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SPECIAL REPORT

February 1999

America's Telecommunications Revolution

"Not Available in All Locations"

by Glenn Brown & Philip M. Burgess
Center for the New West

An often-broadcast radio ad by a regional telecommunications company proclaims the benefits of new digital services, but ends on the sober and legalistic note: "***Not available in all locations***." And therein lies a fundamental concern of many Americans – and especially Americans who live in the West and other sparsely-populated rural areas of our nation – about the promised benefits of the telecommunications reform: Will these benefits be available at affordable rates to individuals and enterprises located in suburbs, small towns and rural areas – or will high-cost communities and high-cost regions be left behind?

This Special Report was prepared for the Western Regional Forums on ***America's Growing Digital Divide*** November 30 – December 10, 1998 in Helena, Montana; Spokane, Washington and Colorado Springs, Colorado. It reflects the findings of the Center's first Regional Forum in Salt Lake City in July, 1997, and the most recent recommendation on universal service by the Federal/State Joint Board on November 23, 1998.

WHAT IS UNIVERSAL SERVICE?

At the core of U.S. telecommunications policy is the goal of "universal service" – the idea that all Americans, no matter where they live or their station in life, should have access to "affordable" telephone service.

As simple as it sounds, however, the practice of achieving universal service is a messy and complex process. It includes a mind-numbing system of cross-subsidies and government-mandated support payments to help ensure that the cost of providing and maintaining the telecommunications network is covered while providing universal access and affordable service.

Some would expand the social contract that now guarantees all Americans access to affordable telephone service. Expansion would include access to advanced services – such as high-speed on-ramps to the Internet and other high-bandwidth infrastructures and applications. These advanced offerings serve the needs of society and are among the forces driving economic growth in the New Economy.[1]

But expanding the social contract by government mandate is premature. While it's in the national interest to see the rapid and ubiquitous deployment of advanced services, policy makers should give true competition a chance. By removing outdated and anachronistic rules and restrictions, and by letting competition work, Americans are very likely to enjoy the benefits of advanced services sooner and cheaper – and without the need for huge government subsidies. The role of the Universal Service Fund should be reserved for the few left behind by competition.[2]

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Similar Towns – One Protected and One Not

While the FCC has retained subsidies to maintain affordability for customers of small independent phone companies, most rural towns are not protected. The result: significant confusion for rural consumers. An example:

Limon, Colorado - pop. 2,172
Covered by the existing Universal Service Fund.

Gypsum, Colorado - pop. 2,136
Not covered.

Continued from page 1

Why is Universal Service Important?

- Americans have come to depend on affordable telephone service as an essential part of their everyday lives. We rely on the telephone to keep in touch with our family, our friends and our jobs. It is a vital element of public safety. The telephone line is the primary on-ramp to the Internet, which brings the benefits of the Information Age to everyone, and especially to those who live in remote locations.
- Advanced telecommunications services are the economic life-blood of modern communities – for urban cores, suburbs, small towns and rural areas. Like the rivers and canals of the 18th century, the railroads of the 19th century, and the Interstate highways of the 20th century, modern telecommunications infrastructure is what gives people, communities and enterprises the New Economy tools they need to be high-performers as we approach the 21st century. With advanced telecommunications services, young people no longer have to leave their communities to find good-paying and challenging jobs; new choices about how you live and work are available to everyone; and every enterprise has new opportunities for innovation and productivity improvement.
- When a new user joins a network, it is not just that user who benefits. All other users benefit because they can now contact the new entrant. Economists call benefits such as this an "externality." In plain English, it means that it makes sense for everyone to pitch in to assure that all Americans are connected to the network. Everyone benefits when everyone is connected.
- America cannot afford to have a two-tiered society of information haves and have-nots. To survive and prosper, people, communities and enterprises everywhere must be able to connect to each other and to the Internet.

Access, Affordability, Comparability

Using "telephone penetration" as the measure of "access," the U.S. has largely achieved the universal service goal, as 94.3% of all American households now have a telephone in the home.

"Affordability" between low and high-cost areas has been largely achieved through a variety of general purpose and targeted support (i.e., subsidy) programs for high-cost areas, the poor and other disadvantaged groups. The same for price "comparability."

Service "comparability" is another matter as some rural areas lack service altogether; others still lack single party lines; and many suburbs and small towns lack high-bandwidth options or other enhanced services.

All three social goals – access, affordability and comparability – are now threatened by the policies and administrative practices of the Joint Board of the FCC. ■

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The History of Universal Service

Universal service means that everyone has a telephone at affordable prices. This has not always been the case.

In the early part of this century the telephone was a novelty, used mainly by a few businesses and wealthy hobbyists in large cities. There were hundreds of telephone companies, and many used different electronic protocols. Result: Many telephones did not interconnect and phone service was very expensive. **Theodore Vail**, then chief executive of the new AT&T, had a vision that if all telephones interconnected (the first meaning of "universal service") and if telephones were more widely deployed, the telephone would become an enduring feature of American life. Like **Henry Ford** with the automobile, Vail's strategy was to make the telephone so convenient and so affordable that every working family could afford one.

However, connecting a wire to everyone's home and business is expensive. Furthermore, the cost varies widely depending on where the subscriber is located. Customers located in densely populated urban areas close to the switching center are relatively easy and cheap to serve. Customers located long distances from town in sparsely populated rural areas are very expensive to serve – sometimes costing hundreds of dollars per

month. Even with most customers living close to town, the cost of serving them was higher than the price most were willing to pay.

To solve this problem of how to serve high-cost areas at affordable prices, Vail cut a deal with government regulators to ease the burden for users in high-cost areas through an intricate system of cross-subsidies within the telephone pricing structure. Result: Business customers were charged more, so that residential customers could be priced less. Urban areas were charged more than would otherwise be required, so that rural areas could have affordable service. All this was possible because AT&T had a government-enforced monopoly on the provision of telephone service, and government regulators enthusiastically cooperated.

Even with the AT&T monopoly, however, some communities were so remote and isolated that even Ma Bell could not afford to serve them. In many of these communities local citizens and businesses banded together to form cooperatives to bring the telephone to their community. Accelerating after World War II, both grassroots and federal initiatives were launched to wire rural America.

But there was a problem: Small rural telephone companies lack the urban population centers to subsidize their high-cost customers. To address this reality, explicit governmental support programs (i.e., subsidies) were initiated. The Rural Electrification Association (REA) provided low-cost capital to build the infrastructure, and support payments were developed to directly cover the ongoing costs. Even today the Universal Service Fund (USF) provides payments to small telephone companies that cover their costs in excess of 115% of the nationwide average cost.

Large local exchange carriers, (called LECs) such as the Regional Bell Operating Companies (RBOCs) and GTE, continue to receive most of their support for serving high cost areas through cross-subsidies hidden in their rate structure.[3] Examples of this hidden support (or "implicit subsidy" as the telco people say) include the following:

- Business customers are typically charged two to three times the price of residential telephone service, even though the services are essentially the same and the actual cost (not price) of serving the business customer is cheaper. In most areas residential customers pay $15 - $20 per month for service while business rates often range from $30 - $50. This "surplus" used to subsidize higher-cost services is larger than it appears because a business is typically located in a high-density area closer to the switching office, meaning its service costs less.
- Long distance services are charged "access fees" that range between 2 cents to 5 cents per minute on each end of the call. The cost of these connections is under a penny.
- Advanced telephone services such as Call-Waiting, Call-Forwarding, Voice-Messaging and Caller ID are often priced at $5 per month or more. Because these services are provided through software in the main switch, their cost is very small.

Using hidden, indirect or "implicit" subsidy mechanisms such as these, LECs and the government regulators have been able to keep residential rates and rural rates "affordable" – that is, priced below cost or artificially low.

The Telecommunications Act of 1996

In 1996 Congress amended the Telecommunications Act of 1934. The changes brought about by this landmark legislation are significant and profound. First and foremost, the 1996 Act changed the basic economic model for telecommunications from monopoly to competition. With telecommuni-

Rural Summit on Affordable Telecommunications

On July 17-18, 1997, the Center for the New West convened the *Summit on Affordable Rural Telecommunications* in Salt Lake city. The Summit, co-sponsored by the Western Legislators' Conference of the Council of State Governments-West, was chaired by Utah Speaker and CSG Chair **Mel Brown**.

Business executives, government officials and civic leaders from 13 western states attended the session. The event sparked policy makers, rural economic development leaders and state and federal regulators to get more involved on the issue of shared social responsibility for affordable telecommunications service.

"The REA brought electric power to every rancher, farmer and homesteader in Utah and throughout the West, no matter where they lived," Brown told the Summit. "By the same token, new telecommunications technologies and especially the Internet will have the same kind of impact...making it possible for knowledge workers to live almost anywhere." ■

"The future of Utah's diverse and vibrant economy ... as with all Western states ... depends in very large part upon modern telecommunications. Access to a reliable high-speed network is not a luxury; it's a basic necessity which must be available to all communities at affordable prices."

Utah Governor Mike Leavitt

cations playing such a vital role in our society and economy, lawmakers and policy specialists alike generally thought that consumers and enterprises alike would benefit from the new products and lower costs that a competitive market would deliver. Congress was wise, however, in recognizing that the cross-subsidies of the past were fundamentally incompatible with a competitive marketplace. As a result, the 1996 Act includes specific provisions and language not only to preserve but to advance and expand universal service.

Just as Willie Sutton robbed banks because "that's where the money is", new entrants are attracted to the telecom markets where they can get the biggest bang for the buck – the most profitable markets, the markets having the largest margins. In examining the new and dramatically more competitive telecommunications landscape today, it is not surprising that most new entrants are competing for high-end business customers located in densely-populated business districts or edge city office parks. They are not focused on bringing competition to residential customers. As noted above, business services are priced with big profit margins. Because these are the margins that also fuel universal service today, Congress directed that the indirect (or hidden, implicit) support for affordable service in rural and other high-cost areas be replaced by explicit support mechanisms (e.g., direct and visible subsidies) that are "specific, predictable and sufficient".[4]

Even though many economists and other observers objected to the continuation of subsidies, Congress disagreed and provided specific directions and timetables for the preservation and advancement of universal service:

- A Federal/State Joint Board was created to oversee the implementation of the universal service provisions of the Act. The Joint Board is composed of three federal regulators, four state regulators and one consumer representative.
- The Joint Board was to recommend a plan to the FCC by November 8, 1996, and the FCC was to act to implement the federal provisions of this plan by May 8, 1997.
- An explicit federal mechanism, funded by all telecommunications providers on a competitively neutral basis, was to be developed to support affordable service in rural areas.
- A new fund was to be created to support the provision of advanced telecommunications services to schools, libraries and rural health care facilities.

Implementing the Act

So far, the implementation of the universal service provisions of the Telecommunications Act of 1996 is a mess. This unfortunate situation is the result of three fundamental political conflicts:

- **Urban core and edge cities v. suburbs and small town America.** More specifically, it's really an issue of high-cost (low density) states v. low-cost (high density) states. Reason: The cost of providing telephone service varies widely depending on population density and distances between customers. Regulators representing lower-cost, densely-populated states (like New York, New Jersey and Maryland) are challenging the overall level of support necessary to assure affordable service in small town and rural America, and even questioning

Mandates of the Telecommunications Act of 1996

1. All Americans and the entire country should have access to advanced telecommunications and information services.
2. Rates charged in high-cost rural areas should be comparable to rates charged in low-cost urban areas.
3. All providers of telecommunications service should make an equitable contribution to universal service.

whether new explicit funding programs are necessary.

- **Long distance companies (IXCs) v. local exchange companies (LECs).** Telecommunications providers who do not provide local residential service (such as AT&T and MCI) are seeking to reduce and minimize the size of the universal service support fund that they will have to pay into.
- **"High-appeal" Schools and Libraries Fund v. "low-appeal" Rural Fund.** Despite clear Congressional directives that the FCC should make affordable rural service their top priority, the FCC, under former Chairman **Reed Hundt**, chose to implement the "sexier," politically correct schools and libraries program first.

As a result of these and other conflicts, we approach the third anniversary of the passage of the 1996 Act, no closer to a solution to the critical issue of preserving and advancing universal service and, consequently, affordable rural services. Instead, regulatory policies and actions have created new conflicts, pitting East against West (and other sparsely populated areas); central cities against suburbs, small towns and rural areas; big business against small and mid-sized business; rich against poor; and middle class majorities against minorities.

What went wrong could literally fill a book. Take the Schools and Libraries program. While laudable and important, it has created confusion and political ill-will that now threatens the rural support program. The FCC decided in 1997 that $2.25 billion per year should be spent to wire schools for the Internet. The problem: This $2.25 billion is new money not presently in the system. When AT&T and MCI were forced to pay their share, they put new surcharges on customer bills which irritated consumers and incensed members of Congress who claimed that they however, "did not vote for a rate increase." Removing the hidden subsidies will not necessarily result in a rate increase – certainly not for most people. To the contrary, prices for many services will go down. Even though a modest surcharge will replace the hidden subsidies, most consumers will see a decrease in their overall bill. More

How Big Is The Universal Service Fund?

The cost of supporting affordable residential telephone service has been estimated to be as much as $20 billion per year. Pre-1996, before the new Telecommunications Act, the cost of universal service exceeded $20 billion – nearly all of which was covered by hidden, indirect or "implicit" subsidies, primarily from long distance access charges, high business rates and "overcharges" that government regulators and companies built into the prices for enhanced services such as Call Waiting, Caller ID, Call Forwarding and others. The rest – about $1.3 billion – constituted the old Universal Service Fund and was allocated primarily to small, independent telephone companies. Competition makes these "implicit" cross-subsidies unsustainable and the Act makes them illegal. That's why Congress called for the creation of new "explicit" support mechanisms – that is, direct and visible subsidies to replace hidden or implicit subsidies.

In addition to a new high-cost fund, paid for by "explicit" or direct subsidies, there are three other "universal service" funds administered by the FCC:

- **Schools and libraries.** A $2.25B fund to provide advanced telecommunications services to schools and libraries.
- **Rural health care.** A $400M fund to give rural health care providers access to telecom services comparable to those in urban areas.
- **Lifeline and Linkup.** An FCC assistance program for low-income individuals to get connected and stay connected to the network.

Putting a price tag on the cost of fixing universal service is proving to be difficult. Several years ago, former FCC Chairman **Reed Hundt** estimated the cost of fixing the problem at $8 to $12 billion. An analysis endorsed by AT&T and MCI puts the problem at somewhere between $4 to $6 billion. The United States Telephone Association (USTA), the trade association of the telcos, estimates the cost at something over $20 billion. Representatives of low-cost states recently argued before the Federal/State Joint Board – and the Joint Board agreed – that the problem could be solved for the RBOCs and GTE for as little as $125 million.

These widely different estimates of the cost of solving the problem create a very large area of uncertainty and confusion. Reason: Determining the cost of telephone service is a difficult problem because a single network provides so many services (local, long distance, call-waiting, etc.). To determine the cost of any one service (like basic telephone service) requires allocating the cost among all the different services.

There is no analytically correct way to do this. So stakeholders tend to embrace approaches that give the results that benefit them. Long distance companies, who will pay into the fund but do not serve rural customers, favor allocations that lower the fund size. LECs, who do serve rural customers, have cost studies that show the need for a larger fund. High density, low-cost urban states favor a smaller fund; high-cost rural states a larger fund. In the meantime, while all of this debate is going on, new entrants are flooding low-cost urban markets where they "cherry-pick" the high-volume, low-cost business customers located in high-density areas. Result: New entrants are "skimming the cream" that is now funding affordable services to high-cost areas outside the high-density urban core and edge city office parks. ■

"[The FCC's Universal Service rules are] like trying to build this nation's interstate highway system on a state-by-state basis; with its quality and capacity determined by the financial abilities of each jurisdiction. Certainly the 'information superhighway' is as important to us as the interstate highway system and we should share the burden by roughly the same proportions – 90% national and 10% local."

Dr. Flo Raitano, veterinarian,
former mayor of Dillon, Colorado,
director, Colorado Rural Development Council

importantly, affordable service in rural areas will be insured, purchasing power will increase and the right pricing signals will be in place to attract the competition that will keep lowering prices, fostering innovation and improving services.

Another debacle is the FCC's propensity to substitute experts for markets. Example: The FCC's quest for a "proxy model" to determine the amount of support necessary. The FCC has determined that support payments to telephone companies serving rural territory should be based on the "forward-looking economic costs of an efficient new market entrant." Lawyers, economists and lobbyists have had a field day chasing this pipe dream, and squandered two years of precious time in the process.

While the parties squabble and fight over the right governmental actions to support rural services, an important tool provided to regulators in the 1996 Act goes virtually unused. An important provision of the 1996 Act (called Section 706) gives the FCC the power to eliminate regulations (or "forebear," in the words of Act) that get in the way of bringing affordable and advanced

Universal Service Funding – A Highway Analogy

There are many examples in our society where all Americans support on a more or less equal basis the creation and maintenance of assets that serve the national interest. Examples include water supply systems, canals and waterways, airports, national research facilities for health care and national defense, and, until recently, universal telephone service.

Consider the example of the Interstate Highway system. This vital natural resource is funded by a tax on gasoline. The revenues are pooled at the national level and returned to the states to support highway construction programs. The original formula for burden sharing was 90% federal and 10% state – regardless of the size of the state or the amount of tax dollars it produces. Reason: Everyone benefits from an Interstate Highway network that permits people and commerce to pass through the wide-open spaces of Kansas, Colorado and Utah to get to California. The costs-per-mile for building a modern highway in the mountainous terrain of Utah or over the long distances in Kansas are much higher than in Illinois or Indiana. Yet Interstate 70 goes through each of these states, to the advantage of all Americans. That's why all Americans pay 90% of the cost.

Consider what would happen if the citizens of Utah or Kansas were told they had to pay 75% of the cost of Interstate 70. The answer, just based on the local value of the infrastructure, would probably be, "Thanks, but no thanks." But national assets are not evaluated entirely or even mostly by their local value. They must be evaluated against the national interest in completing the network. That's why the FCC's 75/25 approach for allocating the costs of extending high-speed access to the Internet for people and enterprises in the hinterland makes no sense. It violates the fundamental principles of network development and the national commitment, written into the Telecommunications Act of 1996, and it violates the doctrine of shared social responsibility for creating and maintaining affordable access to the Internet for all Americans. ■

telecom services to all Americans.

Outdated and obsolete rules and restrictions clearly hinder the ability of local telephone companies to deliver advanced services to their communities. Some local telephone companies are prevented from providing long distance service, even within their home state. If these and other restrictions were lifted, local telephone companies could have the scope and economies of scale to deliver advanced services to rural America. Of course the long distance cartel (which has no interest in or intention of serving rural areas) has hog-tied the implementation of these measures in red tape, opposed "forbearance," stopped the entry of LECs into long distance and stopped progress on the broader universal service funding provisions.

WHERE DO WE GO FROM HERE?

Unless the FCC changes its current policies – and those recommended by the Joint Board – and implements a sufficient universal service fund, and relies more on deregulated, competitive markets, then movement toward a two-tiered information society will increase.

Reason: Individuals, communities and enterprises in suburbs, small towns and other high-cost areas will be left behind as service quality erodes and prices go up. This will happen because both the CLECs and the ILECs will migrate to their investments in America's high-density business districts where they will invest heavily to deploy high-speed infrastructure and advanced services. This will leave America's suburbs, small towns and rural areas at a disadvantage, and these areas, by the way, are the location of an overwhelming majority of America's small and mid-sized enterprises that are responsible for most new technologies and most new job creation.

Concerned citizens, state and local elected officials, business and civic leaders and policy specialists must send a clear and unmistakable message to policy makers and regulators: This problem needs to be fixed now. Three years is long enough to implement important provisions necessary to preserve affordable service and to use deregulated, competitive markets to

Milestones – or When is All of this Going to Get Done?

The 1996 Act called for the FCC to develop and implement a plan for fixing universal service by May 8 of 1997. Now, more than 18 months later, we are still waiting for a solution. Here are some of the important milestones – in this long history of missteps and missed deadlines by the federal agency with prime responsibility for implementing the intent of Congress:

February, 1996	Congress passes and the President signs the Telecommunications Act of 1996.
March, 1996	The FCC acts to appoint a Joint Board consisting of four (4) state regulators, three (3) federal regulators, and one (1) consumer representative.
November, 1996	The Joint Board issues its recommendations to the FCC. It leaves open the possibility of a national high-cost fund.
May, 1997	The FCC issues its decision implementing the Joint Board recommendations. This decision includes a funding formula giving states responsibility for 75% of the funding and the federal government responsibility for 25%. The decision, including the 75/25 rule, was to be implemented by January, 1999.
April, 1998	In response to public concern, Congress directed the FCC to report to Congress on implementation of the 1996 Act, including whether the 75/25 funding split is consistent with the Act. The FCC agrees to reconsider the 75/25 provisions.
June, 1998	The FCC punts the 75/25 issue (and others) to the Joint Board and asks for additional recommendations. The FCC then defers implementation from January to July of 1999.
October, 1998	The Joint Board signals its view that large LECs (e.g., RBOCs and GTE) may not need additional explicit high-cost funding. This approach, if adopted, would require a continuation of implicit or hidden subsidies, which are proscribed by the Act and not sustainable owing to competition.
November, 1998	The Joint Board issues its Recommended Decision. While recognizing the need for low-cost states to support high-cost states (a move in the right direction), the Joint Board recommendation continues to rely on significant implicit support that is otherwise proscribed by the Act. Example: The Joint Board would continue to use statewide averages of cost to determine which companies qualify to receive money from the Universal Service Fund.
July, 1999 (?)	Deadline for implementing the new explicit mechanism for funding Universal Service. If this date is deferred again, or if the new explicit mechanisms are not sufficient, then affordable service to the highest-cost RBOC and GTE customers will be in jeopardy.

Where's the Beef?

If funding universal service is so good for the country and makes so much sense, why all the debate and fuss over funding it? The answer lies in the fact that it's basic human nature (and the nature of governments and companies, too) that people look out for their own self-interest. With universal service there are many forces that make a common-sense, national interest solution difficult:

- Low-cost states don't like the idea of money leaving their state to fund universal service in other states. Like **Ross Perot**, they fear the "giant sucking sound" of money going to the West.
- Companies that don't provide local telephone service to high-cost areas (companies like AT&T and MCI) don't like the idea of their hard-earned dollars going to local exchange companies that do.
- Computer manufacturers, software and modem makers and CATV providers – all of whom are now part of the Internet community where the telephone line represents the most widely used on-ramp – have never participated in universal service burden-sharing and will strongly resist any moves in that direction.

Our founding fathers anticipated problems like this and created a federal government to solve problems that cross state lines and thereby help knit the nation together – another dimension of *e pluribus unum* ("out of many, one"). Communications cross state lines and the federal government is involved. FCC policies and regulations, unfortunately, have been serving special interests and political interests and not the national interest in the rapid and ubiquitous deployment of high-speed, broadband communication services to all Americans, everywhere. ■

extend new, advanced technologies and services to all Americans. A policy which defacto creates creates information have-nots is not good public policy. It must be changed.

What is needed is a national high-cost fund that will not pit region against region, urban against rural, high-cost states against low-cost states, big business against small business – and leave minorities out altogether. We should put a stop to redlining by geography, income, ethnicity and size of business enterprises.[5]

Most importantly, the FCC needs to obey the spirit and letter of the Telecommunications Act of 1996. That means that competition and subsidies are to coexist and that individuals, communities and enterprises in high-cost areas should have access to affordable services that are comparable to those in high-density, low-cost urban areas. To accomplish this, the FCC must do the following:

- First, for as long as there are subsidies in the system, **all subsidies or other so-called "support mechanisms" should be explicit, direct and visible**. Subsidies involve transferring the burden of paying for a service from one user to another. Those who pay and those who receive should know where they

Universal Service By The Numbers

Regional Differences Are Challeng to Fcc's Ability to Implement National Policy

Ratio of Subsidy Providers to Subsidy Users

"Subsidy" users are high-cost customers costing over $100/month to service.

State	Ratio
SD	20:1
MT	24:1
WY	28:1
NM	53:1
GA	261:1
FL	755:1
NY	1,624:1
MD	3,701:1
NJ	30,825:1

Source: BCPM3 with FCC Common Inputs. Non-Rural LECs Only.

Surcharge Required to Support High-Cost Customers

How much will each customer have to pay to support costs that exceed a $30/mo. affordability benchmark?

State	Monthly Surcharge
WY	$12.35
SD	8.32
MT	7.28
NM	4.29
GA	1.67
NY	0.84
MD	0.82
FL	0.43
NJ	0.09

Source: HAI 5.0, Default Inputs, 18Kft loop. Non-Rural LECs Only.

Imbalance of Payments

Western surcharges soar compared to Atlantic seaboard

State	Monthly Surcharge	x NJ Price
WY	$12.35	137
SD	8.32	92
MT	7.28	80
NM	4.29	47
GA	1.67	18
NY	0.84	9
MD	0.82	9
FL	0.43	5
NJ	0.09	–

Source: HAI 5.0, Default Inputs, 18Kft loop. Non-Rural LECs Only.

stand. No subsidies should be indirect, hidden or implicit. That's the law, but it is not being followed.

- Second, to assure affordable, high quality services to rural and other high-cost consumers, **all support payments must be sufficient.** Present implicit support is not sustainable in a competitive marketplace. If economists and analytical methods (e.g., cost models) are to be used to determine the amount of support payment, then they must accurately estimate the costs that providers will actually experience in serving customers.[6]
- Third, **all subsidies should be fundamentally fair for all consumers**. Residents of a small town in Wyoming or Montana or South Dakota should have basic monthly rates that are comparable to those in more urban areas of the nation. Furthermore, consumers in rural states should not be forced to pay significantly higher surcharges than residents of more urban states such as New Jersey or New York.
- Fourth, **all subsidies should be competitively neutral**. The burden of paying a subsidy cannot be placed only on LECs, or long distance carriers. Convergence among industries and technologies blurs and obliterates the old industry boundaries and labels. If the burden is placed on wireline carriers, what about wireless carriers or CATV providers? And what about computers, software and modem makers? Convergence among industries and technologies neuters all the old approaches. They won't work. Today, consumers get telephone service over cable and video over telephone lines. Telephone companies are becoming Internet Service

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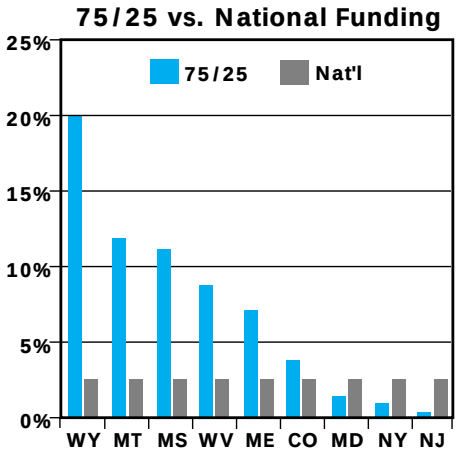
How the FCC's May 8, 1997 Decision Hurts Western Consumers

How should the cost of supporting affordable services in small towns and rural areas be paid for? One sensible alternative: Establish a national universal service fund with a modest surcharge on all telecommunications users so that everyone could be connected to the network. Another alternative: Require each state to cover its own cost of funding universal service within their borders.

This second alternative would impact states differently. Reason: Consumers in states with large numbers of high-cost customers, and no large urban areas to spread these costs over would face extremely high surcharges. Bowing to the interest of the low-cost states in 1997, the FCC directed that only 25% of the cost of universal service be funded nationally, and that the remaining 75% of each state's needs be funded within that state. The unequal impact of the 75/25 funding plan can be clearly seen in the chart at right.

As a result of public outcry, Congress directed the FCC to reconsider this ill-advised decision. To preserve the goals of the 1996 Act, the cost of connecting the high-cost rural customers must be funded from a national fund. From a national interest perspective, a national fund is the only fair or effective alternative for ensuring that all Americans and all regions – everyone, everyplace – are connected to the telecommunications network.■



Source: BCPM3 with FCC Common Inputs. Contact McLean & Brown for each of the 50 State results.

References

1 In the rapidly emerging world of the Internet, there is also increasing attention to "Internet access (or users)." One measure of this is "computer penetration" which seems to be around 43%, though there is tremendous variation by race, income and geographic region

2 The role of the USF is not to drive innovation. It is to take account of those who would otherwise not be served by the competitive market.

3 Some large LECs receive limited payments from the current USF. However, large LEC, payments are computed under a different and less generous formula than that used for small LECs.

4 Telecommunications Act of 1996, Section 254(b)(5).

5 Example: The FCC should establish a National High-Cost Universal Service Fund to support 100% of costs of extremely high-cost areas (for example, areas where costs exceed $50/month). All communication companies investing in facilities to provide basic service to rural and high-cost consumers should have access to the National Fund. The FCC should preserve existing indirect subsidies until the new explicit support mechanisms can be established. The importance of establishing a National Fund should be pressed with state and local officials, members of Congress, members of the FCC's Joint Federal/State advisory board and with the FCC itself.

6 It should also be emphasized that if support payments are not sufficient, then regulators will not be able to maintain the concept of Carrier of Last Resort (COLR) or the obligations that go along with it.

7 On these points, see **Jeff Eisenach** and **Jay Keyworth's** remarks at the Progress & Freedom Foundation's annual summit on telecommunications policy in Aspen, Colorado, August 24 - 25, 1998

8 However, there is no rational way for a regulator to decide who should pay or how to allocate tax burden sharing among the suppliers of communications services. If the government insists on maintaining subsidies, the only competitively neutral way to pay for subsidies is out of the general fund – not out of user fees or excise taxes. If payments out of the general fund are infeasible for political or other reasons, the second-best way to fund universal service while following the principle of competitive neutrality is to assess a user fee – e.g., an explicit surcharge on customer bills.

Distance and density drive the cost of telecommunications in rural communities

During the 1997 Salt Lake City Rural *Summit on Affordable Telecommunications*, **Brian Staihr**, a regulatory economist for Sprint Communications and U S WEST vice president **John Scully** both demonstrated how "distance" and "density" affects the cost of providing telecommunications services.

According to Staihr, *distance* is calculated in terms of "loop length" - that is, the distance a wire must be strung between a consumer's home or business and the local phone company's central office or switching facility. In **New Jersey**, the average loop length is 13,601 feet. But in **Wyoming**, it's the distance of 28,969 feet. This creates an average cost difference of about $26 per line more each month to provide service in Wyoming than New Jersey.

The impact of *density* on the cost of building telecommunication facilities was also demonstrated. According to Scully, the average cost to provide a single line to a family in an area of 5,000 households per-square-mile is $633; the cost of providing the same line in a rural area within 10 households per-square-mile, is a whopping $7,845.

The story of the cost of telecommunications throughout the West can be dramatically understood by looking at the density maps presented at the Salt Lake City Summit.

For example, in Portland and other cities up and down the Willamette Valley, monthly costs fall as low as $20. But in about 80 percent of Oregon the cost of service can be five to ten times that amount. The story of Oregon is the story of the West, where the costs of providing telecommunications services dramatically increase in communities located outside compact and densely-populated urban areas.

The implications of distance and density were immediately understood by Summit participants: Consumers living and working in high-cost areas – suburbs, small towns or rural areas – will be dramatically disadvantaged if their telecommunications rates go to "cost." Such a policy would result in dramatic rate increases – four or five-fold increases in many cases. Small towns and rural areas would find it difficult to attract new businesses, retain existing businesses or advance other economic development objectives under such conditions. ■

Comparison of Loop Lengths and Monthly Costs of Service

	Loop Lengths	Service Costs
District of Columbia	6,903	$17.41
New Jersey	13,601	$22.50
Maryland	14,855	$25.54
National Average	17, 273	$29.90
Oregon	21,110	$34.12
Idaho	26,982	$41.84
Wyoming	28,969	$48.63

Source: Sprint Communications

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Providers (ISPs); ISPs are becoming telephone companies – and cable television companies are becoming both. Broadcasters are now unveiling digital television, and computer companies are making it possible to access television programs on computer screens. Satellite providers offer both television and Internet access; wireless modems grow in popularity; and electricity companies are using their rights-of-way and service infrastructure to enter the telephone business.[7] Everyone is in the communications business, so everyone who benefits from ubiquity should be required to help pay for it.[8]

- Fifth, **the subsidy formula should be sustainable**. Subsidies distort the market. If the government is going to use subsidies, they should minimize market distortions and create a sustainable approach and formula. By carefully targeting subsidies only to customers living in high-cost areas and to low-income consumers in all regions of the country, the size of the fund can be minimized while still maintaining the goal of a ubiquitous network where all are connected.
- Sixth, **telecommunications must move toward deregulated, competitive markets** where price moves toward cost. Exceptions: The problems of affordability and ubiquity, and those should be address only through carefully targeted universal service payments as described above.

The bottom line is this: We have a law that requires the government to make rules that will give life to a national interest guarantee. That guarantee says that all Americans, no matter where they live, should have access to affordable telephone service and to the Internet. It's time to translate that national interest guarantee into a national universal fund service and a pro-competitive de-regulated market environment that will make it happen. Three years is long enough. ■

Guide to Telecomputing Lingo

Commonly Used Terms and Acronyms

Access fees The charges long distance companies pay to local telephone company owners for using local telephone networks to originate and complete calls. These fees are often priced above cost by regulators who then allow the LECs to use the overcharges to help keep residential service affordable.

Access lines The local telephone lines used to connect residential and business subscribers to the local and long distance telephone networks – and to the Internet.

AT&T divestiture The court-ordered breakup of AT&T resulted in the creation of the Regional Bell Operating Companies (RBOCs) in 1984. AT&T retained its long-distance and equipment divisions, while the RBOCs took responsibility for providing local phone service. There were seven RBOCs in 1984: NYNEX (in the Northeast), Bell Atlantic (mid-Atlantic), Ameritech (Midwest), Bell South (southern US), SBC (Texas southwest), U S West (Great Plains and Rocky Mountain West) and Pacific Telesis (California and Nevada). Today, there are five RBOCs (U S West, SBC, Ameritech, Bell Atlantic and Bell South) plus GTE. If pending mergers are approved, there will be four RBOCs (Ameritech merges with SBC) and GTE will disappear into Bell Atlantic.

Bypass The process by which a large customer connects directly to a long distance network, thus avoiding the local telephone network. Bypass allows the customer to avoid paying many of the local, state and federal taxes on local telephone lines and also eliminates the access fee.

CLEC Refers to competitive local exchange carrier which can provide telecommunications services to customers through its own facilities, by leasing services from the communications' network of an LEC or by reselling LEC services.

Common carrier An entity licensed by the Federal Communications Commission or a state public utility commission to supply communications services at established prices. Common carriers cannot discriminate among users and must provide service to all who request it.

Cream skimming The process by which a company pursues only the most profitable customers. In telecommunications, cream skimmers target corporate and institutional customers who are heavy users of local and long distance services.

Facility-based service provider A provider that builds and maintains its own network. All local telephone companies are facility-based; most new local competitors are not. (See **resellers**)

FCC Refers to Federal Communications Commission. A so-called independent federal regulatory agency created by Congress in 1934 to regulate interstate and international communications by telephone and other means. Local and intrastate telephone services are regulated by state public utility commissions. (See **PUC**)

Flat rate A method of pricing telephone calls so that customers pay the same rate per month regardless of how many calls they make. It is the most common pricing plan for residential telephone service. (See **measured service**)

Interconnection The process of linking one network to another so that telephone calls or data can be transferred. Without interconnection, telephone users would only be able to talk to other subscribers of their local telephone company. The term is also applied to wholesale arrangements between resellers and local telephone companies (See **resellers**)

IXC Refers to interexchange carrier or long-distance company such as AT&T, MCI or Sprint. Generally speaking, IXCs carry traffic from one **LATA** to another.

Joint Board A body created by the Telecommunications Act of 1996 to investigate universal service issues. It consists of three FCC commissioners, four state public utility commissioners and a consumer representative. The Joint Board has issued two recommendations. On November 7, 1996 and November 23, 1998, the Joint Board made its universal service recommendations to the FCC.

Lifeline A program created by federal regulators that waives the monthly subscriber line charge for low-income subscribers. Most states have matching programs. The LECs recover their costs for Lifeline from a subsidy funded by an explicit surcharge on telephone bills.

LATA Refers to local access and transport area. The LATA is a region within a state that constitutes the local and long distance service area for Bell operating companies. The Bell companies are only authorized to carry calls within a LATA. GTE and other local telephone companies are not subject to LATA restrictions so they are authorized to provide both local and long distance services within and across LATA boundaries. RBOCs may provide intraLATA long distance services. The new TA legislation also authorizes RBOCs to provide interLATA long distance to cellular customers. RBOCs also are allowed to provide interLATA long distance service outside of their wireline local service areas.

LEC Refers to local exchange carrier. The LEC is the local telephone company with an obligation to provide local service to all customers within a specific exchange territory. (Generally, there are several local service companies within a LATA.)

Local loop The line that connects the telephone company's central office to a telephone or other device. The loop provides two-way communications. By contrast, a cable television system's local loop is usually designed for one-way communications.

Measured service Also known as toll service, it is a method of charging subscribers based on the time, duration or distance of a call. Also called **measured telecommunications service (MTS)**.

MFJ Refers to modified final judgment. The ruling by Judge Harold Greene in 1982 that settled an antitrust suit against AT&T. It resulted in AT&T's breakup in January 1984.

Monopoly Economist John Stuart Mill in 1848 established the principle that there are instances in which a single provider can produce a service or product more cheaply than if there were multiple producers. For most of this century, utilities (including telephone companies) have been considered monopolies because of the extremely high fixed investment they require. However, technology and other forces have combined to challenge the application of this principle in telephony.

Network A system for connecting various devices. A network of roads connects different cities and towns. The telecommunications network connects telephone, fax machines, modems and other devices. Just as cars would be useless without roads, so telephones would be useless without the network.

Oligopoly A situation in which a few large players dominate a market and have effective control of pricing. Commonly said to apply to the long distance market, where AT&T, MCI and Sprint control about 90 percent of the revenue.

PUC Refers to public utility commission. The state entity that regulates local telephone service and other utilities. Sometimes called public service commission, department of public services or corporation commission.

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Recycled and Recyclable

Guide to Telecomputing *continued*

Public switched telephone network The privately-owned U.S. telephone network. It is nationwide, interconnected and available to all telephone subscribers.

Redlining In telecommunications, redlining refers to competitors pursuing profitable customers while declining to provide service in suburbs, small towns, rural or other high-cost areas – or to low-income people or to low volume users of communications services. (See **cream skimming**)

Reseller A business that buys network capacity at wholesale prices from a facility-based provider (or LEC) and then resells it to the public at a profit. New competitors want guaranteed low wholesale prices. The local telephone companies want to recover a fair share of the actual cost of maintaining and operating the network. (See **interconnection**)

Switches The machines and computers that switch traffic on the telephone network. Modern switches are digital computers; older switches are mechanical devices.

Unbundling The Telecommunications Act requires incumbent local exchange carriers to provide any telecommunications carrier (e.g., a CLEC) access to network elements on an unbundled basis at any technically feasible point. This means CLECs can lease access to the local loop, the switch and even to specific services that are built into the network – such as Call Waiting, Caller ID, Call Forwarding, etc. – at rates substantially below the retail rates.

Universal service The policy that seeks to provide easy affordable access to basic telephone service to all who want it. The definition of basic service has evolved and expanded as technology has advanced.

USF Refers to Universal Service Fund. A program established by federal regulators to subsidize local telephone service in high-cost regions of the country. Historically, USF was financed out of a national pool of funds supported by a tax on interstate carriers (or IXCs) and administrated by the National Exchange Carrier Association (NECA). When the FCC proposed last year that universal service be financed 25% out of a national pool of funds and 75% out of a state pool of funds, thus requiring the states to find new sources of revenue to subsidize the shared social responsibility for universal service, it was a nonstarter.

Source: Based on Thomas W. Bonnett, *Telewars in the States,* Washington, D.C.: Council of Governors' Policy Advisors, 1996.

ACKNOWLEDGMENTS

The authors are greatly indebted to the participants in the Salt Lake City *Summit on Affordable Telecommunications* – and especially to **Brian Staihr** (Sprint), **John Scully** (U S West), and **Greg Allen** (AT&T). Their papers and the transcript of the conversation that surrounded their remarks greatly informed this report.

We also want to thank Utah Speaker **Mel Brown** for chairing the Salt Lake Summit and **Jim Monaghan** for his useful summary, parts of which are included here. We also relied heavily on **Tom Bonnett's** keen understanding of these issues and have quoted from his books and memos throughout. Other important technical assistance was provided by **Peter Copeland** and **Barbara Allgaier**. Finally, we are grateful to the Center's Communications director **Bob Wurmstedt** for shaping the final product and to **Debbie Sherr** for her desktop publishing skills.