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STATE UNIVERSAL SERVICE FUNDING AND POLICY: AN OVERVIEW AND SURVEY

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EXECUTIVE SUMMARY

The Telecommunications Act of 1996 (the 1996 Act) was the most comprehensive rewrite of telecommunications law since the Communications Act of 1934. The 1996 Act is evidence of a national commitment to bring competition and its benefits, which include lower prices, higher quality, and more rapid deployment of new services, to all telecommunications markets. To ensure that the social goal of universal telephone service would not be ignored in a competitive environment, the 1996 Act contains an explicit commitment to preserving and expanding universal telephone service, and makes it clear that both state and federal regulators have significant responsibilities in ensuring that universal service goals are met.

Two arguments are generally advanced to support universal telephone service as a social goal. First is the existence of network externalities; second is the need for all citizens to be able to access emergency services and other government entities. In addition, an efficient and ubiquitous telephone network is part of the infrastructure or social capital that allows for economic growth and development.

This report discusses the concept of universal service as it has evolved over time, describes universal service policies and support mechanisms in effect prior to passage of the 1996 Act, and examines the success of universal service policies to date. State responsibilities under the 1996 Act and the Federal Communications Commission's (FCC's) implementation of the 1996 Act are also described. This report also briefly discusses the linkages between universal service funding and other important policy issues including reform of carrier access charges and jurisdictional separations.

This report also presents the results of an NRRI survey of state commission actions to further and support universal service. The survey results are a "snapshot in time" view of state universal service funding mechanisms and policies supporting universal service, since these mechanisms and policies are evolving in response both

to the requirements of the 1996 Act and to individual state conditions. The survey results show that state commissions have been active in carrying out their responsibilities under the 1996 Act and that they have taken a number of steps to ensure support for universal service.

State commissions have taken a variety of approaches to support universal service. This indicates that there is not one uniquely "best" set of policies. Instead, each commission is designing and implementing policies that reflect the individual circumstances and needs of its state. This variety of approaches is consistent with the concept of federalism, which allows (and even encourages) states to devise policies to meet their individual needs.

The survey inquired about the status of state universal service funds — whether they were functioning, pending, or under revision. The responses are shown in Table ES-1, and a pictorial representation is shown in Figure ES-1. Of the fifty-one commissions that responded, thirty-six indicated that their fund was either functioning, under revision or pending.

Table ES-1
Status of State Universal Service Funds

Functioning (7)	AR, CA, GA, KS, VT, WA, WY
Under Revision (7)	AZ, CO, ID, NM, TX, UT, WI
Approved but not Functioning (5)	CT, HI, OK, NV, SC
Pending (17)	AL, DC, IL, KY, LA, MA, MD, MN, MO, NC, NE, NJ, NY, OR, PA, TN, WV
No Action Taken (7)	DE, IA, MT, ND, NH, RI, VA
Other (8)	AK, FL, IN, ME, MI, MS, OH, SD

Source: Authors's construct from state responses to the NRRI's survey.

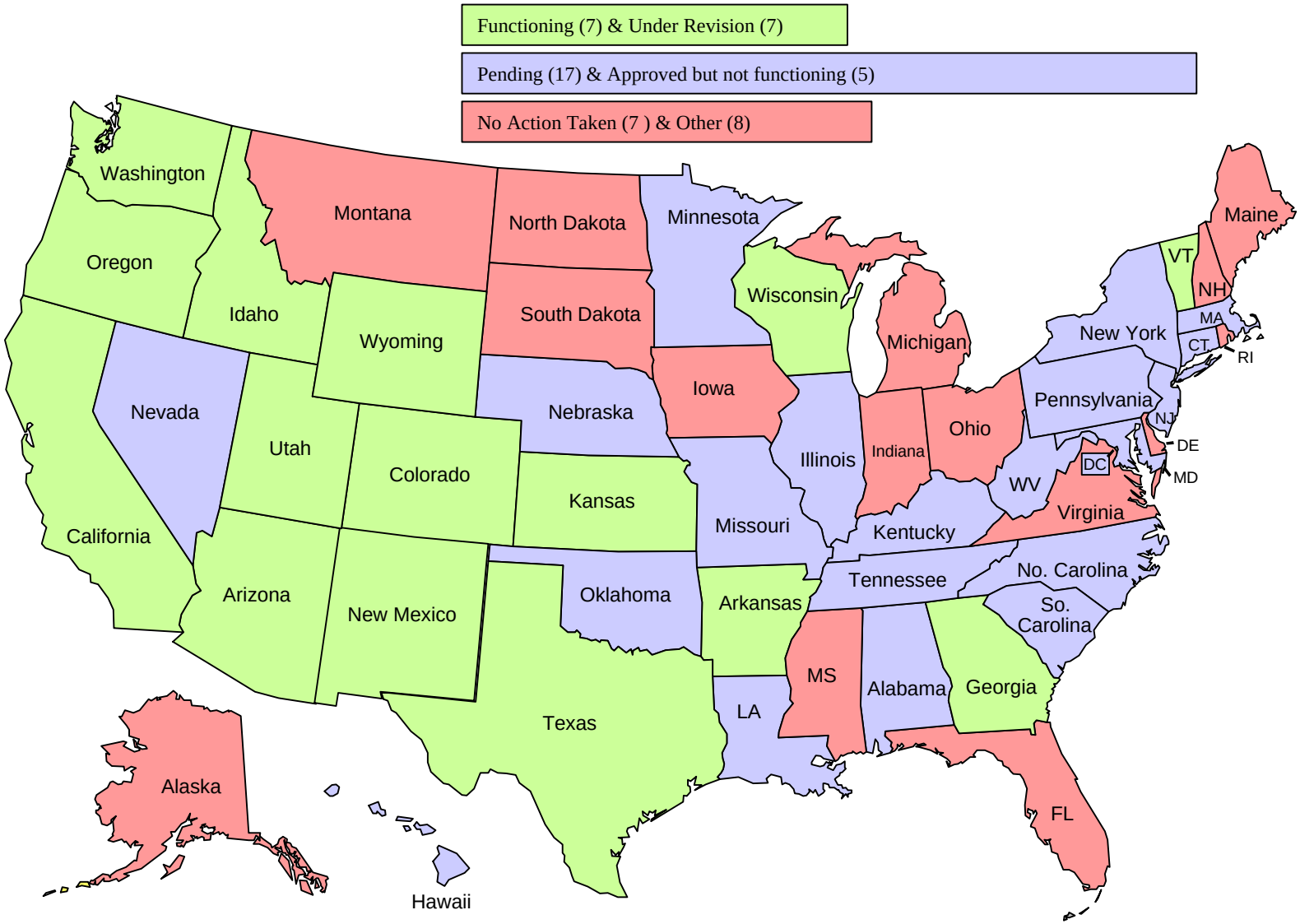

Figure ES-1. Status of Universal Service Funds by State

State support of universal service has become considerably more important because of the FCC's decision that federal support would be responsible for only 25 percent of the amount necessary to ensure universal service in an area. This decision was based on the existing jurisdictional allocation of loop costs. Thus, states may be responsible for up to 75 percent of the support necessary to keep rates at an affordable level.

This decision was very controversial. Many states, especially more rural ones, objected, and the FCC indicated that additional federal universal service support might be available where state support mechanisms, in combination with baseline federal support, are not sufficient to maintain rates at affordable levels. This issue has been referred to the Universal Service Joint Board.

The FCC also decided to base the amount of federal support for universal service on models of the forward-looking economic cost of providing service. Many state commissions have adopted or are evaluating cost models to determine the level of universal service support required in the state. This is not a trivial task. The models differ in a number of respects, including network architecture, customer location assumptions, and the prices of various labor and capital inputs. Although the debate is separable into the choice of a model platform and the selection of values for the various inputs, the issues have not been settled, and the FCC has not finalized its own model. From the states' viewpoint, it would be easier to coordinate intrastate and interstate support once the FCC has selected the platform and inputs for the interstate mechanism.

The FCC and the states have taken many steps toward designing new universal service policies, but some work remains. The shift from implicit to explicit universal service support mechanisms will require changes in carrier access charges and jurisdictional separations, both of which have been implicit sources of universal service support. Local rates may need adjusting If jurisdictional allocation factors are changed. Also, the amount of explicit universal service support will increase as carrier access charges are lowered closer to cost. Finally, various pricing policies that were used to create implicit subsidies may have to be revised in a competitively neutral environment. This, too, is likely to increase the amount of explicit support required. States will have to consider these issues in the future.

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FOREWORD

The Telecommunications Act of 1996 is evidence of a national commitment to bring the benefits of competition — lower prices, higher quality, more rapid deployment of new services — to all telecommunications markets. That Act also makes an explicit national commitment to preserving the social goal of universal telephone service. Indeed, the Act expanded the concept of universal service to include a commitment to assist schools, libraries, and rural health care facilities in obtaining advanced telecommunications services. This report puts the commitment to universal service in perspective, discusses state responsibilities and options in ensuring universal service, and presents the results of an NRRI survey of state actions in furtherance of universal service goals.

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CHAPTER 1

INTRODUCTION

A commitment to promote universal service has become a cornerstone of telecommunications policy. The expressed purpose of the Communications Act of 1934 was:

> . . . to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges . . .[1]

Although the 1934 Act did not make explicit mention of "universal service," in the years subsequent to its passage, the Federal Communications Commission (FCC) and the state public utility commissions (PUCs) developed and implemented policies that encouraged widespread deployment of telecommunications services and facilities and held the prices of basic local exchange telephone service as low as possible. It must be noted, however, that although the section quoted above can be — and has been — interpreted as favoring universal service, conscious policies to promote universal service were not adopted for some time after passage of the 1934 Act. One explanation is that when the 1934 Act became law, fewer than half of households had telephones.[2] Thus, telephone service was not viewed as essential. Over time, as penetration increased to 90 percent and beyond, telephone service did come to be viewed as essential, and specific policies were created to promote universal service. By the 1980's the universal service was generally recognized as a prominent and legitimate objective of policy. For example, the U.S. Court of Appeals for the District of Columbia Circuit used the language of the 1934 Act when it rejected a claim that the

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[1] Communications Act of 1934, Title I, Section 1 (47 U.S.C. 151).

[2] See the discussion below on the increase in telephone penetration rates over time.

FCC did not have a responsibility to promote universal service because the service in question was a local (*i.e.*, state) service and held that:

> Congress directed that, "so far as possible, . . . *all* people of the United States" are to have adequate telephone facilities at reasonable prices.[3]

This report describes the concept of universal service as it has evolved over time, discusses universal service policies in effect prior to passage of the 1996 Act. It also reviews the impact of those policies, which resulted in approximately 94% of households in the United States having a telephone. In addition, this report describes the FCC's implementation of the universal service provisions of the 1996 Act and identifies state responsibilities for supporting universal service. Finally, the results of a survey of state commission actions to support universal service are presented, and the linkages between universal service funding and other important issues such as reform of carrier access charges, jurisdictional separations, and rate rebalancing are identified. The survey results present a "snapshot in time" view, since state universal service funding and policies are evolving rapidly to meet new conditions. However, the survey results clearly indicate that state commissions have taken great interest in universal service issues and have put into place a variety of policies to support universal service goals. The fact that state commissions have taken a variety of approaches demonstrates that there is not one uniquely "best" set of policies. Rather, each state commission is considering its State's individual circumstances and needs as it designs and implements policies that ensure the continuation of universal service.

[3] *NARUC v. FCC*, 737 F. 2d 1095 (1984) at 1108 and n.6. Emphasis in the original.

CHAPTER 2

UNIVERSAL SERVICE: CONCEPT AND REALITY

As understood today, the concept of universal service as a public policy goal means ubiquitous availability of a specified set of telecommunications services delivered at a specified level of quality and at an affordable price so that every household is able to connect to the telephone network if it chooses to do so.[4]

Why is universal service an important public policy goal? Two arguments are generally advanced to support universal telephone service as a social goal. First is the existence of network externalities; second is the need for all citizens to be able to access emergency services and other government entities. The network externality argument is based on the idea that the value of a connection to the telecommunications network is positively related to the number of people who can be accessed via that network. Thus, the greater the number of people who are connected to or accessible via a network, the greater the network's value to <u>all</u> of its subscribers. The citizen access argument is based on the belief that citizens need to be able to contact emergency services (law enforcement agencies, fire departments, and emergency medical facilities) and to a lesser extent, schools, and other government agencies. In addition to these arguments, universal access to telephone service allows the economy to be more efficient and promotes economic growth by lowering many kinds of

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[4] The term "telephone network" is used here in a broad sense. In a competitive environment, the telephone network includes all interconnected means of telecommunications, which is defined as

> . . . transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received. [47 U.S.C. 153 (44)]

transactions costs.[5] Thus, an efficient and ubiquitous telephone network is part of the social capital or infrastructure that allows for economic growth and development.

Operationalizing the goal of universal service means taking action to ensure that rural areas will have access to an acceptable quality of telephone service at affordable rates, that low-income households have access to telephone service, and that advanced technology is available in all areas of the nation at reasonable prices. Believing that action must be taken to ensure universal service implies that, by themselves, market forces may not produce results consistent with the goal of universal service. One scholar has observed that in its contemporary construction universal service is:

> . . . synonymous with government policies to promote the affordability of telephone service and access to the network. . . . [it is] a policy goal of sufficient importance to justify various forms of public intervention in the industry. More than just a telephone in every home, the phrase implies that a ubiquitous communications infrastructure can contribute to national unity and equality of opportunity.[6]

The goal of universal service means the universal availability of telephone service at affordable rates, but it does not mean that every household will, in fact, have telephone service. Moreover, as important as telephone service is, it is not so important as to rise to the status of being a "merit good," and some households will

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[5] For a broad view of the benefits of universal telephone service and the social and economic costs that result from households not being connected to the network, see Stephen Graham, James Cornford, and Simon Marvin, "The Socio-Economic Benefits of a Universal Telephone Network," *Telecommunications Policy* 20, no. 1 (January/February 1996): 3-10. An early discussion of the reduction in transactions costs from a ubiquitous telecommunications network may be found in Roland Artle and Christian Avernous, "The Telephone System as a Public Good: Static and Dynamic Aspects," *The Bell Journal of Economics and Management Science* 4, no. 1 (Spring 1973): 89-100.

[6] Milton Mueller, *Universal Service: Competition, Interconnection, and Monopoly in the Making of the American Telephone System* (Cambridge, Massachusetts and Washington, D.C.: The MIT Press and The AEI Press, 1997), 5.

rationally choose not to have telephone service.[7] Indeed, there are some households who might decline telephone services even if it were offered for free.[8]

This definition of universal service may be somewhat different than earlier views; nevertheless, this is the current concept of universal service. It has been argued that, prior to the 1934 Act, it was competition between various telephone companies, not government policy, that led to the deployment of telephone service and infrastructure.[9] Much of the recent debate over universal service involved deciding what functionalities must be included in the universal service package, setting minimum service quality standards, operationalizing the meaning of affordability,[10] and devising and implementing policies that ensure both maintenance of existing universal service standards and achievement of expanded universal service goals.

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[7] Merit goods are products or services that individuals are required to consume. Merit goods include seat belts and other safety and environmental protection equipment on automobiles, smoke detectors in dwellings, school attendance up to a set age, and immunizations for children enrolling in schools.

[8] Although it appears that the majority of non-subscribers are in low-income households, even at relatively high income levels telephone penetration rates do not reach 100 percent Thus, there are those who choose not to have a telephone, even though they could easily obtain one. This group includes those who just want to be left alone and certain groups who choose not to have telephones in their homes (e.g., adherents of the Old Order Amish tradition).

[9] It has been argued that the original conceptualization of universal service meant that competing telephone networks should be interconnected so a subscriber on one network could call subscribers on other networks. See Milton Mueller, "Universal Service in Telephone History: A Reconstruction," *Telecommunications Policy* 17, no. 5 (July 1993): 352-369.

[10] For example, based on casual observation of the relationship between penetration rates and income levels, one study concluded that:

> . . . penetration rates of 99 percent are consistently achieved only when the cost falls to less than 1 percent of income — to about .7 percent. Thus .7 percent of income would seem to be a target level for cost, if universal service is to be achieved. . . .

See Mark Cooper, *Universal Service: A Historical Perspective and Policies for the Twenty-First Century* (Washington, D.C.: Benton Foundation and the Consumer Federation of America, 1996), Section 3, "Affordability: Explicit Statements of Complex Goals."

Universal Service Policies Before The Telecommunications Act of 1996

Prior to passage of the Telecommunications Act of 1996 (the 1996 Act), the goal of universal telephone service was supported through a number of implicit and explicit mechanisms.[11] Explicit mechanisms provide targeted support to specific geographic areas, companies, or households. These include:

- Lifeline Assistance and Link Up America — programs to assist qualifying low-income households by providing for reduced monthly rates (Lifeline) and reduced initial charges (Link Up);[12]
- Telecommunications Relay Services (TRS) — to enable speech or hearing impaired individuals to use the voice telephone network;
- Federal and State Universal Service Funds — to support high-cost LECs;
- Dial Equipment Minutes (DEM) weighting — to reduce the intrastate rates of small LECs (those with fewer than access 50,000 lines) by allocating a greater proportion of local switching costs to the interstate jurisdiction;
- Long Term Support (LTS) — provides support to LECs with high subscriber line costs. Reduces pressure on IXCs to deaverage interstate toll rates by enabling high-cost LECs to set their common line charge (CCLC) equal to the nationwide average of CCLCs charged by LECs operating under the FCC's price cap plan; and

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[11] For detailed descriptions of the various mechanisms, see Deborah A. Dupont, *et al*., *Preparing for Addressing Universal Service Issues: A Review of Current Interstate Support Mechanisms* (Washington, D.C.: FCC Common Carrier Bureau, February 23, 1996); and John D. Borrows, Phyllis A. Bernt, and Raymond W. Lawton, *Universal Service in the United States: Dimensions of the Debate* (Columbus, Ohio: The National Regulatory Research Institute, June 1994).

[12] The federal Lifeline program currently reduces end-user charges for network access and some local calling for a single telephone line in the principal residence of a qualified customer. Support is provided in the form of a waiver of the federal subscriber line charge (SLC). Participating states are required to generate a matching reduction in intrastate end-user charges. There are two plans: Under Plan 1, a qualifying subscriber's bill is reduced through a waiver of half the $3.50 federal SLC. The subscriber's bill is further reduced by state support that must match or exceed the federal contribution and may be generated from any intrastate source. Plan 2, which most participating states have chosen, expands Plan 1 to provide for waiver of the entire residential SLC (up to the amount matched by the state). A subscriber's bill may be reduced by twice the SLC (or more, if the state more than matches the value of the federal waiver). As with Plan 1, the state contribution may come from any intrastate source. Under either plan, qualifying subscribers may receive assistance for a single telephone line in their principal residence.

The Link Up program helps low-income subscribers initiate telephone service by paying half of the first $60.00 of installation charges. Where an ILEC has a deferred payment plan, Link Up also will pay the interest on any balance up to $200.00 for up to one year. To be eligible for this program, a subscriber must meet a state-established means test, and, unless over 60 years old, the subscriber may not be a dependent for federal income tax purposes. See Dupont, *et al*., *Preparing for Addressing Universal Service Issues*, pp. 34-35.

- Rural Utilities Service Loans — to support rural LECs' construction budgets.

Implicit mechanisms provided untargeted support and included various pricing and cost allocation policies that tended to hold the cost of basic services low. Implicit mechanisms include rate averaging, which kept rates relatively low in rural areas; business - residential rate differentials, which kept residential rates low; cost allocation and jurisdictional separations schemes, which shifted some costs and revenue responsibility from intrastate to interstate jurisdictions; and residual pricing, which treated basic exchange service as the last choice for increasing revenues.[13]

Many of the support mechanisms in place prior to enactment of the 1996 Act were designed and implemented under an environment in which telephone services were provided largely through regulated monopolies. As such, some of those mechanisms — especially the implicit support mechanisms — assumed an ability to move funds from one area to another, from one class of customer to another, and from one type of service to another, all within a single company. Prior to the 1996 Act, the efficiency, relative cost, and the efficacy of some of the mechanisms had been questioned. The 1996 Act's focus on opening markets to competition brought the sustainability of a number of those mechanisms into serious question. Once competitive entry is allowed, such implicit mechanisms may be untenable, and attempts to maintain them might result in delayed competition in some markets, inefficient or uneconomic entry in others, and an inability to meet universal service goals.[14]

Assessing the Effectiveness of Historic Universal Service Policies

One thing may be said with certainty: whether through competition, the effect of specific public policies, or both, universal service is largely a reality. With the exception of the 1930 to 1940 period, when it declined due to impact of the Depression, household telephone penetration has increased dramatically. The percentage of households with telephone service increased from 36.9 percent in 1940 to 93.9 percent

[13] For a description of residual pricing, see Carol L. Weinhaus and Anthony G. Oettinger, *Behind the Telephone Debates* (Norwood, New Jersey: Ablex, 1988): 64-66.

[14] Inefficient entry exists if an incumbent's prices for a particular product are sufficiently higher than its costs, and a less efficient (higher cost) competitor can enter the market and be profitable.

in 1997.[15] Moreover, the FCC reports that from November 1983, when it began conducting its subscribership surveys, to November 1997, eighteen million households have been added to the telephone subscribership rolls. This reflects both an increase in the number of households and a small, but statistically significant, increase in the percentage of households that are telephone subscribers (from 91.4 percent to 93.8 percent). In addition, although the number of households in the United States increased by nearly 20 percent over that period (from 85.8 million to 102.8 million), the number of households without a telephone actually decreased by almost 15 percent (from 7.4 million to 6.2 million).[16] Nevertheless, after decades of steady increase, the national household penetration rate has been stable at approximately 94 percent for the last few years and may be approaching an asymptotic value.[17]

During the 1984 to 1997 period the change in telephone subscribership rates exhibits considerable variation among the states. Over that period, estimated penetration rates increased by 8 percent, or more, in South Carolina and Mississippi — both of which started at relatively low levels. However, estimated penetration rates actually decreased in four states and the District of Columbia during this period.[18] An examination of the FCC's data shows that state penetration rates ranged from 82.0 percent to 96.2 percent in 1984, while in 1997 the range of state penetration rates was from 88.1 percent to 97.1 percent.[19] This indicates that there has been a reduction in the range of individual state penetration rates around the national average value.

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[15] See Federal Communications Commission, *Trends in Telephone Service* (Washington, D.C.: Common Carrier Bureau, Industry Analysis Division, February 1998), Tables 15.1 and 15.3.

[16] *Ibid*., p. 67 and Table 15.1. The 93.8 percent figure is for November 1997; the 93.9 percent figure cited above is the 1997 annual average figure for the March, July, and November 1997 Subscribership Surveys.

[17] The question of whether there is a maximum attainable penetration rate is considered, and models that estimate penetration rates as a function of explanatory variables such as per capita personal income, price changes for residential local and toll services, and the existence of lifeline programs are addressed in Brooks Albery, "What Level of Dialtone Penetration Constitutes 'Universal Service?'," *Telecommunications Policy* 19, no. 5 (July 1995): 365-380.

[18] Federal Communications Commission, *Trends in Telephone Service*, Table 15.2. The decrease was statistically significant only for the District of Columbia.

[19] *Ibid*.

Criticisms of the Historic System

The historic system, which relied, in part, on cross-subsidies, may have evolved because it benefitted the politically influential class of local residential customers. However, there is some concern that the previous methods of supporting universal service might not have been the least-cost or most effective mechanisms. Indeed, the historic system of implicit internal cross-subsidies may be inefficient and may not have been as effective in achieving universal service goals as a more targeted scheme.[20]

The various cross-subsidies are complicated, and many customers end up paying some subsidies and receiving others, making it difficult to determine the net effect on individual customers.[21] In fact, because the implicit subsidies are generally not subject to means testing, anomalies may result, and poor urban customers may be subsidizing rich rural customers. Moreover, because the own-price elasticity of demand for basic access is fairly low, and there is a cross-price elasticity between the price of toll calls and the demand for network access, it is possible that local access prices could be raised and toll rates lowered without an adverse impact on penetration. Indeed under some scenarios, penetration might actually increase.[22]

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[20] The historic system of implicit internal or cross subsidies is fairly complex: Customers in urban or high-density areas subsidize customers in rural or low-density areas through geographic averaging; business customers subsidize residential customers through higher rates for basic access service; toll services subsidize local service through the separations process and collection of carrier access charges; users of enhanced or vertical services subsidize users of basic services; customers who make few local calls subsidize heavy local callers through the use of flat-rate pricing; and customers who make many long distance calls subsidize those who make few through the collection of carrier access charges.

[21] See David L. Kaserman and John W. Mayo, "Cross-Subsidies in Telecommunications: Roadblocks on the Road to More Intelligent Telephone Pricing," *Yale Journal on Regulation* 11, no. 1 (Winter 1994): 119-147; and Ross C. Erickson, David L. Kaserman, and John W. Mayo, "Targeted and Untargeted Subsidy Schemes: Evidence from Post-Divestiture Efforts to Promote Universal Telephone Service," working paper, (The University of Tennessee: Knoxville, TN. 1995).

[22] This conclusion is found in Jerry Hausman, Timothy Tardiff, and Alexander Belinfante, "The Effects of the Breakup of AT&T on Telephone Penetration in the United States," *American Economic Review* 83, no. 2 (May 1993): 178-84. Hausman, *et al.* found (at 183) that, for a sample of Pacific Bell customers, long distance charges represented nearly 65 percent of the total bill, so that ". . . the effect of price changes on network penetration needs to account for both the price of toll calls and the basic exchange access price."

Assessing the Impact of Lifeline and Link Up Programs

The FCC reports that, on average, penetration rates have increased more in states with lifeline programs than in states without lifeline programs. This is true both for all households and for the low-income households that are targeted under lifeline programs. From March 1984 to March 1997, the average increase in total household penetration rate for states with lifeline programs was 2.4 percent, which is statistically significant. For states without lifeline programs, the average increase was 1.0 percent, which is not statistically significant. Of special interest is the change in subscribership among low-income households. For the households that are most affected by lifeline programs (*i.e.*, those with incomes under $10,000 in 1984 dollars) states with lifeline programs experienced an average increase in penetration rate of 6.5 percent (from 79.3 percent to 85.8 percent). States without lifeline programs experienced an average increase in household penetration rate of 3.3 percent (from 83.6 percent to 86.9 percent).[23]

One examination of the effectiveness of lifeline programs found that they had improved penetration among the targeted groups (especially when both Lifeline and Link Up plans were used).[24] Another examination of the effectiveness of lifeline programs found that, although they had a significant impact on telephone penetration rates, most beneficiaries of lifeline support would have subscribed to telephone service without assistance. Furthermore, it was found that very large increases in expenditures for lifeline programs would have relatively little additional impact on subscribership rates.[25]

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[23] See FCC, *Trends in Telephone Service*, p. 67. The FCC reported that both increases are statistically significant at the 95 percent confidence level.

[24] See J. L. Walter, "Assessing the Effectiveness of Residential Rate Assistance Programs in Furthering the Goal of Universal Service," in *Proceedings of the Eighth NARUC Biennial Regulatory Information Conference, Volume III: Multi-Utilities* (Columbus, Ohio: The National Regulatory Research Institute, 1992): 171-190.

[25] See Christopher Garbacz and Herbert G., Thompson, Jr., "Do Lifeline Programs Promote Universal Telephone Service for the Poor?," *Public Utilities Fortnightly* 135, no. 5, (March 15, 1997): 30-33.

Options for Improving Penetration

The fact that approximately 94 percent of households have a telephone does not mean that the goal of universal service has been fully realized. There is a positive relationship between household income and subscribership, with low income being the single most important determinant of low penetration rates.[26] However, minority subscribership rates lag behind white rates at all income levels, and the gap is especially wide at low income levels.[27] In addition, there are geographic pockets of low penetration, and some groups exhibit relatively low penetration rates. Moreover, as noted above, there is some concern that the historic combination of explicit and implicit support mechanisms might not be efficient. Options for improving penetration levels include establishing a minimum subscribership plan (MSP), relying on competitive forces, and developing targeted programs to encourage increased penetration.

The MSP[28] idea is based on the realization that, although universal telephone service is a goal, that goal is rarely explicitly quantified. State commissions could set attainable and quantifiable subscribership goals and allow LECs to choose the method of achieving them. An MSP would rely on the fact that LECs (whether ILEC or CLEC) are likely to have better information about the demand for and cost of providing access than do regulators. Thus, given pricing flexibility and positive incentives, LECs are likely to choose least-cost methods of meeting the goals. Moreover, an MSP may lead to prices and service packaging that benefit marginal subscribers, who tend to have low incomes. In addition, MSP regulation can encourage high quality of service and is compatible with competition, especially if all providers share in the goals. Similarly, analogous goals or targets might also be used to induce deployment of new technologies.

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[26] The positive relationship between household income and subscribership has been supported by numerous studies including Lester D. Taylor, *Telecommunications Demand: a Survey and Critique* (Cambridge, Massachusetts.: Ballinger, 1980) and Lester D. Taylor, *Telecommunications Demand in Theory and Practice*, (Boston: Kluwer, 1994).

[27] See Alexander Belinfante, *Telephone Subscribership in the United States (Data Through March 1998),* (Washington, D.C.: Federal Communications Commission, Common Carrier Bureau, Industry Analysis Division, July 1998): Table 4.

[28] See Larry Robert Blank, "The Minimum Subscribership Plan (MSP): Policy Reform for Local Telephony," presented at the *Telecommunications Policy Research Conference*, Solomons, Maryland, September 30 - October 2, 1995.

Although competition and universal service are thought to be in conflict, they may not be. Indeed, the forces of competition might also be harnessed to improve penetration levels and promote universal service. Examination of the results of local access competition in the United Kingdom and in New Zealand supports the view that competition may have a positive effect on subscribership.[29] Moreover, by putting downward pressure on costs and rates or changing the way companies allocate costs to local access, competition may increase penetration.

Groups with low penetration rates include households headed by young adults, the unemployed, and minorities. In designing policies and programs that focus on these groups, it is important to identify and take into consideration specific non-income factors leading to low penetration rates. Targeted policies can then be designed to increase penetration levels within those groups.[30]

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[29] See David Gabel and William Pollard, *Privatization, Deregulation, and Competition: Learning From the Cases of Telecommunications in New Zealand and the United Kingdom*, (Columbus, Ohio: The National Regulatory Research Institute, January 1995). For a discussion of the positive effect of competition on subscribership in the United States, see Mueller, "Universal Service in Telephone History."

[30] See Jorge Schement, "Beyond Universal Service: Characteristics of Americans Without Telephones, 1980-1993," *Telecommunications Policy* 19, no. 6, (August 1995): 477-485; and Milton L. Mueller and Jorge Schement, "Universal Service from the Bottom up : a Study of Telephone Penetration in Camden, New Jersey," *Information Society* 12, no. 3 (July-September 1996): 273-292. Non-income factors include language and cultural barriers and past histories of unpaid balances.

CHAPTER 3

UNIVERSAL SERVICE UNDER THE TELECOMMUNICATIONS ACT OF 1996

Universal Service Provisions in the Act

The stated intent of the Telecommunications Act of 1996[31], which was enacted into law on February 8, 1996, is:

> To promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies.[32]

Although the goal of the 1996 Act is to promote competition, the social goal of promoting universal telephone service was not neglected. Indeed, for the first time in federal law, the 1996 Act contains an *explicit* commitment to universal service and a clear mandate for the FCC and states to take the actions necessary to ensure it.[33] Moreover, the concept of what areas, customers, and services merited support under the rubric of universal service was broadened to include support for advanced telecommunications services for schools, libraries and rural health-care facilities. The expansion of universal service support to include these entities was intended to avoid

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[31] Pub. L. No. 104-104, 110 Stat. 56, codified at 47 U.S.C. 151, *et* seq.

[32] Preamble to the enrolled text of S. 652, the bill that became the Telecommunications Act of 1996.

[33] It has been argued that universal service — at least as understood today — was never part of the 1934 Act and that the current "second generation" conceptualization of universal service evolved from the mid-1960s, when regulators adopted a conscious policy of designing jurisdictional separations and creating a system of implicit subsidies with the intent of keeping local telephone rates low. In addition, telephone companies promoted the idea that high penetration rates for residential telephone service would not be possible without monopoly franchises and regulatory subsidies. Moreover, the threat that universal service goals would not be met by a competitive market was used to bolster incumbent telephone companies' demand for protection and continued support after passage of the 1996 Act. See Milton Mueller, "Universal Service and the Telecommunications Act: Myth Made Law," *Communications of the ACM*, 40, no. 3 (March 1997): 39-47.

creating a class of information-poor people or regions of the country. Thus, the 1996 Act calls for programs to assist schools, libraries, and rural health-care facilities to connect to the information highway.[34]

Specifically, the 1996 Act directed the FCC and the states to establish support mechanisms to ensure delivery of affordable telecommunications service to all Americans, including low-income consumers, consumers in rural, insular, and high-cost areas, eligible schools and libraries, and rural health care providers. The FCC and the states were directed to devise methods to ensure that

> Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.[35]

The 1996 Act codified the concept of geographic rate averaging and rate integration of interexchange services to ensure that rural customers receive long distance services at rates equivalent to those charged urban customers and that such services shall be provided subscribers in each state at the equivalent rates.[36] Moreover, the 1996 Act directed the FCC to define additional services for support for eligible schools, libraries, and health care providers and directed it to

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[34] The major universal service provisions of the 1996 Act are contained in Section 254. In addition, Section 102 amended Section 214 of the 1934 Act (*Extension of Lines*) by adding subsection 214(e), which deals with Universal Service and Eligible Telecommunications Carriers.

[35] 47 U.S.C. 254(b)(3).

[36] See 47 U.S.C. 254(g). This provision can be interpreted as being intended to keep long distance service affordable for rural customers, who might be charged more in a deregulated, competitive environment. One implication of requiring urban/rural and state-to-state rate equivalence of long distance rates is that factors such as route density are not allowed to impact rates. Compare this situation with the variation in prices that exists for airline flights of similar distance, where rates are heavily dependent on passenger density and intensity of competition on a route.

> . . . establish competitively neutral rules . . . to enhance, to the extent technically feasible and economically reasonable, access to advanced telecommunications and information services for all public and non-profit elementary and secondary school classrooms, health care providers, and libraries.[37]

The 1996 Act provided for enhanced access to advanced telecommunications and information services for all public and non-profit elementary and secondary school classrooms, health care providers, and libraries.[38] Telecommunications carriers are required to provide service to rural health care providers at rates that are reasonably comparable to rates charged for similar services in urban areas, and schools and libraries now are entitled under federal law to service at rates less than the amounts charged other parties for similar services.[39]

The FCC's Universal Service *Order* (FCC 97-157)

As required by Section 254(a)(1), the FCC created a Docket (96-45), established a Federal-State Joint Board on Universal Service, received and considered the Joint Board's recommendations,[40] and issued a *Report and Order*[41] (*Order)* on universal service. In that *Order* the FCC stated that its mandates were to:[42]

1. Implement the universal service objectives established by the 1996 Act regarding low-income individuals, consumers in rural, insular, and high-cost areas, schools, libraries, and rural health care providers;
2. Maintain rates for basic residential service at affordable levels; and
3. Ensure that affordable basic service continues to be available to all users through an explicit universal service funding mechanism.

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[37] 47 U.S.C. 254(h)(2)(A).

[38] 47 U.S.C. 254(h)(2).

[39] 47 U.S.C. 254(h)(1). Note that service providers are allowed to count the amount of the discount granted to eligible users as an offset to their contribution to universal service support mechanisms.

[40] Federal-State Joint Board on Universal Service, *Recommended Decision*, 12 FCC Rcd 87 (released November 8, 1996).

[41] FCC 97-157, *Report and Order in the Matter of Federal-State Joint Board on Universal Service* (CC Docket No. 96-45), issued May 8, 1997 and amended by the *Errata* released June 4, 1997.

[42] *Ibid.*, para. 2.

The FCC recognized that some specific actions required to move to a new and more explicit method of supporting universal service would take additional time. Thus, it allowed for additional fact finding and work with the states prior to final action, which was originally scheduled for August 1998.[43]

The FCC also adopted a definition of universal service — or at least the set of services that was to be eligible for interstate support. The package includes:[44]

- Voice grade access[45] to the public switched network, with the ability to place and receive calls;
- An amount of local telephone usage to be determined by the appropriate state commission;[46]
- Dual Tone Multifrequency (DTMF) signaling or its functional equivalent;
- Single-party service;
- Access to emergency services, including in some instances, access to 911 and enhanced 911 (E911) services;
- Access to operator services;
- Access to interexchange services;
- Access to directory assistance; and
- Toll limitation services for qualifying low-income consumers.[47]

In addition, since the 1996 Act views universal service as an evolving concept, the FCC indicated that it would convene a Joint Board to reconsider the definition of universal service, and it would do so on or before January 1, 2001.[48]

Traditionally, states have provided support for universal service goals by explicitly and implicitly subsidizing and pricing basic telephone service, especially

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[43] *Ibid*., para. 3.

[44] *Ibid*., paras. 22 and 56.

[45] Voice grade access was defined as being in the frequency range between approximately 500 Hertz and 4,000 Hertz for a bandwidth of approximately 3,500 Hertz. See *Ibid*., para. 64.

[46] FCC 97-157, para. 65.

[47] Since inability to pay toll charges is often a major factor in disconnections, toll limitation or blocking is especially important for keeping some low-income customers connected to the telephone network.

[48] FCC 97-157, para. 57.

residential access, at levels that led to very high rates of telephone subscribership. Some states have had high-cost funds for some time, and some states had taken steps to promote access by schools (via requiring infrastructure commitments by the LECs), low-income consumers (via Lifeline and Link Up programs). However, a major source of support for universal service goals was a number of implicit mechanisms, which tended to move monies between areas, groups of customers, or services. Examples include encouraging rate averaging between urban and rural areas, providing flat-rate pricing of local usage, creating non-cost-based differentials in business and residential charges for local access, and pricing inter- and intrastate toll access and enhanced or vertical features and services above any reasonable measure of cost.

Although these policies helped accomplish universal service goals, they tend to create price distortions that work against efficiency, lead to cream skimming and inefficient entry, and may not be sustainable in a competitive environment. The FCC recognized this and stated that

> This incentive to entry by competitors in the lowest cost, highest profit market segments means that today's pillars of implicit subsidies — high access charges, high prices for business services, and the averaging of rates over broad geographic areas — will be under attack.[49]

State Role in Ensuring Universal Service

The 1996 Act gives the states an important role in promoting and supporting universal service. Specifically, it provides that:

> A State may adopt regulations not inconsistent with the [FCC's] rules to preserve and advance universal service. Every telecommunications carrier that provides intrastate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, in a manner determined by the State to the preservation and advancement of universal service in that State. A State may adopt regulations to provide for additional definitions and standards to preserve and advance universal service within that State only to the extent that such regulations adopt specific, predictable, and sufficient mechanisms to support such

[49] *Ibid.,* para. 17. It was also noted (at para. 14) that "as competition develops, the marketplace . . . will identify intrastate implicit universal service support, and . . . states will be compelled . . . to move . . . to explicit, sustainable mechanisms . . . ."

> definitions or standards that do not rely or burden Federal universal service support mechanisms.[50]

The FCC attempted to define some of the terms. For example, the FCC defined "competitive neutrality" in the context of determining universal service support, as meaning that:

> ... universal service support mechanisms and rules neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another.[51]

Other responsibilities of state commissions include designating eligible telecommunications carriers (ETCs) — telecommunications carriers that are allowed to receive support from the federal universal service mechanisms;[52] determining the appropriate discounts for schools and libraries, and rural health care facilities; and determining the service areas over which cost of universal service will be determined.[53] In addition, sections 253(a) and (b) and 254(f) of TA 96 make state commissions responsible for identifying intrastate implicit universal service support, and the FCC has indicated that states should monitor rates and non-rate factors, such as subscribership levels, to ensure affordability.[54]

With respect to the state commission responsibility to make ETC designations, the FCC indicated that ETCs must provide each of the designated services to receive federal universal service support. In limited instances, however, the public interest can require a reasonable period during which otherwise eligible carriers may complete network upgrades so that they can begin offering certain services that they are currently incapable of providing. Upon a finding of "exceptional circumstances," state commissions may grant an otherwise eligible carrier's request that it be allowed to

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[50] 47 U.S.C. 254(f).

[51] FCC 97-157, para. 47.

[52] The requirements for becoming an ETC may be found at 47 U.S.C. 214(e). For some discussion of the obligations of ETCs in a competitive environment, see Phyllis Bernt, *The Changing Obligation to Serve in Local Exchange Markets* (Columbus, Ohio: The National Regulatory Research Institute, December 1997), 15-19.

[53] 47 U.S.C. 214(e)(5).

[54] FCC 97-157, para. 23.

receive federal universal service support while it completes the specified network upgrades necessary to provide single-party service, E911 service and toll limitation. The period during which a carrier may receive support while completing essential upgrades should extend only as long as the "exceptional circumstances" exist and only for the time the state commission believes necessary to complete network upgrades to offer the required services.[55]

In addition, the FCC stated that state commissions have primary responsibility for designating service areas served by non-rural carriers and recommended that state commissions exercise their authority in a pro-competitive manner and not designate service areas that are so large as to discourage competitive entry by increasing the expenses associated with such entry. Similarly, the FCC recommended that state commissions not designate service areas based on ILECs' study areas and noted that the 1996 Act treats service areas served by rural telephone companies differently from non-rural service areas. Unless the states and the FCC determine it would be better to use a different study area, a rural telephone company's study area must be its existing service area.[56] The FCC also encouraged state commissions to consider disaggregating a rural telephone company's non-contiguous service area into smaller contiguous ones because some wireless carriers might be unable to provide service in non-contiguous service areas.[57]

Forward-Looking Economic Cost and The 25/75 Split

State support of universal service in high-cost areas has become considerably more important as a result of one aspect of the *Order*. The FCC held that federal universal service support would be funded *only* from interstate revenues and would be responsible for 25 percent of the difference between an affordable rate[58] and the

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[55] *Ibid.*, paras. 89-92.

[56] 47 U.S.C. 214(e)(5).

[57] FCC 97-157, para. 25.

[58] "Affordability" can be viewed in both absolute terms, whether an individual has the means to subscribe to basic telephone service, and a relative component, the extent to which consumers are spending a disproportionate share of their income on basic telephone service. Affordability can also be viewed in light of the relationship between the price of subscribership and the perceived benefits of

(continued...)

estimated cost of providing service in rural, insular, and high-cost areas. The reasoning given for federal support being limited to 25 percent of the difference between an affordable rate and the estimated cost of serving an area was that it is consistent with the existing jurisdictional assignment of local loop costs.[59] Moreover, the FCC indicated that federal support would be available only for primary residential and single-line business connections.[60]

Subsequent to its original *Order*, the FCC noted that strict application of an across-the-board 25 percent rule may result in a reduction in explicit federal universal service support to some areas. Thus, its stance was modified so that no state should receive less federal high-cost assistance than it currently receives.[61] The FCC also indicated that additional federal universal service support should be provided to high-cost areas where state support mechanisms, in combination with baseline federal support, are not sufficient to maintain rates at affordable levels.[62] Various modifications to the FCC's original plan have been suggested. These include having the interstate support mechanism pay for a larger share of the difference between cost and the affordable rate, and basing the proportion of interstate support on a state's ability to provide intrastate support and keep local rates within a reasonable range, with

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[58] (...continued)
subscribership. For consumers to subscribe to the network, rates must be affordable, and the network must provide sufficient benefits. The network externality concept argues that increasing the number of people connected to the network increases the perceived benefit of telephone subscribership and makes a given price appear attractive. This concept is also reflected in the practice of having "rate groups" in which the price of basic service rises with the number of lines that can be accessed by a local call.

FCC 97-157 (at para. 109) recognizes the validity of considering "factors such as local calling area size, income levels, cost of living, population density, and other socioeconomic indicators." It was also recognized (at para. 113) that high levels of subscribership cannot be used as evidence of affordability.

[59] FCC 97-157, paras. 201 and 268-72. The jurisdictional separations rules are contained in Part 36 of the FCC's rules (47 C.F.R. 36).

[60] *Ibid*., para. 217.

[61] See FCC 98-67, *Report to Congress*, In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45 (released April 10, 1998), para. 219.

[62] *Ibid*., para. 227.

least able states receiving relatively more interstate support.[63] Most recently, the FCC referred a number of issues to the Universal Service Joint Board. Specifically, the FCC asked the Joint Board to consider circumstances under which a state or carrier would qualify for federal support mechanisms to pay more than 25 percent of the difference between the estimated cost of service and the affordable rate.[64]

Thus, states may be responsible for up to 75 percent of the support necessary to keep rates at an affordable level. Moreover, the cost of providing service will be based on forward-looking economic cost (FLEC), which must be estimated through the use of some form of proxy cost model. In establishing a universal service support mechanism based on FLEC, the FCC stated that it planned to adopt the mechanism for non-rural carriers by August 1998, and that it would take effect on January 1, 1999.[65] State commissions may develop their own cost study to determine the level of universal service support for carriers in the state or use the FCC's cost methodology, provided that the state commission's cost studies are consistent with FCC guidelines.[66]

The FCC adopted FLEC because it best approximates the costs that would be incurred by an efficient carrier, will encourage and permit economically correct levels of entry, investment, and innovation, and result in a support mechanism that provides the *minimum* support necessary.[67] The FCC also decided that the amount of support required in an area would be based on the difference between FLEC and a "revenue benchmark" that considers not only the retail price currently charged for local service, but also on other revenues the carrier receives as a result of providing service. The revenue benchmark will be based on average revenues per line for local,

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[63] See "Parties Nix 25%-75% Split for 'High-Cost' Support, Urge 'Variable' Approaches Instead," *Telecommunications Reports* 68, no. 18 (May 4, 1998): 34-35.

[64] See FCC 98-160, *Order and Order on Reconsideration*, In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45, (released July 17, 1998), para. 6.

[65] The specific support mechanism for rural carriers will be determined later, and the shift from the current support mechanisms to FLEC-based mechanisms will be phased in gradually beginning no earlier than January 1, 2001. See, FCC 98-67, paras. 203-204. Note: a six-month delay in the effective date for the interstate support mechanism for non-rural carriers was granted in FCC 98-160; the effective date is now July 1, 1999.

[66] See FCC 97-157, para. 26.

[67] *Ibid*., para. 199.

discretionary, interstate and intrastate access services, and other telecommunications revenues.[68]

Implementing the concept of FLEC has not been easy. Various proxy cost models were developed and sponsored by a number of parties. The models differed in a number of respects. The principal differences involved assumptions regarding network architecture and design criteria, the geographic distribution of customers (especially in sparsely populated areas), and the prices of various labor and capital inputs. These issues are separable into debates over the model platform and debates over the values of various inputs. To date, these issues have not been settled. The FCC extended the time before a state must file its cost proxy cost model. The states have held that intrastate and interstate support would be better coordinated if the FCC finalizes the platform and inputs to be used for the interstate mechanism prior to the states having to finalize their own models.[69]

Under traditional pricing policy, many vertical services were priced above cost to keep basic local access rates low, so implicit subsidies for universal service are already reflected in prices of vertical services. Until implicit subsidies are removed from vertical service prices, those revenues must be considered, and the total revenue stream approach was adopted to avoid overpayments to the carrier. Moreover, unless they have access to the network, customers cannot purchase high-margin discretionary services, and they cannot make or receive toll calls. The extent to which it is uneconomic to serve an area or customer (which determines the minimum subsidy required to ensure service) depends not on the relationship between the cost and the revenue derived from basic access, by itself, but on the relationship between the *total* cost of providing services to an area or customer and the *total* revenues derived from that area or customer. In addition, as the network is used to deliver an increasing number of services, it may be reasonable to recover more of the cost of local loop facilities from new services. It is especially true that the cost of upgrading the network to deliver advanced services should be recovered from those services, not from basic

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[68] *Ibid*., paras. 200 and 259-61.

[69] See DA 98-788, *Order*, In the Matter of Federal State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket No. 96-45 and CC Docket No. 97-160 (released April 23, 1998), para. 4 and n. 12.

access. Therefore proxy cost estimates are based only on the cost of a network capable of delivering the package of universal services.

With respect to the estimation of the cost of universal service, states can either adopt their own cost model (provided that it meets the FCC's standard of being based on the FLEC methodology) or use the model that the FCC ultimately adopts. Although it is not required that the individual states and the FCC adopt the same model platform and inputs, it would certainly provide for more consistent results if the same model and inputs are used for intrastate and for interstate support. In addition, if the FCC and a large number of the states adopt a particular platform, there is some danger that the "minority" model platform may not be supported and updated over time.

States were encouraged to use the same model for determining the cost of universal service and for determining the cost of unbundled network elements, but it is not clear whether the *same* network design parameters are required in the two cases.[70]

In addition, the *Order* reiterates the view that states are responsible for identifying implicit intrastate universal service support and that competition will force states to replace implicit support mechanisms that may not be sustainable in a competitive environment with explicit, sustainable support mechanisms.[71]

Under the *Order*, federal universal service support will be portable and flow between ETCs, whether ILEC or CLEC, if a line is served using facilities owned and constructed by the ETC, because it incurs the economic costs of serving the line. However, support is limited if an ETC is a CLEC that serves a customer through the use of UNEs purchased from an ILEC. In that case, support cannot exceed the cost of the UNEs used to provide the supported services, and any excess support will go to the

[70] See FCC 97-157, paras. 206 and 251. Network assumptions may differ because the network design for determining the cost of universal service need only be capable of delivering the universal service package — although that network is likely to be able to deliver some discretionary services, as well. In contrast, the cost of unbundled network elements might be based on a network that is capable of delivering advanced services that are not considered in determining the cost of the universal service network.

[71] *Ibid*., para. 202.

ILEC that provides the UNEs. Furthermore, an ETC cannot receive support for any line that it serves through resale of the ILEC's retail service.[72]

Revisions to the Lifeline and Link Up Programs

To improve the effectiveness and coverage of the Lifeline program, the *Order* provided for an additional $1.75 per month in federal support in addition to the current $3.50 of federal support. Lifeline consumers will receive the additional federal support provided that the state approves the reduction in the portion of the intrastate rate paid by the end user. State matching is not required and the level of federal Lifeline support is raised to $5.25 per month, even if the state generates no support from the intrastate jurisdiction. Because they need only approve the reduction of $1.75 in the portion of the intrastate rate paid by the end user, it is likely that states will choose to participate in this program.[73]

The funding mechanism for the Lifeline program will also be changed. The existing program was based on charges to the IXCs. Under the new program, to make the mechanism more competitively neutral, all carriers that provide interstate telecommunications service — LECs, wireless carriers, and other interstate telecommunications service providers, as well as IXCs — will contribute on an equitable and nondiscriminatory basis. And all ETCs that offer Lifeline service will be eligible to receive support.[74] Customer eligibility requirements for participation in Lifeline programs will continue to be administered by the states, provided that the requirements are based on income or factors related to income. Thus, requiring that Lifeline subscribers qualify for means tested public assistance programs is allowed.[75]

The Link Up program will also be revised. The old program was funded by shifting its costs to the federal jurisdiction under separations rules. To make the Link Up program competitively neutral, it will now be funded from contributions by all

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[72] *Ibid*., paras. 286-87 and 290.

[73] *Ibid*., para. 351. At the time of the *Order*, it was reported that 44 states participated in the Lifeline program.

[74] *Ibid*., paras. 365-66.

[75] *Ibid*., paras. 373-78.

interstate service providers, and any carrier that provides the service can receive the support. In addition, the qualification requirements applied to the Lifeline program will be applied to the Link Up program.[76]

Expansion of Universal Service to Include Support for Schools, Libraries, and Rural Health Care Facilities

One of the major aspects of the 1996 Act was to expand the idea of universal service to make schools, libraries, and rural health care facilities explicit recipients of universal service support. The FCC was directed to ensure that eligible schools and libraries have affordable access to modern telecommunications and information services so that educational services may be provided to all parts of the nation.

Thus, qualified schools and libraries are entitled to receive service "at rates less than the amounts charged for similar services to other parties."[77] In implementing this requirement, the FCC established a system under which eligible schools and libraries receive services at discounts ranging from 20 to 90 percent, relative to the prices other customers pay for similar services. Covered services include telecommunications services, Internet access, and internal connections provided by telecommunications carriers, and a telecommunications carrier providing services at a discount to schools and libraries may either apply the amount of the discount as an offset to its universal service obligations or to be reimbursed from the universal service support mechanism.[78] Economically disadvantaged schools and libraries, as well as schools and libraries located in high-cost areas, will receive greater discounts to ensure that they have affordable access to supported services. And to encourage competition and provide schools and libraries flexibility to purchase the services that best meet their needs, support can be provided to enable schools and libraries to obtain discounted services from non-telecommunications carriers.[79] States may establish and fund their

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[76] *Ibid*., paras. 379-82.

[77] 47 U.S.C. 254(h)(1)(B).

[78] *Ibid*.

[79] The total amount of support was originally subject to a $2.25 billion annual cap. See FCC 97-157, para. 425.

own discount programs, but such programs cannot receive federal universal service support.[80]

The 1996 Act requires telecommunications carriers to provide telecommunications services necessary for the provision of health care services in a state to any public or nonprofit health care provider that serves persons who reside in rural areas in that state at rates that are reasonably comparable to rates charged for similar services in urban areas of that state.[81] In its *Order* the FCC interpreted this provision as requiring carriers to charge rural health care providers

> . . . no more than the highest tariffed or publicly available rate charged by a carrier to a commercial customer for a similar service in the state's closest city with a population of at least 50,000, taking distance charges into account.[82]

A carrier providing supported services at reduced rates to eligible health care providers will be allowed to recover the difference, if any, between the rate for similar services provided to other customers in comparable rural areas of the state and the rate charged to the rural health care provider.[83]

The expansion of universal service support to schools, libraries, and rural health care facilities has become controversial. The controversy may be due to the size of the plan and the resulting collections from interstate revenues, which critics have labeled an unlegislated tax on telecommunications customers.[84] In June 1998, possibly in response to concerns that the fund was larger than Congress had intended and might raise consumers' bills, the FCC limited the amount of money to be raised and disbursed

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[80] *Ibid*., para. 527.

[81] See 47 U.S.C. 254(h)(1)(A).

[82] FCC 97-157, para. 608.

[83] *Ibid.* Support may be provided for any service that is necessary for the provision of health care services up to and including a bandwidth of 1.544 Mbps, and annual funding is capped at $400 million. In addition, limited support may be provided for toll-free access to an Internet service provider for all health care providers, regardless of their location.

[84] For a critical view of the universal service policies including the schools and libraries provisions, see Lawrence Gasman, *Universal Service: the New Telecommunications Entitlements and Taxes*, (Washington, D.C.: The Cato Institute, Policy Analysis No. 310, June 25, 1998).

by the schools and library and health care funds.[85] The Universal Service Administrative Company (USAC) was directed to collect no more than $325 million per quarter for the third and fourth quarters of 1998 and the first and second quarters of 1999 for schools and libraries and no more than $25 million per quarter for the third and fourth quarters of 1998 to support the rural health care universal service support mechanism. In addition, no more than $1.925 billion can be committed or disbursed for the schools and libraries support mechanism during 1998 and the first two quarters of 1999. No more than $100 million can be committed or disbursed during 1998 for rural health care support.[86]

The original *Order* had called for annual caps of $2.25 billion for the schools and libraries and $400 million for rural health care. The FCC recognized that the revised collection rates for schools and libraries will not fully satisfy the estimated support requests, but it expected there to be sufficient funds to support telecommunications services and Internet access and provide support for internal connections for the neediest applicants.[87] The FCC also adopted rules to prioritize support for schools and libraries to ensure that priority is given to the most disadvantaged schools and libraries — based on the proportion of area students eligible to participate in the national school lunch program. The FCC also adopted rules for pro-rata distribution of support to rural health care providers if demand exceeds funding.[88]

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[85] See FCC 98-120, *Fifth Order On Reconsideration and Fourth Report and Order in CC Docket No. 96-45*, (released June 22, 1998); and "'E-rate' Backers See Success in Launch of Program As FCC Cuts Funding Levels," *Telecommunications Reports* 63, no. 51/52 (December 22, 1997): 2.

[86] See FCC 98-120, para. 3.

[87] *Ibid*., para 15.

[88] *Ibid*., para 4.

CHAPTER 4

STATE UNIVERSAL SERVICE FUNDING MECHANISMS AND POLICIES

Reviewing the NRRI's 1996 Survey

In 1996, the NRRI published the results of a survey of the status of then-existing state universal service funding mechanisms.[89] That survey noted that state interest and action on funding universal service did not begin with passage of the 1996 Act. Indeed, California and Illinois had high-cost funds a decade prior. By 1996, approximately one-third of the states had universal service funds in operation or planned for operation by 1997. In addition, it was clear that the issue was of great interest, and a majority of states reported that they were studying the issue of a state universal service fund.[90]

Although that survey was conducted prior to issuance of FCC 97-157, a majority of states were in the process of considering the issue of universal service funding in a more competitive environment, and a number of states were already moving in the direction of creating universal service funds. States were concerned about the possibility that, without support, local exchange access rates in some areas might rise to a level that could reduce penetration rates. In addition, states had taken a number of steps to prepare for universal service funding. For example, Kansas was moving to remove implicit universal service subsidies from interstate carrier access charges, and the implicit subsidies were being replaced by an intrastate end-user common line charge, which lifeline customers were exempted from paying. Moreover, Kansas was already planning to identify high-cost areas through use of a proxy-cost formula. Wisconsin's plan considered both the cost of serving an area and the median household income in an area in determining the amount of subsidy or credit provided.

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[89] Edwin A. Rosenberg and John D. Stanford, *State Universal Service Funding Mechanisms: Results of the NRRI's Survey* (Columbus, Ohio: The National Regulatory Research Institute, May 1996).

[90] *Ibid*., pp. 4-5 and Table 2.

Results of the NRRI's 1998 Survey

The 1996 survey was conducted prior to implementation of the universal service provisions of the 1996 Act. To extend and update that survey and to determine what actions the various states had taken in the two-year period since passage of the 1996 Act, a new survey was sent to the state commissions. Every state commission responded to the survey, and the responses to individual questions are shown in the following tables. Where possible, the actual answers provided by the state respondent are given. In some cases, the answers have been edited or extracted from documents provided by the respondents. Every attempt has been made to retain the sense of the original answer. It must be noted that the following tables represent a snapshot in time, or more accurately, a snapshot over time, since the responses were collected over several months. In general, the following tables indicate that the states were very active in carrying out their responsibilities under the 1996 Act. Also, the survey responses show that there is no single approach or set of policies that is optimum in every case. Depending on individual circumstance, states have taken a variety of approaches toward supporting the goal of universal service. The variety of approaches is consistent with the notion of federalism, which allows — and even encourages — states to devise policies to meet their individual needs.

Status of State Universal Service Funds

States were asked about the status of their universal service funds, whether they were functioning, pending, or under revision. They were also asked to comment on the features, structure, and operation of the fund. The responses are shown in Table 1 and include information from all 51 commissions. Perhaps the most significant insights from this survey are that:

1. Fourteen (approximately 27 percent) of the commissions indicated that their fund was either *functioning* or currently *under revision*;

2. An additional 22 commissions have funds either *pending* or *approved*; and that

3. Taken together, over 70 percent (36) of the commissions reported that universal service funding mechanisms were either operational or soon to be so.

Table 1 Status of State Universal Service Funds	
Functioning (7)	AR, CA, GA, KS, VT, WA, WY
Under Revision (7)	AZ, CO, ID, NM, TX, UT, WI
Approved but not Functioning (5)	CT, HI, OK, NV, SC
Pending (17)	AL, DC, IL, KY, LA, MA, MD, MN, MO, NC, NE, NJ, NY, OR, PA, TN, WV
No Action Taken (7)	DE, IA, MT, ND, NH, RI, VA
Other (8)	AK, FL, IN, ME, MI, MS, OH, SD

State	Comment
AK	A Notice of Inquiry (NOI) has been issued regarding the reform and creation of a USF.
AL	The Alabama PSC has an open Docket No. 25980 in which we are addressing all issues relevant to universal service. The Commission scheduled proceedings for January 1998. Cost Studies for universal service funding are to be tentatively filed in January 1998. It will be determined during these proceedings if an intrastate universal service fund is necessary.
AR	Pursuant to Arkansas Act 77 (Act 77), the Arkansas Universal Service Fund (AUSF) was established by the Commission in 1977 in Docket No. 97-041-R. Act 77 also required the Commission to adopt AUSF rules, and make funds available to ETCs on or before Oct. 13, 1997. The AUSF was established to "promote and assure the availability of universal service at rates that are reasonable and affordable, and to provide for reasonably comparable service rates between rural and urban areas." Act 77 provides that universal service is equivalent to basic local exchange service. Every telecommunications provider that operates or provides telecommunications services within the State of Arkansas shall contribute, on a nondiscriminatory basis, into the AUSF. A telecommunications provider may recover the amount of its contribution to the AUSF from its intrastate retail telecommunications service customers. Projected revenues will be based on the dissolution of the [Arkansas Universal Service Fund] Toll Pool, including the bill and keep toll revenues and the terminating access charges that would be received from or paid to the other ILECs in accordance with each requesting company's existing approved intrastate access service tariffs. The initial level of funding for the AUSF shall be $6.95 million plus the cost of administration on an annual basis (Docket No. 97-041-R, Order No. 9).

Table 1 (Continued) Status of State Universal Service Funds	
State	**Comment**
AZ	Rule changes are contemplated that would provide AUSF support to providers who extend facilities into high cost areas that are currently not served.
CA	There are Five California USF Programs: **Universal Lifeline Telephone Service (ULTS)** — discounts for low-income customers - up and running, long-standing program, modified in 1995 to accept claims from CLECs, some CLECs making claims. **Deaf and Disabled Telecommunications Program (DDTP)** — runs California Relay Service and distributes supplementary equipment - up and running, long-standing program, recently modified to accommodate customers served by CLECs, Commission has been reviewing governance, proceeding anticipated in 1998. **California High Cost Fund A** (CHCFA)— assistance for rural ILECs - no draws in 1997 because no need - still active. **California High Cost Fund B** (CHCFB) — established in 1996 (D.96-10-066) - assistance for high-cost areas located in areas served by price cap LECs (all non-rural) - assistance is available. Carriers can make claims for periods beginning February 1997. No funds collected or distributed pending resolution of concerns raised by state control agencies. Interim Administrative Committee has filed motion with CPUC seeking approval to request Private Letter Ruling concerning tax exempt status from IRS. **California Teleconnect Fund** — established in 1996 (D.96-10-066) - discounts for schools, libraries, certain community based organizations and county and municipal owned health care institutions. Discounts effective beginning February 1997. No funds collected or distributed pending resolution of concerns raised by state control agencies. Interim Administrative Committee has filed motion with CPUC seeking approval to request Private Letter Ruling concerning tax exempt status from IRS. California has an All End User Surcharge (AEUS) to fund its universal service programs. There are line items for each program on customers' bills. All telecommunications carriers, including broadband CMRS, but excluding one-way paging-collect, the surcharge and submit the contribution. Any carrier can receive support for lifeline program. All ILECs/CLECs are required to offer discounted lifeline rates.
CT	As of Dec. 12, 1997, only Southern New England Telephone Company and Woodbury Telephone Company have applied for eligibility for reimbursement of the credits from the federal funding mechanism.

Table 1 (Continued) Status of State Universal Service Funds	
State	**Comment**
CO	The Colorado High Cost Fund is functioning for small LECs. A Proxy Model is under development in Docket No. 97M-063T. Rule revisions are under consideration in Docket No. 97R-043T. Large LECs are to receive funds based on a proxy model — support is to be based on intrastate telecommunication revenues.
DC	The Commission is anticipating holding a proceeding.
FL	An unfunded interim mechanism was implemented Jan. 1, 1996, which allows ILECs to petition for support. No ILECs have applied to date. Florida's legislature must take action by 1999 to establish a permanent mechanism, pursuant to Sec. 365.025 Florida Statute.
GA	Currently there is a state interim universal access fund, mandated by O.C.G.A 46-5-166(f)(2) and 46-5-167, that is set up to provide for recovery of access revenues lost due to legislation in 1995. This is for independent LECs at present and will be expanded and refined in 1998. All wire telecommunications companies contribute to the fund. Only independent LECs can receive funds at present. Currently, 0.5 percent of Georgia's end user revenues per quarter are remitted to a lockbox bank account then moved to a state Treasury account. The support is only for the recovery of lost access revenues by independent LECs.
HI	A third-party administrator has not been selected, no monies have been collected. A date of operation has not been set. Rather, we await the issuance of the Order in Docket No. 7702, phase II, and any necessary revisions to chapter 6-81 that may result.
IA	Iowa has not had a state fund and, under current circumstances, is not planning to initiate one. This is dependent on the nature of the federal fund approach adopted.
ID	The current statute needs to be revised so that a new state USF can be implemented that parallels the federal USF. There is a proposal to the Legislature. As with all proposals, it is subject to change. Hopefully, the final legislation will be a fairly open ended plan that will give the PUC the opportunity to enact a plan that aligns itself with the federal plan.
IL	The Commission is not awaiting federal action. There is an open Docket addressing the high cost support for LECs and alternatives for rate rebalancing or the creation of an intrastate fund. Additionally, the Commission is conducting workshops on large carrier USF funds, and filing testimony on the DEM waiting fund.

Table 1 (Continued) Status of State Universal Service Funds	
State	**Comment**
IN	The existing Indiana High Cost Fund (IHCF) was established in 1989, in response to decreases in interstate CCLC rates, which were mirrored in Indiana. In the IURCs ongoing investigation on universal service and access reform, a transitional DEM weighting fund is under consideration. The Commission has begun a series of technical conferences on rate rebalancing. After rates are rebalanced, the IURC may consider creating a separate universal service fund, and /or expanding the IHCF.
KS	The Kansas Universal Service Fund (KUSF) was implemented by the KCC pursuant to state legislation in 1996. The National Exchange Carrier Association was chosen as the KUSF Administrator. The KUSF began receiving and distributing funds based upon March 1997 business. All telecommunications carriers, local exchange companies, and wireless telecommunications service providers contribute to the fund based upon an assessment percentage of their Kansas retail revenues. The fund supports the following programs: (a) Lifeline: reduction in the local service charge. (b) Kansas Relay Service: online assistance for the hearing impaired. (c) Telecommunications Assistance Program (TAP): issues vouchers for the purchase of terminal equipment for the handicapped. ETC local exchange companies that operate in high cost areas are eligible for support: the state Act provides for the reduction in intrastate access charges to reach the interstate rate level. The amount of the reduction ($106 million) is to be funded by either a local rate increase or support payment from the KUSF. All of the reduction due to the access charge reductions are being paid by the KUSF except for small local rate increases by rural LECs. This revenue neutral provision of the state Act has been appealed to the Kansas Supreme Court. A ruling is expected soon. Competitive LECs who qualify as an ETC and provide service in high cost rural exchanges may be eligible for KUSF support. Each month the companies report their intrastate retail revenues, calculate their assessment and remit their payment to the KUSF administrator. Companies who wish to report less frequently than monthly may report estimated revenues and pay in advance. Basic Universal Services include: single party two-way voice grade calling, stored program controlled switching with vertical service capability, 911 capability, tone dialing, access to operator services, access to directory assistance, equal access to long distance services. Companies may request increased support if they have an increase in their number of residence or single line business lines. Companies that are rate of return regulated may file a request for increased support. The request is based upon separated costs for providing intrastate access/toll service. Companies file these requests if they have increased costs or at the Commission's request.

Table 1 (Continued) Status of State Universal Service Funds	
State	**Comment**
KS **Cont'd**	The Kansas Act provides a list of enhanced Universal Services. These are to be deployed by July 1, 2001, and include: signaling system 7 with CLASS service capability, basic and primary rate ISDN capability or technological equivalent, full fiber interconnectivity or technological equivalent between central offices, broadband capable facilities to requesting schools, hospitals, public libraries, and state and local government facilities. If the provision of these services increases costs, then the companies may file a request for increased support.
KY	The Commission is not waiting on federal action. There is a public hearing set for early March 1998 on cost models. We are awaiting finalization of cost models.
LA	We are awaiting a cost study for the federal fund to be developed for non-rural carriers. On Oct. 12, 1994, the Commission directed at its Open Session that U-20883-Subdocket A, be opened to address expeditiously the issue of defining universal service. Refer to Commission Docket U-20883 Subdocket A, dated Aug. 12, 1997.
MA	The Commission has released an order that adopted school funding as identified in the Telecommunications Act of 1996. The Commission has adopted the federal discount matrix and is awaiting federal funding.
MD	Pending a state universal service proceeding.
ME	Maine presently has both a schools and libraries discount program and a Lifeline/Link-Up program. Maine has issued a Notice of Inquiry on the issue of a State USF (High Cost Fund), but is awaiting federal action to clarify several issues. The size and need for such a fund is also related to the degree to which we de-average UNEs, an issue that has not been resolved yet.
MI	No state USF exists.
MN	The USF rulemaking is pending due to resource constraints. Staff is presently completing rules on local competition for carriers serving 50,000 or fewer customers (small LECs). This has a statutory deadline. Minnesota has an existing Lifeline program called Telephone Assistance Program that provides a $3.50 counterpart support to the federal waiver of the SLC. Minnesota laws include provision of telephone access to the deaf and the hard of hearing and require a program called Telecommunications Access for Communication-Impaired Persons to provide equipment and TRS to the deaf and hearing impaired community. In addition, 911 access is supported through a rate surcharge. There is an ongoing rulemaking proceeding that will tackle the various aspects of USF.

Table 1 (Continued) Status of State Universal Service Funds	
State	**Comment**
MO	Comments regarding the state USF were received Oct. 15, 1997; reply comments were received Oct. 31, 1997, and a public hearing was held Nov. 10, 1997. The rule now needs approval from the Commission. The Commission established Case No. TX-98-56 to develop a state universal service fund. At this time the Commission is considering a proposed rule to establish a framework for the fund. After receiving initial and reply comments a hearing was conducted on Nov. 10, 1997. As proposed, the fund would eventually provide financial assistance for telecommunications companies in three areas: (1) companies serving high cost areas, (2) companies establishing Lifeline/Link Up programs, and (3) companies experiencing reduced funding from the federal universal service fund. All telecommunications companies would be expected to fund the Missouri universal service fund. If approved, the Commission will need to hold subsequent proceeding(s) to determine details necessary to get the fund up and running.
MS	We are in the process of setting up a docket to look into universal service. The Commission expected that a proceeding should be ongoing by mid-1998.
MT	Montana law allows the Commission to establish a fund if it determines a need. No docket has yet been initiated.
NC	Order setting docket will be issued soon.
NE	Legislation authorizes the fund, but there is currently no activity. (It is a framework legislation, which provides authority for its creation.) Currently working out details, such as what services to support, the criteria to receive funds, who contributes, etc.
NH	New Hampshire has no state USF and only an action by the state legislature will result in one. The legislature has created a committee entitled the "Telecommunications Oversight Committee" but we do not anticipate any move toward creating a USF soon.
NJ	The Board is currently holding hearings to determine whether a state USF is required and the mechanics of a fund, if one is established. A decision was expected in early 1998.

Table 1 (Continued) Status of State Universal Service Funds	
State	**Comment**
NM	In I987, New Mexico established a state Universal Service Fund that was intended to maintain existing residential exchange service at affordable rates. Although this fund is still in existence, contributions to the fund were eliminated several years ago and no distributions have been made since 1993. Recently, the New Mexico State Corporation Commission docketed a proceeding to consider the implementation of new rules related to the rural, high cost, and low-income components of the New Mexico Universal Service Fund. Subsequently, the Commission has consolidated this docket with the ongoing costing methodology proceeding. A hearing was scheduled to commence Dec. 1, 1997. On July 31, 1997, the Commission issued an Order authorizing the New Mexico Universal Service Fund Work Group. The group is comprised of industry, consumer, commission representatives, and all other interested parties. The Commission directed the work group to make an initial report addressing the rural, high cost, and low-income components of universal service by Nov. 15, 1997.
NV	New regulations were adopted in Docket No. 97-5018. There is no state funding support at this time.
NY	We are not awaiting federal action. The Commission is examining all aspects of universal service, access charges, other implicit subsidies and the impacts on local rates. We are examining the need for an intrastate fund in the context of our Competition II Proceeding (94-C-0095).
OH	Staff discussions have begun concerning the development of an RFP for the purpose of selecting a Intrastate USF Administrator, but efforts are in the nascent stages.
OK	Pursuant to the Commission rules, the initial funding amount was approved on Jan. 28, 1998.
OR	The original USF was established in Docket UM384, Order 93-1133. It was a four-year plan commencing in 1994. The UM384 plan is currently being revised in PUC Docket 731. The Commission has signed a contract with National Exchange Carrier Association (NECA) to implement and operate the fund. The USF program is pending based on the development of a "Forward-Looking Economic-Cost" proxy model.

Table 1 (Continued) Status of State Universal Service Funds	
State	**Comment**
PA	The establishment of a USF was to be accomplished via Rulemaking in Docket No. 2-00950105, which lapsed by operation of law on Dec. 11, 1997. The Basic Universal Service (BUS) costs that would have been derived from the universal service investigation at Docket No. 1-940035, would have been used to "size" the USF. However, the universal service investigation at Docket No. 2-0094035 has not yet concluded. The Pa. PUC has a pending investigation regarding universal service costs of Docket No. 1.00940035. This universal service investigation has focused on BUS costs and cost models. Following the issuance of a Reconsideration Order on July 31, 1997, the Pa. PUC reopened its investigation.
SC	A hearing was set for Nov. 17, 1997 to determine the cost model and size of the fund. Guidelines were adopted in August 1997. Cost model and size of fund hearings began Nov. 19, 1997.
SD	The South Dakota Public Utilities Commission allows small independents and cooperatives to have a disparity between their originating and terminating intrastate access charges. This disparity creates a high cost support mechanism. This is the only state support mechanism in place.
TN	The TRA has undertaken the universal service question in its ongoing Docket 97-00888. A final decision on this matter was expected by the middle of 1998.
TX	The Texas USF rules were scheduled for adoption by the Public Utility Commission of Texas (PUCT) at the Dec. 17, 1997 Open Meeting and implementation was to occur during the second quarter of 1998. Texas' Educational Percent Discount Rates (Subst. R. 23.107) became effective Oct. 21, 1997. Texas has two additional USF programs: Telecommunications Relay Service (Subst. R. 23.144) and Specialized Equipment Distribution (Subst. R. 23.145). These two rules were also scheduled for adoption on Dec. 17, 1997. The proposed revisions incorporate legislative changes enacted through the Public Utility Regulatory Act (PURA), the federal Telecommunications Act, and the FCC's USF Order.
UT	Universal service funding is currently being adjusted. Our new state law requires that implicit subsidies be done away with. Hence, funding the state USF has become difficult.
VA	Virginia has not established a state USF.

Table 1 (Continued) Status of State Universal Service Funds	
State	**Comment**
VT	The fund supports E-911, Lifeline and TRS but is not yet authorized for high cost area funding. The Commission may seek legislative authority for high cost funding from the 1998 Legislature. All carriers selling telecommunications services to Vermont customers must collect the VUSF charge, which is currently 1.4 percent. The carriers turn it over to NECA, which is our fiscal agent.
WA	The present fund is based on a surcharge on access charges to support high-cost companies (average loop costs above 115 percent of the state average loop cost). The few very large carriers and IXCs are the big contributors. It supports companies, not specific services. All services are supported.
WI	A USF was established May 1, 1996. Statutes require a biennial review; which is underway.
WV	We are awaiting "final" federal action.
WY	All telecommunications carriers contribute to the fund. The amount of contributions will vary over time but the level is currently set at 1 percent of intrastate retail revenues. Companies surcharge customer bills and any fund distributions are credited directly to customers. Support is directed to customers with rates that exceed 130 percent of the statewide weighted average, after recognizing federal universal service funds.

Source: Authors' construct from state responses to NRRI Survey.

Existence of Status Reports or Impact Studies

States were asked whether they had any status reports or studies of the impact of universal service programs. More than one-third of the states (18) had conducted or were in the process of conducting a study to determine the impact or effectiveness of universal service programs. The responses are shown in Table 2.

Table 2
Are Reports and Studies on the Impacts of Universal Service Programs Available?

Yes (18)	AK, CA, GA, IN, KS, MA, MD, ME, MI, MN, NE, NY, OH, PA, VT, WA, WI, WY
No (33)	AL, AR, AZ, CO, CT, DC, DE, FL, HI, IA, ID, IL, KY, LA, MO, MS, MT, NC, ND, NH, NJ, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VA, WV

State	Comment
AK	The NOI is designated as Order R-97-6(1).
GA	A brief status report on Docket No. 5825-U is available.
IN	A fairly extensive analysis of telephone subscribership for Indiana was conducted in the mid-1990s. It was based on data from the U.S. Bureau of Census. This analysis appears in the 1994 and 1995 IURC Reports to the Regulatory Flexibility Committee of the Indiana General Assembly.
MD	The MDPSC has reports regarding the lifeline programs.
MN	The Legislature required a report from the Department of Public Service on the status and services that should be included in a USF. The report, submitted on Jan. 1, 1996 deferred many issues to the then-pending federal guidelines on USF.
NE	A state universal service task force report was released in July 1997.
NY	Under development.
OH	There is a 1995 Report to the Ohio General Assembly regarding an analysis of the effectiveness of Ohio's Telephone Service Assistance (i.e., Lifeline) program.
OK	The fund was scheduled to be established and begin functioning in February 1998. NECA will provide the monthly status report on OUSF to the Commission.
OR	The current BCPM and Hatfield models are too divergent to draw any conclusions.

Table 2 (Continued) Are Reports and Studies on the Impacts of Universal Service Programs Available?	
State	**Comment**
PA	In the context of its universal service investigation at Docket No. 1-00940035, the Pa. PUC instituted a universal service task force. This task force issued its report on or about Sept. 29, 1997. In this report, as well as in various Docket No. 1-00940035 Pa. PUC Orders, the significance of programs such as Link-up and Lifeline for the maintenance and enhancement of universal service has been stressed. In 1996, the telephone penetration rate (annual average percent) of households with telephone service had reached 96.9 percent in Pennsylvania, the 4th highest in the U.S., and higher than the nationwide average figure of 94.2 percent for the same year. Testimony that was submitted in the 1996 evidentiary hearings of the Commission's Docket No. 1-00940035 universal service investigation, attempted to connect the concept of telephone penetration rates with '"affordable" BUS rates. In accordance with Pa. PUC Docket No. 1-00940035 directives and the FCC's May 8, 1997 Universal Service Order both CLECs and ILECs are implementing lifeline Programs in Pennsylvania that will be in place by Jan. 1, 1998.
VT	The Commission did a study on the need for a high cost program in 1995. It was distributed at NARUC at that time.
WI	A report to the Legislature is in preparation.

Source: Authors' construct from state responses to NRRI Survey.

State Reaction to the FCC's 25/75 Plan

One of the more controversial items in the FCC's original implementation plan was the idea that federal universal service support would cover only 25 percent of the subsidy necessary to maintain affordable local rates. States were asked how they were responding to the FCC's decision to support 25 percent of the cost of universal service for non-rural carriers. The controversial nature of the FCC's 25/75 plan is indicated by the fact that thirty states answered that they were taking some action to have that provision reconsidered or revised. The FCC's subsequent decision to reevaluate the 25/75 plan may have flowed from the states' reaction to it. The responses are shown in Table 3.

Table 3
Commission Response to the FCC's 25/75 Plan for Supporting Non-Rural Carriers

Action / Response (30)	AK, AL, AR, CA, CO, ID, IL, IN, KS, KY, LA, MA, ME, MN, MS, MT, ND, NE, NH, NM, NY, OK, PA, TN, TX, UT, VT, WI, WV, WY
No Action / Response (17)	AZ, CT, DC, DE, FL, GA, IA, MD, MI, NC, NJ, NY, OR, RI, SC, VA, WV

State	Comment
AK	Filed a request for reconsideration with the FCC.
AL	The Alabama PSC has not determined how it will respond at this time. Our comments filed in the Universal Service docket supported total funding from the federal jurisdiction for the high cost funding.
AR	We have filed a petition for reconsideration with the FCC on this issue. Regardless of action taken by the FCC, whatever amounts Arkansas ILECS no longer receive (or expense adjustments allowed) from interstate funding are recoverable under Arkansas law from the Arkansas USF.
CA	The California High Cost Fund B (CHCFB) was established in 1996 and designed to provide assistance for high cost areas served by non-rural LECs. Carriers can make claims for periods beginning in February 1997.
DE	Our Commission has not taken a position on this because the amount of universal support coming back to Delaware is going to be small.

Table 3 (Continued) Commission Response to the FCC's 25/75 Plan for Supporting Non-Rural Carriers	
State	**Comment**
FL	The FPSC is monitoring the FCC's actions closely. It is not clear at this time what the final outcome of the FCC's decision will be.
IA	Iowa filed an appeal.
ID	Idaho joined with Maine in comments to FCC on report to Congress.
IL	The Commission has filed comments and is working under the assumption that the proposed 25/75 split will happen. The Commission is in the process of developing forward-looking cost models.
IN	The Indiana Commission included a comprehensive "reservation of rights" in its Aug. 15 modeling filing with the FCC, including the 25/75 requirement. However, the Commission will also begin rebalancing rates in 1998, which may ultimately lead to the creation of a State USF.
KS	Kansas has filed suit in the 5th Circuit Court.
KY	The Commission has joined in the Maine and Vermont comments to the FCC. We believe the 25/75 split is not appropriate and that the FCC should fund 100 percent of the costs in excess of the benchmark.
LA	A Cost study pending.
MA	This will be addressed in an order that is pending.
ME	Maine is leading the effort to oppose this decision and is actively seeking a compromise with the FCC and other states to remedy the situation.
MN	This issue is under consideration in the ongoing rulemaking proceeding.
MS	This is one of the factors holding up our Docket for Universal Service. Mississippi is a very rural state with a high level of poverty. This, in itself, places a great burden on Mississippi ratepayers to fund the remaining 75 percent. The Commission is analyzing several ways in which to provide for Universal Service without a substantial rate increase for Mississippi ratepayers.
MT	The MPSC filed comments with the FCC opposing the 25 percent federal support. MPSC also joined Maine's and Vermont's comments on the FCC's Report to Congress reference implementation of the Telecommunications Act, including Universal Service Funding.

Table 3 (Continued) Commission Response to the FCC's 25/75 Plan for Supporting Non-Rural Carriers	
State	**Comment**
ND	The Commission filed ex parte comments with the FCC. We are concerned about the 25/75 split and believe the percentage borne by the states should be less than 75 percent.
NE	We have opposed 25/75 split. We are a rural state and have written Joint Board members to reconsider this.
NH	We are aware of and support efforts to convince the FCC to change its decision. If the FCC changes the proportion, however, and continues to restrict the support to Interstate services, New Hampshire will be in a bad position.
NM	The New Mexico State Corporation Commission has joined with many other states in requesting reconsideration of this issue. The Commission has also docketed a proceeding to consider costing methodologies to address this, among other issues.
OK	The plan is currently under study.
PA	In its July 31, 1997 Reconsideration Order at Docket No. 1.00940035, the Pa. PUC has tentatively adopted the FCC's May 8, 1997 revenue benchmark for the purpose of determining Universal Service funding levels for a Pennsylvania-specific USF. However, the Pa. PUC has not reached any final conclusion on Pennsylvania-specific BUS costs, cost models, and USF funding.
TN	This issue is being addressed in the pending Universal Service Docket.
TX	A Petition for Reconsideration of the PUCT was filed on July 15, 1997.
UT	We wish the federal contribution was higher, but have programmatically attempted to design a system to cover what is needed.
VT	We don't like the FCC's 25 percent decision at all. The Board is before the FCC seeking reconsideration. The Department of Public Service has filed a petition for review, and that petition is now pending in the Fifth Circuit Court of Appeals.
WA	The Washington Commission has stated in recent comments to the FCC on the Report to Congress that it believes the 25/75 split may place a burden on some rural states.

Table 3 (Continued) Commission Response to the FCC's 25/75 Plan for Supporting Non-Rural Carriers	
State	**Comment**
WI	We are investigating options. Given the statutory funding limit on our current USF, a separate fund may be needed for the 75 percent state funding required.
WV	We have not yet determined what our response will be. Estimates show that West Virginia would be among the states hardest hit under the FCC's initial decision.
WY	The commission filed a reconsideration request in July 1997 and filed additional comments on the matter in January 1998. Reply comments were expected to be filed February 1998. We believe that the 25 percent level of support is insufficient. We are also concerned with redirecting the federal support to interstate services.

Source: Authors' construct from state responses to NRRI Survey.

State Position on Affordability

The concept of an affordable rate is central to determining the amount of support required to ensure universal service, and affordability may vary across states. States were asked whether they planned to submit information to the FCC regarding the affordability of telephone service. Only a small number (five) of the respondents had submitted, or were planning to submit, information to the FCC. The majority (88 percent) of the respondents were either not planning to submit affordability information or were undecided. The responses are shown in Table 4.

Table 4
Commission Plans to Submit Information on the Affordability of Rates

None / Not Decided (39)	AK, AL, AR, AZ, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, MA, MD, ME, MS, MT, NC, ND, NE, NH, NM, NY, OH, OK, OR, RI, SC, SD, TN, TX, VT, WI, WV, WY
Yes / Planning to Submit (5)	LA, MN, MO, NJ, WA

State	Comment
CO	CHCF Rule (4 CCR-723-41) adopted current rates as affordable.
DC	The Commission is anticipating addressing this matter in the universal service procedure.
IN	The Commission is considering affordability in its generic investigation on universal service and access charge reform; no decisions have been made.
KS	The Kansas Commission has not taken up this topic yet. The Kansas Act provides for minimal rates for rural LECs set at the average of the rural LEC rates (residential = $6.94 and business - $10.54).
MA	This will be addressed in an order that is pending.
MD	The rates of the ILEC are subject to price cap regulation.
MN	We expect to submit plans when the data becomes available.

Table 4 (Continued) Commission Plans to Submit Information on the Affordability of Rates	
State	**Comment**
MO	The Commission established Case No. TX-98-56 to develop a state universal service fund. At this time the Commission is considering a proposed rule to establish a framework for the fund. After receiving initial and reply comments a hearing was conducted on Nov. 10, 1997. If approved as proposed, the fund would eventually provide financial assistance for telecommunications companies in three areas: (1) companies serving high cost areas, (2) companies establishing Lifeline/Link Up programs, and (3) companies experiencing reduced funding from the federal universal service fund. All telecommunications companies would be expected to fund the Missouri universal service fund. If approved, the Commission will need to hold subsequent proceeding(s) to determine details necessary to get the fund up and running.
WA	Our comments on the 25/75 split are, essentially, about affordability.
WY	This matter has not been discussed, although a survey on affordability was done the summer of 1997.

Source: Authors' construct from state responses to NRRI Survey.

State Choice of a Proxy Cost Model

In addition to determining an affordable rate, the problem of determining the cost of providing universal service is crucial. Thus, the choice of a cost model platform and associated cost inputs is a crucial step in determining the amount of support required. States were asked whether they had adopted or planned to adopt a proxy cost model or method for determining the cost of universal service. They were asked whether they planned to use the FCC's estimates, the Benchmark Cost Proxy Model (BCPM) model, or the Hatfield Model (which has been renamed as the HAI Model). In general, although a large majority (80 percent) of the responding states were considering or evaluating the various models, only a few (three) had actually settled on a particular model. As discussed above, this may result from a desire to have state and federal programs linked to a common cost basis and the fact that the FCC has not, as yet, adopted either a model platform or cost inputs. The responses are shown in Table 5.

Table 5
Choice of Cost Model for Universal Service

Has Selected a Model (7)	AR, CA, IL, IN, MI, NV, NY
Model Development or Selection Process is Underway (32)	AL, AZ, CO, FL, GA, IA, ID, IL, KS, KY, LA, MD, ME, MN, MO, MS, MT, NC, ND, NE, NH, OK, OR, PA, SC, TN, TX, UT, VT, WI, WV, WY
Will Use the FCC Model and/or Estimates (3)	AK, OH, SD
Not Yet Addressed / Decided (8)	CT, DC, DE, MA, NJ, RI, VA, WA

State	Comment
AL	Alabama will determine what model it will use after the hearings on cost models which were scheduled for the beginning of 1998.
AR	Arkansas law requires the use of embedded cost to determine the cost of universal service.
AZ	The staff is currently analyzing the Hatfield and BCPM models.
CA	We have chosen CPM.

Table 5 (Continued) Choice of Cost Model for Universal Service	
State	**Comment**
CO	The Current Docket No. 97M063T considering Hatfield and BCPM.
FL	The FPSC has advised the FCC that it may submit a model. We are working closely with the joint board in development of the model.
GA	We are developing our own model, but the specific model has not been determined yet.
IA	We are planning to adopt a model.
ID	The Commission is currently are analyzing the Hatfield, BCPM, and Ben Johnson models.
IL	The Commission has adopted BCPM for GTE. Ameritech is proposing a company-specific model. The Commission will use the FCC's model, if it is superior to the proposed model(s).
IN	We have chosen BCPM, as of Nov. 5, 1997.
KS	The Kansas Act provides for a cost determination method. The Commission may consider the FCC or other costing methods in the future if necessary to properly interface with the FCC and comply with the State Act. Kansas is not developing its own costing method for submission to the FCC.
KY	The companies are in the process of filing their own proposals to the state Commission for review.
LA	A model is currently under development.
MA	This will be addressed in a pending Order.
MD	The MDPSC filed a letter with the FCC stating that it may submit its own model.
ME	The Commission has opened a docket examining several options, including constructing a Maine model by choosing the best portions of various models and then determining Maine specific inputs. The Commission will likely use the FCC model if that model proves adequate for Maine.
MI	We have legislatively mandated a total service long run incremental cost methodology.
MN	There is an ongoing cost proceeding to determine the cost for USF purposes. We do not expect to complete the process in time for the FCC deadline, however, and have requested a time extension.

Table 5 (Continued) Choice of Cost Model for Universal Service	
State	**Comment**
MO	For high cost determination under federal USF, the Commission established Case No. TO-98-64. At this time, it is unclear whether the Commission will approve a cost model for the federal USF. For the state, USF, high cost will be addressed in a future case with the Commission.
MS	The Mississippi Commission presently has an open docket in which to review and select the appropriate Cost Proxy Model for our state. A Final Order in that Docket was due on April 20, 1998.
MT	Docket is pending. Unless the April 24, 1998 FCC deadline is extended, the MPSC intends to propose a proxy cost model to compute forward-looking economic costs.
NC	A hearing was set for Dec. 10 1997. A Decision will be forthcoming after that date, but no later than Feb. 6, 1998.
ND	The Commission intends to develop a plan.
NE	The Commission is working on developing its own model.
NH	The Commission's Docket No. 97-171, investigating Bell Atlantic's proposed SGAT, includes a cost study component. The cost study submitted by Bell Atlantic was evaluated by the Staff and an outside consultant (Ben Johnson Associates). In April 1998 the Commission should decide whether and how to use the FCC model. We could decide to use the FCC model but submit our own inputs. Alternatively, we could go with the FCC or with a Ben Johnson model.
NV	We have chosen the Hatfield model.
NJ	A decision on this matter is pending the resolution of the universal service proceeding.
NY	The model being developed is based on a UNE cost study developed in our Network Elements proceeding.
OK	The adoption of a model is currently under review.
OH	The Ohio Commission indicated that it currently plans to use the FCC's model, but that after review, it may decide to add Ohio-specific inputs to the FCC model.
OR	Model selection (Hatfield or BCPM) and input parameters are currently being considered.
PA	Via a letter communication to the FCC, the Pa. PUC has indicated that it will select its own universal service cost model. However, no final decision has yet been made since the PUC's universal service investigation at Docket No. 1-940035 is still open.

Table 5 (Continued) Choice of Cost Model for Universal Service	
State	**Comment**
SC	Hearings were set for Nov. 19, 1997 on this issue.
TN	The TRA has notified the FCC that it intends to develop its own model but may consider an FCC model in its deliberations. No decisions have been made on the model to be used.
TX	The PUCT is currently reviewing the BCPM and Hatfield models.
UT	We will use either Hatfield, BCPM, or a US West model with modifications. We will choose a model in February.
VA	The VSCC has reserved its right to use its own model but has not initiated action to determine cost at this time.
VT	We have filed a letter of intent to develop our own cost model but haven't developed one, and we might not file one in the end. At the moment it seems of dubious value to do so, since the FCC Order suggests that all the funds generated for Vermont would actually go to reduce interstate access charges, not intrastate rates.
WI	We are reviewing Hatfield, BCPM, other national models submitted, and Ameritech's and GTE's specific models in Docket 05-TI-160.
WV	We have informed the FCC that we are working on our own model despite the fact that the Commission used Hatfield in an arbitration case between BA-WV and AT&T.
WY	Both Hatfield and BCPM have been proposed by parties. Hearings were scheduled for Feb. 1998 to consider our own model for submission to the FCC for computing USF. The state fund is currently based on rate levels rather than costs directly, so changes in state statutes may be required to use the model on the state side.

Source: Authors' construct from state responses to NRRI Survey.
Note: Illinois is listed as both as having selected a model and as being in process of selecting a model. The reason for this is that the comment indicated that the BCPM model was adopted for GTE and other models were under consideration for Ameritech.

State Participation in Lifeline and Link Up Programs

Lifeline and Link Up are especially important programs for ensuring that the poor have access to telephone services. States were asked whether they currently fund the state portion of the Lifeline and Link Up programs, and if so, how they were funded. They were also asked whether there were specific eligibility criteria other than income and whether they planned to fund the state portion of the Lifeline and Link Up programs under the mechanism described in the FCC's *Order.* Slightly fewer than two-thirds of the responding states indicated that they funded the Lifeline and Link Up programs. Slightly more than half responded that their Lifeline and Link Up programs had qualifications other than income, and slightly fewer than half indicated that they had revised their Lifeline and Link Up funding mechanisms to conform to the FCC's *Order's* provision that Lifeline and Link Up funding be competitively neutral. The responses are shown in Tables 6, 7, and 8.

Table 6
Are Lifeline and Link Up Programs Funded by the Commission?

Yes (27)	AL, AZ, CA, CO, CT, DC, ID, IL, KY, MA, MD, ME, MN, NC, ND, NY, OH, OK, OR, PA, RI, TN, VT, WA, WI, WV, WY
No (17)	AK, AR, DE, FL, GA, IA, IN, LA, MO, MT NE, NH, NJ, NM ,SC, TX, VA

State	Comment
AL	Alabama presently funds the state portion of our lifeline service through contributions from the IXCs.
AZ	The state has (through statute) a senior low income assistance program that is funded through property tax credits for utilities that serve program participants.
CA	California reduces rates to $5.62 for flat-rate service and $3.00 for measured service. The amount of this contribution will vary depending on the standard retail rate charged by the company. California also funds $1.75 for the unwaived EUCL.
CO	The programs are funded via a surcharge per access line.

Table 6 (Continued) Are Lifeline and Link Up Programs Funded by the Commission?	
State	**Comment**
CT	On May 3, 1995, the Department issued a decision in Docket 94-07-09, DPUC Exploration of the Lifeline Program Policy Issues. As a result, the existing lifeline program is funded by means of an assessment on all certified telecommunications companies and the telephone companies according to their proportionate market share, measured by total intrastate revenue as defined in Conn. Gen., Stat 16-49. The Department recently opened docket No. 97-07-12, DPUC Review of the Connecticut Lifeline program, and a decision was expected by Spring 1998.
DC	The programs are funded through implicit subsidies in local rates.
DE	State Legislation would be needed.
ID	There is a $3.50 company specific surcharge on local rates. This will most change with a new bill to a statewide uniform surcharge.
IL	The state has its own link up program funded from voluntary contributions. The state does not currently fund a lifeline program and cannot use state funds for this purpose. Therefore, we will use the $5.25 minimum specified in the Telecommunications Act.
IN	We are not sure about a linkup program. We will not fund a lifeline program.
KY	We are currently using the FCC linkup program. An Order addressing lifeline has been entered stating that we will provide $5.25.
MA	The programs are funded through charges to interLATA customers.
MD	Maryland funds a portion of the lifeline and linkup programs by offsets of the carrier's gross receipts tax.
ME	The programs are funded implicitly through rates.
MN	The current funding is $3.50 for the state lifeline program called TAP.
MT	We do not currently fund lifeline or linkup programs, but the state law authorizing LECs to offer lifeline and linkup says the LECs may recover their $3.50 match of the subscriber line charge waiver in rates.
NC	The state portion of lifeline program is funded through tax credits.
ND	Some matching funds come from the ILECs. There is no state tax.
NJ	The state does not fund lifeline, however, the Board has established a linkup program.

Table 6 (Continued)
Are Lifeline and Link Up Programs Funded by the Commission?

State	Comment
NY	Companies match, or exceed, the current federal support provided for the SLC waiver.
OH	Ohio contributes state matching funds to its lifeline program (a.k.a. Telephone Service Assistance) via a credit to LEC's gross-receipts tax bill.
OK	Will start the funding through Oklahoma lifeline in February 1998.
OR	Surcharges are set on loops (wireline) and instruments (wireless).
PA	Bell Atlantic - Pa. has been permitted to utilize certain interstate rate element increases to fund the state portion of its modified and expanded lifeline program that will go into effect on Jan. 1, 1998. This use of state-specific "implicit subsidies" is not contrary to the FCC's May 8, 1997 Universal Service Order. The other ILEC/CLEC lifeline programs that will become operational on Jan. 1, 1998, will rely exclusively on the $5.25 federal lifeline offset.
RI	Lifeline and linkup are supported through the local LEC (Bell Atlantic).
SC	Bell South funds the lifeline in these areas.
TN	A specific recovery mechanism is not used. The funding is derived from historical rate-making procedures where any funding would be recovered as part of the overall cost of service and all of a company's rates.
VA	The LECs are required to provide lifeline and linkup programs through intrastate rate reductions. Intrastate funding does not come from an intrastate fund.
VT	The Vermont USF currently funds a portion of the benefits for lifeline customers.
WA	In Washington the Telephone Assistance Program has been in effect for ten years. It is funded through a $0.13 cent per month excise tax on access lines.
WI	The USF contributes 25 percent of the total. The LECs contribute the remainder.
WV	The state portion of the lifeline program is funded by credits against a utility's telecommunications tax liability.
WY	The state portion of lifeline is funded through a surcharge that each company can impose (up to $20/month) to fund its own needs.

Source: Authors' construct from state responses to NRRI Survey.

Table 7
Other than Income, Are There Eligibility Criteria for Lifeline and Link Up?

Yes (24)	AR, AZ, DC, FL, ID, IN, KS, KY, MA, MD, ME, MI, MN, NC, ND, OH, OK, RI, SC, TN, VA, VT, WV, WY
No (21)	AK, AL, CA, CO, CT, DE, GA, IA, IL, LA, MO, MT, NE, NH, NJ, NM, NY, OR, PA, TX, WA,

State	Comment
AK	The standard FCC list for eligibility is used in most areas of the state.
AL	The criterion for lifeline and linkup in Alabama is eligibility for Medicaid. There are no other requirements besides this income test.
AR	The Department of Human Services certifies that an applicant receives either SSI, AFDC, HEAP, food stamps, Medicaid, or subsidized housing.
AZ	Participants must be 65 years of age or older.
DC	The current program uses income, age, and head of household criteria. The Commission is currently considering a proposal to modify program use only related factors.
DE	We use the FCC's eligibility criteria since we have not set up a state portion for the Lifeline and Linkup programs.
FL	Participation in wages, Medicaid, food stamps, SSI. These criteria are subject to change Jan. 1, 1998.
GA	No. Georgia adopted the criteria recommended in the FCC's Report and Order on Universal Service (FCC 97-157).
ID	Head of household, age 60+.
IL	The state is adopting the FCC's criteria beginning Jan. 1, 1998.
IN	Indiana does not directly base eligibility for Linkup Indiana on income; rather, it is based on prior eligibility for other income assistance and social service programs.
KS	Kansas has chosen specific assistance programs that are based on "low income" criteria. The Kansas specific programs are as follows: Temporary Assistance to Families (TAF), Food Stamps, Medicaid, Supplemental Security Income (SSI), General Assistance, Food Distribution Program (United Tribes).
KY	SSI, food stamps, Medicaid, Section 8 housing assistance, and LIEHEP
MA	Yes. Participation in various programs such as AFDC, welfare, and food stamps.

Table 7 (Continued) Other than Income, Are There Eligibility Criteria for Lifeline and Link Up?	
	Comment
MD	Income eligibility is defined as receiving certain federal or state assistance. To qualify for Tel-Life Service, a customer must be certified by the Maryland Department of Human Resources to the Telephone Company as receiving benefits under Article 88A, Section 44A through 53 of the Code, state-funded public assistance benefits, or supplemental security income under Title XVI of the Federal Social Security Act.
ME	Maine's lifeline parameters are that the telephone subscriber must be eligible for one of the following programs: Supplemental Social Security (SSI), Low Income Home Energy Assistance Program (HEAP), Medicaid, Temporary Assistance for Needy Families (TANF) [formerly Aid to Families with Dependent Children (AFDC)], food stamps, Emergency Assistance Program.
MI	Age is another requirement.
MN	Other than income, eligible households must include a person at least 65 years old or disabled.
MO	The proposed state rule mirrors the requirements for the federal fund found in Section 54.409 of the federal Universal Service Fund rule.
MT	No, only Medicaid recipients are eligible.
NC	Lifeline: Participation in AFDC and SSI. Linkup: participation in AFDC, SSI and food stamps.
ND	Food stamps, Medicaid, AFDC, Energy Assistance
NH	No, consistent with FCC Orders, the NHPUC adopted a means-tested eligibility standard.
OH	Ohio's lifeline program - Telephone Service Assistance - further limits participation to customers who are also either elderly or disabled.
OK	Yes. Pursuant to OAC rule 165:59-3, eligibility for benefits: as certified by the Department of Human Services under a program providing a) assistance to needy families, b) food stamps, c) medical assistance, or d) supplemental security income. as certified by Rehabilitation Services under a program providing vocational rehabilitation, including aid to the hearing impaired. as certified by Oklahoma Tax Commission, pursuant to the Sales Tax Relief Act. 68 O.S. 5011 et seq.
OR	Eligibility is based on low income public assistance programs where eligibility requirements do not exceed 135 percent of the poverty level.

Table 7 (Continued) Other than Income, Are There Eligibility Criteria for Lifeline and Link Up?	
	Comment
RI	Eligibility is determined by participation in programs such as AFDC and welfare.
SC	Eligibility for AFDC is another requirement.
TN	If a customer qualifies for AFDC, food stamps, SSI, or Medicaid, they qualify for the lifeline and linkup programs.
VA	Eligibility is based on participation in either Medicaid or food stamp programs.
VT	People under 62 years of age must be receiving welfare benefits to be eligible for lifeline.
WV	Customer must be either disabled or age sixty or older.
WY	The Wyoming program is based on Medicaid eligibility. See W.S. 37-2-30 through 37-2-306 (attached).

Source: Authors' construct from state responses to NRRI Survey.

Table 8
Are Lifeline and Link Up Funded in Accordance with The FCC's *Report and Order on Universal Service*?

Yes (18)	AL, AZ, CT, DC, ID, IN, KS, MD, ME, MN, MO, NY, OH, OK, PA, TX, VT, WA
No (13)	AR, DE, FL, GA, IA, IL, NC, ND, NE, NH, OR, VA, WY
To Be Determined (10)	AK, KY, LA, MA, MI, NJ, NM, RI, TN, WV

State	Comment
AL	Alabama intends to continue funding the lifeline and linkup programs and has taken the necessary actions to receive the maximum funding under the new FCC rules on these programs.
AZ	The Commission has sought an interim waiver (through July 31, 1998) for the state program so that matching federal funding (above the $5.25 baseline amount) is available to participants in Arizona's senior low income program until the state criteria can be changed. In addition, the Commission has sought clarification that it can apply the federal default criteria so that baseline support is available to those who can qualify under the broader federal criteria during the interim period.
CT	Pursuant to Conn. Gen. Stat. 16-247e, the Department will fund the state portion of the lifeline program under the mechanism described in the Report and Order on universal service. For further information, reference docket No. 94-07-09, DPUC Exploration of the Lifeline Program Policy Issues.
ID	Yes, $3.50. Company specific surcharge on local rates. Will likely change with new bill to a statewide uniform surcharge.
KS	To the extent that the federal support exceeds the federal charges, the Kansas Commission has advised the FCC and USAC that Kansas wants to receive additional lifeline support. LECs have filed tariffs to reflect these additional intrastate lifeline credits.
ME	Maine currently funds its portion of the lifeline and linkup programs implicitly through rates. Additional information on Maine's future funding plans is available in the Lifeline Docket 97-825.
MN	We will be asking the FCC for a clarification on whether we can continue our existing program without jeopardizing the current $3.50 federal support. Also, since Minnesota's eligibility criteria are codified in statute and would require legislative action, we will also ask for a waiver until such time that state laws can be changed.

Table 8 (Continued)
Are Lifeline and Link Up Funded in Accordance with
The *Report and Order on Universal Service*?

State	Comment
MO	Our Commission plans to meet the guidelines imposed in the Report and Order. Our proposed state rule is set up to acquire the maximum federal match.
NE	No state matching money will be made available. Will go with $5.25 baseline federal mark.
NJ	Not decided yet, pending resolution of universal service proceeding and separate pending of proposed lifeline programs.
NY	Yes. Lifeline rates will continue to be discounted at current levels which, for most lifeline customers, equate to discounts beyond the initial $5.25 reimbursed from the new federal fund. Therefore, additional intrastate support, with 50 percent matching federal support, will be available.
OH	Eventually, it is anticipated that Ohio will fund the state portion when its intrastate USF becomes operational.
OK	Will be funded pursuant to House Bill 1815, which establishes Oklahoma Lifeline Fund. (OAC 165:59-9)
OR	There are no plans to change the current funding arrangement for the low income program.
PA	The Pa. PUC has left open the option of examining state funding alternatives for lifeline programs.
TN	That funding mechanism has not been specifically designed. It is expected to be a part of the ongoing universal service Docket.
TX	Yes. Proposed Subst. R. 23.142 contains provisions for lifeline and linkup programs.
WA	In Washington the Telephone Assistance Program has been in effect for ten years. It is funded through a $0.13 cent per month excise tax on access lines.
WY	No immediate changes are anticipated, although a task force has been formed to look at changes to statute or procedures to expand program participation.

Source: Authors' construct from state responses to NRRI Survey.

Status of ETC Designations

Under the provisions of the 1996 Act, only Eligible Telecommunications Carriers (ETCs) are able to receive support from the federal universal service mechanism, and the state commissions are responsible for granting ETC status to requesting carriers. States were asked about the status of their designation of ETCs, how they intended to meet the requirement that more than one ETC be designated for non-rural areas (if a request was made), and whether they planned to use competitive bidding to designate ETCs. The responses are shown in Table 9.

Table 9
What is the Status of the Commission's Designation of ETCs?
What are the Plans for More than One Carrier in Rural Areas?
Will Competitive Bidding be Used?

State	Comment
AK	A decision is pending.
AL	The Alabama PSC issued an Order on Dec. 18, 1997, designating all ILECs as eligible carriers. There were no other carriers that sought eligible carrier status in the state. The Alabama PSC will meet the requirement for more than one ETC designation in the non-rural areas when other carriers begin competing and can meet the requirements for ETC status. No other carriers qualify at this time. We have not determined at this time whether of not we will use competitive bidding to designate ETCs. It may be addressed in the pending proceedings under our current universal service docket.
AZ	The Commission has issued Orders designating each ILEC ETC status. No CLEC has been granted ETC status at this point.
CA	A Resolution (T16105) designating an initial group of ETCs was approved by the Commission at its Dec. 16, 1997 meeting. California will designate any carrier that applies and meets the FCC's ETC criteria. No limit on the number of ETCs in a given area. Competitive bidding is being considered as a basis for distributing state high cost support, but competitive bidding appears to be prohibited by FCC 97-157 as a basis for designating ETCs. No competitive bidding is contemplated for the lifeline program.
CO	Adopted rules establishing procedures - Application must be filed demonstrating qualifications - Will certify any provider in Non-Rural Area meeting standards - Will allow portability of support between ETCs.

Table 9 (Continued)
What is the Status of the Commission's Designation of ETCs?
What are the Plans for More than One Carrier in Rural Areas?
Will Competitive Bidding be Used?

State	Comment
CT	As of this date the Department has not designated any telecommunications service provider as an eligible telecommunications carrier. Pursuant to the Department's certification rules, prospective service providers must designate the areas in which they intend to offer service in Connecticut. The Department's rules also require that they provide service to any resident/business that requests it. Currently, Connecticut has approximately thirty carriers (CLECs) certified to provide local service, for which statewide authority has been granted. The Department has not made a determination as to whether or not competitive bidding will be used.
DC	The Commission has issued an Order inviting carriers to apply for designation which will be on a case by case basis. No competitive bidding anticipated at the moment.
DE	We have set up rules for ETCs. Bell Atlantic-DE has received certification as of Jan. 1, 1998. We are going to allow more than one ETC for designated non-rural areas. No competitive bidding process. Each ETC can designate an area to serve.
FL	The ILECs have been designated as ETCs by Order PSC-97-1262-FOF-TP. That Order allows other carriers to petition the FPSC for ETC status.
GA	To date, incumbent carriers have been designated in their present service territories.
IA	The Board has adopted emergency rules regarding the determination of eligible carriers. No decisions as the remaining questions posed.
ID	All ILEC are ETCs. The rest has not yet been defined.
IL	All ILECs have been designated as ETCs. No competitive applications have yet been submitted.
IN	(1) ETC Orders anticipated Dec. 16, 1997, (2) For non-rural areas, we will wait for new entrants to file ETC applications with the Commission.
KS	The Commission has designated the incumbent LECs as ETCs. Requests for ETC status will be considered when they are filed with the Commission. The Commission has not had a proceeding regarding competitive bidding.
KY	We have designated and notified the FCC that the ILECs are ETCs. The designation of more than one ETC for non-rural areas is pending. Competitive bidding is not currently being used to designate ETCs.
LA	The Commission approved the designation of ILECs at its business session on Oct. 22, 1997.

Table 9 (Continued)
What is the Status of the Commission's Designation of ETCs?
What are the Plans for More than One Carrier in Rural Areas?
Will Competitive Bidding be Used?

State	Comment
MA	This will be addressed in a pending Order.
MD	Three carriers in Maryland are designated as ETCs. The MDPSC did not use competitive bidding.
ME	ETCs have been designated. Rural ETCs designated as serving their current service area. The Bell Atlantic study area is broken into ten service areas based on economic relationships between communities.
MI	Orders were issued on Nov. 25, 1997 for Ameritech, GTE, Michigan Exchange Carriers Association members, and Frontier.
MN	The new Commission rules for telephone companies serving 50,000 or more subscribers, and the proposed rules for telephone companies serving less than 50,000 subscribers both include a provision for automatic designation of incumbent LECs as ETC. Nevertheless, some LECs are petitioning the Commission for individual ETC designation, because among other reasons, they do not have "toll control" capability today. The Commission will decide on the petition soon. CLECs can separately petition the Commission for ETC designation. The Commission rules contain the process and requirements for ETC designation of CLECs.
MO	Carriers are in the process of revising tariffs to offer lifeline and linkup pursuant to the guidelines in the Report and Order.
MS	The Mississippi Commission has designated ETC's in all areas. We designated only one ETC in the non-rural areas, because no other companies requested the designation.
MT	All incumbent LEC petitions to be ETCs were approved. The required letter to the FCC was sent in December.
NC	Actions to designate ETCs is pending.
ND	Approximately 40 carriers are under review for ETC designation. There are hearings scheduled for Nov. 17, 1998 for 32 of these and another hearing scheduled on Dec. 17, 1998 for the remaining 8. The commission has not received additional requests for the ETC designation in non-rural areas. There will be no competitive bidding.
NE	We have finished ETC designations (all ILECs). We haven't yet designated any competitive ETCs, but 2 applications are pending.

Table 9 (Continued)
What is the Status of the Commission's Designation of ETCs?
What are the Plans for More than One Carrier in Rural Areas?
Will Competitive Bidding be Used?

State	Comment
NH	On Nov. 26, 1997, the NHPUC designated ETCs. Pursuant to the Act's requirement in Section 214(e)(2), the NHPUC will designate more than one non-rural ETC "upon request and consistent with the public interest" ..."so long as each additional requesting carrier meets the requirements of 214(e)(1).
NJ	We have not decided yet. Several petitions are pending for ETC certification.
NM	The Commission has several applications for ETC designation pending, including a recently heard application submitted jointly by twelve rural local exchange carriers. The Commission's requirements for ETC designation in non-rural areas are undetermined.
NY	ETC certification item scheduled to go before Commission on Nov. 25, 1997. The requirement to designate more than one ETC for non-rural areas is applicable only if another carrier requests designation as an ETC in that area. Our CLEC service areas will be designated as the existing territories served by CLECs, which are contained in most instances within a non-rural service area. Competition bidding is not being contemplated.
OH	The PUCO expects to issue an Order in the 3rd week of Nov. 1997 establishing the procedures by which carriers can acquire ETC certification. It is not yet determined how the PUCO will handle the "more than one" requirement. Competitive bidding will not be utilized.
OK	Pursuant to the Commission rules, all incumbent local exchange carriers, on Jan. 1, 1996 will be eligible to receive OUSF funding. Others will be certified on a case-by-case basis. No competitive bidding will be used by OCC.
OR	We have requested that the LECs apply for eligibility by Nov. 3, 1997. Multiple ETCs for non-rural areas will depend on whether CLECs can meet the FCC's criteria. Oregon has no plans for competitive bidding.
PA	The ETC designations by the Pa. PUC generally follow the FCC's May 8, 1997 Universal Service Order ETC criteria. So far, "competitive bidding" has not been used by the Pa. PUC for ETC designation purposes.
RI	The Commission just finished a hearing. The only eligible LEC is Bell Atlantic.
SC	We designated ILECs as ETCs on Nov. 4, 1997.
SD	Competitive bidding will most likely not be used.

Table 9 (Continued)
What is the Status of the Commission's Designation of ETCs?
What are the Plans for More than One Carrier in Rural Areas?
Will Competitive Bidding be Used?

State	Comment
TN	LECs have been ordered to self-certify their compliance with the requirements of the 1996 Act by Nov. 25, 1997 to be designated as ETCs by the TRA.
TX	The Commission has a proceeding underway to designate ETCs (Docket No. 18100). The PUCT is scheduled to approve the transmittal letter to the FCC designating ETCs on 12117/97. See also proposed Subst. R. 23.148.
VA	The commission has adopted requirements for filing of eligibility.
VT	Docket 5918 is open to designate ETCs. Parties recently stipulated to ETC status through Dec. 31, 1998. Hearings will be held on ETC status for Jan. 1, 1999 and thereafter.
WA	We have made 23 designations to date. We have designated carriers at the exchange level, with rural carriers at the study area until Jan. 1, 1999. We will petition the FCC for agreement on the exchange area designation and for agreement with a proposed formula for desegregating rural company study area average costs. We expect to file the petition in May 1998.
WV	All ILECs have filed for ETC status. No other carriers have applied as of Oct. 29, 1997.
WY	Each existing LEC has been granted eligible carrier status (on a non-exclusive basis) pursuant to individual applications. No requests have currently been made for multiple ETCs in non-rural areas, and no discussions other than the application process have been held with the commission.

Source: Authors' construct from state responses to NRRI Survey.

Commission Actions on Discounts for Schools and Libraries

A major thrust of the 1996 Act is the explicit support for provision of advanced telecommunications services to schools and libraries. States were asked to what extent they were participating in the federal program of discounts to schools and libraries, whether they had adopted a discount matrix, whether they were working with the department of education to publicize the availability of the discounts, and which agency was taking the "lead" role in their state with respect to implementing the discounts. Almost all the state commissions (47) had adopted the FCC's discount matrix, and the commissions generally indicated that they were working with other appropriate state agencies to implement the schools and libraries discounts. The responses are shown in Table 10.

Table 10
Extent of Participation in the Federal Program of Discounts to Schools

Adopted Federal Discount Matrix (47)	AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WA, WV, WY

State	Comment
AK	The Department of Education is working closely with the school districts to apply for funding.
AL	The Alabama PSC adopted the schools and libraries discount matrix in June of 1997. We have been providing information, as it becomes available to both the State Department of Education and the State Library Agency. The Department of Education and the Library Agency are the lead agencies.
AR	In Docket No. 97-236-U the Commission adopted the discount matrix established by the FCC. Representatives of the PSC have met representatives of the education community on the program.
AZ	The Commission has adopted the discounts listed in the federal matrix. The Commission has been working with the state's Department of Education that has been reviewing the technology plans and is coordinating other related actions with the schools.
CA	The Commission is working with the California Department of Education.

Table 10 (Continued)
Extent of Participation in the Federal
Program of Discounts to Schools

State	Comment
CO	The Association of Schools and Libraries has taken lead.
CT	A detailed response to this question can be found in Docket No. 97-02-07, DPUC Implementation of the Universal Service Provisions of the Federal Telecommunications Act.
DC	The Commission has contacted and informed the superintendent of schools about the discounts. The superintendent's office is the lead agency.
DE	The Dept. of Public Instruction and Div. of Libraries participated in the docket and are aware of the discounts. The Division of Telecommunications Services in the state is the lead agency since they contract for telecommunication services in our state.
FL	The FPSC adopted the discount matrix in May 1997 in Docket 970157. We have worked closely with other Florida agencies to implement the discounts. No single agency is the lead agency.
GA	The Commission is working with State Dept. of Education.
IA	The agency is working with the Department of Education. The Department of Education has the lead responsibility to implement the program in the schools.
ID	The Commission is working with the state Dept. of Education on implementation.
IL	The Commission is working with the Department of Education to publicize the discounts. The National Exchange Carriers Association is the "lead agency" with respect to implementing the discounts.
IN	Indiana state statutes designate a different state agency (the Indiana Intelenet Commission) as the administrator for all USF programs for schools, libraries, and rural health care providers.
KS	KCC Staff had worked with the Kansas Department of Education to assist their planning efforts. The lead agencies are the Kansas Department of Education and the State Librarian.
KY	The Dept. of Education is the lead agency, and they are handling the entire issue.
LA	Louisiana has adopted a discount matrix, Docket U-20883 (Subdocket A). We are also working with the Dept. of Education, and the Dept. of Education is the lead agency.
MD	The Department of Education is operating independently.

Table 10 (Continued) Extent of Participation in the Federal Program of Discounts to Schools	
State	**Comment**
ME	Outreach efforts are underway, but Maine's existing Schools and Libraries program provides an easy base on which to build. The Department of Education is the lead agency.
MN	The Commission, in its Order issued in June 1997 adopted the federal discounts, and did send a letter to the USAC and the FCC pursuant to the FCC's Public Notice. The Commission is working with our education department (called Department of Children, Family and Learning), the Office of Technology and other agencies to publicize the availability of the program. The Minnesota Education Telecommunications Council (METC) has been designated and has accepted lead responsibility for implementing the discounts.
MS	The Mississippi Commission has worked with the Department of Education extensively in helping them set up a plan to aid all public schools in the State. We have also worked with the private schools by educating them about this program and setting them up with the right individuals to help them receive discounts. The Department of Education is the lead agency for implementing the discounts.
MO	Our Commission is not working directly with the Department of Education to publicize the discounts. The PSC is currently the lead agency.
MT	The MPSC has conducted extensive educational outreach for Montana schools and libraries and has provided networking leadership with Montana Ed LINC, Montana Office of Public Instruction, Montana State Library, and the major education organizations in Montana. The MPSC has been the lead agency in providing information on implementing the discounts.
NC	The Commission has worked with the Department of Education on a limited basis, namely, to help them with information shared by State Department of Public Instruction and State Library Division of the Department of Cultural Resources.
ND	The Commission is working with the department of education to publicize the availability of discounts by conducting panel sessions and interactive TV sessions. The FCC is the lead agency with respect to implementing the discounts.

Table 10 (Continued)
Extent of Participation in the Federal
Program of Discounts to Schools

State	Comment
NE	The Department of Education is publicizing and taking the lead role in approving technical plans. The Library Commission is doing the same for the state libraries.
NH	The NHPUC held, in conjunction with the State Dept of Education, an information sharing forum. The Dept. of Education and the State Office of Information Technology Management are helping implement the discounts, with the Dept. of Education as lead agency.
NJ	The issue is also part of the pending universal service proceeding. The Department of Education is the lead agency in New Jersey.
NM	In SCC Docket No. 97-246-TC, the Commission adopted the federal discount matrix for schools and libraries. The Commission has also worked to keep interested parties informed as to the availability of the discounts and requirements to receive them.
NY	The Commission is working with our state Education Department to publicize the discounts. This is a joint effort between the Department of Public Service and the State Education Dept.
OH	The PUCO adopted the federal discount matrix on the intrastate side via an Entry released June 26, 1997 under Case No. 97-632-TP-COI. The PUCO continues to assist in the lead agencies' efforts via the Office of Information, Learning and Technology Services (for schools), and the State Library of Ohio (for libraries).
OR	PUC Docket UM837 has been opened for this investigation. The Oregon State Library will coordinate (lead agency) for library plans. The Oregon Department of Education has been an information coordinator for the school system.
PA	The Pa. PUC, via an Order issued in the context of its Docket No. 1.00940035 Universal Service Investigation, adopted the FCC discounts matrix. The Pa. PUC has been actively working with other Commonwealth Government agencies to advertise and otherwise promote the availability of these discounts. A public forum on "E-Rates" was held on Dec. 19, 1997, in Harrisburg, Pa.
RI	The Commission sent a letter to the FCC stating it would adopt the federal matrix.
SC	The State Budget and Control Board is coordinating South Carolina's efforts.

Table 10 (Continued)
Extent of Participation in the Federal Program of Discounts to Schools

State	Comment
SD	The Commission is working with the Department of Education. This Commission, the Governor's Office, and the Department of Education are all very active in promoting the implementation of the discounts.
TN	The Department of Education is handling all matters relating to the publication of discounts and education of the schools on this topic.
TX	The PUCT's Educational Percentage Discount Rate (Subst. R. 23.107) incorporates the discount rates available in CAR. Part 54, Subpart F. The Commission assists interested parties with initial inquiries, then directs them to the appropriate agency. The lead agency is the Texas Education Agency. The Texas Library Association is also involved.
VA	The Virginia Department of Education is the lead agency.
WA	Interested persons should contact either the Office of Superintendent of Public Instruction or the Washington State Library.
WV	The State Department of Education is the lead agency for schools. The State Library Commission is the lead agency for libraries.
WY	Members of the Commission staff are working with schools and libraries to file discount applications and several workshops on this topic have been held. The Dept. of Administration and Information will be filing for discounts along with individual school districts and libraries. Since adoption of the discounts, the Commission's involvement is minimal.

Source: Authors' construct from state responses to NRRI Survey.

Status of Discounts for Rural Health Care Facilities

Discounts for advanced services for rural health care facilities is another new policy arising from the 1996 Act. States were asked what steps they had taken to assure discounted service for rural health care providers. Slightly more than half (25) of the responding states indicated that they either had or were developing policies to address this issue. The remainder (21) reported that they had not taken any specific action. The states' responses are shown in Table 11.

Table 11
Steps Taken to Assure Discounted Service for Rural Health Care Providers

Specific Steps Taken or Considered (25)	AK, AL, IA, ID, IL, KY, LA, MA, MD, ME, MI, MN, MS, MT, NE, NJ, NM, NY, OK, OR, PA, SD, TN, WV, WY
No Specific Action Taken (21)	AR, AZ, CO, CT, DC, DE, FL, GA, IN, KS, MO, NC, ND, NH, NJ, RI, SC, TX, VA, VT, WA

State	Comment
AK	An NOI, R-97-6(1), has been issued.
AL	The Alabama PSC has appointed a person for the Health Department and the Rural Health Care providers.
DE	We have not yet decided what action to take since the amount of universal support back to Delaware is very small.
IA	Our agency has held meetings with the members of the rural health care provider organizations and informed them of the federal program.
ID	The Commission has set itself up as a resource agency for rural health care providers but has not taken any proactive steps.
IL	The Commission has encouraged the telecommunications carriers to file rural health care in their tariffs and notify providers of the service. No formal action has been taken.
KY	We have invited the rural health care providers to attend the general hearing on all USF issues. A decision is pending.
LA	Actions on this issue are pending.

Table 11 (Continued)
Steps Taken to Assure Discounted Service for Rural Health Care Providers

State	Comment
MA	This will be addressed in an Order that is pending.
MD	In Maryland, provisions for discounted service for rural health care providers is handled as part of the Eligible Telecommunications Carriers (ETC) designation.
ME	Outreach and coordination with our Department of Human Services. Details of the federal program circulated in a newsletter to health care providers statewide.
MI	Legislature adopted proposes to match federal discounts.
MN	Initially, the Commission has participated in information programs to publicize the discounts to the targeted customers.
MO	We plan to set up state guidelines in the next year.
MS	The Mississippi Commission has notified the appropriate agencies and individuals about the discounts and the procedures necessary to receive these discounts.
MT	The MPSC has issued press releases detailing funding opportunities for both schools/libraries and health care providers. We have coordinated information with the Montana Telemedicine Networks and the Montana Hospital Association, as well as the Montana Department of Public Health and Human Services.
NE	We are working with a group of hospitals, Nebraska Med. Assoc., phone Companies (rural and urban), and teaching hospitals for distribution of information. Other state agencies which are also involved include: Nebraska Office of Rural Planning and Nebraska Health and Human Services Office.
NJ	The issue is under review.
NM	The Commission is monitoring developments and participating in various forums related to discounted service for rural health care providers. So far, no formal action by the Commission has been required.
NY	The Commission directed all carriers to file tariff revisions to enable discounts for rural health care providers. This is a joint outreach effort by Department of Public Service and Health Department.
OK	Oklahoma Corporation Commission (OCC) is in the process of sending all not-for-profit hospitals in the state letters describing the process for requesting funds from OUSF.
OR	PUC Docket UM838 has been opened. The PUC's role in this program has not yet been determined.

Table 11 (Continued) Steps Taken to Assure Discounted Service for Rural Health Care Providers	
State	**Comment**
PA	The Pa. PUC has petitioned the FCC for the designation of additional counties as rural. The FCC has not yet issued a decision on this petition.
SD	The Commission has been promoting an informing rural health care providers of the discounts.
TN	The issue is pending.
VA	We have not taken any additional steps.
WV	Action pending.
WY	The Commission staff has met several times with the Dept. of Health (Rural Health Section), and Telecom providers to discuss discounts. Other than facilitating discussions and providing information, the Commission's role has been minimal.

Source: Authors' construct from state responses to NRRI survey.

CHAPTER 5

FUTURE STEPS

Preparing for Reform of Jurisdictional Separations and Carrier Access Charges

Universal service support is moving from a system that relied largely on implicit mechanisms to one that relies on explicit and competitively neutral support mechanisms. This is being done to promote competition. The movement from implicit to explicit support mechanisms will require changes in carrier access charges and jurisdictional separations, both of which have been used to provide implicit universal service support. Indeed, universal service support, jurisdictional separations, and carrier access charges may be likened to a "three-legged stool" in the sense that one "leg" cannot be shortened or lengthened without making offsetting changes to the others. Subsequent to issuing its universal service *Order*, the FCC issued Orders on access charge and separations reform In recognition of this interdependence.[91]

Current jurisdictional separations rules[92] assign 25 percent of an ILEC's loop cost to the interstate jurisdiction. ILECs recover these costs from IXCs through a combination of a flat, monthly subscriber line charge (SLC) and a per-minute carrier common line charge (CCLC). A portion of the CCLCs collected by low-cost LECs has been used to provide long-term support (LTS) for high-cost ILECs, so that they can charge an average CCLC. Thus, a portion of the CCLC may be considered part of historic universal service support. The FCC has indicated that it intends to replace the

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[91] Carrier access charges are discussed in FCC 97-158, *First Report & Order,* In the Matter of Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing, and Usage of the Public Switched Network by Information Service and Internet Access Providers, CC Dockets No. 96-262, 94-1, 91-213, and 95-72, (released May 16, 1997). See also the *Errata*, released June 4, 1997. Separations reform is discussed in FCC 97-354*, Notice of Proposed Rulemaking*, In the Matter of Jurisdictional Separations Reform and Referral to the Federal-State Joint Board, CC Docket No. 80-286 (released October 7, 1997).

[92] Part 36 of the FCC's rules (47 C.F.R. 36).

CCLC-based LTS mechanism with a competitively neutral payments from the new interstate support mechanism.[93]

State's whose intrastate toll access charges mirror interstate access charges will have to consider the effect of this change. There are several options, including allowing the intrastate access charges to fall along with the interstate charges. This will require that the states consider the effect on the LECs of reduced revenues from carrier access charges and may lead to rebalancing the relationship between local and toll rates. Another option is for states to break the mirror linking intrastate and interstate carrier access charges. Whatever approach is chosen, the result must be competitively neutral.

The per-minute CCLC has been criticized as being inefficient, because it has been used, in part, to recover fixed costs that are not incurred on a per-minute basis.[94] To move towards a more efficient system, the FCC established a primary interexchange carrier charge (PICC) under which a customer's presubscribed IXC will pay the PICC to the customer's LEC.[95] The IXC can then decide how to recover the PICC from the customer.[96] Over time, the FCC has indicated its intention to bring carrier access charges closer to the cost of providing those services.[97]

In addition, jurisdictional separations reform also has implications for local rates and for the amount of universal service support to be derived from interstate and intrastate sources, respectively. If the current allocation of 25 percent of local loop costs to the interstate jurisdiction is changed, the relative amount of federal and state support will also change — assuming that the FCC continues to base the amount of

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[93] See FCC 97-157, paras. 38 and 750 -59.

[94] Simply stated, recovering non-traffic sensitive (NTS) costs through a usage-based rate tends to distort the cost of a minute of toll calling. As discussed above, this has been a source of implicit subsidies and causes pricing distortions.

[95] The basic reason for the shift from the CCLC to the PICC is acceptance of the view that it is most efficient to recover costs in a way that is similar to the way costs are incurred. Thus, fixed (non-usage-sensitive) costs are best recovered via flat or fixed charges and variable (usage-sensitive) costs are best recovered via usage charges.

[96] See FCC 97-157, paras. 764-68.

[97] See the FCC's *Access Charge Reform Order*, FCC 97-158, *First Report and Order* (adopted May 7, 1997).

interstate support on the proportion of loop costs assigned to the interstate jurisdiction. Finally, if the current system of DEM weighting is changed (*i.e*., if DEM weighting is eliminated, phased out, or the weighting factor is reduced) greater support will be required from intrastate sources.

Rate Rebalancing

Given that the primary focus of the 1996 Act is to promote competition in telecommunications markets, there will be considerable pressure to identify and remove implicit internal cross-subsidies in telecommunications pricing — *i.e*., to rebalance rates. Indeed, the movement to make universal service support explicit and competitively neutral with respect to who pays and who collects reflects this desire. Moreover, as discussed above, many observers believe the existing structure of telephone rates to be rife with cross-subsidies, including geographic averaging, non-cost-based business/residential rate differentials, and pricing enhanced services and carrier access above cost.

If facilities-based competition develops, these practices will become more difficult to maintain. Implicit subsidies will become unsustainable as emerging competition exploits the resulting inefficiencies. Such exploitation is sometimes called "cream skimming" or "cherry picking," but it is simply part of the competitive market process. The threat of this happening in markets that are the *source* of internal subsidies will lead ILECs to support rebalancing, since that would allow them a greater chance to compete successfully.

Furthermore, efficient competition is more likely to develop if internal subsidies are eliminated. Firms wanting to enter markets that are *targets* of internal subsidies will want the subsidies eliminated, since that would allow them to compete with the ILEC based on their relative efficiency in serving the markets, instead of competing with a firm whose prices are being subsidized.[98] Potential competitors for ILEC services or customers that receive subsidies will demand that rates be rebalanced (or that they receive equivalent subsidies) to allow for efficient competitive entry. Indeed, this is the

[98] Continued existence of internal subsidies might be interpreted as being impermissible barriers to entry, which must be removed under Section 253 of the 1996 Act. See 47 U.S.C. 253.

principle behind making universal service support explicit, portable, and competitively neutral.

Removing implicit internal or cross-subsidies is a necessary step if competition is to be promoted. However, opposition to rebalancing is almost certain to arise, since identifiable customer groups benefit from the existing structure and will be reluctant to see their bills increase as the internal subsidies are removed. Moreover, as implicit internal cross-subsidies are identified and removed, the amount of explicit support that must be collected and disbursed is likely to increase. The very process of explicitly collecting and disbursing large amounts of support may create or exacerbate divisions between the providers and the recipients of support. For example, considerable furor has been created by the decision of some IXCs to "line-item" the PICC and interstate USF charges on customers bills.

The target of various internal cross-subsidies has generally been residential basic local access and usage, especially in rural areas. And rebalancing, even if revenue neutral, is not likely to meet a no-losers test. For example, bringing carrier access rates closer to cost will benefit customers who make numerous toll calls, assuming that reductions in carrier access rates are passed along to end users. For business customers that make a large number of toll calls, the reduction in their toll charges will more than offset the necessary increases in other components of their telephone bill, and the total bill will be reduced. The same is likely to be true for those residential customers who make numerous toll calls. However, those residential consumers who make relatively few toll calls would not benefit as much, and their total bills might actually increase, creating distributional problems and consumer resistance.[99]

To some extent, states find themselves in a difficult position: they must design and implement intrastate support mechanisms without being able to make accurate estimates of the ultimate amount of support they will have to raise. Ideally the decision as to the appropriate support mechanism should be separable from the amount of

[99] Options for offsetting the effect of lower carrier access charges include creating or increasing a state subscriber line or end-user common line charge. Such charges may cause uproar and must be "sold" to consumers very carefully; consumers must be convinced that the charges are equitable and that they benefit from them.

support to be raised. However, in designing real-world policies a mechanism that is acceptable for raising $10 million per year in a state may not be acceptable if $50 or $100 million must be raised, and charges might become large enough to reduce public support for universal service funding.

CHAPTER 6

SUMMARY

Although the primary purpose of the Telecommunications Act of 1996 was to bring competition to telecommunications markets, ensuring universal telephone service is an important public policy goal, and it was explicitly included in the 1996 Act. Ensuring universal service means taking action so that rural areas will have access to an acceptable quality of telephone service at affordable rates; low-income households will have access to telephone service; and advanced technology will be available in all areas of the nation at reasonable prices. In addition, the 1996 Act's universal service provisions assured that schools, libraries, and rural health care facilities would have access to advanced telecommunications services on favorable terms.

Two arguments are generally advanced to support universal telephone service as a social goal. First is the existence of network externalities; second is the need for all citizens to be able to access emergency services and other government entities. Universal service may also be supported by a third argument, which is based on the idea that the telephone network is part of the infrastructure that allows for economic growth and development. Thus, universal access to telephone service allows the economy to be more efficient and promotes economic growth by lowering many kinds of transactions costs.

The historic system of universal service support relied on a mix of explicit mechanisms, which provided targeted support to specific geographic areas, companies, or households, and implicit mechanisms, which provided untargeted support to residential users and to rural areas. Implicit support mechanisms included rate averaging, business - residential rate differentials, cost allocation procedures, jurisdictional separations rules, and residual pricing.

The result of these policies is that 94 percent of the nation's households have telephone service. Nevertheless, many of the existing support mechanisms were designed in an environment in which telephone services were provided largely through regulated monopolies. Those mechanisms assumed an ability to move funds from one area to another, from one class of customer to another, and from one type of service to another, all within a single company. The complexity, efficacy, efficiency, and relative cost of some of the mechanisms had been questioned prior to the 1996 Act, but that Act's focus on opening markets to competition brought the sustainability of a number of those mechanisms into question.

Once competitive entry is allowed, implicit mechanisms may be untenable, because attempts to maintain them might delay competitive entry in some markets, promote inefficient or uneconomic entry in others, and endanger universal service goals. Thus, the 1996 Act's requirement that universal service support be explicit, sufficient, and competitively neutral made it essential that the FCC and the state commissions reform universal service funding.

. The FCC and the state commissions have made great progress in reforming the mechanisms that support universal service. State commissions have a vital role and have taken a number of steps to do their part. Some states had universal service funds before passage of the 1996 Act, and most other states either have or are in the process of establishing a universal service fund. In addition, some of the existing funds are being revised so that they are competitively neutral and so that they provide sufficient support for high-cost areas in the state. The states have designated ETCs, adopted discount matrices for schools and libraries and have been working to implement discounts for rural health care facilities, and many of them are revising their Lifeline and Link Up plans to agree with revisions to the federal programs.

State support of universal service in high-cost areas has become considerably more important because the FCC decided that federal universal service support would be responsible for only 25 percent of the amount necessary to ensure universal service in an area. The reason given by the FCC for the 25 percent interstate share was that it is consistent with the existing jurisdictional assignment of local loop costs. Thus, states may be responsible for up to 75 percent of the support necessary to keep rates at an affordable level. This provision was very controversial. Many states, especially more

rural ones, objected, and the FCC has indicated that additional federal universal service support might be available in high cost areas where state support mechanisms, in combination with baseline federal support, are not sufficient to maintain rates at affordable levels. This issue has been referred to the Universal Service Joint Board.

In addition, the FCC intends to base interstate support on the forward-looking economic cost of providing service. Many state commissions have adopted or are evaluating proxy cost models to determine the level of universal service support in the state. This is not a trivial task. Various proxy cost models were developed and sponsored by a number of parties, and they differ in a number of respects, including network architecture, customer location assumptions, and the prices of various labor and capital inputs. Although issues are separable into debates over the choice of a model platform and debates over the values of various inputs, these issues have not been settled, and the FCC has not finalized its own model. From the states' viewpoint, it would be easier to coordinate intrastate and interstate support once the FCC has selected the platform and inputs for the interstate mechanism.

The FCC and the states have taken many steps toward designing new universal service policies, but some work remains. The shift from implicit to explicit universal service support mechanisms will require changes in carrier access charges and jurisdictional separations, both of which have been implicit sources of universal service support. If jurisdictional allocation factors are changed, local rates may need adjusting. Similarly, as carrier access charges are lowered closer to cost, the amount of explicit universal service support will increase. In addition, various pricing policies that were used to create implicit subsidies may have to be revised. This, too, is likely to increase the amount of explicit support required. States will have to consider these issues in the future.

APPENDIX

RESPONDENTS TO UNIVERSAL SERVICE FUND SURVEY

The authors would like to thank the following individuals for responding to the survey. This report would not have been possible without them, and their efforts are appreciated.

Alabama Public Service Commission	Mary Newmeyer
Alaska Public Utilities Commission	Phil Trever Lori Kenyon
Arizona Corporation Commission	Del Smith
Arkansas Public Service Commission	Sam Loudenslager
California Public Utilities Commission	Brian Roberts
Colorado Public Utilities Commission	Warren Wendling
Connecticut Department of Public Utility Control	Peter Pescosolido
Delaware Public Service Commission	Connie McDowell
District of Columbia Public Service Commission	Ola Oyefusi
Florida Public Service Commission	Anne Marsh
Georgia Public Service Commission	Tim Hopkins
Hawaii Public Utilities Commission	Mike Azama
Idaho Public Utilities Commission	Joe Cusick
Illinois Commerce Commission	Rasha Yow
Indiana Utilities Regulatory Commission	Karl Henry
Iowa Utilities Board	Phyllis Finn
Kansas Corporation Commission	Jerry Lammers Tom Behner
Kentucky Public Service Commission	Amy Dougherty
Louisiana Public Service Commission	Arnold Chauviere
Maine Public Utilities Commission	Jim Doyle Joel Shifman
Maryland Public Service Commission	Ann Dean

Massachusetts Department of Telecommunications and Energy	Ron Wheatley
Michigan Public Service Commission	William J. Celio
Minnesota Public Utilities Commission	Lillian Brion
Mississippi Public Service Commission	Vicki Helfirch
Missouri Public Service Commission	Dan Gordon
Montana Public Service Commission	Bonnie Lorang
Nebraska Public Service Commission	Deonne Bruning
Nevada Public Service Commission	Jeane Hall Larry Blank
New York Public Service Commission	Kevin Schenzfeier
New Hampshire Public Utilities Commission	Barclay Jackson
New Jersey Board of Public Utilities	Lisa Nicastro
New Mexico Public Utility Commission	Dan Hall
North Dakota Public Service Commission	Patrick Fahn
North Carolina Utilities Commission	Mary Steel
Ohio Public Utilities Commission	Michael Dorrian
Oklahoma Corporation Commission	Malini Gandhi
Oregon Public Utility Commission	Tom Turner
Pennsylvania Public Utility Commission	Labros Pilalis
Rhode Island Public Utilities Commission	Brian Kent
South Dakota Public Utilities Commission	Charlie Bolle
South Carolina Public Service Commission	Gary Walsh
Tennessee Regulatory Authority	Mike Gaines
Texas Public Utility Commission	Diana Zake
Utah Public Service Commission	John Harvey
Vermont Public Service Board	Peter Bluhm
Virginia State Corporation Commission	Katie Cummings
Washington Utilities and Transportation Commission	Rebecca Beaton Robert Shirley
West Virginia Public Service Commission	Todd Carden
Wisconsin Public Service Commission	Jeff Richter
Wyoming Public Service Commission	Denise Parrish