmit the VoIP calls over the Public Switched Telephone Network.

The FCC is currently reviewing whether VoIP should be regulated as a "telecommunications service" and thus subject to the rates for intercarrier compensation, or as an "information service" with no IC obligations. In April 2001 the FCC issued a Notice of Proposed Rulemaking (NPRM) seeking comments on reforming the ICC system by 2005. On May 5, 2004, the National Association of Regulatory Utility Commissioners (NARUC) Intercarrier Compensation Task Force, chaired by Iowa Utilities Board Member Elliott Smith, released a "Statement of Principles for a New Intercarrier Compensation System," to be used by the various stakeholders and industry groups in evaluating their respective, diverse ICC proposals.

The FCC's NPRM proposed replacing the current intercarrier compensation system with a "bill and keep" system known as Central Office Bill and Keep (COBAK). With COBAK the cost of using the local loop is recovered from local telephone customers and not from the calling party's network. Proponents of COBAK state that it would: (1) eliminate battles over the type of call, (2) end the terminating access monopoly control of the local exchange carrier, and (3) end the implicit subsidy that exists currently when the total cost of carrying a long-distance call is averaged regardless of the actual costs incurred by the individual telephone company. Opponents predict that COBAK would result in large increases in end-user charges and local service rates, increase universal service support requirements, create opportunities for jurisdictional arbitrage, and not take into consideration the uniquely high costs of service for small rural carriers.

Effect on Iowa/Update: The National Telecommunications Cooperative Association (NTCA) estimates that a switch to bill and keep from the current access system would reduce annual access charges earned by rural incumbent local exchange carriers with less than 100,000 access lines by more than $2 billion. NTCA states that would mean an average monthly loss of access charge revenues for rural **incumbent local exchange carrier (ILECs)** companies of $22 per line with 10 percent of the study areas losing more than $55 per line per month. About half of Iowa's 150+ independent telephone companies serve less than 1,000 lines.

To date the NARUC ICC Task Force has held four workshops with a fifth scheduled for January 25 and 26 in Washington, D.C. There are a number of new intercarrier compensation proposals that have emerged from this group of 40+ telecommunications industry corporate and association stakeholders. They can be roughly described as a rural proposal, a facilities-based **competitive local exchange carrier (CLECs)** proposal, a larger carrier proposal (Iowa Telecom is a signatore to this), and a small and mid-sized company proposal. The goal of the Task Force is to consider and discuss the similarities and differences among the various groups' proposals, seeking to narrow the field of intercarrier compensation-related issues as much as possible for the FCC. Time is short but some progress is being made. The outcome of this issue will have a profound impact on the future of the telecommunications industry in Iowa. The customers of many smaller companies will likely find it difficult to afford the significantly

increased costs for local service. As a result, the sale or merger of many of these local telephone companies could occur.

Triennial Review Order

Issue: In August 2003 the FCC issued its **Triennial Review Order (TRO)**, which created new unbundling obligations for incumbent local exchange carriers allowing a CLEC to resell what it leases to provide service to customers. The FCC found that if three or more competitors are using their own switching facilities in a local market to compete with the incumbent, the incumbent is no longer required to offer unbundled switching in that market. Under the TRO, the FCC delegated to state commissions the authority to define the local markets and determine the existence and prominence of CLEC switching facilities.

In March 2004, however, the D.C. Circuit Court of Appeals found that the FCC erred in delegating authority over unbundling to state commissions. The FCC urged incumbents and competitors to hold "good-faith negotiations to arrive at commercially acceptable arrangements" to secure the future availability and pricing of unbundled network elements. Qwest, the largest incumbent serving Iowa, and a group of over 30 competitors from throughout the company's 14-state region held mediated talks in May to negotiate a replacement product for the unbundled network elements platform (UNE-P). Several of these negotiations are now complete; MCI is the highest profile competitor to finalize an agreement with Qwest. The IUB has approved the Qwest/MCI agreement.

On August 20, 2004, the FCC issued its interim TRO rules. On October 6, 2004, the D.C. Circuit responded to a petition for mandamus (of which Qwest was a party) that asked for the interim rules to be vacated. The court said it will "hold consideration" of the petition until at least January 4, 2005, to allow the FCC time to finish drafting and implementing final rules by year-end without action by the court.

On December 15, 2004, the FCC adopted new rules for network unbundling obligations of incumbent local phone carriers. These rules directly respond to the March 2004 decision by the U.S. Court of Appeals for the D.C. Circuit that overturned portions of the Commission's Unbundled Network Element rules in its Triennial Review Order. Although the written rules have not yet been released, the FCC has indicated the adopted rules relax the requirements that had required the four large Bell telephone companies to give their competitors access to their networks at discounted wholesale prices.

Some industry analysts predict the new rules may result in significantly higher local phone rates over the next year in many markets. The exact increases are not yet known, although Bell executives have indicated that they expect to raise wholesale rates for the use of pieces of their networks by 30 to 50 percent. Analysts see this decision, approved by the FCC's three Republican members over the dissents of two Democrats, as an important victory for the Bell companies and another in a series of setbacks for competitors like AT&T, MCI, and a group of smaller companies. Some of

the Bells, however, are unhappy with the FCC's selective phase-out of discounts. Bell companies claim significant price competition exists in providing service to customers, particularly from the cable industry. Critics of the commission's order predict it would drive most of the few remaining competitors of the Bell companies out of the local phone business.

Effect on Iowa/Update: As a result of the Court's overturning of the FCC's earlier unbundling rules, new interconnection agreements have been negotiated with significantly higher rates for network elements. These agreements, which can be adopted by other telecommunications companies, will make it more difficult for new entrants. Additionally, because these interconnection agreements were negotiated and approved by the Board following the D.C. Circuit Court of Appeals decision, but prior to the release of the FCC's final rules, it is not known if the companies will attempt to renegotiate these agreements based on a change of law provision in the current agreements. This may cause even greater increases in the cost of obtaining the unbundled network elements that CLECs use to provide service to their customers.

It is difficult to determine the overall effect of the FCC's new unbundling rules in Iowa because the written rules are not expected until sometime in February. In addition to the increase in prices, we understand the new rules will eliminate the requirement that incumbents sell certain high-capacity facilities to their competitors in some exchanges, with a 12-month transition period. This may affect carriers in at least one Iowa exchange, although it seems they should be able to make the necessary changes during the transition period.

Voice over Internet Protocol

Issue: Voice over Internet Protocol (VoIP) is a relatively new broadband-based technology that transmits voice traffic in digital packets indistinguishable from data traffic. The FCC issued three orders during 2004 related to VoIP. First, it found entirely Internet-based VoIP to be an information service. Second, it ordered that interexchange service which undergoes no change in protocol is a telecommunications service. In its most recent ruling, the FCC found Vonage “Digital Voice” service is not subject to traditional telephone regulation. The FCC is currently reviewing the appropriate regulatory treatment of VoIP and has asked for comments on many Internet protocol issues including the proper classification of VoIP services, chiefly whether VoIP is a “telecommunications service” subject to regulatory oversight or an “information service” exempt from regulatory purview. Other issues include perceived state and federal jurisdictional responsibilities; the nature of new Internet protocol services, how they work, and what they stand to offer customers; and, the proper legal and regulatory framework. Comments are also being sought on related social obligations, such as the ability of those who are disabled to access the technology; emergency “911” dialing compatibility; law enforcement activities (CALEA: Communications Assistance for Law Enforcement Act of 1994); the impact on funding of universal service (described in more detail above under “Universal Service Reform”); the affect on number pooling and resource management; and, the degree to which traditional intercarrier access fee and reciprocal compensation standards are altered.

Effect on Iowa/Update: Within a week of the FCC action on Vonage, the company began offering service in and around Des Moines, followed closely by Cedar Rapids, Council Bluffs and Sioux City. Board staff found that McLeod is providing some numbering sources to Vonage. AT&T Call Vantage service, another VoIP service, is available in Council Bluffs. The Vonage ruling leaves to the states the responsibility to protect consumers from fraud, responding to complaints, and enforcing fair business practices. There are initiatives currently working through Congress that attempt to fully preempt state regulatory overview of VoIP. Should either the Commission or Congress declare VoIP to be an interstate service or an information service, the technology would be placed beyond the reach of state regulators. This would effectively deregulate local exchange services that avail VoIP technology for their customers, leaving many Iowans with an unregulated service provider. Another issue in this instance would be that the federal government is picking winners and losers. Should Congress or the FCC choose to apply different degrees of regulation to the same services offered such as transmitting voice or data --- based only on the technology used to provide that service to the customer --- it could give an artificial competitive advantage to the less regulated service providers.

Local Number Portability/Thousand Block Number Pooling

Issue: Local Number Portability (LNP) enables wireline or wireless telephone customers to change their telephone service providers without changing their telephone numbers. LNP capability requires switching hardware and software upgrades, which for smaller carriers can be costly to implement. Until recently only carriers in large metropolitan areas were required to implement LNP. But in November 2003, the FCC ordered the remaining carriers in the country to provide LNP by May 2004, unless the state commission suspended the FCC's requirement to deploy LNP.

The Board conducted two LNP suspension proceedings in 2004. The first involved Iowa Telecom, which requested a suspension of LNP in order to be consistent with its Network Improvement Plan, approved in another docket. Iowa Telecom serves approximately 290 exchanges in Iowa, and the Board suspended LNP, beyond 2004, for 63 of the exchanges. The 63 exchanges will require approximately $13 million in network improvements in order to accommodate LNP. The Board allowed Iowa Telecom to deploy LNP in the 63 exchanges over the next three years.

The second LNP suspension proceeding involved 147 of Iowa's independent telephone companies. In deciding that case, the Board created five groups with different timeframes for deploying LNP. Each phone company was assigned to a specific group based on the record in the case. The result of the Board's decision is that most of the independent telephone companies will deploy LNP by April 2006.

A complement to LNP capability is **Thousands-Block Number Pooling (TBNP)** capability. TBNP allows carriers in the same exchange area to share already assigned blocks of telephone numbers. Without TBNP, when a carrier needs additional phone numbers, it must apply to the **North American Numbering Plan Administrator**

(NANPA) for a new central office code consisting of 10,000 phone numbers. TBNP delays the exhaust of existing area codes and conserves the inventory of phone numbers available for assignment by the NANPA. For a carrier to deploy TBNP, it first must deploy LNP. TBNP, however, must be ordered by the FCC, and currently most of the exchanges areas in Iowa are not mandatory areas for TBNP deployment.

Effect on Iowa/Update: Based on Iowa's current use of telephone numbers, the NANPA forecasts that none of Iowa's five area codes will exhaust before 2020. These forecasts, however, could change quickly as the telecommunications industry evolves. For example, Mediacom is preparing to provide VoIP telecommunications service in as many as 300 Iowa communities. This has the potential to impact NANPA's forecasts for area code exhausts, because Mediacom could require numerous central office codes in exchange areas without TBNP. If the forecasts for area code exhausts were to change dramatically, the Board could petition the FCC to expand TBNP in Iowa. State commissions in Oklahoma, West Virginia, and Nebraska have recently filed such petitions with the FCC.

ASSESSING HIGH-SPEED INTERNET ACCESS IN THE STATE OF IOWA: FOURTH ASSESSMENT

A Report of the
Iowa Utilities Board

Utilities Board:
Diane Munns (Chairman)
Mark Lambert
Elliott Smith

IUB Project Manager and Contact Person:

Brenda Biddle
Policy Development
(515) 242-0218
brenda.biddle@iub.state.ia.us

Policy Development Staff Contributing to the Report:

Leslie Cleveland (Editor)
Leighann LaRocca

Iowa Utilities Board
350 Maple Street
Des Moines, Iowa 50319

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Table of Contents

1.0 INTRODUCTION

The advancements made in the information technology industry continue to impact all of our lives to some degree. The advancements made in Internet technologies are no different. While there was once a time when the Internet was interesting, because it was dazzling, it is now a normalized part of life for about two-thirds of the U.S. population. For some, it has become an integral part of work or school. For others, it is a primary means to stay in touch with family and friends. And for still others, it is a source of entertainment and diversion.[1] Since the Internet is being used for many different applications, it has become increasingly important that high-speed Internet is accessible to everyone rather than simple dial-up connections.

According to the National Telecommunications & Information Administration's report in September 2004, the proportion of U.S. households with broadband Internet connections more than doubled from 9.1 percent in September 2001 to 19.9 percent in October 2003. They also noted a shift in the technology used. In 2001, two-thirds of broadband households used cable modem service (66.4 percent). By October 2003, cable modem households dropped to 56.4 percent and the remaining households were using other types of connections. It is also interesting to note that persons with broadband at home also engage in more types of activities online, particularly in the areas of entertainment, banking, purchasing products or services, and obtaining information. The report also noted that although the rate in Internet penetration among rural households (54.1 percent) is similar to that in urban areas (54.8 percent), the proportion of Internet users with home broadband connections remained much lower in rural areas (24.7 percent) than in urban areas (40.4 percent).[2]

In Iowa, high-speed Internet access is not available in all areas. The current and projected availability of high-speed Internet technologies is a concern of the citizens of Iowa as well as a concern for policymakers.

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[1]Pew Internet & American Life Project, "America's Online Pursuits: The changing picture of who's online and what they do," Mary Madden, December 22, 2003, page 90.

[2] The National Telecommunications & Information Administration (a division of the U.S. Department of Commerce), "A Nation Online: Entering the Broadband Age," September 2004. They define broadband and services and facilities with speeds over 200 kbps in at least one direction.

In addition, the availability of high-speed Internet expands competitive choice for telecom consumers through an emerging technology known as Voice over Internet Protocol (VoIP). VoIP uses the Internet as the transmission medium for telephone calls instead of the public switched telephone network.[3] Several companies are using this technology to reach consumers in Iowa; however, its growth is limited by the availability of high-speed Internet access.

In an effort to assess the availability of high-speed Internet access in the state of Iowa, the Iowa Utilities Board (IUB) and the Iowa Department of Economic Development (IDED) submitted a joint report to the Legislative Oversight Committee of the Legislative Council in October 2000. The report assessed the statewide availability of high-speed Internet access, and recommendations were tendered that could potentially ensure access to high-speed Internet service in rural Iowa. The report, "Assessing High-Speed Internet Access in the State of Iowa" (First Assessment), was in compliance with Senate File 2433 (S.F. 2433). In response to recommendations contained in the First Assessment, the IUB conducted a Second and Third Assessment in September 2001 and January 2003, respectively.

The primary objective of the Fourth Assessment is to evaluate the level of progress in the deployment of high-speed Internet technologies. Comparison of this assessment with the earlier efforts is critical if a clear perspective on the developing availability of high-speed access in all parts of the state is desired. Consistency between the assessments is also essential. In the Fourth Assessment, the survey, terms, and staff analysis employed are very similar to the methods used in the prior assessments. This report is also consistent with the earlier assessments when it refers to the availability of high-speed Internet access in a community, in that it does not mean the technology is available to all customers in that community. Due to factors such as distance, line quality, and limited amounts of investment, some customers within a community will not have access to high-speed Internet while others within the same community will have access.

This report continues to use the same standard for "high-speed" technologies as the previous assessments. High-speed technology is defined as technology capable of

[3] http://www.webopedia.com/TERM/V/VoIP.html

providing access services with over 200 kilobits per second (kbps), this being consistent with the Federal Communication Commission's (FCC) definition of high-speed Internet access. The FCC in its section 706 reports to Congress, as well as this Board, acknowledges that 200 kilobits per second is merely the "first generation" of this technology.[4] The focus of this report is to determine where this "first generation" technology is available in Iowa. This report, like previous assessments, avoids the use of the term "broadband", because it has come to include a wide range of services and facilities that extend beyond the definition of high-speed technologies used in this report.

The IUB appreciates the cooperation and survey responses from the participating local exchange carriers, cable providers, and wireless service providers. Also, a special thank you is extended to Mary Wegner, State of Iowa Librarian, and Alan Schmitz, State of Iowa Library Online Coordinator. They assisted in this assessment by sharing additional information that was collected during their work documenting high-speed Internet options for Iowa public libraries. This information helped to complete the list of service providers for the state.

Section 2.0 of this report contains the conclusions established from the assessment of the July 2004 survey data. Section 3.0 describes the survey design and the methodology used to compile the data. Section 4.0 provides a detailed analysis of the data collected from the July 2004 survey. Section 5.0 provides data from the FCC's June 8, 2004 report. The section compares the Iowa results to the National results. Section 6.0 provides a summary of the report and its findings.

2.0 CONCLUSIONS AND COMPARISONS

In July 2004, the IUB completed a point-in-time, community-by-community, statewide assessment of current and near-term high-speed Internet access in Iowa. The IUB assessed telecommunications companies, cable providers, wireless providers, and satellite companies most likely to offer high-speed Internet access in Iowa. The telecommunications companies included all local exchange carriers (LECs), which

[4] Federal Communications Commission, "Availability of Advanced Telecommunications Capability in the United States FCC 04-208, GN Docket No. 04-54," Fourth Report to Congress, September 9, 2004.

consist of incumbent local exchange carriers (ILECs) and competitive local exchange carriers (CLECs).

The following conclusions were reached based on industry responses to the IUB staff survey. The comparisons are based on information obtained from the first three assessments and the results of the current assessment.

The report concludes:

The deployment rates of high-speed technologies in rural and non-rural Iowa communities continue to increase.

- 679 out of 935 rural communities, or 72.6 percent, currently have high-speed Internet access.
- 199 out of 273 non-rural communities, or 72.9 percent, currently have high-speed Internet access.

Comparison with Earlier Assessment Results

⇒ 246 out of 879 rural communities, or 28 percent, had high-speed Internet access in 2000; 431 out of 917 rural communities, or 47 percent, had access in 2001; and 634 out of 935 rural communities, or 68 percent, had access in 2003.

⇒ 111 out of 266 non-rural communities, or 42 percent, had high-speed Internet access in 2000; 167 out of 274 non-rural communities, or 61 percent, had access in 2001; and 185 out of 274 non-rural communities, or 68 percent, had access in 2003.

Non-rural communities are achieving a slightly higher rate of deployment of high-speed Internet technologies than rural communities.

- The number of rural communities with high-speed Internet access increased from 634 in January 2003 to 679 in July 2004, or by 7.1 percent.
- The number of non-rural communities with high-speed Internet access increased from 185 in January 2003 to 199 in July 2004, or by 7.6 percent.

Comparison with Earlier Assessment Results

⇒ The number of rural communities with high-speed Internet access increased from 431 in September 2001 to 634 in January 2003, or by 47.1 percent.

⇒ The number of non-rural communities with high-speed Internet access increased from 167 in September 2001 to 185 in January 2003, or by 10.8 percent.

The industry exceeded the near-term deployment schedules from the Third Assessment.

- As of July 2004, 679 out of 935 rural communities and 199 out of 273 non-rural communities had access to high-speed Internet technologies.
- The industry projected that 650 out of 935 rural communities and 186 out of 274 non-rural communities would have access to high-speed Internet technologies by January 2004.

Near-term deployment rates are more aggressive that those in previous assessments.

- The industry is projecting that an additional 110 out of the 935 rural communities will have access to high-speed Internet services by July 2005. The number of rural communities is projected to increase from 679 to 789 by July 2005.
- The industry is projecting an additional 4 out of the 73 non-rural communities will have access to high-speed Internet services. The number of non-rural communities is projected to increase from the current 199 communities to 203 by July 2005.

Comparison with Earlier Assessment Results

⇒ In January 2003, the industry projected an increase in rural access to high-speed services from 634 communities to 650, or 16 communities, by January 2004.

⇒ In January 2003, the industry projected an increase in non-rural access to high-speed services from 185 communities to 186, or 1 community, by January 2004.

xDSL and wireless technologies have the greatest presence within Iowa communities.

- xDSL technologies are available in 623 out of 1208 Iowa communities, or 51.6 percent.

- Wireless technologies are available in 417 out of 1208 Iowa communities, or 34.5 percent.
- Cable modem technologies are available in 348 out of 1208 Iowa communities, or 28.8 percent.

Overall, deployment of xDSL technologies is increasing more rapidly in rural communities than in non-rural communities.

- The number of rural communities with access to xDSL technologies increased from 212 in September 2001 to 498 in July 2004. This is an increase of 286 communities or 135 percent.
- The number of non-rural communities with access to xDSL technologies increased from 72 in September 2001 to 125 in July 2004. This is an increase of 53 communities or nearly 74 percent.

Access to cable modem technology continues to be more prevalent in non-rural communities.

- 196 out of 935 rural communities, or 20.9 percent, had access to high-speed cable modem technologies.
- 152 out of 273 non-rural communities, or 55.7 percent, had access to high-speed cable modem technologies.

Comparison with Earlier Assessment Results

⇒ In January 2003, 186 out of 935 rural communities, or 19.9 percent, had access to high-speed cable modem technologies.

⇒ In January 2003, 126 out of 274 non-rural communities, or 46.0 percent, had access to high-speed cable modem technologies.

Overall, cable modem technology is being deployed at a greater rate in rural communities than in non-rural communities.

- Between September 2001 and July 2004, the number of rural communities with access to high-speed cable modem technology increased from 53 to 196 communities. This is an increase of 143 communities, or 270 percent.
- Between September 2001 and July 2004, the number of non-rural communities with access to high-speed cable modem technology increased from 78 to 152 communities. This is an increase of 74 communities, or 95 percent.

Access to wireless technologies is greater in non-rural communities than in rural communities.

- 316 out of 935 rural communities, or 33.8 percent, had access to high-speed wireless service as of July 2004.
- 101 out of 273 non-rural communities, or 37.0 percent, had access to high-speed wireless service as of July 2004.

Access to wireless technologies is expected to increase very slowly in rural and not at all in non-rural communities.

- 316 out of 935 rural communities, or 33.8 percent, had access to high-speed wireless technologies in July 2004, and that is projected to increase to 325 rural communities, or 34.8 percent, by July 2005.
- Access to wireless technologies for non-rural communities is expected to remain the same from July 2004 to July 2005 at 101 out of 273 communities, or 37.0 percent.

Competition in the provision of high-speed Internet access is increasing in both rural and non-rural communities.

- As of July 2004, 310 out of 935 rural communities, or 33.2 percent, had two or more providers of high-speed Internet technologies.
- 132 out of 273 non-rural communities, or 48.4 percent, had two or more providers of high-speed Internet technologies as of July 2004.

Comparison with Earlier Assessment Results

⇒ In 2001, 63 out of 917 rural communities, or 6.9 percent, and in 2003, 269 out of 935 rural communities, or 28.8 percent, had two or more providers of high-speed Internet access.

⇒ In 2001, 70 out of 274 non-rural communities, or 25.5 percent, and in 2003, 108 out of 274 non-rural communities, or 39.4 percent, had two or more providers of high-speed Internet access.

The level of demand for high-speed Internet technologies is greatest for cable modem in the non-rural communities.

- In rural areas, the demand for cable modem is less than xDSL or wireless.
- In non-rural areas, the demand for cable modem is greater than xDSL or wireless.

3.0 METHODOLOGY

Survey Design

For the Fourth Assessment, survey instruments were designed to collect point-in-time information that could be used to assess the availability of high-speed Internet access on a community-by-community basis. Surveys were designed for the following providers: LECs, cable operators, and wireless providers. Copies of the survey instruments used for the Fourth Assessment are included as Attachment A to this report.

The surveys requested information that could be used to assess each community's current and near-term access to high-speed Internet technologies. Also, the surveys gathered information pertaining to the upstream and downstream speeds attainable through applicable technologies. Specifically, the surveys inquired if the applicable technologies exceeded the 200 kbps threshold. The surveys also collected data on the level of customer inquiries and demand for the relevant technologies. The levels were defined as the company's customer-based rate of inquiry and demand: low (3 percent or less), medium (between 4 percent and 19 percent), or high (20 percent or greater). Respondents were also asked to identify communities in which they planned to deploy high-speed services within the next 12 months.

Survey Distribution

Like the previous assessments, the Fourth Assessment strives for a comprehensive depiction of the high-speed Internet access across the state. The Fourth Assessment includes all ILEC, CLEC, wireless, satellite, and cable companies providing service in the state. Surveys were sent to all certified ILECs and CLECs serving any access lines in Iowa during the year. The IUB does not certify nor retain records on cable and wireless companies providing service in the state. Distribution lists were compiled from information provided by various cable and wireless associations and industry contacts. Electronic versions of the surveys used in the Fourth Assessment were also available on the IUB Web site.

4.0 FOURTH ASSESSMENT FINDINGS, CONCLUSIONS, AND COMPARISONS

In July 2004, IUB completed a point-in-time, community-by-community, statewide assessment of current and near-term high-speed Internet access in Iowa. The following tables are a compilation of the Fourth Assessment data and form the basis for all

findings and conclusions contained in this report. This section contains five subsections, each of which analyzes a particular element of the assessment data. These subsections include: response rate, statewide availability of high-speed services, availability of high-speed services by technology, concentration of and competition for high-speed services, and the level of demand for high-speed services.

Response Rate

The following table summarizes the assessment response rate:

Table I
Fourth Assessment Response Rate[5]

	All Providers	ILECs	CLECs	Cable Providers	Wireless Providers
Number of Providers Assessed	311	152	68	44	47
Overall Number of Assessments Returned	268	146	57	34	31
Overall Assessment Response Rate	**86.2%**	**96.1%**	**83.8%**	**77.3%**	**66.0%**
Number of Providers Assessed Electronically	300	152	66	39	43
Number of Assessments Returned Electronically	207	105	46	29	27
Electronic Response Rate	**77.2%**	**71.9%**	**80.7%**	**85.3%**	**87.1%**

In accordance with Governor Vilsack's "E-Government Initiative, "a concerted effort was made to survey the majority of the providers electronically. The IUB distributed 300 out of 311 surveys, or 96.5 percent, through electronic mail. For the Third Assessment, 212 out of 267 surveys, or 79.4 percent, were distributed electronically. Of those responding to the Fourth Assessment, 207 out of 268, or 77.2 percent, filed their information electronically, while 45 providers (16.8 percent) sent their responses via mail, and 16 providers (6 percent) returned their responses via facsimile.

While the response rate for the ILECs in the Fourth Assessment was down 2.6 percent from that of the Third Assessment, the overall response rate was higher. In total, 268 out of 311 providers responded to the Fourth Assessment for a response rate of 86.2 percent. This compares to 216 out of 267 providers, or 80.9 percent, responding to the Third Assessment.

[5] Communities that were not represented in the providers' response were deemed as communities not having access to any high-speed Internet technologies.

Statewide Availability of High-Speed Services

- √ The deployment rates of high-speed technologies in rural and non-rural Iowa communities continue to increase;
- √ Non-rural communities are achieving a slightly higher rate of deployment of high-speed Internet technologies than rural communities;
- √ The industry exceeded near-term deployment schedules from the Third Assessment; and,
- √ Near-term deployment rates are more aggressive than those in previous assessments.

Discussion of Conclusions

Attachment B of this report provides maps of the state of Iowa that show the areas where high-speed Internet technologies are available for each type of technology and where they are projected to be available by July 2005. Attachment C of this report provides a community-by-community list of the same information. The assessment response captured data for 1,208 Iowa communities.[6] Of the 1,208 Iowa communities represented in the assessment, 935 of the communities are identified as rural. Rural communities are defined as those Iowa communities with less than 2,500 inhabitants that are not served by an urban exchange.[7] The assessment identified the remaining 273 communities as non-rural.

Fourth Assessment Conclusion:

The deployment rates of high-speed technologies in rural and non-rural Iowa communities continue to increase.

Of the 1,208 communities included in the assessment responses, 878 Iowa communities, or 72.7 percent, have access to at least one type of high-speed Internet

[6] The list of Iowa communities included all known rural, non-rural, and unincorporated places as of July 2004.

[7] The definition of "rural" in this report is a variation of the Census Bureau's definition of rural. The Census Bureau's definition includes all communities with fewer than 2,500 inhabitants as well as areas outside of communities including farmland, ranch land, and wilderness. The Census Bureau's definition of rural also includes suburban developments that are close to an urban area. Inclusion of these suburban communities may provide misleading results. As a result, this report only defines communities as rural if the community population is less than 2,500 inhabitants and is not served by an urban exchange. Population data was acquired from the 2000 U.S. Census.

technology. Of the 878 communities having access, 679 are rural and 199 are non-rural. Based on current deployment schedules, an additional 114 Iowa communities will have access to at least one type of high-speed Internet technology by July 2005. The information is summarized in the following table:

Table II
Iowa Communities with Access to High-Speed Technologies as of July 2004

	Rural (935 Communities)		Non-Rural (273 Communities)	
	Access as of July 2004	Projected Access by July 2005	Access as of July 2004	Projected Access by July 2005
Number of Iowa Communities with Access to High-Speed Technologies	679	789	199	203
% of Iowa Communities Surveyed with Access to High-Speed Technologies	72.6%	84.4%	72.9%	74.4%

If industry deployment schedules are realized by July 2005, 789 out of 935 rural communities, or 84.4 percent, and 203 out of 273 non-rural communities, or 74.4 percent, will have access to at least one type of high-speed Internet technology.

Fourth Assessment Conclusion:

Non-rural communities are achieving a slightly higher rate of deployment of high-speed Internet technologies than rural communities.

As illustrated below in Table III, non-rural communities are experiencing a slightly higher rate of deployment of high-speed Internet technologies than rural communities. Between January 2003 and July 2004, the number of non-rural communities with access to high-speed Internet technologies increased from 185 in January 2003 to 199 in July 2004. This is an increase of 14 communities or 7.6 percent. During the same period, the number of rural communities with access to high-speed Internet technologies increased from 634 to 679. This is an increase of 45 communities or 7.1 percent.

Table III Comparison of Iowa Communities with Access to High-Speed Technologies from January 2003 to July 2004				
	Rural*		Non-Rural**	
	Access as of January 2003	Access as of July 2004	Access as of January 2003	Access as of July 2004
Number of Iowa Communities with Access to High-Speed Technologies	634	679	185	199
% of Iowa Communities Surveyed with Access to High-Speed Technologies	67.8%	72.6%	67.5%	72.9%

*Based on 935 identified rural communities in January 2003 and July 2004.
**Based on 274 identified non-rural communities in January 2003 and 273 in July 2004.

Fourth Assessment Conclusion:

The industry exceeded the near-term deployment schedules from the Third Assessment.

The results of the Fourth Assessment illustrates that industry exceeded the near-term deployment projections stated by industry in the Third Assessment. Table IV compares the deployment projections cited by industry in the Third Assessment and the "realized" deployment of high-speed Internet services to Iowa communities as of July 2004.

Table IV Comparison of January 2004 Deployment Projections and July 2004 Realized Deployment of High-Speed Internet Technologies				
	Rural*		Non-Rural**	
	Projected Access by January 2004	Realized Access as of July 2004	Projected Access by January 2004	Realized Access as of July 2004
Number of Iowa Communities with Access to High-Speed Technologies	650	679	186	199
% of Iowa Communities Surveyed with Access to High-Speed Technologies	69.5%	72.6%	67.9%	72.9%

*Based on 935 identified rural communities in January 2004 and July 2004.
**Based on 274 identified non-rural communities in January 2004 and 273 in July 2004.

In January 2003, industry projected that 650 rural and 186 non-rural communities would have access to high-speed Internet services by January 2004. The July 2004 Assessment indicates that those projections were exceeded, as 679 rural and 199 non-rural communities currently have access to high-speed Internet services.

Fourth Assessment Conclusion:

Near-term deployment rates are more aggressive than those in the previous assessments.

In previous assessments projected deployment rates were less aggressive as the deployment level increased. However, in the Fourth Assessment, near-term deployment rates are significantly more aggressive than in the Third Assessment. The change in the deployment trend is primarily due to one provider striving to have xDSL deployed to 100 percent of its exchanges by mid-year 2005.

As the data in Table V shows, in January 2003, the industry projected that 650 rural communities and 186 non-rural communities would have high-speed Internet access within 12 months. This was an overall increase of 2.1 percent. In July 2004 the industry projected that 789 rural communities and 203 non-rural communities would have high-speed Internet access within 12 months. This would be an increase of 12.9 percent over the current number of communities with access to high-speed Internet services

Table V
Comparison of January 2004 Deployment Projections and July 2005 Deployment Projections of High-Speed Internet Technologies

	Rural*		Non-Rural**	
	Projected Access by January 2004	Projected Access by July 2005	Projected Access by January 2004	Projected Access by July 2005
Number of Iowa Communities with Access to High-Speed Technologies	650	789	186	203
% of Iowa Communities Surveyed with Access to High-Speed Technologies	69.5%	84.4%	67.9%	74.4%

*Based on 935 identified rural communities in January 2004 and July 2005.
**Based on 274 identified non-rural communities in January 2004 and 273 in July 2005.

Availability of High-Speed Services by Technology

All Technology:

√ *xDSL and wireless technologies have the greatest presence within Iowa communities.*

xDSL:

√ *Overall, deployment of xDSL technologies is increasing more rapidly in rural communities than non-rural communities.*

Cable Modem:

√ *Access to cable modem technology continues to be more prevalent in non-rural communities; and,*

√ *Overall, cable modem technology is being deployed at a greater rate in rural communities than non-rural communities.*

Wireless (Licensed and Unlicensed):

√ *Access to wireless technologies is greater in non-rural communities than in rural communities; and,*

√ *Access to wireless technologies is expected to increase very slowly in rural communities and not at all in non-rural communities.*

Fourth Assessment Conclusion:

xDSL and wireless technologies have the greatest presence within Iowa communities.

As shown in Table VI, one or more types of high-speed Internet technology are currently available in 878 out of 1208 communities in Iowa, or approximately 73 percent. xDSL is available in 623 communities in Iowa, or approximately 52 percent. Wireless is available in approximately 417 Iowa communities, or 35 percent. xDSL is expected to have the largest growth from July 2004 to July 2005 and be available in nearly 70 percent of Iowa communities. The driving force of xDSL's expected growth comes from one ILEC striving to have xDSL deployed to 100 percent of its exchanges by mid-year 2005. The majority of its exchanges are rural.

Table VI Iowa Communities with Access to Different High-Speed Technologies as of July 2004				
	Number of Iowa Communities Surveyed with Access to High-Speed Technologies		% of Iowa Communities Surveyed with Access to High-Speed Technologies	
Iowa Communities with Access to:**	Access as of July 2004	Projected Access by July 2005	Access as of July 2004	Projected Access by July 2005
One or More Types of High-Speed Internet Technology	878	992	72.7%	82.1%
xDSL Technologies	623	843	51.6%	69.8%
High-Speed Wireless Technologies	417	426	34.5%	35.3%
Cable Modem Technologies	348	357	28.8%	29.6%

** Based on the 1208 known incorporated and unincorporated Iowa Communities.

Fourth Assessment Conclusion:

Overall, deployment of xDSL technologies is increasing more rapidly in rural communities than in non-rural communities.

Access in rural communities to high-speed xDSL technologies increased from 23.1 percent in September 2001 to 40.0 percent in January 2003 and to 53.3 percent in July 2004. Between September 2001 and July 2004, the number of rural Iowa communities with access to high-speed xDSL technologies has increased from 212 to 498, a growth of 135 percent. Between January 2003 and July 2004, the number of non-rural communities with access to high-speed xDSL technologies increased 60 percent. Overall, between September 2001 and July 2004, the number of non-rural Iowa communities with access to high-speed xDSL technologies has increased from 72 to 125, a growth of nearly 74 percent.

Table VII Comparison of Iowa Communities with Access to High-Speed xDSL Technologies from September 2001 to July 2004				
	Rural*		Non-Rural**	
	Access as of September 2001	Access as of July 2004	Access as of September 2001	Access as of July 2004
Number of Iowa Communities with Access to High-Speed xDSL Technologies	212	498	72	125
% of Iowa Communities Surveyed with Access to High-Speed xDSL Technologies	23.1%	53.3%	26.3%	45.8%

*Based on 917 identified rural communities in September 2001 and 935 July 2004.
**Based on 274 identified non-rural communities in September 2001 and 273 in July 2004.

By July 2005, the number of rural communities with access to high-speed xDSL technologies is projected to increase from 498 to 697 communities, or to over 74 percent. The number of non-rural communities is projected to increase from 125 to 145, or to over 53 percent.

Table VIII
Iowa Communities with Access to High-Speed xDSL Technologies as of July 2004 and Communities Expected to Have Access by July 2005

	Rural (935 Communities)		Non-Rural (273 Communities)	
	Access as of July 2004	Projected Access by July 2005	Access as of July 2004	Projected Access by July 2005
Number of Iowa Communities with Access to High-Speed xDSL Technologies	498	697	125	145
% of Iowa Communities Surveyed with Access to High-Speed xDSL Technologies	53.3%	74.5%	45.8%	53.1%

Fourth Assessment Conclusion:

Access to cable modem technology continues to be more prevalent in non-rural communities.

As shown in Table IX, 152 out of 273 non-rural Iowa communities, or 55.7 percent, had access to high-speed cable modem technologies as of July 2004. At the same time, 196 out of 935 rural Iowa communities, or 20.9 percent, had access to high-speed cable modem technologies. A small increase (under 5 percent) in access to cable modem technology is projected by July 2005 for the rural communities, while no increase is projected for the non-rural communities.

Table IX Iowa Communities with Access to High-Speed Cable Modem Technologies as of July 2004 and Communities Expected to Have Access by July 2005				
	Rural (935 Communities)		Non-Rural (273 Communities)	
	Access as of July 2004	Projected Access by July 2005	Access as of July 2004	Projected Access by July 2005
Number of Iowa Communities with Access to High-Speed Cable Modem Technologies	196	205	152	152
% of Iowa Communities Surveyed with Access to High-Speed Cable Modem Technologies	20.9%	21.9%	55.7%	55.7%

Fourth Assessment Conclusion:

Overall, cable modem technology is being deployed at a greater rate in rural communities than in non-rural communities.

As Table X demonstrates, rural communities are seeing cable modem technology being deployed at a greater rate than non-rural communities. Between September 2001 and July 2004, the number of rural Iowa communities with access to high-speed cable modem technologies increased from 53 to 196, an increase of 270 percent. Access to high-speed cable modem technologies in non-rural communities increased from 78 to 152, a growth of nearly 95 percent.

Access to high-speed cable modem technology for Iowa communities has seen tremendous growth since 2001; but since January 2003, there has been a much more modest growth. The number of rural communities with high-speed cable modem technology grew from 186 in January 2003 to 196 in July 2004, an increase of 5.4 percent. There were 126 non-rural communities with access to high-speed cable modem technology in January 2003 and 152 in July 2004, a growth of 20.6 percent.

Table X Comparison of Iowa Communities with Access to High-Speed Cable Modem Technologies from September 2001 to July 2004				
	Rural*		Non-Rural**	
	Access as of September 2001	Access as of July 2004	Access as of September 2001	Access as of July 2004
Number of Iowa Communities with Access to High-Speed Cable Modem Technologies	53	196	78	152
% of Iowa Communities Surveyed with Access to High-Speed Cable Modem Technologies	5.8%	20.9%	28.5%	55.7%

*Based on 917 identified rural communities in September 2001 and 935 in July 2004.
**Based on 274 identified non-rural communities in September 2001 and 273 in July 2004.

Fourth Assessment Conclusion:

Access to wireless technologies is greater in non-rural communities than in rural communities.

As shown in Table XI, access to high-speed wireless technologies increase significantly for both rural and non-rural communities from September 2001 to July 2004, but the level of access is greater in non-rural communities. The number of non-rural communities with access to wireless technologies increased from 78 out of 274 communities, or 28.5 percent, in September 2001 to 101 out of 273 communities, or 37.0 percent, in July 2004. The number of rural communities with access to high-speed wireless technologies increased from 216 out of 917 communities, or 23.6 percent, in September 2001 to 316 out of 935 communities, or 33.8 percent, in July 2004.

Table XI Comparison of Iowa Communities with Access to High-Speed Wireless Technologies from September 2001 to July 2004				
	Rural*		Non-Rural**	
	Access as of September 2001	Access as of July 2004	Access as of September 2001	Access as of July 2004
Number of Iowa Communities with Access to High-Speed Wireless Technologies	216	316	78	101
% of Iowa Communities Surveyed with Access to High-Speed Wireless Technologies	23.6%	33.8%	28.5%	37.0%

*Based on 917 identified rural communities in September 2001 and 935 in July 2004.
**Based on 274 identified non-rural communities in September 2001 and 273 in July 2004.

Fourth Assessment Conclusion:

Access to high-speed wireless technologies is expected to increase very slowly in rural and not at all in non-rural communities.

Table XII shows access to high-speed wireless technologies is projected to have slow or no growth from July 2004 to July 2005. The wireless industry is expected to add high-speed service to only 9 rural communities, with no new communities expected to gain access to high-speed wireless technologies in non-rural areas.

Table XII
Iowa Communities with Access to High-Speed Wireless Technologies as of July 2004 and Communities Expected to Have Access by July 2005

	Rural (935 Communities)		Non-Rural (273 Communities)	
	Access as of July 2004	Projected Access by July 2005	Access as of July 2004	Projected Access by July 2005
Number of Iowa Communities with Access to High-Speed Wireless Technologies	316	325	101	101
% of Iowa Communities Surveyed with Access to High-Speed Wireless Technologies	33.8%	34.8%	37.0%	37.0%

Concentration and Competition for High-Speed Services

Fourth Assessment Conclusion:

Competition in the provision of high-speed Internet access is increasing in both rural and non-rural communities.

Table XIII shows the number of competitors in Iowa communities providing high-speed Internet services has increased from January 2003 to July 2004. Even more striking is the increase from September 2001. There were only 63 out of 917 rural communities, or 6.9 percent, with two or more competitors in September 2001. This compares to 269 out of 935, or 28.8 percent, in January 2003 and 310 out of 935, or 33.2 percent, in July 2004. In non-rural areas, there were 70 out of 274 communities, or 25.5 percent, that had two or more competitors in September 2001, 108 out of 274 communities, or 39.4 percent, in January 2003, and 132 out of 273 communities, or 48.4 percent, in July 2004.

Another measure of the increasing access of high-speed Internet service in Iowa is the decreasing number of communities that have no providers. In September 2001, 301 out of 935 rural communities, or 53.1 percent, had no provider of high-speed Internet service. By July 2004 that number had dropped to 256 out of 935 rural communities, or 27.4 percent. For non-rural communities, 89 out of 274 communities, or 39.4 percent, had no high-speed Internet service in September 2001, whereas in July 2004, 74 out of 273 communities, or 27.1 percent of non-rural communities had no high-speed Internet provider.

Table XIII
Comparison of the Number of Competitors in Iowa Communities with High-Speed Internet Access between January 2003 to July 2004

	Rural*		Non-Rural**	
Number of Providers	Communities as of January 2003	Communities as of July 2004	Communities as of January 2003	Communities as of July 2004
0	301	256	89	74
1	365	369	77	67
2	211	218	52	53
3	48	72	43	36
4	9	18	9	20
5 or more	1	2	4	23

*Based on 935 identified rural communities in January 2003 and July 2004.
**Based on 274 identified non-rural communities in January 2003 and 273 in July 2004.

Level of Demand for High-Speed Services

Assessment Conclusion:

The level of demand for high-speed Internet technologies is greatest for cable modem in non-rural communities.

As Table XIV demonstrates, the level of demand for, or interest in, high-speed Internet technologies is greatest for cable modem in non-rural communities. Rural customers' demand and inquiries is greatest for wireless and xDSL while low for cable modem technologies. The demand level for these technologies appears to follow the current availability of the technology in the rural and non-rural areas. This is especially evident when looking at the demand and availability for cable-modem technology.

Table XIV Comparison of Level of Demand for High-Speed Internet Technologies				
	Rural		Non-Rural	
	Customer Inquiries	Customer Demand	Customer Inquiries	Customer Demand
xDSL	Low/Medium	Low/Medium	Medium	Low/Medium
Cable Modem	Low	Low	High	High
Wireless	Medium	Medium	Medium	Medium

5.0 NATIONAL DATA

On December 22, 2004, the Federal Communications Commission (FCC) released its report "High-Speed Services for Internet Access: Status as of June 30, 2004." The report summarizes data filed on FCC Form 477 as of June 30, 2004. The FCC requires state-level data from providers with at least 250 high-speed connections in the state whereas the IUB survey attempts to compile data from all providers regardless of the number of high-speed connections they have in the state.

Data reported in the summary charts within the FCC report is based primarily on the number of high-speed lines by state or by the type of technology. The IUB survey tries to compile similar data, but respondents are given the option of providing the number of lines, the percent of their market share, or to respond that the information is confidential. Therefore, a direct comparison of the IUB High-Speed Internet Access Survey and the FCC data is not possible.

This section compares the Iowa results from the FCC data with that of the National results. The numbers in the tables are taken from the FCC's December 2004 report.

Top 6 States - Number of Providers of High-Speed Lines by Technology as of June 30, 2004

(Over 200 kbps in at least one direction)

	ADSL	Cable	Other*	Total (Unduplicated)
Texas	29	12	35	51
Iowa	***30***	***17***	***31***	***50***
Georgia	23	19	29	50
Minnesota	22	12	26	45
California	19	12	28	44
Illinois	22	8	27	42
Average Nationwide	12	6	16	25

*Includes wireline technologies other than asymmetric digital subscriber line (ADSL), optical fiber-to the subscriber's premises, satellite, and terrestrial wireless systems.

The above table shows that Iowa is ranked number two in the nation when it comes to the number of providers of high-speed lines. This is probably due to the large number of incumbent telephone companies Iowa has when compared to other states.

High-Speed Lines by Technology as of June 30, 2004

(Over 200 kbps in at least one direction)

	ADSL	Cable	Other*
Iowa	28.54%	65.83%	5.63%
Nationwide	35.12%	57.28%	7.60%

*Includes wireline technologies other than asymmetric digital subscriber line (ADSL), optical fiber-to the subscriber's premises, satellite, and terrestrial wireless systems.

According to the IUB survey, cable modem technology is more prevalent in non-rural communities, which may be an indication of why the percentage of the cable technology in Iowa is higher than the national average.

The IUB survey reports at the community level, rather than the number of high-speed lines. It notes that xDSL is available in 623 out of 1208 communities, or 51.6 percent while wireless is available in 417 out of 1208 communities, or 34.5 percent. Cable modem technologies are available in 348 out of 1208 communities, or 28.8 percent. This would seem to contradict the FCC data. The FCC data is taking the number of high-speed lines for the technology divided by the total number of high-speed lines in the state, whereas the IUB study is just looking at whether a technology is available in a particular community.

Overall Growth Percent of All High-Speed Lines
(Over 200 kbps in at least one direction)

	From December 2003 to June 2004	From June 2003 to June 2004
Iowa	20.03%	41.63%
Nationwide	14.98%	38.36%

Growth Percent of ADSL High-Speed Lines
(Over 200 kbps in at least one direction)

	From December 2003 to June 2004	From June 2003 to June 2004
Iowa	35.98%	66.51%
Nationwide	19.86%	48.51%

Growth Percent of Cable High-Speed Lines
(Over 200 kbps in at least one direction)

	From December 2003 to June 2004	From June 2003 to June 2004
Iowa	15.43%	35.39%
Nationwide	13.05%	35.87%

The FCC data for the 6 months of December 2003 to June 2004 indicate the growth rate for high-speed lines in Iowa exceeded the National average. The data for the 12 months of June 2003 to June 2004 also shows the growth rate for high-speed lines in Iowa exceeded the National average except in cable technology where it was just below the National average.

Although the FCC data above is not directly comparable to the IUB survey data, the FCC data seems to indicate that near-term deployment schedules were less aggressive as the overall deployment rates increase. The data from the July 2004 IUB survey would be comparable to the FCC data if not for plans of one incumbent provider. Due to the efforts of that provider, the data from the IUB survey indicates a more aggressive deployment rate for the next 12 months.

High-Speed Lines by Type of User as of June 30, 2004
(Over 200 kbps in at least one direction)

	Residential & Small Businesses	Other*
Iowa	95.65%	4.35%
Nationwide	92.70%	7.30%

*Includes medium and large business, institutional and governmental customers.

The FCC data in the table above shows the breakdown of high-speed users. The IUB survey does not capture data that distinguishes between residential/small business lines or 'other' lines.

Percentage of Zip Codes with High-Speed Lines in Service as of June 30, 2004

(Over 200 kbps in at least one direction)

	Number of Providers										
	Zero	One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten or More
Iowa	17%	24%	21%	13%	10%	8%	4%	3%	1%	0%	0%
Nationwide	6%	14%	17%	15%	12%	8%	6%	4%	4%	3%	12%

The IUB survey is compiled by community rather than by zip code so the data is not directly comparable. The IUB survey results as of July 2004 show that 330 of the 1208 communities (27.3%) have no high-speed Internet providers, 436 communities (36.1%) have one provider, 271 communities (22.4%) have two providers, 108 communities (8.9%) have three providers, 38 communities (3.1%) have four providers, and 25 communities (2.1%) have more than five providers.

6.0 SUMMARY

The deployment of high-speed Internet technologies in the state of Iowa continues to best be described as a "work in progress." The Fourth Assessment measures the progress by creating a snapshot of the current availability of high-speed Internet technologies across the state of Iowa.

The results of the Fourth Assessment, when compared to earlier assessments, clearly indicate that progress continues to be made in the deployment of high-speed Internet technologies. The presence of xDSL, cable modems, wireless (licensed and unlicensed), and satellite technologies among rural and non-rural Iowa communities continues to increase. Over 72 percent of the 935 rural communities and nearly 73 percent of the 273 non-rural communities had access to at least one type of high-speed Internet technology as of July 2004. This compares to 67.8 percent of the 935 rural communities and 67.5 percent of the 274 non-rural communities with high-speed Internet access in January 2003.

As Iowans continue to blend the use of the Internet into their daily lives, the need for and interest in the deployment of high-speed Internet will continue to grow. It will be critical to the economic and social vitality of Iowa that this technology be available to all areas of the state. The policymakers and the information industry will continue to discuss how and when high-speed Internet technologies will be delivered as the state seeks to ensure high-speed Internet access is available for all Iowans.

LIST OF ACRONYMS

Bps – Bits Per Second

CLEC – Competitive Local Exchange Carrier

DSL – Digital Subscriber Line

FCC – Federal Communications Commission

IDED – Iowa Department of Economic Development

ILEC – Incumbent Local Exchange Carrier

IUB – Iowa Utilities Board

Kbps – Thousand Bits Per Second

LEC – Local Exchange Carrier

xDSL – Family of Digital Subscriber Line Services

ATTACHMENT A

SURVEY INSTRUMENTS

Iowa Utilities Board Broadband Internet Access Survey Cover Letter

Iowa Utilities Board Broadband Internet Access Survey for LECs

Iowa Utilities Board Broadband Internet Access Survey for Wireless Providers

Iowa Utilities Board Broadband Internet Access Survey for Cable Providers

Fields of Opportunities

STATE OF IOWA

THOMAS J. VILSACK
GOVERNOR
SALLY J. PEDERSON
LT. GOVERNOR

IOWA UTILITIES BOARD
IOWA DEPARTMENT OF COMMERCE

July 1, 2004

The Iowa Utilities Board (IUB) continues to evaluate the availability of high-speed Internet access in the state. Senate File 2433 initiated the original assessment conducted in July 2000. Follow-up assessments were conducted in September 2001 and January 2003. As with the previous assessments, this one will measure the continued deployment of these services and compare them to the previously recorded results. Additionally, this assessment will provide further information for issues related to technical and policy concerns in Iowa.

Similar to the prior assessments, this study will survey all entities capable of providing high-speed broadband Internet access services in Iowa, including facilities-based local exchange carriers, cable providers, and wireless companies. This survey will assess the immediate availability of these services by geographic region of the state

Once completed, the results and conclusions of the IUB's fourth assessment will be contained in a report entitled, "Assessing High-Speed Internet Access in the State of Iowa: Assessment IV." This report, when finished, will be available with the previous reports on the Utilities Board's Web site at www.state.ia.us/iub.

In order to successfully complete the fourth assessment, the Utilities Board needs your help in responding to the attached surveys, which are also available online at www.state.ia.us/iub. The attached surveys are in Word format and you can respond to the survey by utilizing the "drop-down boxes" in each of the applicable columns. Additional sheets can be attached if necessary. We ask that you to take a few minutes to complete the enclosed surveys and return them by **July 30, 2004,** (either electronically or through conventional mail) to:

Brenda Biddle, Utility Analyst
Iowa Utilities Board
350 Maple Street
Des Moines, IA 50319
E-Mail: brenda.biddle@iub.state.ia.us
Phone: 515-242-0218 Fax: 515-281-5329

Your input is crucial to the success of the fourth assessment. All information will be aggregated on an industry basis only.

Finally, in order to maintain an updated contact database for future assessments, please complete the top portion of the survey and check the applicable box even if you do not currently provide high-speed Internet service greater than 200 Kbps in the state of Iowa.

Thank you for your prompt assistance in this fourth assessment.

Sincerely,

Diane Munns, Chairperson Mark Lambert, Board Member Elliott Smith, Board Member

IOWA UTILITIES BOARD BROADBAND INTERNET ACCESS SURVEY FOR LOCAL EXCHANGE CARRIERS (LECs) AS OF JULY 1, 2004

Company Name: _____ Contact Person: _____

Address: _____ Fax #: _____

E-Mail Address: _____ Telephone #: _____

1. Does your company currently provide xDSL Services greater than 200 Kbps in the State of Iowa? **(Mark Applicable Response) Yes** ☐ **No** ☐

2. Please use the worksheet format to provide the following information for **EACH Community** served in Iowa. Additional sheets are necessary if you serve more than 10 communities.

a) List All **Communities** Served by the LEC	**b)** List the Corresponding **Telephone Exchange** that Serves this Community	**c)** In what **Capacity** Does your Company Serve this Community (ILEC, CLEC, or Other)	**d)** Total Number of Access Lines in this Community (Round to nearest 100)*	**e)** Do you Currently Offer this Community Access to xDSL Services (Yes, No, NA)	**f)** Number of Access Lines **Currently** Providing xDSL Services to Customers in this Community (% Option)	**g)** Number of Access Lines that **Can be Equipped** to Provide xDSL Services to Customers in this Community within 30 days (% Option)	**h)** Do You Plan to Offer xDSL Services Greater than 200 Kbps in this Community within the Next 12 Months (Yes, No, NA)	**i)** Does the Data Speed Exceed 200 Kbps (Yes, No, NA)		**j)** Assess the Relationship Between Customers and xDSL Services in this Community (Low, Medium, High)	
								Down-Stream	**Up-Stream**	**Customer Inquiries****	**Customer Demand*****
1)											
2)											
3)											
4)											
5)											
6)											
7)											
8)											
9)											
10)											

*** If you do not want the number of access lines by community released, please mark "confidential" in this cell and provide the percentage of access lines in all relevant columns. If you are using the % option, please use the % sign after each number.**

"Customer inquiries" for xDSL services greater than 200 Kbps is defined as: **Low (received 3% or less inquiries); **Medium** (received between 4% and 19% inquiries); or **High** (received 20% or greater inquiries).

***"**Customer demand**" for xDSL services greater than 200 Kbps is defined as: **Low** (3% or less of customers are subscribed to xDSL services); **Medium** (between 4% and 19% of customers are subscribed to xDSL services); or **High** (20% or greater of customers are subscribed to xDSL services).

3. Please attach any marketing materials or price schedules related to your company's line of xDSL services to this assessment.

IUB Contact: Brenda Biddle **Phone: (515) 242-0218** **E-Mail: brenda.biddle@iub.state.ia.us**

IOWA UTILITIES BOARD BROADBAND INTERNET ACCESS SURVEY FOR WIRELESS PROVIDERS AS OF JULY 1, 2004

Company Name: _____ Contact Person: _____

Address: _____ Fax #: _____

E-Mail Address: _____ Telephone #: _____

1. Does your company currently provide wireless data services greater than 200 Kbps (similar to xDSL in the wireline industry) in the State of Iowa? **(Mark Applicable Response) Yes** ☐ **No** ☐

2. Please use the worksheet format to provide the following information for **EACH Community** served in Iowa. Additional sheets are necessary if you serve more than 10 communities.

a) List All **Communities** Served by the Wireless Provider *(Also, Please include **ALL** Communities in which your Company Plans to Provide Wireless Technologies within the Next 12 Months)*	**b)** Does this Community Currently have Access to Broadband Internet Service Using Wireless Technologies (Yes, No, NA)	**c)** Total Number of Customers in this Community (Round to nearest 100)*	**d)** Number of Customers **Currently** Receiving Broadband Internet Using Wireless Technologies in this Community					**e)** Do You Plan to Offer Broadband Internet Access Greater than 200 Kbps Using Wireless Technologies in this Community within the Next 12 Months (Yes, No, NA)	**i)** Does the Data Speed Exceed 200 Kbps (Yes, No, NA)		**j)** Assess the Relationship Between Customers and Broadband Internet Services Using Wireless Technologies in this Community (Low, Medium, High)	
			MMDS	**LMDS**	**Satellite**	**Unlicensed Spread Spectrum**	**Other** *(Please Identify)*		**Down-Stream**	**Up-Stream**	**Customer Inquiries***	**Customer Demand****
1)												
2)												
3)												
4)												
5)												
6)												
7)												
8)												
9)												
10)												

*"**Customer inquiries**" for wireless services greater than 200 Kbps is defined as: **Low** (received 3% or less inquiries); **Medium** (received between 4% and 19% inquiries); or **High** (received 20% or greater inquiries).
"Customer demand**" for wireless services greater than 200 Kbps is defined as: **Low** (3% or less of customers are subscribed to wireless services); **Medium** (between 4% and 19% of customers are subscribed to wireless services); or **High** (20% or greater of customers are subscribed to wireless services).

3. Please attach any marketing materials or price schedules related to your company's line of wireless services to this assessment.

IUB Contact: Brenda Biddle **Phone: (515) 242-0218** **E-Mail: brenda.biddle@iub.state.ia.us**

IOWA UTILITIES BOARD BROADBAND INTERNET ACCESS SURVEY FOR CABLE PROVIDERS AS OF JULY 1, 2004

Company Name: _____ Contact Person: _____

Address: _____ Fax #: _____

E-Mail Address: _____ Telephone #: _____

1. Does your company currently provide cable modem data services greater than 200 Kbps (similar to xDSL in the wireline industry) in the State of Iowa? **(Mark Applicable Response)**
Yes ☐ **No** ☐

2. Please use the worksheet format to provide the following information for **EACH Community** served in Iowa. Additional sheets are necessary if you serve more than 10 communities.

a) List All **Communities** Served by the Cable Provider *(Also, Please include **ALL** Communities in which your Company Plans to Provide Cable Modem Technologies within the Next 12 Months)*	**b)** Does this Community Currently have Access to Broadband Internet Service Using Cable Modems (Yes, No, NA)	**c)** Total Number of Customers in this Community (Round to nearest 100)*	**d)** Number of Customers **Currently** Accessing Broadband Internet Using Cable Modems in this Community	**e)** Do You Plan to Offer Broadband Internet Access Greater than 200 Kbps Using Cable Modems in this Community within the Next 12 Months (Yes, No, NA)	**i)** Does the Data Speed Exceed 200 Kbps (Yes, No, NA)		**j)** Assess the Relationship Between Customers and Broadband Internet Services Using Cable Modems in this Community (Low, Medium, High)	
					Down-Stream	**Up-Stream**	**Customer Inquiries***	**Customer Demand****
1)								
2)								
3)								
4)								
5)								
6)								
7)								
8)								
9)								
10)								

*"**Customer inquiries**" for cable modem services greater than 200 Kbps is defined as: **Low** (received 3% or less inquiries); **Medium** (received between 4% and 19% inquiries); or **High** (received 20% or greater inquiries).
"Customer demand**" for cable modem services greater than 200 Kbps is defined as: **Low** (3% or less of customers are subscribed to cable modem services); **Medium** (between 4% and 19% of customers are subscribed to cable modem services); or **High** (20% or greater of customers are subscribed to cable modem services).
3. Please attach any marketing materials or price schedules related to your company's line of cable modem services to this assessment.

IUB Contact: Brenda Biddle **Phone: (515) 242-0218** **E-Mail: brenda.biddle@iub.state.ia.us**

ATTACHMENT B

MAPS

Iowa Utilities Board High-Speed Internet Technology Map for: xDSL, Cable Modem and Wireless Service

- Communities with High-Speed Internet Available as of July 2004
- Communities with High-Speed Internet Proposed by July 2005

Iowa Utilities Board High-Speed Internet Technology Map for xDSL Service

- Communities with High-Speed xDSL Available as of July 2004
- Communities with High-Speed xDSL Proposed by July 2005

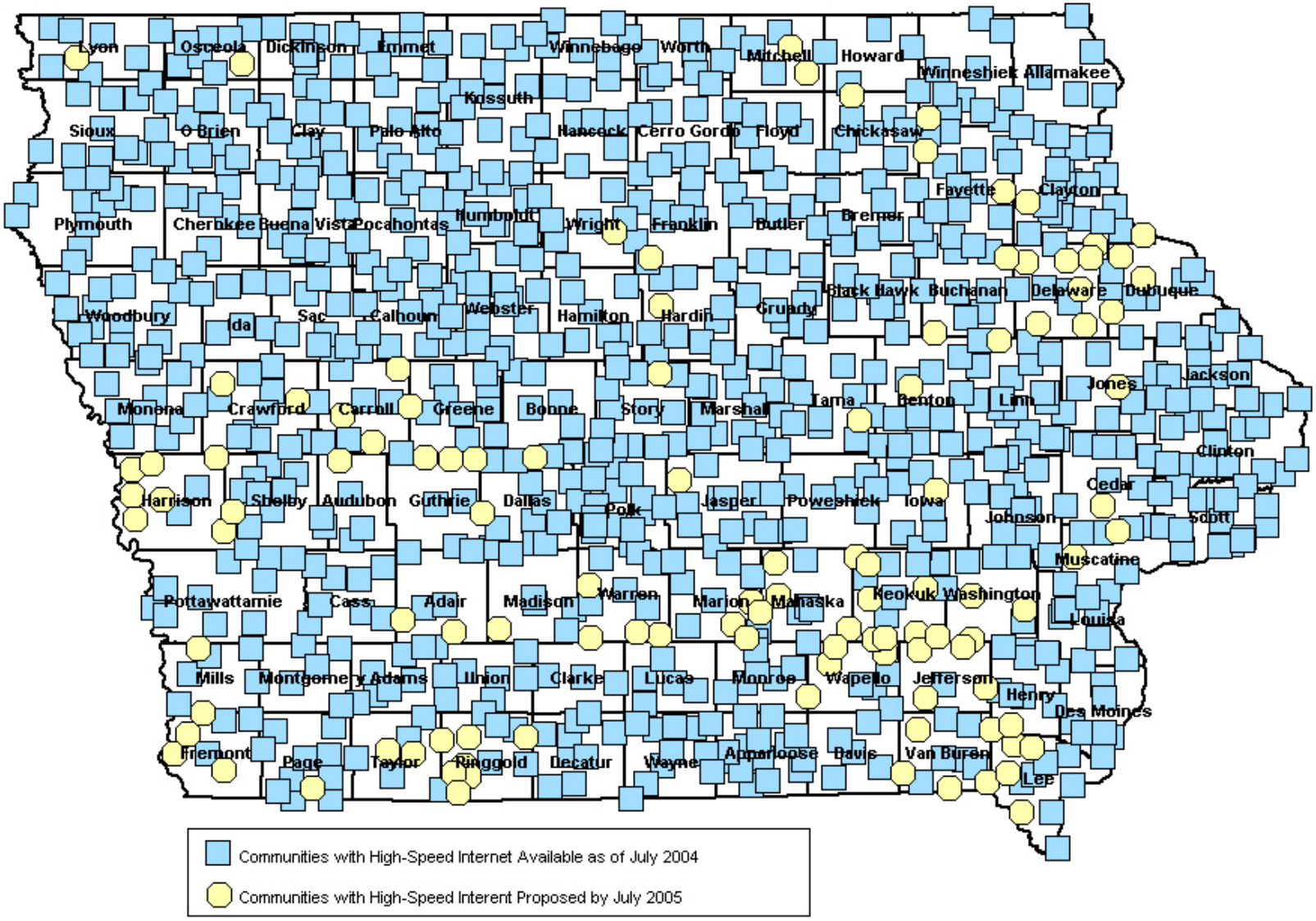
Iowa Utilities Board High-Speed Internet Technology Map for Cable-Modem Service

- Communities with High-Speed Cable-Modem Available as of July 2004
- Communities with High-Speed Cable-Modem Proposed by July 2005

Iowa Utilities Board High-Speed Internet Technology Map for Wireless Service

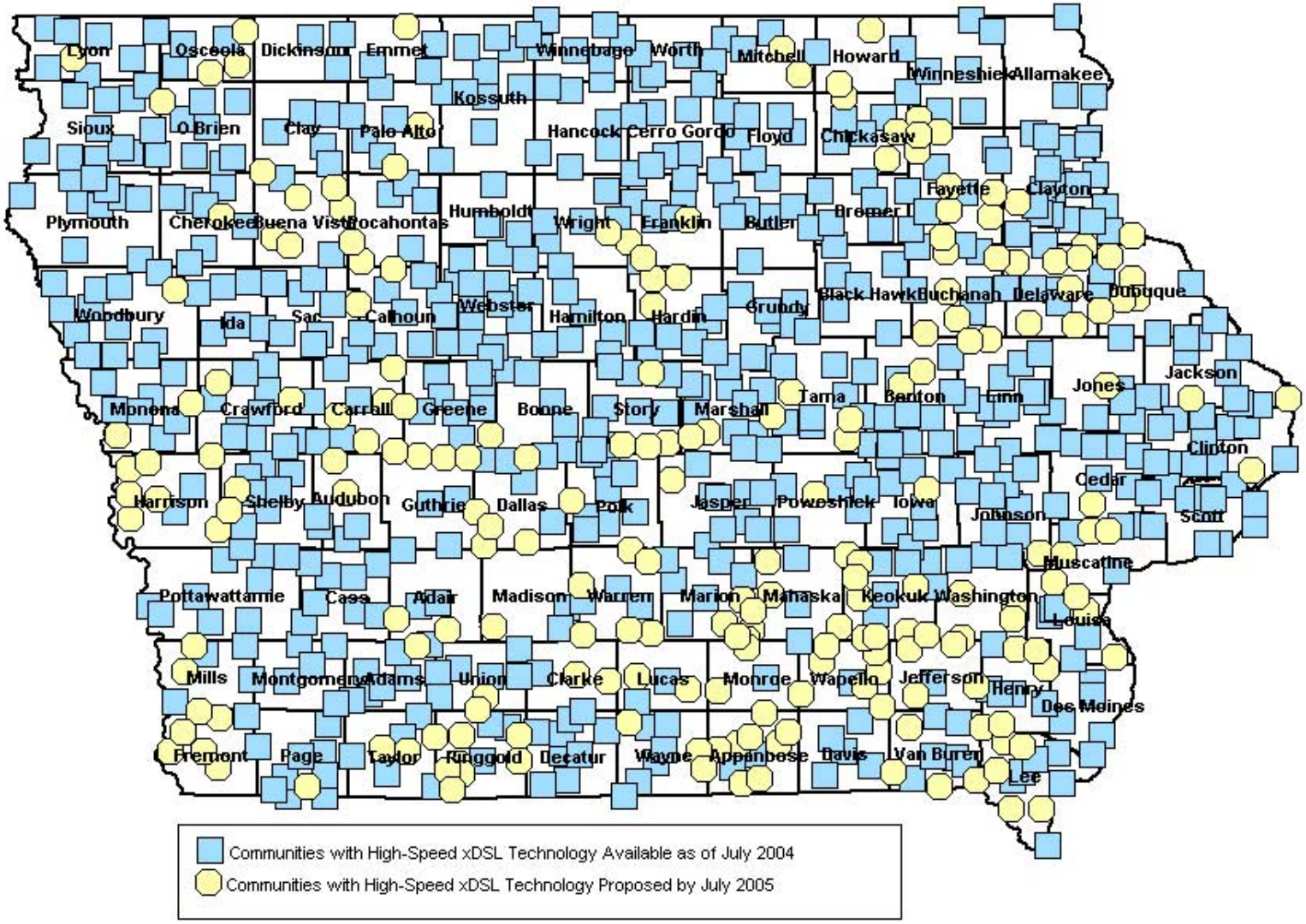
- Communities with High-Speed Wireless Available as of July 2004
- Communities with High-Speed Wireless Proposed by July 2005

STATE OF IOWA
High-Speed Technology Map
xDSL, Cable-Modem, and Wireless Services
July 2004



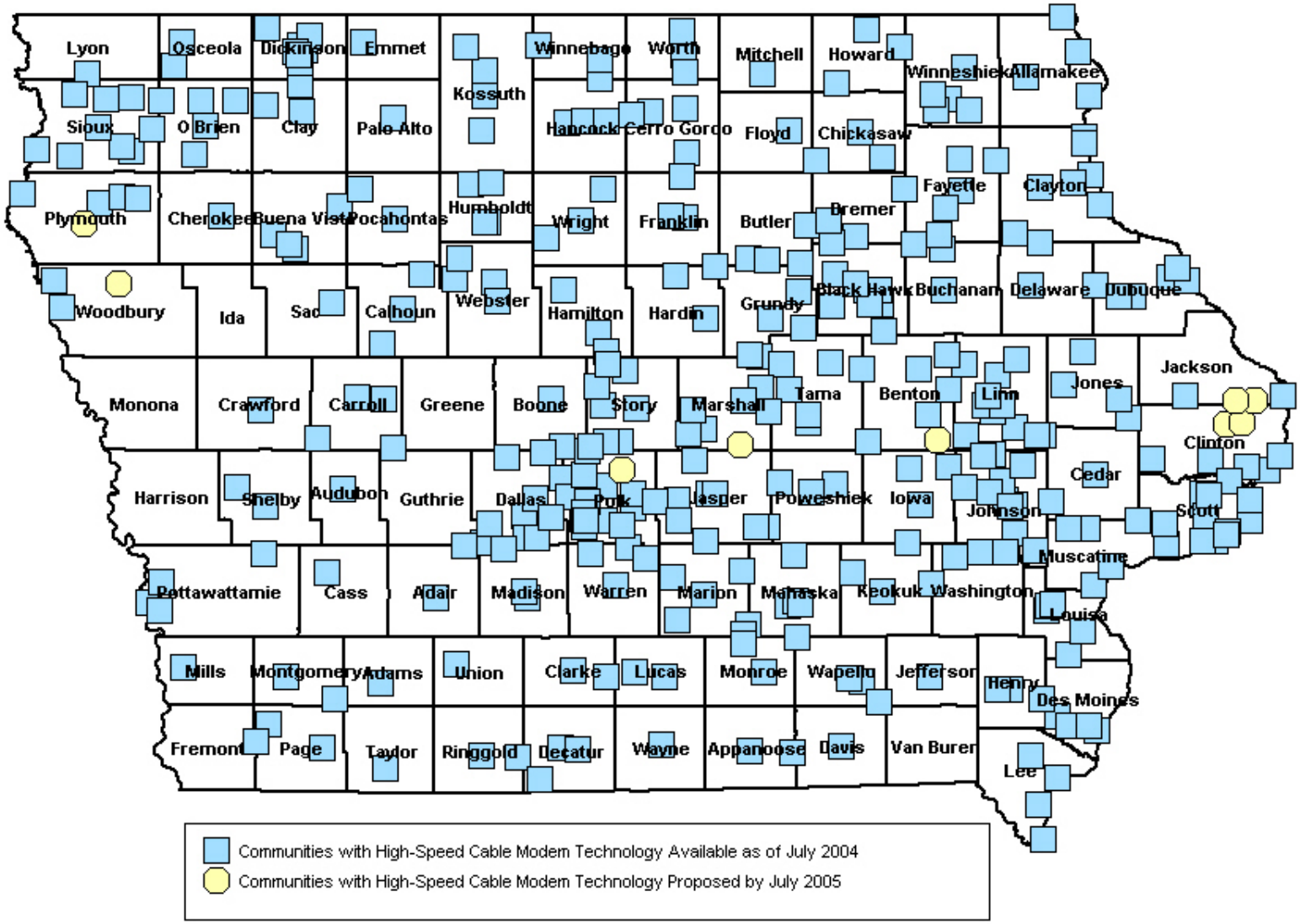
Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

STATE OF IOWA
High-Speed Technology Map
xDSL Service
July 2004



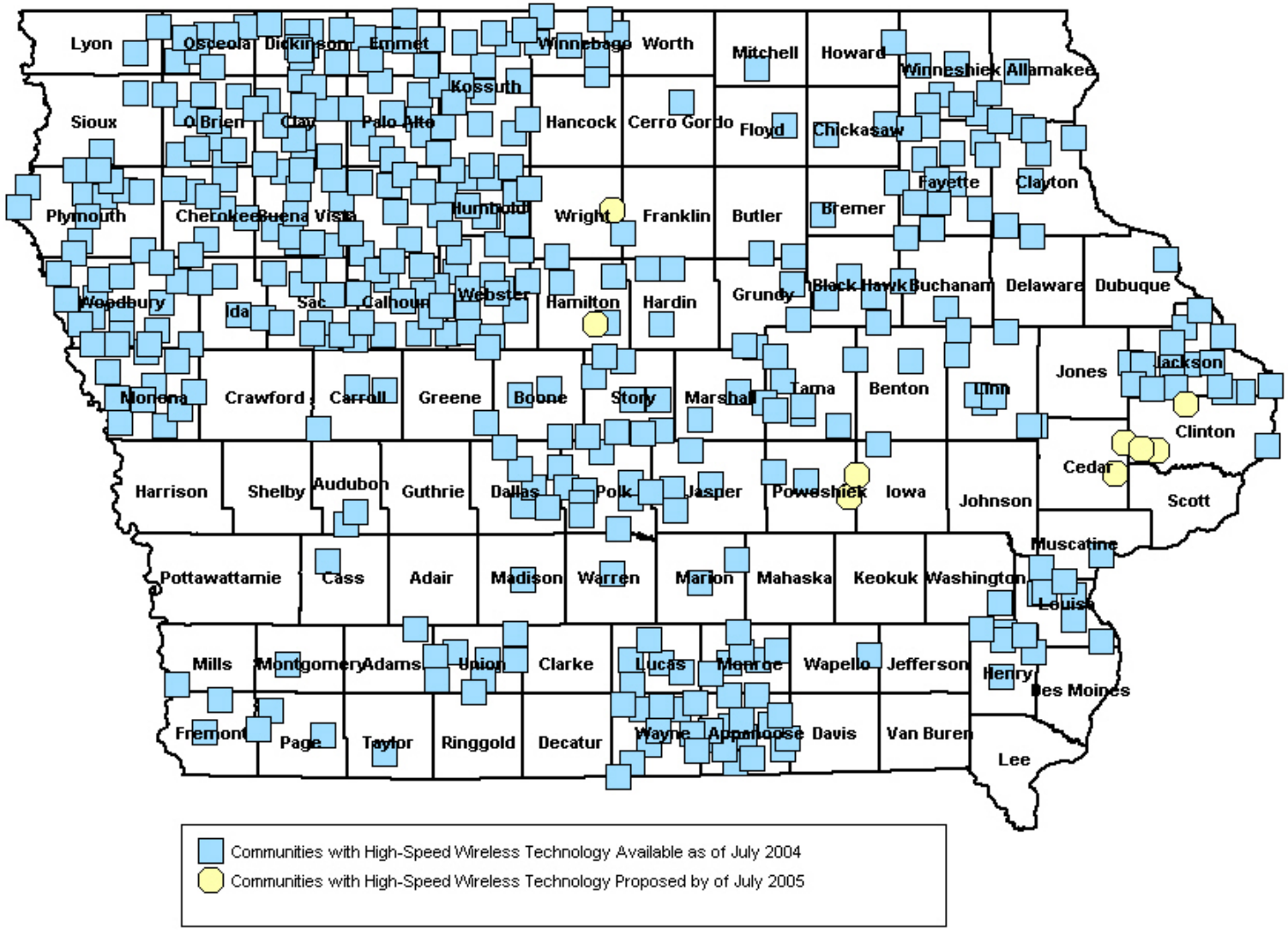
Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

STATE OF IOWA
High-Speed Technology Map
Cable-Modem Service
July 2004



Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

STATE OF IOWA
High-Speed Technology Map
Wireless Service
July 2004



Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

ATTACHMENT C

Fourth Assessment of Iowa Communities Accessing High-Speed Technologies

(As of July 2004)

FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Adair	Adair	R	X	X				
Adair	Bridgewater	R		X				
Adair	Fontanelle	R	X	X				
Adair	Greenfield	R	X	X	X	X		
Adair	Orient	R		X				
Adams	Brooks	R	X	X				
Adams	Carbon	R	X	X				
Adams	Corning	R	X	X	X	X		
Adams	Mercer Center	R	X	X				
Adams	Nevinville	R	X	X				
Adams	Nodaway	R	X	X				
Adams	Prescott	R	X	X				
Allamakee	Hanover	U						
Allamakee	Harper's Ferry	R	X	X	X	X		
Allamakee	Lansing	R			X	X		
Allamakee	New Albin	R	X	X	X	X		
Allamakee	Postville	R					X	X
Allamakee	Rossville	U						
Allamakee	South Spring Grove	R	X	X				
Allamakee	Waterville	R	X	X				
Allamakee	Waukon	U			X	X	X	X
Appanoose	Brazil	R						
Appanoose	Centerville	U	X	X	X	X	X	X
Appanoose	Cincinnati	R		X			X	X
Appanoose	Exline	R		X			X	X
Appanoose	Iconium	R					X	X
Appanoose	Jerome	R					X	X
Appanoose	Moravia	R		X			X	X
Appanoose	Moulton	R					X	X
Appanoose	Mystic	R		X			X	X
Appanoose	Numa	U	X	X			X	X
Appanoose	Plano	R		X			X	X
Appanoose	Rathbun	U		X			X	X

Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Appanoose	Udell	R		X			X	X
Appanoose	Unionville	R		X			X	X
Audubon	Audubon	R		X	X	X		
Audubon	Brayton	R	X	X			X	X
Audubon	Exira	R	X	X			X	X
Audubon	Gray	R		X				
Audubon	Hamlin	R						
Audubon	Kimballton	R	X	X				
Audubon	Ross	R						
Benton	Atkins	R						
Benton	Belle Plaine	U	X	X	X	X		
Benton	Blairstown	R	X	X				
Benton	Garrison	R	X	X				
Benton	Keystone	R	X	X				
Benton	Luzerne	U	X	X				
Benton	Mount Auburn	R						
Benton	Newhall	R	X	X	X	X		
Benton	Norway	R	X	X		X		
Benton	Shellsburg	R	X	X	X	X		
Benton	Urbana	R	X	X	X	X		
Benton	Van Horne	R	X	X				
Benton	Vinton	U		X	X	X	X	X
Benton	Walford	R						
Benton	Watkins	R						
Black Hawk	Cedar Falls	U	X	X	X	X		
Black Hawk	Dewar	U						
Black Hawk	Dunkerton	R	X	X				
Black Hawk	Elk Run Heights	U			X	X		
Black Hawk	Evansdale	U			X	X		
Black Hawk	Gilbertville	U			X	X	X	X
Black Hawk	Hudson	R			X	X	X	X
Black Hawk	La Porte City	R	X	X	X	X	X	X
Black Hawk	Raymond	U			X	X		

Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Black Hawk	Washburn	U			X	X		
Black Hawk	Waterloo	U	X	X	X	X	X	X
Boone	Jordan	R						
Boone	Napier	U						
Boone	Beaver	R						
Boone	Berkley	R						
Boone	Boone	U	X	X	X	X	X	X
Boone	Boxholm	R	X	X				
Boone	Fraser	R						
Boone	Luther	R	X	X				
Boone	Madrid	U	X	X	X	X	X	X
Boone	Ogden	R					X	X
Boone	Pilot Mound	R	X	X				
Bremer	Bremer	U						
Bremer	Buck Creek	R						
Bremer	Denver	R			X	X		
Bremer	Frederkia	R	X	X				
Bremer	Horton	R						
Bremer	Janesville	R	X	X	X	X		
Bremer	Plainfield	R	X	X				
Bremer	Readlyn	R	X	X				
Bremer	Sumner	R	X	X	X	X	X	X
Bremer	Tripoli	R	X	X				
Bremer	Waverly	U	X	X	X	X	X	X
Buchanan	Aurora	R	X	X				
Buchanan	Brandon	R		X				
Buchanan	Fairbank	R	X	X	X	X	X	X
Buchanan	Hazleton	R		X	X	X		
Buchanan	Independence	U		X	X	X		
Buchanan	Jesup	R	X	X			X	X
Buchanan	Lamont	R		X				
Buchanan	Littleton	R						
Buchanan	Quasqueton	R	X	X				

Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Buchanan	Rowley	R		X			X	X
Buchanan	Stanley	R	X	X				
Buchanan	Winthrop	R	X	X				
Buena Vista	Albert City	R		X	X	X	X	X
Buena Vista	Alta	U		X	X	X	X	X
Buena Vista	Lakeside	U			X	X	X	X
Buena Vista	Linn Grove	R	X	X			X	X
Buena Vista	Marathon	R		X			X	X
Buena Vista	Newell	R	X	X			X	X
Buena Vista	Rembrandt	R		X			X	X
Buena Vista	Sioux Rapids	R					X	X
Buena Vista	Storm Lake	U		X	X	X	X	X
Buena Vista	Sulphur Springs	U					X	X
Buena Vista	Truesdale	U					X	X
Butler	Allison	R	X	X				
Butler	Aplington	R	X	X	X	X		
Butler	Aredale	R	X	X				
Butler	Austinville	R						
Butler	Bristow	R	X	X				
Butler	Clarksville	R	X	X				
Butler	Dumont	R	X	X				
Butler	Greene	R	X	X				
Butler	New Hartford	R			X	X	X	X
Butler	Parkersburg	R			X	X	X	X
Butler	Shell Rock	R	X	X	X	X		
Butler	Sinclair	R						
Calhoun	Farnhamville	R	X	X			X	X
Calhoun	Jolley	R	X	X			X	X
Calhoun	Knierim	R	X	X			X	X
Calhoun	Knoke	R					X	X
Calhoun	Lake City	R	X	X	X	X	X	X
Calhoun	Lohrville	R	X	X			X	X
Calhoun	Manson	R	X	X	X	X	X	X

Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Calhoun	Pomeroy	R		X			X	X
Calhoun	Richard	R					X	X
Calhoun	Rinard	R					X	X
Calhoun	Rockwell City	R	X	X	X	X	X	X
Calhoun	Somers	R	X	X			X	X
Calhoun	Yetter	R	X	X			X	X
Carroll	Arcadia	R						
Carroll	Breda	R	X	X				
Carroll	Carroll	U	X	X	X	X	X	X
Carroll	Coon Rapids	R		X	X	X		
Carroll	Dedham	R		X				
Carroll	Glidden	R		X	X	X	X	X
Carroll	Halbur	R		X				
Carroll	Lanesboro	R		X				
Carroll	Lidderdale	R						
Carroll	Manning	R	X	X	X	X	X	X
Carroll	Maple River Junction	U						
Carroll	Mount Carmel	U						
Carroll	Ralston	R		X				
Carroll	Roselle	U						
Carroll	Templeton	R	X	X				
Carroll	Willey	U						
Cass	Anita	R	X	X				
Cass	Atlantic	U	X	X	X	X	X	X
Cass	Cumberland	R	X	X				
Cass	Griswold	R	X	X				
Cass	Lewis	R	X	X				
Cass	Lyman	R						
Cass	Marne	R	X	X				
Cass	Massena	R	X	X				
Cass	Wiota	R	X	X				
Cedar	Bennett	R	X	X				X
Cedar	Buchanan	U						

Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Cedar	Cedar Bluff	U						
Cedar	Clarence	R	X	X				
Cedar	Downey	R						
Cedar	Durant	R	X	X	X	X		
Cedar	Lowden	R	X	X				X
Cedar	Massillion	R						
Cedar	Mechanicsville	R	X	X				
Cedar	Rochester	R		X				
Cedar	Springdale	R						
Cedar	Stanwood	R	X	X				
Cedar	Sunbury	R						
Cedar	Tipton	U	X	X	X	X		
Cedar	West Branch	R	X	X	X	X		
Cerro Gordo	Burchinal	R						
Cerro Gordo	Cartersville	R						
Cerro Gordo	Clear Lake	U	X	X	X	X		
Cerro Gordo	Dougherty	R	X	X				
Cerro Gordo	Mason City	U	X	X	X	X	X	X
Cerro Gordo	Meservey	R	X	X				
Cerro Gordo	Plymouth	R	X	X				
Cerro Gordo	Rock Falls	R						
Cerro Gordo	Rockwell	R	X	X	X	X		
Cerro Gordo	Swaledale	R	X	X				
Cerro Gordo	Thornton	R	X	X				
Cerro Gordo	Ventura	R	X	X	X	X		
Cherokee	Aurelia	R	X	X			X	X
Cherokee	Cherokee	U		X	X	X	X	X
Cherokee	Cleghorn	R	X	X			X	X
Cherokee	Larrabee	R	X	X			X	X
Cherokee	Marcus	R	X	X			X	X
Cherokee	Meriden	R	X	X			X	X
Cherokee	Quimby	R	X	X			X	X
Cherokee	Washta	R	X	X			X	X

Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Chickasaw	Alta Vista	R		X				
Chickasaw	Bassett	U						
Chickasaw	Bradford	U						
Chickasaw	Fredericksburg	R		X	X	X		
Chickasaw	Ionia	U	X	X			X	X
Chickasaw	Lawler	R		X			X	X
Chickasaw	Nashua	R			X	X		
Chickasaw	New Hampton	U	X	X	X	X		
Chickasaw	North Washington	R	X	X				
Clarke	Murray	R	X	X				
Clarke	Osceola	U		X	X	X		
Clarke	Woodburn	R		X	X	X		
Clay	Cornell	R					X	X
Clay	Dickens	R	X	X			X	X
Clay	Everly	R			X	X	X	X
Clay	Fostoria	U			X	X	X	X
Clay	Gillett Grove	R	X	X				
Clay	Greenville	U					X	X
Clay	Langdon	U					X	X
Clay	Peterson	R		X			X	X
Clay	Rossie	U					X	X
Clay	Royal	R	X	X			X	X
Clay	Spencer	U	X	X	X	X	X	X
Clay	Webb	R	X	X			X	X
Clayton	Clayton	R	X	X	X	X		
Clayton	Clayton Center	R	X	X				
Clayton	Communia	R	X	X				
Clayton	East Amana	R						
Clayton	Elkader	R	X	X	X	X	X	X
Clayton	Elkport	R	X	X				
Clayton	Farmersburg	R	X	X			X	X
Clayton	Garber	R	X	X				
Clayton	Garnavillo	R	X	X	X	X		

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			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
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Clayton	Giard	R	X	X				
Clayton	Guttenburg	R	X	X	X	X		
Clayton	Littleport	R	X	X				
Clayton	Luana	R	X	X			X	X
Clayton	Marquette	R	X	X	X	X		
Clayton	McGregor	R	X	X	X	X	X	X
Clayton	Mederville	R	X	X				
Clayton	Millville	R	X	X				
Clayton	Monona	R	X	X			X	X
Clayton	North Buena Vista	R		X				
Clayton	Osborne	R	X	X				
Clayton	Osterdock	R	X	X				
Clayton	Saint Olaf	R						
Clayton	Strawberry Point	R	X	X	X	X	X	X
Clayton	Volga	R		X				
Clinton	Andover	R						
Clinton	Bryant	R						
Clinton	Calamus	R	X	X				X
Clinton	Camanche	U			X	X		
Clinton	Charlotte	R	X	X		X		
Clinton	Clinton	U	X	X	X	X	X	X
Clinton	Delmar	R	X	X				X
Clinton	DeWitt	R	X	X	X	X		
Clinton	Elvira	R						
Clinton	Elwood	R	X	X				
Clinton	Goose Lake	R	X	X		X		
Clinton	Grand Mound	R	X	X				
Clinton	Lost Nation	R	X	X				
Clinton	Low Moor	R		X	X	X		
Clinton	Toronto	R						
Clinton	Welton	R	X	X				
Clinton	Wheatland	R	X	X	X	X		X
Crawford	Arion	R	X	X				
Crawford	Aspinwall	R	X	X				

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Crawford	Boyer	R						
Crawford	Buck Grove	R	X	X				
Crawford	Charter Oak	R	X	X				
Crawford	Deloit	U	X	X				
Crawford	Denison	U	X	X	X	X		
Crawford	Dow City	R	X	X				
Crawford	Kiron	R	X	X				
Crawford	Manilla	R	X	X				
Crawford	Ricketts	R		X				
Crawford	Schleswig	R	X	X				
Crawford	Vail	R		X				
Crawford	Westside	R	X	X				
Dallas	Adel	U			X	X	X	X
Dallas	Booneville	R						
Dallas	Bouton	R		X				
Dallas	Dallas Center	R			X	X	X	X
Dallas	Dawson	U	X	X				
Dallas	DeSoto	R		X	X	X		
Dallas	Dexter	R		X	X	X		
Dallas	Granger	R			X	X	X	X
Dallas	Linden	R		X				
Dallas	Minburn	R	X	X			X	X
Dallas	Perry	U	X	X	X	X	X	X
Dallas	Redfield	R		X	X	X		
Dallas	Van Meter	R			X	X		
Dallas	Waukee	U	X	X	X	X	X	X
Dallas	Woodward	R	X	X	X	X		
Davis	Bloomfield	U	X	X	X	X		
Davis	Drakesville	R	X	X				
Davis	Floris	R	X	X				
Davis	Mark	R	X	X				
Davis	Pulaski	R	X	X				
Davis	Troy	R						
Davis	West Grove	R						

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Decatur	Davis City	R	X	X				
Decatur	Decatur City	R	X	X	X	X		
Decatur	Garden Grove	R	X	X				
Decatur	Grand River	R	X	X				
Decatur	Lamoni	R	X	X	X	X		
Decatur	Leon	R	X	X	X	X		
Decatur	LeRoy, MN (Bailey, IA)	R						
Decatur	Pleasanton	R						
Decatur	Van Wert	R	X	X				
Decatur	Weldon	R	X	X				
Decatur	Woodland	R						
Delaware	Colesburg	R		X				
Delaware	Delaware	R	X	X				
Delaware	Delhi	R	X	X				
Delaware	Dundee	R		X				
Delaware	Earlville	R		X				
Delaware	Edgewood	R	X	X	X	X	X	X
Delaware	Greeley	R		X				
Delaware	Hopkinton	R		X				
Delaware	Manchester	U	X	X	X	X		
Delaware	Masonville	U	X	X				
Delaware	Oneida	R						
Delaware	Ryan	R		X				
Delaware	Sand Springs	U						
Delaware	Petersburg	R						
Des Moines	Burlington	U	X	X	X	X		
Des Moines	Danville	R	X	X	X	X		
Des Moines	Dodgeville	R						
Des Moines	Kingston	R	X	X				
Des Moines	Kossuth	R						
Des Moines	Mediapolis	R	X	X				
Des Moines	Middletown	U			X	X		
Des Moines	Sperry	R	X	X				
Des Moines	West Burlington	U			X	X		

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Dickinson	Arnolds Park	R			X	X	X	X
Dickinson	Lake Park	R			X	X	X	X
Dickinson	Milford	R			X	X	X	X
Dickinson	Okoboji	R			X	X	X	X
Dickinson	Orleans	U			X	X	X	X
Dickinson	Spirit Lake	U	X	X	X	X	X	X
Dickinson	Superior	R	X	X			X	X
Dickinson	Terril	R	X	X			X	X
Dickinson	Triboji Beach	U					X	X
Dickinson	Wahpeton	R			X	X	X	X
Dickinson	West Okoboji	R			X	X	X	X
Dubuque	Asbury	R			X	X		
Dubuque	Balltown	U						
Dubuque	Bankston	R		X				
Dubuque	Bernard	R	X	X				
Dubuque	Cascade	R	X	X				
Dubuque	Center Grove	U						
Dubuque	Centralia	U						
Dubuque	Dubuque	U	X	X	X	X		
Dubuque	Durango	U						
Dubuque	Dyersville	U	X	X	X	X		
Dubuque	Epworth	R		X	X	X		
Dubuque	Farley	R		X	X	X		
Dubuque	Graf	U						
Dubuque	Holy Cross	R		X				
Dubuque	Keywest	U						
Dubuque	Luxemburg	R		X				
Dubuque	New Vienna	R	X	X				
Dubuque	Peosta	U						
Dubuque	Peru	R		X				
Dubuque	Rickardsville	U						
Dubuque	Sageville	U			X	X		
Dubuque	Sherrill	U						

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Dubuque	Worthington	R		X				
Dubuque	Zwingle	U	X	X				
Emmet	Armstrong	R	X	X			X	X
Emmet	Dolliver	R		X			X	X
Emmet	Estherville	U			X	X	X	X
Emmet	Gruver	U					X	X
Emmet	Maple Hill	U					X	X
Emmet	Ringsted	R	X	X			X	X
Emmet	Wallingford	R	X	X			X	X
Fayette	Alpha	R		X				
Fayette	Arlington	R		X			X	X
Fayette	Clermont	R	X	X			X	X
Fayette	Donnan	R						
Fayette	Eldorado	R						
Fayette	Elgin	R	X	X	X	X	X	X
Fayette	Fayette	R	X	X	X	X	X	X
Fayette	Hawkeye	R	X	X			X	X
Fayette	Maynard	R		X	X	X	X	X
Fayette	Oelwein	U		X	X	X	X	X
Fayette	Oran	R	X	X				
Fayette	Randalia	R		X			X	X
Fayette	Saint Lucas	R		X			X	X
Fayette	Wadena	R		X				
Fayette	Waucoma	R		X			X	X
Fayette	West Union	R			X	X	X	X
Fayette	Westgate	R	X	X			X	X
Floyd	Charles City	U	X	X	X	X	X	X
Floyd	Colwell	U						
Floyd	Floyd	R	X	X				
Floyd	Marble Rock	R	X	X				
Floyd	Nora Springs	R	X	X				
Floyd	Rockford	R	X	X				
Floyd	Rudd	R	X	X				

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Franklin	Alexander	R	X	X				
Franklin	Chapin	R	X	X				
Franklin	Coulter	R	X	X				
Franklin	Faulkner	R						
Franklin	Geneva	U		X				
Franklin	Hampton	U		X	X	X		
Franklin	Hansell	U						
Franklin	Latimer	R	X	X				
Franklin	Popejoy	R		X				
Franklin	Sheffield	R	X	X	X	X		
Fremont	Bartlett	R						
Fremont	Farragut	R						
Fremont	Hamburg	R						
Fremont	Imogene	R	X	X				
Fremont	Percival	R		X				
Fremont	Randolph	R		X			X	X
Fremont	Riverton	R		X				
Fremont	Sidney	R		X			X	X
Fremont	Tabor	R		X				
Fremont	Thurman	R		X				
Greene	Adaza	R						
Greene	Churdan	R	X	X				
Greene	Cooper	U	X	X				
Greene	Dana	R	X	X				
Greene	Farlin	U	X	X				
Greene	Grand Junction	R	X	X				
Greene	Jefferson	U	X	X				
Greene	Paton	R	X	X				
Greene	Rippey	R		X			X	X
Greene	Scranton	R	X	X				
Grundy	Beaman	R	X	X	X	X	X	X
Grundy	Conrad	R	X	X	X	X	X	X
Grundy	Dike	R			X	X	X	X

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Grundy	Grundy Center	U	X	X	X	X		
Grundy	Holland	U	X	X				
Grundy	Morrison	U	X	X				
Grundy	Reinbeck	R	X	X	X	X	X	X
Grundy	Stout	R						
Grundy	Wellsburg	R	X	X				
Guthrie	Bagley	R		X				
Guthrie	Bayard	R		X				
Guthrie	Casey	R						
Guthrie	Guthrie Center	R	X	X				
Guthrie	Herndon	R						
Guthrie	Jamaica	R		X				
Guthrie	Menlo	R	X	X				
Guthrie	Monteith	R						
Guthrie	Panora	R	X	X				
Guthrie	Stuart	R			X	X		
Guthrie	Yale	R						
Hamilton	Blairsburg	R						
Hamilton	Ellsworth	R	X	X			X	X
Hamilton	Jewell	R			X	X		X
Hamilton	Kamrar	R	X	X				
Hamilton	Randall	R	X	X	X	X		
Hamilton	Stanhope	R	X	X				
Hamilton	Stratford	R	X	X				
Hamilton	Webster City	U	X	X	X	X	X	X
Hamilton	Williams	R					X	X
Hancock	Britt	R			X	X		
Hancock	Corwith	R	X	X				
Hancock	Crystal Lake	R	X	X				
Hancock	Duncan	R			X	X		
Hancock	Garner	U	X	X	X	X		
Hancock	Goodell	R						
Hancock	Hayfield	U						

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Hancock	Hutchins	R						
Hancock	Kanawha	R	X	X				
Hancock	Klemme	R	X	X				
Hancock	Miller	R						
Hancock	Mills	R						
Hancock	Woden	R	X	X				
Hardin	Ackley	R			X	X		
Hardin	Alden	R		X			X	X
Hardin	Buckeye	R		X				
Hardin	Cleves	R						
Hardin	Eldora	U	X	X	X	X		
Hardin	Garden City	R	X	X				
Hardin	Gifford	U						
Hardin	Hubbard	R	X	X			X	X
Hardin	Iowa Falls	U		X	X	X	X	X
Hardin	Lawn Hill	R						
Hardin	New Providence	R	X	X				
Hardin	Owasa	U						
Hardin	Radcliffe	R	X	X				
Hardin	Steamboat Rock	R	X	X				
Hardin	Union	R	X	X				
Hardin	Whitten	R						
Harrison	Dunlap	R		X				
Harrison	Little Sioux	R		X				
Harrison	Logan	R	X	X				
Harrison	Magnolia	R		X				
Harrison	Missouri Valley	U						
Harrison	Modale	R		X				
Harrison	Mondamin	R		X				
Harrison	Persia	R		X				
Harrison	Pisgah	R		X				
Harrison	River Sioux	R						
Harrison	Woodbine	R	X	X				

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Henry	Coppock	R						
Henry	Hillsboro	R		X				
Henry	Mount Pleasant	U	X	X	X	X	X	X
Henry	Mount Union	R		X			X	X
Henry	New London	R	X	X	X	X		
Henry	Olds	R		X			X	X
Henry	Rome	U	X	X				
Henry	Salem	R		X				
Henry	Swedesburg	R					X	X
Henry	Trenton	R						
Henry	Wayland	R	X	X			X	X
Henry	Westwood	U	X	X	X	X		
Henry	Winfield	R		X			X	X
Henry	Yarmouth	R						
Howard	Chester	R						
Howard	Cresco	U	X	X	X	X	X	X
Howard	Elma	R		X	X	X		
Howard	Lime Spring	R		X	X	X		
Howard	Protivin	R	X	X				
Humboldt	Bode	R			X	X	X	X
Humboldt	Bradgate	R					X	X
Humboldt	Dakota City	U	X	X	X	X	X	X
Humboldt	Gilmore City	R					X	X
Humboldt	Hardy	R					X	X
Humboldt	Humboldt	U	X	X	X	X	X	X
Humboldt	Livermore	R	X	X	X	X	X	X
Humboldt	Ottosen	R					X	X
Humboldt	Pioneer	R					X	X
Humboldt	Renwick	R					X	X
Humboldt	Rutland	U					X	X
Humboldt	Thor	R	X	X			X	X
Ida	Arthur	R	X	X			X	X
Ida	Battle Creek	R	X	X				

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Ida	Galva	R	X	X				
Ida	Holstein	R	X	X			X	X
Ida	Ida Grove	R	X	X			X	X
Iowa	Amana	R	X	X	X	X		
Iowa	Conroy	R		X				
Iowa	Koszta	R						
Iowa	Ladora	R	X	X				
Iowa	Marengo	U	X	X	X	X		
Iowa	Middle Amana	R						
Iowa	Millersburg	R	X	X				
Iowa	North English	R	X	X	X	X		
Iowa	Parnell	U	X	X				
Iowa	Victor	R	X	X				X
Iowa	West Amana	R						
Iowa	Williamsburg	U	X	X	X	X		
Jackson	Andrew	R					X	X
Jackson	Baldwin	R	X	X			X	X
Jackson	Bellevue	R	X	X			X	X
Jackson	Canton	U					X	X
Jackson	Emeline	U					X	X
Jackson	Fulton	U					X	X
Jackson	Hurstville	U					X	X
Jackson	La Motte	R	X	X			X	X
Jackson	Maquoketa	U		X	X	X	X	X
Jackson	Miles	R	X	X		X	X	X
Jackson	Monmouth	R	X	X			X	X
Jackson	Nashville	R					X	X
Jackson	Otter Creek	R	X	X			X	X
Jackson	Preston	R	X	X		X	X	X
Jackson	Sabula	R		X	X	X	X	X
Jackson	Saint Donatus	U	X	X			X	X
Jackson	Spragueville	R	X	X			X	X
Jackson	Springbrook	R	X	X			X	X

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Jasper	Baxter	R	X	X	X	X	X	X
Jasper	Colfax	R			X	X	X	X
Jasper	Galesburg	R						
Jasper	Ira	R						
Jasper	Kellogg	R	X	X				
Jasper	Killduff	R	X	X				
Jasper	Lamb's Grove	U	X	X	X	X		
Jasper	Lynnville	R	X	X	X	X		
Jasper	Mingo	R		X				
Jasper	Monroe	R	X	X	X	X		
Jasper	Newton	U	X	X	X	X	X	X
Jasper	Oakland Acres	U	X	X				
Jasper	Prairie City	R			X	X	X	X
Jasper	Reasnor	R	X	X				
Jasper	Sully	R	X	X	X	X		
Jasper	Valeria	R						
Jasper	Vandalia	R						
Jefferson	Abingdon	R						
Jefferson	Batavia	R						
Jefferson	Fairfield	U	X	X	X	X		
Jefferson	Libertyville	R		X				
Jefferson	Linby	R						
Jefferson	Lockridge	R		X				
Jefferson	Packwood	R		X				
Jefferson	Pleasant Plain	R		X				
Johnson	Carl	R	X	X				
Johnson	Coralville	U	X	X	X	X		
Johnson	Frytown	R						
Johnson	Hills	R	X	X	X	X		
Johnson	Iowa City	U	X	X	X	X		
Johnson	Lone Tree	R		X	X	X		
Johnson	North Liberty	U	X	X	X	X		
Johnson	Oasis	R						

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Johnson	Oxford	R	X	X	X	X		
Johnson	Sharon Center	R	X	X				
Johnson	Shueyville	R			X	X		
Johnson	Solon	R	X	X	X	X		
Johnson	Swisher	R	X	X	X	X		
Johnson	Tiffin	R	X	X	X	X		
Johnson	University Heights	U			X	X		
Jones	Amber	U						
Jones	Anamosa	U			X	X		
Jones	Center Junction	R		X				
Jones	Fairview	U						
Jones	Hale	R						
Jones	Langworthy	U						
Jones	Martelle	R	X	X				
Jones	Monticello	U			X	X		
Jones	Morley	R						
Jones	Olin	R	X	X				
Jones	Onslow	R	X	X				
Jones	Oxford Junction	R	X	X	X	X		
Jones	Oxford Mills	R						
Jones	Scotch Grove	U						
Jones	Stone City	U						
Jones	Wyoming	R	X	X	X	X		
Keokuk	Delta	R		X				
Keokuk	Gibson	R		X				
Keokuk	Harper	R		X				
Keokuk	Hayesville	R	X	X				
Keokuk	Hedrick	R		X				
Keokuk	Keota	R	X	X	X	X		
Keokuk	Keswick	R	X	X				
Keokuk	Kinross	R	X	X				
Keokuk	Martinsburg	R		X				
Keokuk	Ollie	R		X				

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FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Keokuk	Pekin	R						
Keokuk	Richland	R		X				
Keokuk	Sigourney	R	X	X	X	X		
Keokuk	South English	R	X	X				
Keokuk	Tallyrand	R						
Keokuk	Thornburg	R		X				
Keokuk	Webster	R						
Keokuk	What Cheer	R		X	X	X		
Kossuth	Algona	U	X	X	X	X	X	X
Kossuth	Bancroft	R	X	X	X	X	X	X
Kossuth	Burt	R	X	X	X	X	X	X
Kossuth	Fenton	R	X	X			X	X
Kossuth	Lakota	R	X	X			X	X
Kossuth	Ledyard	R	X	X			X	X
Keokuk	Pekin	R						
Kossuth	Lone Rock	R	X	X			X	X
Kossuth	Lotts Creek	R					X	X
Kossuth	LuVerne	R					X	X
Kossuth	Saint Benedict	R					X	X
Kossuth	Saint Joseph	R					X	X
Kossuth	Stevens	R	X	X			X	X
Kossuth	Swea City	R	X	X	X	X	X	X
Kossuth	Titonka	R	X	X			X	X
Kossuth	Wesley	R					X	X
Kossuth	Whittemore	R					X	X
Lee	Argyle	R		X				
Lee	Denmark	R	X	X				
Lee	Donnellson	R	X	X				
Lee	Fort Madison	U	X	X	X	X		
Lee	Franklin	R	X	X				
Lee	Houghton	R		X				
Lee	Keokuk	U	X	X	X	X		
Lee	Montrose	R		X	X	X		

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			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
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Lee	Primrose	R		X				
Lee	Saint Paul	R		X				
Lee	West Point	R	X	X	X	X		
Lee	Wever	U						
Linn	Alburnett	R	X	X	X	X		
Linn	Bertram	U			X	X		
Linn	Cedar Rapids	U	X	X	X	X	X	X
Linn	Center Point	R			X	X	X	X
Linn	Central City	R	X	X	X	X		
Linn	Coggon	R					X	X
Linn	Ely	R	X	X				
Linn	Fairfax	R	X	X	X	X		
Linn	Hiawatha	U	X	X	X	X	X	X
Linn	LaFayette	R						
Linn	Lisbon	R	X	X	X	X	X	X
Linn	Marion	U	X	X	X	X	X	X
Linn	Mount Vernon	U			X	X	X	X
Linn	Palo	R	X	X				
Linn	Paris	R						
Linn	Prairieburg	R	X	X				
Linn	Robins	U			X	X		
Linn	Springville	R	X	X				
Linn	Toddville	U						
Linn	Troy Mills	R		X				
Linn	Viola	R	X	X				
Linn	Walker	R		X			X	X
Linn	Whitter	R	X	X				
Louisa	Columbus City	R	X	X	X	X		
Louisa	Columbus Junction	R	X	X	X	X	X	X
Louisa	Cotter	R						
Louisa	Fredonia	R	X	X	X	X	X	X
Louisa	Grandview	R		X			X	X
Louisa	Letts	R		X			X	X

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			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
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Louisa	Morning Sun	R	X	X	X	X		
Louisa	Oakville	R		X			X	X
Louisa	Wapello	R	X	X	X	X	X	X
Louisa	Wyman	R						
Lucas	Chariton	U	X	X	X	X	X	X
Lucas	Derby	R	X	X			X	X
Lucas	Lucas	R		X	X	X	X	X
Lucas	Oakley	R					X	X
Lucas	Russell	R		X			X	X
Lucas	Williamson	R		X			X	X
Lyon	Alvord	R		X				
Lyon	Doon	R	X	X	X	X		
Lyon	George	R	X	X	X	X	X	X
Lyon	Inwood	R	X	X				
Lyon	Larchwood	R	X	X				
Lyon	Lester	R	X	X				
Lyon	Little Rock	R	X	X			X	X
Lyon	Rock Rapids	U	X	X				
Madison	Bevington	U						
Madison	Earlham	R			X	X		
Madison	East Peru	R						
Madison	Macksburg	R		X				
Madison	Patterson	U						
Madison	Saint Charles	R	X	X				
Madison	Truro	R	X	X				
Madison	Winterset	U			X	X	X	X
Mahaska	Barnes City	R						
Mahaska	Beacon	U			X	X		
Mahaska	Cedar	R						
Mahaska	Fremont	R		X				
Mahaska	Keomah Village	U						
Mahaska	Lacey	U						
Mahaska	Leighton	R		X				

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Mahaska	New Sharon	R	X	X	X	X		
Mahaska	Oskaloosa	U	X	X	X	X		
Mahaska	Peoria	R		X				
Mahaska	Rose Hill	R						
Mahaska	Taintor	R						
Mahaska	University Park	U			X	X		
Marion	Attica	R		X				
Marion	Bussey	R		X	X	X		
Marion	Columbia	R						
Marion	Dallas	R			X	X		
Marion	Flagler	U						
Marion	Hamilton	R		X	X	X		
Marion	Hancock	R	X	X				
Marion	Harvey	U		X				
Marion	Knoxville	U	X	X	X	X	X	X
Marion	Marysville	R		X				
Marion	Melcher	R	X	X	X	X		
Marion	Otley	R	X	X				
Marion	Pella	U	X	X	X	X	X	X
Marion	Pershing	R						
Marion	Pleasantville	R	X	X	X	X		
Marion	Swan	R	X	X				
Marion	Tracy	R		X				
Marshall	Albion	R	X	X				
Marshall	Bangor	R						
Marshall	Clemons	R	X	X				
Marshall	Ferguson	R	X	X				
Marshall	Gilman	R	X	X				
Marshall	Green Mountain	R	X	X	X	X		
Marshall	Haverhill	R	X	X				
Marshall	La Moille	U						
Marshall	Laurel	R	X	X		X		
Marshall	LeGrand	R		X	X	X	X	X

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Marshall	Liscomb	R	X	X				
Marshall	Marietta	U						
Marshall	Marshalltown	U	X	X	X	X	X	X
Marshall	Melbourne	R		X	X	X	X	X
Marshall	Rhodes	R		X	X	X		
Marshall	Saint Anthony	R	X	X				
Marshall	State Center	R	X	X	X	X		
Marshall	Van Cleve	R						
Mills	Emerson	R	X	X				
Mills	Glenwood	U		X	X	X		
Mills	Hastings	R						
Mills	Henderson	R	X	X				
Mills	Malvern	R						
Mills	Mineola	U		X				
Mills	Pacific Junction	R						
Mills	Silver City	U	X	X				
Mills	Strahan	R						
Mitchell	Carpenter	R	X	X				
Mitchell	Little Cedar	R		X				
Mitchell	McIntire	R						
Mitchell	Meyer	R						
Mitchell	Mitchell	U						
Mitchell	New Haven	R		X				
Mitchell	Orchard	U						
Mitchell	Osage	U			X	X	X	X
Mitchell	Riceville	R	X	X				
Mitchell	Saint Ansgar	R	X	X				
Mitchell	Stacyville	R	X	X				
Mitchell	Toeterville	R						
Monona	Blencoe	R		X			X	X
Monona	Castana	R	X	X			X	X
Monona	Mapleton	R	X	X			X	X
Monona	Moorhead	R	X	X			X	X

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			Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Monona	Onawa	U	X	X			X	X
Monona	Rodney	R					X	X
Monona	Soldier	R	X	X			X	X
Monona	Turin	R	X	X			X	X
Monona	Ute	R		X			X	X
Monona	Whiting	R	X	X			X	X
Monroe	Albia	U	X	X	X	X	X	X
Monroe	Avery	U					X	X
Monroe	Georgetown	U					X	X
Monroe	Hiteman	R					X	X
Monroe	Lovilia	R		X	X	X	X	X
Monroe	Melrose	R		X			X	X
Montgomery	Coburg	U						
Montgomery	Elliot	R	X	X				
Montgomery	Grant	R	X	X				
Montgomery	Red Oak	U	X	X	X	X	X	X
Montgomery	Stanton	R	X	X				
Montgomery	Villisca	R	X	X	X	X		
Muscatine	Atalissa	R		X	X	X		
Muscatine	Montpelier	U						
Muscatine	Moscow	R		X				
Muscatine	Muscatine	U	X	X	X	X	X	X
Muscatine	Nichols	R		X				
Muscatine	Stockton	U	X	X				
Muscatine	West Liberty	U	X	X	X	X		
Muscatine	Wilton	U	X	X				
O'Brien	Archer	R	X	X			X	X
O'Brien	Calumet	R	X	X			X	X
O'Brien	Gaza	R					X	X
O'Brien	Germantown	R					X	X
O'Brien	Hartley	R	X	X	X	X	X	X
O'Brien	Moneta	R					X	X
O'Brien	Paullina	R	X	X	X	X	X	X
O'Brien	Primghar	R	X	X	X	X	X	X

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O'Brien	Sanborn	R	X	X	X	X	X	X
O'Brien	Sheldon	U		X	X	X	X	X
O'Brien	Sutherland	R	X	X			X	X
Osceola	Allendorf	U					X	X
Osceola	Ashton	R	X	X	X	X	X	X
Osceola	Bigelow, MN (S. Bigelow, IA)	R					X	X
Osceola	Cloverdale	U					X	X
Osceola	Harris	R		X			X	X
Osceola	May City	R		X				
Osceola	Melvin	R		X			X	X
Osceola	Ocheyedan	R	X	X			X	X
Osceola	Sibley	U	X	X	X	X	X	X
Page	Bethesda -Region	R						
Page	Bingham	U						
Page	Blanchard	R	X	X				
Page	Braddyville	R	X	X				
Page	Clarinda	U	X	X	X	X	X	X
Page	Coin	R	X	X				
Page	College Springs	R		X				
Page	Essex	R			X	X	X	X
Page	Hawleyville	U						
Page	Hepburn	U	X	X				
Page	Northboro	R	X	X				
Page	Shambaugh	R	X	X				
Page	Shenandoah	U	X	X	X	X	X	X
Page	Yorktown	U	X	X				
Palo Alto	Ayrshire	R	X	X			X	X
Palo Alto	Curlew	R	X	X			X	X
Palo Alto	Cylinder	R		X			X	X
Palo Alto	Depew	R					X	X
Palo Alto	Emmetsburg	U	X	X	X	X	X	X
Palo Alto	Graettinger	R	X	X			X	X
Palo Alto	Mallard	R		X			X	X

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Palo Alto	Rodman	R					X	X
Palo Alto	Ruthven	R	X	X			X	X
Palo Alto	West Bend	R	X	X			X	X
Plymouth	Akron	R	X	X	X	X	X	X
Plymouth	Brunsville	R	X	X			X	X
Plymouth	Craig	R	X	X			X	X
Plymouth	Hinton	R	X	X			X	X
Plymouth	James	U					X	X
Plymouth	Kingsley	R	X	X			X	X
Plymouth	LeMars	U	X	X	X	X	X	X
Plymouth	Merrill	R				X	X	X
Plymouth	Oyens	U	X	X	X	X	X	X
Plymouth	Remsen	R	X	X	X	X	X	X
Plymouth	Senely	U	X	X			X	X
Plymouth	Struble	R	X	X			X	X
Plymouth	West Akron	R					X	X
Plymouth	Westfield	R					X	X
Pocahontas	Fonda	R		X			X	X
Pocahontas	Havelock	R	X	X			X	X
Pocahontas	Laurens	R			X	X	X	X
Pocahontas	Palmer	R	X	X			X	X
Pocahontas	Plover	R	X	X			X	X
Pocahontas	Pocahontas	R			X	X	X	X
Pocahontas	Rolfe	R	X	X			X	X
Pocahontas	Varina	R		X			X	X
Polk	Alleman	R	X	X			X	X
Polk	Altoona	U	X	X	X	X	X	X
Polk	Ankeny	U	X	X	X	X		
Polk	Avon	U					X	X
Polk	Berwick	R						
Polk	Bondurant	U			X	X	X	X
Polk	Clive	U			X	X		
Polk	Des Moines	U	X	X	X	X		

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Polk	Elkhart	R	X	X		X		
Polk	Enterprise	U						
Polk	Farrar	R						
Polk	Grimes	U		X	X	X	X	X
Polk	Johnston	U			X	X	X	X
Polk	Mitchellville	U			X	X	X	X
Polk	Pleasant Hill	U			X	X		
Polk	Polk City	R			X	X		
Polk	Rising Sun	U						
Polk	Runnells	R						
Polk	Saylorville	U						
Polk	Urbandale	U	X	X	X	X	X	X
Polk	West Des Moines	U	X	X	X	X	X	X
Polk	Windsor Heights	U			X	X		
Pottawattamie	Avoca	R	X	X	X	X		
Pottawattamie	Bentley	R						
Pottawattamie	Carson	R	X	X				
Pottawattamie	Carter Lake	U	X	X	X	X		
Pottawattamie	Council Bluffs	U	X	X	X	X		
Pottawattamie	Crescent	R			X	X		
Pottawattamie	Loveland	U						
Pottawattamie	Macedonia	R						
Pottawattamie	Manawa	U	X	X				
Pottawattamie	McClelland	R	X	X				
Pottawattamie	Minden	R	X	X				
Pottawattamie	Neola	R						
Pottawattamie	Oakland	R	X	X				
Pottawattamie	Treynor	R	X	X				
Pottawattamie	Underwood	R						
Pottawattamie	Walnut	R	X	X				
Pottawattamie	Weston	R						
Poweshiek	Brooklyn	R	X	X	X	X		
Poweshiek	Deep River	R						

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Poweshiek	Ewart	R						
Poweshiek	Forest Home	R						
Poweshiek	Grinnell	U	X	X	X	X	X	X
Poweshiek	Guernsey	R	X	X				X
Poweshiek	Hartwick	R	X	X				
Poweshiek	Malcom	R		X	X	X	X	X
Poweshiek	Montezuma	R						
Poweshiek	Searsboro	R	X	X				
Ringgold	Beaconsfield	R		X				
Ringgold	Benton	R		X				
Ringgold	Delphos	R		X				
Ringgold	Diagonal	R		X				
Ringgold	Ellston	R	X	X				
Ringgold	Kellerton	R		X	X	X		
Ringgold	Maloy	R		X				
Ringgold	Mount Ayr	R	X	X	X	X		
Ringgold	Redding	R		X				
Ringgold	Tingley	R	X	X				
Sac	Auburn	R	X	X			X	X
Sac	Carnarvon	R					X	X
Sac	Early	R	X	X			X	X
Sac	Lake View	R	X	X			X	X
Sac	Lytton	R		X			X	X
Sac	Nemaha	R	X	X			X	X
Sac	Odebolt	R	X	X			X	X
Sac	Sac City	R	X	X	X	X	X	X
Sac	Schaller	R	X	X			X	X
Sac	Ulmer	R					X	X
Sac	Wall Lake	R	X	X			X	X
Scott	Bettendorf	U	X	X	X	X		
Scott	Big Rock	R						
Scott	Blue Grass	U			X	X		
Scott	Buffalo	U			X	X		

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Scott	Davenport	U	X	X	X	X		
Scott	Dixon	R	X	X				
Scott	Donahue	R	X	X				
Scott	Eldridge	U	X	X	X	X		
Scott	LeClaire	U	X	X	X	X		
Scott	Long Grove	U	X	X	X	X		
Scott	Maysville	U						
Scott	McCausland	R	X	X	X	X		
Scott	Mount Joy	U			X	X		
Scott	New Liberty	U	X	X				
Scott	Panorama Park	U			X	X		
Scott	Parkview	R	X	X	X	X		
Scott	Plainview	R						
Scott	Princeton	U	X	X	X	X		
Scott	Riverdale	U			X	X		
Scott	Walcott	R			X	X		
Shelby	Botna	R						
Shelby	Corley	R						
Shelby	Defiance	R	X	X				
Shelby	Earling	R	X	X				
Shelby	Elk Horn	R	X	X				
Shelby	Harlan	U	X	X	X	X		
Shelby	Irwin	R	X	X				
Shelby	Jacksonville	R	X	X				
Shelby	Kirkman	R	X	X				
Shelby	Panama	R		X	X	X		
Shelby	Portsmouth	R		X				
Shelby	Shelby	R	X	X				
Shelby	Tennant	R	X	X				
Shelby	Westphalia	R	X	X				
Sioux	Alton	R	X	X	X	X		
Sioux	Boyden	R	X	X	X	X	X	X
Sioux	Carmel	U						

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County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Sioux	Chatsworth	R						
Sioux	East Hudson	R	X	X				
Sioux	Granville	R	X	X				
Sioux	Hawarden	R	X	X	X	X		
Sioux	Hospers	R	X	X	X	X		
Sioux	Hull	R	X	X	X	X		
Sioux	Ireton	R	X	X	X	X		
Sioux	Matlock	R	X	X				
Sioux	Maurice	R	X	X			X	X
Sioux	Orange City	U	X	X	X	X		
Sioux	Perkins	R						
Sioux	Rock Valley	U	X	X	X	X		
Sioux	Sioux Center	U	X	X	X	X		
Story	Ames	U	X	X	X	X		
Story	Cambridge	R		X	X	X	X	X
Story	Collins	R		X			X	X
Story	Colo	R	X	X			X	X
Story	Fernald	U						
Story	Gilbert	U			X	X	X	X
Story	Huxley	R	X	X	X	X		
Story	Iowa Center	R						
Story	Kelley	R	X	X				
Story	Maxwell	R		X			X	X
Story	McCallsburg	R		X				
Story	Nevada	U	X	X	X	X	X	X
Story	Roland	R	X	X	X	X	X	X
Story	Sheldahl	R	X	X	X	X		
Story	Shipley	U						
Story	Slater	R	X	X	X	X	X	X
Story	Story City	U	X	X	X	X	X	X
Story	Zearing	R	X	X				
Tama	Buckingham	R						
Tama	Chelsea	R		X			X	X

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			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
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Tama	Clutier	R	X	X				
Tama	Dysart	R	X	X	X	X	X	X
Tama	Elberon	R	X	X				
Tama	Garwin	R		X	X	X	X	X
Tama	Gladbrook	R	X	X	X	X	X	X
Tama	Haven	R						
Tama	Irving	R						
Tama	Lincoln	R	X	X				
Tama	Montour	R	X	X			X	X
Tama	Tama	U	X	X	X	X	X	X
Tama	Toledo	U	X	X	X	X	X	X
Tama	Traer	R	X	X	X	X		
Tama	Vining	R		X				
Taylor	Athelstan	R						
Taylor	Bedford	R	X	X	X	X	X	X
Taylor	Blockton	R	X	X				
Taylor	Clearfield	R		X				
Taylor	Conway	R		X				
Taylor	Gravity	R		X				
Taylor	Lenox	R	X	X				
Taylor	New Market	R	X	X				
Taylor	Sharpsburg	R	X	X				
Union	Afton	R	X	X			X	X
Union	Arispe	R		X			X	X
Union	Creston	U	X	X	X	X	X	X
Union	Cromwell	U	X	X			X	X
Union	Kent	R	X	X			X	X
Union	Lorimor	R	X	X			X	X
Union	Shannon City	R		X			X	X
Union	Spaulding	R					X	X
Union	Thayer	R	X	X			X	X
Van Buren	Bentonsport	R	X	X				
Van Buren	Birmingham	R	X	X				

Availability of high-speed Internet access in a community does not mean the technology is available to all customers in that community.

FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Van Buren	Bonaparte	R	X	X				
Van Buren	Cantril	R	X	X				
Van Buren	Douds	R		X				
Van Buren	Farmington	R		X				
Van Buren	Keosauqua	R	X	X				
Van Buren	Leando	R						
Van Buren	Milton	R		X				
Van Buren	Mount Sterling	R		X				
Van Buren	Stockport	R	X	X				
Wapello	Agency	R		X	X	X		
Wapello	Bladensburg	R		X			X	X
Wapello	Blakesburg	R		X				
Wapello	Chillicothe	R		X				
Wapello	Eddyville	R	X	X	X	X		
Wapello	Eldon	R		X	X	X		
Wapello	Farson	R		X				
Wapello	Highland Center	R						
Wapello	Kirkville	R		X				
Wapello	Ottumwa	U	X	X	X	X		
Warren	Ackworth	U						
Warren	Beech	R						
Warren	Carlisle	U		X	X	X		
Warren	Cumming	U						
Warren	Hartford	U		X	X	X		
Warren	Indianola	U	X	X	X	X	X	X
Warren	Lacona	R		X				
Warren	Lakewood	U						
Warren	Liberty Center	R		X				
Warren	Martensdale	R		X				
Warren	Milo	R	X	X				
Warren	New Virginia	R		X				
Warren	Norwalk	U			X	X		
Warren	Palmyra	U						

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FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Warren	Prole	U						
Warren	Saint Marys	R	X	X				
Warren	Sandyville	U						
Warren	Spring Hill	U						
Washington	Ainsworth	R		X				
Washington	Brighton	R		X				
Washington	Crawfordsville	R		X			X	X
Washington	Daytonville	R						
Washington	Haskins	R						
Washington	JoeTown	R						
Washington	Kalona	R	X	X	X	X		
Washington	Richmond	R						
Washington	Riverside	R	X	X	X	X		
Washington	Rubio	R						
Washington	Washington	U	X	X	X	X		
Washington	Wellman	R	X	X	X	X		
Washington	West Chester	R		X				
Wayne	Allerton	R	X	X			X	X
Wayne	Bethlehem	R					X	X
Wayne	Cambria	R	X	X			X	X
Wayne	Clio	R	X	X			X	X
Wayne	Confidence	R					X	X
Wayne	Corydon	R	X	X	X	X	X	X
Wayne	Humeston	R		X			X	X
Wayne	Lineville	R	X	X			X	X
Wayne	Millerton	R	X	X			X	X
Wayne	Promise City	R		X			X	X
Wayne	Seymour	R		X			X	X
Webster	Badger	R	X	X			X	X
Webster	Barnum	R	X	X	X	X	X	X
Webster	Callender	R	X	X			X	X
Webster	Clare	R	X	X	X	X	X	X
Webster	Coalville	R	X	X			X	X

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FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Webster	Dayton	R	X	X			X	X
Webster	Duncombe	R	X	X			X	X
Webster	Fort Dodge	U	X	X	X	X	X	X
Webster	Gowrie	R	X	X			X	X
Webster	Harcourt	R	X	X			X	X
Webster	Lanyon	R	X	X			X	X
Webster	Lehigh	R	X	X			X	X
Webster	Moorland	R	X	X			X	X
Webster	Otho	R	X	X	X	X	X	X
Webster	Vincent	R	X	X			X	X
Winnebago	Buffalo Center	R	X	X	X	X	X	X
Winnebago	Forest City	U	X	X	X	X	X	X
Winnebago	Lake Mills	R	X	X			X	X
Winnebago	Leland	R	X	X	X	X	X	X
Winnebago	Rake	R	X	X			X	X
Winnebago	Scarville	R	X	X			X	X
Winnebago	Thompson	R	X	X			X	X
Winneshiek	Burr Oak	R	X	X			X	X
Winneshiek	Calmar	R			X	X	X	X
Winneshiek	Castalia	R					X	X
Winneshiek	Decorah	U	X	X	X	X	X	X
Winneshiek	Fort Atkinson	R	X	X	X	X	X	X
Winneshiek	Frankville	R					X	X
Winneshiek	Highlandville	R	X	X				
Winneshiek	Jackson Junction	R		X				
Winneshiek	Ossian	R	X	X	X	X	X	X
Winneshiek	Ridgeway	R	X	X				
Winneshiek	South Harmony	R	X	X				
Winneshiek	Spillville	R			X	X		
Winneshiek	Freeport	U						
Woodbury	Anthon	R					X	X
Woodbury	Bronson	R	X	X			X	X
Woodbury	Climbing Hill	R	X	X			X	X

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FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Woodbury	Correctionville	R		X			X	X
Woodbury	Cushing	R	X	X			X	X
Woodbury	Danbury	R					X	X
Woodbury	Holly Springs	R					X	X
Woodbury	Hornick	R	X	X			X	X
Woodbury	Lawton	R	X	X			X	X
Woodbury	Luton	R					X	X
Woodbury	Moville	R	X	X		X	X	X
Woodbury	Oto	R	X	X			X	X
Woodbury	Pierson	R	X	X			X	X
Woodbury	Port Neal	R					X	X
Woodbury	Salix	R	X	X			X	X
Woodbury	Sergeant Bluff	U	X	X	X	X	X	X
Woodbury	Sioux City	U	X	X	X	X	X	X
Woodbury	Sloan	R	X	X			X	X
Woodbury	Smithland	R	X	X			X	X
Worth	Fertile	R	X	X				
Worth	Grafton	R	X	X				
Worth	Hanlontown	R	X	X				
Worth	Joice	R	X	X				
Worth	Kensett	R	X	X	X	X		
Worth	Manly	R			X	X		
Worth	Northwood	R			X	X		
Worth	South Emmons	R	X	X				
Wright	Belmond	U	X	X	X	X		
Wright	Clarion	U	X	X	X	X		
Wright	Cornelia	U						
Wright	Dows	R		X			X	X
Wright	Eagle Grove	U	X	X	X	X		
Wright	Galt	U		X				
Wright	Goldfield	R	X	X				
Wright	Holmes	U						
Wright	Rowan	R	X	X				X

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FOURTH ASSESSMENT OF IOWA COMMUNITIES ACCESSING HIGH-SPEED TECHNOLOGIES								
			xDSL Technologies		Cable Modem Technologies		Wireless Technologies	
County Name	Community Name	Pop. Code	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05	Access as of July-04	Access by July-05
Wright	Tara	R	X	X				
Wright	Woolstock	R	X	X			X	X
State of Minnesota	Adams, MN (South Adams, IA)	R						
State of Minnesota	Hesper (S. Mabel)	R	X	X				
State of Minnesota	Kiester, MN (Amund, IA)	R						
State of Minnesota	Lyle, MN (Mona, IA)	R						
State of Missouri	North Hopkins	R						
	Ashworth	R						
	California Junction	U						
	Guss	R						
	Hill City	U						
	Northwest	R						
	Paris (Bunch)	R						
	Reeds	R						

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TELECOMMUNICATIONS COMPETITION SURVEY

FOR RETAIL LOCAL VOICE SERVICES IN IOWA

A Report of the

Iowa Utilities Board

Diane Munns, Chair
Mark Lambert
Elliott Smith

January 2004

TELECOMMUNICATIONS COMPETITION SURVEY

FOR RETAIL LOCAL VOICE SERVICES

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IUB Project Manager:

Larry M. Stevens
Utility Specialist – Policy Development
(515) 281-4725
larry.stevens@iub.state.ia.us

Iowa Utilities Board
350 Maple Street
Des Moines, IA 50319

January 2004

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY

IUB Authority to Deregulate Competitive Services

It is the policy of the State of Iowa that communications services should be available throughout the state from a variety of providers at just, reasonable, and affordable rates. Iowa Code § 476.95(1) (2003). The Iowa Utilities Board conducted this survey to evaluate the state's progress toward this goal.

Under Iowa law, the Board has a duty to deregulate a communications service or facility if the Board determines that the service or facility is subject to effective competition as defined in Iowa Code § 476.1D. The Board has used this authority to deregulate a wide variety of communications services during the last 20 years, including directory assistance, intrastate long-distance, wireless (cellular) telephone, and pay telephones. In order to make a finding of effective competition, the Board must determine: (1) there are multiple providers of a service and (2) existing market forces are sufficient to ensure just and reasonable rates without regulation. This survey report addresses only the first standard in that finding. The second part requires the exercise of judgment, based on economic principles applied to all of the relevant facts and circumstances.

The Survey

On August 4, 2003, the Board surveyed approximately 280 companies that currently provide, or have the potential to provide, local telephone service in Iowa. Respondents were requested to provide information as of July 1, 2003. A total of 239 telephone service providers, including 93 percent of the wireline carriers, responded. Respondents included Qwest, Iowa Telecom, and Frontier, which are the three major Incumbent Local Exchange Carriers (ILECs[1]); most of the 158 smaller independent carriers (the small ILECs); most of the Competitive Local Exchange Carriers (CLECs[2]) and, some of the wireless carriers. No response was received from 19 wireless carriers, 9 of the smaller ILECs, and 8 of the CLECs.[3]

In Iowa the sheer number of telephone service providers, by itself, may create the impression that Iowans have a choice of basic local voice service providers. However, the raw number of providers does not automatically mean customers have a real choice. For example, the 161 ILECs generally do not compete against each other. Instead, they serve their own, separate service territories.

The survey report shows that most Iowa exchanges, and especially the rural exchanges, have little or no competitive choice while some customers in urban

[1] An Incumbent Local Exchange Carrier, or ILEC, is the local telephone company that provided service to a community prior to 1995, when it had a regulated monopoly over local service in that community.
[2] A Competitive Local Exchange Carrier, or CLEC, is a local telephone company that is competing with an ILEC in one or more of the ILEC's exchanges. Examples include McLeodUSA and MCI.
[3] The non-responders are identified in Attachment D. Because of the nature of the services they offer or their relatively small size, the lack of responses from these carriers should not affect the conclusions drawn in this report.

exchanges may have multiple choices. Overall, the incumbent providers continue to dominate the market as shown by their substantial market shares. The survey shows the ILECs serve 92 percent of all residential lines and 77 percent of all business lines in Iowa. There are some exceptions, but many competitors are only offering to market niches, such as business customers or high-use customers, and are not offering basic voice communications to residential customers.

While some may claim that wireless service is being used as a substitute for traditional voice services, national studies show that less than 5 percent of wireless customers have abandoned traditional basic wireline voice service. Service quality and reliability issues appear to be chief among the reasons many customers have not adopted wireless as a replacement for wireline service, although they may be more willing to use wireless as a substitute for a *second* line, such as a teen line. In addition, the Federal Communications Commission, in its recent Triennial Review Order, stated that, "[n]either wireless nor cable has blossomed into a full substitute for wireline telephony."

The survey report includes a description of new technologies that may substantially increase the degree of customer choice in the future. Most of these technologies are on or just over the horizon. For example, telephone service using the cable television network is currently offered in Council Bluffs and may be available in other areas within the next year. However, new cable telephone service is likely to be based on an emerging technology called "Voice over Internet Protocol," or VoIP, rather than traditional technology. Another potential new technology, broadband service over electric power lines, is the subject of a few tests at this time, but is not yet being tested in Iowa. Some of these new technologies may represent additional competition in the future.

As a part of the survey, the Board asked the carriers to describe their advertising activities in Iowa. The Board believes that advertising is a key indicator of a CLEC's actual level of participation in the local exchange marketplace. Carriers that are not advertising their services probably are not offering service to the general public. The responses show that a few CLECs advertise their services relatively broadly, but many more are engaged in only very limited advertising activities. In fact, many of the CLECs that responded to the survey indicated that they did not advertise in Iowa at all during the preceding 12 months. Moreover, when contacted, some of these CLECs indicated they were not offering any local service in Iowa at this time.

Competition in the Price-Regulated Markets

Turning to the survey data, the results show there are 70 CLECs certified to offer telephone service in one or more Qwest exchanges, but most of these CLECs serve limited areas or markets. Only a few actually offer service to a significant fraction of the general public. As a result, Qwest, the largest incumbent, continues to serve almost 90 percent of the residential lines and over 70 percent of the business lines in its service territory, although its market share in any particular exchange may be higher or lower.

Iowa Telecom, the second largest incumbent local service provider in the state, has competitors in 69 of the 378 communities it serves. In some of those 69 communities Iowa Telecom faces competition, mainly from independent telephone companies that serve adjoining exchanges and from municipally-owned companies. In others, competitors have captured only a small share of the market. Overall, Iowa Telecom continues to serve about 93 percent of the residential lines and 81 percent of the business lines in its service territory.

Frontier has competitors in 4 of the 49 communities it serves, but the competitors serve only a few business customers. There are no competitors serving residential customers in Frontier's territory. Thus, Frontier serves 100 percent of the residential lines and 99 percent of the business lines in its service territory.

Competition in the Nonprice-Regulated Markets

There are 158 small incumbent carriers serving the state and competition has emerged in 31 of the 419 communities where they provide service. In 29 of those 31 communities, the CLECs serve only a handful of customers. The survey responses show just two communities where CLECs have gained much market share. Both of those CLECs are municipal utilities. On a statewide basis, the small ILECs continue to serve over 99 percent of the customers in their communities.

There are 14 Iowa municipal utilities providing competitive telecommunications service in their communities. Typically, the municipals compete with the incumbent telephone company. In some instances, the municipals estimate their share of the market in the community they serve to be as high as 70 percent. Municipals are a source of competition in some exchanges; however, they tend to offer service only within their own boundaries and do not try to expand to other geographic markets.

General Findings

Overall, the Board found there is slight to moderate competition in some areas of the state, with certain specific areas or customer groups (business customers in urban exchanges, for example) having a choice of providers. Statewide, market shares indicate that in most areas the ILECs continue to dominate the market and the majority of Iowans do not have a significant choice of local telephone service providers. This finding is consistent with the findings of other states that have studied this issue.

In November 2003, the National Regulatory Research Institute (NRRI) at The Ohio State University released its report on State Analysis of Competition in Telecommunications Markets: Results of an NRRI Survey. The NRRI survey found:

> The majority of the responding state commissions [46] reported that they have conducted some form of formal competition analyses for the intrastate telecommunications markets (local service, intraLATA toll service, and intrastate,

interLATA service markets). Other states may be doing informal analysis or monitoring competition. Almost half the states conducted competition analyses on a regular basis (e.g., annually).

According to the state commissions' assessments, competition in local service markets seems to be in an early stage of development, whereas competition in the long distance markets has developed considerably so far, although it may not be mature yet. Most state commissions found the local service markets either "slightly competitive" or "not competitive" rather than "fully competitive" or "moderately competitive"; in contrast, the majority of the responding states that had analyzed long distance markets found them either "fully competitive" or "moderately competitive."

The growth of local exchange competition is being slowed by several national events. First, the economic downturn of the last several years has affected investment in the telecommunications industry. Second, pending FCC action on the pricing of the regional Bells' networks is contributing to uncertainty in the business plans of possible competitors. FCC decisions in this area may, in fact, discourage competitors from leasing lines from the Bells, further inhibiting the ability of many companies to compete.

On the positive side, new technologies that are on or just over the horizon may offer the greatest potential for future competition in the telecommunications sector.

LIST OF ACRONYMS AND DEFINITIONS

1996 Act – The Telecommunications Act of 1996. Federal legislation that opened the local exchange telecommunications marketplace to competition on a nationwide basis.

CLEC – Competitive Local Exchange Carrier. A company that offers local exchange services in competition with the ILEC, or incumbent local exchange carrier, in a particular area or telephone exchange.

DSL – Digital Subscriber Line. A broadband data service provided using the existing telephone wires.

EAS – Extended Area Service. An expansion of the local calling area for a community to include one or more adjoining exchanges, usually for an additional charge.

FCC – Federal Communications Commission.

ILEC – Incumbent Local Exchange Carrier. The telecommunications company that offered local exchange service in a particular community prior to passage of the 1996 Act.

IUB – Iowa Utilities Board.

LEC – Local Exchange Carrier. Any telecommunications company that offers local telephone service.

RBOC – Regional Bell Operating Company. The former Bell System telephone companies and their successors and assigns. In Iowa, Qwest is the RBOC.

ROR – Rate of return. The percentage of net profit which a telephone company is authorized to earn on its rate base.

TRO – Triennial Review Order. An order issued by the FCC which may affect the continued availability of UNE-P.

UNE – Unbundled Network Element. Each of the various services and facilities that goes into providing local telephone service, including the wire loop that serves the customer and switching services.

UNE-P – Unbundled Network Element-Platform. The combination of all of the UNEs necessary to provide local telephone service.

VoIP – Voice over Internet Protocol. A method of changing voice calls into data packets and sending them on the Internet or a similar network. Near the destination they are reassembled and delivered like traditional calls.

I. INTRODUCTION

A. Purpose and Design of the Study

On August 4, 2003, the Iowa Utilities Board (Board) initiated a survey to obtain a snapshot, as of July 1, 2003, of the status of competition within the state of Iowa. This activity is part of the Board's on-going evaluation of competition for local telephone service. The survey was sent to incumbent local telephone exchange carriers (ILECs), competitive local exchange carriers (CLECs), cable television operators, and wireless service providers offering services within the state. Also included were organizations or service providers with the potential of providing retail local voice services, even if they do not provide local voice service at this time.

At the time of this survey, wireless service was not generally considered to be a substitute for basic voice services. Nationally, only 3 to 5 percent of consumers have "cut the line" and adopted wireless service as their primary voice service. As discussed in greater detail below, most industry observers and public utility commissions have concluded that for most customers, wireless service is still a complementary service to traditional wireline service rather than a substitute for it. Nonetheless, wireless companies were included in the survey process so that measurements could be obtained to determine the level of penetration within various geographical areas of the state.

The survey instrument was divided into three sections: (1) a count of the number of retail local voice service customer connections being provided by each carrier to consumers in each community it serves, to show the relative market shares of the various carriers in each community; (2) the monthly pricing of services and other recurring charges, to permit an evaluation of the services offered by each carrier; and, (3) the level of advertising or marketing used by each of the service providers, as an indicator of their efforts to obtain customers in Iowa. A copy of the survey instrument is included in this report as Attachment A.

1. Retail Local Services Connections

For the purpose of this survey, the definition of retail local voice service connections follows Iowa Administrative Code 199-39.2(1) and the definition of supported services under Federal Universal Service Fund rules. Generally speaking, the survey was directed to carriers that offer voice-grade services such as dial tone, access to long distance service, and access to emergency services (911 or E911).

This information was requested for two reasons. First, these responses allowed the Board to calculate each carrier's market share in each exchange, showing areas where competition has been more effective. Second, these responses will establish a base line for measuring growth when combined with future survey results.

2. Retail Pricing Information

The second part of the survey asked for retail local voice service pricing information to allow an evaluation of the services offered by each carrier and to determine the market that each carrier is targeting.

In the past, this request might have only included pricing for basic local service. However, many competitors now offer bundled services that include basic local voice service as one component. For this reason, the responses to the pricing request included service offerings that ranged from the simplest local service to bundled packages that may include such services as local calling, minutes of use for long distance calling, and custom features such as call waiting, caller identification, call forwarding, and three-way calling, among other features.

The survey also requested information on some of the other monthly recurring charges that the consumer would be required to pay when obtaining retail local voice services. It focused on charges that are likely to vary from one carrier to the next, in order to allow a comparison of the total bills a customer might experience with each carrier. These charges included the federal subscriber line charge for single line business, residential, and multiline business accounts. Emergency dial 911 fees are included because they can vary from one county to the next. The survey did not request amounts for the Federal Universal Service Fund charges or state and federal taxes since these amounts are relatively uniform percentages that can be applied to the pricing of the services from any company.[4]

3. Advertising Information

The survey also asked for advertising information from each service provider. This information was requested to determine whether the service is being offered to the public generally, only to specialized markets, or not really being offered at all.

Specifically, each provider was asked whether it advertised, how many months out of the last 12 (July 2002 through June 2003) it advertised, and how it advertised. The respondents were also asked to identify the types of advertising they used, such as newspaper, television, Internet, radio, billing insert, direct mailing, telemarketing, telephone directory, or other media. The extent of a carrier's advertising is one way to evaluate the nature of the carrier's offering. Carriers that are offering their services to the general public are likely to use several forms of advertising, while carriers that are aiming at niche markets tend to use more limited forms of advertising.

[4] Federal Universal Service Fund charges range from 8 to 11 percent and are adjusted quarterly to reflect total fund requirements. This charge is only applied to billed interstate charges. The federal excise tax is 3 percent and is applied to all toll and local service charges. Iowa sales tax rate is 5 percent. Some locations may also have a local option sales tax of 1 percent. Additionally, billings to consumers may also contain city or county taxes, school infrastructure taxes, and a charge for service provider number portability.

4. Confidential Information

Initially, many of the service providers expressed reservations about providing specific customer connection counts in the areas they serve if there was a possibility that the information might become public. Some of the service providers were concerned about market share exposure, while others were concerned that the survey would identify the lack of competitors in specific markets and encourage competitors to enter those service areas.

On August 19, 2003, the Board issued an order in Docket No. WRU-03-49, In re: 2003 Telecommunications Competition Survey for Retail Local Voice Services, describing the confidentiality procedures the Board would apply to the survey responses. In the order, the Board recognized that access line information on an individual company basis could give an advantage to competitors, while the release of the specific information would not serve any public purpose.[5] Accordingly, the Board tentatively concluded that the exchange-specific access line information qualified for confidential treatment under the Iowa Open Records Act and the Board's rules. As a result, the final report does not discuss or include confidential information from individual companies. It includes only publicly-available information, aggregated information, and other information in a format such that it would not be possible to reconstruct company-specific confidential information.

5. The Survey Process

The Board made every effort to encourage companies to respond to the survey. Early on the Board determined that 275 organizations could potentially respond to the survey. On September 2, 2003, the requested return date, over 63 percent of the companies had provided responses. Through multiple follow-up contacts with the non-responders, a response rate of over 86 percent was achieved by November 24, 2003.

In the end, out of the 275 entities identified, 239 responded to the Board's voluntary request for information. The remaining 36 organizations, identified in Attachment D, indicated that they would not provide information or otherwise failed to respond. The mixture of service providers not responding or refusing to provide information consisted of 19 wireless companies, 8 CLECs, and 9 ILECs. Thus, the wireline response rate was 93 percent.

Wireless carriers provided the greatest challenge for obtaining information. The Board deregulated mobile telephone service and paging services in Iowa on August 7, 1986, in Docket No. INU-86-2. As a result of that deregulation, there is no requirement for the wireless companies to obtain certification from the Board prior to providing service in Iowa. While it was still possible for the Board to identify the wireless carriers providing service in Iowa, it was sometimes difficult to determine the location of their operations and the appropriate individual to contact within an organization for the needed

[5] Iowa Code § 22.7(6); 199 IAC 1.9(8)"b"(3).

information. Several of the wireless companies refused to respond, indicating they felt it was beyond the Board's jurisdiction to request the information.

6. Verification of Survey Responses

Once data was received from the responding service providers, the line count or customer connection counts were verified for reasonableness. Several sources were used to accomplish this, including reports generated by the Universal Service Administration Company (USAC), information provided by carriers for the Board's Telephone Utility Annual Report, confidential information compiled by the North American Numbering Plan Administrator in its Number Resource Utilization/Forecast reports, and various filings made by service providers in recent dockets before the Board, e.g., a recent deregulation petition filed by Qwest in Docket No. INU-03-4. These comparisons indicated the survey responses were accurate and reliable, especially considering the timing differences of the various reports.

One concern was that the number of non-responding wireless carriers might affect the survey analysis. Based on the information from the verification sources, it appears the percentage of telephone numbers being utilized by the non-responding wireless companies amounts to approximately 13 percent of the telephone numbers in use within the state. This is not a significant factor in the survey analysis, given the limits on competition between wireless and wireline service providers, described below.

B. Background of Telecommunications Regulation in Iowa

1. Different Carriers Are Subject to Different Regulation

There are several types of telephone companies that provide local service in Iowa today. These include large Incumbent Local Exchange Carriers (ILECs), small ILECs, Competitive Local Exchange Carriers (CLECs), and wireless carriers. ILECs are telephone companies that were providing local exchange service when the Telecommunications Act of 1996 (1996 Act) was enacted. Generally speaking, ILECs do not compete in each other's service territory, although there are exceptions.

Iowa has more ILECs than any other state.[6] At present, there are 161 different ILECs providing local exchange service. Of these, 158 are comparatively small, independent carriers. The remaining three are the large incumbent carriers: Qwest Corporation (Qwest), Iowa Telecommunications Services, Inc. (Iowa Telecom), and Frontier Communications of Iowa (Frontier).

Large ILECs, small ILECs, and CLECs are subject to different forms of regulation. All incumbent and competitive carriers are subject to service quality regulations, but only the large ILECs are subject to rate regulation by the Board. Wireless telephone companies are not subject to rate or service quality regulation, as the Board deregulated that market in 1986.

[6] The next state is Minnesota, with slightly more than 100 total telephone companies.

The regulation of an incumbent carrier's local service rates is determined by its size, as measured in access lines. Generally, telephone companies serving 15,000 or more access lines are subject to rate regulation under the authority granted to the Board. Only Qwest, Iowa Telecom, and Frontier currently exceed this threshold and are subject to rate regulation. Until 1995 the Board established the rates for these companies using the traditional "rate of return" (ROR) form of regulation. This sets rates based on each company's cost of providing regulated services, including an opportunity to earn a reasonable profit on the company's investment in Iowa.

In 1995 the Iowa General Assembly passed legislation to allow large ILECs to base their rates on general economic conditions rather than costs. This form of regulation, known as price regulation, sets price caps for basic communications services. Those prices are periodically adjusted based on an inflation index and, originally, a productivity factor. The productivity factor was repealed in two steps in 2002 and 2003. In Iowa, two different price regulation plans were established, with application based on the size of the company. In 1995 Frontier and GTE (now known as Iowa Telecom) opted into price regulation. In 1998 U S West (now known as Qwest) also opted into price regulation. The price regulation plans are supervised by the Board and are updated periodically to meet current economic conditions. For example, in the last few years each of the price regulation plans has been modified by the Board to include a provision that allows the carrier to reduce its rates in selected communities in order to meet competition.

Price regulation for large ILECs is not unique to Iowa. A recent report published by the National Regulatory Research Institute (NRRI) finds that there are 41 states that apply price regulation to ILECs.[7] This report also finds that there are four states, including Iowa, which apply price regulation to the large ILECs, but do not regulate the rates of the small ILECs. The NRRI results are summarized in the map attached to this report as Attachment B.

Iowa's regulation of CLECs is minimal. Under Iowa Code § 476.29, a CLEC must receive a certificate of public convenience and necessity and file a tariff before it is authorized to offer local service in Iowa. Applications for certificates are typically granted very quickly. However, as will be discussed in greater detail below, the grant of a certificate does not mean a CLEC is actually providing service in Iowa.

The local service rates offered by competitive carriers generally are not subject to rate regulation by the Board. They are free to charge market-based rates for their services. If, however, a CLEC displaces the incumbent and becomes a new monopoly, it can be regulated, but only to the degree necessary to restrain the company's market power.

[7] NRRI, "State Retail Rate Regulation of Local Exchange Providers," June 2003, Table 1, p. 1.

2. Deregulation of Competitive Services

Iowa Code § 476.1D requires that the Board deregulate a communications service or facility if the Board determines that the service or facility is subject to effective competition. In making that determination, the Board must consider, among other factors, (1) whether a comparable service or facility is available from a supplier other than the telephone utility and (2) whether the resulting market forces are sufficient to assure just and reasonable rates without regulation. Basic economic theory[8] suggests that these requirements are among the minimum necessary conditions to ensure the existence of a competitive market.

Moreover, it is the policy of the State of Iowa that communications services should be available throughout the state, from a variety of providers, at just, reasonable, and affordable rates.[9]

In furtherance of this policy, the Board has deregulated a wide variety of communications services and facilities during the last 20 years including, but not limited to, the following:

- Local directory assistance services (2001)
- Non-local directory assistance (1996)
- All intrastate long-distance services (in two stages, in 1989 and 1996)
- Wireless (cellular) telephone service (1986)
- Paging services (1986)
- Pay telephone services (1985)
- Centrex services (1984)
- Customer-owned telephone equipment (1983)

In order to deregulate a service or facility, the Board applies the procedures and standards from the statute and the Board's rules.[10] The rules specify a process by which the public is given notice of a proposed deregulation and an opportunity to comment on the proposal. For proposed new services, an expedited process must be completed within four months; for deregulation of existing services, the process takes from three months to a year, depending upon the complexity of the issues and other factors.[11]

Pursuant to the Board's rules, interested persons can file written statements of position and counter-statements, following which an oral presentation is held. The Board's decision is based on the resulting record. In making its decision, the Board will consider whether any provider has the ability to control prices in the marketplace; whether other

[8] See, for example, The Regulation of Public Utilities, Charles F. Phillips, Jr., Public Utilities Reports, Inc. (1988), pp. 54-61.
[9] Iowa Code § 476.95(1).
[10] 199 IAC chapter 5.
[11] For example, the proceedings to deregulate wireless service took five months; billing and collection services were deregulated in three months; interLATA long distance took six months; local directory assistance took 12 months.

potential providers can enter the market easily and whether they are likely to do so; and, whether there are alternative services that can be substituted for the service proposed for deregulation. Again, these factors are consistent with well-established economic theory regarding competitive markets and are used, in one form or another, by practically every state public utility commission that has authority to deregulate telecommunications services.

The statute and the Board's rules allow the Board to deregulate only the price of a service while retaining service quality regulation. However, the Board has never found it necessary to take this intermediate step. Instead, the Board has fully deregulated every service that it has determined to be subject to effective competition.

As described above, the Board has deregulated dozens of services in at least 14 different dockets since 1983, but only when the services were subject to effective competition sufficient to prevent monopoly behavior. In the absence of effective competition, unregulated monopolies would be able to raise prices to unreasonable levels with undesirable effects on society. Moreover, an unregulated provider with some monopoly services could engage in predatory pricing; that is, it could reduce prices in markets where it faces limited competition and support the losses with monopoly profits from other exchanges. The result is to drive any potential competitors out of the market and deter others from entering the market. While this would probably be a violation of antitrust laws, the fact is that few, if any, of the existing competitors have the resources to bring such a case against a monopoly provider. For all of these reasons, it is important that a service or facility not be deregulated until it is, in fact, subject to effective competition. This is a very fact-sensitive determination that can change over time.

The Board has deregulated many services, but on two occasions the agency found that at the time the case was heard, the record did not support deregulation of local exchange services. The first such case involved an ILEC, South Slope Cooperative Telephone Company, Inc., that constructed new facilities to serve parts of the U S West exchanges in Coralville and Cedar Rapids, Iowa. U S West requested deregulation of its local exchange services in these communities, arguing that the presence of South Slope amounted to effective competition. In March 2000 the Board denied the request, finding that it was impractical to deregulate only the small parts of these exchanges where South Slope was competing with U S West. The Board also expressed concern that with only two competitors, the market might develop into a duopoly rather than a truly competitive market. (A duopoly is like a monopoly, but with two sellers rather than one. Economic theory indicates that duopolies may not develop into, or always behave like, competitive marketplaces due to the likelihood of implicit or explicit collusion, price following behavior, and other market distortions.)

In 2001 Iowa Telecom filed a petition to deregulate nine of its exchanges where it was experiencing competition. In each of the nine exchanges, there was only one competitor, but some of those competitors had made substantial inroads into Iowa Telecom's market share. The Board denied the petition, concluding that having only

two telephone companies in each of the exchanges created a duopoly that would not provide effective competition or assure reasonable rates without regulation, and there was little prospect of additional competitors entering these markets. Moreover, complete deregulation could have allowed Iowa Telecom to reduce its rates below cost in these nine exchanges, driving the competitor out of business and creating a strong disincentive for any potential new competitors. Therefore, the Board denied Iowa Telecom's request for deregulation.

C. Description of Relevant Federal Laws

1. The Telecommunications Act of 1996

As part of the break-up of the Bell Telephone system in 1984, the resulting Regional Bell Operating Companies (a/k/a RBOCs, which include Qwest's predecessor U S West) were prohibited from offering interstate and most intrastate long distance services. This prohibition was addressed in the federal Telecommunications Act of 1996, which opened the local exchange markets to competition. When the 1996 Act was being drafted, there was recognition that if local telephone service was to become competitive, the RBOCs would have to lose market share in their existing local exchange monopolies.

The trade-off for this loss of market share was to permit the re-entry of the Bell Operating Companies into the long-distance markets through applications filed pursuant to 47 U.S.C. § 271. This federal statute basically provides that if a Bell Operating Company can show that its local exchange system is open to competition, it can re-enter the long distance market. The level of competition necessary to comply with the requirements of this section is less than the "effective competition" standard that is typically used to deregulate a service. The Federal Communications Commission (FCC) concluded that the § 271 requirement is satisfied if one or more competing providers serve residential and business subscribers and that no particular level of market penetration is required.[12]

The 1996 Act also differentiated between small and large carriers. Generally, each telecommunications carrier has the duty to interconnect with other telecommunications carriers.[13] Further, each ILEC has the duty to negotiate agreements regarding resale of its telecommunications services, number portability, the provision of dialing parity, access to its poles, ducts, conduits, and rights-of-way, and the establishment of reciprocal compensation arrangements for the transport and termination of telecommunications.[14]

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[12] *In the Matter of Application by Qwest Communications International, Inc. for Authorization To Provide In-Region, InterLATA Services in the States of Colorado, Idaho, Iowa, Montana, Nebraska, North Dakota, Utah, Washington, and Wyoming,* WC Docket No. 02-314, paras. 20-21. (Rel. December 23, 2002).
[13] 47 U.S.C. § 251(a)(1).
[14] 47 U.S.C. §§ 251(b) and (c).

However, the 1996 Act exempted certain rural telephone companies from the duty to negotiate agreements with all of these terms and conditions. This rural exemption can be lifted for a particular company by the state public utility commission if the commission concludes that the company is technically and economically capable of fulfilling the duty and it is in the public interest to lift the exemption.

2. Pending FCC Actions

Many CLECs in Iowa rely upon the ILEC's wholesale services to provide their own retail services. In other words, these CLECs "rent" the use of the ILEC's facilities at a wholesale rate and use those rented facilities to offer service to customers. The viability of this approach depends upon the price of these wholesale services; if the spread between the wholesale price and the ILEC's retail price is too small, then these CLECs cannot stay in business. Current wholesale prices in Iowa, which are set by the Board using a formula required by the FCC, appear to be in a range that allows the CLECs to survive. However, there is reason to believe this situation may change in the near future.

The FCC is currently reviewing the system it has established to determine ILEC wholesale prices in Iowa and elsewhere.[15] It appears the FCC is concerned that some wholesale services may be priced too low, which is undermining investment incentives. Incumbent LECs have a reduced incentive to invest in their networks for the benefit of their competitors, while CLECs have little incentive to invest in their own facilities if they can purchase the same services from the ILEC at lower cost. As a result, it is possible that the FCC will change the system that is used by the states to set these wholesale prices so that the resulting prices will be higher. If this occurs, some CLECs may go out of business and others may limit their service offerings even more narrowly in order to focus on the market segments where they think they have the best chance of earning a profit.

There is another FCC action that has a bearing on this subject, as well. The FCC recently issued its Triennial Review Order (TRO),[16] which could have a major effect on the CLECs doing business in Qwest territory. In the TRO, the FCC found that if an ILEC can show that three or more CLECs are using their own facilities, in whole or in part, to compete with the incumbent, then the incumbent should no longer be required to offer a particular wholesale service, known as UNE-P, to its competitors in that market.[17] Iowa has several CLECs that rely upon UNE-P to offer service to their

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[15] *In the Matter of Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers,* WC Docket No. 03-173, Notice of Proposed Rulemaking. (Rel. September 15, 2003).

[16] *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability,* CC Docket Nos. 01-338, 96-98, and 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking. (Rel. August 21, 2003).

[17] "UNE-P" is an acronym for "Unbundled Network Elements – Platform." Under federal law, Qwest (along with other large ILECs) is required to sell its services to its competitors on a wholesale basis, either

customers.[18] If Qwest is able to meet the TRO test and no longer has to sell UNE-P in Iowa, the continued existence of those CLECs may be threatened.

II. DESCRIPTION OF POTENTIAL ALTERNATIVES

A. Traditional Wireline

As of November 2002, 104 million households in the U.S. had telephone service.[19] This represents 95.3 percent of all U.S. residences, up from 91.4 percent in November 1983. Even though the percentage of households with telephone service has increased, the number of access lines has been on the decline since 2000. This reduction can be attributed in part to the economy and, in part, to customers using alternative communication methods (such as wireless phones and e-mail) in place of the traditional wireline telephone calls, especially with respect to second lines. For example, in 1988, 2.7 percent of households with telephones had additional lines. By 2000 this number increased almost ten times, to 26.2 percent, but dropped to 24.6 percent in 2001.[20] The growth from 1988 to 2000 may reflect the number of second lines installed for dial-up Internet access, while the decrease from 2000 to 2001 may be due, in part, to the replacement of some of those lines by broadband services such as Digital Subscriber Line (DSL) and cable modems.

As mentioned in the previous section of this report, Congress opened the local market to competition with the 1996 Act. It allowed CLECs to do the following:

1. Resell the retail services of the ILECs.
2. Use the ILEC facilities, in whole or on a piece-by-piece basis. The CLEC could lease separate unbundled network elements (UNEs) or the entire UNE-platform (UNE-P) from the ILEC.
3. Build their own facilities.

In exchange for opening up the local market, the regional Bell Operating Companies (including Qwest[21]) were allowed the opportunity to enter the long distance arena.

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through resale of an entire service or as unbundled network elements. Under the latter option, a competitor might purchase only the use of Qwest's wires, or a combination of Qwest's wires and switching services. If the competitor purchases all of the elements that make up a completed service, then it is purchasing UNE-P, the entire "platform" of the service. Because of the manner in which it is priced and the options it gives to the competitor, UNE-P can be an economical option for serving some customer groups.

[18] 63 percent of the CLEC lines in Iowa are served using UNE-P.

[19] Industry Analysis and Technology Division, Wireline Competition Bureau, *Telephone Subscribership in the United States* (April 2003), cited by Industry Analysis and Technology Division, Wireline Competition Bureau, *Trends in Telephone Service*, August 2003, p. 16-3.

[20] Industry Analysis and Technology Division, Wireline Competition Bureau, *Trends in Telephone Service,* August 2003, p. 7-6.

[21] Qwest was permitted to re-enter the long distance market in Iowa on January 2, 2003. FCC WC Docket No. 02-314, order issued December 23, 2002.

The CLECs have taken advantage of this new opportunity to compete with the incumbent telephone companies. Nationally, the share of the local telephone service market served by CLECs increased from 4.3 percent in December 1999 to 14.7 percent in June 2003.[22] The CLECs increased their number of lines by about 9 percent from December 2002 to June 2003. According to the FCC, CLECs in Iowa have approximately 13 percent of the end-user switched access lines served by reporting local exchange carriers.[23] (This is consistent with the survey results, which showed CLECs in Iowa serve 12.5 percent of the state.)

While the number of CLECs in the nation has grown, the number of CLECs that use their own facilities to provide service has dropped to less than one-third the number there were just a few years ago. Many of these facilities-based CLECs were lost to bankruptcy or liquidation. Currently, CLEC-owned lines account for 23 percent of the total CLEC lines in the U.S., down from 33 percent in December 1999.[24]

Furthermore, CLECs appear to have shifted their strategy from straight resale to UNEs. Nationally, resold lines accounted for 43 percent of the total CLEC end-user lines in 1999, but as of June 2003 they represent just 18 percent.[25] The percentage of lines wireline competitors serve using UNEs has risen from 23 percent in December 1999 to 58 percent in June 2003.[26] In Iowa, CLECs use UNEs to serve 77 percent of their lines (63 percent is UNE-P, 14 percent is other UNE combinations), while resale represents 9 percent. CLECs use their own facilities to serve the remaining 14 percent of their Iowa lines.

As described above, a facilities-based CLEC is one that actually purchases and installs its own equipment, such as a routing switch or the line that goes to the customer's premise. Facilities-based competition is critical for competition to grow and flourish in any market, including that for local telephone service. Without it, competitors will continue to depend upon the incumbent's system and will be constrained in their ability to offer new and different services. At the same time, this dependence upon unbundled network elements and resale is probably necessary, at least for a time, because it can be very expensive to build a new system to duplicate the existing company's local network and other facilities.

When the CLECs choose to resell lines or use the incumbent's unbundled network element loops rather than build their own facilities, they purchase the service elements from the incumbent at a wholesale price, then re-package and market the resulting services as their own. The actual facilities and physical lines, however, are still under the control of the incumbent. This makes it easier for the CLEC to enter the market, but it becomes more difficult for the CLEC to provide products that differ in price or features from those offered by the incumbent.

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[22] Industrial Analysis and Technology Division, Wireline Competition Bureau, *Local Telephone Competition Status as of June 30, 2003, (*December 2003).
[23] Ibid.
[24] Ibid.
[25] Ibid.
[26] Ibid.

While the incumbent may lose retail customers and revenue to competitive local exchange carriers who are reselling their lines or using their UNE loops, the incumbent gets much of this revenue back in the form of the wholesale rates it charges the CLEC. For example, in Iowa, Qwest receives 89.73 percent[27] of its tariffed retail rate when a CLEC chooses to resell Qwest's residential basic exchange access lines. Qwest also receives a flat rate per month from the CLEC that leases Qwest's UNE loops; the rate depends upon the zone and the number of wires per loop.

This does not mean that an ILEC is indifferent when it loses a retail customer to a CLEC that purchases facilities from the ILEC. The loss of the retail customer may mean the loss of other revenues, such as access charges and the sale of enhanced services like call waiting. Still, the loss of a retail customer to a CLEC that is purchasing the ILEC's services means that the ILEC continues to receive some revenues associated with that customer.

B. Wireless Service

Once a luxury service, wireless phones are now considered a necessary convenience by many Americans. In 1984 there were approximately 92,000 wireless subscribers nationwide. By December of 2002 the industry reported about 140 million subscribers.[28] According to Merrill Lynch Equity Research, "as of June 2002, more than 55 percent of Americans between the ages of 15 and 59 had wireless phones."[29] As of June 2003, Iowa has 1.25 million subscribers to wireless telephone service.[30]

When compared to traditional wireline services, wireless telephone service is attractive for a variety of reasons. The most obvious advantage of wireless service is its mobility. Also, wireless phones typically offer bundled service at a fixed price. The bundle may include local and long distance calling plans with features like caller ID, call waiting, text messaging, and voice mail, to name just a few. Bundled services are now being offered by many of the wireline carriers, but they continue to offer basic local service, as well.

In some respects, however, wireless service is not the equivalent of wireline telephone service. One concern associated with wireless service is the quality of the service. Many wireless customers experience dropped calls, poor sound quality, limited network capacity, and lack of coverage. Another concern is the inability of some wireless providers to provide reliable Enhanced 911 service. Most, if not all, of these issues are expected to be addressed over time by advancements in the technology. For example, the FCC has ordered that by December 31, 2005, wireless carriers must provide E911

[27] Iowa Tariff No. 5, Local Wireline Network Interconnection and Service Resale, Rates and Charges, Section 10.6, Resale Services.
[28] Cellular Telecommunications & Internet Association (CTIA), cited by Industry Analysis and Technology Division, Wireline Competition Bureau, *Trends in Telephone Service*, August 2003, p. 11-5.
[29] Merrill Lynch Equity Research, Initiation Report: From Top to Bottom line, Part 1 at 19 (September 19, 2002), quoted in FCC, *Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, Eighth Report*, at Para. 101 (2003)
[30] Industrial Analysis and Technology Division, Wireline Competition Bureau, *Local Telephone Competition Status as of June 30, 2003 (*December 2003).

systems with more precise location information – within 50 to 100 meters, in most cases.[31]

Initially, wireless service was much more expensive than traditional wireline service. That gap is closing. The average monthly wireless bill has decreased over the past decade. According to the wireless industry, the average monthly bill for wireless service was $48.40 – or 11.3 cents per minute in December 2002, down from December 1993, when the average bill was $68.68, or 43.9 cents per minute.[32]

Currently, wireless is considered by most independent industry observers to be a complementary service for traditional telephone service, rather than a substitute. However, it appears that wireless companies may compete with local carriers for some new growth and as a substitute for second lines in many homes and small businesses. This was noted in a survey commissioned by Qwest that showed 12 percent of Iowa households subscribe to cell service as a substitute for wireline phone service. According to Qwest's survey, these households either removed a second or third line due to cell service or no longer needed multiple landlines because of cell service.[33] This may mean wireless is substituting for second lines that are primarily used for voice services. In some instances, however, customers that wanted an additional wireline from their incumbent carrier were unable to get it, due to unavailability of facilities, and had to use cellular service instead.

The argument that wireless phones are becoming a more general replacement for traditional telephone service is not new, but it has not yet been accepted in the United States as a basis for major regulatory change. For example, on October 20, 2003, ten months after Qwest filed a petition for deregulation in seven Idaho exchanges, the Idaho Public Utilities Commission found that, based on the record made in that proceeding, wireless service did not provide effective competition for traditional telephone service. According to the order in Idaho Case No. QWE-T-02-25, Order No. 29360, "Qwest presented practically no evidence that customers in the seven exchanges are replacing wireline service with wireless service, and instead, it assumed replacement was occurring or could occur based on the significant increase in wireless subscribers in Idaho."[34]

The FCC's recent Triennial Review Order (TRO) supports Idaho's findings. In that order, the FCC stated that "[n]either wireless nor cable has blossomed into a full substitute for wireline telephony."[35] To the Board's knowledge, no state has deregulated wireline local exchange service based on wireless competition.

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[31] http://www.fcc.gov/911/enhanced/.

[32] Cellular Telecommunications & Internet Association (CTIA), cited by Industry Analysis and Technology Division, Wireline Competition Bureau, *Trends in Telephone Service*, August 2003, p. 11-5.

[33] Frederickpolls, *Survey Results Iowa, Qwest Small Business and Residential Customers*, November 2002, page 16. The survey was submitted to the Board in Docket No. INU-03-4. Other parties may have disputed the validity of Qwest's survey, but those disputes could not be resolved after Qwest withdrew from the proceeding.

[34] Idaho order at pp. 11-12.

[35] FCC Triennial Review Order, ¶ 245.

In a recent petition for deregulation of local exchange service in 37 Iowa exchanges, Qwest offered a survey that claimed that 25 percent of wireless phone users in Iowa have replaced their residential wireline service with wireless service.[36] However, according to the FCC, national estimates say that only 3-5 percent of wireless customers use their wireless phone as their only phone.[37] This was supported by the Yankee Group's 2002 Mobile User Survey, which showed that just 3 percent of all wireless customers use their mobile phone as their only phone.[38] The Yankee Group's 2003 survey showed fewer than 4 percent of adult respondents over 24 years of age have abandoned their landline.[39] Qwest did not offer an explanation for the difference between these national figures and the Qwest survey numbers.

C. Cable Telephony

Cable telephony supporters have been announcing for years that the service is almost ready for the general market, but its availability is still limited. For example, in a May 1997 article, one analyst suggested that cable telephony would become more mainstream beginning in 1998.[40] Six years later, in June 2003, there were 3 million residential customers of cable telephony – about 2 percent of the nationwide-switched access lines in service.[41] Typically, cable telephone service is provided in densely populated areas. Currently, most of the service is provided using traditional circuit-switched facilities. However, the future of cable telephony probably lies with a technology known as Voice over Internet Protocol (VoIP), which will use packet-switched facilities, as described in greater detail in the next section of this report.

In Iowa, Cox Communications is currently the only major cable company providing local exchange service. It uses a circuit-switched technology. Cox offers basic local service or bundled services to customers regardless of whether they subscribe to other Cox services. If the customer subscribes to other Cox services, some services are offered at a reduced rate. Cox has a distinct presence in the Council Bluffs market area.

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[36] Docket No. INU-03-4, *Qwest Corporation, Statement of Position and Exhibits of Harry M. Shooshan III*, November 14, 2003. This survey was also submitted to the Board in Docket No. INU-03-4. Again, other parties may have disputed the validity of Qwest's survey, but those disputes could not be resolved after Qwest withdrew from the proceeding.

[37] *Carriers Said to Need New Tactics to Combat LD Substitution*, Communications Daily, March 15, 2002 (citing Yankee Group analyst Knox Bricken's estimate of 3 percent). According to the Cellular Telecommunications & Internet Association, about 2.2 percent of people in the United States have abandoned their wireline phones in favor of wireless phones or other wireless devices, which translates into roughly 5 percent of all wireless subscribers. Yuki Noguchi, *More Cell-Phone Users Cut Ties to Traditional Service*, Washtech.com, December 27, 2001 (citing CTIA). Cited by *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993,* Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Seventh Report, 2002.

[38] The Yankee Group's 2002 Mobile User Survey, cited in *Access line Count Evaporating*, Telephony Online, Vince Vittore, and Glenn Bischoff, October 14, 2002.

[39] The Yankee Group's 2003 Mobile User Survey, cited by Yankee Group News Release, August 5, 2003.

[40] Michael Lafferty, "Cable Telephony Ready to Take Off?", Communication Engineering & Design, May 1997.

[41] Industrial Analysis and Technology Division, Wireline Competition Bureau, *Local Telephone Competition Status as of June 30, 2003 (*December 2003).

Mediacom, another cable provider in Iowa, has the potential to provide competitive telephone service to many Iowans because of its existing cable service, but has not yet entered the local exchange telephone service market. Its offering ultimately may be based on VoIP technology.

The potential for local exchange competition based on cable telephone service is significant. The service lines are already in place, at least in urban areas, and the cable companies have an established business relationship with millions of customers nationally. Moreover, the fact that cable companies already provide television and offer broadband services means they may have the opportunity to offer attractive bundles of services. However, the potential of cable telephony is not unlimited. Cable networks are typically limited to areas of relatively dense customer concentration; cable companies have shown little interest in constructing rural networks to serve customers in remote areas and other high-cost areas.

D. Voice Over Internet Protocol (VoIP)

Voice over Internet Protocol is the transmission of telephone calls over a data network like one of the many networks that make up the Internet.[42] There are four primary ways to use the VoIP technology: computer to computer; computer to telephone; telephone to computer; and, telephone to telephone.

This service has been in existence since the mid-1990s; however, early calls were plagued with echoes, delays, and other quality problems that made the technology unacceptable to the mass market. In recent years, the equipment and technology have improved and the availability of high-speed Internet lines has increased. Nationwide there are approximately 100,000 VoIP callers today, which is less than one-tenth of 1 percent of all telephone subscribers.[43] Although a small number of subscribers are currently using this technology, one observer has estimated that the number will increase to 4 million by 2007.[44]

At present, the FCC does not regulate VoIP as a separate service. As the technology has developed, several issues have arisen, such as the ability of law enforcement officials to engage in wiretaps for law enforcement purposes (as called for in the Communications Assistance for Law Enforcement Act of 1994)**,** the ability for this technology to be compatible with Emergency 911 services, and inter-carrier compensation. Still another issue is the financial support of the federal Universal Service Fund, which subsidizes the cost of telephone service in poor, rural, and high-cost areas. The outcome of these issues could have a large impact on the pricing and availability of VoIP.

[42] http://computer.howstuffworks.com/ip-telephony.htm/printable.
[43] Paul Davidson, "Calling Via Internet Has Suddenly Arrived," USA Today, July 7, 2003, p. 2B.
[44] Ibid.

Regardless of the challenges facing VoIP, the demand for this service continues, primarily because calling via VoIP can be 25 to 30 percent less expensive than traditional phone service. This is, in part, because many VoIP calls avoid some or all of the taxes and fees that apply to traditional calls. VoIP is also attractive because it offers other features which allow customers to manage calls in new ways, such as programming the phone to not ring during certain hours, forwarding calls to other phones, and viewing a log of missed, incoming, or outgoing calls via a Web site.

Nationally, each of the four largest cable companies (Comcast, Cox Communications, Time Warner Cable, and Cablevision) has announced plans to expand VoIP phone services in 2004 in some or all of their major markets. Cablevision has made VoIP phone service available to its high-speed Internet customers in Connecticut, New York, and parts of New Jersey. This Cablevision service includes unlimited local and long distance calls in the U.S. and Canada for $34.95 per month. Cox Digital Telephone, a division of Cox Communications, is set to test its VoIP phone service in Roanoke, Virginia, as early as January 2004.

Recently, others have announced plans to offer VoIP services. Qwest and AT&T both announced in mid-December 2003 that they would be offering Internet phone services to their residential customers. Their plans are to initially market the product as a secondary phone system, not a replacement for traditional service.[45] Qwest plans to offer residential service in Minnesota first, then expand throughout its 14-state region in 2004. AT&T intends to offer service in the top 100 U.S. markets in early 2004. (No Iowa city is currently included in this group.) At this time, the price for these services has not been disclosed by either Qwest or AT&T.

Although VoIP calling plans may offer lower monthly bills than traditional wireline service with similar features and similar amounts of long distance calling, current VoIP technology generally requires a computer and a broadband connection. This could be an added expense, but many current VoIP users already had much of the necessary equipment when they signed up for VoIP service, making the incremental costs relatively low. New VoIP offerings may not require this up-front investment.

E. Broadband Over Power Line

Power line telecommunications is not a new idea, although it is currently not available in the state of Iowa. It has existed for use in the home as a computer-networking medium for many years. Utility companies have used narrowband power line communications to monitor and control devices on the power grid since the first half of the 20th century. During the 1990s, utility and technology companies continued to experiment with higher-bandwidth data transfer across the electric grids in Europe, South America, and the United States. Recent advances in power line communications technology now allow for high-speed broadband communications over medium and low voltage power

[45] Max Jarman, “Arizonans to get Taste of Internet Phone Service,” *The Arizona Republic*, December 12, 2003.

lines. Although this may open new market opportunities, it remains an experimental technology.

If this technology continues to develop, investor-owned electric utilities, municipal utilities, and electric cooperatives could bring broadband services to many customers who otherwise would not have access to broadband technology because they live in rural areas. Several power companies project they will be able to offer broadband for as little as $30 a month.[46] However, many companies are hesitant to invest in this arena due to the uncertainty associated with future FCC action.

Like cable telephony, power line communications has the advantage of using a network that is already constructed. Unlike the cable TV system, the power line grid reaches almost every potential customer, including those in rural and other high-cost areas. However, broadband over power line technology is not yet as well developed as cable telephony. Some have alleged that powerline communications cause excessive radio frequency interference, possibly including radio systems used by emergency services. Until these issues are addressed, widespread use of broadband over power lines is unlikely.

III. COMPETITION IN ILEC MARKETS

A. Overview of Survey Results

To the casual observer, it might appear that there are numerous CLECs offering local exchange telephone service in Iowa. A closer examination of those carriers, however, reveals that the total number of CLECs, by itself, is not a complete measure of competition. Instead, it is necessary to examine the services that are being offered, the geographic limitations on those offerings, and the market shares of the various competitors. Close examination of these other factors reveals that a large number of apparent competitors does not necessarily mean that customers in general have a choice of providers.

For example, the Board's records show that as of July 1, 2003, there were 70 CLECs certified to offer telephone service in one or more Qwest exchanges in Iowa. (This part of the analysis focuses on data from Qwest's service territory because of the relative lack of CLECs in the areas served by Frontier, Iowa Telecom, and the independent incumbents.) Of those 70 CLECs, the survey shows that only 3 held themselves out as offering service to a significant fraction of the general public:

[46] Paul Davidson, “High-Speed Net Service: Coming to a Plug Near You?”, USA Today, April 14, 2003, p. 1B.

Total CLECs holding certificates to serve one or more Qwest exchanges:	70
CLECs not currently doing business in Iowa	17
CLECs that do not offer local service	3
CLECs that offer prepaid services only	8
CLECs that do not offer residential service	5
CLECs that do not offer business service	3
CLECs that offer service in 4 or fewer exchanges	21
CLECs that offer fixed bundled services[47] only	5
CLECs that serve only U.S. Army Reserve centers	1
CLECs that provide wholesale and data services only	1
CLECs that no longer accept new customers	1
TOTAL	65

Of the five remaining CLECs, two are resellers of existing Qwest services, meaning they cannot offer services that are substantially different from the underlying Qwest offerings, either in features offered or in quality of service.[48] The other three are Iowa Telecom Communications[49] which currently offers service in 13 Qwest communities, McLeodUSA which offers service in 37 Qwest communities, and Digital Telecommunications which has a presence in 36 Qwest communities. McLeodUSA and Digital Telecommunications use combinations of their own facilities and resale of existing Qwest services, including UNEs, primarily in urban exchanges. Iowa Telecom Communications uses UNE-P to provide service.

Thus, while 70 CLECs hold certificates to offer local exchange service in some part of Qwest's service territory, most of the CLECs offer choices for only a relatively small number of customers. At the same time, it is clear that a few customers in some exchanges may have multiple choices available to them.

Some CLECs offer bundled services; that is, combinations of local exchange service with other telecommunications-related services such as long distance, Internet access, enhanced services, broadband, or cable television for a flat monthly fee (i.e., no per-minute charges). Typically, the bundle is less expensive than purchasing all of the same services separately, but the overall price is only attractive to customers who already intend to purchase all of the associated services (in other words, premium customers). Some of the incumbent providers have responded with similar bundles.

Other CLECs have chosen to offer service only to certain market niches. For example, several CLECs offer service only to business customers, not residential. Other CLECs offer only prepaid services, typically at relatively high rates and targeted at customers

[47] Bundled services are combinations of local exchange service with other services, such as long distance, Internet access, cable television, or enhanced services.
[48] One of these two resellers primarily offers Internet service and has very few voice customers. The other only offers service in nine Qwest exchanges.
[49] Iowa Telecom Communications is the CLEC affiliate of Iowa Telecom.

who are unable to pass a credit check and obtain traditional service. One CLEC limits its offering to U.S. Army Reserve centers.

At this stage, it is difficult to say whether these different market approaches represent the final market plans of the CLECs or whether they are market entry strategies that will be expanded in the near future. The answer is probably that many of the CLECs have no immediate plans to expand their offering, but just about all of them will enter new markets if they perceive the right opportunity.

As a part of the survey, the Board asked the carriers to describe their advertising activities in Iowa. The responses are consistent with the preceding analysis: A few CLECs advertise their services relatively broadly using multiple media, such as newspaper and radio advertising, bill inserts, and Internet advertising. Many more of the CLECs, however, engaged in very limited advertising activities, such as direct mail or telemarketing.

Of the 56 CLECs that responded to the survey, 18 indicated they did no advertising at all in Iowa. Several of these CLECs are not listed in the local telephone directories where they claim to offer service. Clearly, these CLECs are not currently offering service to the general public; potential customers have no realistic way to identify these CLECs or to call them to inquire about their services. Moreover, when some of the CLECs were contacted (using information included in the CLEC's application for a certificate or from the CLEC's Web site), they indicated they were not currently offering local service in Iowa.

Several other CLECs indicated they relied primarily, or in some cases exclusively, on telemarketing. It appears these tend to be CLECs that are focusing their efforts on a particular market niche rather than the public in general. Others, especially the municipal CLECs, tend to target their advertising to a particular geographic area or community. These CLECs typically hold themselves out as serving any customer who is in the right location, but they decline to serve potential customers outside their preferred service area.

B. Qwest Territory

1. Background

Qwest Corporation, formerly U S West Communications, Inc., provides telephone service to 14 Midwest and Western states, serving 25 million residential and business customers and approximately 16.5 million access lines.

As of November 30, 2003, Qwest serves 126 Iowa exchanges and over 200 communities in Iowa, with a total of around 893,000 access lines. Des Moines is the largest exchange with almost 190,000 Qwest lines, and Bradgate is the smallest with around 100 lines. Qwest serves the most urban customers of any local exchange carrier in Iowa, including the communities of Cedar Rapids, Council Bluffs, Davenport,

Des Moines, Dubuque, Iowa City, and Sioux City, but Qwest also serves a number of rural exchanges (56).

Qwest divides its service territory into three rate groups. Basic monthly rates for residential service range from $10.71 to $12.65, while business rates range from $25.60 to $31.82 per month. Included in the basic rates are Extended Area Service (EAS) charges, which allow customers to make unlimited local calls to other towns for a flat rate.

Qwest has been price regulated since November 7, 1998. The company's price plan allows Qwest to adjust its prices for basic local service based on the annual rate of inflation. The plan also allows Qwest to introduce new services that are not subject to rate regulation by the Board. In addition, Qwest may increase prices for its other regulated services (such as call waiting or call forwarding) by up to 6 percent annually.

Qwest's price regulation plan is periodically reviewed and updated. For example, in 2002 an additional section was adopted that allows Qwest to respond to competition by decreasing its basic rates in a particular exchange or exchanges. As of the date of this report, Qwest has not exercised this option.

2. Survey Results for Qwest Territory

When looking at Qwest's communities as a whole, the survey shows that Qwest serves almost 90 percent of the residential lines and about 70 percent of the business lines in its service territory. Qwest's wireline market share in each individual exchange ranges from a little over 30 percent to 100 percent. Qwest maintains a market share of over 90 percent in 78 of its 126 Iowa exchanges.

The level of competition that Qwest faces in each exchange varies widely because of factors like the urban or rural nature of the exchange, the concentration of business and residential customers, and other differences. In some exchanges, Qwest's competitors have captured a significant share of some, or even most, customer classes. For example, in one exchange the study indicates that one competitor serves more lines than Qwest. In three other exchanges, the local municipal utility serves 50 percent or more of the access lines.

In many of Qwest's urban exchanges competition for business customers appears to be increasing. For example, in 18 Qwest exchanges, one competitor serves at least as many business lines as Qwest does, giving this particular customer class at least two choices for local exchange service.

At the other end of the spectrum, the study shows there are no competitors for Qwest in at least one exchange. In about half of the 56 Qwest rural exchanges,[50] the competitors that are present serve fewer than ten lines. In addition, about one-fourth of Qwest's rural exchanges have only one competitor and over half have just one or two

[50] A rural exchange is defined as having a population of less than 2,500, based on the 2000 U.S. Census.

competitors that serve only a few customers in niche markets. For example, Ionex is the only competitor in two of Qwest's rural communities, and Ionex is no longer accepting new customers in Iowa.[51]

In another example, MCI holds a certificate allowing it to offer residential service in many of the Qwest rural exchanges.[52] However, MCI's tariff makes it clear that most of MCI's residential services include several "custom calling features," such as call waiting, caller ID, 3-way calling, and anonymous call rejection. In addition, most residential offerings also require that the customer select MCI as both its local and long distance provider. These bundled services are relatively expensive and are not attractive to customers looking for plain telephone service.[53] These limitations mean that MCI's offering is not generally available or attractive to many consumers.

Similarly, Z-Tel Communications (Z-Tel) holds a certificate allowing it to offer local exchange service in many of the Qwest communities. However, Z-Tel offers local exchange service only as part of a package of services. All Z-Tel packages include local service, long distance service, and selected custom calling features. Again, this marketing strategy limits the appeal of Z-Tel's services to non-premium customers.

Finally, the survey data shows that 12 CLECs in Qwest's territory have constructed their own networks to provide service, which allows them to offer new and different services and to control their own quality of service. However, each of these competitors serves only one or two Qwest communities, due to the extremely high cost of overbuilding an entire exchange and duplicating Qwest's facilities. Five of these facilities-based CLECs are municipally owned, meaning they are very unlikely to offer service outside their own community.

C. Iowa Telecom Territory

1. Background

Iowa Telecom was founded in late 1999 for the purpose of acquiring the Iowa operations of GTE. On July 1, 2000, Iowa Telecom began providing service to 296 Iowa exchanges. Those exchanges reach into 378 communities, which are generally rural in nature. The largest exchange served is Newton with almost 12,000 access lines. The smallest exchange is Redding, with less than 100 access lines. More than 75 percent of Iowa Telecom's communities have fewer than 1,000 access lines.

Iowa Telecom divides its service territory into 16 rate groups. Basic monthly rates for residential service range from $8.92 to $16.31. Basic monthly rates for business service range from $15.64 to $29.69. Added to the basic rates are mandatory EAS charges. In some cases, Iowa Telecom's EAS charges are substantial. In Dexter, EAS

[51] Based on information received from Ionex's toll-free customer line in December 2003.
[52] MCImetro Access does not currently offer local business service.
[53] MCI offers one residential service that consists of local exchange service only, but it is restricted to customers who previously subscribed to a different service.

adds $16.44 to the basic monthly residential rate and $32.86 to the basic monthly business rate.

In 1995 Iowa Telecom's predecessor, GTE, elected to become price-regulated pursuant to Iowa Code § 476.97(11). As long as GTE operated under price regulation, its rates were no longer subject to traditional rate-of-return proceedings before the Board. Instead, GTE's rates changed according to inflation. When Iowa Telecom acquired the Iowa operations of GTE, it elected to continue the GTE price plan.

Like the other price regulated ILECs, Iowa Telecom has the ability to reduce prices in specific exchanges to meet competition. As of the date of this report, Iowa Telecom has not competed using this option.

2. Survey Results for Iowa Telecom Territory

The competition survey results indicate that Iowa Telecom has local competition in 69 communities. However, in 29 of these communities competitors have captured very small market shares – sometimes only one or two customers. These competitors may be reselling Iowa Telecom's services or leasing network elements from Iowa Telecom, such as loops, to provide service.

In the 40 communities where competition is more significant, it comes from several sources. Some competition comes from independent telephone companies that serve adjacent exchanges, which have extended their own networks into parts of Iowa Telecom's territory. In total, there are 26 communities where independents compete with Iowa Telecom using their own networks. In these communities, the independents have gained market shares between 13 and 97 percent. Municipal telephone utilities also provide competitive telephone service using their own networks in seven Iowa Telecom communities, where they have gained market shares between 29 and 64 percent.

By virtue of building their own networks, the independent and municipal competitors may have newer and more advanced facilities that allow them to offer services Iowa Telecom cannot readily match. In some cases, this has helped them to gain market share even when their rates are somewhat higher than Iowa Telecom's rates.

In some of the communities with measurable competition, Iowa Telecom competes with two other carriers who have gained a relatively large number of business customers. The first is LTDS, a competitive carrier from Fairfield, Iowa. Currently, LTDS is providing business-only service to a number of customers in six communities. LTDS provides its service using a combination of its own facilities and Iowa Telecom's facilities. The other is AT&T, which provides business-only data service in 20 Iowa Telecom communities. In these exchanges, AT&T is a specialized facilities-based carrier and leases facilities from Iowa Telecom only as necessary to make the final connection to the customer.

The survey confirms that competitors have gained large market shares in some Iowa Telecom exchanges. However, when the 69 competitive communities are taken as a group, the survey shows that Iowa Telecom maintains about 85 percent of the residential market and about 67 percent of the business market. Systemwide, when all 378 Iowa Telecom communities are grouped, Iowa Telecom maintains about 93 percent of the residential market and about 81 percent of the business market.

D. Frontier Territory

1. Background

Frontier Communications of Iowa (Frontier) is a subsidiary of Frontier Telco, Inc., which in turn is a subsidiary of Citizens Communications Company. In January 2001 the Board approved a reorganization proposal which brought Frontier Communications of Iowa under Citizens' corporate umbrella. Today, Citizens and its Frontier subsidiaries operate in parts of 24 states and provide local exchange service to approximately 2.5 million access lines.

In Iowa, Frontier provides service to approximately 62,000 access lines in 37 exchanges, which serve 49 communities. Most of these communities are located in western and north central Iowa. Census data indicates that most of Frontier's Iowa communities have populations under 1,000. The smallest exchange Frontier serves is Nemaha, with less than 150 access lines. The largest town Frontier serves is Fort Dodge with almost 20,000 access lines.

Frontier divides its service territory into three rate groups. Basic monthly rates for residential service range from $7.48 to $17.73. Basic monthly rates for business service range from $13.48 to $35.77. In most exchanges there are mandatory EAS charges that are added to basic rates. These charges add up to $3.02 to the basic monthly residential rate and $5.42 to the basic monthly business rate.

In 1995, Frontier elected to become price-regulated pursuant to Iowa Code § 476.97. As long as Frontier operates under price regulation its rates are not subject to traditional rate-of-return regulation. Instead, Frontier's rates are allowed to change based on the rate of inflation.

Under its price regulation plan, Frontier is also allowed to reduce prices in one or more exchanges in order to respond to competition. Under this provision, Frontier can lower rates in competitive exchanges as long as it does not attempt to recover the revenue losses by charging higher rates in non-competitive exchanges. To date, Frontier has not made a filing to reduce rates in a competitive exchange.

2. Survey Results for Frontier Territory

The competition survey shows that Frontier has local competition in four of its 49 communities, but only for business customers. Currently, there are no competitors

serving residential customers in Frontier's territory and Frontier maintains a 100 percent market share in residential service and a 99 percent market share in business service.

In two of the four competitive communities, competitors have captured only one customer in each community. In the other two communities, AT&T provides a business-only data service to a small number of customers. In those two exchanges, AT&T is a specialized facilities-based service provider; it does not lease any UNEs from Frontier to provide service. In a recent filing, Frontier indicated that it leases no UNEs to any competitive carrier in Iowa.

The survey shows that the most significant competition in Frontier's territory comes from a municipal telephone company. The municipal utility provides service by building its own network. At this time, the municipal has captured less than 10 percent of the business market in the town it serves. It is possible that this municipal will capture additional market share as it continues to build its new network within its boundaries.

E. Independent Telephone Companies

1. Background

There are 158 non-rate-regulated independent telephone companies that provide local telephone service in Iowa. Each of these independents serves a distinct service territory. Generally, these independents do not compete for the customers of other independent telephone companies. They are not subject to the Board's ratemaking authority but are subject to the Board's service regulations, such as the filing of tariffs and the Board's authority to hear customer complaints.

The independent telephone companies vary in size. Many of them serve just a single exchange in a single town. For example, Miller Telephone Company of Garner, Iowa, serves just over 100 access lines. At the other end of the range, Heartland Telecommunications Company of Iowa, d/b/a HickoryTech, serves over 13,500 lines in 11 exchanges which reach into 16 Iowa communities. About half of Iowa's independents service fewer than 1,000 loops.[54]

The rates charged by independent telephone companies for basic local exchange service are variable, but they are generally comparable to, or lower than, the rates charged by the larger ILECs. The independents, however, have additional revenue sources that may not be available to the larger telephone companies. First, the independents are eligible to receive Federal Universal Service Fund support to subsidize the high cost of providing loops in rural areas.[55] Qwest, Iowa Telecom, and Frontier do not receive this support in Iowa.

[54] Universal Service Fund 2003 Submission of 2002 Study Results by the National Exchange Carrier Association, Inc. dated October 1, 2003.

[55] High cost loop support provides funding for the "last mile" of connection for rural companies in service areas where the cost to provide this service exceeds 115 percent of the national average per line. See: www.universalservice.org/hc/components/loop.asp

Second, although all local telephone companies collect fees from long distance companies for use of the local network to complete long distance calls (known as access services), the access fees charged by small independents are generally higher than the access rates of the larger ILECs. Some independents use these extra revenue sources to keep their rates low and to provide advanced services, such as broadband, to many of their customers.

2. Survey Results for Independent Telephone Company Territories

Responses to the competition survey show that the independent telephone companies as a group serve about 235,000 access lines in 419 Iowa communities. Competitive local exchange service has emerged in only 31 of the 419 communities. In 24 of the 31 competitive communities, CLECs serve no more than a handful of residential customers – often just a single customer. These CLECs lease the facilities and services of the independent telephone companies to provide their competitive telephone service.

In five communities, AT&T and McLeodUSA have captured some of the business market – less than 40 business lines per community. These numbers represent market shares of fewer than 5 percent.

Finally, there are two competitive communities where municipal telephone utilities have built their own networks and gained market shares ranging from around 20 percent to almost 70 percent.

In conclusion, the small size of the independents appears to leave them less vulnerable to local exchange competition. Currently, there are only two Iowa communities served by independent telephone companies where competitors have gained substantial market shares. Those communities are served by municipal utilities. In five additional communities, AT&T and McLeodUSA have gained small market shares competing for business customers. On a statewide basis, however, the independent telephone companies continue to serve over 99 percent of customers located in their communities.

F. Municipal Telephone Utilities

1. Background

In the late 1990's, a small number of municipal utilities began providing telecommunications services in their communities. Today, there are 14 municipal providers offering telecommunications services. The municipal telecommunication providers typically compete with the incumbent telephone company by constructing new facilities within their community. The build-out of these new facilities is generally limited to the developed urban areas within the local exchange. Some of the municipal telecommunications utilities offer service to rural customers via an agreement with the incumbent telephone company. These municipals are reselling the ILEC's local telephone service to the rural customers.

Thirteen of the 14 municipal telecommunications utilities provide service in only one community and exchange, although one provides service in four different communities. The communities with a municipal telecommunications utility range in population from approximately 900 to over 11,000. There is only one community with a population greater than 6,000. The remaining communities have populations of less than 6,000, with ten of these communities below 2,000 in population. These population levels are based on 2000 census data.

2. Survey Results for Municipal Telephone Companies

In some instances the municipals have seen significant success. In February of 2001, a municipal witness testified before the Board estimating the municipal utility market share at 80 percent of the access lines in their community.[56] In the same proceeding, another municipal indicated it served about 750 of the community's 1,100 access lines. This estimate reflects a market share of approximately 68 percent.

The municipal utility responses in the recent survey reflect significant market share penetration by many of the municipals. The survey shows a range of market share from less than 5 percent to almost 70 percent. There are several factors that may be contributing to the municipals' success. New facilities and the ability to offer advanced services, such as high-speed Internet access, are advantages for the municipals. Another advantage is related to the economic development interests of the community. By purchasing service from the municipal provider, residents and businesses keep dollars in their community and support the entity that brought them advanced services.

IV. CONCLUSIONS

The beginning of this report outlined the policy of the State that communications services should be available throughout Iowa from a variety of providers at just, reasonable, and affordable rates. Under the law, the Board has the duty to deregulate a communications service or facility if it determines that the service or facility is subject to effective competition. In making this finding the Board is required to determine: (1) whether there are multiple providers of a service; and, (2) whether existing market forces are sufficient to ensure just and reasonable rates without regulation. The second finding requires a careful examination of the relevant facts and the exercise of judgment based on sound economic theory, activities that are beyond the scope of this survey.

However, this survey was conducted by the Board to evaluate the first condition: whether there are multiple providers of a service, which in this case is local telephone service. Several conclusions can be drawn from this report:

[56] In re: FiberComm, LLC, et al., Docket No. FCU-00-3, transcript pp. 468 and 533.

- **Most local exchange telephone customers in Iowa do not have a significant choice of providers.**

Based on the results of the Board's survey, it appears that most local exchange telephone customers in Iowa do not have a significant choice of providers. While the Board has issued numerous certificates to potential competitors, the majority of those companies are only offering service in limited geographic areas or to limited customer classes.

- **Some customer classes in some exchanges appear to have a choice.**

Based on the survey results, some customer classes in some exchanges appear to have a choice. For example, business customers in the larger urban exchanges or residential and small business customers seeking second or third lines for voice-grade service have options available.

- **Local telephone competition is emerging as a significant factor in a few areas of the market.**

Overall, the survey shows that local telephone competition is emerging as a significant factor in a few market segments. However, the existing competition is concentrated in a few areas, primarily urban areas and communities where independents and municipal telephone utilities have built new networks. The characteristics of these competitors are likely to limit the growth of competition from these sources. Urban competitors, to date, show little inclination to expand into rural areas, and municipal utilities, by nature, are reluctant to expand their service territory much beyond their municipal boundaries.

- **Overall, incumbents continue to maintain a significant portion of market share.**

Generally, incumbents continue to provide service to most of the voice customers in their serving areas. Statewide, the incumbents serve 92 percent of the residential market and 77 percent of the business market. Qwest serves about 90 percent of the residential customers and 70 percent of the business customers in its serving area. Iowa Telecom serves 85 percent of residential customers and 67 percent of business customers. Frontier maintains a 100 percent market share for residential and 99 percent for business. Independent telephone companies continue to furnish service to 99 percent of all customers in their serving areas.

- **The growth of local exchange competition in Iowa is affected by a variety of factors.**

While not directly a part of the survey results, it is clear that the growth of local exchange competition in Iowa is affected by a variety of factors. This includes general economic conditions; the telecommunications sector was hit hard by the recent downturn in the economy, slowing the growth of the competitors. Another factor

contributing to uncertainty in the marketplace is the pending FCC action on UNE rates and UNE-P availability in Qwest's service territory. UNEs are very important to CLECs; they use them to serve 77 percent of their Iowa lines. If the FCC decisions make this alternative uneconomic or unavailable, those CLECs may have no viable business plan for Iowa. Investors are often reluctant to commit funds to a market plan that may be rendered obsolete by an FCC decision. Even such factors as the new federal "Do Not Call" list may have an effect, as many CLECs rely on telemarketing to a significant degree and may find it more difficult to reach their intended customers.

- **New technology will probably provide the necessary catalyst for future growth and competition.**

Looking toward the future, it is clear that new cable telephone providers could provide more choices for residential customers in urban areas. Different wireless packages, improved service quality, and technological advances could make wireless service more comparable to wireline service, offsetting some of the existing disadvantages. Broadband over power lines may offer the greatest potential for change due to the existence of a pre-established universal network, but this alternative is probably the farthest from being market-ready. Thus, new technologies on the horizon are likely to increase telecommunications choices for Iowans in the years ahead.

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Iowa Utilities Board
Competition Survey Team Members

Larry M. Stevens, Project Manager

Penny Baker
Mike Balch
Kathy Bennett
Brenda Biddle
Frank Bodine
Vince Hanrahan
Jim Langenberg
David Lynch
Teresa McConnell
Joni Nicoll
John Ridgway
Chuck Seel
Randy Thoesen
Jane Whetstone

Iowa Utilities Board
Telecommunications Competition Survey for Retail Local Voice Services

ATTACHMENT A

COVER LETTER AND SURVEY INSTRUMENT

Fields of Opportunities

STATE OF IOWA

THOMAS J. VILSACK
GOVERNOR
SALLY J. PEDERSON
LT. GOVERNOR

IOWA UTILITIES BOARD
IOWA DEPARTMENT OF COMMERCE

August 4, 2003

The Iowa Utilities Board (IUB), with this letter and attached survey, is assessing the level of competition for retail voice services within the state of Iowa. This survey is being sent to local exchange carriers, local service resellers, a cable operator, and wireless carriers that may be providing retail local service as part of their service products. Completion of this assessment will give the IUB the ability to respond to requests for information on the level of retail local service competition in all areas of the state.

Results and findings of the IUB's assessment will be available on the Utilities Board Web site at www.state.ia.us/iub once all of the data is gathered and processed. While the survey asks for actual counts of retail local service connections, the final assessment report will only reveal a percentage of competition by community.

The Iowa Utilities Board requests your assistance by responding to the attached survey, which is also available online at www.state.ia.us/iub in Word format and can be downloaded for your use. Please complete and return the survey by September 2, 2003, (either electronically or through conventional mail) to:

Larry Stevens
Iowa Utilities Board
350 Maple Street
Des Moines, IA 50319
E-Mail: larry.stevens@iub.state.ia.us
Telephone Number: 515-281-4725, Fax: 515-281-5329

Your input is vitally important to the success of this assessment. If you require any further information, please feel free to contact the Iowa Utilities Board.

Sincerely,

Diane Munns	Mark Lambert	Elliott Smith
Chairman	Board Member	Board Member

Iowa Utilities Board
2003 Telecommunications Competition Survey for Retail Local Voice Services

Competition Survey Instructions and Guidelines

This survey only addresses retail local voice services being provided to consumers within the state of Iowa. This survey instrument is divided into three sections. Part I of this survey requests a physical count on the number of customer connections for which a service provider is billing consumers for retail local voice service. Part Two requests information on the recurring monthly pricing of the retail local voice services offered to consumers. Part III asks for information on how your organization advertises the availability of services to consumers. All requested information is as of **July 1, 2003**. Listed below are a few definitions taken in part from the Iowa Administrative Code (IAC) that should help in defining the scope of this survey.

"Local service" means telephone service furnished between customers or users located within an exchange or service area. (Follows IAC 199-22.1(3))

"Exchange area" or "Service area" means the general area in which the telephone utility holds itself out to furnish local telephone service. (Follows IAC 199-22.1(3))

For the purpose of this survey, Retail Local Voice Service Connections or the functional equivalent are facilities that provide voice grade access to the public switched network that includes local usage, dual tone multifrequency signaling or its functional equivalent, access to emergency services, access to operator services, access to interexchange services, and access to directory assistance. Toll limitation for qualifying low-income consumers is not included in this list of functionalities since carriers requesting federal "Eligible Telecommunications Carrier (ETC)" status have been granted a waiver of this provision. This definition follows Iowa Administrative Code 199-39.2(1).

PART I: Customer Connections

The purpose of this portion of the survey is to obtain actual counts of the number of retail local voice service connections being furnished by each carrier to end users or customers in the various communities of Iowa. Many different types of

facilities and technologies are used within the state to provide retail local voice services. Count customer connections based on how customers are billed rather than how services are provisioned. For the purpose of this survey, retail local voice services or the functional customer connection equivalents must be capable of providing service functionalities as defined in the previous paragraph and must be producing billed revenues for the service provider.

Column ------ Column Description ---------- Explanation

(a) Community Name – Community Name
(b) Exchange Name or Service Area – General area or location where telephone service utility holds itself out to furnish retail local voice service.
(c) Service Provider Type – Incumbent or Competitor
(d) How the Service is Provisioned:
    F = Facility Based owned by the provider
    U = Service provided using leased or purchased UNEs
    R = Service provided through the use of resale facilities.
    C = Service provided by using a combination of owned facilities and purchased UNEs
(e) NPA-NXX – Each Number Plan Area-NXX as assigned to your organization by NANPA.
(f) Number of Retail Local Service Connections or Functional Equivalent for each NPA-NXX – Numerical count of the quantity of retail local voice connections provided to end users. Please provide counts, if possible, based on the service being provided as being residential (RES) or business (BUS). If offered services are not distinguished as either residential or business, enter the counts in the combination (COMB) column.

PART II: Pricing Information

The purpose of this portion of the survey is to obtain pricing information on Retail Local Voice Service. Local service providers often provide numerous calling plans for consumers in specific areas and local service plans vary by service provider. Please list all the local service plans offered in each of the exchanges or service areas where service is provided. Local service plans or packages may also include other services, such as regional toll calling, custom calling features, or extended area calling service.

Column ------ Column Description ---------- Explanation

(g) Exchange Name or Service Area – Same as column (b).
(h) NPA-NXX – Same as Column (e).
(i) Type of service or service plan – Common name of the service or plan as sold by the service provider.
(j) Monthly Rate – Recurring monthly dollar amount for the service being provided.
(k) Recurring Monthly End User Charges – Charges added to the consumer billing as part of the charges for receiving service.
(l) Other Monthly Recurring Charges – Charges that are added to the end users bill that are not usually considered to be part of the rates for recovering the costs associated with the service. These charges could include assessments for 911/E911, property tax surcharges, number portability charges or local fees, taxes, and surcharges. Do Not Include Federal Universal Service Charges, state, or federal taxes. Please identify each charge.
(m) Service or Service Plan Details – Briefly describe the service and the components of each plan. Explanations could include: residential single line service, business multiline service, includes custom calling features, regional calls included, 500-minute plan with 120 minutes of 7:00 AM to 7:00 PM usage, etc.

PART III: Advertising / Marketing

This section of the survey is structured to gather information on how service providers advertise or market their retail local services. If your organization has advertised in Iowa in the past twelve months please respond to the questions in this section and provide copies of written or printable advertisements.

Please return the completed survey no later than September 2, 2003. Electronic copies of this survey can be found on the Iowa Utilities Board web site at http://www.state.ia.us/iub. Should you have questions concerning this survey, contact Larry Stevens at (515) 281-4725 or at larry.stevens@iub.state.ia.us. Jane Whetstone may also be contacted at (515) 281-3173 or at jane.whetstone@iub.state.ia.us. Completed survey forms can be returned by US mail to Larry Stevens, Iowa Utilities Board, 350 Maple Street, Des Moines, Iowa 50319. Electronic replies should be returned to larry.stevens@iub.state.ia.us.

Iowa Utilities Board
2003 Telecommunications Competition Survey for Retail Local Voice Services
As of July 1, 2003

Company Name _____ Address _____

Contact Person _____ Telephone number _____ Fax # _____

E-Mail Address _____

1.) Does your company currently provide local telecommunications retail voice service in the State of Iowa?

Yes ☐ No ☐

2.) If yes, what type of Service provider:

ILEC ☐ CLEC ☐ Cable ☐ Wireless ☐ Other ☐ Explain: _____

3.) Please use the worksheet formats in the following three pages to provide information on the communities and locations in Iowa where you provide retail local voice services. Create additional pages as needed to complete this survey.

PART I - Customer Connections

Community Name (a)	**Exchange Name or Service Area (b)**	Service Provider Type: I=Incumbent **C=Competitor (c)**	**How the Service is Provisioned: F = Facilities Based U = UNEs R = Resale C = Combination (d)**	**NPA-NXX (e)**	**Number of Local Voice Service Connections or Functional Equivalents for Each NPA-NXX (f)**		
					RES	BUS	COMB

Iowa Utilities Board
2003 Telecommunications Competition Survey for Retail Local Voice Services
As of July 1, 2003

PART I - CONTINUED

Company Name

Community Name (a)	Exchange Name or Service Area (b)	Service Provider Type: I=Incumbent C=Competitor (c)	How the Service is Provisioned: F = Facilities Based U = UNEs R = Resale C = Combination (d)	NPA-NXX (e)	Number of Local Voice Service Connections or Functional Equivalents for Each NPA-NXX (f)		
					RES	BUS	COMB

Iowa Utilities Board
2003 Telecommunications Competition Survey for Retail Local Voice Services
As of July 1, 2003

PART II – Service Rates

Company Name

Exchange Name or Service Area (g)	NPA-NXX (h)	Type of Service or Service Plan (i)	Monthly Rate $.$$ (j)	Recurring Monthly End User Charges $.$$ (k)	Other Monthly Recurring Charges – Identify Each $.$$ (l)	Service or Service Plan Details (m)

2003 Telecommunications Competition Survey for Retail Local Voice Services
As of July 1, 2003

PART III – Advertising / Marketing

Company Name

3.1.) During the past 12 months (July '02 – June '03) has your organization advertised the availability of retail local service, by itself or included as a service in a package offering, to any consumers in the State of Iowa?

3.2.) Yes ☐ No ☐

3.3.) In how many months of the last 12 did your organization advertise? _____(answer: 0-12)

3.4.) If you answered yes to question #1, how has your organization advertised (mark all that apply):

_____ Newspaper _____ Radio _____ Telemarketing

_____ Television _____ Billing Insert _____ Telephone Directory/Book

_____ Internet (other than web site) _____ Direct Mailing

Other, Please list each:

_____
_____
_____
_____
_____
_____

3.5.) If the advertisement has been in a written or printable format, please attach a photocopy of each advertisement to the completed survey. If the survey is being completed in an electronic format, advertisements can be scanned and returned as electronic files.

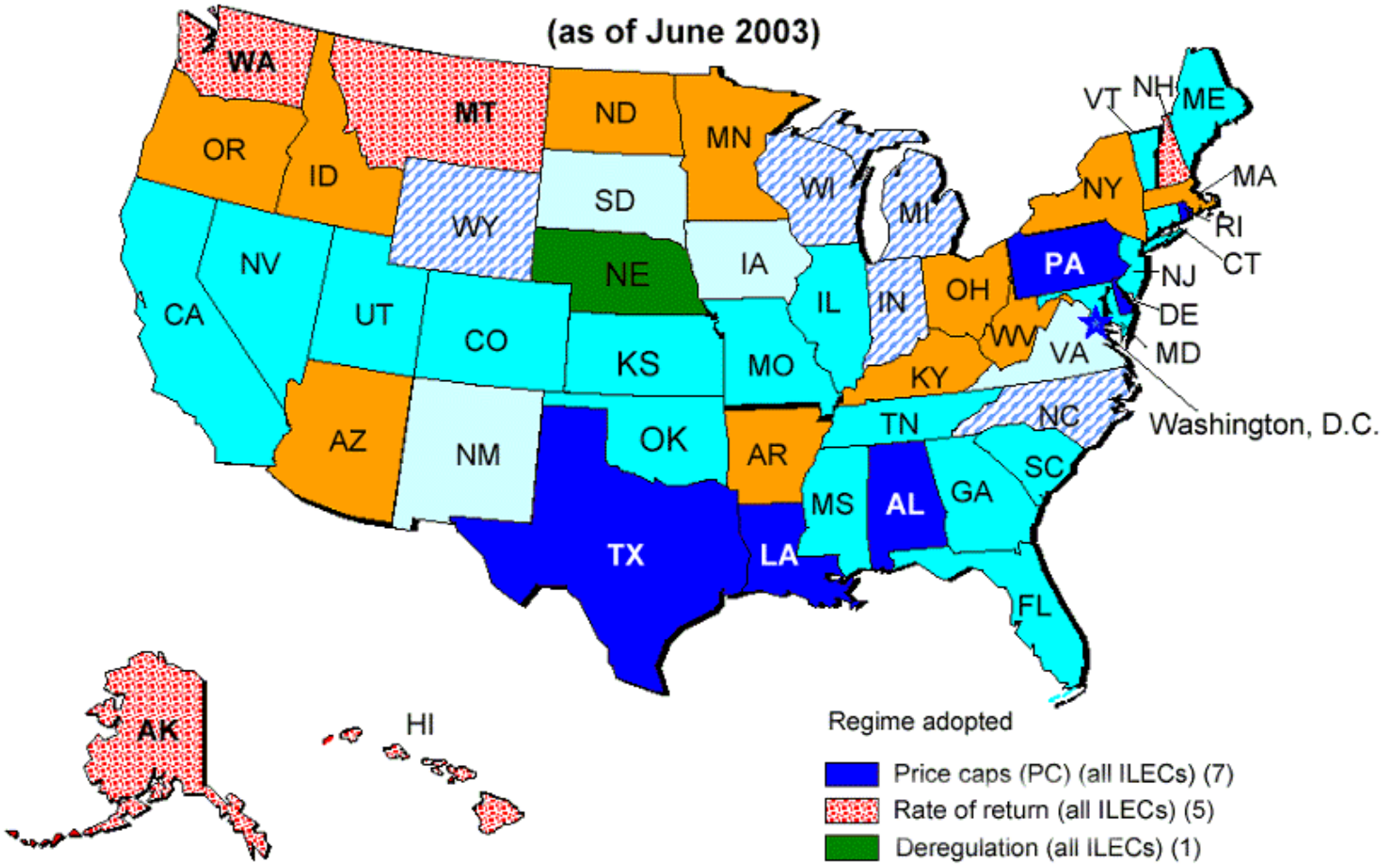
Iowa Utilities Board
Telecommunications Competition Survey for Retail Local Voice Services

ATTACHMENT B

U.S. MAP -- RETAIL RATE REGULATION
OF
INCUMBENT LOCAL EXCHANGE PROVIDERS

Retail Rate Regulation of Incumbent Local Exchange Providers

(as of June 2003)



Source: *State Telephone Regulation Report*, May & June 2003, Vol. 21 (No. 9-11)

The National Regulatory Research Institute

Iowa Utilities Board
Telecommunications Competition Survey for Retail Local Voice Services

ATTACHMENT C
COMPETITIVE LOCAL EXCHANGE CARRIERS PROVIDING RETAIL VOICE SERVICE IN IOWA
as of July 1, 2003

NOTE: The market areas for competitive retail voice service providers are geographically limited within the state.

Companies Not Providing Retail Voice Services in Iowa

(Listing includes organizations currently certified by the Iowa Utilities Board as local exchange service providers, have approved applications on file, or were previously approved)

1-800-Reconex, Inc.
Adelphia Business Solutions
Alticomm, Inc.
CI2, Inc.
DPI-Teleconnect
Geneseo Communications
Goldfield Communications
Independence Telecommunications Utility
Intermedia Communications, Inc.
Integra Telecom of Iowa, Inc.
Ionex Telecommunications, Inc.
KMC Telecom V, Inc.
North West Rural Electric Coop.
NOW Communications
OneStar Long Distance, Inc.
Premiere Network Services, Inc.
Primus Telecommunications, Inc.
Talk America, Inc.
Ter Tel Enterprise, Inc.
Universal Access, Inc.

Companies Offering Residential and Business Retail Voice Services

American Telco of Iowa
Crystal Communications, Inc., d/b/a HickoryTech
Digital Telecommunications, Inc.
Frontier Communications of America
Granite Telecommunications, L.L.C.

Ionex Communications North, Inc. (no longer accepting new customers)
Iowa Telecom Communications, Inc.
McLeodUSA
Preferred Carrier Services, Inc.
TRX, Inc.
Twin Rivers Valley Telephone

Companies Offering Service in Four or Fewer Exchanges

Advanced Network Communications, LLC
Algona Municipal Utilities
Alta Municipal Broadband Communications Utility
BTC d/b/a Western Iowa Networks
Cedar Communications, LLC
Cedar Valley Communications.
City of Hawarden-HITEC
CommChoice of Iowa
Coon Creek Telecom
Coon Rapids Municipal Communications Utility
Corn Belt Communications
Cox Iowa Telcom, LLC
CS Technologies
Farmers & Businessmen's Tele. Co.
Farmers Mutual Coop. Tel. Co.
Farmers Mutual Telephone Co, d/b/a OmniTel
FiberComm
Forest City Telecom
Goldfield Networks Access
Grundy Center Communications
Guthrie Telecom Network
Harlan Municipal Utilities
Heart of Iowa
Huxley Comm. Coop.
Independent Network
Laurens Municipal
Long Lines Metro
Lost Nation-Elwood Telephone Co.
Louisa Communications
Mahaska Communications
Mapleton Community Management Agency
Orange City Municipal
Osage Municipal Telecomm.
Partner Comm. Coop.
Prairiewave Telecommunications
Reinbeck Municpal Telecommunications Utility, Inc.
SNG Communications, LLC

Spencer Municipal Communications Utility
The Community Agency

Companies Offering Business Retail Voice Service Only

AT&T Communications of the Midwest
Local Telephone Data Services Corp. (LTDS)
Microtech-tel (iLoka, Inc.)
Quantumshift Communications, Inc.
TGC Omaha

Companies Offering Residential Retail Voice Service Only

Choicetel, LLC
MCI Metro Access Transmission Services, LLC
New Access Communications, L.L. C.

Companies Offering Prepaid Retail Voice Services Only

BG Enterprises d/b/a Grizzly Telephone
CAT Communications International
Comm South Companies, Inc.
Fast Phones of Nebraska, Corp.
Houlton Enterprises, Inc. d/b/a Guaranteed Phone Service

Companies Offering Fixed Bundled Service Only

Excel Telecommunications
Orbitcom
VarTec Telecom, Inc.
Z-Tel Communications, Inc.

Companies Offering Wholesale and Data Services Only

Universal Access, Inc.

Companies Not Responding to Survey

Advanced Network Communications
AllTel Nebraska, Inc.
Budget Phone, Inc.
Bulls Eye Telecom, Inc.
Clemmons Communications, Inc.
Manning Municipal Comm. & TV System Utility
Nexgen Integrated Communications, L.L.C
USA Quick Phone, Inc.

Iowa Utilities Board
Telecommunications Competition Survey for Retail Local Voice Services

ATTACHMENT D
NON-RESPONDERS – NO INFORMATION RECEIVED

Wireless

AT&T Wireless
Benton/Linn Wireless, LLC
Cricket
Great Lakes of Iowa
Iowa RSA 7
Iowa RSA 10 General Partnership
Iowa RSA#11, LLC
Iowa RSA#12, LLC
Iowa RSA#3, LLC
Iowa 8 -Monona Limitied Partnership
Midwest Wireless Iowa LLC
NSP, LC
Qwest Wireless
Sprint PCS
Swiftel Communications
T-Mobile f/n/a VoiceStream
Verizon Wireless
Virgin Mobile Telecoms Ltd
WWC LLC Lic

CLECs

Advanced Network Communications
: Per Tariffs filed with IUB – Provides residential and business voice services in Correctionville & Lake View.

AllTel Nebraska, Inc.
: Per Tariffs filed with IUB – Provides residential and business voice services in Council Bluffs

Budget Phone, Inc.
: Per Tariffs filed with IUB – Provides business voice services in Qwest exchanges

Bulls Eye Telecom, Inc.
: Per Tariffs filed with IUB – Provides residential and business voice services in Qwest exchanges

Clemmons Communications, Inc.
: Per Tariffs filed with IUB – Provides residential and business voice services in various Qwest exchanges

Manning Municipal Comm. & TV System Utility
Per Tariffs filed with IUB – Provides residential and business voice services in Manning

Nexgen Integrated Communications, L.L.C.
Per Tariffs filed with IUB – Provides residential and business voice services in Des Moines

USA Quick Phone, Inc.
Per Tariffs filed with IUB – Provides residential voice services in Qwest and Iowa Telecom exchanges

LECs

Alliance Communications Cooperative, Inc.
Per Tariffs filed with IUB – Provides residential and business voice services in E. Hudson

Atkins Telephone Company, Inc.
Per Tariffs filed with IUB – Provides residential and business voice services in Atkins

Breda Telephone Corporation
Per Tariffs filed with IUB – Provides residential and business voice services in Breda, Lidderdale, Macendonia

Farmers Telephone Company of Batavia
Per Tariffs filed with IUB – Provides residential and business voice services in Batavia

Fenton Cooperative Telephone Company
Per Tariffs filed with IUB – Provides residential and business voice services in Fenton

Hills Telephone Company, Inc.
Per Tariffs filed with IUB – Provides residential and business voice services in Alvord, Inwood, Larchwood, Lester, Steen, Hills (MN)

Lone Rock Cooperative Telephone Company
Per Tariffs filed with IUB – Provides residential and business voice services in Lone Rock

Lynnville Telephone Company
Per Tariffs filed with IUB – Provides residential and business voice services in Loneville

Woolstock Mutual Telephone Assn.
Per Tariffs filed with IUB – Provides residential and business voice services in Woolstock

STATE OF IOWA

DEPARTMENT OF COMMERCE

UTILITIES BOARD

IN RE: DEREGULATION OF LOCAL EXCHANGE SERVICES IN COMPETITIVE MARKETS	DOCKET NO. INU-04-1

FINAL DECISION AND ORDER

(Issued December 23, 2004)

BACKGROUND

It is the policy of the state of Iowa that communications services should be available throughout the state, from a variety of providers, at just and reasonable rates. Iowa Code § 476.95(1). This policy was formally adopted by the state of Iowa in 1995. When sufficient providers enter a market, such that effective competition exists, the Utilities Board (Board) is required to deregulate that market. Iowa Code § 476.1D. Even before the state enacted § 476.1D, the Board acted to further telecommunications competition in Iowa by deregulating a number of telecommunications services.[1] The Board continued deregulating certain telecommunications services after passage of § 476.1D.[2]

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[1] See "Order Adopting Rules," In re: Rules Regarding Treatment of Costs Associated with Inside Wiring, etc., Docket No. RMU-81-19, issued October 8, 1982; "Order Adopting Rules," In re: Deregulation of the Terminal Equipment Market, Docket No. RMU-82-1, issued February 9, 1983.

[2] See "Order Adopting Rules," In re: Terminal Equipment—Amendments to Chapters 22 and 16, Docket No. RMU-85-6, issued July 26, 1985 (deregulating pay telephones); "Order," In re: Northwestern Bell Telephone Co., Docket No. RPU-84-8, issued September 5, 1984 (deregulating Centrex services and certain private line services); In re: Investigation Into the Competitiveness of Versanet Service, Docket No. INU-85-5; In re: Mobile Telephone Service and Paging Service, Docket No. INU-86-2; In re: Intrastate Billing and Collection Service Tariffs, Docket No. INU-88-10; In re:

Nationally, the local telecommunications market was opened to competition in the year following the enactment of Iowa's statute (Iowa Code § 476.95 et seq.) with the federal Telecommunications Act of 1996 (the Act). The Act mandated that each telecommunications carrier has the duty to interconnect with other carriers.[3] The Act allows competitive local exchange carriers (CLECs) to resell the retail services of the incumbent local exchange carriers (ILECs), to use the ILEC's facilities (in whole or on a piece-by-piece basis[4]), or to build their own facilities. The Act also requires each LEC to provide number portability, the provision of dialing parity, access to its poles, ducts, conduits, and rights-of-way, and the establishment of reciprocal compensation arrangements for the transport and termination of telecommunications.[5] In addition, the Act requires all ILECs to negotiate agreements regarding the resale of its telecommunications services, provide interconnection, to provide unbundled access (through UNEs), to offer its services for resale, and to collocate equipment necessary for interconnection.[6]

Many CLECs in Iowa rely upon the ILEC's wholesale services to provide some or all of their own retail services. In other words, these CLECs "rent" the ILEC's

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Deregulation of InterLATA Interexchange Message Telecommunications Services, etc., Docket No. INU-88-2; In Re: Deregulation of Touch Calling and Custom Calling Features, Docket No. INU-88-8; In Re: Deregulation of Recording Function of Billing and Collection Services, Docket No. INU-88-9; In Re: Deregulation of Competitive IntraLATA Interexchange Services, etc., Docket No. INU-95-3; and In Re: U S West Communications, Inc., n/k/a Qwest Corporation, Docket No. INU-00-3.

[3] 47 U.S.C. § 251(a)(1).

[4] A CLEC could lease separate unbundled network elements (UNEs) or the entire UNE-platform (UNE-P) from the ILEC.

[5] 47 U.S.C. § 251(b).

[6] 47 U.S.C. § 251(c).

facilities, namely the UNE or the entire UNE-platform (UNE-P), from the incumbent. The CLEC then uses those rented facilities to offer service to customers. This relationship appears to form the basis for much of the local exchange telecommunications competition in Iowa.

On August 4, 2003, the Board initiated a comprehensive industry-wide survey to obtain an overview of the status of local exchange telecommunications competition in Iowa. The survey was sent to approximately 280 companies that provided, or had the potential to provide, local telephone service in Iowa. A total of 239 telephone service providers, including 93 percent of the wireline carriers, responded to the survey. The survey results were described in a report issued January 26, 2004.

The survey results indicated that despite the large number of local exchange service providers in Iowa,[7] competitive local exchange service was not universally available as of the survey date. While some customers in Iowa's urban exchanges had multiple choices for their local exchange service provider, there was little or no competitive choice in most rural exchanges (although there were exceptions). Further, while competition for local exchange service appeared to be increasing, the incumbent providers continued to serve the majority of the customers in the state.

Moreover, the survey indicated that incumbent companies retained a significant market share when measured on a statewide basis. However, the survey

[7] One hundred sixty-one of these telecommunications service providers are ILECs that generally do not compete against each other; instead, they concentrate their efforts on their own separate service territories.

also showed that competitive telecommunications providers catering to certain customer classes were making strides in some exchanges. Similarly, in some of the exchanges, certain CLECs had successfully constructed their own wireline networks. It appeared that these "overbuilt" markets may represent a different situation altogether, leading to the notion that competition should be examined on a basis other than statewide. Specifically, it became apparent that local exchange competition should be considered on an exchange-by-exchange basis.

Finally, the survey data also indicated that customers in certain specific geographic areas or certain customer groups had a choice of providers. With this apparent increase in telecommunications competition in some areas, the Board concluded it was appropriate to examine certain specific markets more closely.

Therefore, the Board initiated this proceeding on its own motion, pursuant to Iowa Code § 476.1D (2003) and 199 IAC 5.3(1) (2003) and identified as Docket No. INU-04-1, to consider whether local exchange service to business customers in Sioux City, business and residential customers in Council Bluffs, and other specific Iowa communities where the CLEC has constructed its own facilities and has acquired a market share greater than 50 percent for both business and residential customers (known as the "overbuilt exchanges") is subject to effective competition and should be deregulated. The Board also proposed to consider whether residential second line service throughout Iowa is subject to effective competition and should be deregulated.

Facilities-based competition, rather than UNE-P, has been the focus of this proceeding. Currently, there is regulatory uncertainty at the federal level regarding the future of UNE-P. In August 2003 the Federal Communications Commission (FCC) issued its Triennial Review Order (TRO),[8] wherein the FCC found that if an ILEC can show three or more CLECs are using their own facilities, in whole or in part, to compete with the incumbent, then the incumbent should no longer be required to offer UNE-P to its competitors in that market. A three-judge panel of the D.C. Circuit Court of Appeals, upon review of this portion of the TRO, found that the FCC erred in maintaining competitors' mass-market access to unbundled switching and inter-office transport.

On August 20, 2004, the FCC released interim rules that called for a six-month standstill period for interconnection agreements in effect as of June 15, 2004 to allow the FCC time to develop final rules. Since August 20 the FCC has adopted those final rules, but has not yet issued a final written order.[9] Because of this regulatory uncertainty during the course of these proceedings, the Board did not consider UNE-P-based competition, by itself, as a basis for deregulation in this initial phase of this proceeding. A consideration of competitors that use UNE-P and other UNEs will

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[8] *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, and 98-147, "Report and Order on Remand and Further Notice of Proposed Rulemaking." (Rel. August 21, 2003).

[9] See *FCC Adopts New Rules for Network Unbundling Obligations of Incumbent Local Phone Carriers*, FCC Press Release (Dec. 15, 2004) (eliminating unbundled access to mass market circuit switching and unbundled network element platforms (UNE-Ps) while retaining unbundled access to high-capacity loops and transports).

likely be addressed in a future phase of the Board's ongoing deregulation process. At that time, there should be better information available as to whether the competition currently provided through UNE-P is sustainable and should be included in the analysis.

PROCEDURAL HISTORY

On May 7, 2004, the Board initiated this notice and comment proceeding to consider deregulation of local exchange service in certain Iowa communities and residential second line service throughout Iowa. Specifically, the Board requested comments regarding the following issues:

1. Proposed deregulation of business and residential local exchange service in the Council Bluffs market;[10]

2. Proposed deregulation of business service in the Sioux City market;[11]

3. Proposed deregulation of all local exchange service in the following twenty-two overbuilt communities: Armstrong, Belle Plaine, Conrad, Coon Rapids, Delmar, Forest City, Harlan, Laurens, Lowden, Mapleton, Oxford, Oxford Junction, Primghar, Saint Ansgar, Solon, Spencer, Stacyville, Stanwood, Steamboat Rock, Storm Lake, Tiffin, and Whiting; and

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[10] For purposes of this proceeding, the Council Bluffs market also includes the following communities: Loveland and Wilson.

[11] For purposes of this proceeding, the Sioux City market also includes the following communities: James and Westfield.

4. Proposed deregulation of residential second lines throughout Iowa.

In the May 7 order, the Board also required that all ILECs and CLECs providing service in the Council Bluffs and Sioux City markets, as well as the ILECs and CLECs providing service in the listed overbuilt communities, file updated responses to the Board's 2003 telecommunications competition survey. This information would serve two purposes: first, it would give a more updated snapshot of the competitive status of each exchange; second, the updated results in 23 exchanges would provide an indication of how much the market had changed between the time of the 2003 survey and the time of the updated responses. This information would, in turn, allow the Board to evaluate the continuing validity of the original survey. The appropriate carriers submitted updated responses as requested. The responses show that in the majority of these exchanges, which should be the most competitive in the state, the ILEC's market share changed by less than 3 percentage points between the survey results in 2003 and 2004. In fact, the change in ILEC market share exceeded 5 percentage points in only five of the 23 exchanges and exceeded 10 percentage points in only one exchange. Based on this information, it is reasonable to conclude that the 2003 survey results are still reliable.

Sixteen participants filed written statements of position and counterstatements of position pursuant to the Board's procedural schedule established in the May 7 order. Participants include: AT&T of the Midwest, Inc., and TCG Omaha, Inc.

(collectively, AT&T); Cedar Communications (Cedar); Cox Iowa Telcom, LLC (Cox Iowa); Farmers' and Business Men's Telephone Company, d/b/a F&B Communications (F&B); FiberComm, Inc. (FiberComm); Forest City Telecom, Inc. (Forest City); Frontier Communications of Iowa, Inc. (Frontier); Iowa Association of Municipal Utilities (IAMU); Iowa Telecommunications Association (ITA); Iowa Telecommunications Services, Inc., d/b/a Iowa Telecom (Iowa Telecom); Lost Nation – Elwood Telephone Company (Lost Nation); McLeodUSA, Inc. (McLeod); Qwest Corporation (Qwest); Rural Iowa Independent Telephone Association (RIITA); South Slope Cooperative Telephone Company, Inc. (South Slope); and the Consumer Advocate Division of the Department of Justice (Consumer Advocate).

Oral presentations in this proceeding were held on August 24, 2004, for the purpose of cross-examining witnesses on the subject matter of the Board's May 7 order and on their statements and counterstatements of position. AT&T, Cedar, Cox Iowa, F&B, Frontier, Forest City, IAMU, Iowa Telecom, Lost Nation, South Slope, McLeod, Qwest, and Consumer Advocate attended.

On October 4, 2004, briefs were filed by Cox, F&B, Forest City, Frontier, IAMU, Iowa Telecom, Lost Nation, McLeod, South Slope, Qwest, and Consumer Advocate, pursuant to the Board's briefing schedule established by order issued September 9, 2004. In lieu of reply briefs, the Board gave these participants an opportunity to present oral argument regarding the issues discussed in the initial

briefs. Oral arguments were presented to the Board on October 19, 2004, in the Board's hearing room.

APPLICABLE LEGAL STANDARDS

Iowa Code § 476.1D(1) (2003) provides for deregulation of communications services if the Board determines that the services are subject to effective competition. In making that determination, the Board must consider, among other factors, (1) whether a comparable service or facility is available from a supplier other than the regulated telephone utility and (2) whether market forces are sufficient to assure just and reasonable rates without regulation. The Board has the option of deregulating rates but continuing service regulation if it determines the service is an essential communications service and the public interest warrants continued service regulation, pursuant to § 476.1D(5).

The Board has promulgated rules to aid in determining whether a service or facility is subject to effective competition. Subrule 199 IAC 5.6(1) provides that the Board may consider the following criteria when making this determination:

a. The ability of a single provider to determine or control prices;

b. The ease with which other providers may enter the market;

c. The likelihood that other providers will enter the market;

d. The substitutability of one service for another; and

e. Other relevant considerations.

199 IAC 5.6(1). The rules also specify additional criteria the Board may consider in determining whether a service or facility should continue to be subject to service quality regulation, notwithstanding the existence of effective competition. See 199 IAC 5.6(2).

The Board has adopted these rules to assist in determining where effective competition exists. The factors described in these rules are consistent with well-established economic theories regarding competitive markets that have been widely used, in one form or another, by nearly all states. The determination of effective competition in a market, compared to the simple presence of multiple providers, is significant to an analysis for deregulation, since competition must be sufficient to prevent anti-competitive behavior upon deregulation. Thus, a finding of effective competition means that the current level of competition is sufficient to discipline prices and ensure reasonable service quality without active regulation by the Board.

In the absence of effective competition or regulation, unregulated monopolies would be able to raise prices to unreasonable levels. Moreover, without effective competition an unregulated provider with some monopoly power could engage in predatory pricing; that is, it could reduce prices in markets where it faces competition. The result would be to drive any potential competitors out of the market and deter others from entering. Therefore, a determination of effective competition is required before a service or facility can be deregulated and regulatory constraints lifted.

In considering whether a communications service is subject to effective competition and can be deregulated, the Board has recognized there is no single factor or criterion that is determinative. Instead, the Board has considered and balanced a number of factors, as described in previous orders regarding deregulation. (See the orders cited in footnotes 1 and 2.) In addition, the Board has reviewed the standards applied by other states that have conducted formal competition analyses for intrastate telecommunications markets. Based on a report published by the National Regulatory Research Institute (NRRI) in October 2003,[12] at least 33 states have completed some form of competition analysis using, among other factors, the following indicators for effective competition: market share, the number of CLECs providing service, the quality of service provided, the number of interconnection agreements, wholesale rates, UNE rates, the number of CLEC switches or collocation points, customer satisfaction measurements, and retail price comparisons for basic services.[13] Any of these factors can be relevant in determining whether a particular communications service or facility is subject to effective competition and can be deregulated.

[12] "State Analysis of Competition in the Telecommunications Markets: Results of an NRRI Survey," NRRI Report, October, 2003. The NRRI survey may be viewed at www.nrri.org.
[13] *Id.*

ISSUES

1. Whether Effective Competition Exists in the Named Overbuilt Exchanges.

A. Statutory Analysis

1. Whether a comparable service or facility is available from a supplier other than the telephone utility.

In the overbuilt exchanges, CLECs have constructed their own networks, which overlap a significant portion of the existing incumbent's local wireline facilities. This allows the CLEC to furnish local exchange services to customers independent of the incumbent. Overbuilds have been completed by a variety of CLEC's, including cable companies and municipal telecommunications utilities. The majority of facility overbuilds, however, involve the construction of network facilities only within the urban areas of these exchanges. For the most part, the rural areas surrounding these overbuilt communities continue to have voice service provided only through the incumbent's facilities, either by the incumbent or by a CLEC that leases these facilities.

The record demonstrates that in all of the named overbuilt exchanges (with the exception of Belle Plaine) a facilities-based CLEC is providing local exchange service that appears to be comparable to that of the service offered by the incumbent. (Tr. 1260-71, 1512.)[14] The Board has previously noted that the standard at issue here does not require that identical services or facilities be offered, only that

[14] Coon Creek, the CLEC in Belle Plaine, offered testimony that in the Belle Plaine exchange, construction on Coon Creek's facilities is not to be completed until 2005. (Tr. 1512).

comparable or substitutable services or facilities be available. (See Iowa Telecommunications Services, Inc., d/b/a Iowa Telecom, "Order Denying Petition for Deregulation," Docket No. INU-01-1, April 5, 2002.) Because comparable services or facilities are generally available in these exchanges from a telecommunications provider other than the incumbent, using either ILEC or CLEC facilities or a combination of both, the Board finds that this statutory criterion has been met.

2. Whether market forces are sufficient to assure just and reasonable rates without regulation.

The record confirms that the CLECs in these communities are offering local service in competition with the incumbent service providers and have acquired market shares greater than 50 percent for both residential and business customers. This circumstance has generally resulted in a division of the market between two carriers, even if other CLECs are present, and demonstrates the potential for a duopoly market in these exchanges.

In prior orders (discussed below), the Board has expressed concern that in markets where two competitors effectively share the market, deregulation could lead to duopoly price behavior entailing price collusion or price predation followed by monopoly pricing. Either situation may result in a decrease in competition, rather than an increase.

The Board's concern about deregulation of duopoly markets is largely based on economic theories that suggest three, four, or even five providers may not be enough to justify a finding of effective competition. These market power measures

include the Herfindahl-Hirschmann Index (HHI) and the Landes-Posner Index (LPI). These competition measures, which rely heavily on a structural analysis of the market, are useful in merger and antitrust analyses. In its initial order of this proceeding, however, the Board questioned whether these measures are useful in evaluating local exchange service competition for purposes of deregulation. Instead, the Board suggested that in this setting the best use of the measures utilized by HHI and LPI may be to track changes in market shares over time for the Board's consideration, along with other evidence such as the number of competitors, level of advertising, pricing, ease of entry, line loss data, and customer loss data.

Moreover, the HHI and LPI were developed for use in a different context, that of merger and antitrust analysis in markets that typically lack a regulatory presence like the Board. As such, the Board expressed the hypothesis that these particular tests were designed to ensure the existence of a competitive marketplace where there is no ready regulatory alternative and should not be as rigorously applied in this context. The comments submitted in this proceeding did not seriously challenge this idea and the Board concludes that the hypothesis is correct.

It is true, as noted above, that the Board has expressed its concerns regarding duopolies in at least two previous deregulation dockets. In both cases, the Board declined to deregulate based, at least in part, on these concerns. See In re: U S West Communications, Inc., "Order Denying Petition to Deregulate," Docket No. INU-99-3, March 1, 2000 (the U S West docket); In re: Iowa Telecommunications

Services, Inc., d/b/a Iowa Telecom, "Order Denying Petition for Deregulation," Docket No. INU-01-1, April 5, 2002 (the Iowa Telecom docket). Nevertheless, the Board has revisited the duopoly issue in this docket. The Board now finds that there are significant differences between the competitive environments in these overbuilt markets at this time and the markets previously considered by the Board, such that the potential duopoly issues do not require denial of deregulation.

The U S West and Iowa Telecom dockets are distinguishable from the present situation. The U S West docket involved an ILEC in an adjoining exchange (South Slope) that constructed new facilities to serve relatively small parts of the U S West exchanges in Coralville and Cedar Rapids, Iowa. U S West requested deregulation of its local exchange services throughout those communities, arguing that the presence of South Slope in parts of each exchange amounted to effective competition in the entirety of the exchanges. The Board denied U S West's request, finding that it was impractical to deregulate only the small parts of these exchanges where South Slope was competing with U S West. The Board also found that limited competition in a small part of an exchange was insufficient to justify deregulation of the entire exchange. As there was no evidence that South Slope intended to expand its facilities to serve other parts of the exchanges at issue, there was no basis for deregulation of the entire exchanges.

The Iowa Telecom case involved a petition to deregulate nine exchanges where Iowa Telecom was experiencing competition. Seven of those exchanges are

also being considered in this proceeding. The record in that proceeding demonstrated that in each of the nine exchanges there was only one local service competitor with no reasonable prospect of additional CLEC entry. The Board denied Iowa Telecom's petition, concluding that having only two telephone companies in each of the exchanges created a duopoly that would not provide effective competition or assure reasonable rates without regulation.

In this proceeding, the circumstances in overbuilt markets are different and require some additional analysis to determine whether market forces are sufficient to overcome the Board's duopoly concerns and ensure just and reasonable rates without regulation. Most of these exchanges have two facilities-based wireline providers of local exchange service, with the exception of Harlan, which has three, and it is unlikely there will ever be more than two wireline facilities-based providers in these exchanges given their small size and the high cost of building a new local exchange network. The Board agrees with Consumer Advocate that looking only at the number of wireline carriers, and ignoring all other relevant factors, most of these markets would be considered duopoly markets. (Tr. of 10/19/2004, p. 137, hereinafter "Tr. 13".)

Based on this description, several parties voiced concerns over the possibility that the incumbent in these exchanges could engage in predatory pricing schemes.[15]

[15] See IAMU Brief, pp. 6-8; Cox Iowa Brief, p. 13; F&B Brief, pp. 13-14; Forest City Brief, p. 3; South Slope Brief, pp. 7-17.

The record also demonstrates, however, that when all of the relevant factors are considered, these are not traditional duopoly situations. In these specific exchanges, the CLECs are small enough that their success in the market depends upon being responsive to their local customers. Moreover, the CLECs in these exchanges are municipal companies, cooperatives, or small locally-owned corporations serving fewer than 15,000 customers. As such, they are not subject to rate regulation under Iowa law. This is because they are already subject to other pressures that tend to keep their rates reasonable, even if they faced no competition at all. Municipals and cooperatives are controlled by their customers, so they have little or no incentive to charge excessive rates. Small locally-owned companies are also responsive to local influences that historically have been sufficient to deter excessive rates, even in monopoly markets. These factors will continue to be effective in duopoly markets. Based on the unique features of these specific overbuilt exchanges, the Board finds that there are sufficient market forces in place in these exchanges at this time to ensure just and reasonable rates without regulation.

Moreover, in each of these markets the non-rate regulated CLEC has gained a market share of over 50 percent, yet the Board continues to regulate the rates of the ILEC, which has lost market share. It is difficult to justify continued regulation of the ILEC's rates when it no longer has a majority of the market and when there is good reason to believe that the new market leader will not exercise whatever market power it may have.

Finally, there are other market forces in place in the form of other services being provided, including, but not limited to, wireless and Voice-over Internet Protocol (VoIP), that provide a constraint on prices even if they are not adequate substitutes for all customers. For all of these reasons, the Board finds these markets are not traditional duopoly markets and are distinguishable from the situation in the Iowa Telecom case.

Still, there is a possibility of predatory pricing by a deregulated ILEC. The Board will address that concern through its market monitoring mechanism and its power to re-regulate, if necessary, pursuant to § 476.1D(6)-(9). The market monitoring mechanism will be discussed in greater detail below, after discussion of the deregulation criteria in the Board's rules.

B. The Criteria of 199 IAC 5.6(1)

1. Whether a single provider has the ability to determine or control prices.

The record shows that in addition to having a smaller market share, the incumbents in these exchanges often, but not always, charge higher prices than the CLECs. This information, coupled with the previous discussion regarding non-market constraints on CLEC prices, indicates that no single provider has the ability to determine or control prices in these exchanges. Nevertheless, the Board intends to continue to monitor prices in these markets and will react appropriately if there is any attempt by one provider to determine or control prices.

2. Whether other providers are likely to enter the market.

The record demonstrates that given the small size of these markets and the high cost per customer to build a new wireline local exchange network, the likelihood of additional facilities-based wireline competitors entering these markets is minimal. The record reflects that in at least three exchanges, no new or additional CLEC providers have entered these exchanges since 1999. Some participants assert that the presence of two existing competitors in these small markets will serve as a deterrent to any further market entry. (F&B Brief, pp. 17, 20.)

However, the Board agrees with Iowa Telecom and others that the ILECs in bordering exchanges, as well as cable television providers and municipal utility companies, all serve as additional sources of potential competitive entry. (Iowa Telecom Brief, p. 15; Tr. 1537-38, 1553, 1558, 1570.) While the likelihood that another facilities-based wireline competitor will enter these markets may be diminished, the Board finds it is very likely that these exchanges will see, or have already seen, entry from wireless providers and from other nascent technologies, such as VoIP through cable, DSL, or broadband-over-power lines.[16]

[16] The Board considers these technologies to be relevant factors in the Board's analysis for determining the potential for future competition, even though they may not be considered "effective competition" at this time.

3. Whether there is substitutability of one service or facility for another.

This issue was addressed in the discussion regarding the availability of comparable services, above.

C. Summary

The Board finds that there is not sufficient evidence in the record to support a finding of effective competition in the Belle Plaine exchange. The record shows that Coon Creek has not yet overbuilt the Belle Plaine exchange and, therefore, there is not a facilities-based competitor in place in that exchange at this time. In addition, the record demonstrates that the incumbent exchange services in the Conrad and Steamboat Rock exchanges were recently transferred from Iowa Telecom to Heart of Iowa Communications Cooperative (Heart of Iowa), a non-rate-regulated company. This transfer makes this deregulation proceeding irrelevant in those exchanges, as they will not be rate-regulated after the transfer is completed.

The Board finds that there is sufficient evidence in the record to support a finding of effective competition in the remaining 19 overbuilt exchanges and, therefore, the Board will deregulate rates for local exchange services in these exchanges. The Board will continue to monitor these markets to ensure that the consumers in those markets are adequately protected from anticompetitive pricing behavior. This monitoring will be in the form of regular competition surveys designed to collect information regarding market share, facility interconnection, and the pricing of comparable services. In addition, the Board will require that companies in these

markets provide the Board with after-the-fact notice of all changes in prices within a reasonable time after the new prices are offered to the public. Receipt of this information on a regular basis will allow the Board to observe market occurrences and provide a degree of flexibility in reacting to noticeable changes in competition, with its available remedies, including re-regulation if necessary, for any determined abuse of market power. At the same time, by restricting the information requirements to after-the-fact filings, the burden on the competitors will be minimized.

Iowa Code § 476.1D(5) provides that the Board may deregulate rates but continue service quality regulation if the Board determines that the service in question is an essential communications service and the public interest warrants continued service regulation. The Board finds that local exchange service is an essential communications service, it is the very basis of telecommunications service in these communities. In addition, the Board finds that upon deregulation of these exchanges, there are public interest concerns regarding each carrier's obligation to provide local voice services throughout its defined service area, in both urban and rural parts of the exchange. Therefore, the Board will exercise its authority under § 476.1D(5) and will continue to regulate service quality in these exchanges in the same manner as all other certified ILECs and CLECs that provide local exchange service in Iowa.

Finally, Iowa Code § 476.1D(2) and 199 IAC 5.7 require that when a service or facility is found to be subject to effective competition, deregulation is not complete

until the carrier files, and the Board approves, a deregulation accounting plan. In previous deregulation dockets, the Board has not required an accounting plan because the affected carriers were operating under price regulation plans and no benefit was to be gained by the filing of accounting plans for the services involved. Under those circumstances, the filing of an accounting plan would have served no useful purpose. However, in this proceeding, at least one participant, IAMU, has argued that an accounting plan is necessary. Therefore, the Board will not waive the accounting plan requirement in this proceeding. The Board will require that ILECs in these exchanges submit a cost allocation manual in the manner suggested by Iowa Telecom (See Tr. 65) before deregulation will be effective in these exchanges. If, however, a company does not already have a cost allocation manual that would be appropriate for this purpose, the Board will consider any proposed alternative to determine whether the alternative contains sufficient information to satisfy the statutory requirement.

2. Whether Effective Competition Exists in the Council Bluffs Residential and Business Markets.

A. Statutory Analysis

1. Whether a comparable service or facility is available from a supplier other than the telephone utility.

The record demonstrates that several providers are offering comparable residential local exchange services throughout the Council Bluffs residential and business markets at rates that are comparable to the incumbent's. Qwest is the

incumbent provider in this market and maintains a slight majority share in both the residential and business markets. Forty-eight certificates have been issued to CLECs to provide service in the Council Bluffs market, with approximately 20 of them currently serving end-users through some combination of UNE, UNE-P, or resale service leased from Qwest or through their own facilities. (Tr. 612-14.) Cox Iowa, for example, serves a substantial percentage of the residential service market in Council Bluffs as well as a considerable percentage of business service through its own cable network. The record also demonstrates that Cox Iowa's network overlaps nearly all of Qwest's network in Council Bluffs. (Tr. 1587.)

The number of CLECs providing residential and business service in Council Bluffs, coupled with the high degree of overlap by Cox Iowa's facilities and Cox Iowa's success in the market, indicates that there are comparable services or facilities available in the Council Bluffs residential and business markets from a telecommunications provider other than the incumbent. Therefore, the Board finds that this statutory criterion has been met.

2. Whether market forces are sufficient to assure just and reasonable rates without regulation.

Despite the apparent availability of comparable services throughout the Council Bluffs residential and business markets, some participants expressed concern that if local exchange services in the Council Bluffs markets were to become deregulated, Qwest and Cox Iowa would be able to engage in either predatory

pricing or price following, driving other competitors from the market. (Tr. 1587-88, 1594-95; Consumer Advocate Brief, p. 8.)

In response, Qwest argues that the CLECs in Council Bluffs will not be driven from the market because competition is simply too well-developed. (Qwest Brief, p. 5). The Board agrees. The record supports a finding that the widespread presence of Cox Iowa, as well as the presence of a significant number of smaller CLECs throughout the Council Bluffs market, creates a competitive environment where market forces are active and sufficient to ensure just and reasonable rates.

The Board shares the concern of several participants regarding the recent petition Qwest filed with the FCC, seeking forbearance from enforcement of the requirements of 47 U.S.C. § 251(c).[17] If Qwest's petition is granted by the FCC, Qwest would no longer be obligated to provide CLECs in the Council Bluffs market with access to UNEs. The fact that this petition is currently pending before the FCC increases the level of uncertainty for competitors in the Council Bluffs market.

However, it is likely that there will be a certain level of uncertainty in the local exchange marketplace for the foreseeable future. The Board cannot wait for all questions to be resolved (which may never happen) and still fulfill its statutory duty to deregulate services and facilities that are currently subject to effective competition. The Board will proceed with its determination in this docket, despite the pending FCC action, because there are substantial CLEC providers in this market, including a

[17] "In the Matter of Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Omaha Metropolitan Statistical Area," DA 04-1869 in WC Docket No. 04-233, filed June 21, 2004.

major facilities-based provider. The Board finds that this statutory criterion is satisfied; there are sufficient market forces in place in the Council Bluffs residential and business markets at this time to ensure just and reasonable rates without regulation.

B. The Criteria of 199 IAC 5.6(1)

1. Whether a single provider has the ability to determine or control prices.

The Board addressed this issue in the preceding discussion regarding the presence of market forces that are sufficient to assure just and reasonable rates without regulation. The Board finds that the presence of Cox Iowa and a significant number of other CLECs throughout the Council Bluffs market creates a competitive environment where no single provider has the ability to control prices.

2. Whether other providers are likely to enter the market easily.

Based on this record, it appears it is unlikely that another wireline competitor will enter the Council Bluffs residential or business market, primarily due to the cost and uncertainty. Ease of entry using Qwest's facilities may be adversely affected by the FCC's decision on Qwest's petition for forbearance, but that is only a possibility; to date, there are a number of CLECs providing local exchange service through the use of UNEs or resale. While the likelihood that another facilities-based wireline competitor will enter these markets may be small, the Board finds the likelihood that the Council Bluffs residential and business markets has and will see entry from

wireless providers and from other nascent technologies, such as VoIP using cable, DSL, or power lines, is certain.

3. Whether there is substitutability of one service or facility for another.

This issue was addressed in the discussion regarding the availability of comparable services.

C. Summary

The Board finds that there is sufficient evidence in the record to support a finding of effective competition in the Council Bluffs residential and business markets and, therefore, the Board will deregulate the rates for local exchange service throughout this community. Nevertheless, the Board will continue to monitor these markets to ensure that Iowa consumers are adequately protected from anticompetitive behavior. This monitoring will be in the form of regular competition surveys and after-the-fact price change filings, as described earlier in this order.

The Board also finds that because local exchange service is an essential communications service and due to the public interest concerns regarding a carrier's obligation to provide local voice services throughout its defined service area, the Board will exercise its authority under § 476.1D(5) and continue to regulate service quality in the Council Bluffs residential and business markets in the same manner as all other certified ILECs and CLECs that provide local exchange service in Iowa.

Finally, the Board will require that providers in the Council Bluffs residential and business markets submit a cost allocation manual (or an approved alternative) in

lieu of a traditional accounting plan, as required by statute and as described earlier in this order.

3. Whether Effective Competition Exists in the Sioux City Business Market.

A. Statutory Analysis

1. Whether a comparable service or facility is available from a supplier other than the telephone utility.

The record in this proceeding indicates that comparable local business services are being offered in the Sioux City business market by various service providers at comparable rates. Qwest is the incumbent provider in this market and maintains a majority share of the business service connections. There are 48 certificates issued to CLECs for the provision of service in the Sioux City market, with approximately 20 of them currently serving end-users, either by purchasing wholesale services from Qwest in whole or in part or by using their own facilities. (Tr. 612-14). The number of CLECs providing business service in the Sioux City market indicates that there are comparable services or facilities available in the Sioux City business market from one or more telecommunications providers other than the incumbent. Therefore, the Board finds that this statutory criterion has been met.

2. Whether market forces are sufficient to assure just and reasonable rates without regulation.

In the Board's May 7 order initiating this proceeding, the Board noted that the results from the 2003 telecommunications survey showed that the top two competitors in the Sioux City business market served between 45 and 50 percent of

the market.[18] The 2003 survey results also indicated that FiberComm was utilizing its own network in Sioux City while McLeod, another CLEC in the market, used UNE-P and resale from Qwest to provide service.

The record in this proceeding demonstrates that the amount of network overbuilding in the Sioux City market by competitors is actually more limited than it appeared from the survey responses. FiberComm states that it purchases loop facilities from Qwest to provide nearly all of its services except for facilities that have been built to serve the city of Sioux City offices, Terra Center, and the Plymouth Block Building. (Tr. 1589.) FiberComm indicates that only 20 percent of the loops it uses to provide services are from its own facilities; the remaining 80 percent are UNEs purchased from Qwest. (Tr. 1589.)

Given this information from FiberComm, the record demonstrates that the facilities-based competition in the Sioux City business market is not extensive. The Board included the Sioux City market in this proceeding based on information from the 2003 competition survey that indicated the existence of a substantial CLEC network in that market. The information received through this proceeding, however, demonstrates that the competitors in the Sioux City market provide service primarily using UNEs purchased from Qwest. Because of this information, the Sioux City market no longer fits the parameters of this phase of the proceeding and is beyond the scope of the Board's initial notice. Thus, there is no basis for the Board to find, at

[18] In re: Deregulation of Local Exchange Services in Competitive Markets, "Order Initiating Notice and Comment Proceeding," Docket No. INU-04-1 (May 7, 2004), p. 13.

this time, that market forces in Sioux City are sufficient to ensure just and reasonable rates for business local exchange service without regulation.

Because one of the statutory criteria to determine the presence of effective competition is not met, the Board finds that there is not sufficient evidence in the record to support a finding of effective competition in the Sioux City business market at this time. Therefore, the Board will not deregulate local exchange service in the Sioux City business market. Because the statutory criteria has not been met, it is unnecessary to address the criteria of 199 IAC 5.6(1).

4. Whether Effective Competition Exists for the Deregulation of Residential Second Lines.

A. Statutory Analysis

1. Whether a comparable service or facility is available from a supplier other than the telephone utility.

In its order of May 7, 2004, the Board suggested that market for residential second lines might be subject to effective competition and requested comments concerning current uses for residential secondary lines, the market share relationships among these uses, and the total price comparison between residential second lines and wireless or broadband service packages that might serve similar purposes. (Initial Order, p. 25.) However, little useful information was provided in response to that request. Qwest asserts that it has experienced a drop in the number of secondary residence lines it sells in Iowa; the company states that these were initially installed primarily for dial-up computer use and it believes the decline is due

to the replacement of those lines by digital subscriber line (DSL) service and cable modems. (Tr. 629; Qwest Initial Brief, p. 13.) Similarly, Frontier states that it has experienced difficulty retaining second lines due to displacement by high-speed Internet connections and wireless service. (Tr. p. 15.) However, neither of these participants quantified or substantiated their claims regarding the number of lines lost or the substitution of secondary lines with services such as DSL or wireless. The evidence fails to establish a connection between unquantified loss of secondary lines and the alleged substitute services. Based on this record, it is just as likely that some or all of the lost secondary lines are due to economic factors.

Other participants state that wireless service is not an adequate substitute for residential second lines because of its sporadic availability in rural areas and uncertain service quality. Likewise, these participants did not provide any substantive evidence to support this position; they offer only opinion testimony.

Therefore, the record is inconclusive as to whether a comparable service or facility is available from a supplier other than the telephone utility for residential second lines. None of the parties submitted adequate evidence to allow the Board to make a finding with respect to residential second lines. The Board finds that there is not sufficient information available in the record to demonstrate that there is a comparable service or facility available for residential second lines.

Because one of the statutory criteria to determine the presence of effective competition is not met, the Board finds that there is insufficient evidence in the record

to support a finding of effective competition for residential secondary lines at this time. It is unnecessary to continue the statutory analysis regarding this issue.

ORDERING CLAUSES

IT IS THEREFORE ORDERED:

1. The rates for local exchange service in the following Iowa exchanges, Laurens, Mapleton, Spencer, Storm Lake, Whiting, Armstrong, Coon Rapids, Delmar, Forest City, Harlan, Lowden, Oxford, Oxford Junction, Primghar, Saint Ansgar, Solon, Stacyville, Stanwood, and Tiffin, are deregulated pursuant to Iowa Code § 476.1D, as described in this order.

2. The rates for local exchange service in the Council Bluffs residential and business markets, as defined in this order, are deregulated pursuant to Iowa Code § 476.1D, as described in this order.

3. The deregulation of rates for these services shall be effective upon the Board's approval of a cost allocation manual or alternative accounting plan pursuant to Iowa Code § 476.1D(2).

4. The Board will continue to monitor the markets identified in this order through the use of competition surveys at regular intervals to be determined by the Board described in this order. Further, all ILECs and CLECs offering service in these exchanges shall file with the Board a notice of all price changes they implement in these exchanges. The notice should be filed no later than 21 calendar days after the

price change is first made available to the public. The filing may take the form of an original letter to the Executive Secretary, accompanied by ten copies.

5. The Executive Secretary of the Board is directed to cause a notice, in the form attached to and incorporated by reference in this order, of the deregulation ordered herein to be published in the Iowa Administrative Bulletin.

UTILITIES BOARD

/s/ Diane Munns

CONCURRENCE OF ELLIOTT G. SMITH

I concur in full with the majority decision reached by the Iowa Utilities Board (IUB) in this docket. It follows the guidelines established by the General Assembly within the Iowa Code for the Board to use in determining whether communications services are subject to effective competition. I believe the deliberations of the Board in this matter were respectful and thorough, reaching a conclusion that satisfies legal precedent and is based in fact --- with an eye on effecting further deregulation should market developments warrant.

That said, I can understand the frustration of those who advocate for greater deregulation of communication services within this state. The statutory framework under which the Board's deliberations are to occur rests in language that first appeared in the Code, in certain instances, over 40 years ago. One can argue that the basic regulatory structure of the Board goes back even further, first emerging in

1878 when the Iowa Utilities Board's predecessor, the Iowa Board of Railroad Commissioners, was established. Since that time, the approach employed to look after the public interest regarding telecommunications issues can be viewed as one of predicting market behavior and anticipating the potential for inappropriate corporate action.

An alternative method of oversight would allow the forces of a free market to operate, effecting regulatory consequence on an undesirable situation after-the-fact. In essence, the choice of regulatory principle is either trying to guide the behavior of market actors by dictating what will and will not be tolerated in the marketplace, or incenting the desired behavior by withholding operation of traditional regulatory authority as long as a continued showing of good corporate citizenship and fair treatment of customers is evidenced. One might say it comes down to whether government regulates by fiat based on premonition or by responsive oversight based on actual circumstance.

Telecommunications industry analysts and observers note that the jurisdictional province of state-law-based regulation is under assault. Its viability in a global, Internet protocol-based communications world is no longer certain. Methods of transporting voice and data are integrating and becoming more mobile. Several distinct technologies can now transmit calls of comparable reach and quality worldwide, making traditional local, state, and national boundary lines nearly irrelevant. Identifying the origin or termination point of a call is becoming more

difficult, bringing into question the current federal and state access charge and reciprocal compensation schemes.

Needless to say, the telecommunications industry sits at a crossroad. Today's marketplace supports multiple networks that offer a variety of competing services, yet these operate within the parameters of laws designed years ago to regulate a single network providing traditional wireline telecommunications services. The time is ripe for state lawmakers to re-orient Iowa communications laws by giving the Board clear authority to deploy a lighter regulatory touch that facilitates the availability of product innovation to our citizens yet utilizes appropriate market monitoring devices in the event that technological dynamism begins to overrun consumer welfare.

With these thoughts duly recorded, I reiterate my support for the decision of the majority in this docket and respectfully acknowledge the statement made in dissent.

/s/ Elliott Smith

CONCURRING IN PART AND DISSENTING IN PART
MARK O. LAMBERT

I concur with most of the decision of the majority of the Board in this matter, but I would go further and deregulate business service in the Sioux City market and residential second lines, statewide, as well. It is my hope that we will re-examine these markets in Phase 2 of this proceeding.

First, I believe the evidence in this record is sufficient to justify deregulating business lines in Sioux City. The testimony and evidence show that there is a significant level of competition in Sioux City, with comparable services being offered at comparable rates. The incumbent, Qwest, has lost significant market share to competitors. The fact that there are 18 active CLECs serving customers in the Sioux City market demonstrates ease of entry for competitors. (Tr. 616.) The evidence demonstrates that the competitors in the Sioux City business market provide service primarily through UNE-L, with facilities-based second, and UNE-P third. (Tr. 617, 682-82, 711.) Therefore, any uncertainty regarding the future of UNE-P is not a reason to delay deregulating the Sioux City business market, since it is the competitors' least-used platform. If UNE-P is no longer a valid platform, there remains substantial, and I believe effective, competition from carriers utilizing UNE-L and their own facilities. Market forces, even discounting the UNE-P lines, are sufficient to ensure just and reasonable rates for business local exchange service without rate regulation of in the incumbent.

As I understand the majority's discussion of this issue, they have decided not to deregulate the Sioux City business market at this time at least partly because of a potential notice problem. Specifically, the Board included the Sioux City business line market in Phase 1 of this proceeding because it appeared to meet certain screening criteria. Based on the Board's survey results, it appeared the CLECs had captured substantial market share and they had done so primarily using their own

wireline facilities. As the record developed, it became clear that the CLEC facilities were not as extensive as the Board initially believed. Thus, it could be argued that the Sioux City business line market was incorrectly included in Phase 1 and, as a result, was not truly eligible for deregulation at this time. I do not necessarily agree with that analysis, but more importantly, I see it as a problem that, if it exists, can easily be cured in Phase 2 now that we have a better understanding of the facts and circumstances.

Second, I would deregulate residential second lines, statewide. Sufficient evidence was presented in this docket to demonstrate to me the existence of effective competition for this service. Both Qwest and Frontier provided testimony that they have lost a significant number of second lines and that those losses are primarily attributable to wireless competition, with some losses as a result of competition from high-speed Internet connections. (Tr. 629-31.) Qwest provided considerable data in support of its testimony that second lines are being lost to wireless competition, including two surveys (Ex. RHB-11A and RHB-11B) and testimony regarding Qwest's internal tracking system. That system shows that in the time since August 2002, 20 percent of the Qwest customers in Iowa who have disconnected lines have cited wireless substitution as their reason for disconnection. (Tr. 542.) Thus, the evidence shows that wireless service is an effective substitute for many residential second lines. The sizeable loss of second lines to wireless

providers demonstrates that market forces are sufficient to assure just and reasonable rates without regulation, in my opinion.

With respect to this issue, I read the majority opinion as saying, in effect, that the Board still believes residential second lines may be subject to effective competition, but the record made in Phase 1 lacks sufficient reliable evidence of a connection between the reduced sales of second lines and the use of substitute services like wireless and broadband. Reasonable minds may disagree on the question of the sufficiency of the existing evidence, but I am confident that if we renew notice of this market for possible deregulation in Phase 2, a record can be made that will be persuasive to my colleagues, as well.

Thus, I concur in the Board's decision to deregulate the overbuilt exchanges and the residential and business markets in and around the Council Bluffs exchange. I would go further and deregulate Sioux City business lines and statewide residential second lines, as well. Failing that, I believe those markets should be included in Phase 2 of this proceeding.

/s/ Mark O. Lambert

ATTEST:

/s/ Judi K. Cooper
Executive Secretary

Dated at Des Moines, Iowa, this 23rd day of December, 2004.

UTILITIES DIVISION [199]

NOTICE OF DEREGULATION

Pursuant to Iowa Code § 476.1D (2003), the Utilities Board (Board) gives notice that on December 23, 2004, the Board issued an order in Docket No. INU-04-1, In re: Deregulation of Local Exchange Services in Competitive Markets, deregulating the rates for local exchange service in the Council Bluffs business and residential markets, as defined in the Board's order, as well as in the following Iowa exchanges: Laurens, Mapleton, Spencer, Storm Lake, Whiting, Armstrong, Coon Rapids, Delmar, Forest City, Harlan, Lowden, Oxford, Oxford Junction, Primghar, Saint Ansgar, Solon, Stacyville, Stanwood, and Tiffin. The Board's findings are more fully discussed in the order, which may be obtained from the Board by calling 515-281-5563 or on the Board's web site, http://www.state.ia.us/iub.

December 23, 2004

/s/ Diane Munns
Diane Munns
Chairperson