

The State of Telecommunications Services in Nevada

A Report of the Subcommittee to Study Telecommunications Service in Nevada

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Executive Summary

The data contained in the survey responses received, combined with data from other sources, indicate the following:

- The state's ILEC's dominate the residential wireline market, serving 90 to 100% of residential lines in the state;
- ILEC dominance of the non-residential wireline market is also predominant, though there are signs of greater competitive entry with ILEC market share dropping to 74% in SBC's UNE Zone 2;
- Cable System Operators significantly dominate the state's high-speed market, with Cox cable systems alone serving 51% of the state's high-speed lines. Cable modem service is available to approximately 63% of Nevada's housing units versus approximately 34% of housing units having DSL availability.
- Wireless usage is high in Nevada with approximately 1.62 cell phones per household and a subscriber growth rate for the 2002-2003 period of 24%, both measures are higher than the national averages.

Pricing Flexibility

- SBC-Nevada's pricing flexibility experience
 - SBC has changed prices for many custom calling services, wire protection plans and high capacity service.
 - The increases for custom calling services are associated with the purchase of individual services.
 - The increases for high capacity service provided an incentive for customers to move from month to month plans to longer term options.
 - Many of the price changes occurred prior to the passage of Senate Bill 400.
- Sprint-Nevada's pricing flexibility experience
 - Sprint has changed prices for Billing and Collection service, Directory Assistance and Directory Assistance Call Completion.
 - Billing and collection service rates are protected by non-disclosure agreements with customers and are determined on case by case basis.
 - The combined rate for Directory Assistance and Directory Assistance Call Completion has increased from \$0.76 to \$1.45 per call.
- New Services

- SBC-Nevada New Service Experience
 - SBC has introduced 46 new services since October 1999. Thirty-three of these services were introduced prior to the passage of Senate Bill 400.
 - New business services include enhancements to Centrex and ISDN services, and a variety of high-speed fiber based services.
 - New residential services focus on providing packages of services at discount rates.
- Sprint-Nevada New Service Experience
 - Sprint has introduced 18 new services since October 1999. Thirteen of these services were introduced prior to the passage of Senate Bill 400. Sprint has not increased the price of any new service introduced since October 1999.
 - New business services feature three types of high-speed connections.
 - New residential services focus on providing packages of services at discount rates.
 - Sprint offers three new 3-digit call numbers.

Universal service

- Calculating alternative fund assessments
 - The current Nevada universal service fund size is \$125,000, and the current assessment on carriers' intrastate retail revenue is .0185 percent.
 - If the fund size is \$7 million, then the assessment would be .6 percent of the intrastate retail revenue.
 - If the fund is \$20 million, then the assessment would be 1.7 percent of intrastate retail revenue.
 - If the fund is \$40 million, then the assessment would be 3.4 percent of the intrastate retail revenue.
- FCC Proceedings that may impact Nevada carriers and the Nevada universal service fund.

- FCC Unified Intercarrier Compensation Regime, CC Docket No. 01-92, may eliminate interstate access charges. If intrastate access charges are also eliminated, then rural Nevada carriers may lose \$7 million.
- The Federal-State Joint Board on Universal Service, CC Docket No. 96-45, is reviewing the federal universal programs.
 - The Joint-Board is examining the rural carrier definition.
 - The Joint-Board is reviewing the mechanisms that provide universal service support.
 - The Joint-Board is evaluating the current transfer of exchange rule.

I. Introduction

A. The Purpose and Design of the Study

This study stems from questions and concerns raised during the discussion of Senate Bill 400 as to whether or not competition currently exists in Nevada's telecommunications market and the role, if any, regulation has to play in the fostering of competition. In response to these concerns the Legislature passed Assembly Concurrent Resolution No. 2 (ACR 2) during its 20th Special Session. This resolution called for a study examining the state of competition in Nevada's telecommunications market and the pricing trends subsequent to the passage of Senate Bill 440. The resolution also asked the report to provide a discussion leading to an understanding of the meaning of subsidy, the feasibility of replacing implicit subsidies with explicit subsidies, the status of universal service and broadband accessibility in Nevada.

On March 1, 2004 a survey was sent out to all providers of telecommunications services in the state of Nevada. This list may be found on the Nevada Commission's website at <http://puc.state.nv.us/TELCOM/telcomtable.htm>. In addition to the companies on this list, the survey was also sent to all cable system operators in the state. The company list is attached as Appendix A.

The survey consisted of 11 tables. These tables were designed to gather information on: market entry by Competitive Local Exchange Carriers (CLECs); the extent to which wireless service can be considered a substitute for, or a compliment to, wireline service; broadband availability to Nevada's citizens; the effect of Senate Bill 400 on the pricing of telecommunications services in the state; pricing and billing units to determine market share, and; revenues from basic exchange service for state universal fund analysis and assessment. The

survey questionnaire, explanation, and introductory letter of Chairman Parks is attached as Appendix B.

1. Survey Responses and Other Data Sources

As mentioned above, survey questionnaires were sent out to all providers of telecommunications services in the state of Nevada as well as to all cable system operators in the state. In all, 459 survey questionnaires were sent out. Responses were received from 212 survey recipients. Of these, 158 responded that they did not offer local exchange service in the state of Nevada.

34 wireless providers were sent data requests; 28 did not respond. Among the non-respondents were Nextel, Verizon Wireless, AT&T Wireless, and Cricket Communications. Those wireless carriers that did respond to the Survey primarily responded by providing the Subcommittee's analysts with data aggregated to the state level. As a result meaningful analysis concerning mobile phone usage and purchasing patterns could not be carried out, which was most unfortunate.¹ The material contained in the report concerning wireless services in Nevada is derived from publicly available sources.

¹ The Subcommittee's analysts had hoped to utilize more differentiated data on wireless usage and purchasing patterns to examine the impact, if any, of wireless on wireline services. The intent was to examine the extent to which competition exists between wireless and wireline services. However, an affidavit recently filed on behalf of SBC points out that wireline service is sufficiently differentiated from wireless service to exclude wireless service from the relevant product market when examining competitive pressures on the wireline market from intermodal service offerings, such as, for example, cable telephony. (See *FCC Wireless Telecommunications Bureau Application for Assignments of Authorization and Transfers of Control: Applications for the Transfer of Control of Licenses and Authorizations from AT&T Wireless Services, Inc. to Cingular Wireless Corporation*; FCC Form 603, Submitted 03/18/2004 at 01:47PM, File Number: 0001656065, Attachment 1 Declaration of Richard J. Gilbert , at ¶ 44, Available at <https://wireless2.fcc.gov/UlsEntry/attachments/attachmentView.jsp?attachmentKey=17917141&affn=0179171414013300694756609>)

11 of the 13 Incumbent Local Exchange Carriers (ILECs), also known as carriers of last resort, responded to the survey. Data was not received from the Beehive Telephone Company nor from the Filer Mutual Telephone Company.

143 competitive local exchange carriers (CLECs) were sent survey questionnaires. 69 responses were received, 42 from CLECs claiming that they either did not offer basic local exchange service in the state or that they currently had no customers in the state. Among the 74 non-respondents to the survey were: XSPEDIUS, Nevtel Communications, Inc., KMC Telecom, ICG Telecom Group, and Wiltel Communications.

In addition the survey request went out to 23 cable systems operators in the state, a response was received from only 1 operator. As a result the data in the report related to cable modem operations in Nevada is drawn from publicly available sources.

Various sections of the report have data derived from Telcordia's Local Exchange Routing Guide (LERG) database. This database is used by both incumbent and competitive local exchange carriers to provide the location of their switches to each other and to interexchange carriers to ensure the proper routing of calls.² Because of the obvious importance to all carriers of ensuring that the data contained in the LERG is accurate and up-to-date, it is a reasonably reliable source of information concerning switches, their locations, ownership and capabilities.³

² See Telcordia, *Telcordia Routing Administration Catalog of Products*, http://www.telcordia.com/products_services/trainfo/catalog_details.html#Telcordia%20LERG%20Routing%20Guide ("The LERG Routing Guide is primarily designed to be used for (1) routing of InterLATA calls by interexchange carriers, (2) providing information on the local environment for the numerous carriers involved in the local arena, and (3) any other company needing information about the network, numbering, and other data in the product.").

³ A caveat has to be noted here, however. The LERG does not necessarily contain all switches. For example, FCC personnel have noted instances where information contained in the LERG database attributed an unusually large number of NPA/NXX number assignments to one LERG switching location. Further investigation showed that the LERG switching location(s) in question were network access nodes that, in turn, routed calls to that network to the appropriate switches comprising that network. These switches were not contained in the LERG.

The LERG has been used by telephone companies in other dockets to assist in analyses of telecommunications service provision.⁴

As the above discussion highlights, the lack of data provided in response to the survey questionnaires makes it difficult to determine the existence of intermodal competition among wireline, wireless and cable system operators. What discussion there is concerning this type of competition is derived from publicly available sources such as broker reports, and company websites. This data was then compared with various Nevada specific data, such as Census 2000 data, at the block group level, in an attempt to derive some rough picture as to what may be occurring in the way of intermodal competition. This endeavor was more fruitful in providing hints as to what is happening in the cable arena than it was in providing detailed information concerning wireless operations in the state.

We feel more confident concerning the data, and the conclusions to be derived there from, that was received from the incumbent local exchange carriers (ILECs) and the competitive local exchange carriers (CLECs). Though it was noted that not all ILECs and CLECs responded, analysis of the data received shows CLEC penetration levels and line servicing levels very similar to what is observed and reported by the FCC in its *Local Telephone Competition: Status as of December 31, 2003* report, released on June 18, 2004.

B. Background of Telecommunications Regulation in Nevada

The current regulatory framework governing local, local toll, and long distance services in Nevada is the result of the divestiture of AT&T in 1984, prompted by a settlement between the United States Department of Justice and AT&T over antitrust allegations. Geographical areas

⁴ See, for example, **Before the Department of Public Utility Control of the State of Connecticut**, *In Re: DPUC Implementation of the Federal Communications Commission's Triennial Review Order – Trigger Analysis*, Docket No. 03-09-01 PH01, “Joint Direct Testimony of Curtis L. Hopfinger and Patricia H. Pellerin On Behalf of The Southern New England Telephone Company Regarding Mass Market Switching”, December 2, 2003 at p. 9.

called LATAs were created throughout the United States as a result of the approved AT&T settlement.

AT&T divested its local services into seven (7) Regional Bell Operating Companies (RBOCs) separating the long distance and local telephone business. The Bell Telephone Company of Nevada (SBC) was the local service provider spun off by AT&T in Nevada. Initially, only Independent Local Exchange Carriers (ILECs) (including RBOCs) were allowed to provide telecommunications services within the LATA. Thus, ILECs provided both local service as well as local toll service (i.e. calls made to destinations within the LATA but outside of the “free” local calling area).

As a result of the AT&T divestiture, only Inter-exchange Carriers (IXCs) were allowed to provide telecommunications services between LATAs (long distance service). Competitors such as WorldCom and Sprint began to offer long distance service in competition with AT&T in the 1970’s and now more than 700 companies offer long distance service nationwide.

RBOC-affiliated ILECs, were initially prohibited from providing long distance services, since the RBOCs took over the former local service territory of AT&T. However, other ILECs were not under the same restriction as the RBOCs. One IXC operating in Nevada that is affiliated with a non-RBOC ILEC is Sprint.

Following AT&T’s divestiture, the Nevada Commission opened a rulemaking in 1984 to provide telecommunications carriers greater flexibility to operate in competitive markets. This rulemaking provided the “ground rules” for competition in the state’s long distance market.

Senate Bill 294 (1989) charged the Nevada Commission with adopting a plan of alternative regulation (“PAR”) to traditional rate base regulation for local telephone companies. The rule

adopted provided that any telephone company electing alternative regulation must cap basic rates for five years. Additional rules adopted provided a way for telephone companies to compete with other businesses that offer telecommunications services (e.g. pay telephones). These later changes also provided rules to prevent telephone companies from using their monopoly status to compete unfairly with other businesses.

Nevada Bell (SBC) was the only ILEC that elected to enter this form of PAR in 1991.

In 1994 the Nevada Telecommunications Industry Omnibus Group submitted a proposal to amend the PAR. The Commission adopted rules that provided for price cap regulation of the ILEC, detariffing IECs, special protection for small ILECs, and a Nevada Universal Service Fund.

Sprint entered into this form of PAR in January of 1996. Nevada Bell (SBC) also entered this new regulatory PAR in January of 1997.

Following Nevada Bell's (SBC) election to be regulated under PAR in 1991 and again in 1997, Nevada Bell (SBC) elected to be regulated under an additional form of PAR pursuant to SB 440 (1999) in May 2000. Under this PAR, Nevada Bell (SBC) was given further flexibility in the pricing of competitive and discretionary services; Nevada Bell (SBC) has the freedom to introduce promotional price reductions on 1-days' notice and new services upon 30-days' notice to the Commission (NRS 704.68968 and 704.68972).

In August 1999, the Commission approved a stipulation for an application by Sprint to continue its participation in the earlier form of PAR. Sprint filed another PAR application in December 2001, which the Commission approved pursuant to a Stipulation by the parties in May 2002.

Under PAR as dictated by the Nevada Legislature pursuant to SB 294 (1989) and SB 440 (1999), the Commission has gradually increased pricing flexibility for Sprint and SBC, while ensuring that prices for basic residential telephone services remain just and reasonable.

From 1996-1998, the Nevada Commission conducted an investigation to adopt a model to utilize for the development of Nevada-specific Unbundled Network Element (UNE) costs, as mandated by the Federal Telecommunications Act of 1996 and the FCC's rulemaking orders guiding the implementation of the Act.

In May and July of 1999, the Nevada Commission issued orders on the UNE cost studies for Nevada Bell (SBC) and Sprint, respectively. Shortly after the UNE cost studies were complete, the Nevada Commission opened an investigation and later established performance standards applicable to ILECs regarding their provision of service to CLECs. The goal of this investigation was to develop performance criteria which would ensure that ILECs provide service to their competitors at a level which is at least at parity with the level of service that the ILECs provide to their retail customers in order to facilitate competition in the local markets.

On April 25, 2003, the FCC granted SBC of Nevada permission to enter the national and local long distance market, following review and approval the Company's application to do so by the Nevada Commission in December 2002.

C. Description of Relevant Federal Laws

1. Telecommunications Act of 1996

The purpose of the Telecommunications Act of 1996 is to secure lower prices for telecommunications services and ensure provision of higher quality services. To accomplish

these goals, the Act seeks to promote competition and to reduce regulation. The Act is designed to stimulate competition in the local telephone markets and in long distance markets.

Competitors have three ways to enter the local markets: using their own facilities, purchasing unbundled network elements, reselling discounted incumbent services. The use of unbundled network elements (UNEs) is unique to the Act. A network element “means a facility or equipment used in the provision of telecommunications service.”⁵ Incumbent local exchange carriers (ILECs) are required to provide the unbundled element at just and reasonable terms and conditions to any requesting carrier.⁶ State commissions, within a framework determined by FCC rules, approve the rates for UNEs. The rates must be based on cost and may include a reasonable profit.⁷ However, ILECs are not required to unbundle every element. The FCC is required to determine a list of the elements to be unbundled. This determination is based on whether access to a proprietary network is “necessary” and whether failure to provide a non-proprietary element would “impair” a requesting carrier’s ability to provide service.⁸

The Act opens the long distance markets to local exchange carriers that were formerly part of the AT&T/Bell System. These carriers had been prohibited from entering these markets under the provisions of the Modified Final Judgment in the Bell anti-trust case.⁹ Prior to entering the market, the carriers are required to show that their local markets are open to competition.¹⁰

2. FCC Proceedings

In a sequence of several orders, the FCC has attempted to establish a set of rules for determining whether an unbundled element must be provided and whether failure to provide the

⁵ 47 U.S.C. 153 (29)

⁶ 47 U.S.C. 251 (c)(3)

⁷ 47 U.S.C. 252 (d)(1)

⁸ 47 U.S.C. 251 (d)(2)

⁹ *US v. AT&T*, CA No. 82-0192 (D.D.C), Modification of Final Judgment, August 24, 1982.

¹⁰ 47 U.S.C. 271

element would impair a requesting carrier's ability to provide service. Each time a court decision has remanded or vacated the order. Most recently, the DC Circuit vacated and remanded the FCC's Triennial Review Order.¹¹

In response to the Court's decision, the FCC released another order and notice of proposed rulemaking.¹² This order lays out a twelve-month plan. The plan is divided into two phases, a six-month interim phase, followed by a six-month transitional phase. The FCC expects to complete its final rulemaking within the six-month interim phase. If the FCC does not complete the rulemaking within that time period, then the Triennial rules have been vacated and the interim rules will cease to exist.

The interim rules essentially call for maintaining the status quo as of June 15, 2004. CLECs will be able to purchase circuit switching, enterprise loops, and dedicated transport UNEs. The rates will be the rates in effect as of June 15, 2004, unless raised by a state commission order or agreed to by a voluntary negotiation. CLECs will be able to add new customers.

In the transitional phase, rates for elements that would not be made available to CLECs after the transitional phase will be increased. The tentative rate increase for UNE-P is \$1.00 and for enterprise loops and dedicated transport by 15%. However, the list of available elements is unknown at this time. Also during the transitional phase, CLECs will not be able to add customers using elements that will not be made available after the transition. Finally, the FCC requests comments regarding how it should determine whether an element must be provided under the impairment standard.

¹¹ United State Telecom Association v. FCC, No. 00-1012, United States Court of Appeals for the District of Columbia Circuit, Decided March 2, 2004.

¹² In the Matter of Unbundled Network Elements, WC Docket NO. 04-313, Order and Notice of Proposed Rulemaking, rel. Aug. 20, 2004.

II. State of Telecommunications In Nevada—Survey Results

A. Overview of Survey Results

The data contained in the survey responses received, combined with data from other sources, indicate the following:

- The state's ILEC's dominate the residential wireline market, serving 90 to 100% of residential lines in the state;
- ILEC dominance of the non-residential wireline market is also predominant, though there are signs of greater competitive entry with ILEC market share dropping to 74% in SBC's UNE Zone 2;
- Cable System Operators significantly dominate the state's high-speed market, with Cox cable systems alone serving 51% of the state's high-speed lines. Cable modem service is available to approximately 63% of Nevada's housing units versus approximately 34% of housing units having DSL availability.
- Wireless usage is high in Nevada with approximately 1.62 cell phones per household and a subscriber growth rate for the 2002-2003 period of 24%, both measures are higher than the national averages.

B. Competition in the Nevada Wireline Market

To determine the level of competition in any market it is first necessary to determine the products or services that comprise the market and then determine the relative share of those products that are provided by competing companies. This sounds easier than it is. There is currently significant debate going on at the state and federal levels as to just what types of services should be included in a telecommunications market. One indicator of this may be seen in the current debates and controversy concerning voice over internet protocol, or VoIP, which has some arguing that it is an information service and so should not be considered a telecommunications service, while others argue the opposite.

We will not provide a discussion of the issue of what constitutes a telecommunications service here. Instead we will limit ourselves to an analysis of observable competitive trends in Nevada's wireline market concerning competition among traditional providers of

telecommunications services and competitive local exchange carriers. This analysis will be followed by a discussion of broadband deployment in the state, wireless service availability and with a discussion concerning inferences regarding intermodal competition in Nevada which may be derived from the available data.

1. Measuring Competition

One of the most popular measures of competition is the Herfindahl-Hirschman Index (HHI). This index is equal to the sum of the squares of the market shares companies have in a particular market. A company's share can be measured in terms of the percentages of total customers, lines or revenues it has for the provision of a particular service. The index is usually multiplied by 10,000. Thus, the HHI ranges from 0 to 10,000. For example, if the total number of lines serving the residential telephony market is 1,000 and there are three companies in the market serving 10%, 20%, 70% of residential telephony lines the HHI would be $(10\%^2 + 20\%^2 + 70\%^2) * 10,000 = 5,400$. Higher HHI values are indicative of a market dominated by a monopoly provider, while lower values indicate competitive markets. In perfect competition, where each firm's market share is equal to 1 percent or less, the HHI would be at or below 100.

Another way of thinking about, or visualizing, the HHI index is this: the number of effective firms operating in a particular market can be determined by dividing the HHI into 10,000. In the residential telephony market example given above, the HHI was 5,400. Dividing this by 10,000 tells us that there are 1.85 effective firms serving the residential telephony market. Clearly this is a market dominated by one firm. The Department of Justice considers an HHI of 1,800, or

10,000 / 1,800 = 5.56 effective firms serving a market, to be a sign that that market is becoming concentrated to the point of raising significant concerns regarding competition.¹³

2. Measuring Competition in the Nevada Wireline Market

In developing the HHI measures for the Nevada wireline market we aggregated the data submitted by ILECs and CLECs to the Unbundled Network Element (UNE) Zone level and then measure the HHI for Residential Lines, Non-Residential Lines and Total Lines. The decision to aggregate the data to the UNE zone level for this analysis was taken in part so as to protect the confidential nature of the data and because we believe that the separate UNE zones constitute distinct geographic and customer markets in eyes of competitive entrants. The HHI for the Nevada Residential and Non-Residential wireline markets appears in the tables below.

Table 1: Herfindahl-Hirschman Index by UNE Zone for the Nevada Wireline Market

Company	UNE Zone	HHI Residential Market	HHI Non-Residential Market	HHI Market for All Lines
SBC	1	9,708	7,993	8,891
SBC	2	9,982	5,947	8,827
SBC	3	9,964	9,488	9,815
Sprint	1	8,299	7,914	8,026
Sprint	2	8,830	7,911	8,488
Sprint	3	8,794	7,948	8,594
Sprint	1	9,217	8,446	9,049
Sprint	5	9,462	10,000	9,706

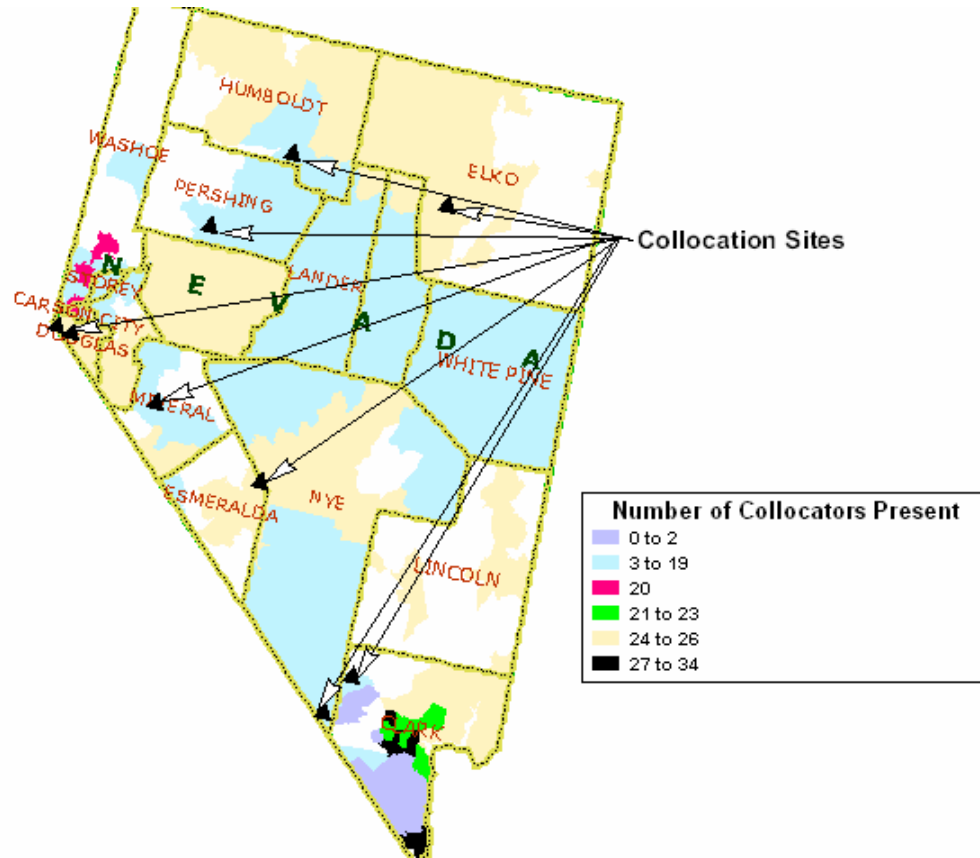
¹³ U.S. Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines, Issued: April 2, 1992, revised April 8, 1997, page 16.

Table 2: Number of Effective Firms Serving the Nevada Wireline Market

Company	UNE Zone	Number of Effective Firms Serving the Residential Market	Number of Effective Firms Serving the Non-Residential Market	Number of Effective Firms Serving the Market for All Lines
SBC	1	1.03	1.25	1.12
SBC	2	1.00	1.68	1.13
SBC	3	1.00	1.05	1.02
Sprint	1	1.20	1.26	1.25
Sprint	2	1.13	1.26	1.18
Sprint	3	1.14	1.26	1.16
Sprint	1	1.08	1.18	1.11
Sprint	5	1.06	1.00	1.03

As preceding tables demonstrate the wireline market in Nevada is highly concentrated, a condition that is observed in all UNE zones of the two major ILECs. Nor is there any competitive entry to speak of in the other ILEC serving territories in the state. The following maps provide a more visual representation of this situation.

Figure 1: Collocation



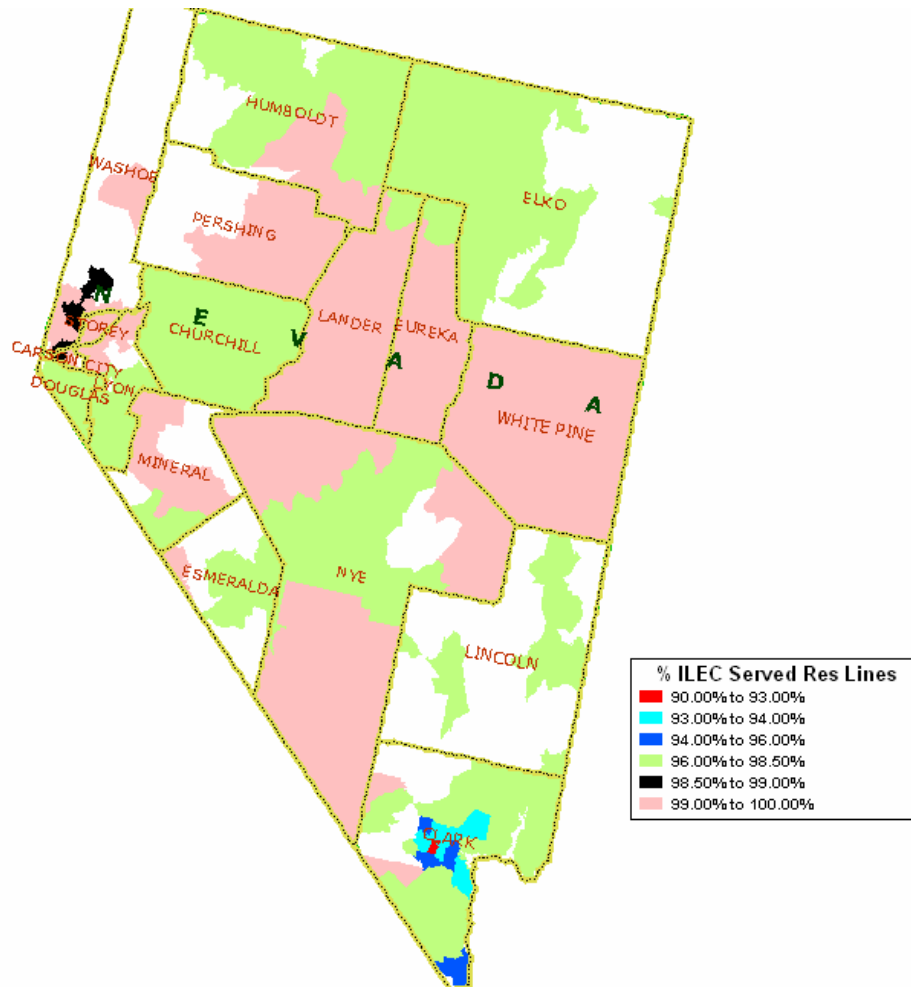
Collocation of equipment in ILEC central and remote offices is a means of competitive entry employed by CLECs wishing to compete through the purchase of unbundled loops. Unbundled loops are typically hotcut in an ILEC central office (CO) to the collocated CLEC equipment placed there. Calls from customers served by these loops come into the ILEC's central office where they are then passed to the CLEC's collocated equipment and then on to a CLEC switch, typically, but not always, located not far from the ILEC's central office. CLEC's are not the only ones collocating equipment in ILEC central offices, however. Internet service providers also collocate equipment in ILEC COs for the provision of dial-up internet service. Inter-exchange carriers also sometimes collocate equipment in ILEC COs for the provision of long distance calling. Thus the existence of collocation is not necessarily a sign of competitive entry into the wireline market. This is the case with some of the collocations portrayed in Figure 1. For

example, seven of the collocating entities displayed on the map are internet service providers. The one area of the map indicating the presence of 24 to 26 collocating entities is heavily weighted by the presence of a commercial collocation facility serving 20 collocating entities. Data on the types of services provided by these entities, or the types of markets being served, were not provided. Similarly the area of the map indicating the presence of 27 to 34 collocating entities is also heavily weighted by a commercial collocation facility providing service to 13 entities about whom nothing is known. Taking these caveats into consideration it can be seen from the map that collocation activity is, not surprisingly, heavily concentrated in the Reno and Las Vegas areas.¹⁴

Given the lack of data concerning the types of service being provided by the collocating entities displayed in the map above, a far better picture of competitive entry is provided by a study of maps showing the percentages of residential and non-residential lines serviced by ILECs in the state. These are provided in Figure 2 and Figure 3 below.

¹⁴ The commercial collocation facility providing collocation service to 20 entities in the 24 to 26 band on the map is located on the edge of the Reno/Carson City area.

Figure 2: Percent of Residential Lines Served by ILECs



The presence of a highly concentrated market for the provision of Residential wireline service, as indicated by the high HHI and low effective firm values present in Table 1 and Table 2, is illustrated in the above map, where it is seen that the percentage of ILEC served residential lines varies only from 90% of total residential lines to 100% of total residential lines. This is not surprising given the FCC’s recent report indicating that CLECs in Nevada have overwhelmingly targeted medium to large business customers, with only 27% of lines as of December 31, 2003 being used to serve residential or Small Business customers. This value is considerably smaller

than what is observed in the nation as a whole and within the selected states contained in the sample provided in the following table.

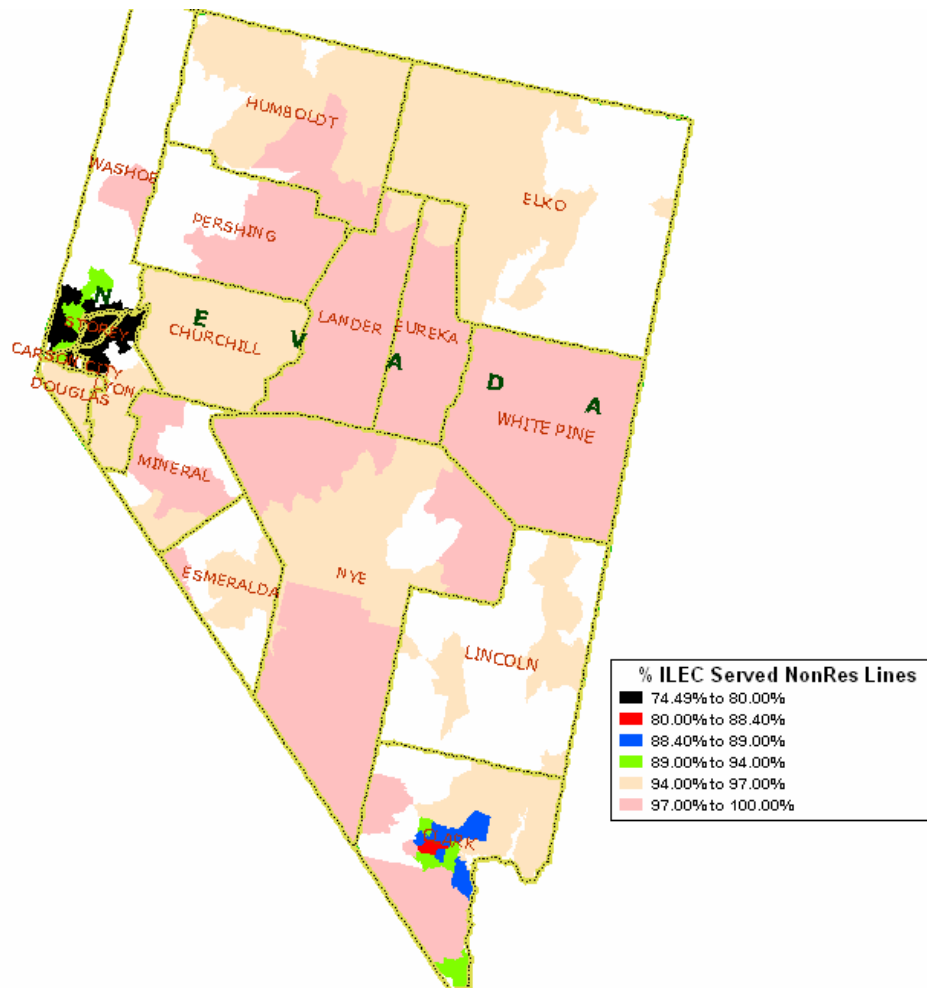
Table 3: Percentage of Lines Provided to Residential and Small Business Customers (As of December 31, 2003)¹⁵

State	ILECS	CLECS
Arizona	74	69
California	82	65
Colorado	76	61
Idaho	77	73
Montana	79	75
Nebraska	70	68
Nevada	75	27
New Mexico	78	*
North Dakota	81	91
Oregon	82	59
South Dakota	76	97
Utah	75	59
Washington	80	51
Wyoming	73	*
Selected States	77	66
Nationwide	78	63
NA -- Not Applicable.		
* Data withheld to maintain firm confidentiality.		

The effects of this CLEC entry strategy are apparent when consideration is given to the non-residential market, as is done in Figure 3, below.

¹⁵ *Local Telephone Competition: Status as of December 31, 2003 (Competition Report)*, Industry Analysis and Technology Division; Wireline Competition Bureau, Federal Communications Commission, June 2004, at Table 11.

Figure 3: Percent ILEC Served Non-Residential Lines



As can be seen here CLECs in Nevada have made more of a competitive impact in the non-residential wireline market, a finding also demonstrated by the HHI values reported above. Once again, and not surprisingly, competitive entry is heavily concentrated in the major urban areas of the state. However, despite the inroads made by the CLECs in this market, the market still remains heavily concentrated to the point of monopolistic control, with an HHI value of 5,947 translating into an effective firm count of 1.68. These values are far above the HHI values of 1,800, or 5.56 effective firms, the Department of Justice considers indicative of a market becoming concentrated to the point of raising significant concerns regarding competition. The

concentrated nature of the Nevada wireline market is made even more apparent in the following table.

Table 4: Percentage of ILEC Served Lines by UNE Zone

ILEC	UNE Zone	Percent of Residential Lines Served by ILECs	Percent of Non-Residential served by ILECs	Percent of All Lines served by ILECs
Other ILEC Serving Territory		98.36%	94.77%	97.13%
SBC	1	98.52%	89.11%	94.22%
SBC	2	99.91%	74.49%	93.83%
SBC	3	99.82%	97.37%	99.07%
Sprint	1	90.87%	88.19%	89.17%
Sprint	2	93.89%	88.18%	91.93%
Sprint	3	93.70%	88.44%	92.57%
Sprint	4	95.97%	91.52%	95.06%
Sprint	5	97.23%	100.00%	98.51%

One caveat should be kept in mind when considering the data presented here. As noted earlier, not all CLECs responded to the survey. One non-respondent, Wiltel Communications, formerly Williams Communications, has network centers in Reno and Las Vegas that offer ATM, Frame Relay, private line, voice, and IP services. For this reason the ILEC percentages of lines served may be overstated. However, we do not believe that these percentages are significantly overstated because the data from the survey responses is comparable to the percentage of end-user switched access lines served by Nevada CLECs reported by the FCC for the past several years, as is demonstrated in the following table.

Table 5: Competitive Local Exchange Carrier Percentage Share of End-User Switched Access Lines¹⁶

State	2001		2002		2003	
	Jun	Dec	Jun	Dec	Jun	Dec
Arizona	7	12	16	22		
California	7	11	13	15		
Colorado	10	15	16	17		
Idaho	*	*	5	6		
Montana	*	*	3	4		
Nebraska	*	18	20	21		
Nevada	10	11	9	10		
New Mexico	*	*	*	*		
North Dakota	*	*	*	8		
Oregon	5	9	8	12		
South Dakota	*	*	14	18		
Utah	11	15	19	20		
Washington	6	10	10	11		
Wyoming	*	*	*	*		
Selected States Average	8	13	12	14		
Nationwide	9	13	15	16		
Notes: Carriers with under 10,000 lines in a state were not required to report.						
* Data withheld to maintain firm confidentiality.						

¹⁶ *Competition Report* at Table 7.

C. Broadband Accessibility in Nevada

1. Overview

a) Broadband Deployment

Nevada is ranked 12th in terms of broadband penetration compared to the other states and the District of Columbia. 27.3% of Nevada households subscribe to broadband service compared to the national average of 21.3%. The Nevada broadband cable penetration rate is 17.3% (a state ranking of 8) and the broadband DSL penetration rate is 6.4% (a state ranking of 19). Thus, cable providers serve 73% of the Nevada broadband market and DSL providers serve 27% of that market. Nationally, cable providers serve 63% and DSL providers serve 37% of the broadband market.¹⁷

b) Internet usage

As of September 2001, Nevada ranked 40th in terms of individual usage of the Internet compared to other states and the District of Columbia. Approximately 52 percent of individuals in Nevada used the Internet compared to 53.9 percent nation wide.¹⁸ Measured individual usage occurred at schools and the workplace as well as in homes.

Internet usage by demographic factors is not available on a state basis at this time. However, national statistics indicate that usage is linked to household income, educational attainment, race and ethnicity. For example, for individuals in households with income less than \$30,000 per year, Internet usage is 44%, while in households with incomes between \$50,000 and \$75,000, usage is 81% and for households with incomes above \$75,000, usage is 89%. With regard to

¹⁷ Leichtman Research Group, Broadband Cable & DBS Across the United States, July 2004. The statistics are as of the end of 2003. For all statistical areas there is a slight over-estimation of the penetration rate because the numerator contains some small businesses and hotels, while the denominator contains only households.

¹⁸ National Telecommunications and Information Administration, A Nation Online: How Americans Are Expanding Their Use of the Internet, February 2002.

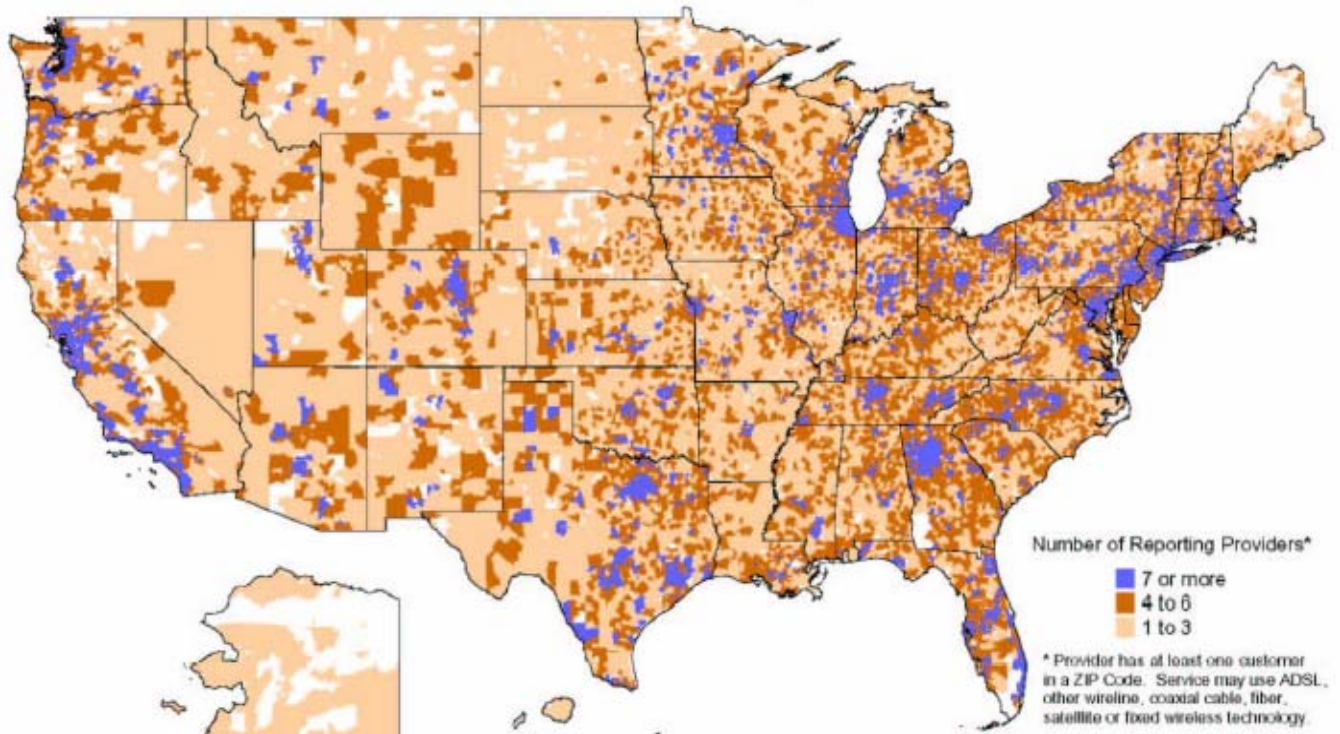
educational attainment, Internet usage among individuals with less than a high school education is 32%, and with high school education, it is 52%. Among individuals with college and post-graduate educational attainment, Internet usage is 88%. Finally, Internet usage among Black non-Hispanic individuals is 48 percent, for Hispanic individuals it is 58%, and for White non-Hispanic individuals, Internet usage is 67%.¹⁹

c) FCC Data on High Speed Usage

To frame the discussion of the Nevada Survey results we thought it would be useful to first consider data from the FCC on high speed access which will help to provide an additional perspective as to where Nevada stands in relation to other states regarding the availability of high speed service. We start with a map showing high speed providers by zip code.

¹⁹ Pew Internet & American Life Project, May-June 2004 Tracking Survey, N=2,200 adults 18 and older. Margin of error is +/- 2% for results based on full sample.

Figure 4: High Speed Providers by Zip Code as of December 31, 2003²⁰



As this map shows, broadband appears to be widely available in Nevada though the number of competing providers is not as dense in the state as is observed in most of the rest of the country. Again, it can be seen that providers are highly concentrated in the major population centers of the state.

As the tables below demonstrate, Nevada has experienced rapid growth in high-speed line availability since 1999. Furthermore, when compared to other states, and the nation as a whole, Nevada has achieved a relatively broadband penetration rate with Table 7 showing approximately 3.04 households per broadband line vs a nationwide rate of 3.74. This high penetration rate is not, however, necessarily reflective of penetration rates throughout the state as

²⁰ *High-Speed Services for Internet Access: Status as of December 31, 2003 (High-Speed Services Report)*, Industry Analysis and Technology Division: Wireline Competition Bureau, Federal Communications Commission, June 2004 at p. 22.

state level aggregations are heavily weighted by results observed in a state's major population centers.

Table 6: High-Speed Lines by State (Over 200 kbps in at Least One Direction)²¹

State	1999	2000		2001		2002		2003	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Arizona	58,825	111,678	153,500	158,122	251,709	308,621	370,939	445,179	536,465
California	547,179	910,006	1,386,625	1,705,814	2,041,276	2,598,491	3,035,756	3,456,681	4,165,658
Colorado	36,726	64,033	104,534	147,220	177,419	243,810	298,265	344,154	425,431
Idaho	*	8,070	15,908	20,233	18,445	43,119	54,963	64,353	80,455
Montana	*	*	7,378	10,446	13,037	17,969	20,090	28,023	39,240
Nebraska	36,748	44,188	54,085	55,188	71,451	92,849	117,219	141,172	173,524
Nevada	23,514	40,582	59,879	78,535	109,850	138,042	159,179	209,732	247,442
New Mexico	*	2,929	28,497	20,482	31,940	44,942	57,956	71,969	91,736
North Dakota	*	2,437	4,227	6,277	6,082	14,164	20,024	25,474	31,571
Oregon	27,062	44,186	76,839	93,242	158,048	199,549	275,449	318,460	380,507
South Dakota	*	3,516	2,839	5,448	9,585	12,555	18,060	22,016	28,557
Utah	11,635	19,612	35,970	55,103	72,977	93,928	121,744	135,007	162,905
Washington	71,930	118,723	195,628	227,066	335,667	422,348	485,063	577,378	672,247
Wyoming	*	*	*	*	7,856	10,990	14,696	17,507	24,818
Selected States	813,619	1,369,960	2,125,909	2,583,176	3,305,342	4,241,377	5,049,403	5,857,105	7,060,556
Nationwide	2,754,286	4,367,434	7,069,874	9,616,341	12,792,812	16,202,540	19,881,549	23,459,671	28,230,149
* Data withheld due to confidentiality.									

²¹ *Id.* at Table 8.

Table 7: Growth Measurements in High-Speed Access Lines

State	1999 to 2003 Percentage Growth	Dec 2001 To Dec 2002 Percentage Growth	Dec 2002 To Dec 2003 Percentage Growth	Ratio of Households to High Speed Lines ¹
Arizona	812%	47%	45%	3.54
California	661%	49%	37%	2.76
Colorado	1058%	68%	43%	3.90
Idaho		198%	46%	5.84
Montana		54%	95%	9.14
Nebraska	372%	64%	48%	3.84
Nevada	952%	45%	55%	3.04
New Mexico		81%	58%	7.39
North Dakota		229%	58%	8.15
Oregon	1306%	74%	38%	3.51
South Dakota		88%	58%	10.16
Utah	1300%	67%	34%	4.30
Washington	835%	45%	39%	3.38
Wyoming		87%	69%	7.80
Selected States Average	912%	86%	52%	5.48
Selected States Median	893%	67%	47%	4.10
Selected States	768%	53%	40%	3.26
Nationwide	925%	55%	42%	3.74
1) Household Data is From the 2000 Census. High Speed Lines are as of December 31, 2003.				

As Table 8 illustrates the overwhelming majority of high-speed lines in Nevada, approximately 92%, are targeted at residential and small business users. While Table 9 shows that the majority of these high-speed lines, approximately 75%, are being provided by technology other than asymmetric digital subscriber line (ADSL) service, which is the predominant high-speed technology employed by the ILECs for residential and small-business users. In fact, data from the *Television and Cable Factbook* shows that Cox cable systems alone has 125,000 cable modem customers, giving it a 51% share of the state's high-speed lines and

dwarfing the approximately 61,014 ADSL lines being made available by the ILECs and CLECs in the state.²²

Table 8: High-Speed Lines by Type Offer As of December 31, 2003 (Over 200 kbps in at Least One Direction)²³

State	Residential & Small Business	Other 1	Total
Arizona	516,173	20,292	536,465
California	3,803,058	362,600	4,165,658
Colorado	392,395	33,036	425,431
Idaho	78,195	2,260	80,455
Montana	37,174	2,066	39,240
Nebraska	163,495	10,029	173,524
Nevada	227,216	20,226	247,442
New Mexico	85,798	5,938	91,736
North Dakota	30,636	935	31,571
Oregon	365,309	15,198	380,507
South Dakota	27,351	1,206	28,557
Utah	152,100	10,805	162,905
Washington	632,652	39,595	672,247
Wyoming	23,505	1,313	24,818
Selected States	6,535,057	525,499	7,060,556
Selected States Average	466,790	37,536	504,325
Selected States Median	157,798	10,417	168,215
Nationwide	25,976,850	2,253,299	28,230,149
Nationwide Average	505,884	44,112	549,996
Nationwide Median	330,290	28,556	368,528
1) Other includes medium and large business, institutional, and government customers. * Number withheld due to confidentiality.			

²² The other major provider of cable modem service in the state is Charter Communications. However, no data on the number of cable modem customers serviced by Charter in its Nevada market has been located.

²³ *High-Speed Services Report* at Table 11.

Table 9: High-Speed Lines by Technology as of December 31, 2003 (Over 200 kbps in at Least One Direction)²⁴

State	ADSL	Coaxial Cable	Other 1	Total
Arizona	87,263	396,960	52,242	536,465
California	2,065,780	1,706,217	393,661	4,165,658
Colorado	155,137	231,075	39,219	425,431
Idaho	24,503	*	*	80,455
Montana	19,417	*	*	39,240
Nebraska	25,599	130,319	17,606	173,524
Nevada	61,014	*	*	247,442
New Mexico	36,546	47,721	7,469	91,736
North Dakota	14,034	13,030	4,507	31,571
Oregon	117,253	233,737	29,517	380,507
South Dakota	11,635	11,042	5,880	28,557
Utah	76,466	*	*	162,905
Washington	262,149	367,321	42,777	672,247
Wyoming	8,467	*	*	24,818
Selected States Average	87,263.0	242,111.5	224,601.0	294,353.5
Nationwide Average	9,509,442	16,446,322	2,274,385	28,230,149
<p>* Data withheld to maintain firm confidentiality. In this table, an asterisk also indicates 1-3 providers reporting.</p> <p>1 Other includes wireline technologies other than asymmetric digital subscriber line (ADSL), optical fiber-to-the subscriber's premises, satellite, and terrestrial wireless systems.</p>				

The preceding discussion having set the stage, we now turn to the survey results regarding broadband deployment in the state.

d) Nevada Survey Results

The results presented in the following maps and tables have been derived from data contained in the survey responses. For the cable modem presentation this data has been augmented by data obtained from the *Television and Cable Factbook*, available at <http://www.warren-news.com/factbook.htm#psONLINE>. The data contained in the *Factbook* provided some guidance as to the territories served by cable system providers in Nevada along with number of homes passed by cable systems. These data were compared to Census 2000 Zip

²⁴ *Id.* at Table 7.

Code Tabulation Areas (ZCTAs)²⁵ and from this comparison approximate cable system serving areas were derived. Where possible, these serving areas were then checked by comparing the approximated cable system serving area ZCTAs with those zip codes company websites stated cable service was available in.

Two maps will be useful in putting the discussion concerning the availability of Digital Subscriber Line (DSL) service and cable modem service in the state in context. The first map, Figure 5, shows the percentages of total lines by UNE Zones and non-SBC and Sprint Serving areas. As can be seen from this map, access lines in the state are heavily concentrated in the Reno, Carson City, and Las Vegas areas, which have approximately 90% of the state's total access lines. This pattern is repeated in Figure 6, which shows the percentage of total housing units in the state by UNE zone and non-SBC and Sprint Serving areas. As this map illustrates, approximately 91% of the state's housing units are also concentrated in the Reno, Carson City, and Las Vegas areas. These two facts help significantly in understanding the underlying drivers behind the availability of DSL and cable modem service portrayed in Figure 7 and Figure 8.

²⁵ ZIP Code Tabulation Areas (ZCTAsTM) are a new statistical entity developed by the U.S. Census Bureau for tabulating summary statistics from Census 2000. This new entity was developed to overcome the difficulties in precisely defining the land area covered by each ZIP Code®. Defining the extent of an area is necessary in order to accurately tabulate census data for that area.

ZCTAs are generalized area representations of U.S. Postal Service (USPS) ZIP Code service areas. Simply put, each one is built by aggregating the Census 2000 blocks, whose addresses use a given ZIP Code, into a ZCTA which gets that ZIP Code assigned as its ZCTA code. They represent the majority USPS five-digit ZIP Code found in a given area. For those areas where it is difficult to determine the prevailing five-digit ZIP Code, the higher-level three-digit ZIP Code is used for the ZCTA code. For more information, please refer to the ZCTA (FAQ) Frequently Asked Questions Web page at <http://www.census.gov/geo/ZCTA/zctafaq.html>.

Figure 5: Percentage of Total Access Lines by UNE Zone and non-SBC and Sprint Serving areas

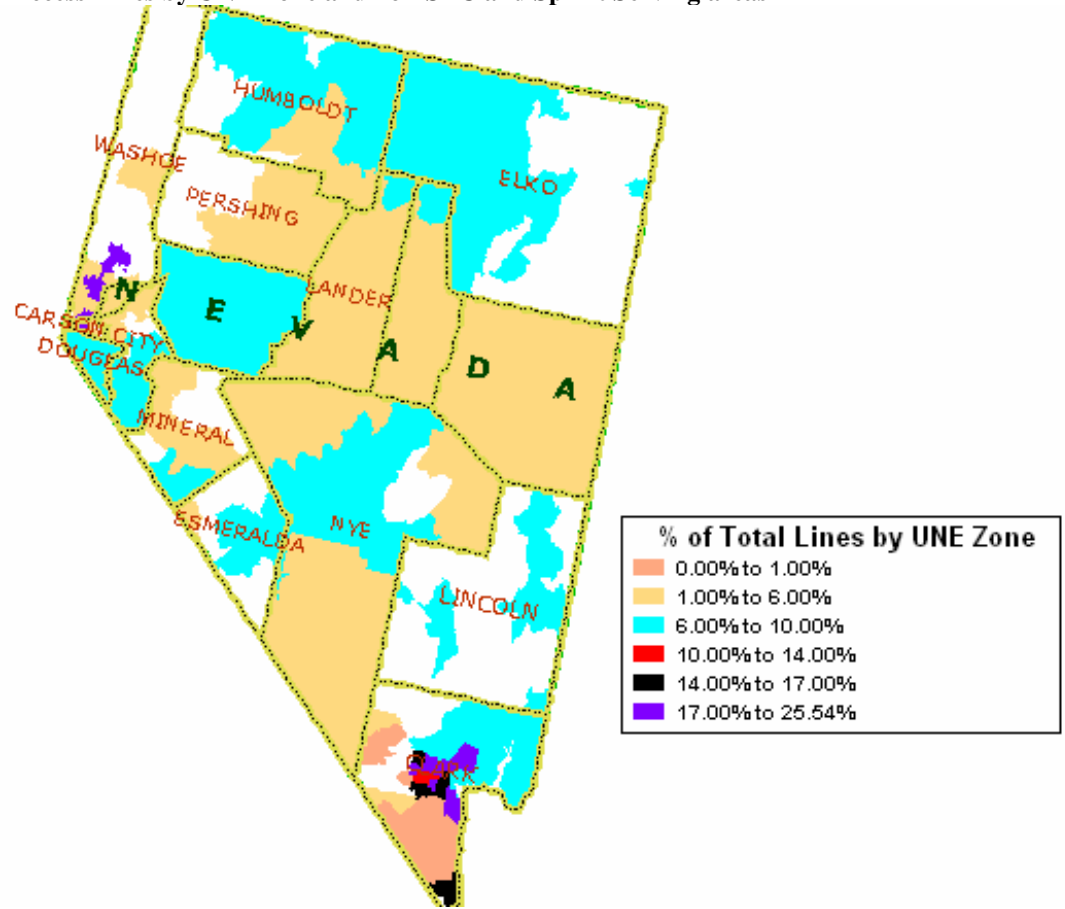


Figure 6: Percentage of Total Housing Units by UNE Zone and non-SBC and Sprint Serving areas

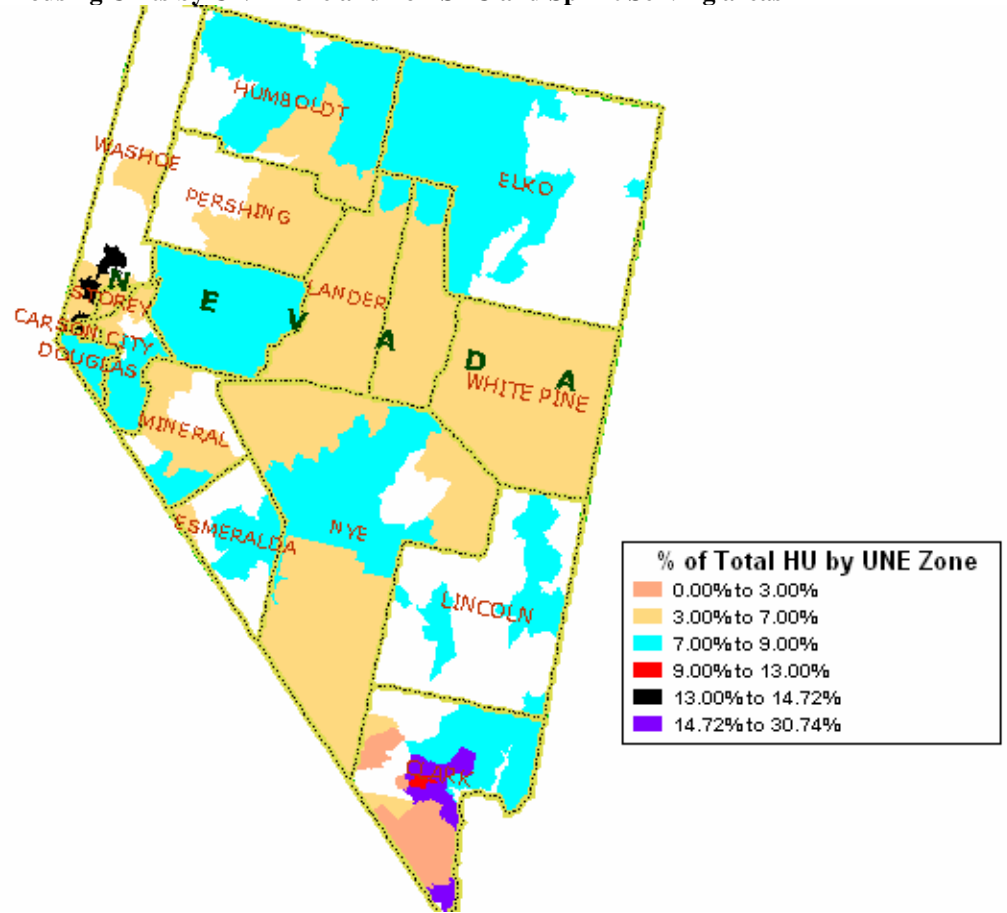
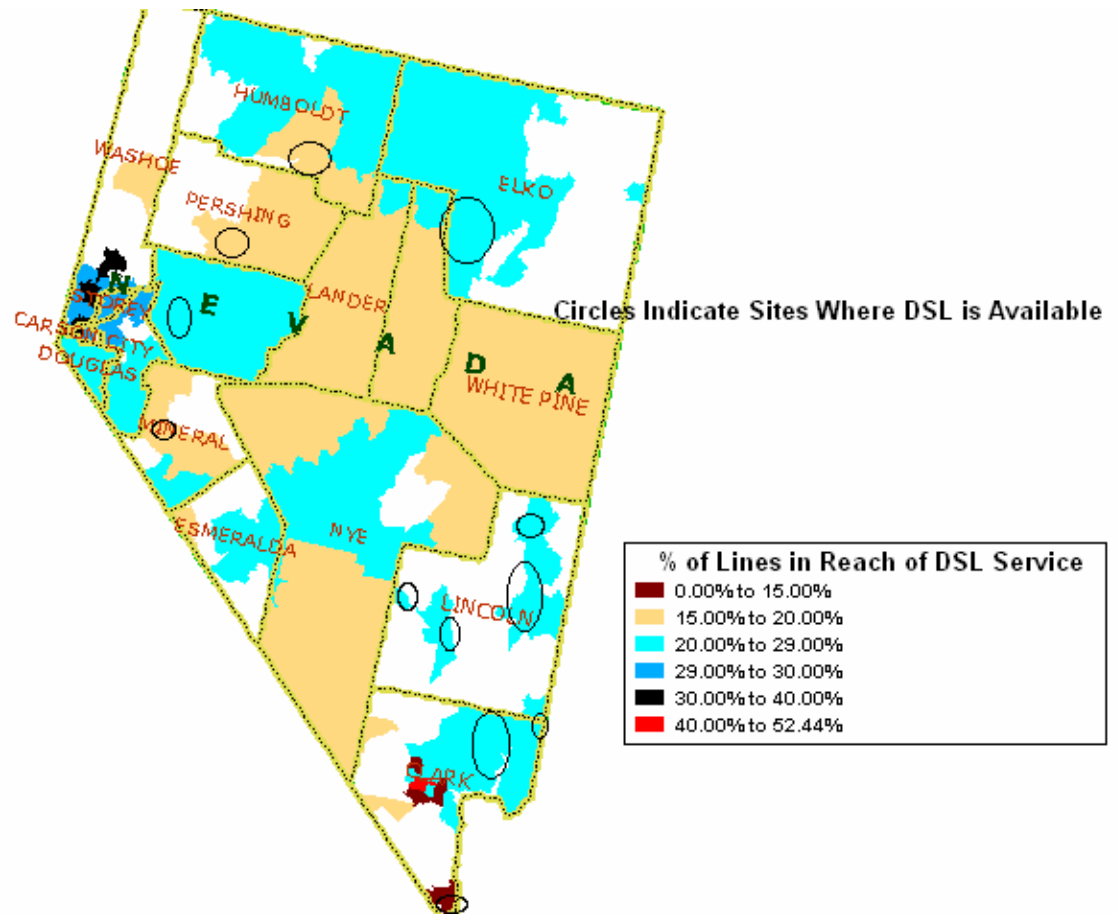


Figure 7 shows the estimated percentage of total lines within the reach of Digital Subscriber Line (DSL) service.

Figure 7: Estimated Percentage of Total Lines in Reach of DSL Service



As this map indicates, DSL service is highly concentrated in the Reno, Carson City, and Las Vegas areas. The pale blue and yellowish areas which cover much of the rest of the state have DSL service only within the circled areas shown on the map. These circle areas do not indicate the extent of DSL coverage; they serve only as indicators of the approximate locus of DSL service availability in these areas. Exact data, where available, is confidential and this methodology was employed to protect that confidentiality. What the circled areas do indicate, however, is that DSL service is not widely available the majority of the state that exists outside of the Reno, Carson City, and Las Vegas metropolitan areas, where anywhere from 70% to 85% of lines are currently out of reach of DSL service. As the map indicates, counties where there is no DSL service include Douglas, Nye, White Pine, Esmeralda, Lander, and Eureka.

Figure 8 shows the estimated percentage of the state's total housing units within reach of cable modem service. This map also portrays the estimated cable modem serving areas of Cox Communications and those Charter Cable systems where cable modem service has been enabled. One other operator provides cable modem service in the Reno area, but the number of customers obtaining service is very small, and as the Charter Cable system franchise in the Reno area overlapped the franchise territory of the other provider, it was deemed sufficient to concentrate solely on the Cox and Charter Cable systems. The map illustrating the availability of cable modem service demonstrates that this service is more widely available than the competing DSL service and that it has a bigger footprint than DSL service, with approximately 63% of all housing units in the state being within reach of a cable modem system versus, as a rough approximation, 34% of housing units within reach of DSL service. Figure 9 presents a more focused picture of the footprint of those cable systems providing cable modem service.

Figure 8: Estimated Percentage of Housing Units Within Reach of Cable Modem Service

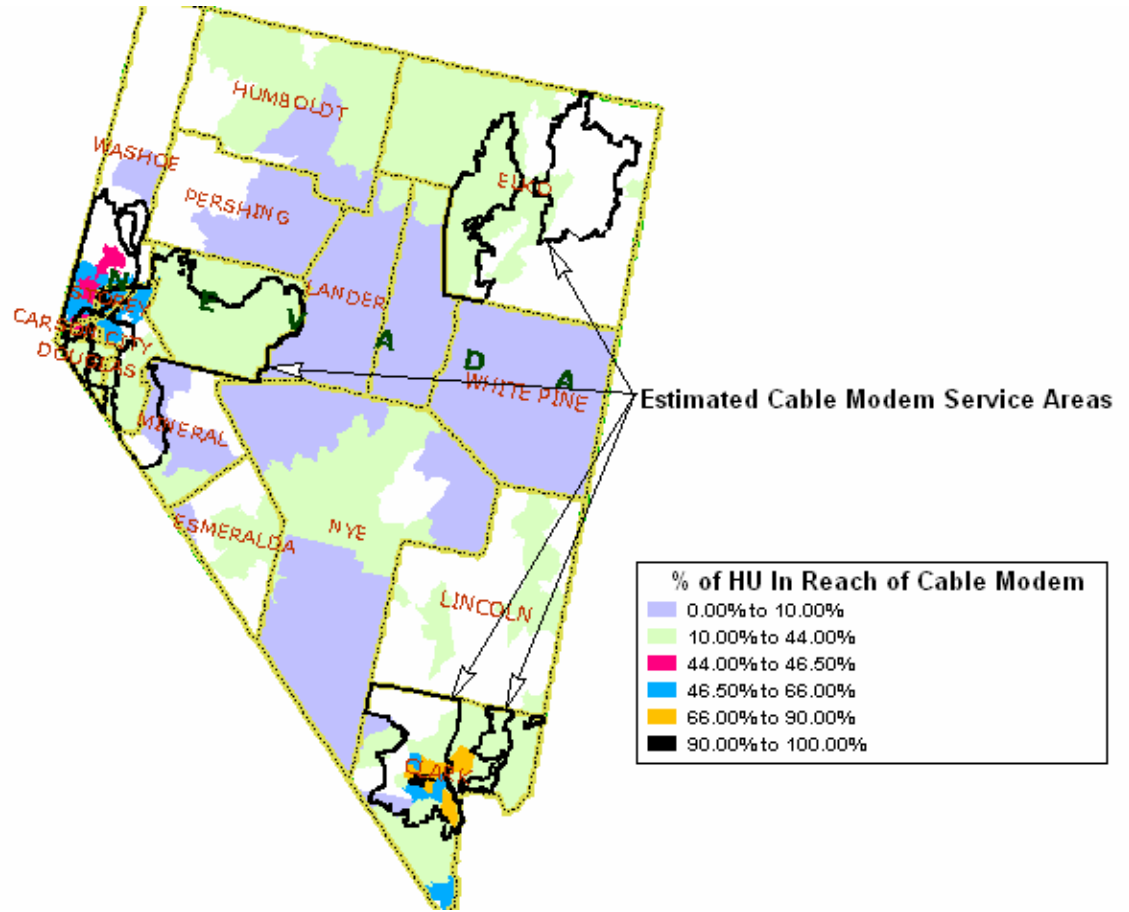
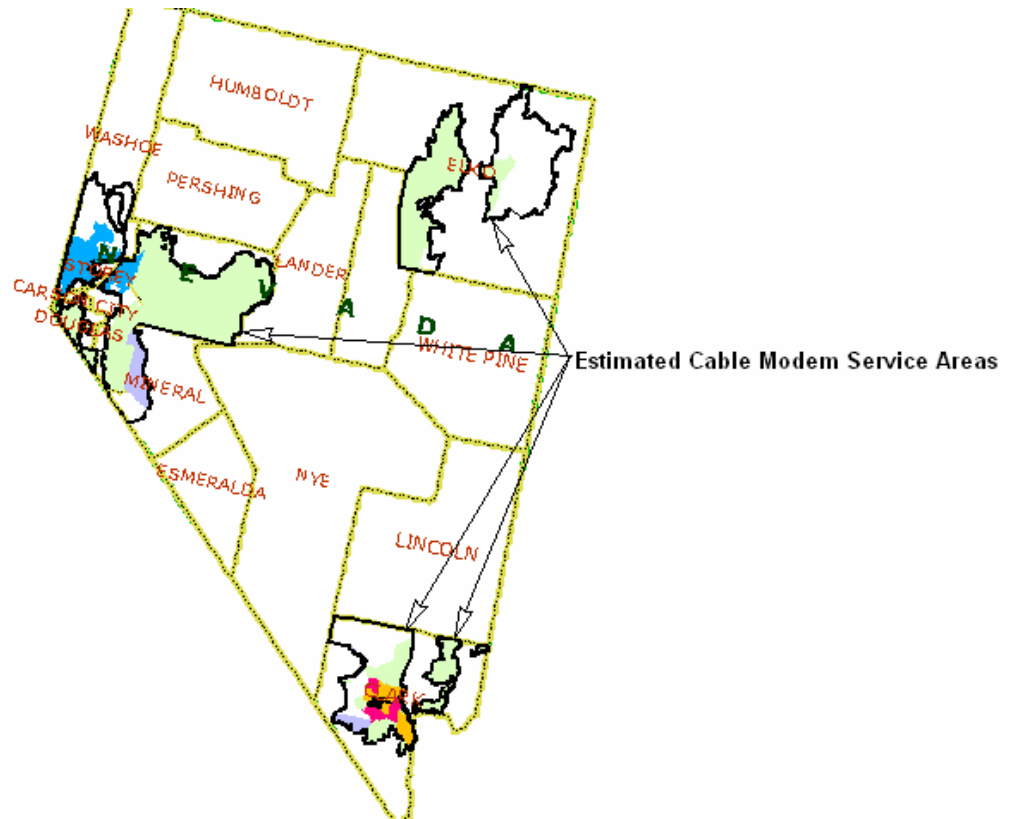


Figure 9: Focused Look at Cable Modem Serving Area



Two major conclusions can be derived from the above presentation on high-speed service availability. One conclusion is that high speed service is available to a majority of the households in the state, with approximately 63% of households within reach of high speed cable modem service. Given the fact that the DSL service availability shown in Figure 7 indicates areas where there is no DSL/cable modem service overlap, the total percentage of households within range of high-speed service via either cable or DSL service is greater than 63%, probably closer to 70%. The other conclusion is that cable modem service currently dominates the provision of high-speed service in the state both in terms of current customers and size of footprint.

In the next section we will provide a brief discussion of wireless service in the state. Brief because, as has been previously noted, wireless operators did not respond in any meaningful way to the survey questionnaires sent to them.

D. Wireless Service Availability

Due to the limited response to the survey questionnaire from wireless service providers operating in the state, this discussion of wireless usage in Nevada consists entirely of a presentation of data available from the FCC and other publicly available sources.

A glance at the Table 10 shows that wireless subscriber growth in Nevada has increased substantially from 1999, growing by 62% from 1999 to 2003 and by 24% for during the 2002 to 2003 period, as is seen in Table 11. As of December 31, 2003 wireless penetration in Nevada had reached the level of approximately 1.62 cell phones per household, a level higher than the national and selected states' average.

Table 10: Comparative Trends in Mobile Wireless Subscriber Growth²⁶

State	December 2003 Carriers ¹	Subscribers									
		1999		2000		2001		2002		2003	
		Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
Arizona	14	1,125,321	1,624,668	1,855,115	2,018,410	2,171,021	2,412,998	2,520,058	2,643,952	2,843,061	
California	15	8,544,941	12,283,369	12,710,520	14,184,625	15,052,203	16,007,376	17,575,105	18,892,619	20,360,454	
Colorado	10	1,552,718	1,654,989	1,856,075	1,983,405	2,145,816	2,247,166	2,358,748	2,426,929	2,554,731	
Idaho	10	271,436	296,066	344,564	398,781	444,864	500,693	536,064	572,406	605,488	
Montana	4	*	*	*	*	279,349	291,429	315,512	343,160	373,947	
Nebraska	9	576,296	600,885	659,380	712,685	791,799	838,568	867,810	900,744	937,184	
Nevada	8	750,335	825,163	684,752	766,581	842,155	895,586	984,486	1,077,380	1,216,838	
North Dakota	*	*	*	*	*	*	245,578	*	*	*	
Oregon	10	914,848	1,082,425	1,201,207	1,268,909	1,399,279	1,473,883	1,682,343	1,682,036	1,778,936	
South Dakota	5	*	*	*	*	278,646	292,210	325,114	344,825	365,211	
Utah	9	643,824	692,006	750,244	833,492	919,002	970,854	1,052,522	1,094,563	1,154,992	
Washington	10	1,873,475	2,144,767	2,286,082	2,493,214	2,706,030	2,849,043	2,869,784	3,102,750	3,377,193	
Wyoming	4	127,634	*	*	173,939	194,665	168,232	191,939	276,344	295,706	
Selected States		16,380,828	21,204,338	22,347,939	24,834,041	27,224,829	29,193,616	31,279,485	33,357,708	35,863,741	
Selected States Average	9	1,638,083	2,356,038	2,483,104	2,483,404	2,268,736	2,245,663	2,606,624	2,779,809	2,988,645	
Selected States Median	10	832,592	1,082,425	1,201,207	1,051,201	880,579	895,586	1,018,504	1,085,972	1,185,915	
Nationwide	86	79,696,083	90,643,058	101,043,219	114,028,928	123,990,857	130,751,459	138,878,293	147,623,734	157,042,082	

* Data withheld to maintain firm confidentiality.
¹ Carriers with under 10,000 subscribers in a state were not required to report.

²⁶ Competition Report at Table 13.

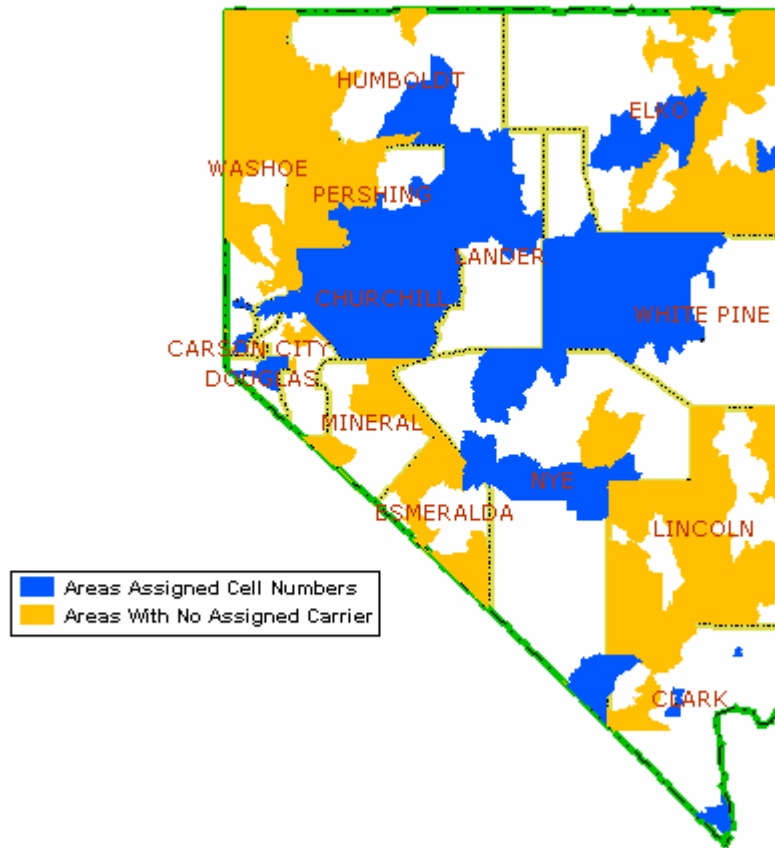
Table 11: Wireless Subscriber Growth Rates

State	Percentage Growth Rates					Ratio of Cell Phones Per Household ¹
	1999 to 2003	1999 to 2000	2000 to 2001	2001 to 2002	2002 to 2003	
Arizona	153%	65%	17%	16%	13%	1.50
California	138%	49%	18%	17%	16%	1.77
Colorado	65%	20%	16%	10%	8%	1.54
Idaho	123%	27%	29%	21%	13%	1.29
Montana				13%	19%	1.04
Nebraska	63%	14%	20%	10%	8%	1.41
Nevada	62%	-9%	23%	17%	24%	1.62
North Dakota						
Oregon	94%	31%	16%	20%	6%	1.33
South Dakota				17%	12%	1.26
Utah	79%	17%	22%	15%	10%	1.65
Washington	80%	22%	18%	6%	18%	1.49
Wyoming	132%			-1%	54%	1.53
Selected States	119%	36%	22%	15%	15%	1.60
Selected States Average	101%	27%	20%	13%	16%	1.45
Selected States Median	87%	22%	18%	15%	13%	1.49
Nationwide	97%	27%	23%	12%	13%	1.49

1) Household data from the 2000 US Census.

Data from the LERG database, displayed in Figure 10, indicates that cell phone operators have been granted number assignments covering a large portion of the state, providing a rough picture of where the state's cell phone subscribers may be located, or at least the rate centers from which they are obtaining service.

Figure 10: Areas with Numbers Assigned to Cell Phone Operators



Wireless coverage in Nevada seems to be fairly ubiquitous, judging from the coverage maps gleaned from provider websites and displayed in Figure 11 and Figure 12.

Figure 11: Sprint PCS Wireless Coverage

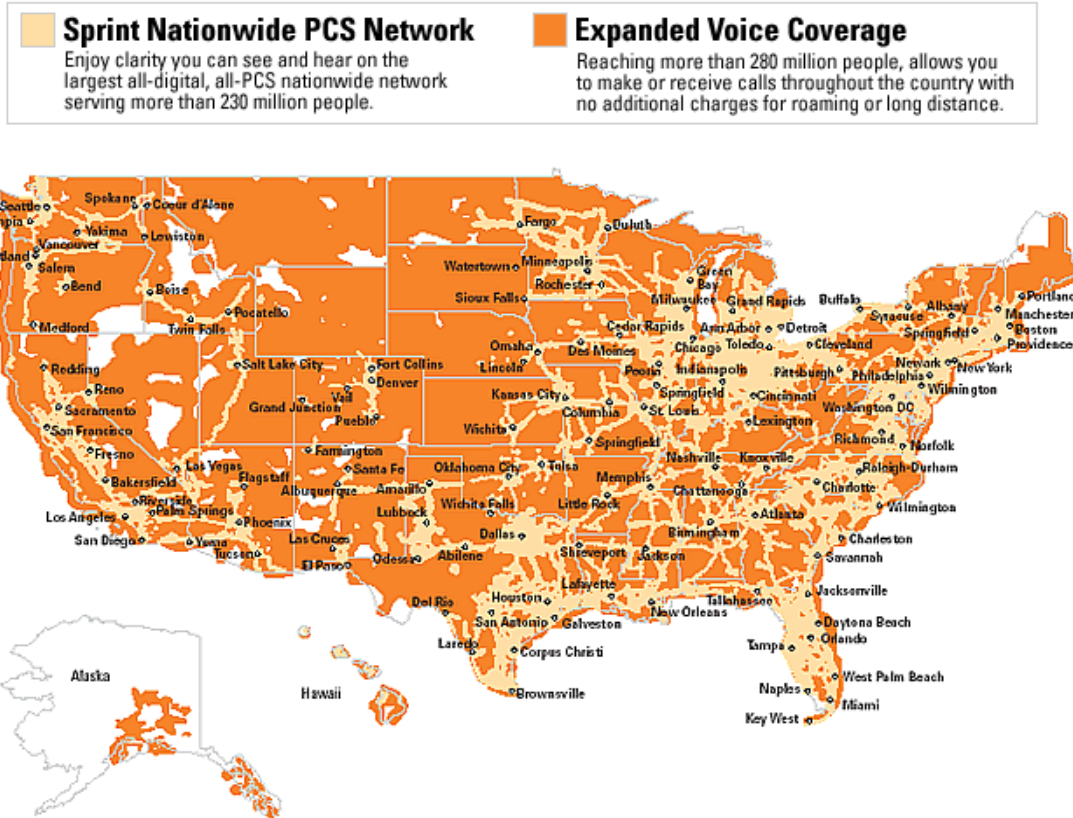
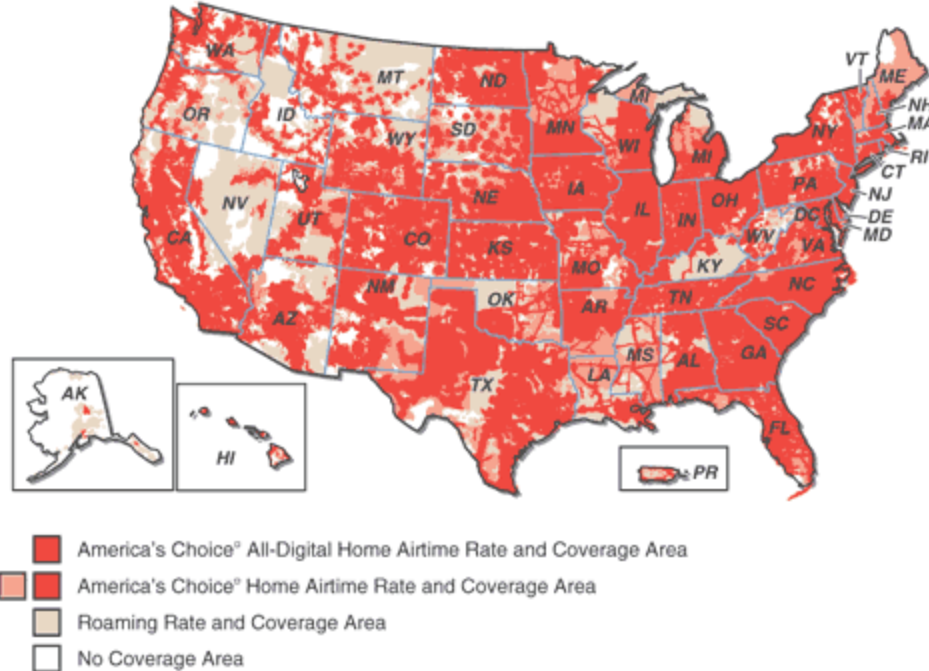


Figure 12: Verizon Wireless Coverage



Wireless broadband has also made its appearance in Nevada in the form of WiFi hotspots of which there are 208 in the state.²⁷ Many of which are to be found in Borders Bookstores and

²⁷ While WiFi is being much ballyhooed lately as a cheap and easily accessible broadband solution for areas too expensive to reach by traditional broadband technologies such as DSL or Cable it must be noted that WiFi is not necessarily always available at the high speeds touted for it. It is usually asserted that WiFi delivers broadband access at 11 Mbps. But that's not necessarily the case.

The most widely used type of WiFi is 802.11b. The theoretical maximum for this standard is a data rate of 11 Mbps, but with all WiFi technologies, including 802.11b, at least half of the available bandwidth is consumed by radio overhead. To get the remaining throughput of about 5.5 Mbps, the user would have to be no more than a few feet from the access point (AP), and the WiFi provider would need to equip that AP with backhaul capable of delivering the full 5.5 Mbps. Considering that the vast majority of public hot spots use, at best, a T-1 line for backhaul, the real-world throughput would be only about 1 Mbps. This throughput can be dropped even lower due to factors such as user overload. (*CDMA2000 & Wi-Fi: Making a Business Case for Interoperability*, a Report by the CDMA Development Group, September 2003).

On the other hand there are examples from around the country where towns, frustrated at their inability to get traditional suppliers of broadband to supply service, have built out WiFi networks that adequately serve the broadband needs of their citizens. For example Cerritos California, a suburb of Los Angeles, was not served by cable or digital subscriber line (DSL) providers because it's too expensive or difficult for them to reach. In March of 2004 the city unveiled a wireless network that covers the city's more than eight square miles enabling anyone in the city access to a DSL-quality Internet connection, if they have a Wi-Fi enabled laptop. The cost was in the tens of thousands of dollars versus the millions that were quoted to city officials by traditional wireline broadband providers. (Michelle Kessler, *City takes fast track to high speed access Wi Fi does the trick ; Town got tired of waiting for DSL, so Wi-Fi did trick quickly, cheaply*, **USA Today**, B.03, April 1, 2004.

Figure 13: WiFi Hotspots in Nevada

208 Wi-Fi hotspots in Nevada

<http://forbes.jiwire.com/browse-hotspot-united-states-us-nevada-nv-34.htm>

Select a city:

Battle Mountain (1)	Laughlin (1)
Carlin (1)	North Las Vegas (3)
Carson City (8)	Pahrump (3)
Fernley (2)	Reno (30)
Henderson (23)	Sparks (5)
Incline Village (2)	W. Wendover (1)
Las Vegas (125)	Wells (2)
	Winnemucca (1)

Starbucks coffeehouses, which have partnered with T-Mobile for the provision of WiFi access to their respective customers.²⁸

The conclusion to drawn from the wireless data presented above is that Nevada's Citizens are heavy users of wireless technology. Less obvious from the data is the extent to which wireless service is being used as a replacement for traditional wireline service or as a complement, valued for the mobility it offers. This is a question which will be examined in the next section.

III. Description of Services and Potential Alternatives to Traditional Wireline Service

A. Wireless Services

The Wireless industry has experienced amazing growth over the last ten years. The number of subscribers increased from 16 million in 1993 to 142 million in 2002. Over the same period

²⁸ See, for example, Gretchen Hyman, *T-Mobile and Borders Bookmark 802.11 Access*, available at <http://www.wi-fiplanet.com/news/article.php/1480071> and Michael Singer, *Starbucks Serves Up WiFi Access*, available at <http://www.wi-fiplanet.com/news/article.php/1450471>.

the average monthly minutes of use increased from 140 minutes to 427 minutes, while the price per minute decreased from \$0.44 to \$0.11.²⁹ The number of Nevada wireless subscribers has increased from 750,335 in December 1999 to 1,077,380 in June 2003.³⁰

This growth generates a desire to understand if wireless service is a substitute for wireline service. There are at least three ways to investigate this question. First, it is possible to ask: Do customers forego wireline service completely and depend solely on wireless service? Second, is there some substitution between wireless service and wireline service such that a consumer's decision to purchase a second line is impacted by the availability of wireless service? Finally, does the existence of the wireless service impact the market power of providers of wireline service, and does the existence of wireline service impact the market power of providers of wireless service?

The evidence shows that a small number of consumers forego wireline service for wireless service. In the FCC Triennial Review Order, the FCC states that “the record shows that CMRS [wireless], while continuing to be primarily a complementary technology to wireline narrowband service, is growing as a substitute to wireline narrowband service with about three to five percent of CMRS subscribers using their service as a replacement for primary fixed voice wireline service.”³¹ However after admitting that some substitution is occurring the FCC went on to state that “Neither wireless nor cable has blossomed into a full substitute for wireline telephony.”³²

²⁹ John Muleta, FCC Wireless Bureau Chief, Opening Remarks, Eighth Annual CMRS Competition Report, June 26, 2003.

³⁰ FCC, Industry Analysis and Technology Division, Trends in Telephone Service, May 2004, Table 11.2.

³¹ In the Matter of the Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, CC Docket No. 01-338, rel. August 21, 2003, (The Triennial Review Order), ¶230.

³² Id., ¶245.

Recent econometric studies claim to show a relationship between the price of wireless and the demand for wireline service, especially with the demand for the second line.³³ However, neither study included a price for digital subscriber line or cable modem. Thus, it is difficult to state that the studies included all of the important variables that affect line growth. Leaving out an important variable will distort the results of the study. Even with this caveat, one of papers cautioned against asserting that the services are currently substitutes. Rather it concludes that “the two services appear to have achieved a coexistence in the marketplace as well as in household budgeting, each providing consumers with particular advantages.”³⁴

Finally, with regard to whether wireless and wireline services impact the market power of providers of the other service, Richard Gilbert concluded that the services are in different markets. Referring to the Merger guideline test of market power, he states that “consumer substitution from wireless to wireline would not be sufficient to make unprofitable a small but significant and non-transitory price increase by a hypothetical monopoly supplier of mobile wireless voice services.”³⁵

B. Cable Systems Operators

Currently cable system operators dominate the nation’s broadband mass market, controlling approximately 60% of mass market high-speed lines with DSL running behind at approximately 33% of mass market high-speed lines.³⁶ Cable modem service is now available to more than 85% of all U.S. households,³⁷ and by the end of 2004 will be available to 90% of U.S.

³³ Mark Rodini, Michael R. Ward and Glenn A. Woroch, Go Mobile: Substitutability between fixed and mobile access; Victor Glass, Chris Babb, and Maria Petukhova, Wireless Drags Down Wireline Service.

³⁴ Rodini et. al., page 20.

³⁵ The Declaration of Richard J. Gilbert, attached to Cingular and AT&T Wireless Merger Application, WT Docket No. 04-70, March 18, 2004.

³⁶ *High-Speed Services Report* at Table 7.

³⁷ See NCTA, *Broadband Services*, <http://www.ncta.com/Docs/PageContent.cfm?pageID=37>; see also J. Halpern, et al., Bernstein Research Call, *Broadband Update: DSL Share Reaches 40% of Net Adds in 4Q. . . Overall*

households.³⁸ The four largest cable companies (Comcast, Time Warner, Cox, and Cablevision) now make cable modem service available to between 95 and 100 percent of their homes passed.³⁹ This is far larger than the current DSL serving area where service is available to about 75 to 80 percent of homes passed.⁴⁰ Cable modem service virtually overlaps the DSL service territory meaning that cable system operators are well placed to compete against the phone companies both in terms of high-speed broadband services and in terms of voice services offered over their cable networks via voice over IP (VoIP).

1. Cable Broadband

The discussion earlier in this report concerning cable modem service availability highlighted the fact that cable systems operators significantly dominate Nevada's high-speed broadband market, with Cox cable systems alone serving 51% of the state's high-speed lines. Given the significant overlap of Charter Communications and Cox Communications franchise territories with SBC and Sprint's serving areas of Reno, Carson City, and Las Vegas it is not unreasonable to assume that cable's dominance of the state's high-speed line market will not only continue but will strengthen, especially if the cable systems operators start to include voice services as part of their bundled service offerings, as all signs indicate they intend to do. Thus the competitive pressures that SBC and Sprint are already experiencing in their high-speed DSL market from cable may soon be felt in their traditional voice market when cable operators roll out voice services in their Nevada networks, the consideration of which we now turn to.

Growth Remains Robust at Exhibits 1 & 6 (Mar. 10, 2004) (“*Mar. 2004 Bernstein Broadband Update*”)(cable broadband available to 92.3 percent of total cable homes passed)

³⁸ *Id.* at 7.

³⁹ *Id.* at 7.

⁴⁰ *Mar. 2004 Bernstein Broadband Update* at 7, Exhibit 7 (reporting DSL availability at 75% for SBC, 80% for Verizon, 74% for BellSouth, and 45% for Qwest).

2. Cable Telephony

Competition from cable system operators via cable telephony or Voice over Internet Protocol (VoIP) presents the biggest potential competitive threat to traditional wireline operators in the state, especially to SBC and Sprint's Nevada operations in the Reno, Carson City, and Las Vegas areas of Nevada.

Beginning earlier this year, six of the major cable operators in the country started the commercial deployment of IP telephony service, or announced plans to do so in the immediate future.⁴¹ Some analysts are predicting that all major cable operators will offer cable telephony “to nearly 100% of their in- franchise homes over the next two to three years.”⁴² However, the rapidity with which customers will switch to cable telephony, forsaking their traditional wireline phone service, is subject to debate. Some analysts believe that cable could capture 8 to 10 percent of all U.S. residential telephony lines by 2008,⁴³ while other analysts believe that the adoption rate will be higher, somewhere closer to 15 to 20 percent by 2008.⁴⁴ No matter what the eventual adoption rate turns out to be, the evidence points to the fact that cable system operators are planning to aggressively roll out voice services via VoIP in the coming years.

⁴¹ See, for example, J. Halpern, *et al.*, Bernstein Research Call, *US Telecom & Cable: Faster Roll-Out of Cable Telephony Means More Risk to RBOCs; Faster Growth for Cable* at 2 (Dec. 17, 2003) (“*Bernstein Cable Telephony Report*”) (“Nearly every major cable MSO has indicated over the past month that it will offer cable telephony service to every or nearly every household in its footprint by 2005, with Time Warner Cable and Cablevision targeting year-end 2004”); J. Hodulik, *et al.*, UBS, *High-Speed Data Update for 3Q03: Competition Heats Up in Broadband* at 12 (Dec. 1, 2003) (“By the end of 2005/2006” four major “cable operators will have rolled out a cable telephony service across substantially all of their respective footprints, representing total homes of approximately 70 million.”).

⁴² *Bernstein Cable Telephony Report* at 1.

⁴³ *When Cable Telephony Rings, Investors Should Answer*, a research report by Prudential Equity, Inc., January 26, 2004, at p. 3.

⁴⁴ See, for example, *Bernstein Cable Telephony Report* at 1 (“[W]e are raising our estimate of cable telephony subscribers from 10.4M by 2008 (off a 2003 base of 2.3 M) to 17.4 M. Our new outlook suggests that the cable MSOs will control 15.5% of the consumer primary access lines in the US by 2008, up from our previous estimate of 9.3%); see also F. Governali, *et al.*, Goldman Sachs, *Telecom Services: Qualifying the VoIP Threat, an Eye-Opening Exercise* at 1 (Dec. 23, 2003) (“[W]e’ve been expecting the Bells to lose 20% to 30% consumer market voice share, as a result of the aggressive introduction of voice services by the cable industry over the next 5 to 7 years.”).

Cox has begun offering VoIP service in its Roanoke, Va market and has stated that it plans to offer VoIP service in additional markets later in 2004.⁴⁵ Charter Communications has stated that it plans to offer VoIP services in 2004 to at least one million of the 12 million homes it passes.⁴⁶ Between them Cox and Charter pass an estimated 63% of all housing units in Nevada, the vast majority of which are located in the Reno, Carson City and Las Vegas areas.

At this point it is not possible to determine if any of these cable providers are explicitly providing VoIP telephony services at this time. CED Magazine has a chart of Cable Telephony deployment as of June 2004 available at <http://www.cedmagazine.com/ced/2004/0604/0604CTD-wc.pdf> according to which there were no cable telephony providers providing service in Nevada as of June 2004. However, VoIP can be offered over the high-speed lines that the cable operators control by other VoIP providers such as Vonage, Voiceglo, Packet8 and the like. Table 12 that these VoIP providers are operating in Nevada.

⁴⁵ Cox News Release, *Cox Communications Brings Digital Telephone Service to Northern Virginia; Northern Virginia Marks Cox's 13th Telephone Market* (Apr. 30, 2004); Cox News Release, *Cox Communications Delivers Cox Digital Telephone to 12th Market; Roanoke, Va. Marks Cox's First Market Launch of VoIP Technology* (Dec. 15, 2003).

⁴⁶ Mark Barber, VP of Corporate Telephony, Charter Communications, *Charter Voice-Over-IP Current Status and Future Plans*, presentation at the Banc of America Securities Voice over IP Conference at 4 (Apr. 14, 2004), http://media.corporate-ir.net/media_files/NSD/CHTR/presentations/chtr_041404.pdf; G. Campbell, *et al.*, Merrill Lynch, *Everything over IP: VoIP and Beyond* at 17, 52 (Mar. 12, 2004) (“*Merrill Lynch, Everything over IP*”).

Table 12: Nevada Voice Over IP Operators

Voice Over IP is available from Vonage in the following NV Area Codes

Nevada Available Area Codes	
702	Blue Diamond
702	Boulder City
702	Henderson
702	Las Vegas
702	Laughlin
702	Mount Charleston
702	Searchlight

Source: <http://www.vonage.com/avail.php>

VoIP from Voiceglo is available in the following NV Area Codes

702	HENDERSON
702	LAUGHLIN
702	PAHRUMP
702	SEARCHLIGHT

Source: http://www.voiceglo.com/complete_plans/area_codes

VoIP from Packet8 is available in Las Vegas

Source: <http://www.packet8.net/about/areacodes.asp>

The phone companies are responding to the cable VoIP offerings by rolling out their own VoIP service. In January 2004, Verizon announced a major exclusive agreement with Nortel Networks, which will become Verizon's supplier of choice for all VoIP equipment including softswitches, media gateways and multimedia communication servers.⁴⁷ Then in July, Verizon announced its VoiceWing service a nationwide VoIP service "for \$39.95 a month, with discounts available if customers use other Verizon services."⁴⁸ SBC is aggressively rolling out VoIP

⁴⁷ "Incumbent Service Providers Fine Tune the Details of their V VoIP Strategies", **A Yankee Group Report**, by Daniel Klien, April 16, 2004 at p.1.

⁴⁸ "Verizon dangles cheap VoIP for US land grab", Faultline, Published Tuesday 27th July 2004, available

services to enterprise customers but has no announced plans for a consumer VoIP service offering as of yet.⁴⁹ Sprint is currently hosted IP telephony trials and has also partnered with Time Warner Cable with which it has an exclusive agreement to carry Time Warner local and long distance VoIP traffic.⁵⁰

To summarize, while VoIP, especially cable VoIP, has the potential to pose a significant competitive threat to the wireline operations of SBC and Sprint in Nevada, that threat has not yet materialized as far as we can ascertain and, in fact, seems a few years away at this point.

IV. Pricing Impact of Senate Bill 440 as Amended by Senate Bill 400

A. Summary Of Senate Bill 400 Changes To Pricing Flexibility Rules

Senate Bill 400 modifies the pricing flexibility rules originally adopted in Senate Bill 440 in 1999. The modifications include the ability to offer contracts to individual business customers in response to the activities of competitive suppliers. These contracts may include but are not limited to the provision of term or volume discounts. Second, the Commission is prohibited from specifying a maximum rate for packages that include not only services regulated by the Commission but also packages that include services not regulated by the Commission.

Previously the Commission was only prohibited from establishing a maximum rate for packages

at http://www.theregister.co.uk/2004/07/27/verizon_voip

⁴⁹ “*Incumbent Service Providers Fine Tune the Details of their V VoIP Strategies*”, **A Yankee Group Report**, by Daniel Klien, April 16, 2004 at p.1. See also, SBC News Release, *SBC Communications Introduces IP Product Portfolio to Serve Enterprise Customers Nationwide* (Nov. 20, 2003) (announcing introduction of new hosted VoIP product, SBC PremierSERV(SM) Hosted IP Communication Service (HIPCS)(1), that provides advanced features such as unified messaging for voice mail and e-mail, ability to forward calls to a mobile phone, remote office, or another extension, one-click calling from a phone set or PC Web browser, and conference call set-up from an Internet browser. “SBC PremierSERV HIPCS is available in select markets today, and will be available in cities nationwide by the end of 2004.”); SBC News Release, *SBC Communications Delivers New Options for Businesses To Incorporate Secure IP Features into Traditional Phone Systems* (Feb. 17, 2004) (“SBC Communications Inc. today announced new business service options that allow companies to add secure IP features and services to their existing voice infrastructure.”).

⁵⁰ “*Incumbent Service Providers Fine Tune the Details of their V VoIP Strategies*”, **A Yankee Group Report**, by Daniel Klien, April 16, 2004 at p.3.

that included services it regulated. Third, the notice time required prior to exercising pricing flexibility is reduced from 30 days to 20 days.

In addition, Senate Bill 400 provides general and specific prohibitions against anti-competitive behavior. In general, the Senate Bill prohibits a carrier from engaging in any anti-competitive act or unreasonably discriminating among similarly situated customers. In particular, it reinforces the requirement that prices must be above price floors for individual services. For packages, it retains the constraint that prices cannot be lower than the lesser of the sum of the price floors for services included in the package or the sum of the prices of basic network services and the price floors for each of the other services in the package.

B. Pricing Flexibility Activities of Carriers

The survey questionnaire asked each carrier to provide a list of existing services that it had chosen to exercise pricing flexibility since October 1, 1999. This date was chosen to obtain a profile of pricing flexibility activities that have occurred following the passage of Senate Bill 400 and Senate Bill 440. Each carrier was asked to provide a description of the service and the date at which price flexibility was implemented. The carrier was also asked to provide the price of the service immediately prior to and after implementing the price flexibility request, along with the current price of the service.

1. SBC-Nevada

SBC-Nevada's response to the survey questionnaire noted the exercise of price flexibility for many Custom Calling services along with increases in wiring protection plans and inside wire installation rates, and high capacity digital data service. For example, the residential price of Caller ID was initially \$5.00 per line per month and is currently \$7.00 per line per month. It should also be noted that these price increases were for purchase of individual Custom Calling

services. New service packages, to be discussed below, provide customers will numerous choices of Custom Calling services when the customer purchases a combination of these services. The increase in the individual service prices makes the packages more attractive.

With the exemption of the high capacity digital data service price change, all of the price changes were initiated prior to the passage of Senate Bill 400. The high capacity service, as known as DS1 service, provides a channel service at a transmission rate of 1.544 Mbps. The service channels are provided between customer designated premises or between a customer designated premise and a telephone company hub. The service can be purchased on a monthly basis or on a yearly or multi-year basis. While the recurring charges increased for all options, the percentage increase in the recurring charge was highest for the monthly option and decreased as the customer chose longer term options. In addition, the non-recurring charge increased dramatically for the monthly plan, while it was eliminated for two, three and five year plans. Clearly the company is providing customers with an incentive to move from the monthly plan to term commitment plans. The company noted that many customers have made multi-year commitments in order to take advantage of the pricing discounts.

2. Sprint-Nevada

Sprint-Nevada's response to the survey questionnaire noted that it has requested pricing flexibility for Billing and Collection, Directory Assistance and Directory Assistance Call Completion. All three pricing request implementation dates were prior to the passage of Senate Bill 400.

The Billing and Collection service is provided to other telecommunications providers. It includes recording service, billing service, billing analysis service and billing information service. Billing and Collection service is now designated as a competitive service. The price of

this service is protected by Non-disclosure agreements with customers and is determined on a case by case basis depending on the size of the customer and the circumstances pertaining to that customer.

Directory Assistance provides telephone numbers from Sprint of Nevada's directory listings, and Directory Assistance Call Completion is an offering of call completion to a requested Directory Assistance number. These services are now designated as discretionary services. Prior to exercising pricing flexibility, the rate for Directory Assistance was \$0.50 per call and the rate for Directory Assistance Call Completion was \$0.26 per use. Currently, the combined rate is \$1.45 per call.

3. New Services

The survey questionnaire asked each carrier to provide a list of any and all new services or service bundles (packages) introduced since October 1, 1999. Each carrier was asked to provide a description of the service or service bundle and the date at which new services was introduced. The carrier was also asked to provide the introductory price of the service and the current price of the service.

4. SBC-Nevada

SBC-Nevada's response to the survey questionnaire indicated that it has introduced 46 new services since October 1999. Thirty-three of these services were introduced prior to the passage of Senate Bill 400. With the exception of the new dialing pattern associated with directory assistance, SBC-Nevada has not increased the price of any new service or package introduced since October 1999. The price for directory assistance was increased from \$0.50 to \$0.85 per call.

New services for business customers feature enhancements to Centrex and ISDN services, and a variety of high-speed fiber-based services. Many of the high-speed services are offered at various optional speeds and term plans.

New services for residential customers focus on providing packages of existing services at discount rates. For example, ALL Distance® combines local service, four vertical features, Voice Mail, and unlimited SBC long distance. This package is listed at \$48.95.

5. Sprint-Nevada

Sprint-Nevada's response to the survey questionnaire indicated that it has introduced 18 new services since October 1999. Thirteen of these services were introduced prior to the passage of Senate Bill 400. Sprint-Nevada has not increased the price of any new service introduced since October 1999.

New services for businesses feature three types of high-speed connections. First, Sonnet is a dedicated network designed to provide transmission of voice, data and video over self-healing fiber ring facilities. Second, Ethernet service is designed to allow for interconnection of Local Area Networks. Finally, OptiPoint provides point-to-point data transmission capabilities.

New services for residential customers include three packages of custom calling services. These packages are Sprint Personal Solution, Sprint Home II Solution, and Safe and Sound Solution.

In addition, Sprint is now offering three new 3-digit calling numbers. 311 Service allows telephone end-users to reach non-emergency local government services. 511 Service allows end-users to receive travel information, and 711 service provides voice transmission access to Telecommunications Relay Service entities as a toll free call.

V. The Feasibility Of Eliminating Implicit Subsidies Based Upon The Type And The Location Of The Telecommunications Service Provided In This State.

A. The Definition of a Subsidy

A generally accepted definition of a service subsidy is that a service is subsidized if its price is less than incremental cost, and the service pays a subsidy if its price is above the stand alone cost.⁵¹ The New Mexico Commission adopted this definition when it determined whether to establish a state universal service fund.⁵² The definition was supported by Qwest and the Commission Staff. Similarly, in a recent Florida proceeding, the witnesses for the consumer advocate, the incumbent carriers, and the intervenors all held that a subsidy occurs only when the price is below the incremental cost of service.⁵³

Because incremental cost is the additional cost of providing service to a customer group, prices that recover the incremental cost of service ensure that such customers are paying for the additional burden they are placing on the multi-product firm. Customers of other services are, therefore, not worse off when the carrier attempts to serve an additional customer group. Alternatively, when prices are above stand-alone costs, those customers would be better off if they were served by an independent carrier who did not serve any other groups of customers.

It is important to understand the relationship between total cost of service, stand alone cost and incremental cost. When a carrier provides service to many customer groups, the total cost of service would include the costs shared by these groups plus the incremental cost of serving each

⁵¹ Faulhaber, Gerald R., 1975, "Cross-subsidization: pricing in public enterprises," *American Economic Review* 65: 966-977.

⁵² New Mexico Public Regulation Commission, 2000. The Identification of All Subsidies in the Existing Rates of Qwest Corporation, F/K/A U.S. West Communications, Inc., Pursuant to HB 400, Final Order, Utility Case No. 3325, ¶17.

⁵³ Florida Public Service Commission, 2003, The Petitions of Verizon Florida Inc., BellSouth Telecommunications Ind., and Sprint-Florida Inc. To reform their intrastate network access and basic local telecommunications rates in accordance with Florida Statutes, Section 364.164, Dockets No. 030867-TL, 030868-TL, 030868-TL.

group. Moreover, the incremental cost of serving one group will equal the total cost of serving both groups less the stand alone cost of serving the second group.

The follow example illustrates these cost relationships and the definition of a subsidy. A simplified telephone system has 700 residential customers and 300 business customers, and the only cost of service is the cost of the outside plant. The plant is installed such that there are five miles of joint plant, 4 miles of plant serving only residential customers and one mile of plant serving only business customers. A 20 percent annual charge factor is used to convert investment into cost. The annual charge factor allows for the recovery of the profits, tax and expense associated with the investment. The cost is the sum of the cost of the copper wire and the cost of digging the trench into which the wire is placed. Table one calculates the investments and cost associated with the total plant. The cost per-foot for cable and wire and for trenching are from the FCC’s synthesis model inputs. Table 13 calculates the investment cost by multiplying the distances in feet by the cost per foot. The total cost is \$236,639 and the monthly cost per line is \$19.72.

Table 13: Average Investment and Cost in Joint Plant

Item	Distance	Price Per Foot	Cost
Cable			
Joint use	26,400	\$12.47	\$329,208.00
Business Only	5,280	\$4.60	\$24,288.00
Resident Only	21,120	\$9.51	\$200,851.20
subtotal wire			\$554,347.20
Trench Investment	52,800	\$11.91	\$628,848.00
Total Investment			\$1,183,195.20
Total Cost			\$236,639.04
Monthly Cost per line			\$19.72
Annual Cost Factor 20 Percent			
total customers = 1000			

The stand-alone costs include only the cost of serving one customer group. For business customers, the stand-alone costs are shown in Table 14 and for residential customers in Table 15. The stand-alone wire cost is less on a per foot basis because the carrier can purchase a smaller cable to serve the individual groups. The trenching cost per foot is the same because the same trench must be dug even though there are different sized cables placed into the trench. Note that the distances for the trench and wire for each group include that part of the plant that is jointly used. Thus, the distances for the business customers are six miles, the five miles of jointly used plant and one mile of dedicated plant, while the residential costs recover nine miles of investment, the sum of the five miles of jointly used plant and the four miles of dedicated plant.

Table 14: Stand Alone Business Investment and Cost

Item	Distance	Price Per Foot	Cost
Business Only Wire	31,680	\$4.60	\$145,728.00
Trench	31,680	\$11.91	\$377,308.80
Total Investment			\$523,036.80
Total Cost			\$104,607.36
Monthly Cost per line			\$29.06
there are 5 miles of joint trench, 1 mile of business only trench 300 business customers			

Table 15: Stand Alone Residential Investment and Cost

Item	Distance	Price Per Foot	Cost
Residential Only Wire	47,520	\$9.51	\$451,915.20
Trench	47,520	\$11.91	\$565,963.20
Total Investment			\$1,017,878.40
Total Cost			\$203,575.68
Monthly Cost per Line			\$24.24
there are 4 miles of residential only trench 700 residential customers			

The stand-alone cost for business customers is \$29.06, and for residential customers is \$24.24. While the fact that the business cost is higher than the residential cost may appear inconsistent with the common assertion about the relative cost of serving residential and business customers, the result is generated by the large amount of shared costs in this particular example. For business customers, the shared cost is allocated among 300 customers, while for residential customers, the shared cost is allocated among 700 customers. Because the shared cost is allocated among a larger customer group, the stand-alone residential cost is less than the stand-alone business cost; whether this result will be duplicated when examining the costs of incumbent carriers will depend on the relative amount of shared and dedicated plant that each carrier uses to provide service.

Moreover, because the stand-alone cost for each group is greater than the average cost of serving both groups, these results imply that both groups can be better off if the service is provided jointly rather than separately. That is, as long as the rate for business customers is less than the stand-alone cost of service, the business customers benefit from the provision of service to the residential customers.

The incremental cost for business customers is shown in Table 16 and for the residential customers in Table 17. The incremental cost is measured as the difference between the total cost and the stand-alone cost of providing service to the other customer group. The incremental cost is associated with the dedicated distance for each group, and the cable investment in the joint used portion. For business, it is the dedicated one mile of trench and cable plus five miles of cable in the shared trench, and for residential customers, it is the four miles of dedicated trench and cable plus five miles of cable in the shared trench.

Table 16: Business Incremental Cost

Total Joint Cost	\$236,639.04
Residential Stand Alone Cost	\$203,575.68
Business Incremental Cost	\$33,063.36
Monthly Cost per line	\$9.18

Table 17: Residential Incremental Cost

Total Joint Cost	\$236,639.04
Business Stand Alone Cost	\$104,607.36
Residential Incremental Cost	\$132,031.68
Monthly Cost per line	\$15.72

The incremental cost for business customers is \$9.18 and for residential customers is \$15.72.

The low business incremental cost is associated with the fact that the facilities dedicated to business customers are relatively small compared to all other costs.

The example illustrates several conditions that are typical of telephone industry costs. First, due to the large amount of shared costs, the price range associated with subsidy free prices is relatively large. For business customers, the subsidy free price range is any price less than the stand-alone cost of \$29.06 and any price above the incremental cost of \$9.18. For residential customers, the subsidy free price range is between \$24.24 and \$15.72.

Second, the fact that the business rate is higher than the residential rate does not mean that the residential customers are being subsidized. For example, if the residential rate is set at \$16.00, it will be above the incremental cost of service and therefore is a subsidy-free rate. When the residential rate is at \$16.00 then the business rate must be set at \$28.40 in order to allow the carrier to recover its total cost of service. Note the business rate of \$28.40 is less than the stand-alone cost of service (\$29.06), and, thus, the business customers are not paying a subsidy. Therefore, the fact that the business rate is \$28.40 and the residential rate is \$16.00 does not imply that a subsidy is being paid or received by any customer, even though the carrier

obviously has a higher profit margin in the business market and is recovering a larger portion of the shared costs in that market.

Third, if the rates are equal to the incremental cost in both markets, the carrier will not recover the total cost of service. In this example, revenue when rates equal incremental cost is \$165,095, while total cost is \$236,639, generating a loss of \$71,544. Therefore, it is necessary that at least one if not both customer groups must pay more than the incremental cost of service for the carrier to remain viable.

Table 18: Total Revenue if Price Equals Incremental Cost

Business Revenue	\$33,063.36
Residential Revenue	\$132,031.68
Total Revenue	\$165,095.04
Total Cost	\$236,639.04
Profit (Loss)	(\$71,544.00)

B. The Recovery of Shared Costs

The recovery of shared costs has been one of the focal points of debates over pricing of telecommunications services. Several techniques, such as fully distributed costs and Ramsey pricing, could establish a basis for shared cost recovery. However, each technique has been found to be inadequate for the job. Moreover, as changes in legislation have removed the task of determining the price for many services from the regulatory agenda, regulatory activity focuses on establishing a just and reasonable price for only basic residential and basic business service. Therefore, a new standard for pricing must address the reasonable price of basic service. This standard must also consider the requirements of the Telecommunication Act of 1996 “to ensure

that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services.”⁵⁴

Fully distributed costing methodologies allocate the shared costs to all services that use the shared facilities based on a reasonable accounting technique. Such techniques have relied on relative usage such as relative minutes, KWH, KW at peak times or ton-miles. Alternatively, the shared costs can be allocated based on directly assigned cost or investments. The price is set equal to the cost of service, where that cost is the sum of the direct or incremental cost and the allocated shared cost. The problem with using fully distributed costs as a basis for price is encountered when the market price is below the fully distributed cost of the service. The disparity causes demand to be less than anticipated because consumers switch to competitive carriers. Revenues will be less than the fully distributed cost of service. Therefore, the fully distributed costing method will not accomplish its designed task of full recovery of the shared cost.

Ramsey pricing is designed to take advantage of market forces. When the Ramsey pricing method is used, it is possible to recover the entire shared costs of service. To do so, Ramsey pricing recognizes the differences in demand conditions for alternative services that share facilities. These demand conditions are the elasticity of demand and the cross-elasticity of demand for a service. The elasticity of demand measures the responsiveness of the quantity demanded to changes in price. For example, if following a 10 percent change in price, demand changes by more than 10 percent, then a service is considered elastic. If the response to the 10 percent change in price is less than a 10 percent change in demand, then the service is considered inelastic.

⁵⁴ 47 U.S.C. 254(k)

Cross-elasticity is the change in the quantity of one service given a change in demand of another. It is used to measure complements and substitutes. For example, classic complements, such as peanut butter and jelly, have negative cross-elasticity. That is, when the price of jelly increases, the demand for peanut butter decreases. With classic substitutes, such as Pepsi and Coke, cross-elasticity is positive. That is, when the price of Pepsi increases, the demand for Coke will increase as consumers substitute their consumption of one product for the other.

Ramsey pricing is based on devising a pricing scheme that minimizes the change in demand from an optimal location. The optimal location is the amount of demand that would occur if prices were set equal to incremental cost.⁵⁵ Most advocates of Ramsey pricing normally ignore the cross-elasticity of demand. By doing so they can use a simple rule called the inverse-elasticity rule. This rule states that prices should be set in inverse relationship to the elasticity of demand. That is, if there is need to increase revenue by raising price, then the price increased the most is the price of the most inelastic service. Choosing the service that is the most inelastic will cause the smallest change in the quantity demanded, thus minimizing the change from the optimal solution. In the telephone industry the service considered to have the most inelastic demand is basic residential service. Therefore, those who advocate the use of Ramsey pricing generally advocate the need to raise residential rates.

Applying Ramsey pricing, however, is not a simple task. First, it is very difficult to obtain accurate information with regard to demand elasticities. Second, most telephone services are complements. Therefore, the simple inverse-elasticity rule cannot be applied. Incorporating the cross-elasticity impact generates results that appear to contradict basic pricing standards. For example, the price of residential exchange service should be below rather than above incremental

⁵⁵ Baumol, William J. and David Bradford, 1979. "Optimal departures from marginal cost pricing," *American Economic Review* 60: 265.

cost. This low price is necessary to attract the customer. Once the carrier has the customer, it is then possible to sell other complementary services such as switched access or call waiting at prices above cost to make up for the loss associated with basic service.⁵⁶

On the other hand, if the price of basic service is to be specified according to the rule that basic service should be priced as if it is competitive as noted above, then recovery of significant amounts of shared costs from the basic would be difficult. Without the ability to rely on its remaining market power in the basic service, the carrier would have to search for new ways to enhance its earnings power. It would have to innovative and develop new products. The price of the new products would exceed their incremental cost during the period in which the market believes that these products have significant unique qualities, allowing the carriers to recover the shared cost from these new products.⁵⁷

C. Is The Loop A Basic Service Or An Input Used To Produce Most Other Services?

The loop is the outside plant that connects the customer's home or business to the carrier's wire center. The loop consists of copper and fiber cables, remote electronic equipment, and the poles from which the cables are hung and the trenches and conduits in which the cables are placed. It is possible to determine the cost of the loop.

The recovery of this cost, however, is dependent on whether the loop is considered part of independent service called access or is the foundation of all the services that the consumer purchases. To be a service, a function is or would be demanded in its own right. Kahn and Shew believe that access is a service because "even if most customers were not interested in it in

⁵⁶ For example, Tirole states "An interesting phenomenon that may arise with complements is that one or several of the goods may be sold below marginal cost ... so as to raise the demand for other goods sufficiently." See Jean Tirole, 1988. *The Theory of Industrial Organization*, Cambridge: MIT Press.

⁵⁷ See Carl Shapiro and Hal Varian, *Information Rules: A Strategic Guide to the Network Economy*; and William Baumol, *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*.

order to place calls, many would want it if only to receive calls.”⁵⁸ Emmerson and Michaelson also state that access is a separate service and should be recovered through a flat per-line charge.⁵⁹

Gabel, on the other hand, asserts that “The local loop is a kiosk that is used to provide customers dial tone or access to the network. Dial tone is not a service; rather it is an input to the production of toll and exchange services.” Gabel’s view is that consumers want to communicate. They want to talk, or send messages or gather information. The talking and sending are the services. The consumers are not interested in buying the loop. The carrier must provide the consumer with a loop in order to sell the consumer the services that the consumer is willing to pay for.⁶⁰ Hausman, agreeing with Gabel, states that “nobody would buy a local loop just because it’s a local loop.”⁶¹

The FCC also recognizes that the loop is an input into the provision of multiple services. It states: “ ... separate telecommunications services are typically provided over shared facilities, the cost of which may be joint or common with respect to some services. The costs of local loops and their associated line cards in local switches, for example, are common with respect to interstate access service and local exchange service, because once these facilities are installed to provide one service they are able to provide the other at no additional cost.”⁶²

⁵⁸ Alfred Kahn and William Shew, “Current Issues in Telecommunications Regulation Pricing,” *Yale Journal of Regulation*, (1987), page 201.

⁵⁹ Richard Emmerson and Gener Michaelson, “Eight Common Fallacies about Telecommunications Costs and Prices,” presented at the Telestrategies Conference, 1993, pages 15-20.

⁶⁰ David Gabel, “Current Issues in the Pricing of Voice Telephone Services,” 1995, prepared on behalf of the American Association of Retired Persons, page 7.

⁶¹ Jerry Hausman, testifying on behalf of Pacific Bell, *In the Matter of Alternative Regulatory Framework for Local Exchange Carriers* PUC 87-11-033, March 13, 1992, transcript page 19126.

⁶² FCC, 1996, “Implementation of the local competition provisions in the telecommunications act of 1996,” *First Report and Order*, CC Docket No. 96-98, FCC 96-325, ¶ 678.

The New Mexico Commission in adopting a recommended decision also found that the loop is not a specific service. Rather, “The Recommended Decision concluded that, inasmuch as the loop is a cost shared by a whole host of services – including, among other, basic exchange, toll, switched access, vertical services and high frequency data services – the cost of the loop is not directly attributable to basic exchange service.”⁶³

Similarly, the Washington Commission found that the loop should not be recovered from any one service. It stated that “the cost of the local loop is not appropriately included in the incremental cost of local exchange service. The local loop facilities are required for nearly every service provided by the Company to a customer....It is a shared cost that should be recovered in rates, but no one service is responsible for that recovery.”⁶⁴

D. Subsidies and Competition

The purpose of the Telecommunications Act of 1996 is to secure lower prices for telecommunications services and ensure provision of higher quality services. To accomplish these goals, the Act seeks to promote competition and to reduce regulation.⁶⁵ While promoting competition as the catalyst of change, the act also recognizes that there was an inherent conflict between competition and the existing mechanisms for supporting service in high cost areas. Competition could erode the source of the support, and in doing so place substantial financial burdens on incumbent carriers or lead to a reduction of service in high cost areas. To mitigate against that possibility the act requires commissions to review the current universal service

⁶³ New Mexico Public Regulation Commission, 2000. The Identification of All Subsidies in the Existing Rates of Qwest Corporation, F/K/A U.S. West Communications, Inc., Pursuant to HB 400, Final Order, Utility Case No. 3325, ¶ 20.

⁶⁴ U S West Communications v. Washington Util. and Transp. Commission, Fifteenth Supplemental Order, Commission Decision and Order Rejecting Tariff Revisions; Requiring Refiling, Docket No. UT-950299, at 95 (April 11, 1996), *aff'd*, 949 P.2d 1337, 1356 (Wash. 1998).

⁶⁵ See Telecommunications Act of 1996, Pub. L. No. 104-104, Preamble, 110 Stat. 56 (1996).

mechanisms and determine how to alter these mechanisms so that they will be compatible with competition.

The conflict between competition and universal service is based on the funding mechanism for universal service and the relationship between existing cost and rates. It is generally recognized that cost of telephone in rural low-density areas is higher than the cost in urban high-density areas. This relationship is reflected in the annual loop cost studies prepared by National Exchange Carrier Association (NECA) and filed annually with the FCC. For example, the reported loop cost for Sprint-Nevada was reported as \$13.44 per month, while for SBC-Nevada, the loop cost was \$21.69 per month. Table 19 shows the cost for all of the Nevada incumbent carriers.

Table 19: Loop Cost Per-Line for Nevada ILECs

Company	Cost Per-Line	
	Annual	Per Month
Filer Mutual Telephone Company	\$236.84	\$19.74
Century Tel	\$520.71	\$43.39
Rural Telephone Company	\$1,000.64	\$83.39
Beehive Telephone Company	\$2,195.73	\$182.98
Verizon	\$289.85	\$24.15
Sprint	\$161.22	\$13.44
Churchill	\$505.07	\$42.09
Lincoln County	\$349.56	\$29.13
Moapa Valley Telephone Company	\$314.67	\$26.22
Rio Virgin Telephone Company	\$243.33	\$20.28
Humboldt Telephone	\$1,853.94	\$154.50
Citizens North	\$463.62	\$38.64
Citizens South	\$350.93	\$29.24
SBC-Nevada	\$260.32	\$21.69
Sources: NECA, October 2003 Filing		

Nevada’s loop unbundled element rates also exhibit a similar urban/rural cost relationship. For SBC-Nevada, the highest rural rate is 5.6 times higher than the lowest urban rate and for Sprint-Nevada, the highest rural rate is 32 times higher than the lowest urban rate.

Table 20: Unbundled Loop Rates For SBC and Sprint

Zone	SBC	Sprint
1	\$11.27	\$9.98
2	\$22.64	\$11.57
3	\$66.25	\$13.32
4	NA	\$17.66
5	NA	\$321.62

Retail rates are for the most part determined either on a state-wide basis, or on a value of service basis. SBC-Nevada has a state-wide basic residential service rate of \$10.75, and Sprint-Nevada has a state-wide basic residential service rate of \$10.40. Value of service pricing sets price according to a presumed value that a consumer receives for the service. In telecommunications, the consumer’s value increases as the number of other persons that can be contacted increases. Thus, under a value of service price setting standard, rates for basic service were set higher in urban areas than in rural areas.

Combining the rate structure and the cost structure, it is obvious that rates are higher than cost in the urban and lower than cost in the rural areas.⁶⁶ Providing support through rate/cost differentials is called implicit support because it occurs through the rate-making process and is not made directly apparent to either the receivers or the payers of the subsidy.

⁶⁶ Whether a subsidy is present depends on whether the cost is measured on incremental cost basis. Alternatively if the cost is the embedded cost than the cash flow from urban to rural area supports the fully distributed cost in the rural areas. The cash flow can be a subsidy, and it appears to be one when the rural costs are shown to be many times higher than the urban cost. However, a finding of the existence of an economic subsidy has not been the foundation of most universal service programs.

This type of subsidy is sustainable only in a monopoly setting. Once competitors are allowed into the market, they will have a tendency to enter the urban markets where rates are above cost. The competitors do not have to be efficient suppliers of service, where the cost of the efficient supplier would be equal to or less than the cost of the incumbent. They will be profitable as long as their costs are less than the urban rate. Entry of carriers with costs higher than the incumbent's costs is considered uneconomic entry and should be discouraged. On the other hand, carriers with costs lower than the incumbent's cost should be encouraged to enter. The latter carriers pressure the incumbents to become more efficient and to provide new and enhanced services. Consumers benefit from the reduction in prices and from the new services. However, when competitive carriers enter the market, the incumbent's profit in the urban markets is diminished, and the source of the support to rural markets evaporates. Thus, it becomes necessary to change the support mechanism.

The following tables illustrate how support for high-cost customers has been maintained through implicit support mechanisms, and how alternative support mechanisms could function. While the illustration does not contain all of the details that might affect the problems, it focuses on the major issues. Table 21 presents the current situation without considering the impact of competition on the support flows. It shows a hypothetical carrier that serves 20 customers. These customers are divided into three groups, urban business, urban residential, and rural residential. Total revenue is required to equal total cost for the carrier. This ensures that the carrier is not over or under earning. Total revenue does not have to equal total cost for each customer class, allowing low cost customers to support high cost customers. A typical rate structure is assumed with the basic business rate equal to twice the state-wide residential rate. The rural cost is assumed to be approximately 3 times higher than the urban cost. The result of

these assumptions shows the pattern of support flows that many incumbent carriers have alleged exists. Urban customers support rural customers, and more support flows from the urban business customers than from urban residential customers. Thus, the illustration shows support from urban business customers at \$52.94, and from urban residential customers at \$7.06, and rural customers receiving \$60 in support.

Table 21: Current Situation

Customer Class	Number of Customers	Local Rate	Local Revenue	Cost per Customer	Total Cost	Support
Urban Business	5	\$20.00	\$100.00	\$9.41	\$47.06	(\$52.94)
Urban Residential	12	\$10.00	\$120.00	\$9.41	\$112.94	(\$7.06)
Rural Residential	3	\$10.00	\$30.00	\$30.00	\$90.00	\$60.00
TOTAL	20		\$250.00		\$250.00	\$0.00

One solution to this scenario is to eliminate the support by setting the rate equal to the cost of service. This solution is called rate rebalancing because the rate structure is the reverse of the rate structure established according to value of service pricing. That is, under value of service pricing, the rural rates are low and the urban rates are high, while in cost based pricing, rural rates are high and the urban rates are low. The problem with rate rebalancing is that the rural rates could be driven up so high that residential customers might be driven off the network and businesses would be reluctant to operate in rural areas. Table 22 shows that rebalancing would lead to a rural residential rate that would be 3 times higher than the urban rate.

Table 22: Rate Rebalancing

Customer Class	Number of Customers	Local Rate	Local Revenue	Cost per Customer	Total Cost	Support
Urban Business	5	\$9.41	\$47.06	\$9.41	\$47.06	\$0.00
Urban Residential	12	\$9.41	\$112.94	\$9.41	\$112.94	\$0.00
Rural Residential	3	\$30.00	\$90.00	\$30.00	\$90.00	\$0.00
TOTAL	20		\$250.00		\$250.00	\$0.00

The alternative to rebalancing is to use the universal service fund to support rural service.⁶⁷

The first step is to set the price for each service equal to its cost. This will eliminate the incentive for uneconomic entry. Second, there must be a decision with regard to how to raise the support fund. One means of raising the funds is to place an equal percentage surcharge on all revenue. The percentage surcharge is paid not only by the incumbent carrier but also by all competitive carriers. Therefore, the incumbent and the competitive carrier share equally in the support of the rural high cost area. Under such a regime a competitive carrier will only be able to under price the incumbent if the competitive carrier is more efficient than the incumbent. By equalizing the support and removing the incentive for uneconomic entry, the universal service fund allows the regulatory authority to support high cost areas while allowing for competition to thrive in the low cost areas.

The equal percentage surcharge, however, has a significant impact on the relative customer class support for high cost areas. In particular, there is a shift of support away from business customers and to residential customers. This shift is illustrated by comparing Table 21 and Table 23.

Table 23: Universal Service Fund: Equal Percentage Charge

Customer Class	Number of Customers	Local Rate	Support	Customer Bill	Local Revenue	Cost per Customer	Total Cost	Support
Urban Business	5	\$9.41	\$3.09	\$12.50	\$62.50	\$9.41	\$47.06	\$15.44
Urban Residential	12	\$9.41	\$3.09	\$12.50	\$150.00	\$9.41	\$112.94	\$37.06
Rural Residential	3	\$30.00	(\$17.50)	\$12.50	\$37.50	\$30.00	\$90.00	(\$52.50)
TOTAL	20				\$250.00		\$250.00	\$0.00

When the rural customers were supported through rates, business customers provided eighty-eight percent of the support (\$52.94/ \$60.00). The switch to the universal service fund

⁶⁷ This example does not consider alternative sources of support such as revenue from vertical features, and other discretionary and competitive services. The relationship among all of these services must be integrated into any Commission decision related to the amount of universal service funds any carrier will receive.

reduces the business support percentages to twenty-nine percent (\$15.44/ \$52.50) and reduces the total support by \$7.50. The reason for this change is that, under the fund, all urban and rural residential customers are now contributing \$2.50, while in the prior implicit support setting, only urban customers were supporting the cash flow and each urban residential customer contributed 59 cents.

It is possible to establish a universal service fund that maintains the current levels of support from each customer class. However, under such a mechanism, the business class will be providing a higher per-line or percentage surcharge. The fund administrator would have to determine two surcharge rates rather than one. This change in funding would require a minor addition to the fund reporting requirements but should not be difficult to accomplish. Table 24 shows the result of maintaining the current levels of support from each customer class when establishing a fund that equates rates to costs. In this case, a competitive carrier would be require to pay the same rate per-line as the incumbent does for each business or residential line that the competitive carrier serves.

Table 24: Universal Service Fund: No Change in Bill

Customer Class	Number of Customers	Local Rate	Support	Bill	Local Revenue	Cost per Customer	Total Cost	Support
Urban Business	5	\$9.41	\$10.59	\$20.00	\$100.00	\$9.41	\$47.06	\$52.94
Urban Residential	12	\$9.41	\$0.59	\$10.00	\$120.00	\$9.41	\$112.94	\$7.06
Rural Residential	3	\$30.00	(\$20.00)	\$10.00	\$30.00	\$30.00	\$90.00	(\$60.00)
TOTAL	20				\$250.00		\$250.00	\$0.00

E. Cost Standards for the Determination of Universal Service

Three types of cost calculations can be used to determine the cost standard. These are the embedded cost of service, the total element long run incremental cost (TELRIC), or the total service long run incremental cost (TSLRIC).

The embedded cost of service is used as a basis for determining support for many rural carrier support programs. One benefit of using embedded cost is that there are consistent and agreed upon methods of determining cost. Second, supporting the embedded cost maintains the financial viability of the carrier. In addition, the carrier receives support for actual investments. A major problem with using the embedded cost, however, is that the competitive market may not support the embedded cost. Therefore, supporting embedded costs will not send the correct signal to investors to increase or decrease their level of investment, or for competitors to enter the market. A change in technology may reduce the value of the embedded plant but not the measure of the embedded cost. Therefore, carriers could be receiving payments for obsolete equipment. Moreover, from a practical point of view, while embedded cost is easily measured at the study area level, very few studies have been performed that measure embedded cost at the wire center or UNE zone level. Therefore, if embedded cost is to be the measure of support, then the first step in the process of eliminating a subsidy is to determine a method that measures embedded cost on a wire center or UNE zone basis.

TELRIC is a measure of the cost of the elements used to provide services. It is not a measure of service cost. The appropriate method for measuring TELRIC is subject to debate. Currently the FCC has an open proceeding investigating the rules that should be used to determine TELRIC.⁶⁸ Using TELRIC as a measure of the subsidy implies that the support is for the elements, that is, for the basic infrastructure, rather than for any individual service such as the basic residential service. The benefit of using TELRIC is that it measures the cost of the network that would be supported in a competitive market. Thus, it would provide the proper signal to

⁶⁸ 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.

competitors and investor with regard to their actions in the future. Moreover, TELRIC is usually measured at the UNE zone and wire center level.⁶⁹ Therefore, it is easy to compare rates to rural and urban costs when using TELRIC as the basis for support. The problem with using TELRIC is that it might be so much less than the embedded cost that its use would stress the financial health of a carrier. Small carriers that do not have a large revenue base are especially vulnerable to this problem.

TSLRIC is the incremental cost of providing a particular service. It would appear to be the appropriate measure of whether a service subsidy exists. However, as noted above, to measure TSLRIC it is necessary to separate shared costs from total cost of providing service. While it is easy to illustrate this problem, the process of separating the shared costs in a highly technical cost study is very difficult.

F. Determining support

Support is the difference between the costs or revenue and a benchmark. Universal service programs use a variety of benchmarks. These benchmarks can be based on rates, revenues, revenue requirement or costs.

A rate benchmark is a benchmark that is associated with either a pre-determined rate or an average rate in the state. For example, the Wyoming fund supports the difference between the cost of service and 130 percent of the state-wide average rate. Customers pay rate equal to the cost of service, if the cost of service is equal to or less than 130 percent of the state-wide average rate. If the cost is above 130 percent of the state-wide average then the customer's rate is capped at the 130 percent level.

⁶⁹ The graphs in Appendix C show the forward-looking cost of service at a wire center level for SBC-Nevada and Sprint-Nevada. The graphs demonstrate the pronounced differences in urban and rural costs. The data used to generate these graphs were generated by the initial run FCC's Synthesis. The results of the model run are available at <http://www.fcc.gov/wcb/tapd/hcpm/welcome.html>.

A revenue benchmark determines the average customer revenue associated with a group of services. The services could include local revenue, access charges, vertical features and the subscriber line charge. Support is measured as the difference between the average customer revenue and monthly cost of service. The Texas non-rural carrier fund uses this type of benchmark.

A revenue requirement benchmark supports the difference between the revenue requirement and revenues. In many instances the gap between revenue and revenue requirement is caused by a reduction in access charges. In Nevada, for small providers of last resort, the fund uses a revenue requirement benchmark. Maine also uses a revenue requirement benchmark.

The federal rural high-cost loop uses a benchmark equal to the national average cost per loop. However, support is not provided until a carrier's cost is greater than 115 percent of the national average. In addition, due to a cap on the size of the fund, the national average cost cannot be used to determine support. Instead, the cost standard is increased to reduce support to the capped amount. The federal forward-looking mechanism supports the difference between state average cost and 135 percent of the national average cost. Accordingly a carrier with forward-looking costs that are above 135 percent of the national average will not be supported if the state average cost is below the 135 percent benchmark. This situation can occur in states with multiple non-rural carriers.

G. Calculating the Size of the Surcharge

The surcharge is equal to the fund size divided by the contribution base, where the contribution base is intrastate retail revenue of contributing carriers. Currently the Nevada contribution base is approximately \$1.2 billion. The Nevada fund size is less than \$200,000

generating a surcharge of 0.0185 percent. If the fund size increased to \$10 million, then the surcharge would increase to .85 percent. Increases to \$20, \$30 and \$40 million would increase the surcharge to 1.7, 2.5 and 3.4 percent.

VI. Universal Service

The Telecommunications Act of 1996 directs the FCC and the state commissions to preserve and advance universal service. The basic principles of universal service include the provision of quality service at just, reasonable and affordable rates, and that access to telecommunications and information services should be made available in all regions of the nation, including low-income consumers and consumers in rural and high-cost areas.⁷⁰

The FCC manages six programs to support carriers that provide service in rural and high-cost areas, two programs that provide support to low-income individuals as well as to schools and libraries, and a rural health care program. Combined, these programs will distribute approximately \$6.8 billion to carriers, individuals and schools and libraries in 2004. Of that amount approximately \$40.3 million will be distributed in Nevada.

A. Impact of Federal Universal Service Programs on Nevada Carriers

Nevada carriers participate in all of the federal universal service support programs. Two carriers, Sprint (as known as Central Telephone) and SBC-Nevada (as known as Nevada Bell) are designated as non-rural carriers. All other Nevada carriers are designated as rural carriers. Citizens, Sprint, SBC, and Verizon are regulated as price cap carriers by the FCC, and the other carriers have remained under rate of return regulation.

⁷⁰ 47 U.S.C. § 254(b)

These designations are important because they determine which federal program a carrier may participate in. For example, price cap carriers participate in the Interstate Access program, and rate of return regulated carriers participate in the Interstate Common Line program. In addition, the forward-looking support program is limited to non-rural carriers, while, in general, the high cost loop program is reserved for rural carriers.

Nevada carriers are projected to receive approximately \$30 million in high-cost support in 2004. Rural carriers will receive \$20 million, non-rural carriers will receive \$5 million, and wireless carriers will receive \$5 million. Wireless carriers receive funding according to the FCC's portability rules. These rules allow competitive carriers, such as a wireless carrier, to receive the same support on a per-line basis as the incumbent carrier by type of program. For example, if the competitive carrier serves customers in the Century Tel service territory, then the competitive carrier will receive \$11.25 per line per month in high cost loop support.

The Nevada non-rural carriers receive support under the Interstate Access program. This program provides support for the purpose of maintaining FCC authorized Subscriber Line Charges below specified caps. Even though the Nevada carriers are in general not high-cost carriers, each carrier has high-cost areas within its study area. The carriers receive funding based on those high cost areas. For example, in its high-cost area, Sprint receives \$46 per access line. However, because this area contains very few access lines compared to Sprint's entire service area, Sprint receives only \$0.14 per-line for all its lines. In addition, because the state-wide average forward-looking cost for non-rural carriers is below the federal benchmark, Nevada does not receive any support from the FCC's forward-looking program.

The Nevada rural carriers receive support under the high cost loop, interstate access, long term support, local switching and interstate common line programs. The high cost loop and local

switching programs support intra-state rates. Under these programs, carriers transfer state cost to the interstate jurisdiction and receive federal funding for the transferred costs. The interstate access, long term support and interstate common line programs are designed to allow carriers to maintain their federally authorized subscriber line charges at the cap for those charges. The current residential and single-line business customer cap is \$6.50. Rate of return carriers with common line costs greater than \$6.50 receive funds through the long term support and interstate common line support programs. Rural price cap carriers receive funds from the interstate access program. On a monthly per-line basis, rural carrier support ranges from \$5.18 to \$200.94.

Table 25: Federal Universal Service Support to Nevada Carriers: Projected 2004 Annual Support

Study Area Name	High Cost Loop	Safety Net	Interstate Access	Long Term	Local Switching	Interstate Common Line	Total High Cost Support
Filer Mutual Telephone Company – NV	\$0	\$0	\$0	\$0	\$58,596	\$47,665	\$106,261
CenturyTel of the Gem States, Inc.	\$69,920	\$0	\$0	\$10,632	\$33,804	\$27,443	\$141,497
RURAL TEL CO – NV	\$512,273	\$0	\$0	\$144,996	\$164,184	\$254,158	\$1,076,338
Beehive Telephone Co., Inc. – NV	\$196,302	\$1,068	\$0	\$4,116	\$9,600	\$128,979	\$339,983
VERIZON CALIFORNIA INC – NV	\$0	\$0	\$2,939,547	\$0	\$2,395,392	\$0	\$5,338,020
Sprint/Central Tel. Co. – Nevada	\$0	\$0	\$1,408,947	\$0	\$0	\$0	\$1,409,508
Churchill County Tel. & Tel. System	\$1,770,847	\$201,252	\$0	\$540,660	\$1,507,356	\$827,059	\$4,838,857
Lincoln County Telephone Sys., Inc.	\$37,338	\$0	\$0	\$53,940	\$318,180	\$104,569	\$512,832
Moapa Valley Tel. Co.	\$0	\$0	\$0	\$0	\$316,212	\$159,234	\$475,446
Rio Virgin Telephone Co. Inc.	\$0	\$0	\$0	\$0	\$377,868	\$163,566	\$541,434
Humboldt Telephone Company	\$1,207,969	\$0	\$0	\$230,388	\$189,216	\$402,963	\$2,024,407
CITIZENS-NV-NORTH	\$2,307,486	\$0	\$658,548	\$0	\$1,309,224	\$0	\$4,259,291
CITIZENS-NV-SOUTH	\$40,847	\$0	\$152,406	\$0	\$288,588	\$0	\$480,047
Nevada Bell	\$0	\$0	\$3,606,438	\$0	\$0	\$0	\$3,609,888
Western Wireless	\$2,264,715	\$39,480	\$914,484	\$111,639	\$992,397	\$752,268	\$5,074,983
Source: USAC second quarter filing to the FCC							

Table 26: Federal Universal Service Support to Nevada Carriers: Projected 2004 Monthly Per-Line Support

Study Area Name	High Cost Loop	Safety Net	Interstate Access	Long Term	Local Switching	Interstate Common Line	Total High Cost Support
Filer Mutual Telephone Company – NV	\$0.00	\$0.00	\$0.00	\$0.00	\$7.11	\$5.78	\$12.89
CenturyTel of the Gem States, Inc.	\$11.25	\$0.00	\$0.00	\$1.71	\$5.44	\$4.41	\$22.76
RURAL TEL CO - NV	\$41.29	\$0.00	\$0.00	\$11.69	\$13.23	\$20.48	\$86.75
Beehive Telephone Co., Inc. - NV	\$116.02	\$0.63	\$0.00	\$2.43	\$5.67	\$76.23	\$200.94
VERIZON CALIFORNIA INC - NV	\$0.00	\$0.00	\$6.11	\$0.00	\$4.98	\$0.00	\$11.09
Sprint/Central Tel. Co. - Nevada	\$0.00	\$0.00	\$0.14	\$0.00	\$0.00	\$0.00	\$0.14
Churchill County Tel. & Tel. System	\$10.35	\$1.18	\$0.00	\$3.16	\$8.81	\$4.83	\$28.29
Lincoln County Telephone Sys., Inc.	\$1.26	\$0.00	\$0.00	\$1.83	\$10.78	\$3.54	\$17.37
Moapa Valley Tel. Co.	\$0.00	\$0.00	\$0.00	\$0.00	\$6.50	\$3.27	\$9.78
Rio Virgin Telephone Co. Inc.	\$0.00	\$0.00	\$0.00	\$0.00	\$3.61	\$1.56	\$5.18
Humboldt Telephone Company	\$93.38	\$0.00	\$0.00	\$17.81	\$14.63	\$31.15	\$156.49
CITIZENS-NV-NORTH	\$7.76	\$0.00	\$2.21	\$0.00	\$4.40	\$0.00	\$14.33
CITIZENS-NV-SOUTH	\$1.34	\$0.00	\$5.00	\$0.00	\$9.46	\$0.00	\$15.74
Nevada Bell	\$0.00	\$0.00	\$0.79	\$0.00	\$0.00	\$0.00	\$0.79
Western Wireless	\$12.20	\$0.21	\$4.93	\$0.60	\$5.34	\$4.05	\$27.33

Source: USAC second quarter filing to the FCC

B. The Current Federal-State Joint Board Investigation

On August 16, 2004, the Federal-State Joint Board on Universal Service released a public notice seeking comments “relating to the high-cost universal service mechanisms for rural carriers and the appropriate rural mechanism to succeed the five-year plan adopted in the Rural Task Force Order.”⁷¹ The key finding of the five-year plan was that the FCC would maintain the embedded cost support mechanisms for the five-year period from July 1, 2001 to June 2006.⁷² By maintaining the embedded-cost mechanisms, the FCC forestalled its initial decision to rely on forward-looking costs as the basis for universal service.⁷³

⁷¹ Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Public Notice, FCC 04J-2, rel. August 16, 2004, ¶ 1.

⁷² Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Fourteenth Report and Order, FCC 01-157, rel. May 27, 2001, ¶ 12.

⁷³ Federal-State Joint Board on Universal Service, CC Docket No. 96-45, First Report and Order, FCC 97-157, rel. May 8, 1997, ¶224.

The public notice asks for comments on three general areas: the definition of rural carriers, the current rural universal service support system, and rule 54.305 regarding the transfer of exchanges. Changes in any of these areas may have significant impacts on Nevada carriers.

The current definition of a rural carrier is based on the 4-part definition of a rural carrier in the Telecommunications Act. While the Act defines a rural carrier, it does not mandate that the FCC use that definition to determine rural carrier status for universal service purposes. In general, carriers rely on the 100,000 access line part of the definition to determine their rural/non-rural status. That is, if the carrier serves more than 100,000 lines it is a non-rural carrier. However, there are instances when carriers above 100,000 lines can self-certify as rural carriers. The Joint-Board is requesting comments on whether to retain the 4-part definition as the basis for determining rural carrier status or if an alternative definition would improve the support mechanisms. In addition, the Joint-Board is seeking comments on whether multiple study areas owned by one carrier in a state should be treated as one study area rather than the current process which treats each study area differently.

With regard to the universal support mechanism, the Joint-Board is asking whether FCC should retain the embedded cost mechanism or switch to a forward-looking cost basis for determining support. The Joint-Board is also asking parties to comment whether it should use a combination of embedded and forward-looking cost to determine support. Further, it is asking parties to comment on the best way to measure both forward-looking and embedded costs.

With regard to the calculation of support, the Joint-Board is seeking comment on whether the current benchmarks should be modified and whether the state-wide averaging policy used in the non-rural mechanism should be applied to the rural carriers. There is also a request for comment

on whether the current rate of return should be modified and whether local switching support should be based on cost rather than on the study area access line count.

Finally, the current transfer of exchange rule freezes the per-line support associated with the transferred exchanges. The acquiring carrier receives the same per-line support that the selling carrier received prior to the transfer. This rule was adopted to discourage the sale and transfer of exchanges for the purpose of increasing universal service fund payments. The Joint Board now wishes to understand more fully the cost and benefits of this rule.

C. The Nevada Universal Service Fund

The purpose of Nevada universal service fund is to ensure that rates charged for basic service do not adversely affect universal service and to provide funds to facilitate the extension of basic service to customers not currently receiving telephone service. The fund is also designed to provide money to ensure that low-income individuals and individuals in rural high-cost areas have access to telephone services. Finally, the fund will provide support to rural health care providers and schools and libraries to the extent that federal universal service funds are not available to fully support the discounts that would otherwise be available as part of the federal program.

The Nevada universal service rules establish two categories of providers. A small provider of last resort is a regulated provider of last resort that provides basic service to less than 10,000 access lines. A large provider of last resort is a regulated provider of last resort that provides basic service to 10,000 or more access lines. To obtain funding, a small provider must keep its interstate and intrastate access rates in parity, maintain basic flat rates between \$8 and \$16 for residential customers and between \$16 and \$20 for business customers, and show that its rate of return is below the Commission's authorized rate of return. A large provider may petition the

Commission to receive money from the universal service fund. In its petition, the large provider must demonstrate the need for the funds. Currently, one provider is receiving support from the Nevada fund. That provider is authorized to receive \$186,000 in 2004.

The size of the Nevada fund could be affected by a FCC proceeding. In particular, as part of its Unified Intercarrier Compensation Regime proceeding (CC Docket No. 01-92), the FCC tentatively concluded that carriers move to a bill-and-keep regime rather than receive payments from other carriers. That is, a carrier would not be able to charge another carrier access fees for the completion of an inter-exchange call. While the FCC proceeding will only be binding on interstate jurisdictional rates, the carriers will probably request the Commission to copy the federal practices for the purposes of setting intra-state rates. If the Commission adopts the bill-and-keep regime and intra-state access rates fall to zero, it will reduce intra-state revenue by \$20.5 million, of which SBC and Sprint will lose \$13 million and all other carriers will lose \$7 million. For the other carriers, the monthly per-line revenue reduction varies from \$8.84 to \$167.45. Revenue reductions of this magnitude may cause these companies to request state universal service support in the amount of \$7.1 million, as is illustrated in Table 1, below. To put this into context, the state fund is currently projected to distribute only \$186,000 to one carrier. This substantial increase, should it become necessary, will only raise the state contribution factor (the percentage payment to the fund attached to consumer's intra-state bills) from 0.0185 to 0.6 percent.

Table 27: State of Nevada Telephone Access Lines-Residential & Business as of December 31, 2003

Incumbent Telephone Companies	Total Access Lines*	Business Lines	Residential Lines	Residential Rate (Note 1)	Business Rate	State Access Revenues	State Access Revenue Per Line Per Month
Beehive Telephone Company, Inc. NV	139	38	100	13.50		\$ 37,272	22.35
SBC formerly known as Nevada Bell	373,531	133,453	240,078	10.75		\$ 7,967,000	1.78
Centurytel of the Gem State	531	199	319	5.75	8.75	\$ 123,126	19.32
Churchill County Telephone Company (non-Jurisdictional)							n/a
Filer Mutual Telephone Company (Note 2)	744	290	396	n/a		n/a	n/a
Frontier of Nevada	26,352	9,954	16,398	10.65		\$ 3,195,869	10.11
Humboldt Telephone Company	1,055	302	738	10.00	32.25	\$ 151,683	11.98
Lincoln County Telephone Company	2,474	779	1,676	11.70	16.15	\$ 1,061,823	35.77
Moapa Valley Telephone Company	4,018	1,165	2,849	12.10	16.00	\$ 426,438	8.84
Sprint-Central Telephone Company	892,368	277,807	614,561	10.40	20.75	\$ 5,239,183	0.49
Rio Virgin Telephone & Cablevision	8,138	2,449	5,689	8.86	13.43	n/a	n/a
Rural Telephone Company	1,069	189	880	16.00		\$ 2,148,089	167.45
Verizon of Nevada	42,601	12,911	28,978	10.00		n/a	n/a
State incumbent company total	1,353,020	439,536	912,662	120		\$ 20,350,483	
State Total less Sprint and SBC						\$7,144,300	
*total includes other access lines.							
Note 1-Does not include taxes or subscriber line charges.							
Note 2-Filer Mutual is not rate regulated by this Commission.							
n/a- not available							

Appendix A—List of Subcommittee Recipients

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
1	"01 COMMUNICATIONS OF NEVADA, LLC"			BAS		
2	"1-800-RECONEX, INC."			BAS	RES	
3	"360NETWORKS (USA), INC."			BAS	RES	
4	"3U TELECOM, INC."			RES		
5	ACC NATIONAL LONG DISTANCE COMPANY		"C/O AT&T COMMUNICATIONS, INC."	RES		
6	ACCESS LONG DISTANCE			AOS		
7	"ACCESS ONE, INC."			RES		
8	"ACCESS POINT, INC."		"NORTH CAROLINA ACCESS POINT, INC."	RES		
9	"ACCESS SWITCHED SERVICES, INC."			RES		
10	"ACCUTEL OF TEXAS, INC."			BAS	RES	
11	"ACCXX COMMUNICATIONS, LLC"			RES		
12	"ACERTION CONNECT, INC."			RES	BAS	
13	"ACN COMMUNICATIONS SERVICES, INC."			BAS	RES	
14	"ADELPHIA TELECOMMUNICATIONS, INC."			RES		
15	"ADVANCED TEL, INC"			RES		
16	"ADVANCED TELCOM, INC."		ADVANCED TELCOM GROUP AND ATG	BAS	RES	
17	ADVANTAGE TELELCOMMUNICATIONS CORP			RES		
18	AFFINITY NETWORK INCORPORATED		HORIZONONE COMMUNICATIONS AND QUANTUMLINK COMMUNICATIONS	RES		
19	"AIRESRING, INC."			RES		
20	"AIRLINK MOBILE, INC."			CMRS		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
21	"AIRNEX COMMUNICATIONS, INC."			RES		
22	AIRTOUCH CELLULAR - MINERAL			CMRS		
23	AIRTOUCH CELLULAR - RENO			CMRS		
24	AIRTOUCH CELLULAR - WHITE PINE			CMRS		
25	"ALL AMERICAN TELEPHONE, INC."			BAS	IXC	
26	"ALL STAR TELECOM, LLC"			RES	BAS	
27	"ALLCOM USA, INC."			BAS		
28	"ALLEGIANCE TELECOM OF NEVADA, INC."			BAS	IXC	
29	"ALLIANCE GROUP SERVICES, INC."			RES		
30	ALL-STAR ACQUISITION CORPORATION			RES		
31	"ALLTEL COMMUNICATIONS, INC."			RES		
32	"ALTAIR ENTERPRISES, INC."			RES		
33	"ALTICOMM, INC."			BAS	RES	
34	"AMERICA NET, LLC"			RES		
35	AMERICAN CYBER CORPORATION		DISCOUNT PLUS	RES		
36	AMERICAN FARM BUREAU		THE FARM BUREAU CONNECTION	RES		
37	"AMERICAN FIBER NETWORK, INC."			BAS	AOS	
38	"AMERICAN FIBER SYSTEMS, INC."			BAS	IXC	
39	"AMERICAN LONG LINES, INC."			RES		
40	AMERICAN PHONE SERVICES CORP			RES		
41	"AMERICAN TELECOMMUNICATIONS SYSTEMS, INC."			RES		
42	"AMERICAN TELEPHONE EXCHANGE, INC."			BAS	RES	
43	"AMERICAN TELNET, INC."			RES		
44	AMERICATEL CORPORATION		AMERICATEL CORPORATION DBA 10 10 123 AMERICATEL	AOS	RES	
45	"AMERICOM TECHNOLOGIES, INC."		NETWORK UTILIZATION SERVICES	RES		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
46	"AMERIVISION COMMUNICATIONS, INC."			RES		
47	"ARC NETWORKS, INC."			RES		
48	"ARCH WIRELESS OPERATING COMPANY, INC"			CMRS		
49	"ARRIVAL COMMUNICATIONS OF NEVADA, INC."			BAS	RES	
50	"ASC TELECOM, INC."		ALTERNATEL	RES		
51	"ASSOCIATED NETWORK PARTNERS, INC."			RES		
52	"ASSOCIATION ADMINISTRATORS, INC."			RES		
53	"AT&T COMMUNICATIONS OF NEVADA, INC."		(FICTITIOUS NAME) LUCKY DOG PHONE COMPANY	BAS	IXC	
54	"AT&T WIRELESS PCS, LLC"			CMRS		
55	"AT&T WIRELESS SERVICES OF NEVADA, INC"			CMRS		
56	"ATMC, INC."			AOS	RES	
57	AUTOTEL			CMRS		
58	"BAK COMMUNICATIONS, LLC"			RES	BAS	
59	"BASIC PHONE, INC."			BAS		
60	BEEHIVE TELEPHONE COMPANY		BEEHIVE TELEPHONE COMPANY INC OF NEVADA	LEC		
61	"BELL ATLANTIC COMMUNICATIONS, INC."		VERIZON LONG DISTANCE	AOS	RES	
62	"BELLSOUTH LONG DISTANCE, INC."			RES		
63	"BETTER WORLD TELECOM, INC."			RES		
64	BLACKSTONE COMMUNICATIONS COMPANY			RES		
65	BROADVIEW NP ACQUISITION CORP.			RES		
66	"BROADWING COMMUNICATIONS, LLC"			AOS	RES	

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
67	BROOKS FIBER COMMUNICATIONS OF NEVADA			BAS	CAP	
68	BT Communications Sales LLC (BTCS)					
69	"BUDGET PHONE, INC."			BAS	RES	
70	"BUEHNER-FRY, INC."		RESORT OPERATOR SVCS & DIRECT DIAL USA SVCS	RES		
71	"BULLSEYE TELECOM OF NEVADA, LLC"			BAS	RES	
72	"BUSINESS DISCOUNT PLAN, INC."			RES		
73	"BUSINESS NETWORK LONG DISTANCE, INC."			RES		
74	"BUSINESS OPTIONS, INC."			RES		
75	"BUSINESS TELECOM, INC."			AOS		
76	"BUYERS UNITED, INC."			RES		
77	BUZZ TELECOM CORP			RES		
78	"CAMARATO DISTRIBUTING, INC."			BAS		
79	"CASCADE ACCESS, LLC"			RES		
80	"CAT COMMUNICATIONS INTERNATIONAL, INC."			BAS	RES	
81	CC COMMUNICATIONS			CMRS		
82	"CCT NEVADA, INC."			BAS	AOS	IPP
83	CELLCO PARTNERSHIP		VERIZON WIRELESS	CMRS		
84	CENTRAL TELEPHONE COMPANY OF NEVADA		SPRINT OF NEVADA	LEC		
85	"CENTURYTEL LONG DISTANCE, INC."			RES	AOS	
86	"CENTURYTEL OF THE GEM STATE, INC."		CENTURYTEL	LEC		
87	Charter Communications	Yes				
88	Charter Communications	Yes				
89	Charter Communications	Yes				
90	Charter Communications	Yes				
91	Charter Communications	Yes				
92	Charter Communications	Yes				

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
93	"CHOICE TELCO, LLC"			RES		
94	CHURCHILL COUNTY BD OF COMMISSIONERS		CC COMMUNICATIONS	RES		
95	CHURCHILL COUNTY TELEPHONE			LEC		
96	"CI2, INC."			BAS		
97	"CIMCO COMMUNICATIONS, INC."			RES		
98	CINCINNATI BELL ANY DISTANCE INC.			RES	AOS	
99	CITIZENS TELECOMMUNICATIONS COMPANY		CITIZENS COMMUNICATIONS COMPANY	RES	BAS	
100	CITIZENS TELECOMMUNICATIONS COMPANY OF NEVADA		FRONTIER COMMUNICATIONS OF NEVADA	LEC		
101	"CLARICOM NETWORKS, INC."			RES		
102	CLEAR WORLD COMMUNICATIONS CORPORATION			RES		
103	"CLEARWORKS.NET, INC."			BAS	RES	
104	"CM TEL (USA), LLC"			BAS	RES	
105	CMA of Laughlin	Yes				
106	"COAST INTERNATIONAL, INC."			RES		
107	"COMCAST BUSINESS COMMUNICATIONS, INC."		COMCAST LONG DISTANCE	RES		
108	"COMDATA TELECOMMUNICATIONS SERVICES, INC."			RES		
109	"COMM SOUTH COMPANIES, INC."			BAS	RES	
110	"COMMUNICATION EXPERTS, INC."		COMMEXX	BAS	RES	
111	"COMMUNICATIONS BILLING, INC."			RES		
112	Comstock Community TV Inc.	Yes				
113	"COMTECH 21, LLC"			RES		
114	"COMTEL NETWORK, LLC"			RES		
115	CONCERT COMMUNICATIONS SALES			BAS	RES	

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
116	"CONSOLIDATED COMMUNICATIONS OPERATOR SERVICES, INC."			AOS		
117	"CONSOLIDATED TELECOM, INC."			IPP	RES	
118	CONVERGIA INC			RES		
119	"COVISTA, INC."			BAS	RES	
120	COX Communications Las Vegas	Yes	Cox Communications			
121	"COX NEVADA TELECOM, LLC"			BAS	RES	CAP
122	"CRICKET COMMUNICATIONS, INC."			RES		
123	"CRICKET COMMUNICATIONS, INC."			CMRS		
124	CTC COMMUNICATIONS CORP.			RES		
125	"CUSTOM NETWORK SOLUTIONS, INC."			RES		
126	CUSTOM TELECONNECT			AOS	IPP	
127	CYBERTEL COMMUNICATIONS CORPORATION			RES		
128	"CYPRESS COMMUNICATIONS OPERATING COMPANY, INC."			RES		
129	"DANCRIS TELECOM, LLC"			AOS	RES	
130	"DDD CALLING, INC."			RES		
131	"DIALAROUND ENTERPRISES, INC."			RES		
132	"DIALTEK, LLC"			BAS		
133	"DIAL-THRU, INC."			RES		
134	DIECA COMMUNICATIONS		COVAD COMMUNICATIONS COMPANY	RES		
135	"DPI TELECONNECT, LLC"			BAS		
136	"DSLNET COMMUNICATIONS, LLC"			BAS		
137	Eagle West Cable	Yes				
138	Eagle West Cable	Yes				
139	Eagle West Cable	Yes				
140	"EASTON TELECOM SERVICES, LLC"			BAS	RES	
141	"EASY PHONE, INC."			BAS		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
142	ECI COMMUNICATIONS		ITS NETWORK SERVICES	RES		
143	"ECONODIAL, INC."			RES		
144	"EDGE WIRELESS, LLC"			CMRS		
145	"ELECTRIC LIGHTWAVE, LLC"			BAS	RES	
146	"EMERITUS COMMUNICATIONS, INC."			RES		
147	"ENCOMPASS COMMUNICATIONS, LLC"			RES		
148	"ENHANCED COMMUNICATIONS GROUP, LLC"			RES		
149	"ENHANCED COMMUNICATIONS NETWORK, INC."			RES		
150	"ENHANCED GLOBAL CONVERGENCE SERVICES, INC."		ECGS	RES		
151	"ENTRIX TELECOM, INC."			RES		
152	"EPICUS, INC."			RES		
153	EPIXTAR COMMUNICATIONS CORP			RES		
154	"EQUAL ACCESS COMMUNICATIONS, LLC"		EQUAL ACCESS	RES		
155	"ERNEST COMMUNICATIONS, INC."			BAS	RES	
156	"ESCHELON TELECOM OF NEVADA, INC."			BAS	RES	
157	"EVERCOM SYSTEMS, INC."			IPP	AOS	
158	"EXCEL TELECOMMUNICATIONS, INC."		"EXCEL COMMUNICATIONS, INC."	CMRS		
159	"EXCEL TELECOMMUNICATIONS, INC."		"EXCEL COMMUNICATIONS, INC."	BAS	RES	
160	"EXERGY GROUP, LLC"			RES		
161	"EXTELCOM, INC."		EXPRESS TEL	AOS	RES	
162	"EZ PHONE, INC."			BAS		
163	"EZ TALK COMMUNICATIONS, LLC"			BAS	RES	
164	FILER MUTUAL TELEPHONE COMPANY			LEC		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
165	"FLORIDA TELEPHONE SERVICES, LLC"			BAS		
166	FOX COMMUNICATIONS CORPORATION			RES		
167	"FOXTEL, INC."			RES	AOS	
168	"FRONTIER COMMUNICATIONS OF AMERICA, INC."			RES		
169	"GALAXY COMMUNICATIONS, INC."			BAS		
170	"GANTEL, L.L.C."			RES	BAS	
171	"GATES COMMUNICATIONS, INC."			RES		
172	"GE BUSINESS PRODUCTIVITY SOLUTIONS, INC."		GE CAPITAL COMMUNICATIONS SERVICES	BAS	RES	
173	"GLD, GROUP LONG DISTANCE, INC."			BAS	RES	
174	GLOBAL ACCESS TELECOM & VOIP CORPORATION			RES		
175	GLOBAL COMMUNICATIONS CONSULTING CORP			RES		
176	"GLOBAL CROSSING NORTH AMERICAN NETWORKS, INC."			RES	AOS	
177	"GLOBAL CROSSING TELECOMMUNICATIONS, INC."			RES		
178	"GLOBAL CROSSING TELEMAGEMENT, INC."			BAS		
179	"GLOBAL NAPS, INC."			BAS	RES	
180	GLOBAL TEL*LINK CORPORATION			IPP	AOS	
181	"GLOBAL TOUCH TELECOM, INC."			RES		
182	"GLOBALCOM, INC."			RES		
183	"GLYPHICS COMMUNICATIONS, INC."			RES		
184	"GO SOLO TECHNOLOGIES, INC."			RES		
185	"GOLD LINE TELEMAGEMENT, INC."			RES		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
186	"GOOR/STARNET, INC."		STINGRAY COMMUNICATIONS	BAS	RES	
187	"GRANITE TELECOMMUNICATIONS, LLC"			BAS	RES	
188	"GREAT AMERICA NETWORKS, INC."			RES		
189	GTC TELECOM CORP			BAS	IXC	
190	HFU TV	Yes				
191	"HORIZON TELECOM, INC."			RES		
192	"ICG TELECOM GROUP, INC."			RES	BAS	
193	IDT AMERICA CORPORATION			BAS	RES	
194	I-LINK COMMUNICATIONS		"FAMILY TELECOM, INC."	RES		
195	IMPULSE TELECOM CORPORATION			BAS	RES	
196	"INFINISYS OF NEVADA, INC."			RES		
197	INFONE LLC			RES		
198	INFONET TELECOMMUNICATIONS CORPORATION			RES		
199	"INMATE CALLING SOLUTIONS, LLC"			IPP	RES	
200	INMATE COMMUNICATIONS CORPORATION			IPP	RES	
201	INTEGRATED COMMUNICATIONS CONSULTANTS CORPORATION			BAS	RES	
202	"INTELLICALL OPERATOR SERVICES, INC."		ILD	RES	AOS	
203	"INTERCOMM, INC."			BAS	RES	
204	"INTERCONTINENTAL COMMUNICATIONS GROUP, INC."		FUSION TELECOM D/B/A FUSION-TRUCKER PHONE	RES	AOS	
205	"INTERMEDIA COMMUNICATIONS, INC."			BAS	RES	
206	"INTERNATIONAL TELCOM, LTD."		ITL	RES	BAS	
207	"INTER-TEL NETSOLUTIONS, INC."			RES		
208	"INTRADO COMMUNICATIONS, INC."			BAS	RES	
209	IONEX COMMUNICATIONS SOUTH			BAS	RES	

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
210	"ITC^DELTACOM COMMUNICATIONS, INC."		ITC^DELTACOM	AOS		
211	Jackpot Antenna-Vison Inc	Yes				
212	"JIREHCOM, INC."			RES		
213	"KDD AMERICA, INC."			RES		
214	"KIGER TELEPHONE & TELEPHONY, LLC"			RES		
215	"KMC DATA, LLC"			BAS	RES	
216	"KMC TELECOM III, LLC"			BAS	RES	
217	"KMC TELECOM V, INC."			RES		
218	"LAS VEGAS TELEPHONE, INC."			BAS	AOS	IPP
219	"LDMI TELECOMMUNICATIONS, INC."		LDMI TELECOMMUNICATIONS AND FONETEL	RES		
220	"LEAST COST ROUTING, INC."		"LONG DISTANCE CHARGES, INC."	RES		
221	"LEGACY LONG DISTANCE INTERNATIONAL, INC."			AOS	RES	
222	LEGACY TELECOMMUNICATIONS CORP			RES		
223	"LEVEL 3 COMMUNICATIONS, LLC"			RES	BAS	
224	"LIBERTY TELECOM, LLC"			BAS		
225	"LIGHTYEAR COMMUNICATIONS, INC"			BAS	RES	
226	"LIGHTYEAR TELECOMMUNICATIONS, LLC"			RES		
227	LINCOLN COUNTY TELEPHONE SYSTEM			LEC		
228	"LOCAL TELECOM HOLDINGS, LLC"			RES		
229	LOCUS CORPORATION			RES		
230	LOCUS CORPORATION			CMRS		
231	"LONG DISTANCE BILLING SERVICES, INC."			RES		
232	LONG DISTANCE CONSOLIDATED BILLING CO			RES		
233	LONG DISTANCE WHOLESALE CLUB			RES		
234	Lovelock Cable TV	Yes				
235	LXCI LIMITED			BAS	IXC	

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
236	MAIN STREET TELEPHONE COMPANY			RES		
237	Mallard Cablevision	Yes				
238	"MATRIX TELECOM, INC."			RES		
239	"MAX-TEL COMMUNICATIONS, INC."			BAS		
240	"MCGRAW COMMUNICATIONS, INC."			RES		
241	"MCI WORLDCOM COMMUNICATIONS, INC."			RES	AOS	BAS
242	"MCI WORLDCOM NETWORK SERVICES, INC."			RES		
243	"MCIMETRO ACCESS TRANSMISSION SERVICES, LLC"			BAS		
244	"MCLEODUSA TELECOMMUNICATIONS SERVICES, INC."			AOS	BAS	RES
245	"MERCURY LONG DISTANCE, INC."			RES		
246	"METROCALL, INC."			CMRS		
247	"METROMEDIA FIBER NETWORK SERVICES, INC."			BAS	RES	
248	"METROPOLITAN TELECOMMUNICATIONS, INC."			BAS	IXC	
249	"MG, LLC"		SEARSCONNECT	CMRS		
250	"MIKO TELEPHONE COMMUNICATIONS, INC."			RES		
251	MOAPA VALLEY TELEPHONE COMPANY			LEC		
252	MOBILE TELECOMMUNICATIONS TECHNOLOGY CORPORATION		SKYTEL	CMRS		
253	"MOHAVE COOPERATIVE SERVICES, INC."			BAS		
254	MOTION TELECOM INC			RES		
255	"MOVING BYTES, INC."			RES		
256	MPOWER COMMUNICATIONS CORP			RES	BAS	
257	"NATEL, L.L.C."			RES		
258	"NATIONAL ACCESS LONG DISTANCE, INC."			RES		
259	"NATIONAL ACCOUNTS, INC."			RES		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
260	"NATIONAL BRANDS, INC."		SHARENET COMMUNICATIONS COMPANY	AOS		
261	"NATIONAL COMTEL NETWORK, INC."			BAS	RES	
262	"NATIONAL DIRECTORY ASSISTANCE, LLC"			RES		
263	"NATIONS BELL, INC."		NATIONS TEL	AOS	RES	IPP
264	"NECC TELECOM, INC."			RES		
265	Nellis Cable TV	Yes				
266	"NET ONE INTERNATIONAL, INC."			RES		
267	"NETLOJIX TELECOM, INC."			RES		
268	"NETWORK BILLING SYSTEMS, LLC"			RES		
269	"NETWORK COMMUNICATIONS INTERNATIONAL, INC."			AOS	IPP	
270	NETWORK ENHANCED TECHNOLOGIES			RES		
271	NETWORK MULTI-FAMILY SECURITY CORPORATION		PRIORITY LINK	BAS	RES	
272	"NETWORK OPERATOR SERVICES, INC."			AOS		
273	"NETWORK PTS, INC."			AOS		
274	"NETWORK US, INC."		CA AFFINITY	RES		
275	"NETWORKIP, LLC"			RES		
276	NEVADA BELL TELEPHONE COMPANY		SBC NEVADA	LEC		
277	"NEVADA TELEPHONE, INC."			BAS	AOS	IPP
278	"NEVADA WIRELESS, LLC"			CMRS		
279	"NEVTEL COMMUNICATIONS, INC."		NEVTEL	BAS	RES	
280	"NEW ACCESS COMMUNICATIONS, LLC"			BAS	RES	
281	"NEW CENTURY TELECOM, INC."			RES		
282	"NEW EDGE NETWORK, INC."		NEW EDGE NETWORKS	BAS		
283	NEW ROCHELLE TELEPHONE CORP.			BAS	RES	
284	"NEXTEL OF CALIFORNIA, INC."		NEXTEL COMMUNICATIONS	CMRS		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
285	"NOBELTEL, LLC"			RES		
286	"NORLIGHT, INC."			RES		
287	"NORSTAN NETWORK SERVICES, INC."			RES		
288	"NORTH AMERICAN TELEPHONE NETWORK, LLC"			AOS		
289	NORTHWEST NEVADA TELCO		NWNT AND NNT	RES		
290	"NORVEGENCE, INC."			RES	BAS	
291	"NOS COMMUNICATIONS, INC."		"011 COMMUNICATIONS, INTERNATIONAL PLUS, INTERNET BUSINESS ASSOCIATION AND IVANTAGE NETWORK SOLUTIONS"	BAS	RES	
292	NOSVA LIMITED PARTNERSHIP		CIERRACOM SYSTEMS	RES		
293	"NOW COMMUNICATIONS, INC."			BAS	RES	
294	"NTERA, INC."			BAS	RES	
295	"NUI TELECOM, INC."			RES		
296	NYNEX LONG DISTANCE COMPANY		VERIZON ENTERPRISE SOLUTIONS	RES		
297	"OCMC, INC."		ONE CALL AND OPTICOM	AOS		
298	"OLS, INC."			RES		
299	"OMNIPOINT COMMUNICATIONS, INC."		T-MOBILE	CMRS		
300	OPERATOR SERVICE COMPANY			AOS		
301	"OPEX COMMUNICATIONS, INC."			RES		
302	OPTICAL TELEPHONE CORPORATION			RES		
303	"OREGON-IDAHO UTILITIES, INC."		HUMBOLDT TELEPHONE COMPANY	LEC		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
304	"PACIFIC BELL WIRELESS, LLC"		"NEVADA BELL WIRELESS, CINGULAR WIRELESS"	CMRS		
305	"PACIFIC CENTREX SERVICES, INC."			BAS	IXC	
306	"PAC-WEST TELECOMM, INC."		AMERICALL	BAS	AOS	
307	"PAETEC COMMUNICATIONS, INC."			BAS	RES	
308	"PARAMOUNT INTERNATIONAL TELECOMMUNICATIONS, INC."			AOS		
309	"PHONETEC PCS, LLC"			CMRS		
310	"PNG TELECOMMUNICATIONS, INC."			RES		
311	"POWER-FINDER WEST COMMUNICATIONS, LLC"			RES		
312	"POWERNET, INC."			BAS	RES	
313	Precis Communications	Yes				
314	"PREFERRED CARRIER SERVICES, INC."			BAS	RES	
315	PREFERRED LONG DISTANCE			BAS	RES	
316	"PREMIER GLOBAL TELECOM, INC."			RES		
317	"PREMIERE NETWORK SERVICES, INC."			BAS	RES	
318	"PRE-PAID PHONES, LTD"			BAS	RES	
319	"PRIMETIME COMMUNICATIONS, INC."			RES		
320	"PRIMUS TELECOMMUNICATIONS, INC."			RES		
321	"PROCELL, INC."		PROCELL ELECTRONICS	BAS	RES	
322	"PROMISEVISION TECHNOLOGY, INC."			RES		
323	"PROTEL ADVANTAGE, INC."		LONG DISTANCE SAVINGS	RES		
324	"PT-1 COMMUNICATIONS, INC."			RES		
325	"PT-1 LONG DISTANCE, INC."			RES		
326	"QAI, INC."		LONG DISTANCE BILLING	RES		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
327	Quadravision	Yes				
328	"QUALITY TELEPHONE, INC."			BAS		
329	"QUANTUMSHIFT COMMUNICATIONS, INC."			BAS	RES	
330	QUASAR COMMUNICATIONS CORPORATION			RES		
331	QWEST COMMUNICATIONS CORPORATION			BAS	AOS	RES
332	"QWEST INTERPRISE AMERICA, INC."			BAS	RES	
333	"QX TELECOM, LLC"			RES		
334	"RADIANT TELECOM, INC."			RES		
335	Rainbow Cable	Yes				
336	"RBM COMMUNICATIONS, INC."			BAS	RES	
337	"RCN TELECOM SERVICES, INC."			RES	AOS	BAS
338	"REDUCED RATE LONG DISTANCE, LLC"			RES		
339	RENO CELLULAR TELEPHONE COMPANY			CMRS		
340	"RENO COMMUNICATIONS, INC."			CMRS		
341	"RESORT NETWORK SERVICES, LLC"			AOS	RES	
342	"RIDLEY TELEPHONE COMPANY, LLC"			RES		
343	RIO VIRGIN TELEPHONE COMPANY			LEC		
344	"RRV ENTERPRISES, INC."		CONSUMER ACCESS	RES		
345	RURAL TELEPHONE COMPANY			LEC		
346	SACRAMENTO VALLEY LTD PARTNERSHIP		VERIZON WIRELESS	CMRS		
347	"SATELLINK PAGING, LLC"			RES		
348	"SBC ADVANCED SOLUTIONS, INC."			BAS	RES	
349	"SBC TELECOM, INC."			BAS		
350	"SERVISENSE.COM, INC."			BAS	RES	
351	"SHARED COMMUNICATIONS SERVICE, INC."			BAS	RES	
352	SIERRA PACIFIC COMMUNICATIONS			BAS		
353	"SINGLE BILLING SERVICE, INC."		ASIAN AMERICAN ASSOCIATION	RES		
354	"SMART CITY NETWORKS, LP"			BAS	RES	
355	"SMART.CONNECT, LLC"			BAS	RES	

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
356	"SMARTALK TELESERVICES, INC."		EN ROUTE	CMRS		
357	"SMARTSTOP, INC."			RES		
358	"SOUTHERN TELCOM NETWORK, INC."			BAS	RES	
359	SOUTHWESTCO WIRELESS LIMITED PARTNERSHIP		VERIZON WIRELESS	CMRS		
360	"SOUTHWESTERN BELL COMMUNICATIONS SERVICES, INC."		"AMERITECH, SBC LONG DISTANCE ET AL"	BAS	RES	
361	"SPRINT COMMUNICATIONS COMPANY, LP"			IXC	IPP	
362	Sprint Corp.	Yes	Sprint Broadband Wireless Group			
363	"SPRINT PAYPHONE SERVICES, INC."			RES		
364	"SPRINT SPECTRUM, LP"		SPRINT PCS	CMRS		
365	"STAR NUMBER, INC."		LIBERTY WIRELESS	CMRS		
366	"STARPOWER COMMUNICATIONS, LLC"			RES		
367	STARTEC GLOBAL LICENSING COMPANY			RES		
368	"STONEBRIDGE COMMUNICATIONS, INC."			BAS	RES	
369	"TALK AMERICA, INC."			BAS	AOS	RES
370	"TCAST COMMUNICATIONS, INC."			RES		
371	"TDI COMMUNICATIONS, INC."			RES		
372	"TELCO PARTNERS, INC."			RES		
373	"TELECARE, INC."			RES		
374	"TELECENTS COMMUNICATIONS, INC."			BAS	RES	
375	TELECOMEZ CORP			RES		
376	"TELECOMMUNICATIONS OF NEVADA, INC."		"XO COMMUNICATIONS, LLC"	BAS	RES	
377	"TELECOMMUNICATIONS RESOURCES, INC."			RES		
378	TELECONNECT LONG DISTANCE SERVICE & SYSTEMS			AOS	RES	
379	"TELEDATA SOLUTIONS, INC."			BAS	RES	
380	TELEFYNE INCORPORATED			RES		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
381	TELEGLOBE AMERICA INC.			RES		
382	"TELEMANAGEMENT SERVICES, INC."		TSI	RES		
383	"TELENATIONAL COMMUNICATIONS, INC."			RES		
384	"TELEPHONE RESTORATION NETWORK, INC."		TELNET	BAS		
385	"TELESERVE COMMUNICATIONS, INC."			RES		
386	"TELIGENT SERVICES, INC."			BAS		
387	TELLISS LLC			RES		
388	"TELMEX USA, LLC"			RES		
389	TELRITE CORPORATION			RES		
390	"TELSCAPE COMMUNICATIONS, INC."			RES	BAS	
391	TEL-WEST COMPANIES		HASSLE FREE PHONE	BAS	IXC	
392	TELXAR			BAS		
393	TIME WARNER TELECOM OF NEVADA			BAS	IXC	
394	"T-NETIX TELECOMMUNICATIONS SERVICES, INC."			IPP		
395	"T-NETIX, INC."			IPP	RES	
396	"TON SERVICES, INC."			RES		
397	"TOUCH 1 COMMUNICATIONS, INC."			RES		
398	"TOUCH AMERICA, INC."			RES		
399	"TOUCHTONE COMMUNICATIONS, INC."			RES		
400	"TRALEE TELEPHONE COMPANY, LLC"			RES		
401	"TRANS NATIONAL COMMUNICATIONS INTERNATIONAL, INC."			RES		
402	"TRANSCOMMUNICATIONS, INC."			RES		
403	"TRANSNET CONNECT, INC."			RES		
404	"TRANSWORLD NETWORK, CORP."			RES		
405	"TRI-M COMMUNICATIONS, INC."		TMC COMMUNICATIONS	BAS	RES	
406	"TTI NATIONAL, INC."			RES		
407	"U S SOUTH COMMUNICATIONS, INC."		US SOUTH INCOMM (USS)	RES		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
408	United Cable Management	Yes	United Cable Management			
409	"UNITED COMMUNICATIONS HUB, INC."			BAS	IXC	
410	"UNITED STATES ADVANCED NETWORK, INC."			RES		
411	United States Gypsum Company	Yes	United States Gypsum Company			
412	"UNITED STATES TELECOMMUNICATIONS, INC."		TEL COM PLUS	BAS		
413	"UNITED SYSTEMS ACCESS TELECOM, INC."			RES		
414	"UNITY COMMUNICATIONS, INC."			RES		
415	"UNIVANCE TELECOMMUNICATIONS, INC."			RES		
416	"UNIVERSAL ACCESS, INC."			BAS	RES	
417	"UNIVERSAL TELECOM, INC."			BAS		
418	US LEC COMMUNICATIONS			RES		
419	"US TELECOM LONG DISTANCE, INC."			RES		
420	TELEPACIFIC CORP (NEVADA)			BAS	AOS	
421	"US TELESIS, INC."			BAS	RES	
422	"USA DIGITAL COMMUNICATIONS, INC."			RES		
423	"USA TELECOM, INC."			BAS		
424	"USLD COMMUNICATIONS, INC."			RES	AOS	BAS
425	"V&V, INC."		THE LOCAL CONNECTION	BAS	RES	
426	"VALUE- ADDED COMMUNICATIONS, INC."			IPP		
427	"VARTEC TELECOM, INC."		VARTEC TELECOM / CLEAR CHOICE COMMUNICATIONS	CMRS		
428	"VARTEC TELECOM, INC."		VARTEC TELECOM / CLEAR CHOICE COMMUNICATIONS	RES	BAS	
429	"VERIZON CALIFORNIA, INC."		VERIZON NEVADA	LEC		
430	"VERIZON SELECT SERVICES, INC."			AOS	IPP	RES

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
431	"VERIZON WIRELESS MESSAGING SERVICES, LLC"		VERIZON WIRELESS	CMRS		
432	"VIRGIN MOBILE USA, LLC"			CMRS		
433	VIRTUAL HIPSTER			BAS	RES	
434	"VYCERA COMMUNICATIONS, INC."			BAS	RES	
435	"W2COM INTERNATIONAL, LLC"			RES		
436	WDT WORLD DISCOUNT TELECOMMUNICATIONS COMPANY			RES		
437	WEBNET COMMUNICATIONS			RES		
438	WESTERN CLEC CORPORATION			RES	BAS	
439	"WHOLESALE CARRIER SERVICES, INC."			AOS	RES	
440	"WILLIAMS COMMUNICATIONS, LLC"			RES	AOS	
441	"WILLIAMS LOCAL NETWORK, LLC"			BAS		
442	"WORKING ASSETS FUNDING SERVICE, INC."		WORKING ASSETS LONG DISTANCE	RES		
443	"WORLD COMMUNICATIONS SATELLITE SYSTEMS, INC."			RES		
444	"WORLDNET COMMUNICATIONS OF NEW YORK, INC."			RES		
445	WORLDXCHANGE CORP		"ACCERIS COMM PARTNERS, ACCERIS COMM SOLUTIONS"	RES		
446	WORLDXCHANGE CORP		"ACCERIS COMM PARTNERS, ACCERIS COMM SOLUTIONS"	RES		
447	"WPTI TELECOM, LLC"			RES		
448	"WUE, INC."			CMRS		
449	"WWC LICENSE, LLC"			RES		
450	"WWC LICENSE, LLC"			CMRS		
451	"X2COMM, INC."		DC COMMUNICATIONS	RES		

Company Code	Name	Cable Indicator	DBA:	Nevada Authorized Service Provider Designation 1	Nevada Authorized Service Provider Designation 2	Nevada Authorized Service Provider Designation 3
452	"XSPEDIUS MANAGEMENT CO OF LAS VEGAS, LLC"			BAS	RES	
453	"XSPEDIUS MANAGEMENT CO. SWITCHED SERVICES, LLC"			BAS	RES	
454	XTENSION SERVICES INC.			RES		
455	"YAK COMMUNICATIONS (AMERICA), INC"			RES		
456	"ZENEX LONG DISTANCE, INC."			RES		
457	"ZONE TELECOM, INC."			RES		
458	"Z-TEL COMMUNICATIONS, INC."			BAS	RES	
459	Cingular Wireless					

KEY TO AUTHORITY ABBREVIATIONS	
AOS	ALTERNATIVE OPERATOR SERVICE PROVIDER
BAS	COMPETITIVE PROVIDER OF BASIC EXCHANGE SERVICE (FACILITIES - BASED OR RESALE)
CAP	COMPETITIVE ACCESS PROVIDER
CMRS	COMMERCIAL MOBILE RADIO SERVICE (CELLULAR, PERSONAL COMMUNICATIONS SERVICE)
IPP	PROVIDER OF INMATE COMMUNICATION SERVICE
IXC	FACILITIES - BASED INTEREXCHANGE TOLL CARRIER
LEC	LOCAL EXCHANGE COMPANY (INCUMBENT) OR CARRIER OF LAST RESORT
MOB	MOBILE TELEPHONE
RES	COMPETITIVE PROVIDER OF INTEREXCHANGE TOLL SERVICE

Appendix B—Survey Questionnaire

D. Letter From Assemblyman David R. Parks, Chair

DAVID R. PARKS
ASSEMBLYMAN
District No. 41



COMMITTEES:
Chairman
Taxation
Member
Commerce and Labor
Ways and Means

State of Nevada
Assembly
Seventy-Second Session

RESIDENCE:
1700 Gabriel Drive
Las Vegas, Nevada 89119-6286
Voice: (702) 736-8929
Fax No.: (702) 736-3922

LEGISLATIVE BUILDING:
401 S. Carson Street
Carson City, Nevada 89701-4747
Office: (775) 684-8821
Fax No.: (775) 684-8874

February 3, 2004

To Whom it May Concern:

As Chairman, and on the behalf of the members of the Legislative Commission's Subcommittee to Study Telecommunication Services in Nevada (Assembly Concurrent Resolution No. 2 of the 20th Special Session), I am writing to request your assistance in the collection of information from your company that pertains to telecommunications in Nevada.

With the passage of Assembly Concurrent Resolution No. 2, the Legislature acknowledged that the efficient development and availability of telecommunication services will not only allow Nevada to provide affordable access to all consumers, but will also enable Nevada to succeed in the new global marketplace.

The information gathered by Dr. Robert Loube and Mr. Scott Kennedy will assure that, as legislators, we can make effective and informed policy decisions for the future of the State of Nevada and its citizens.

If you have any questions, or need any further information concerning this request, I can be contacted at the number listed above. Thank you for your attention to and consideration of this request.

Best Regards,

A handwritten signature in black ink, appearing to read "David R. Parks".

Assemblyman David R. Parks
Chairman, Legislative Commission's
Subcommittee to Study Telecommunication
Services in Nevada

DCT/rb:L09 Telecommunication

E. Consultant Letter Explaining Purpose of Survey

To Whom It May Concern:

As Chairman Parks has mentioned in his cover letter, the enclosed data requests have been designed to assist the members of the Telecommunications Subcommittee in their investigation into the current state of telecommunications service provision and availability in Nevada. The data provided by your company will assist the Subcommittee in gaining a better understanding of

the following issues it has been directed to address: 1) The projected competitive trends in telecommunications services for the state's northern and southern regional markets; 2) The pricing trends to various customer classes of telecommunications services since October 1, 1999; and, 3) The feasibility of deploying affordable broadband services to all classes of consumers.

The knowledge gained from this exercise will enable the Subcommittee to provide an informed report to Nevada's Legislative body concerning the varied policy options that may be worth considering as means for strengthening and enhancing the extent and types of telecommunications services available to the citizens of Nevada.

According to Assembly Concurrent Resolution No. 2, the Subcommittee must complete its investigation and issue its report by September 1, 2004. Given this relatively compressed timeline, your understanding and cooperation in providing the data requested by March 31, 2004 would be greatly appreciated.

To protect information that your company claims is confidential or highly confidential, Attachment A sets forth the procedures for handling confidential information.

For your convenience, an MS Excel workbook containing tabs corresponding to the data tables presented in this data request has been prepared and is available for downloading at <http://www.leg.state.nv.us/lcb/research/Telecom.cfm>. Please utilize this file in supplying information to the Legislative Subcommittee's Advisors. Please input data into the tabs that are appropriate for your company the services it provides and Fedex or mail an electronic copy of the spreadsheet on CD or floppy diskette to:

Scott K. Kennedy
809 Ryan Road
Florence, MA 01062
smkkennedy@comcast.net
413-582-6877— work phone

Thank You In Advance For Your Cooperation

F. Proprietary Agreement Concerning the Submission of Confidential Data

PROTECTIVE AGREEMENT

WHEREAS, Assembly Concurrent Resolution No. 2 ("ACR 2) was adopted by the Nevada State Legislature on July 22, 2003; and

WHEREAS, ACR 2 directed the Nevada State Legislative Commission to appoint an interim committee to conduct a study of telecommunication services in the state of Nevada; and

WHEREAS, the Subcommittee to Study Telecommunication Services in Nevada ("Subcommittee") was formed to carry out the investigation mandated in ACR 2; and

WHEREAS, Dr. Robert Loube and Mr. Scott K. Kennedy (hereafter “Consultants”) have been contracted to gather information and prepare a report to the Subcommittee in conjunction with ACR 2; and

WHEREAS, _____ (hereafter “Company”) has been issued data requests in order to assist the Consultants in preparing their report to the Subcommittee; and

WHEREAS, the Company claims that some portion of the information requested is confidential, proprietary and/or privileged in nature; and

WHEREAS, this Protective Agreement is being executed in order to expedite acquisition of the information by the Consultants to establish the parameters for use, treatment and maintenance of such information or material.

NOW, THEREFORE, the parties to this Protective Agreement agree as follows:

1. The Company shall provide the information requested by the Consultants, which the Company claims to be confidential, proprietary and/or privileged.

2. All documents and information furnished subject to the terms of this Protective Agreement shall be clearly stamped “Confidential” and shall hereinafter be referred to as “Protected Materials.” All Protected Materials shall be accepted, maintained and utilized in conformance with the provisions of this Protective Agreement. Protected Material shall also include any handwritten notes or computer files which summarize all or portions of Protected Material or otherwise disclose the substance of such materials.

3. It is specifically agreed and understood that Protected Material shall not include any information or documents, which at any prior time have been disclosed by the utility or any other party who may have been in lawful possession of such material without the benefit of a written confidentiality agreement or other protective agreement or device.

4. It is specifically agreed that unless otherwise agreed to by the parties, all documents and other materials or portions thereof that have been designated as Protected Materials pursuant to the terms of this Agreement shall only be used in accordance with the terms of this Agreement.

5. Protected Materials shall only be disclosed to and used by the Consultants in the preparation of their report to the Subcommittee. Such Protected Materials shall not be included in any public files or records submitted to the Subcommittee, whether in print or electronic format. Protected Materials shall not be photocopied or otherwise duplicated except for the express purpose of exchanging said information between the Consultants themselves.

6. By providing documents or information pursuant to this Agreement, the Company retains, in all respects, every privilege and claim to confidentiality they heretofore have had and hereafter may have with respect to such documents or information. Such limited provision of the Protected Materials shall not be deemed in any way to constitute either (a) disclosure of the Protected Materials or (b) full or partial waiver of any claim or privilege as to the subject matter of the documents in this or any other proceedings or action.

7. After completion of the Consultants' work for the Subcommittee in ACR 2, this Protective Agreement shall continue to be binding upon all parties and all persons to whom the Protected Materials have been disclosed or communicated pursuant to this Protective Agreement. Any documents, notes, workpapers, computer files, etc., containing any Protected Materials shall be destroyed or returned to the Company. The Consultants shall notify the Company thereof in writing.

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//

8. This Protective Agreement embodies the full agreement by and between the parties.

Dated: _____ By: _____
Scott K. Kennedy
Telecommunications Specialist

Dated: _____ By: _____
Dr. Robert Loube
Director, Economic Research
Rhoads & Sinon, LLC

Dated: _____ By: _____
(Company Representative)

G. Survey Questionnaire

**NEVADA STATE LEGISLATIVE SUBCOMMITTEE
2004 REPORT PURSUANT TO ASSEMBLY CONCURRENT RESOLUTION No. 2
INTERIM STUDY OF TELECOMMUNICATIONS SERVICES IN THE STATE OF NEVADA
REPORT DATA REQUEST - Filing Date: March 31, 2004**

Company Name:

Nevada Company ID Code:⁷⁴

Parent/Holding Company:⁷⁵

Parent Company ID Code:⁷⁶

Contact Person:
Contact Phone #:
Contact E-Mail Address:
Company Name In Last Filing:

Who Must File:

All providers of telecommunications and/or data services within the state of Nevada must respond to the data requests contained herein. Companies that are authorized to provide service, but that do not currently offer local exchange or broadband service within the state of Nevada may file a letter to that effect. COMPANIES AND THEIR AFFILIATES SHOULD EACH SUBMIT SEPARATE FORMS.

When to File:

Due on or before March 31, 2004. For Charts 1-5 and 8, reporting carriers must submit data as of December 31, 2003. For Charts 6 and 7, carriers must report data for the twelve-month period ending December 31 for each of the years appearing in the table.

Where to File:

⁷⁴ This is the CPN number issued by the Commission, fill in only if applicable.

⁷⁵ Fill in only if applicable.

⁷⁶ Fill in only if applicable.

Scott K. Kennedy
809 Ryan Road
Florence, MA 01062
smkkennedy@comcast.net
413-582-6877— work phone

Filing Public Information:

Scott K. Kennedy
809 Ryan Road
Florence, MA 01062
smkkennedy@comcast.net
413-582-6877— work phone

Filing Confidential Information:

Scott K. Kennedy
809 Ryan Road
Florence, MA 01062
smkkennedy@comcast.net
413-582-6877— work phone.

Public Access to the Report:

The Legislative Subcommittee Report generated from the data requests contained herein will be available for public inspection and comment. Data provided will be aggregated in a manner designed to ensure the confidentiality of individual carrier information.

Definitions:

Access Lines - lines used to connect an end-user to the public switched telephone network (PSTN), and which allow the end-user to place and receive local calls to and from any other user on the PSTN. (For example, R1, B1, PBX-type (Centrex or Plexar) per end user line, or other wireless technology). Often referred to as Plain Old Telephone Service (POTS). Includes: Counts of access "lines" should include POTS services provided using fixed wireless, cable-coaxial, or other technologies, traditional analog POTS lines, POTS lines provided over Centrex extensions or trunks, and POTS provisioned over high-capacity circuits. Counts should include voice-grade equivalent (VGE) lines (or wireless channels), which are lines or channels that directly connect an end user to a carrier and allow the end user to originate and terminate local telephone calls on the PSTN. VGE lines include high capacity lines that are channelized to provide voice grade service. Include revenue producing lines only.

Broadband Internet Access Lines - Lines or wireless channels used to connect an end-user to an Internet service provider or to a public data network. Include: only those lines and wireless channels that allow the end user transmission speeds of at least 200 kbps in at least one direction. Counts of broadband Internet access lines should include services provided using fixed wireless, cable-coaxial, satellite, or other technologies. Include revenue producing lines only. An entity is considered a "broadband provider" if it provides broadband services over facilities that it owns or provisions/equips as broadband; this includes entities that provide broadband services over their own "local loop" facilities connecting to end users, or over unbundled network elements (UNEs), special access lines, and other leased lines and wireless channels obtained from other entities.

Exchange - Incumbent local exchange carrier (ILEC) service area, as identified in the ILECs' Nevada tariffs.

Municipality - Pursuant to Nevada Revised Statute (NRS) 267.485 a city, incorporated village, or town, existing, created, or organized under the general, home rule, or special laws of the state.

UNE-L - Provisioning by carriers through a combination of leased unbundled network elements (UNEs) and the carrier's own facilities.

UNE-P - Provisioning by carriers through the purchase of an unbundled network element platform (UNE-P), without use of the carrier's own facilities.

Instructions:

For your convenience, an Excel workbook containing tabs corresponding to the data tables presented in this data request has been prepared and is available for downloading at <http://www.leg.state.nv.us/lcb/research/Telecom.cfm>. Please utilize this file in supplying information to the Legislative Subcommittee's Advisors. Please input data into the tabs that are appropriate for your company and the services it provides and FedEx or mail an electronic copy of the spreadsheet on CD or floppy diskette to:

Scott K. Kennedy
809 Ryan Road
Florence, MA 01062
smkkennedy@comcast.net
413-582-6877— work phone

Instructions for ILECs, CLECs, and RBOCs: When responding, please list all of the wire centers where you provide service by the 8 character ILEC CLLI code of the wire centers where your customers are located. If, for the requested reporting period, you did not provide the service in an exchange, please do not list that exchange.

Instructions for Cable Companies: When responding, If it is at all possible, please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside. If this is not possible, please provide this information by the billing zip code of the customer(s) to whom you are providing service. If possible please include an estimate of the percentage area of the 8 character ILEC CLLI code or zip code territory covered by your service offering.

Instructions for Wireless Service Providers; Commercial Mobile Radio Service (CMRS) and Mobile Telephone (MOB) Companies: For voice customers and broadband customers, please provide the data requested by the 8 character CLLI code designation for the ILEC wire center containing the NPA/NXX number assigned to the customer(s) to whom you are providing service. If this is not possible, please provide the data requested by the billing zip code of the customer(s) to whom you are providing service.

TABLE 1 - DATA CONCERNING ILEC AND/OR COLLOCATION PROVIDERS' COLLOCATION SPACE

Include: The 8 character CLLI codes of all active wire centers operated by your company in the state of Nevada. For each wire center please provide the information requested in the table below.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

Wire Center Collocation Data

WC CLLI (8 char)	WC Name	Is Collocation Available in the Central Office	Number of Collocators Present	Amount of Additional Collocation Space Available (Sq Feet)
AUSTNV11	AUSTIN	Yes	2	40

TABLE 2 - DATA CONCERNING CLEC COLLOCATION ARRANGEMENTS

Include: The 8 character ILEC CLLI codes of all Nevada ILEC wire centers for which your company has existing, or anticipated, collocation arrangements. For each wire center please provide the information requested in the table below.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

Wire Center Collocation Data

ILEC WC CLLI (8 char)	ILEC WC Name	Is Collocation at this WC Planned or Active	Type of Collocation Arrangement	Size of collocation arrangement in Sq. Ft. (if cageless the number of equipment frames)	Amount of unused space in the collocation arrangement that could be used for placing additional equipment	Types of customers (e.g., residential, mass-market business and enterprise customers) served;	CLLI Code of Switch to which Collocation arrangement is Connected	V-Coordinate of Connected Switch	H-Coordinate of Connected Switch
AUSTNV11	AUSTIN	Active	Caged	10	5	Residential			

TABLE 3A - RETAIL "POTS" LINES PROVIDED OVER LOCAL LOOPS YOU OWN

Include : "POTS" Local exchange lines provided to end-users expressed in voice grade equivalents (VGEs). Lines reported here should be provided over loop facilities that you own (or lease from a non-telecommunication provider). Please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside.

Exclude : Local exchange lines sold to other carriers. Do not include lines sold to end users which are provisioned over loops you lease from other carriers (under UNE or other agreements), purchase from another carrier under special access or private line tariffs, or purchase from another carrier under resale agreements (TSR or other agreements).

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

RETAIL "POTS" LINES PROVIDED OVER LOCAL LOOPS YOU OWN

ILEC WC CLLI (8 char)	ILEC WC Name	Number of Residential Access Lines (a)	Number of Non- Residential Access Lines (b)	Estimated % of Non- Residential Lines that are Small Business Access Lines (1-3 lines) (c)	Total Number of Lines (a) + (b)
AUSTNV11	AUSTIN	50,000	75,000	22%	125,000

TABLE 3B - RETAIL "POTS" LINES PROVIDED USING UNE LOCAL LOOPS YOU LEASE

Lines Provided With UNE-L

Include : "POTS" Local exchange lines provided to end-users expressed in voice grade equivalents (VGEs). Lines reported here should be provided over loop facilities that you lease from other carriers as UNEs. Please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside.

Exclude : Local exchange lines sold to other carriers. In addition do not include lines sold to end users which are provisioned over loops you own (or lease from a non-telecommunications provider) or purchased from another carrier under resale or other agreements.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

**RETAIL "POTS" LINES PROVIDED USING UNE LOCAL LOOPS YOU LEASE
Lines Provided With UNE-L**

ILEC WC CLLI (8 char)	ILEC WC Name	Number of Residential Access Lines (a)	Number of Non- Residential Access Lines (b)	Estimated % of Non- Residential Lines that are Small Business Access Lines (1-3 lines) (c)	Total Number of Lines (a) + (b)

TABLE 3C - RETAIL "POTS" LINES PROVIDED USING UNE LOCAL LOOPS YOU LEASE

Lines Provided With UNE-P

Include : "POTS" Local exchange lines provided to end-users expressed in voice grade equivalents (VGEs). Lines reported here should be provided over loop facilities that you lease from other carriers as UNEs. Please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside.

Exclude : Local exchange lines sold to other carriers. In addition do not include lines sold to end users which are provisioned over loops you own (or lease from a non-telecommunications provider) or purchased from another carrier under resale or other agreements.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

**RETAIL "POTS" LINES PROVIDED USING UNE LOCAL LOOPS YOU LEASE
Lines Provided With UNE-P**

ILEC WC CLLI (8 char)	ILEC WC Name	Number of Residential Access Lines (a)	Number of Non- Residential Access Lines (b)	Estimated % of Non- Residential Lines that are Small Business Access Lines (1-3 lines) (c)	Total Number of Lines (a) + (b)
AUSTNV11	AUSTIN	50,000	75,000	22%	125,000

TABLE 3D - RETAIL "POTS" LINES PROVIDED OVER LOCAL LOOPS OBTAINED THROUGH RESALE (TOTAL SERVICE RESALE)

Include : "POTS" Local exchange lines provided to end-users expressed in voice grade equivalents (VGEs). Lines reported here should be provided over loop facilities that you purchase from another carrier under resale agreements , special access, private line, or other wholesale or non-UNE lease agreements. Please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside.

Exclude : Local exchange lines sold to other carriers. In addition do not include lines sold to end users which are provisioned over loops you own (or lease from a non-telecommunications provider) or loops you lease from other carriers (under UNE agreements).

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

**RETAIL "POTS" LINES PROVIDED USING UNE LOCAL LOOPS YOU LEASE
Lines Provided Through Total Service Resale**

ILEC WC CLLI (8 char)	ILEC WC Name	Number of Residential Access Lines (a)	Number of Non- Residential Access Lines (b)	Estimated % of Non- Residential Lines that are Small Business Access Lines (1-3 lines) (c)	Total Number of Lines (a) + (b)

TABLE 4 - WHOLESALE LINES

Include: Loops provided to other carriers and/or Internet service providers for the provision of local exchange, exchange access, or broadband access service, expressed, where indicated below, in voice grade equivalents (VGEs). Please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside.

Exclude : Local exchange lines sold to end-users.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

WHOLESALE LINES

ILEC WC CLLI (8 char)	ILEC WC Name	Number of Resale Access Lines	Number of VGE UNE Loops Sold to Other Carriers	Number of Loops (Not VGEs) Sold to Other Carriers Under Other Arrangements

TABLE 5 – WIRELESS VOICE SERVICE PROVISION

Include: Total retail, end-use residential and business wireless voice customers serviced by your company. Please provide this data by the 8 character ILEC wire center CLLI code designation for the NPA/NXX number assigned to the customer(s) to whom you are providing service. If this is not possible, please provide the data requested by the billing zip code of the customer(s) to whom you are providing service.

Exclude : Voice Grade equivalents.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

WIRELESS SUBSCRIBER SERVICE (VOICE SERVICE)

ILEC WC CLLI (8 char)	ILEC WC Name	Number of Satellite Customers	Number of Fixed Wireless Terrestrial Customers	Number of Terrestrial Wireless Mobile Customers	Total Number of Customers	% Estimated Residential & Small Business Customers	Total Revenue From Voice Services

TABLE 6A - WIRELINE BROADBAND PROVISION

Include: Total one-way and two-way retail, end-use residential and business broadband Internet access lines provided (a) over your own facilities, or (b) over UNE loops, or (c) over other lines and wireless channels that you obtained from other service providers. To avoid duplicative reporting, carriers must report their own line counts for retail end use customers regardless of how facilities were obtained. Report actual counts. If your company does not utilize 8 character CLLI code designations please provide, as a substitute, a list of all 5—digit zip codes where your company is providing broadband service.

Exclude : Voice grade equivalents.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

WIRELINE BROADBAND—ILEC, CLEC, and Independent Phone Company

ILEC WC CLLI (8 char)	ILEC WC Name	Number of Asymmetric xDSL Lines Provided	Other Traditional Wireline Including Symmetric xDSL	Coaxial carrier systems including hybrid fiber- coaxial systems	Optical Carrier (Fiber to the end user)	All other technologies such as distribution over electric power lines	Total Number of Broadband Lines	% Total Provided by UNE	%Total Provided Over Own Facilities	% Estimated Residential & Small Business Lines	Collocation in CO?	Number of Collocators

TABLE 6B - WIRELINE BROADBAND PROVISIONING--ADSL Capable Wire Centers

Include: For every wire center, provide the number of lines that are within 12,000 feet of the wire center or a remote device that is capable of transmitting ADSL service. Provide a list of all wire centers that have facilities capable of providing ADSL service.

Exclude : Voice grade equivalents.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

WIRELINE BROADBAND—ILEC, CLEC, and Independent Phone Company

ILEC WC CLLI (8 char)	ILEC WC Name	Does the WC have facilities capable of providing ADSL	Number of ADSL Lines Provided if service is available	Number of lines within 12,000 feet of the WC or a remote device capable of providing ADSL service

TABLE 6C - WIRELINE BROADBAND PROVISION—Cable Company Voice Customers

Include: The number of voice- grade telephone customers contained in each zip code area where such service is available and to whom this service is provided. If it as at all possible, please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside. If this is not possible, please provide this information by the billing zip code of the customer(s) to whom you are providing service.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

WIRELINE BROADBAND—Cable Company--Voice Customers

5 Character Zip Code Designation	Zip Code Name	State	% of Zip Code Area for Which Service is Available	Number of Voice Grade Customers Served	% Estimated Residential & Small Business Lines	Total Revenue From Voice Services

TABLE 6D – WIRELINE BROADBAND PROVISION—Cable Company Cable Modem Customers

Include: The number of cable modem customers contained in each zip code area where such service is available and to whom this service is provided. If it is at all possible, please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside. If this is not possible, please provide this information by the billing zip code of the customer(s) to whom you are providing service.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

WIRELINE BROADBAND—Cable Company--Cable Modem Customers

5 Character Zip Code Designation	Zip Code Name	State	% of Zip Code Area for Which Service is Available	Number of Cable Modem Customers Served	% Estimated Residential & Small Business Customers	Total Revenue From Broadband Services

TABLE 6E – WIRELESS BROADBAND PROVISION

Include: Total one-way and two-way retail, end-use residential and business broadband Internet access lines provided (a) over your own facilities, or (b) over UNE loops, or (c) over other lines and wireless channels that you obtained from other service providers. To avoid duplicative reporting, carriers must report their own line counts for retail end use customers regardless of how facilities were obtained. Report actual counts. If it is at all possible, please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside. If this is not possible, please provide this information by the billing zip code of the customer(s) to whom you are providing service.

Exclude : Voice grade equivalents.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

WIRELESS BROADBAND

WC CLLI (8 char)	WC Name	Number of Satellite Customers	Number of Fixed Wireless Terrestrial Customers	Number of Terrestrial Wireless Mobile Customers	Guaranteed Minimum Transmission Speed (bps)	Guaranteed Maximum Transmission Speed (bps)	Total Number of Customers	% Estimated Residential & Small Business Lines	Total Revenue From Broadband Services

TABLE 7 – WIRELESS AND WIRELINE BROADBAND CUSTOMER PENETRATION

Include: Total one-way and two-way retail, end-use residential and business broadband Internet access lines provided (a) over your own facilities, or (b) over UNE loops, or (c) over other lines and wireless channels that you obtained from other service providers. To avoid duplicative reporting, carriers must report their own line counts for retail end use customers regardless of how facilities were obtained. Report actual counts. If it is at all possible, please provide this information by the 8 character ILEC CLLI code in which the customers you are providing service to reside. If this is not possible, please provide this information by the billing zip code of the customer(s) to whom you are providing service.

Exclude : Voice grade equivalents.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

WIRELESS AND WIRELINE BROADBAND PENETRATION

ILEC WC CLLI (8 char)	ILEC WC Name	Type of Broadband Service	Estimated Number of Potential Subscribers (of those who have access to broadband service	Actual Number of Subscribers	Price Per Month for Service	Installation Price of Service	Guaranteed Minimum Transmission Speed (bps)	Guaranteed Maximum Transmission Speed (bps)

TABLE 8 – ORIGINATING ACCESS MINUTES OF USE (MOU)

Include: All Nevada intrastate originating switched access minutes of use (MOUs) generated by your company (ILEC, CLEC, or Independent). Please include this data by interexchange carrier(s) (IXC) for the year-end calendar years shown in the table below.

CARRIER NAME _____

TYPE OF CARRIER _____

If you do not provide this type of service in Nevada put an X in the box

INTRASTATE SWITCHED ACCESS MOUs

IXC	2000	2001	2002	2003
AT&T				
MCI/Worldcom				
Sprint				
SBC				
All Other				

TABLE 9 – TOTAL ACCESS REVENUES⁷⁷

Include: For SWITCHED Access: Nevada-specific intrastate usage-sensitive revenues for the year-end of the calendar years shown below. For SPECIAL Access: Nevada-specific intrastate revenues only.

CARRIER NAME _____

TYPE OF CARRIER _____

TOTAL ACCESS REVENUES

	2000	2001	2002	2003
Switched MOU				
Special Access				

⁷⁷ It is requested that, where applicable, all companies obtaining revenue from Switched MOU and/or Special Access provide the data requested in this table.

TABLE 10 – TOTAL BASIC LOCAL DIALTONE REVENUES

Include : For BASIC LOCAL DIALTONE: End-user retail revenues from basic local dialtone service for the yearend of the calendar years shown below. For those customers who have purchased a package service that includes local dialtone, include revenues from either: (1) the tariffed rate for local dialtone; or (2) an estimate of the total revenue from that package that represents the amount for the dialtone portion.

Exclude : Optional calling feature or CLASS revenues.

CARRIER NAME _____

TYPE OF CARRIER _____

TOTAL BASIC LOCAL DIALTONE REVENUES

	2000	2001	2002	2003
Own Facilities				
UNE-P				
UNE-L				
Total Service Resale				

TABLE 11 – SERVICE AREA POPULATION

All incumbent and independent local exchange operators are required to fill out this table.

Instructions: Using the 2000 census data, please provide population information for each exchange and municipality in which you provide services. If there is no franchised municipality in an exchange, please indicate by typing “N/A” in the column entitled “Major City in Wire Center”. If there is more than one municipality, please enter separate data for each municipality.

CARRIER NAME _____

TYPE OF CARRIER _____

SERVICE AREA POPULATION

ILEC WC CLLI (8 char)	ILEC WC Name	Estimated Population Served in the wire center	Major City in wire center	City Population

Pricing Information Requested

Instructions: All companies providing telecommunications services in the state of Nevada are requested to answer the following. Answers should be provided in either MS Excel or MS Access format.

1. Please provide the rate and the billing units for every Nevada Jurisdictional service that you provide as of October 1, 1999, December 31, 2001, and December 31, 2003.
 - a. Please include in your answer to this question the regulatory designation of the service, if applicable. That is whether the service is basic, other essential service, discretionary, competitive or deregulated.
 - b. If the service is sold under discount, individual case based contracts or any other method whereby the price varies according to customer, provide the weighted average price of the service, where the weights are the billing units.
2. Please provide a list of any and all existing services for which your company chose to exercise pricing flexibility since October 1, 1999. Please include in your response:
 - a. A description of the service for which pricing flexibility was requested;
 - b. The date at which pricing flexibility was implemented;
 - c. The price of the service, by billing unit⁷⁸, before the request for pricing flexibility was submitted;
 - d. The price of the service, by billing unit⁷⁹, immediately after pricing flexibility was instituted along with the date that this price become effective; and,
 - e. The current price of the service in question, by billing unit⁸⁰.
3. Please provide a list of any and all new services, and/or service bundles, introduced by your company since October 1, 1999. Please include in your response:
 - a. A description of the new service, and/or service bundle, introduced;
 - b. The date at which the new service, and/or service bundle, became available;
 - c. The introductory price of the new service (by billing unit⁸¹) , and/or service bundle; and,
 - d. The current price of the new service (by billing unit⁸²), and/or service

⁷⁸ Please include in this a description of the billing units used.

⁷⁹ Please include in this a description of the billing units used.

⁸⁰ Please include in this a description of the billing units used.

⁸¹ Please include in this a description of the billing units used.

⁸² Please include in this a description of the billing units used.

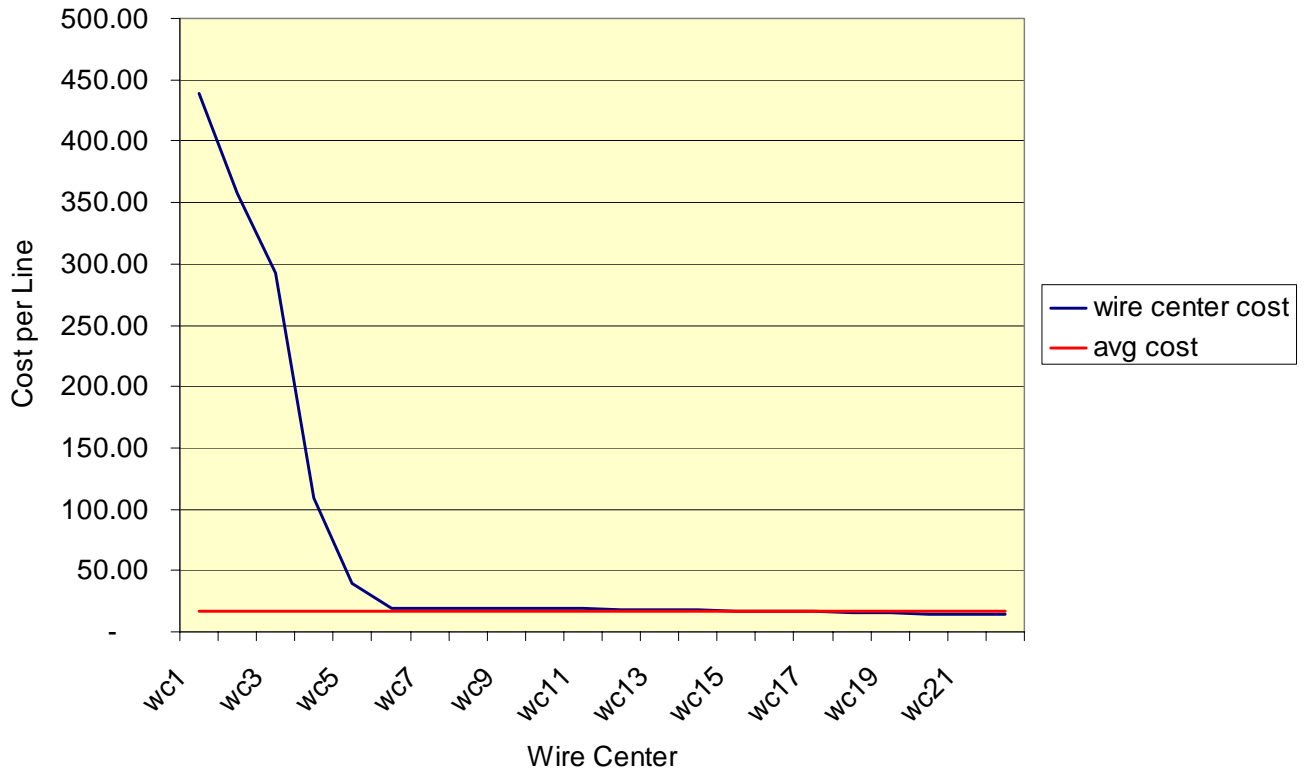
bundle, in question.

4. Please provide a list of any and all services, and/or service bundles, for which promotional price reduction have been established since October 1, 1999. Please include in your response:
 - a. A description of the service, and/or service bundle, targeted by the promotional price reduction;
 - b. The date at which at which the promotional price reduction became available;
 - c. The terms under which the promotional price reduction was made available; and,
 - d. The current price of the service (by billing unit⁸³), and/or service bundle, in question.

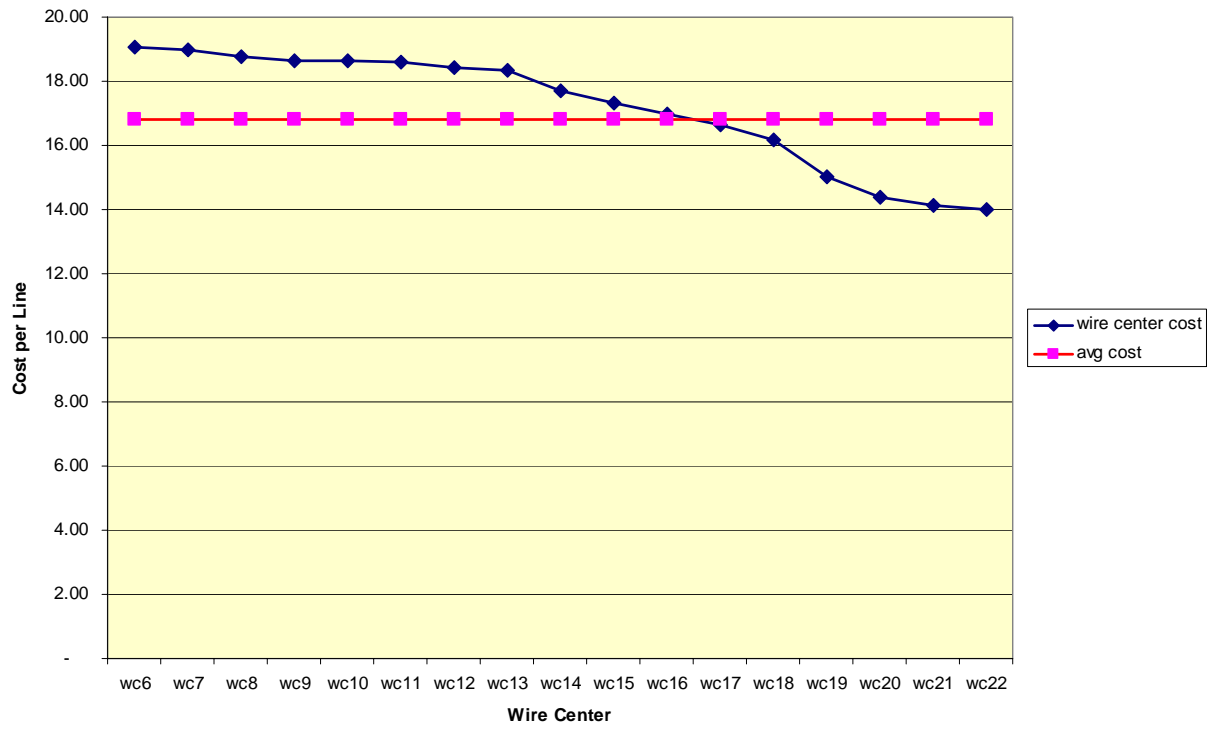
⁸³ Please include in this a description of the billing units used.

Appendix C—Forward Looking Cost of Service for SBC and Sprint

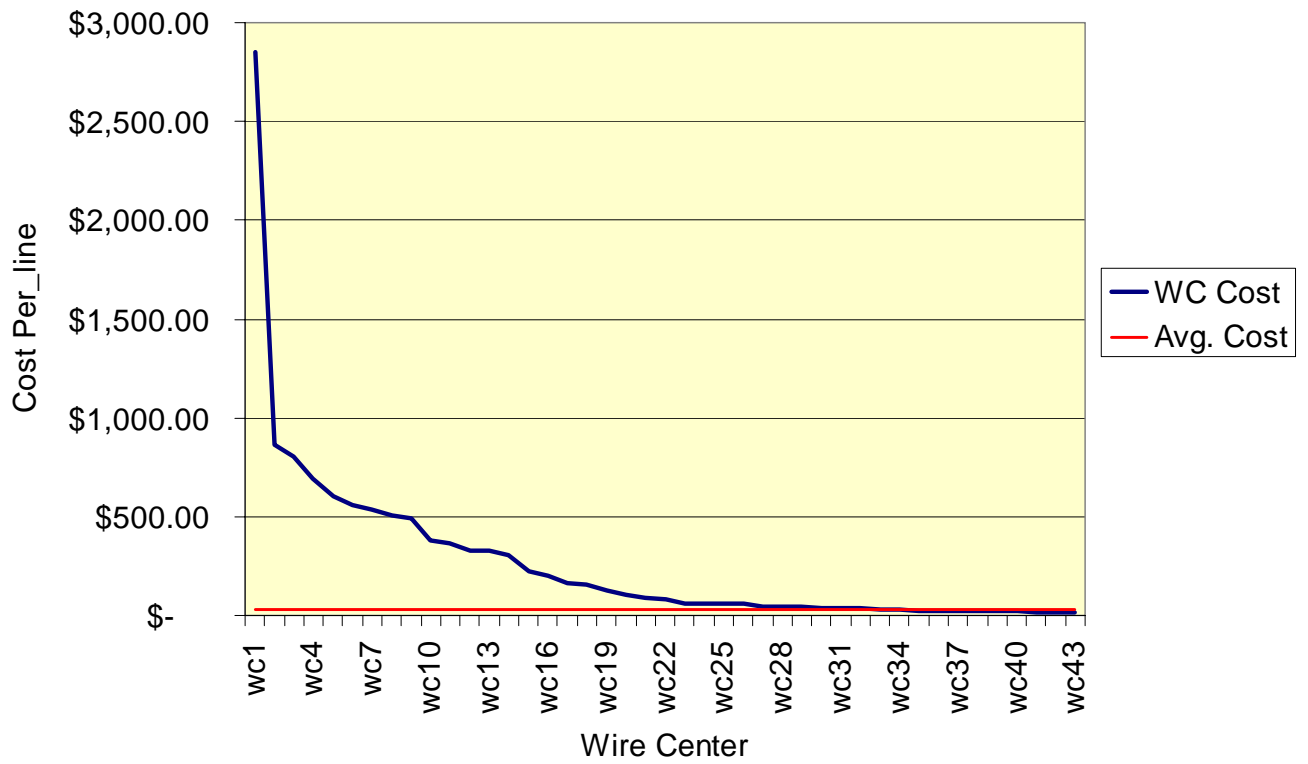
Sprint Costs Per-Line by Wire Center



Sprint Low Cost Wire Centers



SBC-Nevada Cost Per-Line



SBC-Nevada Low Cost Wire Centers

