



STATE OF IOWA

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February 20, 2002

During the 2000 Session, the Iowa General Assembly passed Senate File 2433 seeking to “ensure that high speed broadband internet access is available to rural areas of the state where such access is not currently available.” In response to Senate File 2433, the Iowa Utilities Board (IUB) and the Iowa Department of Economic Development (IDED) conducted a statewide assessment in July 2000 to determine the availability of high-speed Internet technologies. In October 2000, the results of the assessment were issued in the report, “Assessing High-Speed Internet Technologies in the State of Iowa” (First Assessment). The First Assessment recommended that the IUB complete a second assessment in 2001 to measure the deployment progress throughout the state.

In September 2001, the IUB conducted a point-in-time, community-by-community, statewide assessment of current and near-term high-speed Internet access in Iowa. The attached report entitled, “Assessing High-Speed Internet Access in the State of Iowa: Second Assessment” (Second Assessment), includes the results and conclusions of the IUB’s second assessment.

The Second Assessment indicates that significant progress is being made in the deployment of high-speed Internet technologies. When comparing the results of the First and Second Assessments, the availability of high-speed Internet technologies has increased by 70 percent in rural communities and increased by 30 percent in non-rural communities. Forty-seven percent of rural communities and 61 percent of non-rural communities currently have access to high-speed Internet technologies. The First Assessment showed that 28 percent of rural communities and 47 percent of non-rural communities had access to high-speed technologies.

Service providers have been affected by the recent economic conditions. However, near-term industry deployment schedules are encouraging. If industry projections from the Second Assessment are realized, 55 percent of rural communities and 64 percent of non-rural communities should have access to at least one type of high-speed Internet technology by year-end 2002.

The Second Assessment also indicates that competition in the provision of high-speed Internet access is increasing in both rural and non-rural communities. Sixty-three rural communities and 70 non-rural communities currently have more than one provider of high-speed Internet access. In the First Assessment, 23 rural communities and 41 non-rural communities were identified as having more than one provider of high-speed Internet access.

If you require any further information, please feel free to contact the Iowa Utilities Board.

/s/ Diane Munns
Diane Munns
Chairman

/s/ Mark Lambert
Mark Lambert
Board Member

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

**A Report of the
Iowa Utilities Board**

**Submitted to the Legislative Oversight Committee of the
Legislative Council in Compliance with Senate file 2433**

Utilities Board:
Diane Munns (Chairman)
Mark Lambert

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1.0 INTRODUCTION

Over the past decade, the unprecedented rate of technological advancement within the information technology industry has affected all aspects of American society. Approximately one-half of all Americans now use the Internet on a consistent basis,¹ and the development of high-speed technologies continues to transform the Internet and its applicability.

Nationwide, business and residential consumers are utilizing high-speed technologies to make both economic and social decisions. However, the availability of these new high-speed technologies to all parts of the country remains the key issue among policymakers.² The issues surrounding the availability of high-speed technologies are copious. The most debated issue pertains to the apparent discrepancy in the availability of high-speed Internet access in rural and urban areas across the country.

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

¹ In October 2001, the U.S. Department of Commerce released a report entitled, "Falling Through the Net: Moving Toward Digital Inclusion." The report states that as of August 2000, 44.1 percent of all Americans were accessing the Internet on a consistent basis. The report projects that if growth continues at the present rate, more than one-half of all Americans will be accessing the Internet by the middle of 2001.

² FCC Chairman Michael Powell, in remarks delivered at the National Summit on Broadband Deployment in October 2001, cited statistics that 85 percent of U.S. households will have access to broadband services by the end of the year (2001), and yet only 12 percent are currently subscribing to such offerings.

Iowa” (First Assessment), was in compliance with Senate File 2433 (S.F. 2433), which stated:

The department of economic development and the Iowa utilities board shall jointly develop a written report with recommendations to ensure that high-speed broadband internet access is available to rural areas of the state where such access is not currently available.

Upon assessment of the current and projected availability of high-speed broadband Internet access in the First Assessment, the IUB and IDED recommended:

The IUB staff conducts an additional assessment in the summer of 2001 to determine whether deployment schedules have been realized.

In response to the recommendation contained within the First Assessment, the IUB submits this report entitled, “Assessing High-Speed Internet Access in the State of Iowa: Second Assessment” (Second Assessment).

The Second Assessment is a continuation of the First Assessment and its companion report.³ In the First Assessment, the technical and policy issues concerning the availability of high-speed Internet technologies in Iowa were introduced. The Second Assessment extends the discussion of these issues that were established in the First Assessment.

The primary objective of the Second Assessment is to evaluate the level of progress in the deployment of high-speed Internet technologies. Comparison of the First and Second Assessments are critical if a clear perspective on the

³ In April 2001, the IUB issued a companion report to the First Assessment. The companion report, “Case Study Analysis of Fixed Wireless and Digital Subscriber Line Technologies in Providing High-Speed Internet Access in Rural Iowa,” evaluated four Iowa-based companies deploying high-speed Internet service through fixed wireless and xDSL technologies.

availability of high-speed technologies in all parts of the state is desired. Also, consistency between the First and Second Assessments is essential. In the Second Assessment, the surveys, terms, and staff analysis employed are very similar to the methods utilized in the First Assessment.⁴

In the First Assessment, “high-speed” technologies were defined as technology capable of providing access services with over 200 kilobits per second (Kbps) in at least one direction -- either consumer to provider (upstream) or provider to consumer (downstream).⁵ This definition is consistent with the Federal Communication Commission’s (FCC) definition of high-speed Internet access.

In the FCC’s, “ Second Report on the Deployment of Advanced Telecommunications Capability” (Second Report), the FCC stated several reasons for selecting the 200 Kbps threshold. The FCC contends that Congress, in the passage of the Telecommunications Act of 1996, intended for advanced telecommunications capability to be faster than ISDN service, which operates at a data rate of 128 Kbps. Also, 200 Kbps is the rate of speed required to provide the most popular applications.⁶

This report maintains the same definition of high-speed technologies. The use of the term “broadband” in this report is avoided, because the term has come to include a wide range of services and facilities that extend beyond the Second Assessment’s definition of high-speed technologies.

⁴ In the First Assessment, the IUB staff assessed all telecommunications companies most likely to offer high-speed Internet access. This included all incumbent local exchange carriers (ILECs), competitive local exchange carriers (CLECs), and all known cable, fixed wireless (licensed and unlicensed), and satellite providers offering telecommunications service in the state of Iowa. In the Second Assessment, all ILECs and CLECs were assessed. Also, all known cable, fixed wireless (licensed and unlicensed), and satellite providers offering basic service were assessed, irregardless of whether or not the company provided telecommunications service. The intent was to develop a more comprehensive assessment of statewide high-speed Internet deployment activities.

⁵ The definition is not comparable with the FCC’s definition of advanced services, which requires capability of supporting speeds in excess of 200 Kbps in both directions.

⁶ 200 Kbps is the rate of speed required to change web pages as fast as one can flip through the pages of a book.

Section 2.0 of this report contains the conclusions established from the assessment of the 2001 IUB staff survey data. Also, Section 2.0 includes a comparison between the results and projections of the First and Second IUB staff assessments. Section 3.0 describes the survey design and distribution of the Second Assessment. Section 4.0 provides a detailed assessment of the data collected from the 2001 IUB staff surveys.⁷ Section 5.0 summarizes the Second Assessment and its results.

⁷ Section 4.0 of the Second Assessment does not include a table comparing the access line capabilities of ILECs serving more than 15,000 access lines in the state of Iowa (large ILECs). The information requested and provided concerning the number of access lines equipped to provide xDSL service varied slightly between the First and Second Assessments. As a result, no comparison could be made between the access line data compiled in the First and Second Assessments. For reference, Table 6 in the First Assessment addressed company specific information (large ILEC) concerning the number of access lines equipped to provide xDSL activities.

2.0 CONCLUSIONS AND COMPARISONS

In September 2001, the IUB staff completed a point-in-time, community-by-community, statewide assessment of current and near-term high-speed Internet access in Iowa. IUB staff assessed telecommunications companies, cable providers, fixed wireless (licensed and unlicensed) providers, and satellite companies most likely to offer high-speed Internet access in Iowa.⁸ The telecommunications companies included all local exchange carriers (LECs), which consists of incumbent local exchange carriers (ILECs) and competitive local exchange carriers (CLECs).

Conclusions and Comparisons

The following conclusions were established based on industry responses to the IUB staff survey. The comparisons are based information obtained from the First Assessment in July 2000 and the results from the second IUB staff assessment.

This report concludes:

- **Deployment of high-speed technologies in rural and non-rural communities continues to increase at consistent and similar rates:**
 - ◇ 47% of rural communities⁹ currently have high-speed Internet access; and
 - ◇ 61% of non-rural communities currently have high-speed Internet access.

Comparison with First Assessment Results:

⇒ *28% of rural communities had access to high-speed Internet technologies; and*

⇒ *42% of non-rural communities had access to high-speed Internet technologies.*

⁸ Cellular and third generation wireless telecommunications companies were included in the Second Assessment. Of the companies that responded, none were currently offering high-speed Internet services to their customers.

⁹ Rural is defined as communities with less than 2,500 residents not served by a rural exchange.

- **Near-term industry deployment schedules from the First Assessment were not fully realized, but deployment of high-speed technologies is progressing:**
 - ◇ 47% of rural communities currently have high-speed Internet access; and
 - ◇ 61% of non-rural communities currently have high-speed Internet access.

Comparison with First Assessment Projections:

- ⇒ 78% of rural communities would have high-speed Internet access within 12 months of the assessment; and
- ⇒ 75% of non-rural communities would have high-speed Internet access within 12 months of the assessment.

- **Near-term deployment schedules have become less aggressive as the deployment rate has increased:**
 - ◇ 55% of rural communities will have high-speed Internet access within 12 months of the assessment; and
 - ◇ 64% of non-rural communities will have high-speed Internet access within 12 months of the assessment.

Comparison with First Assessment Projections:

- ⇒ 78% of rural communities would have high-speed Internet access within 12 months of the assessment; and
- ⇒ 75% of non-rural communities would have high-speed Internet access within 12 months of the assessment.

- **Access to xDSL technology continues to be more dependent on the size of the ILEC serving the community than on the size of the community:**
 - ◇ 1% of rural communities served by large ILECs¹⁰ currently have access to xDSL technologies;
 - ◇ 48% of rural communities served by small ILECs currently have access to xDSL technologies;

¹⁰ A large ILEC is defined as serving 15,000 or more access lines or customers in Iowa. All large ILECs are regulated by the IUB.

- ◇ 23% of non-rural communities served by large ILECs currently have access to xDSL technologies; and
- ◇ 62% of non-rural communities served by small ILECs currently have access to xDSL technologies.

Comparison with First Assessment Results:

- ⇒ 0% of the rural communities served by large ILECs had access to xDSL technologies;
- ⇒ 29% of rural communities served by small ILECs had access to xDSL technologies;
- ⇒ 17% of non-rural communities served by large ILECs had access to xDSL technologies; and
- ⇒ 53% of non-rural communities served by the small ILECs had access to xDSL technologies.

- **xDSL near-term deployment schedules are less aggressive than the First Assessment near-term deployment schedules:**

- ◇ 93 additional rural communities will have access to xDSL technologies within 12 months of the assessment; and
- ◇ 10 additional non-rural communities will have access to xDSL technologies within 12 months of the assessment.

Comparison with First Assessment Projections:

- ⇒ 456 additional rural communities would have access to xDSL technologies within 12 months of the assessment; and
- ⇒ 84 additional non-rural communities that would have access to xDSL technologies within 12 months of the assessment.

- **Access to cable modem technology continues to be more prevalent in non-rural communities; and**
- **Access to cable modem technology exceeded First Assessment near-term deployment schedules:**

- ◇ 6% of rural communities currently have access to cable modem technology;
- ◇ 29% of non-rural communities currently have access to cable modem technology;
- ◇ 7% of rural communities will have access to cable modem technology within 12 months of the assessment; and
- ◇ 30% of non-rural communities will have access to cable modem technology within 12 months of the survey.

Comparison with First Assessment Results and Projections:

- ⇒ 1% of the rural communities had access to cable modem technology;
- ⇒ 16% of the non-rural communities had access to cable modem technology;
- ⇒ 3% of the rural communities would have access to cable modem technology with 12 months of the assessment; and
- ⇒ 18% of the non-rural communities would have access to cable modem technology with 12 months of the assessment.

- **Access to wireless technology in rural communities continues to be similar to that in non-rural communities; and**
- **Access to wireless technology exceeded First Assessment near-term deployment schedules:**
 - ◇ 24% of rural communities currently have access to wireless high-speed technology;
 - ◇ 29% of non-rural communities currently have access to wireless high-speed technology;
 - ◇ 25% of rural communities will have access to wireless high-speed technology within 12 months; and
 - ◇ 37% of non-rural communities will have access to wireless high-speed technology within 12 months.

Comparison with First Assessment Results and Projections:

- ⇒ 14% of rural communities had access to wireless high-speed technology;
- ⇒ 16% of non-rural communities had access to wireless high-speed technology;
- ⇒ 23% of rural communities would have access to wireless high-speed technology within 12 months of the assessment; and
- ⇒ 26% of non-rural communities would have access to wireless high-speed technology within 12 months of the assessment.

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

- ◇ 63 rural communities have more than one provider of high-speed Internet access; and
- ◇ 70 non-rural communities have more than one provider of high-speed Internet access.

Comparison with First Assessment Results:

- ⇒ 23 rural communities have more than one provider of high-speed Internet access; and
- ⇒ 41 non-rural communities have more than one provider of high-speed Internet access.

- **The demand of high-speed Internet access is “low” in the majority of the communities assessed.¹¹**

¹¹ “Low” is defined as 3 percent or fewer inquiries from the company’s customer base.

3.0 SURVEY DESIGN AND DISTRIBUTION

Survey Design

For the Second 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.¹² Surveys were designed for each of the following providers: LECs, cable operators, and wireless (licensed and unlicensed) providers.¹³ Copies of the survey instruments used to compile data for the Second Assessment are included as Attachment A to this report.

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

The LEC survey was modified from the First Assessment to gain a better perspective of xDSL platform capacity. xDSL platform capacity is incremental and can be added to a central office as demand dictates. The Second Assessment and its LEC survey refer to platform capacity as being "**readily equipped.**" Readily equipped is defined as "the number of access lines that can be equipped to provide xDSL Services within 30 days." This definition includes

¹² The surveys used in the First and Second Assessments were similar in design.

¹³ Includes satellite companies providing service in the state of Iowa.

all platform capacity that is presently activated and all platform capacity that could be activated through the addition of certain electronics within 30 days. Readily equipped lines are different than subscribed lines.¹⁴ The LEC assessment did not collect data on current subscription levels.¹⁵

The LEC survey also only requested information on the availability of xDSL services. Dial-up Internet service and Integrated Services Digital Network (ISDN) do not meet this report's definition of high-speed service and are not included in the assessment results. T-carrier systems also were not assessed, because they are not economical or practical for residential and small business users.¹⁶

Survey Distribution

The scope of the distribution plan increased significantly between the First and Second Assessments in an effort to establish a more comprehensive depiction of high-speed service across the state. The Second 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 2000.¹⁷ 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. Surveys were distributed to all identified cable and wireless companies providing service in the state of Iowa. Electronic versions of the surveys used in the Second Assessment were also available on the IUB web site.

¹⁴ In this report, "subscribed access lines" refers to the amount of platform capacity that is xDSL activated and being used by customers.

¹⁵ As of December 2000, 100 percent of Iowa communities had access to Dial-up Internet service.

¹⁶ It was noted in the First Assessment that any facilities-based LEC could provide T-1 service on demand.

¹⁷ The First Assessment included only those companies most likely to provide telecommunications service in the state of Iowa.

4.0 ASSESSMENT OF THE IUB STAFF SURVEY

The IUB staff completed a point-in-time, community-by-community, statewide assessment of current and near-term high-speed Internet access in Iowa. The following tables present an assessment of the data compiled from the IUB staff survey.

Response Rate

The following table summarizes the survey response rate¹⁸:

Table 1				
Survey Response				
	ILECs¹⁹	CLECs	Wireless	Cable
# of Surveys Sent	160	44	91	97
# of Surveys Returned	155	36	51	66
Response Rate	97%	82%	56%	68%

The ILEC and CLEC surveys represent over 99 percent of Iowa's communities serving more than 99 percent of Iowa's access lines.²⁰

Assessment of the Survey Results

Attachment B to this report provides a list of all communities in Iowa that currently have access to high-speed Internet service through one of the applicable technologies or will have access within 12 months of this assessment. The survey responses covered 1,191 Iowa communities. Of the 1,191 communities represented by the survey responses, 917 communities are rural,

¹⁸ Nearly 25 percent of all companies that received surveys responded electronically.

¹⁹ The high response rate from the ILECs was, in part, due to the efforts of the Iowa Telecommunications Association and the Rural Iowa Independent Telephone Association.

²⁰ Communities that were not represented in the responses received from the ILECs and CLECs were marked as communities not having access to xDSL service.

with rural defined as communities with less than 2,500 inhabitants that are not served by an urban exchange.²¹ The survey identified the remaining 274 communities as non-rural.

Of the 1,191 communities included in the survey responses, 596 communities have access to at least one type of high-speed Internet technology. Of the 596 communities that have access, 430 are rural and 166 are non-rural. Based upon current deployment schedules, an additional 69 rural and 8 non-rural communities will have access to at least one type of high-speed Internet technology within 12 months. This information is summarized in the following table:

Table 2				
# of Communities With Access to High-Speed Technologies				
	Rural (917 Communities)		Non-Rural (274 Communities)	
	Currently Available	Within 12 Months	Currently Available	Within 12 Months
# of Communities with High-Speed Internet Access	430	499	166	174
Percent of Rural/Non-Rural Communities Surveyed	47%	55%	61%	64%

If industry deployment schedules are realized within the next 12 months, 55 percent of all rural communities and 64 percent of all non-rural communities will have access to at least one type of high-speed Internet technology.

Macroeconomic factors have caused various companies to downsize previous deployment schedules to levels that may be more attainable. It is apparent that high-speed Internet technologies are being deployed. Access to high-speed

²¹ The definition of "rural" 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 may include suburban developments that are close to an urban area. Inclusion of these suburban communities may provide misleading results. As such, this report only defines communities as rural if they are not served by an urban exchange. Population data were acquired from the 2000 census.

technologies increased from 28 to 47 percent in rural communities and from 42 to 61 percent in non-rural communities.

The number of rural and non-rural communities that have more than one provider of high-speed Internet access is increasing:

Table 3		
# of Providers in Communities with High-Speed Internet Access		
# of Providers	Rural	Non-Rural
1	367	96
2	62	54
3	1	16
4	0	0

Tables 2 and 3 represent all of the assessed technologies. The following subsections provide results by technology.

xDSL: Table 4 summarizes the xDSL access information collected from both small and large ILECs. The surveys requested that providers submit information on the availability of xDSL service on a community basis only. A large ILEC is defined as any carrier serving 15,000 or more access lines or customers. Large ILECs²² serve 62 percent of Iowa’s communities and over 80 percent of the state’s access lines and are regulated by the IUB under Iowa statute.

Table 4						
Communities Currently with Access to xDSL Technologies						
ILEC	Rural Communities			Non-Rural Communities		
	Served	High Speed Available	% of High-Speed Available	Served	High Speed Available	% of High-Speed Available
Large ILEC	481	4	1%	253	59	23%
Small ILEC	436	208	48%	21	13	62%

²² Large ILECs include Frontier Communications, Iowa Telecommunications Services, and Qwest.

In addition to the communities enumerated in Table 4, 13 additional rural communities have access to xDSL technologies through a CLEC and 17 additional non-rural communities have access to xDSL technologies through a CLEC.

Table 5 illustrates xDSL near-term deployment schedules:

Table 5						
Communities Currently with Access to xDSL Technologies Within the Next 12 Months						
ILEC	Rural Communities			Non-Rural Communities		
	Served	High Speed Available	% of High-Speed Available	Served	High Speed Available	% of High-Speed Available
Large ILEC*	481	12	3%	253	69	27%
Small ILEC	436	293	67%	21	13	62%

*Large ILEC's include Frontier Communications, Iowa Telecommunications Services, and Qwest.

No additional rural communities will have access to xDSL technologies through a CLEC within the next 12 months. Also, no additional non-rural communities will have access to xDSL technologies through a CLEC within the next 12 months.

Cable Modem: Table 6 depicts the number of rural and non-rural communities with current and near-term access to cable modem high-speed service from operators responding to the assessment. (Table 6 of this report corresponds to Table 7 in the First Assessment).

Table 6				
# of Communities With Access to Cable Modem Technologies				
	Rural (917 Communities)		Non-Rural (274 Communities)	
	Currently Available	Within 12 Months	Currently Available	Within 12 Months
# of Communities with Cable Modem Technology Access	53	63	78	82
Percent of Rural/Non-Rural Communities Surveyed	6%	7%	29%	30%

Cable modem service remains the type of technology that is more accessible to non-rural communities.

Wireless Technologies: Table 7 illustrates the number of rural and non-rural communities having current and near-term access to wireless high-speed access from either fixed wireless (licensed and unlicensed) or satellite providers. (Table 7 of this report corresponds to Table 8 in the First Assessment).

Table 7				
# of Communities With Access to Wireless Technologies				
	Rural (917 Communities)		Non-Rural (274 Communities)	
	Currently Available	Within 12 Months	Currently Available	Within 12 Months
# of Communities with Wireless Technology Access	216	225	78	99
Percent of Rural/Non-Rural Communities Surveyed	24%	25%	29%	37%

Wireless technologies are the fastest growing type of high-speed service in the state of Iowa.²³ Wireless service has a greater presence in rural communities than non-rural communities.

²³ DirecPC continues to offer downstream high-speed Internet access anywhere in the state.

5.0 SUMMARY OF THE SECOND ASSESSMENT

Describing the deployment level of high-speed Internet technologies in the state of Iowa can be a contentious issue. However, “work in progress,” best defines current high-speed deployment conditions across the state. The Second Assessment measures this “work in progress,” and creates a “snapshot” of the current availability of high-speed Internet technologies across the state of Iowa.

The results of the Second Assessment, when compared to the First Assessment, clearly indicate that progress is being achieved 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. Forty-seven percent of the rural communities and 61 percent of the non-rural communities in Iowa have access to at least one type of high-speed Internet technology. This compares to 28 percent of the rural communities and 42 percent of the non-rural communities that had access to high-speed Internet services in the First Assessment. If industry deployment schedules are realized, over half of the rural communities and nearly two-thirds of the non-rural communities in Iowa will have access to at least one type of high-speed Internet technology within the next 12 months.

As the state enters the 21st century, the deployment of high-speed technologies may be critical to the economic and social vitality of Iowa. The discussion among policymakers, the information technology industry, and governmental agencies concerning the availability of high-speed Internet technologies in rural and non-rural Iowa will continue, as the state seeks to ensure high-speed Internet access 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

ISDN – Integrated Services Digital Network

ITA – Iowa Telecommunications Association

IUB – Iowa Utilities Board

Kbps – Thousand Bits Per Second

LEC – Local Exchange Carrier

LMDS – Local Multipoint Distribution System

Mbps – Million Bits Per Second

MMDS – Multipoint Multichannel Distribution System

NECA – National Exchange Carrier Association

NTCA – National Telephone Cooperative Association

NTIA – National Telecommunications and Information Administration

RIITA – Rural Iowa Independent Telephone Association

xDSL – Family of Digital Subscriber Line Services

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ATTACHMENT A

SURVEY INSTRUMENTS

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

IOWA UTILITIES BOARD BROADBAND INTERNET ACCESS SURVEY FOR LECs

1. Please use the worksheet format to provide the following information for **EACH Community** served in Iowa: a) List Communities Served by the LEC; b) Total Number of Access Lines in each Community (Round to the nearest hundred)*; c) Does the Community Currently have Access to xDSL Services? (Yes, No, NA); d) Number of Access Lines Readily Equipped to Provide xDSL Services (See ** Below); e) Do **Down-Stream** Data Speeds Exceed 200 Kbps? (Yes, No, NA); f) Do **Up-Stream** Data Speeds Exceed 200 Kbps? (Yes, No, NA); and g) Do You Plan to Offer xDSL Services Greater than 200 Kbps in this Community within the Next 12 Months? Additional sheets are necessary if you serve more than 10 communities.

a) List Communities Served by the LEC	b) Total Number of Access Lines in each Community (Round to nearest 100)*	c) Does the Community Currently have Access to xDSL Services? (Yes, No, NA)	d) Number of Access Lines Readily Equipped to Provide xDSL Services (% Option) (See ** Below)	e) Do Down-Stream Data Speeds Exceed 200 Kbps? (Yes, No, NA)	f) Do Up-Stream Data Speeds Exceed 200 Kbps? (Yes, No, NA)	g) Do You Plan to Offer xDSL Services Greater than 200 Kbps in this Community within the Next 12 Months? (Yes, No, NA)
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 lines readily equipped in Column d.

** "Readily Equipped" means the number of access lines that can be equipped to provide xDSL Services within 30 days.

2. Please assess your company's customer demand for xDSL services (circle one):
Low (received 3% or less inquiries); **Medium** (received between 4% and 19% inquiries); or **High** (received 20% or greater inquiries).

Company Name: _____ Contact Person: _____ Telephone #: _____

Address: _____ Fax #: _____

E-Mail Address: _____

IUB Contact: Ryan L. Stensland

Phone: (515) 242-0218 E-Mail: ryan.stensland@iub.state.ia.us

IOWA UTILITIES BOARD BROADBAND INTERNET ACCESS SURVEY FOR WIRELESS PROVIDERS

1. Does your company currently provide high-speed Broadband Internet access through multichannel multipoint distribution service (MMDS), local multipoint distribution service (LMDS), satellite, unlicensed spread spectrum, or other wireless technology in the state of Iowa?

(Mark Applicable Response) _____ **Yes** _____ **No**

2. Please use the worksheet format below to provide information for **EACH Community or Location** served in Iowa: a) List Communities or Location Description Served by the Wireless Provider; b) Does the Location Described in "a" Currently have Access to Broadband Internet Service Using Wireless Technologies? (Yes, No, NA); c) Number of Customers Currently Capable of Receiving Broadband Internet Access Using Wireless Technologies in the Location Described in "a"; d) Maximum **Down-Stream** Data Speed (Mbps); e) Maximum **Up-Stream** Data Speed (Mbps); and f) Do You Plan to Offer Broadband Internet Access Using Wireless Technologies in the Location Described in "a" within the Next 12 Months? (Yes, No, NA). Additional sheets are necessary if you serve more than 10 communities.

a) List Communities or Location Description Served by the Wireless Provider	b) Does the Location Described in "a" Currently have Access to Broadband Internet Service Using Wireless Technologies? (Yes, No, NA)	c) Number of Customers Currently Capable of Receiving Broadband Internet Access Using Wireless Technologies in the Location Described in "a"					d) Maximum Down-Stream Data Speed (Mbps)	e) Maximum Up-Stream Data Speed (Mbps)	f) Do You Plan to Offer Broadband Internet Access Using Wireless Technologies in the Location Described in "a" within the Next 12 months (Yes, No, NA)
		MMDS	LMDS	Satellite	Unlicensed Spread Spectrum	Other			
1)									
2)									
3)									
4)									
5)									
6)									
7)									
8)									
9)									
10)									

3. Please identify the communities or locations in Iowa in which you plan to provide high-speed Broadband Internet access using wireless technologies within the next 12 months _____

4. Please assess your company's customer demand for high-speed Broadband Internet service (circle one):
Low (received 3% or less inquiries); **Medium** (received between 4% and 19% inquiries); or **High** (received 20% or greater inquiries).

Company Name: _____ Contact Person: _____ Telephone #: _____

Address: _____ Fax #: _____ E-Mail Address: _____

IUB Contact: Ryan L. Stensland

Phone: (515) 242-0218 E-Mail: ryan.stensland@iub.state.ia.us

IOWA UTILITIES BOARD BROADBAND INTERNET ACCESS SURVEY FOR CABLE PROVIDERS

1. Does your company currently provide high-speed Broadband Internet access through cable modems in the state of Iowa?
(Mark Applicable Response) _____ **Yes** _____ **No**

2. Please use the worksheet format below to provide information for **EACH Community** or **Location** served in Iowa: a) List Communities or Location Description Served by the Cable Provider; b) Does the Location Described in "a" Currently have Access to Broadband Internet Service Using Cable Modems? (Yes, No, NA); c) Number of Customers Currently Capable of Receiving Broadband Internet Access Using Cable Modems in the Location Described in "a"; d) Maximum **Down-Stream** Data Speeds (Mbps); e) Maximum **Up-Stream** Data Speeds (Mbps); and f) Do You Plan to Offer Broadband Internet Access Using Cable Modems in the Location Described in "a" within the Next 12 Months? Additional sheets are necessary if you serve more than 10 communities.

a) List Communities or Location Description Served by the Cable Provider	b) Does the Location Described in "a" Currently have Access to Broadband Internet Service Using Cable Modems? (Yes, No, NA)	c) Number of Customers Currently Capable of Receiving Broadband Internet Access Using Cable Modems in the Location Described in "a"	d) Maximum Down-Stream Data Speed (Mbps)	e) Maximum Up-Stream Data Speed (Mbps)	f) Do You Plan to Offer Broadband Internet Access Using Cable Modems in the Location Described in "a" within the Next 12 Months? (Yes, No, NA)
1)					
2)					
3)					
4)					
5)					
6)					
7)					
8)					
9)					
10)					

3. Please identify the communities or locations in Iowa in which you plan to provide high-speed Broadband Internet access within the next 12 months _____

4. Please assess your company's customer demand for high-speed Broadband Internet service (circle one):
Low (received 3% or less inquiries); **Medium** (received between 4% and 19% inquiries); or **High** (received 20% or greater inquiries).

Company Name: _____ Contact Person: _____ Telephone #: _____

Address: _____ Fax #: _____ E-Mail Address: _____

IUB Contact: Ryan L. Stensland

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ATTACHMENT B

Second Assessment of Iowa Communities Accessing High-Speed Technologies

(As of September 2001)

Second Assessment of Iowa Communities Accessing High-Speed Technology

County Name	Community Name	Pop. Code	<u>xDSL Technology</u>		<u>Cable Modem Technology</u>		<u>Wireless Technology</u>	
			xDSL Technology Is Currently Provided	xDSL Technology Will Be Provided Within 12 Months	Cable Modem Technology Is Currently Provided	Cable Modem Technology Will Be Provided Within 12 Months	Wireless Technology Is Currently Provided	Wireless Technology Will Be Provided Within 12 Months
Adams	Corning	R		X				
Adams	Nodaway	R		X				
Allamakee	South Spring Grove	R		X				
Allamakee	Waterville	R		X				
Appanoose	Centerville	U	X				X	
Audubon	Audubon	R						X
Audubon	Brayton	R		X				
Audubon	Kimballton	R	X					
Benton	Atkins	R	X				X	
Benton	Belle Plaine	U	X				X	
Benton	Benton Township	R	X					
Benton	Blairstown	R	X				X	
Benton	Garrison	R		X			X	
Benton	Keystone	R	X				X	
Benton	Luzerne	U					X	
Benton	Mount Auburn	R					X	
Benton	Newhall	R	X				X	
Benton	Norway	R	X				X	
Benton	Shellsburg	R	X				X	
Benton	Urbana	R	X				X	
Benton	Van Horne	R	X				X	
Benton	Vinton	U					X	
Benton	Walford	R					X	
Benton	Watkins	R					X	
Black Hawk	DeWar	U		X				
Black Hawk	Cedar Falls	U	X		X			
Black Hawk	Dunkerton	R	X					
Black Hawk	Elk Run Heights	U		X	X			
Black Hawk	Evansdale	U		X	X			
Black Hawk	Gilbertville	U		X	X			

County Name	Community Name	Pop. Code	xDSL Technology		Cable Modem Technology		Wireless Technology	
			xDSL Technology Is Currently Provided	xDSL Technology Will Be Provided Within 12 Months	Cable Modem Technology Is Currently Provided	Cable Modem Technology Will Be Provided Within 12 Months	Wireless Technology Is Currently Provided	Wireless Technology Will Be Provided Within 12 Months
Black Hawk	Hudson	R					X	
Black Hawk	La Porte City	R	X				X	
Black Hawk	Raymond	U		X	X			
Black Hawk	Waterloo	U	X		X		X	
Boone	Napier	U	X					
Boone	Boone	U						X
Boone	Boxholm	R		X				
Boone	Pilot Mound	R		X				
Boone	Beaver	R	X					
Boone	Madrid	U					X	
Boone	Ogden	R	X				X	
Bremer	Readlyn	R		X				
Bremer	Sumner	R						X
Bremer	Frederika	R	X					
Bremer	Plainfield	R	X					
Bremer	Tripoli	R	X					
Bremer	Waverly	U	X					X
Buchanan	Stanley	R		X				
Buchanan	Aurora	R	X					
Buchanan	Jesup	R	X				X	
Buchanan	Quasqueton	R	X					
Buchanan	Winthrop	R	X					
Buena Vista	Albert City	R					X	
Buena Vista	Alta	U					X	
Buena Vista	Lakeside	U					X	
Buena Vista	Linn Grove	R					X	
Buena Vista	Marathon	R					X	
Buena Vista	Newell	R					X	
Buena Vista	Rembrandt	R					X	
Buena Vista	Sioux Rapids	R					X	
Buena Vista	Storm Lake	U					X	
Buena Vista	Sulphur Springs	U					X	
Buena Vista	Truesdale	U					X	

County Name	Community Name	Pop. Code	xDSL Technology		Cable Modem Technology		Wireless Technology	
			xDSL Technology Is Currently Provided	xDSL Technology Will Be Provided Within 12 Months	Cable Modem Technology Is Currently Provided	Cable Modem Technology Will Be Provided Within 12 Months	Wireless Technology Is Currently Provided	Wireless Technology Will Be Provided Within 12 Months
Butler	Allison	R	X					
Butler	Aredale	R		X				
Butler	Bristow	R		X				
Butler	Clarksville	R	X					
Butler	Dumont	R	X					
Butler	Greene	R	X					
Butler	New Hartford	R					X	
Butler	Parkersburg	R					X	
Butler	Shell Rock	R	X					
Calhoun	Farnhamville	R		X			X	
Calhoun	Jolley	R					X	
Calhoun	Knierim	R		X			X	
Calhoun	Knoke	R					X	
Calhoun	Lake City	R					X	
Calhoun	Lohrville	R					X	
Calhoun	Manson	R					X	
Calhoun	Pomeroy	R					X	
Calhoun	Richard	R					X	
Calhoun	Rinard	R					X	
Calhoun	Rockwell City	R					X	
Calhoun	Somers	R		X			X	
Calhoun	Yetter	R					X	
Carroll	Arcadia	R		X				
Carroll	Breda	R	X					
Carroll	Carroll	U					X	
Carroll	Coon Rapids	R			X			
Carroll	Manning	R			X			X
Carroll	Templeton	R	X					
Cass	Anita	R	X					
Cass	Atlantic	U	X				X	
Cass	Cumberland	R	X					
Cass	Griswold	R	X					
Cass	Lewis	R	X					

County Name	Community Name	Pop. Code	xDSL Technology		Cable Modem Technology		Wireless Technology	
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Cass	Lyman	R	X					
Cass	Marne	R	X					
Cass	Massena	R	X					
Cedar	Bennett	R	X					
Cedar	Clarence	R	X					
Cedar	Lowden	R	X					
Cedar	Mechanicsville	R	X					
Cedar	Stanwood	R	X					
Cedar	Tipton	U	X					
Cedar	West Branch	R	X					
Cerro Gordo	Burchinal	R		X				
Cerro Gordo	Cartersville	R		X				
Cerro Gordo	Dougherty	R		X				
Cerro Gordo	Rockwell	R		X				
Cerro Gordo	Clear Lake	U	X					
Cerro Gordo	Mason City	U			X			X
Cerro Gordo	Plymouth	R	X					
Cerro Gordo	Ventura	R	X					
Cherokee	Aurelia	R	X				X	
Cherokee	Cherokee	U					X	
Cherokee	Cleghorn	R		X			X	
Cherokee	Larrabee	R		X			X	
Cherokee	Marcus	R	X				X	
Cherokee	Meriden	R		X			X	
Cherokee	Quimby	R	X				X	
Cherokee	Washta	R					X	
Chickasaw	New Hampton	U	X					X
Clarke	Murray	R	X					
Clay	Cornell	R					X	
Clay	Dickens	R		X			X	
Clay	Everly	R			X		X	
Clay	Fostoria	U				X	X	
Clay	Gillett Grove	R	X				X	

County Name	Community Name	Pop. Code	xDSL Technology		Cable Modem Technology		Wireless Technology	
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Clay	Greenville	U					X	
Clay	Langdon	U					X	
Clay	Peterson	R					X	
Clay	Rossie	U					X	
Clay	Royal	R		X			X	
Clay	Spencer	U			X		X	
Clay	Webb	R		X			X	
Clayton	Elkader	R	X					
Clayton	Elkport	R	X					
Clayton	Garber	R	X					
Clayton	Garnavillo	R	X					
Clayton	Guttenberg	R	X					
Clayton	Marquette	R	X					
Clayton	McGregor	R	X					
Clinton	DeWitt	R				X		X
Clinton	Calamus	R	X					
Clinton	Camanche	U			X			
Clinton	Clinton	U	X		X			
Clinton	Delmar	R	X					
Clinton	Grand Mound	R	X					
Clinton	Lost Nation	R	X					
Clinton	Low Moor	R			X			
Clinton	Wheatland	R	X					
Crawford	Manilla	R		X				
Crawford	Denison	U	X					
Dallas	Adel	U						X
Dallas	Perry	U						X
Dallas	Dallas Center	R					X	
Dallas	Granger	R					X	
Dallas	Linden	R			X			
Dallas	Minburn	R		X			X	
Dallas	Waukee	U	X		X		X	
Dallas	Woodward	R	X					

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Davis	Bloomfield	U	X					
Davis	Drakesville	R	X					
Davis	Floris	R	X					
Davis	Mark	R	X					
Davis	Pulaski	R	X					
Decatur	Davis City	R	X					
Decatur	Garden Grove	R	X					
Decatur	Grand River	R	X					
Decatur	Lamoni	R	X					
Decatur	Leon	R	X					
Decatur	Weldon	R	X					
Delaware	Manchester	U	X					X
Des Moines	Burlington	U			X		X	
Des Moines	Danville	R		X	X			
Des Moines	Middletown	U			X			
Des Moines	West Burlington	U			X			X
Dickinson	Arnolds Park	R					X	
Dickinson	Lake Park	R					X	
Dickinson	Milford	R			X		X	
Dickinson	Okoboji	R					X	
Dickinson	Orleans	U					X	
Dickinson	Spirit Lake	U					X	
Dickinson	Superior	R					X	
Dickinson	Terril	R	X				X	
Dickinson	Triboji Beach	U					X	
Dickinson	Wahpeton	R					X	
Dickinson	West Okoboji	R					X	
Dubuque	Asbury	R			X			
Dubuque	Balltown	U			X			
Dubuque	Bankston	R			X			
Dubuque	Bernard	R			X			
Dubuque	Center Grove	U			X			
Dubuque	Centralia	U			X			

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Dubuque	Dubuque	U	X		X			
Dubuque	Durango	U			X			
Dubuque	Dyersville	U	X		X			
Dubuque	Epworth	R			X			
Dubuque	Farley	R			X			
Dubuque	Graf	U			X			
Dubuque	Holy Cross	R			X			
Dubuque	Keywest	U			X			
Dubuque	Luxemburg	R			X			
Dubuque	New Vienna	R			X			
Dubuque	Peosta	U			X			
Dubuque	Peru	R			X			
Dubuque	Rickardsville	U			X			
Dubuque	Sageville	U			X			
Dubuque	Sherrill	U			X			
Dubuque	Worthington	R			X			
Dubuque	Zwingle	U			X			
Dubuque	Cascade	R	X		X			
Emmet	Armstrong	R	X					X
Emmet	Dolliver	R						X
Emmet	Estherville	U						X
Emmet	Gruver	U						X
Emmet	Maple Hill	U						X
Emmet	Ringsted	R	X					X
Emmet	Wallingford	R	X					X
Fayette	Alpha	R						X
Fayette	Arlington	R						X
Fayette	Clermont	R						X
Fayette	Donnan	R						X
Fayette	Eldorado	R						X
Fayette	Elgin	R	X					X
Fayette	Fayette	R						X
Fayette	Hawkeye	R						X

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Fayette	Maynard	R					X	
Fayette	Oelwein	U					X	
Fayette	Oran	R	X				X	
Fayette	Randalia	R					X	
Fayette	St. Lucas	R					X	
Fayette	Wadena	R					X	
Fayette	Waucoma	R					X	
Fayette	West Union	R					X	
Fayette	Westgate	R					X	
Floyd	Charles City	U						X
Floyd	Floyd	R	X					
Floyd	Marble Rock	R	X					
Floyd	Nora Springs	R	X					
Floyd	Rockford	R	X					
Floyd	Rudd	R	X					
Franklin	Hampton	U						X
Franklin	Sheffield	R		X				
Fremont	Imogene	R	X					
Greene	Churdan	R		X				
Greene	Paton	R		X				
Greene	Scranton	R		X		X		
Greene	Jefferson	U	X					
Greene	Rippey	R					X	
Grundy	Conrad	R	X				X	
Grundy	Dike	R					X	
Grundy	Grundy Center	U					X	
Grundy	Reinbeck	R					X	
Guthrie	Bagley	R			X			
Guthrie	Jamaica	R			X			
Guthrie	Panora	R	X		X		X	
Guthrie	Yale	R			X			
Hamilton	Jewell	R				X		
Hamilton	Blairsburg	R					X	

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Hamilton	Ellsworth	R		X			X	
Hamilton	Kamrar	R	X					
Hamilton	Stanhope	R	X					
Hamilton	Stratford	R	X					
Hamilton	Webster City	U					X	
Hamilton	Williams	R					X	
Hancock	Crystal Lake	R		X				
Hancock	Woden	R		X				
Hancock	Britt	R					X	
Hancock	Garner	U					X	
Hancock	Kanawha	R	X					
Hancock	Miller	R					X	
Hardin	Garden City	R		X				
Hardin	Alden	R					X	
Hardin	Eldora	U	X					
Hardin	Hubbard	R		X			X	
Hardin	Iowa Falls	U					X	
Hardin	New Providence	R	X					
Hardin	Radcliffe	R	X					
Hardin	Steamboat Rock	R	X					
Hardin	Union	R	X					
Harrison	Woodbine	R	X					
Henry	New London	R						X
Henry	Mount Pleasant	U	X				X	
Henry	Wayland	R	X					
Howard	Cresco	U	X					X
Humboldt	Bode	R					X	
Humboldt	Bradgate	R					X	
Humboldt	Dakota City	U					X	
Humboldt	Gilmore City	R					X	
Humboldt	Hardy	R					X	
Humboldt	Humboldt	U	X				X	
Humboldt	Livermore	R					X	

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Humboldt	Ottosen	R					X	
Humboldt	Pioneer	R					X	
Humboldt	Renwick	R					X	
Humboldt	Rutland	U					X	
Humboldt	Thor	R		X			X	
Ida	Holstein	R		X				
Ida	Ida Grove	R		X				X
Ida	Arthur	R	X					
Iowa	Amana	R		X				
Iowa	Millersburg	R		X				
Iowa	Ladora	R	X					
Iowa	Marengo	U	X					
Iowa	North English	R	X					
Iowa	Victor	R	X					
Jackson	Maquoketa	U						X
Jackson	Andrew	R	X					
Jackson	Baldwin	R	X					
Jackson	Bellevue	R	X					
Jackson	Miles	R	X					
Jackson	Monmouth	R	X					
Jasper	Baxter	R	X		X			
Jasper	Colfax	R					X	
Jasper	Kellogg	R	X					
Jasper	Killduff	R	X					
Jasper	Lynnville	R	X					
Jasper	Newton	U	X				X	
Jasper	Prairie City	R					X	
Jasper	Reasnor	R	X					
Jasper	Sully	R	X					
Jefferson	Fairfield	U	X				X	
Johnson	Coralville	U	X		X			
Johnson	Frytown	R	X					
Johnson	Hills	R	X					

County Name	Community Name	Pop. Code	xDSL Technology		Cable Modem Technology		Wireless Technology	
			xDSL Technology Is Currently Provided	xDSL Technology Will Be Provided Within 12 Months	Cable Modem Technology Is Currently Provided	Cable Modem Technology Will Be Provided Within 12 Months	Wireless Technology Is Currently Provided	Wireless Technology Will Be Provided Within 12 Months
Johnson	Iowa City	U	X		X			
Johnson	North Liberty	U	X					
Johnson	Sharon Center	R	X					
Johnson	Swisher	R	X					
Johnson	University Heights	U	X		X			
Jones	Wyoming	R		X				
Jones	Morley	R	X					
Jones	Olin	R	X					
Jones	Oxford Junction	R	X					
Keokuk	Keswick	R		X				
Keokuk	Kinross	R		X				
Keokuk	South English	R		X				
Keokuk	Webster	R		X				
Kossuth	Algona	U					X	
Kossuth	Bancroft	R					X	
Kossuth	Burt	R	X				X	
Kossuth	Fenton	R		X			X	
Kossuth	Lakota	R					X	
Kossuth	Ledyard	R					X	
Kossuth	Lone Rock	R	X				X	
Kossuth	Lotts Creek	R					X	
Kossuth	LuVerne	R					X	
Kossuth	St. Benedict	R					X	
Kossuth	St. Joseph	R					X	
Kossuth	Stevens	R					X	
Kossuth	Swea City	R					X	
Kossuth	Titonka	R	X				X	
Kossuth	Wesley	R					X	
Kossuth	Whittemore	R				X	X	
Lee	Fort Madison	U	X				X	
Linn	Center Point	R				X		
Linn	Alburnett	R	X					
Linn	Bertram	U	X		X			

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Linn	Cedar Rapids	U	X		X			X
Linn	Ely	R	X					
Linn	Fairfax	R	X		X			
Linn	Hiawatha	U	X		X			
Linn	Marion	U	X		X			
Linn	Robins	U	X				X	
Linn	Springville	R	X					
Linn	Toddville	U	X					
Linn	Viola	R	X					
Linn	Whitter	R	X					
Louisa	Columbus City	R			X			
Louisa	Columbus Junction	R			X			
Louisa	Cotter	R			X			
Louisa	Fredonia	R			X			
Louisa	Grandview	R			X			
Louisa	Letts	R			X			
Louisa	Morning Sun	R	X		X			
Louisa	Oakville	R			X			
Louisa	Wapello	R	X		X			
Louisa	Wyman	R			X			
Lucas	Chariton	U	X					
Lucas	Derby	R	X					
Lyon	George	R					X	
Lyon	Inwood	R	X					
Lyon	Larchwood	R	X					
Lyon	Little Rock	R	X					
Lyon	Rock Rapids	U	X					X
Madison	St. Charles	R	X					
Madison	Truro	R	X					
Madison	Winterset	U					X	
Mahaska	Oskaloosa	U					X	
Marion	Hancock	R		X				
Marion	Knoxville	U	X				X	

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Marion	Pella	U	X					X
Marshall	Clemons	R		X				
Marshall	Albion	R	X					
Marshall	Ferguson	R	X					
Marshall	Gilman	R	X					
Marshall	Green Mountain	R	X					
Marshall	Haverhill	R	X					
Marshall	Laurel	R	X				X	
Marshall	Liscomb	R	X					
Marshall	Marshalltown	U			X			X
Marshall	Melbourne	R			X			X
Marshall	Rhodes	R			X			
Mills	Emerson	R	X					
Mills	Henderson	R	X					
Mitchell	Little Cedar	R	X					
Mitchell	New Haven	R	X					
Mitchell	Riceville	R	X					
Mitchell	St. Ansgar	R	X					
Mitchell	Stacyville	R	X					
Monona	Castana	R		X				
Monona	Rodney	R		X				
Monona	Turin	R		X				
Montgomery	Villisca	R		X				
Montgomery	Elliott	R	X					
Montgomery	Grant	R	X					
Montgomery	Red Oak	U						X
Montgomery	Stanton	R	X					
Muscatine	Atalissa	R			X			
Muscatine	Conesville	R			X			
Muscatine	Fruitland	U			X			
Muscatine	Montpelier	U	X		X			
Muscatine	Moscow	R			X			
Muscatine	Muscatine	U	X		X			

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Muscatine	Nichols	R			X			
Muscatine	Stockton	U	X		X			
Muscatine	West Liberty	U	X		X			
Muscatine	Wilton	U	X		X			
O'Brien	Archer	R					X	
O'Brien	Calumet	R					X	
O'Brien	Gaza	R					X	
O'Brien	Germantown	R					X	
O'Brien	Hartley	R					X	
O'Brien	Moneta	R					X	
O'Brien	Paullina	R					X	
O'Brien	Primghar	R					X	
O'Brien	Sanborn	R	X				X	
O'Brien	Sheldon	U			X		X	
O'Brien	Sutherland	R	X				X	
Osceola	Allendorf	U					X	
Osceola	Ashton	R					X	
Osceola	Cloverdale	U					X	
Osceola	Harris	R					X	
Osceola	May City	R					X	
Osceola	Melvin	R					X	
Osceola	Ocheyedan	R					X	
Osceola	Sibley	U	X		X		X	
Page	Coin	R		X				
Page	Northboro	R		X				
Page	Bethesda	R	X					
Page	Clarinda	U	X				X	
Page	Shenandoah	U					X	
Palo Alto	Ayrshire	R	X				X	
Palo Alto	Curlew	R	X				X	
Palo Alto	Cylinder	R					X	
Palo Alto	DePew	R					X	
Palo Alto	Emmetsburg	U					X	

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

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Polk	Des Moines	U	X		X			X
Polk	Enterprise	U	X					
Polk	Grimes	U			X		X	
Polk	Johnston	U	X		X			
Polk	Mitchellville	U					X	
Polk	Pleasant Hill	U	X		X			X
Polk	Polk City	R			X			
Polk	Rising Sun	U	X					
Polk	Saylorville	U	X					
Polk	Urbandale	U	X		X			
Polk	West Des Moines	U	X		X		X	
Polk	Windsor Heights	U	X		X			
Pottawattamie	Oakland	R		X				
Pottawattamie	Carter Lake	U			X			
Pottawattamie	Council Bluffs	U	X		X			
Pottawattamie	Crescent	R			X			
Pottawattamie	Walnut	R	X					
Poweshiek	Brooklyn	R	X					
Poweshiek	Grinnell	U	X				X	
Poweshiek	Guernsey	R	X					
Poweshiek	Hartwick	R	X					
Poweshiek	Searsboro	R	X					
Sac	Auburn	R					X	
Sac	Carnarvon	R					X	
Sac	Early	R					X	
Sac	Lake View	R	X				X	
Sac	Lytton	R					X	
Sac	Nemaha	R					X	
Sac	Odebolt	R	X				X	
Sac	Sac City	R		X			X	
Sac	Schaller	R					X	
Sac	Ulmer	R					X	
Sac	Wall Lake	R	X				X	

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Scott	Bettendorf	U	X		X			
Scott	Big Rock	R			X			
Scott	Blue Grass	U	X		X			
Scott	Buffalo	U	X		X			
Scott	Davenport	U	X		X			
Scott	Dixon	R			X			
Scott	Donahue	R	X		X			
Scott	Eldridge	U	X		X			X
Scott	LeClaire	U			X			
Scott	Long Grove	U	X		X			
Scott	Maysville	U	X		X			
Scott	McCausland	R	X		X			
Scott	Mount Joy	U			X			
Scott	New Liberty	U	X		X			
Scott	Panorama Park	U	X		X			
Scott	Parkview	R	X		X			
Scott	Plainview	R			X			
Scott	Princeton	U			X			
Scott	Riverdale	U	X		X			
Scott	Walcott	R			X			
Shelby	Earling	R		X				
Shelby	Kirkman	R		X				
Shelby	Westphalia	R		X				
Shelby	Defiance	R	X					
Shelby	Elk Horn	R	X					
Shelby	Harlan	U	X					
Shelby	Irwin	R	X					
Shelby	Jacksonville	R	X					
Sioux	Alton	R	X					
Sioux	East Hudson	R	X					
Sioux	Granville	R	X					
Sioux	Hawarden	R			X			

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Sioux	Hospers	R			X			
Sioux	Hull	R	X				X	
Sioux	Matlock	R	X					
Sioux	Maurice	R	X					
Sioux	Orange City	U	X					
Sioux	Rock Valley	U	X				X	X
Sioux	Sioux Center	U	X				X	
Story	Ames	U	X		X			
Story	Cambridge	R						X
Story	Collins	R						X
Story	Colo	R	X					X
Story	Gilbert	U	X		X			X
Story	Huxley	R	X					
Story	Kelley	R	X					
Story	Maxwell	R						X
Story	Nevada	U	X		X			X
Story	Roland	R					X	X
Story	Slater	R						X
Story	Story City	U	X					X
Story	Zearing	R	X					
Tama	Elberon	R		X				
Tama	Clutier	R	X					
Tama	Dysart	R	X					X
Tama	Gladbrook	R						X
Tama	Tama	U						X
Tama	Toledo	U	X					X
Taylor	Bedford	R		X				
Taylor	Blockton	R	X					
Taylor	New Market	R	X					
Union	Thayer	R		X				
Union	Creston	U	X					X
Union	Lorimor	R	X					
Van Buren	Mt. Sterling	R		X				

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Van Buren	Birmingham	R	X					
Van Buren	Bonaparte	R	X					
Van Buren	Cantril	R	X					
Van Buren	Keosauqua	R	X					
Van Buren	Stockport	R	X					
Wapello	Eddyville	R						X
Wapello	Ottumwa	U						X
Warren	Carlisle	U			X			
Warren	Indianola	U	X		X			X
Warren	Lakewood	U			X			
Warren	Norwalk	U			X			
Warren	St. Marys	R	X					
Washington	JoeTown	R	X					
Washington	Kalona	R	X					
Washington	Richmond	R	X					
Washington	Washington	U	X					X
Washington	Wellman	R	X					
Wayne	Allerton	R	X					
Wayne	Corydon	R	X					
Wayne	Lineville	R	X					
Wayne	Millerton	R	X					
Webster	Badger	R		X				X
Webster	Barnum	R		X				X
Webster	Callender	R		X				X
Webster	Clare	R		X				X
Webster	Coalville	R						X
Webster	Dayton	R		X				X
Webster	Duncombe	R		X				X
Webster	Fort Dodge	U	X					X
Webster	Gowrie	R		X				X
Webster	Harcourt	R		X				X
Webster	Lanyon	R		X				X
Webster	Lehigh	R		X				X

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Webster	Moorland	R		X			X	
Webster	Otho	R		X	X		X	
Webster	Vincent	R		X			X	
Winnebago	Leland	R		X				
Winnebago	Rake	R		X				
Winnebago	Scarville	R		X				
Winnebago	Thompson	R		X				
Winnebago	Bricelyn, MN	R	X					
Winnebago	Buffalo Center	R	X					
Winnebago	Forest City	U	X					X
Winnebago	Forest City Rural	R	X					
Winnebago	Lake Mills	R	X					
Winneshiek	South Harmony	R		X				
Winneshiek	Burr Oak	R	X					
Winneshiek	Decorah	U					X	
Winneshiek	Fort Atkinson	R	X					
Winneshiek	Hesper (S. Mabel)	R	X					
Winneshiek	Ossian	R	X					
Winneshiek	Ridgeway	R	X					
Woodbury	Anthon	R					X	
Woodbury	Bronson	R	X				X	
Woodbury	Climbing Hill	R	X				X	
Woodbury	Correctionville	R					X	
Woodbury	Cushing	R					X	
Woodbury	Danbury	R					X	
Woodbury	Holly Springs	R					X	
Woodbury	Hornick	R		X			X	
Woodbury	Lawton	R	X				X	
Woodbury	Luton	R					X	
Woodbury	Moville	R	X				X	
Woodbury	Oto	R		X			X	
Woodbury	Pierson	R					X	

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Woodbury	Port Neal	R					X	
Woodbury	Salix	R	X				X	
Woodbury	Sergeant Bluff	U	X		X		X	
Woodbury	Sioux City	U	X		X		X	
Woodbury	Sloan	R	X				X	
Woodbury	Smithland	R		X			X	
Worth	Fertile	R		X				
Worth	Grafton	R		X				
Worth	Hanlontown	R		X				
Worth	Joice	R		X				
Worth	Kensett	R		X				
Worth	Northwood	R						X
Worth	South Emmons	R		X				
Wright	Dows	R						X
Wright	Rowan	R						X
Wright	Belmond	U		X			X	
Wright	Clarion	U	X				X	
Wright	Eagle Grove	U	X				X	
Wright	Goldfield	R	X					
Wright	Woolstock	R	X				X	