



Rural Policy Research Institute

**The Internet Freedom and
Broadband Deployment Act of 2001 (H.R. 1542):
Considerations for Rural Communities**

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The Rural Policy Research Institute provides objective analyses and facilitates dialogue concerning public policy impacts on rural people and places.

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Preface

In 1995 RUPRI formed a Rural Telecommunications Task Force to address the rural impacts of the Telecommunications Act of 1996. This national panel contributed very meaningful policy research to this national dialogue, until resource constraints forced RUPRI to suspend this panel's excellent contributions to the telecommunication policy debate.

With this document, we are pleased to announce the reformation of a national RUPRI Telecommunications Panel, to be chaired by Dr. Sharon Strover, a member of our initial Task Force, and the Director of the Telecommunications and Information Policy Institute at the University of Texas-Austin. We appreciate the thoughtful review and comments we received regarding the content of this brief, particularly those offered by Billy Jack Gregg, Director of the Consumer Advocate Division of the Public Service Commission of West Virginia, and Victor Glass, Director of Demand Forecasting and Rate Development, National Exchange Carriers Association, Inc. However, none of these individuals or organizations is responsible for the specific content of this policy brief, which rests solely with the author.

RUPRI welcomes the reintroduction of a rural telecommunications policy research capacity within our national portfolio.

Charles W. Fluharty
Director

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The Internet Freedom and Broadband Deployment Act of 2001 (H.R. 1542): Considerations for Rural Communities

Overview of H.R. 1542 (Tauzin/Dingell "Data/LATA Bill")

The Internet Freedom and Broadband Deployment Act of 2001 (H.R. 1542), currently under consideration in the 107th Congress, has provisions that would allow the Bell Operating Companies (BOCs) to engage in interLATA data transport, a line of business that currently is available to them only when they are in compliance with Section 271 of the 1996 Telecommunications Act ("the Act"). Local Access and Transport Areas, or LATAs, are the basic geographic units differentiating local from long distance service. H.R. 1542 essentially would allow the BOCs to carry long distance data traffic between LATAs without meeting standards established in the 1996 Telecommunications Act.

The Telecommunications Act of 1996 removed regulatory barriers which had previously existed between different types of telecommunications services, and encouraged all types of telecommunications carriers to enter into competition with each other. However, because of their power over the market for local service, the BOCs were restricted from providing long distance service between LATAs in their home region until they demonstrated that their local markets were irrevocably open to competition.¹ In other words, a central premise of the Act for BOCs was competition first, then deregulation. The standards for compliance with these market-opening requirements were set forth in Section 271 of the Act. Ordinarily, compliance with 271 requirements depends on concurrence of both state-level utility commissions and the FCC that the local networks of the BOCs have been sufficiently opened to competitors.² H.R. 1542 would permit BOCs to provide high-speed data transmission services without demonstrating that their networks are available to competitors.

The Act allows competitors access to incumbents' network elements so that the competitors can offer new services such as Internet connections and high-speed data connections.³ A corollary provision of H.R. 1542 modifies some of the obligations on BOCs to share network elements that enable would-be competitors to use their facilities for high-speed data services. The bill limits that obligation to a set of line sharing provisions⁴ already spelled out in Section 251 of the 1996 Telecommunications Act, and it exempts

¹ Under the Act, these restrictions apply only to BOCs. Long distance companies, competitors, and smaller local phone companies, such as those serving rural areas, do not have similar restrictions on entering the market. As noted later, BOCs are not restricted from providing interLATA services anywhere except in their home region. The Act does not restrict Verizon (the merged Bell-Atlantic and GTE) from providing interLATA services in SBC's home region, nor does it restrict SBC from providing interLATA services in Verizon's home region.

² At this writing, SBC and Verizon have gained approval to offer interLATA services in Texas, Kansas, New York, Massachusetts and Oklahoma. Several other states are close to approving their BOC provider's compliance with the 14-point checklist of market-opening indicators.

³ Incumbent local exchange carriers are called ILECs, and the competing companies also authorized to provide local exchange services, or other services, are CLECs.

⁴ The line-sharing provisions refer to the high frequency portion of the copper loop that currently is used for high-speed services.

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access to remote terminals.⁵ Currently, access to remote terminals is permitted.⁶ Under the bill, incumbents already providing high-speed data services can charge competitors that request to share their lines an amount equivalent to what the incumbent would have received if it had sold the services itself. In addition, incumbents must resell, at wholesale rates, any high-speed data service that they offer for a three-year period following the bill's enactment.

Additionally, H.R. 1542 forbids the Federal Communication Commission or any state to regulate the rates, charges, terms or conditions for offering or entering into high-speed data services, Internet backbone service or Internet access service. It likewise requires that Bell companies upgrade their central offices to provide high-speed data services within the five years following the bill's passage, although the definition of upgradeable loops is limited to those under three miles in length from the central office. In other words, the logical candidate loops for Digital Subscriber Line services – the primary high-speed end-user service currently offered by telephone companies - would receive the appropriate infrastructure so that BOCs could offer high-speed data services to subscribers.

Background

This brief examines some of the issues that H.R. 1542 raises for rural communities. The prospect of additional competition in the realm of data services, particularly high-speed or “advanced” services,⁷ is attractive. However, in order to understand the potential impact of H.B. 1542, it is necessary to understand the existing statutory framework of telecommunications regulation and the current deployment of advanced services in urban and rural areas, and to examine the actual mechanisms related to advanced services contained in the bill.

In the 1996 Telecommunications Act, Congress construed deregulation as a process. Like the deregulation of AT&T in the 1980s, the 1996 Act prescribes a series of steps that are designed to bring competition into various telecommunications services while allowing large, well financed incumbent companies to only gradually enter new markets, lest they overwhelm young competitive companies that lack comparable advantages. One element of this process is the requirement that BOC incumbents unbundle and resell portions of

⁵ Remote terminals allow a carrier to aggregate traffic or perform some of the functions of a central office switch in locations distance from the central office. Placement of remote terminals in the network architecture reduces the length of loops to customers and allows the provision of advanced services, such as digital subscriber line (DSL) service to households otherwise out of reach of a central office.

⁶ The line-sharing provisions refer to the high frequency portion of the copper loop that currently is used for high-speed services.

⁷ Various definitions accompany the term “advanced” or “broadband,” but they usually refer to a transmission speed. The FCC has defined advanced services as any service that delivered a transmission at a speed of at least 200 kilobits per second in both directions, and a “high-speed” service as one capable of delivering that speed in at least one direction. The National Exchange Carriers Association has defined broadband as a service supporting data rates above 1.544 megabits per second, a much higher threshold. In H.R. 1542, high-speed service is defined as transmitting data at 384 kilobits per second in at least one direction, using packet-switched technology. This exempts technologies such as ISDN service from the definition. Dial-up modems can support speeds of only up to 56 kilobits per second (although the typical top speed is less).

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their network so that competitors can use those network elements to offer services such as Internet access.

Rural telephone companies are exempt from this unbundling requirement,⁸ and several provisions of the 1996 Telecommunications Act were intended to preserve the vitality of telecommunications services in rural regions where competition may unfold differently, or not at all. Services in rural regions generally are characterized by fewer competitive providers and by infrastructure that may not have received the same upgrades and investment as that enjoyed in metropolitan regions. However, it should be noted that rural areas may be served by small independent or cooperative telephone companies or larger Bell Operating Companies or Verizon. While there is no comprehensive database that collects information from all of the smaller carriers, industry associations such as the National Telephone Cooperative Association and the Organization for the Promotion and Advancement of Small Telecommunication Companies (OPASTCO) report that some smaller, rural companies are indeed offering advanced telecommunications services.

The Internet in Rural Areas

The significance of the Internet was not anticipated when the 1996 Telecommunications Act was drafted, but in the ensuing five years it clearly has assumed commercial, educational, and public policy importance. A rush to provide Internet services created a crop of Internet Service Providers (ISPs) around the country in the 1990s, as well as increasingly powerful applications on the Internet that operated best at higher speeds.⁹ Dial-up modem speed moved up to its maximum 56 kilobits per second rate, and new (“broadband”) services became available to households through cable companies’ cable modem service and various telephone companies’ digital subscriber line¹⁰ (DSL) offerings. The federal e-rate program has enabled most of the nation’s K-12 schools to provide some access to computers and the Internet, and a huge variety of useful commodity and public services have been developed for that medium as well.¹¹

The bonanza in Internet connectivity reached rural America at slower rates than elsewhere in the country. All of the Department of Commerce “Falling through the Net” studies over the past five years provide data demonstrating the Internet lag between urban and rural areas (Table 1).¹² Cable modem and DSL services have been particularly slow to reach

⁸ The Act allows competitors to petition a state regulatory commission to require a rural carrier to provide access to its network.

⁹ Up- and downloading audio and graphic files, which typically are large, takes far less time at higher transmission speeds.

¹⁰ Conventional cable modem and DSL services are asymmetric, referring to their faster downstream transmission rates compared to their more modest upstream speed. The rationale for this asymmetry derives from a broadcast model that assumes most people download information rather than send or upload their own content.

¹¹ The FCC reported in August 2000 that 52% of K-12 schools had high-speed connections to the Internet. FCC 00-290, p.6.

¹² The Department of Commerce has commissioned and published reports under this title since 1995, initially focusing on telephone and computer ownership and more recently focusing on Internet use and even broadband availability.

rural regions, although there is some evidence that smaller independent or cooperative telephone companies have begun offering basic Internet access services in their regions before their BOC companions have done so.¹³ Basic dial-up services have been spotty or required a toll or long distance call in some rural regions. There is also evidence that competitive ISPs believe the provisioning they receive from incumbent local exchange carriers has been unduly slow or expensive.¹⁴

Table 1: Rural and Nationwide Internet Use

	% Urban Households Using the Internet	% Rural Households Using the Internet
1997*	19.9%	14.8%
1998	27.5%	22.2%
2000	42.3%	38.9%

Sources: *Falling through the Net II. III and IV*
 *Defined as “on-line access” in *Falling through the Net II*.

Advanced Services in Rural America

While statistics from 2000 show that Internet use among rural households has nearly caught up with the nationwide average, various studies have found that *broadband* access to the Internet is less available in rural areas than in metropolitan regions (Table 2). For example, the October 2000, Falling through the Net study reports that among households accessing the Internet, central cities have a *broadband* penetration of 12.2%, compared to urban penetration of 11.8% and a rural penetration of 7.3%. With their lower population densities, rural towns are less attractive for technologies such as DSL and cable modem, both of which have network limitations that keep them out of more remote rural areas where houses or businesses are widely dispersed. The jointly written Advanced Telecommunications in Rural America report from April 2000 notes, “...little diffusion [of broadband deployment] has manifested in the more remote rural areas.”¹⁵

¹³ For example, NECA reports that 76% of 1076 smaller telephone companies function as an Internet Service Provider. This figure is based on a survey of its Traffic Sensitive companies (generally serving rural areas, and having fewer lines in service). National Exchange Carriers Association, 2000. Keeping America Connected: The Broadband Challenge. Access Market Survey of NECA’s Traffic Sensitive Pool Members. Available at www.neca.org.

¹⁴ Strover, S. 2001. Rural Internet Connectivity. Telecommunications Policy, 25 (5) 331-337. The lack of speed in unbundling network elements for ISPs and other users also became an issue in Pennsylvania’s Section 271 deliberations with Verizon. Other states report similar problems.

¹⁵ National Telecommunications and Information Administration and Rural Utilities Service, April, 2000. Advanced Telecommunications in Rural America, p. 40.

Table 2: High-speed Internet Use by Central City, Urban, Rural and US Internet Households, 2000

	Central City	Urban	Rural	US Average
High-speed Access	12.2%	11.8%	7.3%	10.7%

Source: Falling through the Net IV, p 23.

It should be noted that the Act does not restrict the BOCs from offering broadband services wherever they would choose to do so, even in their home regions. Indeed, DSL services are available in a wide range of markets, most of them urban. The fundamental argument in favor of the H.R. 1542 is that restrictions on interLATA data transport reduce the BOCs' incentives to build the broadband networks in regions that are less desirable (i.e., less populous). The issue has to do with investing generally in broadband networks - particularly those serving rural areas - and how legislation can facilitate bringing necessary infrastructure to those regions that may be perceived as less competitive.

The National Exchange Carriers Association undertook two studies in 2000 that estimate the cost of enabling a broadband capable network among rural telephone companies.¹⁶ They conclude that many rural carriers already are upgrading their lines and offices, and estimate that by 2002 only about 35% of the rural lines (as per their sample) will lack those upgrades. The costs of the upgrades vary tremendously, depending on whether the subscriber lines are in the Central Office service area. They estimate the cost of upgrading all rural telephone company lines to broadband capability to be \$10.9 billion, as follows:¹⁷

Cost within Central Dial Office serving area: 1,639,283 lines@\$493/line	\$0.09B
Cost outside Central Dial Office serving area: 1,093,051 lines@\$4,121/line	\$4.505B
Cost of more isolated territories: 600,957 lines@\$9328/line	\$5.606B
TOTAL	\$10.9B

Key Rural Implications

This background informs considerations of H.R. 1542's possible impact on broadband service in rural areas. Five rural questions must be addressed:

- What would be H.R. 1542's effect on the number of providers operating in rural regions, as well as on the general availability of high speed services?
- What might be the effect of the unbundling provisions on services in rural areas? Specifically, how would the remote terminal exception influence services in rural areas?
- What are the implications of the unbundling provisions for new entrants, as well as for incumbent rural telephone companies?

¹⁶ NECA, 2000. NECA Rural Broadband Cost Study: Summary of Results. Available at www.neca.org. The FCC recognizes 1301 rural local exchange companies, which serve approximately 6% of US households and cover 35% of the country's landmass, excluding Alaska. However, larger companies, not considered primarily rural telcos, also serve numerous rural households.

¹⁷ NECA, 2000. NECA Rural Broadband Cost Study: Summary of Results, p. 4. Available at www.neca.org.

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- H.R. 1542's premise is that more competition and consumer choice in broadband services are valuable. How might the bill affect the range of providers serving an area and the mix of services available?
- What are the rural cost and affordability implications of the bill?

Consideration 1: What would be H.R. 1542's effect on the number of providers operating in rural regions, as well as on the general availability of high-speed services?

The most recent publicly available information on broadband access in the U.S. is based on data collected by the FCC in June 2000. Using Form 477 to gather data from facilities-based firms with 250 or more high-speed service lines (or wireless channels) in a state, the FCC has released aggregated data that provide some insight into patterns of subscribership to high-speed services.¹⁸ The FCC's conclusion was that the private sector deployment of broadband services was proceeding in a reasonable fashion.¹⁹

When we examine current patterns of broadband deployment using the FCC's June 2000 data, there are clear differences in the geography of high-speed subscribership. The FCC has made available data that reports the geographical zip codes where at least one provider has offered high-speed service as of June 30, 2000.²⁰ The data clearly illustrate that nonmetro, non-adjacent zip codes have far fewer high-speed providers than do metro or nonmetro adjacent counties (Table 3).

It is unfortunate that the data do not allow us to discriminate between locations where there is one provider of a high-speed service as opposed to two or three. The dataset reports "1-3 providers" as its lowest, nonzero entry. Disaggregated information that separately reports regions where there is only one provider as opposed to two or three would hint at the presence of some active, alternative providers. The data also do not differentiate across types of services, which could suggest whether a service in a certain area was

¹⁸ These data have numerous limitations. Although another data collection has been undertaken since June, 2000, those more recent data have not been made available to the public. Additionally, the data are aggregated in ways that limit their utility for analyzing competition in the US insofar as it is impossible to identify regions where there is only a single provider of a service as opposed to two or three providers of a service.

¹⁹ FCC, Deployment of Advanced Telecommunications Capability: Second Report, August, 2000 (hereinafter referred to as FCC00-290).

²⁰ Because the FCC data are reported by zip code, we assigned zip codes to counties, and then classified them as metropolitan, non-metro adjacent, or non-metro, non-adjacent using the Census Bureau's designations for those county assignments. This method is imprecise, but should be suggestive of the general patterns. The June, 2000 data are the most recent data the FCC has made available to the public, although more current data do exist.

Table 3: Rural Non-Adjacent, Rural Adjacent and Metro Counties by High-speed Providers

Number of Providers	Metro	Nonmetro Adjacent	Nonmetro, Non-Adjacent
1-3 Providers	63.1%	96.2%	98%
4-5 Providers	23.1%	3.6%	2.0%
6-7 Providers	10.5%	.2%	0
8 or more Providers	3.4%	0	0

Source: FCC Form 477 data, released June 2000.

broadly available to many consumers and small businesses such as DSL or cable modem (generally offered to many members of a community if they are available at all), as opposed to a single business order for a dedicated high-speed line.

While it can be argued that extremely rural regions will never require many providers, the relatively low figures for rural adjacent areas is significant, suggesting that the draw of major, populous markets strongly outpaces attention to secondary markets. Will H.R. 1542 affect this environment? There is nothing in the bill that guarantees broadband deployment in these regions other than a five-year timetable for the BOCs to make their central offices DSL-ready. However, because the main limitation on provision of DSL service occurs in loop facilities and not in the central office, this provision does not guarantee service to regions beyond three miles of a central office and could still leave substantial portions of the rural market without broadband capabilities.²¹

Consideration 2: What might be the effect of the unbundling provisions on services in rural areas? Specifically, how would the remote terminal exception influence services in rural areas?

Will H.R.1542's exemption on incumbents' unbundling at remote terminals affect competition in rural regions? This provision represents a change in policy from the current regulatory environment that requires an incumbent BOC to provide access to its remote terminals for competitors.

Rural subscribers often are served by remote switches that allow companies to have a switch closer to customers, without the full functionality and costs of a central office. The National Exchange Carrier Association, which works predominantly with smaller, rural telephone companies in its Traffic Sensitive pool, reported in 2000 that 49% of the switches in place in its members telephone companies are remote switches.²² This means

²¹ With the installation of a digital subscriber line access multiplexer (DSLAM), a central office can be ready to provide DSL service. However, even with a DSLAM installed, DSL is generally not available to customers with cooper loops longer than 3 miles, or to customers served by digital loop carrier (fiber) in the feeder facilities. These loop limitations can be overcome by placement of remote terminals.

²² National Exchange Carriers Association, 2000. Keeping America Connected: The Broadband Challenge. Access Market Survey of NECA's Traffic Sensitive Pool Members. Available at www.neca.org.

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that competition in rural regions such as those in NECA's pool would be more difficult for new entrants because they could not use incumbents' remote switches or remote terminals under H.R. 1542. Thus, non-facilities-based providers – and many new entrants are not facilities-based initially - would face barriers to entering regions served by remote terminals. Therefore H.R. 1542 would have a negative effect on enhancing competition for communities or customers served by remote terminals.

That said, NECA's cost studies suggest that upgrading host switches when outside the direct serving area can be far more expensive than the upgrade within the serving area (\$400/line versus up to \$4000/line).²³ This cost difference could be a strong argument for targeted legislative language that helps companies upgrade specifically those costlier facilities serving rural areas. Even there, however, the issue of competition needs to be addressed.

Consideration 3: What are the implications of the unbundling provisions for new entrants, as well as for incumbent rural telephone companies?

H.R. 1542 would require all non-exempt (non-rural²⁴) incumbents to follow most of the FCC's previously defined mandatory unbundling requirements with respect to its line sharing order, although as noted above, unbundling at remote terminals is excepted. H.R. 1542 specifies that carriers can charge network users the amount they would ordinarily expect to make from providing those same high-speed data services themselves. There should not be any reason to expect financial loss to the incumbent from these modified line sharing requirements. The provision may create more competition for incumbents, and also more choices for consumers.

Some rural incumbents object to the resale provision in H.R. 1542 that requires an incumbent local exchange carrier providing high-speed data services to resell those services at wholesale rates to other carriers for a period of up to three years after the bill's enactment. While incumbents may perceive this as a disincentive to initiate high-speed services, consumer choice could be enhanced by this provision. Even so, resale of basic telecommunications services purchased at wholesale rates has not been shown to be a long-term viable strategy for new competitors offering local service. It is highly questionable

²³ The serving area is defined as roughly within about 3 miles of a central office.

²⁴ Section 251(f)(1) of the 1996 Act exempts rural carriers from certain duties to interconnect and provide unbundled network access that apply to other incumbent LECs. Rural carriers are defined in the 1996 Telecommunications Act as any entity meeting any of the following four standards: a. the carrier provides common carrier service to any local exchange carrier study area that does not include either any incorporated place of 10,000 inhabitants or more, or any part thereof, based on the most recently available population statistics of the Bureau of the Census; or any territory, incorporated or unincorporated, included in an urbanized area, as defined by the Bureau of the Census as of August 10, 1993; b. the carrier provides telephone exchange service, including exchange access, to fewer than 50,000 access lines; c. the carrier provides telephone exchange service to any local exchange carrier study area with fewer than 100,000 access lines; or d. the carrier has less than 15 percent of its access lines in communities of more than 50,000 on the date of enactment of the Telecommunications Act of 1996.

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whether the pricing provisions of H.R. 1542 would provide enough revenue for competitors to profitably provide advanced services in rural areas.

Consideration 4: H.R. 1542's premise is that more competition and consumer choice in broadband services are valuable. How might the bill affect the range of providers serving an area and the mix of services available?

By eliminating the need for BOCs to meet the competitive checklist requirements as far as data services are concerned, the bill hopes to encourage the BOCs to provide broadband services in more geographically diverse settings. They would compete with the services of various other ISPs and CLECs offering ISP services. Two critical questions affect our assessment of the rural impact of this provision. How are CLECs and ISPs distributed across the U.S? Can we expect their numbers to dwindle if larger incumbents begin to compete aggressively with them, without having met the requirements of the FCC's competitive checklist?

The FCC has assembled some statistics from 86 separate CLECs around the country.²⁵ Unfortunately, this set of companies hardly represents the larger pool of CLECs. For example, the State of Virginia alone lists 154 CLECs operating there as of December 2000; Pennsylvania has over 200. The Commission's report on local telephone competition specifically notes that "qualifying" carriers serving at least 10,000 lines must report on ILEC and CLEC operations. Consequently, it is fair to assume that the FCC's selective CLEC data cover only larger CLECs, and that their list is incomplete. Smaller and presumably younger companies are most probably not represented. Additionally, while many CLECs also offer ISP services, not all do. Unfortunately, the FCC's CLEC data do not differentiate the types of services offered by these companies, i.e., whether they are long distance providers only, or whether they also provide data services. Nevertheless, these data can comment, if only obliquely, on the issue of HR 1542's possible impact on competitors.

The FCC reports that in states in which the BOCs had met the Section 271 requirements there were substantial increases in numbers of CLECs.²⁶ In the five states (TX, NY, KS, OK, MA) in which BOCs have been granted authority to offer long distance (interLATA) services, statistics suggest the efficacy of deregulating the BOCs only after they have sufficiently opened their networks. When we examine CLEC activity by market, the market-opening effect of meeting the FCC's requirements appears to be illustrated (Table 4). For example, even in nonmetro, nonadjacent markets, the percentage of zip codes with four or more CLECs serving them is about 14.1%, compared to the much lower .6% in states where the checklist's requirements have not been met.²⁷

²⁵ FCC, May 2001. Local Telephone Competition: Status as of December 31, 2000.

²⁶ FCC, May 21, 2001. Federal Communication Commission Releases Latest Data on Local Competition.

²⁷ When we compare these five states with a set of states matched to their demographic characteristics, the difference between the two sets is reduced, but still statistically significant.

Table 4: Regulated v. Deregulated states by CLEC activity by Metro/Nonmetro

STATES		Metro	Nonmetro Adjacent	Nonmetro, Nonadjacent
All Other States (25544 zip codes)	No CLEC	25.1%	64.6%	75.6%
	1-3 CLECs	45.4%	33.6%	23.8%
	4 or more CLECs	29.4%	1.8%	.6%
Five States Meeting Competition Requirements (271) (4408 zip codes)	No CLEC	9.7%	39.6%	52.2%
	1-3 CLECs	31.6%	39.3%	33.7%
	4 or more CLECs	58.8%	22.1%	14.1%

This finding suggests that the process of having the incumbents open their markets to competitors yields more consumer choice. To the extent that H.R. 1542 short-circuits this process, such competition and consequent choice may be hindered.

While the FCC's data suggest that overall market shares of the CLECs in the states that have complied with Section 271 are high, there are also other possible reasons that might explain this. The amount of CLEC activity may have little to do with these states' deregulated status. For example, as Table 5 illustrates, several states have similar CLEC market share levels even though their BOCs have not been authorized to provide interLATA services (e.g., Minnesota, Louisiana, Pennsylvania, Georgia, Illinois). While this fact does not mean that the CLEC environment might not improve even more as dominant companies meet the federal competitive checklist requirements, it does suggest that various other factors might lie behind these penetration rates, factors that go beyond Section 271 authorizations. Indeed, individual states have enacted various programs and orders, outside of 271 requirements, to enhance competition and service offerings in their jurisdictions. Some of these have had the effect of creating improved conditions for competition.

Table 5: CLEC Markets Share by State

State*	CLEC Market Share
California	8%
Georgia	10%
Illinois	10%
Kansas	13%
Louisiana	14%
Massachusetts	11%
Minnesota	15%
New York	20%
Oklahoma	6%
Pennsylvania	10%
Texas	12%

*BOCs in boldface have been deregulated under Section 271.

Consideration 5: What are the rural cost and affordability implications of the bill?

Finally, none of the data examined here addresses the critical rural issue of costs or affordability of advanced services. Does H.R. 1542 affect the affordability of broadband services?

There is nothing in H.R. 1542 that addresses this important aspect of broadband deployment. Consumer's Union issued a report in February, 1999 that documents a digital divide based on consumer profiles.²⁸ Their work documents a growing disparity between the range of telecommunications services offered, the prices of those services, and households' ability to pay for them. Because rural consumers and rural communities generally have modest income or socio-economic status, the issue of affordability must not be lost as policymakers deliberate about ways to enhance broadband availability.

Conclusions

The evidence summarized here underscores that rural regions disproportionately lack the high-speed services that are becoming common in metropolitan regions. While relevant data that can directly address questions of broadband competition and service provision in rural areas are unavailable, the data that do exist raise serious concerns regarding the degree to which H.R. 1542 would contribute to increases in numbers of high-speed providers in rural areas.

- Evidence from local competition statistics suggests that the current requirements of Section 271 may contribute to improved competitive behavior in those states that have met the Section's mandates.

²⁸ Consumers Union, February, 1999. The Digital Divide Confronts the 1996 Telecommunications Act: Economic Reality v. Public Policy.

- The elimination of competitive access to remote terminals will disproportionately affect services to rural populations, eliminating would-be competitors who might wish to provide services using such terminals. Only the incumbent would be able to use those facilities. New competitors would face the burden of creating their own facilities to reach customers, a difficult, expensive prospect for young companies.
- The broader limitation on the current unbundling policies (and the abandonment of the 14-point checklist as a guarantee that incumbents' networks are open to competitors) may speed up the BOCs' investment in facilities serving rural areas, but there is no mandated obligation in H.R. 1542 to do so. However, there is a five-year timetable under which the BOCs must ensure that all of their central offices "attain high-speed data capability." The definitions of this capability are limited to lines within approximately three miles of a central office. Thus, rural areas beyond those locations still would not necessarily have access to broadband connections.
- Rural telephone companies have been exempt from the unbundling requirements, but under H.R. 1542 they would have to conform to the high-speed data services resale provisions for three years. This could create interim competition for broadband services, a plus for consumers.
- Finally, given the costs of subscribing to broadband services and the relatively lower income levels of rural populations, rural populations may be poorly equipped to take full advantage of broadband networks. There is nothing in H.R. 1542 that addresses these serious rural affordability issues.

RUPRI Mission

The Rural Policy Research Institute provides objective analysis and facilitates public dialogue concerning the impacts of public policy on rural people and places.

RUPRI Vision Statement

“The Rural Policy Research Institute will be recognized as the premier source of unbiased, policy relevant analysis and information on the challenges, needs and opportunities facing rural people and places.”

Additionally, RUPRI will be viewed as a national leader and model in demonstrating how an academic-based enterprise can--

- Build an effective and lasting bridge between science and policy.
- Meet diverse clientele needs in a flexible and timely fashion
- Foster and reward scientists who wish to contribute to the interplay between science and policy.
- Overcome institutional and geographic barriers.
- Make adjustments in the academic “product mix” to enhance relevancy and societal contributions.

2001 Program of Work

RUPRI Panels Rural Health Rural Policy Rural Welfare Reform	RUPRI Panels Rural Health Rural Welfare Reform Rural Telecommunications
RUPRI Task Forces Rural Finance Rural Equity Markets Rural Telecommunications	Topical Research Rural Telecommunications Rural Education Rural Entrepreneurship Rural Health
RUPRI Work Groups Rural Baseline Community Policy Decision Support	Rural Workforce Census and Small Area Data Impacts The Rural/Urban Dialectic