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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION

In the Matter of)

Federal-State Joint Board on)
Universal Service)

CC Docket No. 96-45
DA No. 98-2410

**REPLY COMMENTS OF THE AD HOC
TELECOMMUNICATIONS USERS COMMITTEE**

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SUMMARY

In the Second Recommended Decision, the Joint Board has largely maintained the *status quo*, rather than making the politically difficult policy decisions necessary to effectively reform the universal service system. As a result, the Joint Board's recommendations fall short of achieving the meaningful systematic improvements that Congress has envisioned.

For example, the Second Recommended Decision fails to balance the statutory considerations of affordability and reasonably comparable rates, and instead focuses on the objective of making rates "reasonably comparable" between high-cost and low-cost areas. Ad Hoc concurs with the other commenters who have asserted that it is critical to consider the issue of affordability so that high-income consumers in high-cost areas do not receive an unnecessary subsidy from the high-cost fund. The result of such subsidies is that low-income consumers in low-cost areas, such as the District of Columbia, pay higher rates to subsidize high-income consumers in high-cost areas.

Another flaw in the Second Recommended Decision is its expectation that the size of the high-cost fund will remain at the current level, if not increase. This expectation is unfounded, and Ad Hoc concurs with the commenters who have stated that the current size of the fund should be sufficient to address the needs of high-cost areas, since local telephone rates will likely decrease during the coming years. This is particularly so if the Commission considers the issue of affordability, as it should.

From the user's perspective, the greatest flaw in the Second Recommended Decision is its "hold harmless" policy, which would guarantee that each incumbent local exchange carrier ("ILEC") will sustain no decrease from its present level of high-cost

support. Under the "hold harmless" policy, where an ILEC would receive significantly lower universal service support if such support were based on forward-looking incremental costs rather than on the ILEC's historic embedded costs, the ILEC could calculate its support requirement based on its embedded costs. This approach is objectionable for several reasons. First, it would perpetuate historic economic inefficiencies in the universal service support system. Second, it would create a competitive advantage for ILECs vis-à-vis new entrants. Third, it would unnecessarily inflate the size of the universal service fund. And fourth, it would discourage innovation in new technologies (such as wireless) that could help achieve universal service objectives.

USTA's proposal to replace the PICC and CCLC with a per-line assessment should be rejected. It is economically irrational and fundamentally at odds with nearly two decades of Commission policy because it would recover non-traffic-sensitive ("NTS") costs through what amounts to a usage-sensitive surcharge. Moreover, institution of a revenue-based surcharge would chill demand for network usage and would inefficiently decrease consumption and innovative uses of modern telecommunications services.

Finally, carriers should not be permitted to abrogate unilaterally their existing customer contracts to recover their universal service contributions. Any Commission policy that would imply that carriers may do so would be flatly at odds with state contract law and Commission precedent regarding carrier modification of service arrangements.

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The Ad Hoc Telecommunications Users Committee (hereinafter "Ad Hoc" or "the Committee") submits these Reply Comments in response to the initial comments filed pursuant to the Public Notice¹ seeking comment on the Second Recommended Decision² of the Federal-State Joint Board on Universal Service ("Joint Board" or "Board") in the captioned proceeding.

INTRODUCTION

In its Second Recommended Decision, the Joint Board has attempted to navigate the treacherous waters of universal service reform; however, the Board has failed to make many politically difficult policy decisions and instead has largely

¹ Common Carrier Bureau Seeks Comment on Universal Service Joint Board's Second Recommended Decision, *Public Notice*, CC Dkt. 96-45, DA 98-2410 (rel Nov. 25, 1998).

² Federal-State Joint Board on Universal Service, CC Docket 96-45, *Second Recommended Decision*, FCC 98J-7 (released November 25, 1998) ("Second Recommended Decision" or "2d Rec. Decision").

maintained the *status quo*, rather than pursue the robust reform envisioned by Congress.

In assessing which of the Board's recommendations actually improve the universal service system and which recommendations merely tinker in the margins, it appears that the majority of the Second Recommended Decision are directed primarily to the latter.

DISCUSSION

I. The Purpose of Universal Service Support: Affordability vs. Reasonably Comparable Rates

A fundamental universal service principle set forth in Section 254 of the Communications Act of 1934, as amended, requires that "[q]uality services should be available at just, reasonable, and affordable rates."³ In the Second Recommended Decision,⁴ the Board appears to recognize the importance of both affordability and reasonably comparable rates,⁵ but it makes no attempt to balance these two considerations. Indeed, the Board essentially ignores "affordability" as a criterion for support, concerning itself instead with making rates "reasonably comparable" between high-cost and low-cost areas. Ad Hoc —like several other parties to this proceeding — believes that the importance of "affordability" in deciding universal service policy can not be overstated.

³ 47 U.S.C. § 254(b)(1).

⁴ See 2d Rec. Decision at Section IV ("Proposed Method for Ensuring Sufficient Support for Affordable and Reasonably Comparable Rates"), ¶ 27.

⁵ *Id.*; see also 2d Rec. Decision at ¶ 14.

Since its inception, the specific purpose of providing universal service support has been to assure universal connectivity to the public switched network. Just because the monthly rate for basic telephone service, if based upon cost, would be above some average rate level does not necessarily mean that customers would not be able to afford it or would not subscribe to basic service at such a price level.

One of the few parties that addressed the affordability issue was the District of Columbia Public Service Commission ("DCPSC"). In its Comments, the DCPSC advocated a means test to gauge affordability and described how its constituents "contribute proportionately more to the high cost fund than any other State ... [but] receive *no* support from the Fund ... [even though] the District is second only to New Mexico in the percentage of residents living in poverty."⁶ Ad Hoc supports the District's position that high-income consumers residing in high-cost states should not receive an unnecessary subsidy from the fund. Indeed, to the extent such subsidization results in higher rates than would otherwise apply for low-income customers in low-cost areas -- such as in the District of Columbia -- the effect of such a policy runs precisely counter to the statutory affordability requirement, and may well reduce connectivity in such areas while not improving access line penetration in subsidized high-cost, high-income exchanges.

Attached to these comments is a study by Economics and Technology, Inc.

⁶ Comments of the District of Columbia Public Service Commission, to the *Second Recommended Decision* in CC Dkt. No. 96-45, at p. 8 (emphasis in original) (December 23, 1998) [hereinafter *DCPSC Comments*].

("ETI"), which analyzes the relationship between high-cost and high-income areas.⁷

The ETI study demonstrates that, absent income-based targeting, and at a hypothetical \$30 support level, some 23.8% of annual high-cost support would be directed at "high cost" census block groups (CBGs) that had median household incomes in the top 30 percent in each state. Among such high-cost, high-income CBGs are Vail, Colorado; Greenwich, Connecticut; and Glencoe, Lake Forest, Barrington Hills, and Inverness, Illinois. Subsidization of such high-income communities makes no economic sense, because it does not result in increased connectivity but inflates rates for all services that contribute to high-cost support.

The ETI study illustrates how a non-targeted universal service support program inefficiently burdens lower-income customers by flowing unnecessary subsidies to wealthy communities. If the current system of relying on "reasonably comparable" rates⁸ is maintained, it will produce more subsidization than is necessary to assure universal connectivity to the public switched network. Moreover, communities and constituents that truly need support due to their inability to afford service are harmed by a system that flows subsidies to communities that do not need it; therefore, a sizable portion of the current fund may well represent an unnecessary drag on the efficiency of the nation's telecommunications industry and an undesirable burden on portions of the population.

⁷ Economics and Technology, Inc., "Defining the Universal Service "Affordability" Requirement: A Proposal for Considering Community Income as a Factor in Universal Service Support," submitted with Comments Of Time Warner Communications Holdings, Inc., Regarding Universal Service Methodology in *Federal-State Joint Board on Universal Service; Revised Methodology for Determining Universal Service Support for Non-Rural Carriers*, CC Dockets Nos. 96-45, 97-160 (DA 98-715) (April 27, 1998).

⁸ 2d Rec. Decision at ¶ 18

Significant savings may be achievable under a funding scheme based on "affordability" rather than "reasonably comparable rates." Support should be limited to those areas in which consumers cannot afford to be connected to the network. If high-cost and high-income areas no longer receive support, debates regarding the size of the fund and the so-called "hold harmless provision." discussed below, might well become moot.

II. The Level of Federal High-Cost Universal Service Support

Given that users, not carriers, ultimately will likely bear the burden of funding the high-cost support mechanism, the size of the fund should be a threshold issue in this proceeding. The Second Recommended Decision anticipates retaining, rather than expanding, the existing level of federal high-cost support, but it leaves open the possibility that the high-cost fund may increase:

We do not believe, however, that current circumstances warrant a high cost support mechanism that results in a significantly larger federal support amount than exists today. We recognize that some states currently may not receive support sufficient to enable reasonably comparable rates, and thus we believe the support level may rise somewhat.⁹

Several rural state utility commissions argued in their Joint Comments that the Board is premature in concluding that the fund should not increase, stating that "[i]t is particularly difficult to understand how these statements can be made lacking a finalized cost model. Without cost data, it is logically impossible to determine whether a

⁹ 2d Rec. Decision at ¶ 49.

fund 'at or near today's levels' will meet the statutory criteria."¹⁰ SBC echoed this sentiment, stating that "the Joint Board is rash to limit the fund to only insignificant increases."¹¹

Ad Hoc concurs with the comments of other parties who have concluded that the size of the current fund is sufficient to cover the needs of high-cost areas,¹² especially if "affordability" is accorded any consideration. Ameritech, for example, is correct in stating that "there has been no showing that such a dramatic increase in the amount of high cost support is necessary."¹³

Moreover, the "hold harmless" provision in the Second Recommended Decision, discussed below, could block future decreases in the fund even though consistent and persistent decreases in local telephone service rates will continue in coming years, resulting in greater "affordability" and correspondingly less need for support. Accordingly, the "hold harmless" provision of the Second Recommended Decision should be rejected.

¹⁰ Comments of the Arkansas Public Service Commission, Kansas Corporation Commission, Maine Public Utilities Commission, Montana Public Utilities Commission, New Hampshire Public Utilities Commission, New Mexico Public Utilities Commission, Vermont Public Service Board, and West Virginia Public Service Commission, to the *Second Recommended Decision* in CC Dkt. No. 96-45, at p. 3 (December 22, 1998).

¹¹ Comments of SBC Communications Inc., to the *Second Recommended Decision* in CC Dkt. No. 96-45, at p. 5 (December 23, 1998) [hereinafter *SBC Comments*].

¹² See, e.g., Comments of the People of the State of California and the California Public Utilities Commission, to the *Second Recommended Decision* in CC Dkt. No. 96-45 at p. 6 (December 23, 1998) [hereinafter *California Comments*].

¹³ Comments of Ameritech, to the *Second Recommended Decision* in CC Dkt. No. 96-45 at p. 7 (December 23, 1998).

III. The "Hold Harmless" Provision

From the user's perspective, perhaps the most untenable aspect of the Second Recommended Decision is its "hold harmless" policy, which assures each incumbent local exchange carrier ("ILEC") that it will sustain no decrease from present levels of high-cost support.¹⁴ This approach would permit an ILEC's historic embedded costs to supersede often considerably lower forward-looking incremental costs where application of a universal service funding requirement based on the latter would result in significantly lower support levels. In other words, it would perpetuate indefinitely the very ILEC inefficiencies that competition and incentive (*i.e.*, price cap) regulation should reduce. The system would effectively impose historic ILEC costs upon potentially more efficient new entrants, precluding the possibility of competitively-determined prices driven to efficient, forward-looking economic costs. In contrast, the use of forward-looking proxy costs as the basis for high-cost support, without any "hold harmless" mechanism, would overcome the legacy of historic monopoly inefficiencies.

It is not surprising that the smaller (*i.e.*, non-BOC) ILECs — who are the principal recipients of high-cost funding under the present funding scheme — oppose the unconditional use of forward-looking proxy costs to establish future funding levels. A "hold harmless" provision would, of course, appease the smaller ILECs by substituting their "actual" embedded legacy costs for proxy costs whenever the former exceeded the latter.

¹⁴ 2d Rec. Decision at ¶ 53.

If ILECs are guaranteed to continue recovering their embedded investment, they will have the incentive and ability to expand their historic market power and existing infrastructure for their own competitive advantage, without an offsetting economic benefit for the customers who funded their growth. The fact that ILEC shareholders ascribe far greater value to these exploitation opportunities than the amount of any stranded cost is easily confirmed by the persistent willingness of investors to bid ILEC share prices to multiples of their net book value. Moreover, ILECs have been surprisingly candid in disclosing their intentions to exploit their resources for competitive gain. For example, in his rebuttal testimony submitted before the Illinois Commerce Commission in support of the pending SBC/Ameritech merger,¹⁵ SBC Senior Vice President James S. Kahan readily concedes the necessity of relying upon SBC's and Ameritech's combined resources to support a national local out-of-region entry strategy:

The question is how will SBC, Ameritech or any other RBOC enter the competitive fray in a meaningful way. . . . SBC believes that the only meaningful way to do that is through the National-Local Strategy. However, the National-Local Strategy represents a truly massive undertaking: 30 major markets that cover portions of over 20 states, 8,000 employees, and billions of dollars of new spending.

Unsurprisingly, SBC and Ameritech project negative cumulative cash flows and earnings from the project for nearly a decade. Neither company alone could suffer the earnings dilution that implementation of the plan will entail. A unilateral undertaking to "go national" by either SBC or Ameritech would have an entirely unacceptable impact on the price of its stock. Only the merger will spread the earnings dilution over a sufficiently large shareholder and revenue

(.continued)

¹⁵ Rebuttal testimony of James S. Kahan on behalf of SBC Communications Inc., in ICC Docket No. 98-0555, *SBC Communications Inc., SBC Delaware Inc., Ameritech Corporation, Illinois Bell Telephone Company, d/b/a Ameritech Illinois, and Ameritech Illinois Metro, Inc., Joint Application for approval of the reorganization of Illinois Bell Telephone Company, d/b/a Ameritech Illinois, and the reorganization of Ameritech Illinois Metro, Inc. in accordance with Section 7-204 of The Public Utilities Act and for all other appropriate relief.*

base, to make the undertaking acceptable to our shareholders and the investment community.¹⁶

In its Comments in CC Docket 94-1, the Ad Hoc Committee offered a solution to the so-called "legacy" or "stranded" cost problem.¹⁷ That solution began with the proposition that it is patently unfair for an ILEC to be made whole with respect to its embedded rate base while simultaneously exploiting its historic market dominance, established infrastructure and customer base, and sheer financial strength to create unlimited earnings opportunities, without a countervailing obligation to use its profits to offset any residual "legacy costs" or otherwise compensate its captive monopoly customers for their historic support and absorption of virtually all the ILEC's acquisition, construction and ongoing maintenance risk.

Under Ad Hoc's proposed solution to the legacy cost issue, ILECs would be offered a choice between "make whole" and "make money."¹⁸ An ILEC that seeks full recovery of its embedded costs, whether through a universal service support mechanism or any other device, would be required to flow all excess earnings arising from exploitation of its infrastructure and other corporate resources "above the line" to offset any stranded costs remaining on its books and compensate monopoly ratepayers

¹⁶ Rebuttal Testimony of James S. Kahan on Behalf of SBC Communications, Inc., in ICC Docket No. 98-0555, *supra*, note 16, at p. 57.

¹⁷ Comments of the Ad Hoc Telecommunications Users Committee, to the *Notice of Proposed Rulemaking* in CC Dkt. No. 96-262 (February 14, 1997).

¹⁸ The Commission sought comment on this proposal in its Notice of Proposed Rulemaking in CC Dkt. No. 96-262. *Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers; Transport Rate Structure and Pricing; Usage of the Public Switched Network by Information Service and Internet Access Providers*, CC Dkts. Nos. 96-262, 94-1, 91-213, 96-263, Notice of Proposed Rulemaking, Third Report and Order, and Notice of Inquiry, FCC 96-488, 11 FCC Rcd 21354, 21470, ¶ 265 (released December 24, 1996).

for accepting the full risk of ILEC investment recovery. Alternatively, an ILEC that elects to "make money" would forego any entitlement to recovery of stranded costs, in return for which it would be permitted to pursue new business and profit opportunities, subject only to general prohibitions against cross-subsidization and anticompetitive behavior, such as in Section 254(k) of the Communications Act.¹⁹

The establishment of any "hold harmless" provision, as the Second Recommended Decision proposes, would be consistent with the "make whole" election envisioned by Ad Hoc, so long as an ILEC seeking "hold harmless" protection was required to flow all earnings derived from their core resource base "above the line," to help defray the recurring costs of maintaining and operating its common network. If, on the other hand, an ILEC wanted the ability to exploit its network and other resources as a means for increasing earnings above what would be permissible under traditional forms of economic regulation, it would not be afforded the opportunity to be "made whole."

Several parties who have supported the "hold harmless" provision take the position that no state should receive less support than it currently receives.²⁰ Such an approach would freeze both the size and distribution of high-cost support at levels that may bear little relationship to the future industry environment. As noted above, the declining real cost of telecommunications should, over time, result in progressively less need for high-cost support as a successively larger proportion of subscriber access

¹⁹ 47 U.S.C. § 254(k).

²⁰ See, e.g., Comments of GTE, to the *Second Recommended Decision* in CC Dkt. No. 96-45, at p. 22 (December 23, 1998) [hereinafter *GTE Comments*]

lines falls below the "affordability" threshold -- no matter how that threshold may be defined.

Furthermore, it is entirely possible that, over time, the application of new wireless and digital technology to traditionally high-cost areas will result in disproportionately greater cost reductions in this category than for the "average" subscriber access line. "Hold harmless" works to subsidize inefficiency and direct economic resources and technological innovation away from those segments of the local telephone market in which they may hold the greatest promise. If competition, not regulated monopoly, is to be the future industry paradigm, then blind adherence to historic cost conditions as a basis for high-cost funding would be both anachronistic and counterproductive to the development of effective competition in all market segments.

As the CPUC has noted in its Comments, the 1996 Telecommunications Act does not require a hold harmless provision.²¹ And Ad Hoc concurs with the position of the Maryland Public Service Commission and other state commenters regarding "hold harmless," namely, that the Board has misinterpreted Section 254 of the Act: "Section 254 speaks of the preservation of universal service, not the preservation of universal service *funding*."²²

The transition to competitive telecommunications markets includes an expectation that costs will decrease as companies become more efficient. As costs

²¹ *California Comments* at p. 6.

²² Comments of the Maryland Public Service Commission, the Connecticut Department of Public Utility Control, the Delaware Public Service Commission, the Illinois Commerce Commission, and the Massachusetts Department of Telecommunications and Energy, to the Second Recommended Decision in CC Dkt. No. 96-45 at p. 7 (emphasis in original) (December 23, 1998).

decrease due to efficiency gains, the only economically sound expectation is that the universal service fund should similarly decrease. The "hold harmless" provision is inconsistent with this expectation and with the Board's conclusion that the overall size of the fund need not necessarily increase, because "hold harmless" ensures that ILECs will be made whole and that the size of the fund will not decrease – and may actually increase.²³

Many of the ILECs support the "hold harmless" principle.²⁴ BellSouth, for example, highlights the incongruity of "hold harmless" and the use of forward-looking costs, stating that:

[h]onoring this commitment [hold harmless] effectively keeps in place the jurisdictional separations-based determination of high cost study areas and interstate high cost support. This separations-based calculation becomes the floor of the federal universal service fund. A forward-looking methodology has no place in this calculation and is unnecessary.²⁵

What remains, then, is a choice between "hold harmless" and using forward-looking costs to determine support. From the user's perspective, providing support on a forward-looking, rather than embedded, basis should be the primary principle guiding disbursements from the universal service fund.

IV. National Cost Benchmark

The Second Recommended Decision proposes basing support levels entirely upon

²³ 2d Rec. Decision at ¶ 48.

²⁴ See, e.g., *GTE Comments*, at p. 23 and *SBC Comments*, at p. 6.

²⁵ Comments of BellSouth, to the *Second Recommended Decision* in CC Dkt. No. 96-45, at p. 5 (December 23, 1998) [hereinafter *BellSouth Comments*].

an ILEC's costs, relative to the national cost benchmark.²⁶ Many of the parties commenting on the Second Recommended Decision agree with the position that using a cost benchmark is preferable to using a revenue benchmark;²⁷ however, this position does not consider whether an ILEC's actual revenues are sufficient to recover its forward-looking costs.

In its May 8, 1998 Report and Order in this docket, the Commission adopted the Ad Hoc Committee's position that "revenues" should include, in addition to the basic monthly dial tone rate, charges for local usage, switched access (paid by interexchange carriers ("IXCs") and vertical services (such as call waiting and caller ID)).²⁸ Services that cannot exist independently of the subscriber line, such as local usage and vertical features, derive value from the subscriber line and should contribute to its cost before the need for any high-cost support is calculated. Under this approach, a nominally "high cost" ILEC should not draw universal service funding if its revenues from all these sources were sufficient to cover its costs.

Ad Hoc is concerned that using a national cost benchmark may increase the size of the fund, which may already be over inflated, and that disbursing subsidies without first assessing whether or not a carrier's revenues exceed its costs is a retrenchment from economic costing principles.

V. Size of Area Over Which Costs are Averaged

²⁶ 2d Rec. Decision at ¶ 43.

²⁷ See, e.g., *California Comments* at p. 2.

²⁸ *Federal-State Joint Board on Universal Service*, CC Docket 96-45, Report and Order, 12 FCC Rcd 8776, (released May 8, 1997) ("Report and Order") at ¶ 200.

The Second Recommended Decision recommends retaining the existing "study areas" as the basis for measuring costs, rather than adopting the far more granular wire center or Census Block Group (CBG) levels of disaggregation.²⁹ Ad Hoc strongly supports this position, if the Commission fails to adopt Ad Hoc's has recommendations regarding consideration of affordability. If subsidies are not targeted specifically to low-income communities, disaggregation below the study area level will result in an excessively large funding requirement.

A "study area" is the entire service area of an ILEC within a state. Most BOCs exhibit relatively low costs when examined at the "study area" level, whereas individual BOC wire centers (or the more disaggregated CBGs) would exhibit far greater variability. Support would only be provided to non-rural ILECs whose costs were significantly above a national "benchmark;" the Second Recommended Decision suggests that the threshold level should be somewhere between 115% and 150% of the national average cost.³⁰

Ad Hoc disagrees with the position that using an area less than the current study area is appropriate. SBC has stated that due to "highly competitive" telecommunications markets, "it is inappropriate to recommend a mechanism that relies, at least in part, on recovery based on existing local service subsidies."³¹ Therefore, SBC has argued that an area smaller than the study area must be used to

²⁹ 2d Rec. Decision at ¶ 33.

³⁰ *Id.* at ¶ 43.

³¹ *SBC Comments* at p. 4.

determine support. MCI WorldCom contends that calculating costs based upon a study area rather than on a geographic cost zone creates several dangers, including understatement of the necessary size of the fund and lack of guidance as to how to distribute the fund when competitive local exchange carriers ("CLECs") are providing service.³²

With regard to MCI WorldCom's concern about distribution of support, BellSouth has argued that high-cost support should be calculated on a study area basis; and, once support is so determined, it can be distributed on a wire center basis, thereby enabling support to be associated with high-cost wire centers.³³ Bell Atlantic has argued that state costs should be aggregated at no less than study area levels to avoid "significant increases in the high cost fund," and it rejects proposals to de-average to the wire center level.³⁴ Ad Hoc concurs with the positions of BellSouth and Bell Atlantic in this regard.

VI. The USTA Proposal Is Competitively Neutral but Economically Irrational

The United States Telephone Association's ("USTA's") plan for reforming universal service would replace the current CCLC and PICC in favor of "deaveraged,

³² Comments of MCI WorldCom, to the *Second Recommended Decision*, in CC Dkt. No. 96-45, at p. ii (December 23, 1998.) MCI WorldCom explains that basing support on the current study areas would continue "to keep much of the subsidy hidden in the ILEC's existing rate structure," thereby preventing the Commission from assessing the size of the implicit subsidies, resulting in understatement of the size of the subsidy. *Id.* Further, according to MCI WorldCom, distribution of funds among ILECs and CLECs serving the same study area would be complicated by the failure to distinguish between high-cost and low-cost areas within the study area. *Id.* Finally, MCI WorldCom asserts that the Joint Board's recommendation regarding study areas could be misinterpreted as implying that the funds are intended for the ILEC or that a CLEC must serve an entire study to receive a subsidy, a concern that Ad Hoc believes to be unfounded. *Id.*

³³ Comments of Bell South, [insert full cite] at pp. 8-9.

³⁴ Comments of Bell Atlantic, [insert full cite] at p. 5.

portable per-line support payments."³⁵ GTE and SBC support USTA's proposal.³⁶

USTA asserts that "its plan would not harm any group of customers," and that "customers in every category of use would experience a slight reduction in rates."³⁷ But the study supporting USTA's plan does not examine any impact upon business customers specifically;³⁸ therefore, at the very least, USTA's claim lacks an evidentiary foundation.

More to the point, however, even if USTA's plan may be competitively neutral, it still is economically irrational and fundamentally at odds with nearly two decades of Commission policy because it would recover non-traffic-sensitive ("NTS") costs through what amounts to a usage-sensitive surcharge. The Commission rejected this approach in its first Access Charge Order in 1984,³⁹ and it has been working steadfastly to shift NTS cost recovery to fixed end-user based charges, such as the SLC and the PICC. USTA would thus turn back the clock and undermine the overarching Commission goal of efficient, economically sound pricing shaped by effective competition, not regulated monopoly power.

Institution of a revenue-based surcharge would chill demand for network usage

³⁵ Affidavit of Dennis Weller ("Weller Affidavit"), submitted with Comments of the United States Telephone Association, to the *Second Recommended Decision* in CC Dkt. No. 96-45, at p. 2 (December 23, 1998) [hereinafter *USTA Comments*].

³⁶ *SBC Comments* at p. 3. *GTE Comments* at p. 4.

³⁷ *USTA Comments* at p. 3.

³⁸ Weller Affidavit, *supra*, note 32, at p. 3.

³⁹ MTS and WATS Market Structure, CC Dkt. No. 78-72, FCC 82-579, *Third Report and Order* (Phase I), 93 FCC 2d 241 (1983).

and would inefficiently decrease consumption and innovative uses of modern telecommunications services. Coupled with an inherently excessive level of funding to begin with -- due to the failure to recognize "affordability" in setting support requirements -- USTA's plan would impose inefficient and unnecessary burdens across a broad range of telecommunications consumers and providers while failing to assure that high-cost support is provided in the most efficient manner.

The support of USTA, and some of its ILEC members, for a revenue-based universal service surcharge is hardly surprising, in that it is self-serving. Industry revenues are growing at a far faster rate than end-user access lines; hence, a funding scheme tied to revenues will, all else being equal, produce year-after-year increases in aggregate funding levels that would exceed those arising under an end-user-based charging scheme. This problem could, of course, be overcome entirely by a true-up mechanism in which the surcharge rate were reduced annually to reflect disproportionate increases in aggregate revenues; but even such a true-up would not overcome the inherent inefficiency of USTA's proposal, which should be rejected.

VII. Carriers Should Not Be Permitted to Amend Unilaterally the Terms of Existing Long-Term Customer Contracts to Recover Their Universal Service Contributions.

AT&T has proposed that carriers be given flexibility in designing rate structures to recover their universal service contributions, and that they be allowed to recover more than their own universal service assessments from customers.⁴⁰ While some flexibility may be appropriate, the Commission should not give carriers the unilateral

⁴⁰ See, e.g., Comments of AT&T Corp. in CC Dkt. No. 96-45 (filed December 23, 1998) at pp. iii, 9-10.

right to abrogate their long-term service arrangements with customers to increase rates or add a fee to recover their universal service contributions. Although the Commission's Report and Order in this proceeding indicated that carriers should be allowed to amend their customer contracts unilaterally to recover their universal service contributions,⁴¹ such wide latitude continues to be unsound policy and to be legally unsupportable, for the reasons Ad Hoc has explained in earlier submissions in this docket.⁴²

A policy which would allow carriers unilaterally to revise the terms of their customer contracts by raising their rates to reflect their universal service contributions runs flatly contrary to longstanding principles of state contract law. Even where a party faces unforeseen added burden or expense in performing its obligations under a contract -- which is not the case with respect to universal service contributions -- that party may not rescind its contractual obligations absent extremely harsh consequences.

The Commission's decision in the Report and Order⁴³ to allow carriers to reform their customers' contracts was based on the assumption that the carriers did not foresee the new universal service contribution requirements, which have increased the carriers' costs of providing service.⁴⁴ But, even if this assumption is correct—and it is

(..continued)

⁴¹ Report and Order, *supra*, note 27, at ¶ 851.

⁴² On July 17, 1997, the Ad Hoc Committee has filed a Petition for Partial Reconsideration and Clarification of the Commission's earlier decision allowing such abrogation. The Petition is pending.

⁴³ *Supra*, note 27.

⁴⁴ The Commission asserted that it "create[d] an expense or cost of doing business that was not anticipated at the time contracts were signed." Report and Order, *supra*, note 27, at ¶ 851.

not—it is not a valid basis for allowing carriers to reform their customer contracts unilaterally to raise their rates.

State contract law does not authorize carriers or other parties to contracts to unilaterally rescind or reform their contractual obligations simply because a governmental order may render contract performance less profitable. New York State contract law, for example,⁴⁵ maintains that an individual party “may not abrogate a contract unilaterally merely by showing it would be financially disadvantageous to perform it.”⁴⁶ This general rule has been consistently applied where the government renders performance of a contract less profitable.⁴⁷ If a governmental action is foreseeable at the time parties assume their contractual obligations, then unilateral

(..continued)

⁴⁵ The Ad Hoc Committee has focused on one state to illustrate its argument. Because of the long history and high level of commercial activity in New York, we have analyzed the soundness of the Commission’s abrogation conclusion under New York State law. Other states, however, follow the general rule that applies in New York. See, e.g., *Cutter Laboratories, Inc. v. Twining*, 34 Cal.Rptr. 317, 324 (Dist. Ct. App. 1963); *Standard Iron Works v. Globe Jewelry & Loan, Inc.*, 167 C.A.2d 108, 118; 330 P.2d 271 (Dist. Ct. App. 1958); *Rose v. Long*, 128 C.A.2d 824, 827; 275 P.2d 925 (Dist. Ct. App. 1954); *Consolidated Laboratories Inc. v. Shandon Scientific Co.*, 413 F.2d 208, 212 (7th Cir. 1969) (applying Illinois law); *Valtrol Inc. v. General Contractors Corp.*, 884 F.2d 149, 153-154 (4th Cir. 1989) (applying Texas law); *Measday v. Kwik Kopy Corp.*, 713 F.2d 118, 126 (5th Cir. 1983) (applying Texas law).

⁴⁶ *A.W. Fiur Co. v. Ataka and Co.*, 422 N.Y.S.2d 419, 423 (A.D. 1979); see also *407 E. 61st Garage, Inc. v. Savoy 5th Ave. Corp.*, 23 N.Y.2d 275, 282 (1968); *Rockwell v. Knights Templars & Masonic Mut. Aid Assn.*, 119 N.Y.S. 515, 518-519 (A.D. 1909) (“[i]t is repugnant to the idea of a contract that one of the parties may, at his election, from time to time change the amounts which he is to receive from the other party. . . . The fact that a contract proves unprofitable...is no reason why the courts can permit the party who has made such an unwise contract to change its terms at will and make for itself a more profitable contract.”).

⁴⁷ *Coastal Power Production Co. v. New York State Public Service Commission*, 551 N.Y.S.2d 354, 356 (A.D. 1990) (“[t]he fact that a contract becomes increasingly difficult and expensive to perform because of a law enacted after its execution does not excuse performance”) (quoting 22 NYJur2d, Contracts, § 355). See *Sullivan County Harness Racing Assn. v. City of Schenectady Off-Track Betting Commission*, 351 N.Y.S.2d 56, 60 (Sup. Ct. 1973) (“performance is never excused by changes in the law, particularly when the law was in existence when the contract was made and the changes were foreseeable”) (emphasis added). See also *Reetz, Inc. v. Stackler*, 201 N.Y.S.2d 54, 57 (Sup. Ct. 1960).

abrogation by either party will be impermissible, even if one of the contracting parties becomes bankrupt as a result of being required to perform its obligations.⁴⁸ If something -- including a governmental order -- is unforeseeable at the time parties enter into a contract, performance will be "excused only in extreme circumstances,"⁴⁹ i.e., the order renders performance of the contract impossible or illegal.⁵⁰

The effects of the *Universal Service* Report and Order were foreseeable; therefore, under New York State contract law, carriers would not be excused from their contractual obligations to customers, even if performance of those obligations would drive the carriers into bankruptcy. But, even assuming, *arguendo*, that carriers' universal service contribution obligations were unforeseeable, the modest financial impact of those obligations on the carriers would not amount to an "extreme circumstance" warranting contract reformation under New York law.

The Commission's own precedent does not permit a carrier to unilaterally abrogate a service contract to raise the rates provided under contract unless highly unusual and unforeseeable circumstances warrant reformation, and only if the carrier

⁴⁸ *A&S Transportation Co. v. County of Nassau*, 546 N.Y.S.2d 109, 111 (A.D. 1989) ("when a governmental action is foreseeable, a contractor may not invoke "impossibility" to excuse performance"). *Stasyszyn v. Sutton East Associates*, 555 N.Y.S.2d 297, 299 (A.D. 1990) ("the law is well-established that economic inability to perform contractual obligations, even to the extent of insolvency or bankruptcy, is simply not a valid basis for excusing compliance"). See also *407 E. 61st Garage, Inc. v. Savoy 5th Ave. Corp.*, 23 N.Y.2d 275, 281-82 (1968).

⁴⁹ *Kel Kim Corp. v. Central Markets Inc.*, 524 N.Y.S.2d 384, 385 (N.Y. 1987); see also *J.J. Casone Bakery, Inc. v. Edison Co. of New York*, 638 N.Y.S.2d 898 (Sup. Ct. 1996).

⁵⁰ See *Flaster v. Seaboard Garage Corp.*, 61 N.Y.S.2d 152, 155 (Sup. Ct. 1946); *Doherty v. Monroe Eckstein Brewing Co.*, 187 N.Y.S. 633, 635 (Sup. Ct. 1921).

demonstrates "substantial cause" for increasing its rates.⁵¹

Moreover, any Commission concerns about unanticipated cost increases in providing telecommunications services should have been tempered by consideration of unanticipated cost decreases resulting from the *Access Charge Reform*⁵² and *Price Caps*⁵³ Orders and the effect of those Orders on long distance carriers' cost of service. These proceedings will have an effect on some carriers' costs at least as profound as this proceeding. The net financial impact of the *Access Reform* and *Price Caps* Orders may be a decrease in costs for carriers providing service to some large users, which would offset any modest cost increase dictated in this proceeding.

In conclusion, the Commission may not, and should not, permit carriers unilaterally to abrogate the terms of their customer contracts to recover their universal service contributions. If the Commission permits carriers to modify the terms of existing customer contracts to enable them to recover their universal service contributions, then it should also allow customers to terminate their service agreements without termination liability (*i.e.*, to take a "fresh look").

⁵¹ *Tariff Filing Requirements for Nondominant Common Carriers*, Order, 10 FCC Rcd 13653 at ¶¶ 12-16 & n.35 (1995); *RCA American Communications, Revisions to Tariff FCC Nos. 1 and 2*, Memorandum Opinion and Order, 84 FCC 2d 353, 358 (1981); 86 FCC 2d 1197, 1201(1981); 2 FCC Rcd 2363 (1987) (collectively, "*RCA Americom Orders*"), *aff'd sub nom. Showtime Networks, Inc., v. FCC*, 932 F.2d 1 (D.C. Cir. 1991); see *AT&T Communications Contract Tariff No. 360*, Order Designating Issues for Investigation, 10 FCC Rcd 11031 at 11032-35 (1995).

⁵² *Access Charge Reform, First Report and Order*, CC Dkt. No. 96-262, FCC 97-158 (rel. May 16, 1997).

⁵³ *Price Cap Performance Review for Local Exchange Carriers, Fourth Report and Order*, CC Dkt. No. 94-1 (rel. May 21, 1997).

CONCLUSION

In view of the foregoing the Commission should reject the Joint Board's recommendations. Ad Hoc understands that the approach it has recommended may not be popular with some carriers, some regulators and some elected officials. It is however economically sound, good public policy and consistent with the requirements of the Telecommunications Act of 1996.

Respectfully submitted,

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DEFINING THE UNIVERSAL SERVICE "AFFORDABILITY" REQUIREMENT

A Proposal for Considering Community Income As a Factor in Universal Service Support*

EXECUTIVE SUMMARY

The *Telecommunications Act of 1996* explicitly requires that "affordability" be included as a consideration in the development of a comprehensive universal service support mechanism. The Federal-State Joint Board on Universal Service expressly concluded that customer income level is a factor that should be examined when addressing affordability. In its *Report and Order* on universal service, the FCC agreed with the Joint Board's conclusion, and further, defined affordability as containing both an absolute component, which takes into account an individual's means to subscribe to universal service, and a relative component, which takes into account whether consumers are spending a disproportionate amount of their income on telephone services.

Thus, to the extent certain consumers "have the means for" fully cost-based rates for universal service that does not create a "serious detriment" for those consumers, such rates must be considered affordable under the 1996 Act. What is "affordable" to a low-income household is not the same as what is "affordable" to affluent households. Thus, in developing a universal service support mechanism that conforms to the statutory requirement that basic local telephone service be "affordable," it is necessary that household income somehow be included among the criteria under which the extent of universal service support is to be determined.

Failure on the part of state and federal regulators to consider and apply an income test is not only inconsistent with the statutory requirement regarding "affordability," it is also highly inefficient as a matter of economic policy. Subsidizing consumers who can fully afford to pay the entire cost of their telephone service serves only to impose significant costs and economic burdens upon other segments of the economy while producing no offsetting economic or social benefit. As demonstrated in this paper, approximately 20-30% of the aggregate universal service funding requirement for high-cost areas could be eliminated if the support were limited to households with incomes below the 70th income percentile. This could mean that up to approximately \$4.5-billion in support burden could be avoided annually if such a policy were adopted. Clearly, consumers in the top 30 percent income bracket "have the means for" paying cost-based rates without "serious detriment," i.e., those rates would not represent a disproportionate share of income. Cost-based rates in high-income areas would thus meet the affordability standard in the 1996 Telecommunications Act.

* This paper was prepared on behalf of Time Warner Communications, Inc. under the direction of Donald Shephard, Director Federal Regulatory Affairs and Policy, with the assistance of Dr. Lee L. Selwyn, Susan M Baldwin, and Melissa N. Markley, respectively, President, Vice President, and Analyst of Economics and Technology, Inc., Boston, Massachusetts 02108.

The proposal discussed in this paper is entirely compatible with and accommodates the Joint Board's Recommendation and the FCC's Report and Order relative to affordability and use of a revenue benchmark. The analysis undertaken in this paper demonstrates that there is a critical need to consider not only the *cost* of serving individual geographic areas, but also the *income* of the areas in question. State and federal regulators are urged to adopt the following recommendation:

- State and federal regulators should establish the 70th percentile for median CBG income as a threshold criterion for high-cost support eligibility, using relative income level with respect to the statewide income distribution. However, regulators could use a combination of state-specific and national income rankings rather than either a state-specific or national distribution, in setting eligibility thresholds. For example, if there are high-cost areas within a state which are above the 70th percentile in income for that state, but below the *national* median income, state commissions may determine that continued subsidies are warranted for such areas.
- Consumers within designated high-cost, high-income areas with income below the state median income should qualify for universal service at the current subsidized rate. Of course, individual households in such areas that satisfy the eligibility requirements for current income-targeted support programs, such as Lifeline and Link-up, can still qualify for and receive these benefits.
- To avoid rate shock, state commissions should establish appropriate transition plans to move rates in high-cost, high-income areas toward their full, forward-looking costs.

Appendix A provides examples of high-income communities in each of the states that would receive high-cost support if no income dependent affordability criterion is incorporated into the design of a universal service support program. Appendix B provides a description of the methodology used to identify potential funding requirements for high-cost, high-income Census Block Groups, and a table of state-specific results.

DEFINING THE UNIVERSAL SERVICE "AFFORDABILITY" REQUIREMENT

A Proposal for Considering Community Income As a Factor in Universal Service Support

The extent to which basic local telephone service is "affordable" to an individual consumer is critically dependent upon that consumer's relative income and wealth.

The *Telecommunications Act of 1996* explicitly requires that "affordability" be included as a consideration in the development of a comprehensive universal service support mechanism: "Quality and rates — Quality services should be available at just, reasonable, and *affordable* rates."¹ Taking its cue from the legislation, the Federal-State Joint Board on Universal Service (Joint Board), in its November 8, 1996 *Recommended Decision* on Universal Service policy, expressly concluded that "[c]ustomer income level is a factor that should be examined when addressing affordability."² The FCC's *Report and Order* in its universal service proceeding agreed with the Joint Board's conclusion.³ Further, the FCC agreed that the "definition of affordability contains both an absolute component ('to have enough or the means for'), which takes into account an individual's means to subscribe to universal service, and a relative component ('to bear the cost of without serious detriment'), which takes into account whether consumers are spending a disproportionate amount of their income on telephone services."⁴

Thus, to the extent certain consumers "have the means for" fully cost-based rates for universal service that does not create a "serious detriment" for those consumers, such rates must be considered affordable under the 1996 Act. The extent to which any given product or service is "affordable" obviously depends heavily upon the individual consumer's income and wealth; what is "affordable" to a low-income household is not the same as what is "affordable" to affluent households.⁵ Thus, in developing a universal service support mechanism that conforms to the statutory requirement that basic

1. 47 U.S.C. § 254(b)(1). Emphasis supplied.

2. *In the Matter of Federal-State Joint Board on Universal Service*, Recommended Decision, CC Docket No. 96-45, released November 8, 1996 (hereinafter "Recommended Decision"), at ¶ 129.

3. *In the Matter of Federal-State Joint Board on Universal Service*, Report and Order, CC Docket No. 96-45, released May 8, 1997, at ¶ 115.

4. Report and Order, at ¶ 110.

5. Report and Order, at ¶ 115.

Defining the Universal Service "Affordability" Requirement

local telephone service be "affordable," it is necessary that household income somehow be included among the criteria under which the extent of universal service support is to be determined.

In fact, most states and the FCC currently apply income criteria in determining eligibility for income-targeted support programs such as "lifeline" and "Link-up America." For these programs, income (and other eligibility metrics) are determined on a customer-by-customer basis. These income-related funding schemes would not be affected by the creation of a formal universal service support mechanism, although the amount of such customer-specific support might change.

Both the FCC (in its March 8, 1996 NPRM) and the Joint Board (in its November 8, 1996 *Recommended Decision*) have advocated the use of so-called "cost proxy models" as a means for efficiently estimating the per-line incremental cost and the associated support requirement for a given geographical area.⁶ In its *Report and Order*, the FCC provided a timetable for further proceedings to adopt a forward-looking, cost methodology by August 1998.⁷ The various cost proxy models that have been offered examine costs at a highly granular level, in most cases with respect to geographic areas known as "Census Block Groups" (CBGs). A CBG is a demographic unit developed by the US Census Bureau that is described as including "usually between 250 and 550 housing units, with the ideal size being 400 housing units."⁸ There are approximately 200,000 CBGs nationwide. The CBG is a basic unit of Census aggregation, and is generally designed to embrace an area containing a relatively homogeneous population (with respect to geography, demographics, etc.) Thus, the *median* household income for a given CBG is generally representative of the *individual* household incomes within that CBG.

While the various cost proxy models undertake to simulate the structure of the local telephone service plant, and in so doing to estimate the per-access line cost of local telephone service on a forward-looking basis, none of the models that have been submitted in the FCC's proceeding consider the *income* of the households that are being examined as to their eligibility for high cost support. Significantly, however, such CBG-specific income data is routinely collected and reported by the Census Bureau, and can provide an additional benchmark against which the support requirement can be evaluated.

6. *Notice of Proposed Rulemaking and Order Establishing Joint Board*, CC Docket No. 96-45, released March 8, 1996 at ¶¶ 31-34; *Recommended Decision*, at ¶¶ 7, 184-185.

7 *Report and Order*, at ¶ 245.

8. *1990 Census of Population and Housing, Summary Population and Housing Characteristics*, New York, at A-3 to A-5.

Subsidization of basic local telephone service without regard to income levels will impose inefficient economic burdens across all segments of the US telecommunications industry, will increase the costs of entry, and will diminish competition overall.

Failure on the part of state and federal regulators to consider and apply an income test is not only inconsistent with the statutory requirement regarding “affordability,” it is also highly inefficient as a matter of economic policy. Subsidizing consumers who can fully afford to pay the entire cost of their telephone service — and whose decision to take service is unaffected by the presence of such a subsidy — serves only to impose significant costs and economic burdens upon other segments of the economy while producing no offsetting economic or social benefit. Among other things, a funding obligation that is larger than that which is necessary to achieve the universal service goal will serve to increase the costs of and barriers to entry, suppress demand for price-elastic services, and diminish the prospects for effective competition overall. The magnitude of these costs and deadweight losses may be considerable: As demonstrated below, approximately 20-30% of the aggregate universal service funding requirement for high-cost areas (depending on the level of the revenue benchmark) could be eliminated if the support were limited to households with incomes below the 70th income percentile. This could mean that up to approximately \$4.5-billion in support burden could be avoided annually if such a policy were adopted.

Application of the income-blind cost proxy models would produce the anomalous result of *subsidizing* areas of extremely high household incomes merely because the cost of providing basic telephone service in those areas happens to exceed the nominal revenue benchmark that is ultimately adopted.⁹ Table 1 below provides examples of just a few of the numerous high-income areas that would receive subsidies *even at a \$40 per month revenue benchmark*. Appendix A provides additional examples of high-income communities in each of the states that would receive high-cost support if no income-dependent affordability criterion is incorporated into the design of a universal service support program.

That high-income areas also exhibit high-cost characteristics should not be unexpected. Wealthy suburban communities are frequently characterized by large multi-acre lots and hilly terrains. As relatively low density areas, the cost proxies for these CBGs are often well above average and in fact considerably in excess of even the highest support threshold. Thus, for a household in Bedford, New York with a median income of \$120,487, a \$51.11 per month local telephone bill cannot be considered as somehow failing to satisfy the “affordability” requirement of the *Telecommunications Act*, yet could receive as much as \$145,221 in annual subsidies if income is ignored.

⁹ The FCC has determined that the revenue benchmark should comprise local service, access and other discretionary revenue. The FCC estimates the revenue benchmark for residential services to be \$31.

Table I					
High-Cost Support Would Flow to Wealthy Communities Under Pending USF Proposals:					
Illustrative List of Areas Eligible for High-Cost Support					
Community	Median Household Income	BCM2 Proxy Cost	Annual per-line subsidy		
			\$20 level	\$30 level	\$40 level
Bedford, New York	\$120,487	\$51.11	\$145,221	\$98,541	\$51,861
Boca Grande, Florida	\$131,981	\$43.00	\$16,008	\$9,048	\$2,088
Casper North, Wyoming	\$102,264	\$213.95	\$4,655	\$4,415	\$4,175
Corpus Christi, Texas	\$126,113	\$40.85	\$24,520	\$12,760	\$1,000
Dover, Massachusetts	\$104,977	\$40.94	\$137,953	\$72,073	\$6,193
Greenwich, Connecticut	\$150,001	\$43.11	\$140,047	\$79,447	\$18,847
Grosse Pointe Farms, Michigan	\$150,001	\$42.97	\$38,314	\$21,634	\$4,954
Hilton Head, South Carolina	\$118,422	\$34.74	\$7,252	\$2,332	\$0
Lake Wales, Florida	\$134,408	\$57.02	\$43,536	\$31,776	\$20,016
Los Alamos, New Mexico	\$81,282	\$78.69	\$372,564	\$309,084	\$245,604
McLean, Virginia	\$126,101	\$34.15	\$101,710	\$29,830	\$0
Mercer Island, Washington	\$89,540	\$40.58	\$27,413	\$14,093	\$773
Nashville-Davidson, Tennessee	\$123,582	\$37.79	\$56,786	\$24,866	\$0
Riverside, Missouri	\$150,001	\$95.03	\$11,705	\$10,145	\$8,585
Roswell-Alpha Retta, Georgia	\$150,001	\$38.78	\$49,805	\$23,285	\$0
Scarsdale, New York	\$119,342	\$40.61	\$59,604	\$30,684	\$1,764
Simi Valley, California	\$125,400	\$57.21	\$158,961	\$116,241	\$73,521
Vail, Colorado	\$102,941	\$66.08	\$37,601	\$29,441	\$21,281

Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A.

While these extreme cases represent a small fraction of the more than 200,000 CBGs nationwide, more generally communities with relatively (and not necessarily extremely) high income households would still receive substantial subsidies under an income-blind application of the unadjusted BCM2 cost proxies. The tables in the following section of this paper highlight this point.

While this analysis is based upon proxy costs as developed by the BCM2¹⁰ without making any of the various corrections that ETI and others have recommended,¹¹ there is no reason to expect the pattern or overall magnitude of these results to be substantially different if another cost proxy model, such as the Hatfield Model or the new BCPM, is adopted.¹²

Universal service support should be limited to CBGs whose household income falls below the 70th percentile of the income level for that state.

For the various reasons discussed here, it is appropriate for the Commission to include *CBG Household Income* as a threshold criterion for each area's eligibility to receive funding. Under this approach, funding would be limited to those CBGs whose median household income is below the threshold level. One such threshold might be the 70th percentile of the household income in each state.

CBGs whose median household income exceeded this threshold (i.e., whose incomes were in the top 30th percentile) would simply be ineligible for high-cost funding irrespective of their individual proxy cost levels. As the analysis shown in Table 2 demonstrates, adoption of this income threshold would cut the overall universal service support requirement by approximately a quarter at the \$30 revenue benchmark. At the \$20 revenue benchmark, the annual universal service support under an income-blind approach would be \$14.7-billion; if CBGs with above-median household incomes are excluded for eligibility, the support level drops to only \$10.2-billion, *approximately \$4.5-billion less!*

Clearly, consumers in the top 30 percent income bracket "have the means for" paying cost-based rates without "serious detriment," i.e., those rates would not represent a disproportionate share of income. Cost-based rates in high-income areas would thus meet the affordability standard in the 1996 Telecommunications Act.

10. Joint Submission by Sprint Corporation, U S West, Inc., CC Docket No. 96-45, July 3, 1996.

11. See e.g., *Converging on a Cost Proxy Model for Primary Line Basic Residential Service: A Blueprint for Designing a Competitively Neutral Universal Service Fund*. Baldwin, Susan M. and Lee L. Selwyn, August 1996; *Continuing Evaluation of Cost Proxy Models for Sizing the Universal Service Fund: Analysis of the Similarities and Differences between the Hatfield Model and the BCM2*. Baldwin, Susan M. and Lee L. Selwyn, October 1996; *The Use of Forward-Looking Economic Cost Proxy Models*. Baldwin, Susan M. and Lee L. Selwyn, February 1997.

12. We have also focused our analysis on the provision of high-cost support to households. We recognize that the FCC has decided to adopt the Joint Board's recommendation that single-line businesses be eligible for high-cost support. Report and Order, at ¶¶ 95-96.

Table 2			
High-Cost Support for CBGs with Household Incomes In the Highest 30% in Each State			
Revenue Benchmark	Aggregate Annual High Cost Subsidy		
	Annual USF Subsidy to All CBGs under an Income-Blind Approach	Annual Subsidy going to CBGs with Highest 30% of Household Income	Percent of Total Subsidy going to High- Income CBGs
\$20	\$14,664,182,818	\$4,468,284,015	30.5%
\$30	\$7,424,505,733	\$1,765,844,278	23.8%
\$40	\$4,258,662,622	\$780,669,907	18.3%
Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A			

While we believe that the 70th percentile is an appropriate income threshold, alternate income thresholds could also be considered. Estimates were therefore developed of the aggregate BCM2 subsidy flowing to CBGs in the top 50% and top 10%, respectively, of incomes in each state. These results are presented in Tables 3 and 4 below.

Table 3			
High-Cost Support for CBGs with Household Incomes Above the Median Level in Each State			
Aggregate Annual High Cost Subsidy			
Revenue Benchmark	Annual USF Subsidy to All CBGs under an Income-Blind Approach	Annual Subsidy going to CBGs with Above-Median Household Income	Percent of Total Subsidy going to High-Income CBGs
\$20	\$14,664,182,818	\$7,900,816,877	53.9%
\$30	\$7,424,505,733	\$3,563,607,287	48.0%
\$40	\$4,258,662,622	\$1,807,377,281	42.4%

Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A

Table 4			
High-Cost Support for CBGs with Household Incomes In the Highest 10% in Each State			
Aggregate Annual High Cost Subsidy			
Revenue Benchmark	Annual USF Subsidy to All CBGs under an Income-Blind Approach	Annual Subsidy going to CBGs with Highest 10% of Household Income	Percent of Total Subsidy going to High-Income CBGs
\$20	\$14,664,182,818	\$1,312,135,581	9.0%
\$30	\$7,424,505,733	\$412,468,003	5.6%
\$40	\$4,258,662,622	\$136,070,562	3.2%

Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A

Special consideration may need to be given to low-income consumers within high-cost, high-income areas.

A safety net should be provided for those consumers who live in a high-cost, high-income area, yet whose income level may be below that at which full, cost-based rates would be considered affordable. While there are many communities that tend to be homogeneous with respect to income level, many others may be characterized as having a wide range of income groups. The potential for wide income disparity will be minimized, however, by the use of smaller, discrete geographic areas, such as census block groups, to determine universal service funding. As discussed above, since CBGs are designed to capture areas with homogeneous demographics, the likelihood of broad income disparity within CBGs is minimal. Nevertheless, it may be necessary to provide a safety net for such individuals. For example, any consumer living within a designated high-cost, high-income area (i.e., above the 70th percentile within each state), whose income is below the median income for that state, would continue to pay the subsidized rate, as specified by the state commission, in place of the full, cost-based rate. Such consumers would provide the state USF administrator with a copy of his/her most recent federal or state income tax return (which would be kept strictly confidential) and the identity of their local service provider. The USF administrator would then notify the local service provider as to which customers qualified for the subsidized rate. The difference between the cost-based rate and the subsidized rate would be provided to the eligible local service carrier from the USF. The number of customers to qualify under this exception is not likely to create an undue administrative burden.

State commissions should establish a transition plan to full, cost-based rates in designated high-cost, high-income areas.

To avoid rate shock in those high-cost, high-income areas where a "gap" has been identified between the forward-looking cost of providing service and current rates for universal service allowed by the state commission, a transition plan can be established that would move rates toward full cost recovery over time. The length of such a transition plan would be governed by the degree of gap between current rates and costs, i.e., the larger the gap, the longer the transition. Until the gap is eliminated, eligible local service carriers would continue to receive USF support, albeit at a declining rate.

Without an income parameter, a proxy-cost model-based USF will provide massive amounts of support to high-income communities.

The USF support requirement for each state at each of the three benchmarks (50th, 70th, and 90th percentiles) is shown in Table B-1 in Appendix B. Incorporating income as a measure of affordability demonstrates that a substantial number of households do not require high cost support. Because none of the pending cost proxy models presently take income into consideration, they all vastly overstate the level of high cost support that is needed to achieve statutory universal service goals.

Depending upon the income guideline selected and assuming, for example, a \$30 support level, the national USF, as computed by the BCM2, would provide \$412.5-million annually to households with incomes in the top 10% of the CBGs; \$1.76-billion to the top 30%, or \$3.56-billion to the highest-

income 50% of US households. Appendix B provides a detailed description of the methodology used and also includes a table with the data and detailed results separately for each state.

Based upon a review of the extensive overlap that exists between high-cost and high-income areas, federal and state regulators should establish income guidelines so that public monies are directed specifically to those communities that require such support in order for basic telephone service to be priced at levels that they can afford. Residents of Vail, Colorado; Greenwich, Connecticut; Boca Grande, Florida; Scarsdale, New York; and the other communities illustrated in Appendix A, for example, do not require that their telephone rates be subsidized in order that they can continue to "afford" basic service. An examination of some of the particular communities that would be eligible for high cost support — unless regulators establish appropriate income guidelines — underscores the fact that the USF would be overly broad and provide support where it simply is not needed.

Recommendation

The proposal discussed in this paper is entirely compatible with and accommodates the Joint Board's Recommendation and the FCC's Report and Order relative to affordability and use of a revenue benchmark. The analysis undertaken in this paper demonstrates that there is a critical need to consider not only the *cost* of serving individual geographic areas, but also the *income* of the areas in question. State and federal regulators are urged to adopt the following recommendation:

- State and federal regulators should establish the 70th percentile for median CBG income as a threshold criterion for high-cost support eligibility, using relative income level with respect to the statewide income distribution. However, regulators could use a combination of state-specific and national income rankings rather than either a state-specific or national distribution, in setting eligibility thresholds. For example, if there are high-cost areas within a state which are above the 70th percentile in income for that state, but below the *national* median income, state commissions may determine that continued subsidies are warranted for such areas.
- Consumers within designated high-cost, high-income areas with income below the state median income should qualify for universal service at the current subsidized rate. Of course, individual households in such areas that satisfy the eligibility requirements for current income-targeted support programs, such as Lifeline and Link-up, can still qualify for and receive these benefits.
- State commissions should establish appropriate transition plans to move rates in high-cost, high-income areas toward their full, forward-looking costs.

We recommend that the 1990 income levels (the most recent ones contained in the Census Bureau's data base) be indexed to the point of implementation, e.g., January 1, 1999, for the federal USF, using an inflation index such as the individual state and/or regional Consumer Price Indices (CPIs), since this probably comes closest to reflecting price level changes that confront individual households.¹³ This

13. See US Department of Labor, Bureau of Labor Statistics, CPI Detailed Report, various years.

Defining the Universal Service "Affordability" Requirement

refinement would be unlikely to materially alter the rankings within a state, but could change the rankings among states if some combination of state and national income distributions are utilized.

Conclusion

The results of this analysis demonstrate that the present versions of the cost proxy models do not yet adequately apply the criterion of affordability to the assessment of the need for high-cost support. It is neither appropriate nor necessary to provide high cost support to high-income areas in order to achieve the objective of universal service. By incorporating an examination of the median income of CBGs (or whatever geographic area selected) into the calculation of high cost support, regulators can ensure that public funds are directed specifically to those areas that require such support. The universal service support fund should not be used as a way to subsidize basic service for those where affordability is not an issue. This paper has described a specific mechanism that can be used in conjunction with a cost proxy model in order to design an economically efficient, fair universal service program.

Appendix A

USF SUPPORT FOR SELECTED HIGH COST, HIGH INCOME LEVELS

Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A

USF Support for Selected High Cost, High Income CBGs

State	Town	Monthly Cost	# HHs	\$40 support	\$30 support	\$20 support	Income
AL	Auburn	\$60.82	6	\$1,499	\$2,219	\$2,939	\$150,001
AL	Mtn. Brook	\$39.87	165	\$0	\$19,543	\$39,343	\$127,292
AL	Pike Road	\$46.78	63	\$5,126	\$12,686	\$20,246	\$112,072
AZ	Paradise Valley	\$37.01	272	\$0	\$22,881	\$55,521	\$137,299
AZ	Phoenix (106), Paradise Valley (157)	\$51.98	263	\$37,809	\$69,369	\$100,929	\$112,349
CA	Alamo	\$62.93	147	\$40,449	\$58,089	\$75,729	\$134,883
CA	Alamo	\$87.66	383	\$219,045	\$265,005	\$310,965	\$122,478
CA	Calabasas	\$53.54	275	\$44,682	\$77,682	\$110,682	\$100,760
CA	Carmel	\$56.34	351	\$68,824	\$110,944	\$153,064	\$101,854
CA	Coto de Caza	\$43.62	363	\$15,769	\$59,329	\$102,889	\$100,765
CA	Diablo Range	\$75.57	41	\$17,500	\$22,420	\$27,340	\$150,001
CA	Lafayette (11), Moraga (105), Central Contra Costa (30)	\$57.56	146	\$30,765	\$48,285	\$65,805	\$117,064
CA	Laguna Beach (160), South Coast (548)	\$44.41	708	\$37,467	\$122,427	\$207,387	\$109,601
CA	Los Altos	\$42.75	208	\$6,864	\$31,824	\$56,784	\$123,670
CA	Los Angeles	\$45.41	170	\$11,036	\$31,436	\$51,836	\$105,511
CA	Los Gatos	\$45.06	201	\$12,205	\$36,325	\$60,445	\$107,582
CA	Los Gatos (176), San Jose (111)	\$54.60	287	\$50,282	\$84,722	\$119,162	\$100,187
CA	Monterey	\$41.35	17	\$275	\$2,315	\$4,355	\$150,001
CA	(15)	\$53.20	243	\$38,491	\$67,651	\$96,811	\$113,421
CA	Saratoga (138), San Jose (61)	\$51.58	199	\$27,653	\$51,533	\$75,413	\$111,557
CA	Simi Valley	\$57.21	356	\$73,521	\$116,241	\$158,961	\$125,400
CA	Thousand Oaks	\$76.74	130	\$57,314	\$72,914	\$88,514	\$100,472
CA	West Santa Clara	\$80.12	27	\$12,999	\$16,239	\$19,479	\$138,093
CA	West Santa Clara	\$84.43	54	\$28,791	\$35,271	\$41,751	\$113,283
CA	Woodside	\$64.93	58	\$17,351	\$24,311	\$31,271	\$106,514
CO	Cherry Hills Village	\$40.63	179	\$1,353	\$22,833	\$44,313	\$113,621
CO	South Aurora	\$45.41	290	\$18,827	\$53,627	\$88,427	\$98,331
CO	Vail	\$66.08	68	\$21,281	\$29,441	\$37,601	\$102,941
CT	Fairfield	\$45.47	238	\$15,622	\$44,182	\$72,742	\$120,607
CT	Fairfield	\$48.02	237	\$22,809	\$51,249	\$79,689	\$114,074
CT	Greenwich	\$48.90	177	\$18,904	\$40,144	\$61,384	\$150,001
CT	Greenwich	\$44.77	436	\$24,957	\$77,277	\$129,597	\$150,001
CT	Greenwich	\$43.11	505	\$18,847	\$79,447	\$140,047	\$150,001
CT	Greenwich	\$43.13	486	\$18,254	\$76,574	\$134,894	\$131,811
CT	Greenwich	\$46.15	299	\$22,066	\$57,946	\$93,826	\$113,910
CT	New Canaan	\$46.07	334	\$24,329	\$64,409	\$104,489	\$150,001
CT	New Canaan	\$56.79	144	\$29,013	\$46,293	\$63,573	\$130,978
CT	New Canaan	\$43.64	401	\$17,516	\$65,636	\$113,756	\$121,912
CT	New Canaan	\$45.33	522	\$33,387	\$96,027	\$158,667	\$121,363
CT	New Canaan	\$46.40	222	\$17,050	\$43,690	\$70,330	\$117,182
CT	New Canaan (469), Darien (10)	\$43.51	479	\$20,175	\$77,655	\$135,135	\$111,408
CT	Weston	\$59.13	107	\$24,563	\$37,403	\$50,243	\$142,866
CT	Wilton	\$46.88	311	\$25,676	\$62,996	\$100,316	\$116,095
CT	Wilton	\$43.10	307	\$11,420	\$48,260	\$85,100	\$109,343
CT	Wilton	\$44.71	578	\$32,669	\$102,029	\$171,389	\$105,432
DC	Washington DC	\$31.92	83	\$0	\$1,912	\$11,872	\$134,792
DC	Washington DC	\$29.89	128	\$0	\$0	\$15,191	\$104,498

USF Support for Selected High Cost, High Income CBGs

State	Town	Monthly Cost	# HHs	\$40 support	\$30 support	\$20 support	Income
FL	Boca Grande	\$43.00	58	\$2,088	\$9,048	\$16,008	\$131,981
FL	Indian Creek Village	\$57.07	27	\$5,531	\$8,771	\$12,011	\$150,001
FL	Jupiter Island	\$37.05	236	\$0	\$19,966	\$48,286	\$150,001
FL	Kendall-Perrine	\$41.26	81	\$1,225	\$10,945	\$20,665	\$150,001
FL	Lake Wales	\$57.02	98	\$20,016	\$31,776	\$43,536	\$134,408
FL	North Key Largo	\$48.68	256	\$26,665	\$57,385	\$88,105	\$127,518
GA	Norcross	\$47.01	51	\$4,290	\$10,410	\$16,530	\$139,375
GA	Roswell-Alpharetta	\$38.78	221	\$0	\$23,285	\$49,805	\$150,001
GA	Sandy Springs	\$42.33	173	\$4,837	\$25,597	\$46,357	\$150,001
GA	Sandy Springs	\$34.90	33	\$0	\$1,940	\$5,900	\$150,001
GA	Sandy Springs	\$38.03	145	\$0	\$13,972	\$31,372	\$132,960
GA	St. Simons	\$56.58	194	\$38,598	\$61,878	\$85,158	\$150,001
HI	Honolulu	\$33.51	1,076	\$0	\$45,321	\$174,441	\$111,017
IA	Bloomfield	\$61.07	22	\$5,562	\$8,202	\$10,842	\$102,500
IA	Sioux City	\$40.30	218	\$785	\$26,945	\$53,105	\$89,173
IL	Barrington Hills Village	\$52.61	165	\$24,968	\$44,768	\$64,568	\$114,115
IL	Barrington Hills Village (9), Inverness Village (148)	\$45.03	157	\$9,477	\$28,317	\$47,157	\$137,526
IL	Glencoe Village	\$38.00	411	\$0	\$39,456	\$88,776	\$150,001
IL	Glencoe Village	\$37.47	295	\$0	\$26,444	\$61,844	\$150,001
IL	Lake Forest	\$32.10	245	\$0	\$6,174	\$35,574	\$150,001
IL	Lake Forest	\$41.17	222	\$3,117	\$29,757	\$56,397	\$125,000
IL	Oak Brook Village	\$35.13	151	\$0	\$9,296	\$27,416	\$150,001
IN	Carmel	\$41.19	61	\$871	\$8,191	\$15,511	\$150,001
IN	Indianapolis	\$39.40	162	\$0	\$18,274	\$37,714	\$102,611
IN	Indianapolis	\$38.23	352	\$0	\$34,764	\$77,004	\$100,294
KS	Olathe	\$51.49	106	\$14,615	\$27,335	\$40,055	\$103,263
KS	Overland Park (7), Oxford (48)	\$54.53	55	\$9,590	\$16,190	\$22,790	\$130,125
KY	Glenview Hills	\$31.17	400	\$0	\$5,616	\$53,616	\$108,877
LA	East Baton Rouge	\$36.78	300	\$0	\$24,408	\$60,408	\$95,518
LA	New Orleans	\$27.86	223	\$0	\$0	\$21,033	\$104,704
LA	New Orleans	\$28.06	142	\$0	\$0	\$13,734	\$98,518
LA	Shreveport	\$29.02	209	\$0	\$0	\$22,622	\$95,804
MA	Dover	\$40.94	549	\$6,193	\$72,073	\$137,953	\$104,977
MA	Dover	\$42.35	251	\$7,078	\$37,198	\$67,318	\$103,320
MA	Harvard	\$47.63	389	\$35,617	\$82,297	\$128,977	\$100,415
MA	Lincoln	\$40.42	367	\$1,850	\$45,890	\$89,930	\$108,561
MA	Southborough	\$52.98	262	\$40,809	\$72,249	\$103,689	\$98,635
MA	Weston	\$49.84	193	\$22,789	\$45,949	\$69,109	\$125,415
MD	Clarksville	\$45.56	56	\$3,736	\$10,456	\$17,176	\$150,001
MD	Clarksville	\$36.33	193	\$0	\$14,660	\$37,820	\$115,812
MD	N. Potomac	\$38.22	278	\$0	\$27,225	\$60,345	\$150,001
MD	Potomac	\$30.16	1,867	\$0	\$3,585	\$227,625	\$150,001
MD	Potomac	\$33.77	440	\$0	\$19,906	\$72,706	\$143,588
MI	Bloomfield	\$36.97	475	\$0	\$39,729	\$96,729	\$150,001
MI	Bloomfield	\$46.53	108	\$8,463	\$21,423	\$34,383	\$150,001
MI	Grosse Pointe Shores Village	\$40.74	294	\$2,611	\$37,891	\$73,171	\$136,369
MI	Grosse Pointe Farms	\$42.97	139	\$4,954	\$21,634	\$38,314	\$150,001

USF Support for Selected High Cost, High Income CBGs

State	Town	Monthly Cost	# HHs	\$40 support	\$30 support	\$20 support	Income
MN	North Oaks	\$31.66	454	\$0	\$9,044	\$63,524	\$125,660
MN	Rochester	\$47.68	152	\$14,008	\$32,248	\$50,488	\$123,572
MN	Rochester	\$53.06	251	\$39,337	\$69,457	\$99,577	\$103,286
MO	Ladue	\$37.63	180	\$0	\$16,481	\$38,081	\$117,296
MO	Riverside	\$95.03	13	\$8,585	\$10,145	\$11,705	\$150,001
NC	Charlotte	\$37.66	79	\$0	\$7,262	\$16,742	\$134,410
NC	Charlotte	\$42.49	55	\$1,643	\$8,243	\$14,843	\$127,293
NE	McArdle	\$37.70	119	\$0	\$10,996	\$25,276	\$150,001
NJ	Kinnelon	\$63.21	204	\$56,818	\$81,298	\$105,778	\$127,885
NJ	Kinnelon	\$70.50	498	\$182,268	\$242,028	\$301,788	\$111,006
NJ	Medford	\$62.95	23	\$6,334	\$9,094	\$11,854	\$150,001
NJ	Mendham	\$54.06	172	\$29,020	\$49,660	\$70,300	\$150,001
NJ	Rumson	\$41.69	176	\$3,569	\$24,689	\$45,809	\$150,001
NM	Albuquerque	\$29.56	458	\$0	\$0	\$52,542	\$106,240
NM	Albuquerque	\$31.95	453	\$0	\$10,600	\$64,960	\$88,273
NM	Los Alamos	\$78.69	529	\$245,604	\$309,084	\$372,564	\$81,282
NM	Sandia Hts. (81), Albuquerque (25)	\$58.54	106	\$23,583	\$36,303	\$49,023	\$85,963
NV	Reno-Sparks	\$39.63	175	\$0	\$20,223	\$41,223	\$94,342
NY	Bedford	\$47.01	315	\$26,498	\$64,298	\$102,098	\$150,001
NY	Bedford	\$51.11	389	\$51,861	\$98,541	\$145,221	\$120,487
NY	Mt. Pleasant	\$57.75	193	\$41,109	\$64,269	\$87,429	\$108,732
NY	New Castle	\$47.71	167	\$15,451	\$35,491	\$55,531	\$116,167
NY	New Castle	\$58.71	66	\$14,818	\$22,738	\$30,658	\$109,563
NY	North Castle	\$54.40	694	\$119,923	\$203,203	\$286,483	\$128,855
NY	Pound Ridge	\$45.54	351	\$23,334	\$65,454	\$107,574	\$109,027
NY	Pound Ridge	\$57.17	349	\$71,908	\$113,788	\$155,668	\$106,793
NY	Rye	\$45.91	159	\$11,276	\$30,356	\$49,436	\$150,001
NY	Rye	\$40.72	187	\$1,618	\$24,056	\$46,496	\$108,725
NY	Scarsdale	\$40.61	241	\$1,764	\$30,684	\$59,604	\$119,342
OH	Bexley	\$43.87	176	\$8,173	\$29,293	\$50,413	\$150,001
OH	Hunting Valley Village	\$56.16	255	\$49,450	\$80,050	\$110,650	\$126,786
OH	Madison	\$51.26	7	\$946	\$1,786	\$2,626	\$127,308
OH	Shaker Heights	\$39.99	127	\$0	\$15,225	\$30,465	\$150,001
OH	The Village of Indian Hill	\$41.98	162	\$3,849	\$23,289	\$42,729	\$150,001
OH	The Village of Indian Hill (589), Sycamore (213)	\$38.29	802	\$0	\$79,783	\$176,023	\$148,752
OK	Edmond	\$41.26	363	\$5,489	\$49,049	\$92,609	\$99,059
OK	Tulsa	\$45.15	49	\$3,028	\$8,908	\$14,788	\$150,001
OK	Tulsa	\$34.46	287	\$0	\$15,360	\$49,800	\$97,483
OR	Portland	\$34.87	394	\$0	\$23,025	\$70,305	\$105,991
OR	Portland	\$31.35	369	\$0	\$5,978	\$50,258	\$91,295
PA	Derry	\$96.70	7	\$4,763	\$5,603	\$6,443	\$150,001
PA	Fox Chapel	\$32.64	552	\$0	\$17,487	\$83,727	\$123,339
PA	McCandless	\$38.96	170	\$0	\$18,278	\$38,678	\$137,012
PA	Pennsbury	\$35.58	92	\$0	\$6,160	\$17,200	\$101,299
PA	Wycombe	\$89.84	11	\$6,579	\$7,899	\$9,219	\$150,001

USF Support for Selected High Cost, High Income CBGs

State	Town	Monthly Cost	# HHs	\$40 support	\$30 support	\$20 support	Income
RI	Barrington	\$32.23	370	\$0	\$9,901	\$54,301	\$90,023
RI	Providence	\$35.37	220	\$0	\$14,177	\$40,577	\$97,138
RI	Providence	\$37.30	373	\$0	\$32,675	\$77,435	\$96,432
RI	Providence	\$33.10	200	\$0	\$7,440	\$31,440	\$96,432
SC	Hilton Head Island	\$34.74	41	\$0	\$2,332	\$7,252	\$118,422
SC	Pontiac	\$38.46	219	\$0	\$22,233	\$48,513	\$100,240
TN	Forest Hills (233), Oakhill (8)	\$40.75	241	\$2,169	\$31,089	\$60,009	\$106,765
TN	Germantown	\$31.07	461	\$0	\$5,919	\$61,239	\$94,998
TN	Germantown (843), Memphis (23)	\$30.29	866	\$0	\$3,014	\$106,934	\$97,785
TN	Germantown (560), Memphis (23)	\$33.77	583	\$0	\$26,375	\$96,335	\$87,389
TN	Nashville-Davidson (150), Forest Hills (116)	\$37.79	266	\$0	\$24,866	\$56,786	\$123,582
TX	Corpus Christi	\$40.85	98	\$1,000	\$12,760	\$24,520	\$126,113
TX	Dallas	\$29.09	301	\$0	\$0	\$32,833	\$150,001
TX	Houston	\$30.13	115	\$0	\$179	\$13,979	\$150,001
TX	Hunters Creek Village	\$35.93	203	\$0	\$14,445	\$38,805	\$138,210
TX	San Antonio	\$35.93	201	\$0	\$14,303	\$38,423	\$150,001
TX	San Antonio	\$38.73	224	\$0	\$23,466	\$50,346	\$130,003
TX	Tyler	\$35.02	17	\$0	\$1,024	\$3,064	\$150,001
UT	Cottonwood Hts. (267), Holladay (35)	\$37.15	302	\$0	\$25,912	\$62,152	\$99,212
VA	Great Falls	\$42.97	426	\$15,183	\$66,303	\$117,423	\$119,728
VA	McLean	\$32.09	51	\$0	\$1,279	\$7,399	\$150,001
VA	McLean	\$34.15	599	\$0	\$29,830	\$101,710	\$126,101
VA	McLean (88), Great Falls (457), Dranesville (73)	\$34.76	618	\$0	\$35,300	\$109,460	\$121,209
VA	Springfield	\$47.55	223	\$20,204	\$46,964	\$73,724	\$106,461
VA	Springfield	\$41.98	83	\$1,972	\$11,932	\$21,892	\$105,138
WA	East Seattle (225), Bellevue (37), Eastgate (9)	\$36.01	271	\$0	\$19,545	\$52,065	\$103,405
WA	Medina	\$43.52	150	\$6,336	\$24,336	\$42,336	\$94,096
WA	Mercer Island	\$40.58	111	\$773	\$14,093	\$27,413	\$89,540
WA	Seattle	\$31.57	188	\$0	\$3,542	\$26,102	\$135,080
WA	Seattle	\$32.29	302	\$0	\$8,299	\$44,539	\$110,746
WI	Bayside (35), Mequon (589)	\$33.27	624	\$0	\$24,486	\$99,366	\$108,494
WI	River Hills	\$26.18	567	\$0	\$0	\$42,049	\$110,712
WI	Whitefish Bay	\$28.36	398	\$0	\$0	\$39,927	\$99,477
WY	Casper North	\$213.95	2	\$4,175	\$4,415	\$4,655	\$102,264
WY	Douglas	\$210.74	14	\$28,684	\$30,364	\$32,044	\$125,889
WY	Gillette South	\$208.58	3	\$6,069	\$6,429	\$6,789	\$102,264
WY	Gillette South	\$205.44	12	\$23,823	\$25,263	\$26,703	\$84,511
WY	Kaycee	\$205.47	1	\$1,986	\$2,106	\$2,226	\$150,001
WY	Kaycee	\$213.43	10	\$20,812	\$22,012	\$23,212	\$102,264

Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A

Appendix B

METHODOLOGICAL APPROACH AND STATE-SPECIFIC ANALYSIS

APPENDIX B

Description of methodological approach

The BCM2 with the unadjusted default values was used to compute the cost of providing basic local exchange service in each of the nation's more than 200,000 census block groups (CBGs).¹³ These cost results were compared with three different monthly revenue benchmarks — \$20, \$30 and \$40 — in order to estimate the universal service funding (USF) requirement on a state-by-state basis (i.e., to generate the “default” results of the BCM2). This is the “baseline” case — i.e., the scenario whereby *all* households in high-cost areas would be eligible for subsidization, regardless of their income level.

Because the BCM2 does not include any of the income data from the Census data base for the CBGs whose proxy costs the Model undertakes to evaluate, this data was obtained from the Census Bureau and integrated with the BCM2 data base. Median household income was selected as an appropriate metric from the income data contained in the Census CBG data base.¹⁴ The purpose of the analysis was to overlay CBG income and CBG cost. Three different possible income guidelines for determining high-cost eligibility were defined and analyzed:

1. Only those CBGs with incomes below the 50th percentile (i.e., below the median income level) for each state would be eligible for high-cost support.¹⁵
2. Only those CBGs with incomes below the 70th percentile for each state would be eligible for high-cost support (i.e., the highest 30% would be ineligible).
3. Only those CBGs with incomes below the 90th percentile for each state would be eligible for high-cost support (i.e., the highest 10% would be ineligible).

13. Use of the BCM2 Model in no way implies endorsement of this model for determination of high-cost support funding. In fact, there is no reason to expect the pattern or overall magnitude of the results of this study to be substantially different if another cost proxy model is adopted. The BCM2 is designed in such a way as to permit the modification of certain “user-specified” values. While the BCM2 default values were not revised for this analysis, their use does not in any sense constitute agreement with these values.

14. *1990 Census of Population and Housing Summary Tape File 3A*. These data provide the most recent income statistics available from the Census Bureau. Mean and median household incomes have risen in nominal terms from 1990 to 1995, (see Current Population Reports, Series P-60, Income Statistics Branch/HHES Division, U.S. Bureau of the Census) and therefore there is a temporal mismatch between the costs examined (which are based upon estimates made in 1997) and the incomes examined (which were reported in 1990). One would expect, therefore, that the “actual” average incomes are greater than those reported in 1990. This mismatch of years does not influence the results of our analysis because we examine the income stratification rather than the income level, but it may influence any judgments that regulators may make about the appropriate income guidelines for a high-cost fund.

15. Because the analysis relies upon a ranking of the CBGs, the 50th, 70th, and 90th percentiles do not include 50%, 70% and 90% of the households, but rather 50%, 70%, and 90% of the CBGs.

Appendix B

While the median household income for the US as a whole is \$30,056, there is considerable variation in income levels from state to state. For example, Connecticut has the highest median household income (\$41,721), while Mississippi has the lowest (\$20,136). Since income levels tend to bear at least some relationship with the cost of living in a particular area (such as a state), the income distribution within each state was used to identify those CBGs falling below the three income thresholds (50th, 70th and 90th percentiles, respectively). For computational purposes, the 50%, 30%, and 10% of the CBGs, respectively, with the highest incomes, were identified to provide a reasonable approximation of comparing CBG incomes to the statewide income that corresponds with the 50th, 70th and 90th percentiles.

It should also be noted that all of the average income figures are biased downward because of the way the US Census Bureau treats incomes over \$150,000. The Census Bureau places all those with incomes above \$150,000 into the same bracket. Because of this grouping, a household with a \$1-million income is given the same statistical weighting as one with a \$150,000 income. Thus, very high incomes cannot be accurately captured in the analysis. Taking this fact into consideration would mean that many states and individual CBGs are even wealthier than they are represented to be by the Census data.¹⁶ This fact does not, however, affect the results because the CBGs in this income bracket would be assigned to the top percentiles, regardless of the "correct" absolute median average. However, it is relevant to an assessment of affordability and to the design of fair income guidelines.

Table B-1 below summarizes state-specific data and results for the country.¹⁷

16. Furthermore, as noted previously, the incomes are those that were reported in 1990.

17. The median income for each state and the income cap for the 50th percentile do not match because the state median income is based upon a ranking of households, while the USF support analysis discussed in this paper relies upon a ranking of CBGs.

Appendix B

**TABLE B-1
RESULTS OF STATE-SPECIFIC ANALYSIS**

Analysis of High Cost Support at Selected Income Levels

State	Total Support for 100% CBGs *	Total Support for Bottom 90%	% Difference (100%-90%)/100%	Total Support for Bottom 70%	% Difference (100%-70%)/100%	Total Support for Bottom 50%	% Difference (100%-50%)/100%
Alabama							
\$40 benchmark	\$108,269,744	\$105,590,367	2.5%	\$86,467,581	20.1%	\$55,705,736	48.5%
\$30 benchmark	\$198,562,895	\$189,287,545	4.7%	\$149,404,052	24.8%	\$94,459,607	52.4%
\$20 benchmark	\$348,469,876	\$318,552,809	8.6%	\$241,572,100	30.7%	\$153,954,788	55.8%
HH Income	\$23,597	\$36,097		\$28,012		\$21,379	
Alaska							
\$40 benchmark	\$27,791,223	\$25,869,293	6.9%	\$21,833,781	21.4%	\$16,628,316	40.2%
\$30 benchmark	\$38,993,835	\$35,803,695	8.2%	\$28,950,812	25.8%	\$21,492,325	44.9%
\$20 benchmark	\$57,550,955	\$51,978,327	9.7%	\$40,559,980	29.5%	\$29,093,549	49.4%
HH Income	\$41,408	\$60,000		\$47,083		\$39,583	
Arizona							
\$40 benchmark	\$86,565,140	\$82,788,550	4.4%	\$75,579,402	12.7%	\$62,376,600	27.9%
\$30 benchmark	\$127,398,841	\$119,148,275	6.5%	\$104,423,144	18.0%	\$82,583,791	35.2%
\$20 benchmark	\$243,042,550	\$222,724,431	8.4%	\$180,959,939	25.5%	\$133,814,650	44.9%
HH Income	\$27,540	\$48,750		\$33,906		\$28,128	
Arkansas							
\$40 benchmark	\$113,799,749	\$110,397,032	3.0%	\$89,488,918	21.4%	\$58,940,981	48.2%
\$30 benchmark	\$175,545,100	\$167,472,363	4.6%	\$132,497,319	24.5%	\$86,416,728	50.8%
\$20 benchmark	\$265,795,537	\$246,043,004	7.4%	\$189,193,505	28.8%	\$123,486,069	53.5%
HH Income	\$21,147	\$31,029		\$23,382		\$19,537	
California							
\$40 benchmark	\$142,588,890	\$136,801,837	4.1%	\$122,692,306	14.0%	\$98,210,865	31.1%
\$30 benchmark	\$281,163,843	\$255,705,981	9.1%	\$210,424,512	25.2%	\$180,533,831	42.9%
\$20 benchmark	\$882,584,449	\$773,981,221	12.3%	\$572,975,245	35.1%	\$391,072,920	55.7%
HH Income	\$35,798	\$61,228		\$43,750		\$34,583	
Colorado							
\$40 benchmark	\$71,728,168	\$67,880,706	5.4%	\$56,328,819	21.5%	\$38,850,830	45.8%
\$30 benchmark	\$111,565,611	\$102,633,281	8.0%	\$81,659,968	26.8%	\$54,862,360	50.8%
\$20 benchmark	\$216,517,831	\$194,598,740	10.1%	\$146,649,850	32.3%	\$95,899,015	55.7%
HH Income	\$30,140	\$50,000		\$35,809		\$27,122	
Connecticut							
\$40 benchmark	\$30,760,236	\$27,843,412	9.5%	\$18,705,975	39.2%	\$8,850,541	71.2%
\$30 benchmark	\$69,893,084	\$59,872,418	14.3%	\$38,792,185	44.5%	\$18,927,128	72.9%
\$20 benchmark	\$187,163,841	\$145,671,694	12.9%	\$100,569,127	39.8%	\$56,741,090	66.1%
HH Income	\$41,721	\$68,401		\$51,101		\$42,344	
Delaware							
\$40 benchmark	\$5,477,012	\$5,477,012	0.0%	\$4,958,275	9.5%	\$3,984,527	27.2%
\$30 benchmark	\$13,902,700	\$13,640,288	1.9%	\$12,011,939	13.6%	\$9,120,332	34.4%
\$20 benchmark	\$34,971,797	\$32,675,316	6.6%	\$26,501,788	24.2%	\$18,463,844	47.2%
HH Income	\$34,875	\$52,554		\$39,175		\$31,836	
DC							
\$40 benchmark	\$10,877	\$10,877	0.0%	\$10,877	0.0%	\$10,877	0.0%
\$30 benchmark	\$336,514	\$293,752	12.7%	\$280,330	16.7%	\$240,967	28.4%
\$20 benchmark	\$3,870,145	\$3,323,887	14.1%	\$2,939,981	24.0%	\$2,227,164	42.5%
HH Income	\$30,727	\$65,794		\$42,292		\$31,312	
Florida							
\$40 benchmark	\$98,309,431	\$92,542,043	5.9%	\$78,051,672	20.6%	\$54,026,338	45.0%
\$30 benchmark	\$238,882,332	\$217,543,509	8.9%	\$171,026,180	28.4%	\$113,839,855	52.3%
\$20 benchmark	\$691,549,942	\$618,389,900	10.9%	\$450,140,339	34.9%	\$286,862,492	58.5%
HH Income	\$27,483	\$43,618		\$31,358		\$25,476	
Georgia							
\$40 benchmark	\$118,725,982	\$117,305,812	1.2%	\$106,123,974	10.6%	\$73,946,865	37.7%
\$30 benchmark	\$225,229,959	\$217,972,687	3.2%	\$185,614,824	17.6%	\$124,100,682	44.9%
\$20 benchmark	\$442,093,403	\$410,814,143	7.1%	\$321,234,143	27.3%	\$208,386,285	52.9%
HH Income	\$29,021	\$48,487		\$32,250		\$25,478	

Analysis of High Cost Support at Selected Income Levels

State	Total Support for 100% CBGs *	Total Support for Bottom 90%	% Difference (100%-90%)/100%	Total Support for Bottom 70%	% Difference (100%-70%)/100%	Total Support for Bottom 50%	% Difference (100%-50%)/100%
Hawaii							
\$40 benchmark	\$12,303,412	\$12,044,175	2.1%	\$11,279,216	8.3%	\$8,938,137	27.4%
\$30 benchmark	\$22,693,811	\$21,674,565	4.5%	\$19,141,719	15.7%	\$14,150,848	37.6%
\$20 benchmark	\$51,291,616	\$46,317,775	9.7%	\$36,303,998	29.2%	\$25,554,663	50.2%
HH Income	\$38,829	\$60,782		\$45,764		\$38,082	
Idaho							
\$40 benchmark	\$49,047,890	\$47,092,159	4.0%	\$37,759,597	23.0%	\$24,793,610	49.5%
\$30 benchmark	\$67,793,723	\$64,023,742	5.6%	\$50,832,427	25.0%	\$32,684,459	51.8%
\$20 benchmark	\$101,014,177	\$92,642,161	8.3%	\$72,034,928	28.7%	\$46,434,617	54.0%
HH Income	\$25,257	\$37,396		\$28,125		\$23,958	
Illinois							
\$40 benchmark	\$122,421,435	\$120,752,361	1.4%	\$108,863,692	11.1%	\$80,601,001	34.2%
\$30 benchmark	\$228,954,576	\$218,107,954	4.7%	\$184,877,996	19.3%	\$132,668,659	42.1%
\$20 benchmark	\$528,026,002	\$481,598,695	8.8%	\$373,940,439	29.2%	\$255,952,129	51.5%
HH Income	\$32,252	\$53,587		\$38,281		\$30,637	
Indiana							
\$40 benchmark	\$94,865,121	\$88,287,710	6.9%	\$60,392,160	36.3%	\$33,228,419	65.0%
\$30 benchmark	\$185,030,110	\$167,684,194	9.4%	\$113,477,704	38.7%	\$63,075,851	65.9%
\$20 benchmark	\$368,748,293	\$324,580,367	12.0%	\$224,537,993	39.1%	\$134,375,945	63.6%
HH Income	\$28,797	\$41,930		\$32,292		\$27,361	
Iowa							
\$40 benchmark	\$97,944,063	\$94,474,730	3.5%	\$75,531,382	22.9%	\$49,267,813	49.7%
\$30 benchmark	\$155,771,649	\$148,030,861	5.0%	\$117,272,897	24.7%	\$77,906,742	50.1%
\$20 benchmark	\$253,959,119	\$235,101,678	7.4%	\$183,269,997	27.8%	\$122,342,739	51.8%
HH Income	\$26,229	\$37,714		\$29,219		\$25,323	
Kansas							
\$40 benchmark	\$93,776,223	\$90,772,029	3.2%	\$70,628,391	24.7%	\$48,092,739	48.7%
\$30 benchmark	\$135,528,850	\$128,677,550	5.1%	\$98,567,995	27.3%	\$67,064,787	50.5%
\$20 benchmark	\$216,661,281	\$198,241,586	8.5%	\$147,434,214	32.0%	\$98,838,406	54.4%
HH Income	\$27,291	\$41,250		\$30,000		\$24,464	
Kentucky							
\$40 benchmark	\$109,247,643	\$106,611,840	2.4%	\$92,220,015	15.6%	\$69,535,849	36.4%
\$30 benchmark	\$192,062,787	\$184,056,167	4.2%	\$154,652,791	19.5%	\$114,143,418	40.6%
\$20 benchmark	\$323,873,103	\$300,196,917	7.3%	\$242,804,703	25.0%	\$173,890,367	46.3%
HH Income	\$22,534	\$36,450		\$26,389		\$20,833	
Louisiana							
\$40 benchmark	\$86,405,080	\$84,690,032	2.0%	\$72,727,842	15.8%	\$46,076,718	46.7%
\$30 benchmark	\$159,803,823	\$152,243,100	4.7%	\$124,499,182	22.1%	\$78,523,856	50.9%
\$20 benchmark	\$302,844,210	\$277,542,910	8.4%	\$215,351,240	28.9%	\$136,545,887	54.9%
HH Income	\$21,949	\$37,446		\$25,921		\$20,096	
Maine							
\$40 benchmark	\$83,273,866	\$77,194,773	7.3%	\$61,719,817	25.9%	\$44,868,022	46.1%
\$30 benchmark	\$119,192,822	\$109,259,535	8.3%	\$85,728,367	28.1%	\$61,217,844	48.6%
\$20 benchmark	\$166,243,367	\$151,443,273	8.9%	\$117,017,157	29.6%	\$82,116,465	50.6%
HH Income	\$27,854	\$39,792		\$31,469		\$27,326	
Maryland							
\$40 benchmark	\$23,251,531	\$22,860,473	1.7%	\$20,170,042	13.3%	\$15,472,344	33.5%
\$30 benchmark	\$57,229,901	\$54,237,214	5.2%	\$43,186,090	24.5%	\$29,818,286	47.9%
\$20 benchmark	\$169,320,456	\$153,060,256	9.6%	\$112,731,589	33.4%	\$70,965,284	58.1%
HH Income	\$39,386	\$63,966		\$46,707		\$37,011	
Massachusetts							
\$40 benchmark	\$34,183,623	\$30,856,083	9.7%	\$22,452,411	34.3%	\$11,836,661	65.4%
\$30 benchmark	\$86,074,470	\$73,962,539	14.1%	\$49,844,675	42.1%	\$25,230,814	70.7%
\$20 benchmark	\$232,967,722	\$201,169,303	13.7%	\$137,191,577	41.1%	\$76,622,603	67.1%
HH Income	\$36,952	\$58,260		\$44,432		\$36,875	
Michigan							
\$40 benchmark	\$133,039,135	\$130,056,277	2.2%	\$109,899,910	17.4%	\$81,984,025	38.4%
\$30 benchmark	\$273,337,536	\$258,945,146	5.3%	\$206,520,741	24.4%	\$144,040,985	47.3%
\$20 benchmark	\$586,650,242	\$536,840,856	8.5%	\$410,807,372	30.0%	\$274,800,265	53.2%
HH Income	\$31,020	\$50,138		\$36,607		\$29,265	

Analysis of High Cost Support at Selected Income Levels

State	Total Support for 100% CBGs *	Total Support for Bottom 90%	% Difference (100%-90%)/100%	Total Support for Bottom 70%	% Difference (100%-70%)/100%	Total Support for Bottom 50%	% Difference (100%-50%)/100%
North Dakota							
\$40 benchmark	\$57,124,436	\$52,749,783	7.7%	\$40,702,308	28.7%	\$29,267,941	48.8%
\$30 benchmark	\$70,790,328	\$64,832,043	8.4%	\$50,405,243	28.8%	\$36,173,375	48.9%
\$20 benchmark	\$92,077,432	\$83,042,027	9.8%	\$64,617,956	29.8%	\$45,852,234	50.2%
HH Income	\$23,213	\$33,534		\$25,625		\$21,591	
Ohio							
\$40 benchmark	\$128,393,296	\$124,484,191	3.1%	\$90,993,485	29.1%	\$47,255,869	63.2%
\$30 benchmark	\$272,185,011	\$254,910,124	6.3%	\$182,806,970	32.8%	\$97,643,260	64.1%
\$20 benchmark	\$614,504,598	\$551,939,009	10.2%	\$393,651,819	35.9%	\$227,060,678	63.0%
HH Income	\$28,708	\$43,854		\$33,113		\$27,188	
Oklahoma							
\$40 benchmark	\$100,964,247	\$97,175,241	3.8%	\$77,387,369	23.4%	\$52,178,889	48.3%
\$30 benchmark	\$158,856,489	\$150,239,913	5.4%	\$117,408,471	26.1%	\$78,970,826	50.3%
\$20 benchmark	\$267,259,957	\$244,439,341	8.5%	\$184,563,748	30.9%	\$123,368,880	53.8%
HH Income	\$23,577	\$37,917		\$26,818		\$21,333	
Oregon							
\$40 benchmark	\$77,502,634	\$74,468,504	3.9%	\$60,656,911	21.7%	\$42,022,874	45.8%
\$30 benchmark	\$119,637,078	\$112,071,803	6.3%	\$87,342,513	27.0%	\$59,088,440	50.6%
\$20 benchmark	\$218,925,875	\$198,290,456	9.5%	\$146,591,534	32.4%	\$97,633,205	55.0%
HH Income	\$27,250	\$40,369		\$30,683		\$25,500	
Pennsylvania							
\$40 benchmark	\$163,583,183	\$161,735,508	1.1%	\$140,441,627	14.2%	\$99,357,855	39.3%
\$30 benchmark	\$301,994,936	\$291,026,075	3.6%	\$236,166,621	21.8%	\$156,661,874	47.5%
\$20 benchmark	\$612,775,392	\$557,932,048	8.9%	\$421,795,962	31.2%	\$275,782,389	55.0%
HH Income	\$29,089	\$44,556		\$32,857		\$26,908	
Rhode Island							
\$40 benchmark	\$6,773,314	\$5,709,084	15.7%	\$2,704,906	60.1%	\$408,418	94.0%
\$30 benchmark	\$15,697,779	\$12,913,667	17.7%	\$6,365,144	59.5%	\$1,789,650	88.6%
\$20 benchmark	\$43,928,435	\$37,439,372	14.8%	\$22,651,037	48.4%	\$11,111,673	74.7%
HH Income	\$32,181	\$46,937		\$38,047		\$32,344	
S. Carolina							
\$40 benchmark	\$81,374,752	\$79,859,400	1.9%	\$69,773,460	14.3%	\$49,453,270	39.2%
\$30 benchmark	\$152,970,263	\$146,702,315	4.1%	\$121,373,606	20.7%	\$82,873,632	45.8%
\$20 benchmark	\$279,168,065	\$259,309,608	7.1%	\$203,200,964	27.2%	\$135,637,576	51.4%
HH Income	\$26,258	\$40,921		\$30,068		\$24,659	
S. Dakota							
\$40 benchmark	\$52,449,770	\$49,080,400	6.4%	\$38,474,592	26.6%	\$27,093,580	48.3%
\$30 benchmark	\$69,560,205	\$64,886,508	7.0%	\$50,385,200	27.6%	\$35,540,457	48.9%
\$20 benchmark	\$93,631,437	\$85,567,574	8.6%	\$65,437,376	30.1%	\$46,205,582	50.7%
HH Income	\$22,503	\$32,009		\$24,406		\$21,028	
Tennessee							
\$40 benchmark	\$113,374,821	\$110,026,017	3.0%	\$93,680,417	17.4%	\$63,225,035	44.2%
\$30 benchmark	\$214,160,251	\$202,523,389	5.4%	\$163,984,815	23.4%	\$108,537,054	49.3%
\$20 benchmark	\$391,293,772	\$358,799,780	8.3%	\$277,007,527	29.2%	\$181,929,528	53.5%
HH Income	\$24,807	\$39,881		\$28,125		\$22,708	
Texas							
\$40 benchmark	\$272,533,671	\$269,453,788	1.1%	\$235,680,718	13.5%	\$157,627,714	42.2%
\$30 benchmark	\$464,134,553	\$447,839,704	3.5%	\$372,965,280	19.6%	\$245,034,783	47.2%
\$20 benchmark	\$965,509,384	\$891,069,787	7.7%	\$691,340,558	28.4%	\$450,580,486	53.3%
HH Income	\$27,016	\$48,214		\$31,827		\$24,333	
Utah							
\$40 benchmark	\$32,825,938	\$31,423,462	4.3%	\$26,966,791	17.8%	\$21,222,410	35.3%
\$30 benchmark	\$47,872,399	\$44,711,790	6.2%	\$36,641,951	23.1%	\$27,476,772	42.4%
\$20 benchmark	\$90,499,294	\$82,189,321	9.2%	\$63,636,313	29.7%	\$44,327,961	51.0%
HH Income	\$29,470	\$44,312		\$34,412		\$28,150	

Analysis of High Cost Support at Selected Income Levels

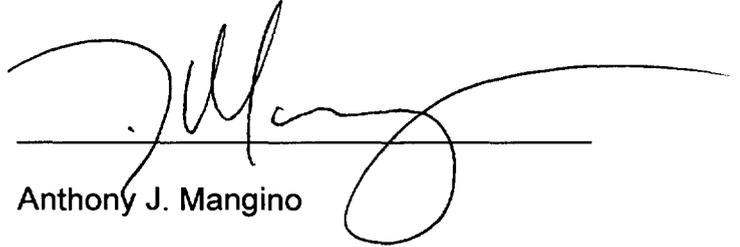
State	Total Support for 100% CBGs *	Total Support for Bottom 90%	% Difference (100%-90%)/100%	Total Support for Bottom 70%	% Difference (100%-70%)/100%	Total Support for Bottom 50%	% Difference (100%-50%)/100%
Vermont							
\$40 benchmark	\$35,858,893	\$32,685,777	8.8%	\$24,752,762	31.0%	\$16,816,312	53.1%
\$30 benchmark	\$51,951,872	\$46,883,995	9.8%	\$34,940,866	32.7%	\$23,580,297	54.6%
\$20 benchmark	\$72,293,239	\$64,524,458	10.7%	\$47,692,436	34.0%	\$32,286,176	55.3%
HH Income	\$29,792	\$40,625		\$32,436		\$28,687	
Virginia							
\$40 benchmark	\$99,618,917	\$98,929,941	0.7%	\$88,177,839	11.5%	\$66,910,433	32.8%
\$30 benchmark	\$188,054,501	\$183,948,384	2.2%	\$157,874,688	16.0%	\$115,073,395	38.8%
\$20 benchmark	\$377,184,292	\$352,557,139	6.5%	\$280,475,018	25.6%	\$194,133,913	48.5%
HH Income	\$33,328	\$57,273		\$37,467		\$28,250	
Washington							
\$40 benchmark	\$76,625,819	\$75,376,447	1.6%	\$67,485,025	11.9%	\$52,213,427	31.9%
\$30 benchmark	\$131,124,036	\$125,492,230	4.3%	\$106,923,569	18.5%	\$77,505,072	40.9%
\$20 benchmark	\$279,458,573	\$255,546,319	8.6%	\$201,634,397	27.8%	\$137,178,995	50.9%
HH Income	\$31,183	\$47,574		\$38,719		\$30,515	
W. Virginia							
\$40 benchmark	\$96,501,878	\$93,716,019	2.9%	\$80,700,189	16.4%	\$60,928,788	36.9%
\$30 benchmark	\$145,860,346	\$139,234,319	4.5%	\$116,638,074	20.0%	\$86,007,793	41.0%
\$20 benchmark	\$214,204,712	\$200,089,520	6.6%	\$163,064,767	23.9%	\$117,928,734	44.9%
HH Income	\$20,795	\$31,354		\$23,750		\$19,907	
Wisconsin							
\$40 benchmark	\$107,453,939	\$104,539,244	2.7%	\$89,461,090	16.7%	\$67,391,924	37.3%
\$30 benchmark	\$187,480,245	\$176,408,539	5.9%	\$142,686,775	23.9%	\$102,579,273	45.3%
\$20 benchmark	\$343,209,336	\$312,836,320	8.8%	\$240,846,022	29.8%	\$166,029,406	51.6%
HH Income	\$29,442	\$43,375		\$33,250		\$28,113	
Wyoming							
\$40 benchmark	\$27,183,736	\$24,692,360	9.2%	\$17,248,586	36.5%	\$11,553,327	57.5%
\$30 benchmark	\$35,529,658	\$32,099,703	9.7%	\$21,908,201	38.3%	\$14,497,327	59.2%
\$20 benchmark	\$50,296,544	\$45,096,984	10.3%	\$30,377,360	39.6%	\$19,642,193	60.9%
HH Income	\$27,096	\$41,442		\$30,441		\$24,635	
Entire US:							
\$40 benchmark	\$4,268,662,622	\$4,122,692,060	3.2%	\$3,477,992,716	18.3%	\$2,451,285,341	42.4%
\$30 benchmark	\$7,424,606,733	\$7,012,037,730	5.6%	\$5,658,661,456	23.8%	\$3,860,898,448	48.0%
\$20 benchmark	\$14,664,182,818	\$13,352,047,237	8.9%	\$10,195,898,803	30.5%	\$6,763,365,941	53.9%
*Note: Household income at the 100% level is the median income for that state.							
At the 90%, 70%, and 50% levels, the household income is the highest income in that bracket.							
Sources: BCM2, 1990 Census of Population and Housing Summary Tape File 3A							

Analysis of High Cost Support at Selected Income Levels

State	Total Support for 100% CBGs *	Total Support for Bottom 90%	% Difference (100%-90%)/100%	Total Support for Bottom 70%	% Difference (100%-70%)/100%	Total Support for Bottom 50%	% Difference (100%-50%)/100%
Minnesota							
\$40 benchmark	\$125,519,746	\$124,006,166	1.2%	\$114,743,408	8.6%	\$87,825,843	30.0%
\$30 benchmark	\$192,788,716	\$187,646,156	2.7%	\$166,474,499	13.6%	\$124,241,450	35.6%
\$20 benchmark	\$329,231,659	\$308,291,331	6.4%	\$253,399,823	23.0%	\$182,516,926	44.6%
HH Income	\$30,909	\$48,750		\$35,282		\$28,036	
Mississippi							
\$40 benchmark	\$92,713,783	\$89,987,899	2.9%	\$75,324,097	18.8%	\$51,932,598	44.0%
\$30 benchmark	\$157,912,848	\$149,651,058	5.2%	\$121,885,589	22.8%	\$82,448,821	47.8%
\$20 benchmark	\$253,971,695	\$234,493,387	7.7%	\$186,111,878	26.7%	\$126,135,225	50.3%
HH Income	\$20,136	\$33,125		\$23,194		\$18,920	
Missouri							
\$40 benchmark	\$175,081,457	\$172,514,535	1.5%	\$151,478,675	13.5%	\$108,563,900	38.0%
\$30 benchmark	\$256,868,861	\$249,315,074	2.9%	\$212,068,172	17.4%	\$149,705,764	41.7%
\$20 benchmark	\$423,818,132	\$391,240,470	7.7%	\$312,841,063	26.2%	\$216,068,718	49.0%
HH Income	\$26,362	\$41,027		\$29,228		\$22,679	
Montana							
\$40 benchmark	\$55,338,185	\$50,958,921	7.9%	\$39,833,923	28.0%	\$27,335,944	50.6%
\$30 benchmark	\$72,177,350	\$68,169,948	8.3%	\$50,898,687	29.5%	\$34,222,707	52.6%
\$20 benchmark	\$99,429,580	\$90,183,247	9.3%	\$68,333,778	31.3%	\$45,188,978	54.6%
HH Income	\$22,988	\$35,000		\$28,750		\$22,135	
Nebraska							
\$40 benchmark	\$71,445,601	\$70,249,030	1.7%	\$57,910,010	18.9%	\$41,198,819	42.3%
\$30 benchmark	\$98,355,252	\$96,408,092	3.0%	\$78,488,365	21.0%	\$55,727,021	43.9%
\$20 benchmark	\$149,255,436	\$139,449,430	6.6%	\$110,340,278	26.1%	\$77,076,289	48.4%
HH Income	\$26,016	\$39,769		\$28,438		\$23,750	
Nevada							
\$40 benchmark	\$34,196,875	\$32,222,047	5.8%	\$26,893,125	21.4%	\$19,538,804	42.9%
\$30 benchmark	\$47,574,874	\$44,157,121	7.2%	\$35,088,855	26.2%	\$24,637,007	48.2%
\$20 benchmark	\$83,727,699	\$77,672,376	7.2%	\$59,151,907	29.4%	\$39,822,845	52.4%
HH Income	\$31,011	\$50,498		\$38,659		\$31,023	
New Hampshire							
\$40 benchmark	\$38,727,493	\$36,156,715	6.6%	\$28,218,719	27.1%	\$16,836,050	57.0%
\$30 benchmark	\$65,434,007	\$59,411,365	9.2%	\$44,744,228	31.6%	\$28,860,215	55.9%
\$20 benchmark	\$108,138,535	\$94,723,041	10.8%	\$70,122,850	33.9%	\$44,863,394	57.7%
HH Income	\$36,329	\$52,177		\$40,417		\$34,375	
New Jersey							
\$40 benchmark	\$17,362,688	\$16,223,341	6.6%	\$10,976,443	36.8%	\$5,777,982	66.7%
\$30 benchmark	\$60,829,712	\$54,873,352	10.1%	\$36,842,883	39.8%	\$20,081,778	67.0%
\$20 benchmark	\$233,915,933	\$208,902,505	11.5%	\$143,244,508	38.8%	\$86,513,583	63.0%
HH Income	\$40,927	\$68,043		\$50,305		\$40,383	
New Mexico							
\$40 benchmark	\$65,874,198	\$63,073,987	4.0%	\$53,661,471	18.3%	\$41,588,961	36.7%
\$30 benchmark	\$88,829,008	\$84,080,997	5.3%	\$69,902,719	21.3%	\$52,731,102	40.6%
\$20 benchmark	\$135,988,308	\$125,241,825	7.9%	\$100,139,007	26.4%	\$71,898,392	47.1%
HH Income	\$24,087	\$39,896		\$27,321		\$21,463	
New York							
\$40 benchmark	\$168,623,794	\$163,102,380	2.1%	\$151,938,872	8.8%	\$115,217,851	30.9%
\$30 benchmark	\$307,187,687	\$292,289,169	4.9%	\$255,691,018	16.8%	\$181,425,594	40.9%
\$20 benchmark	\$859,610,412	\$801,668,244	8.8%	\$474,148,384	28.1%	\$318,300,649	52.0%
HH Income	\$32,965	\$58,827		\$42,000		\$32,292	
North Carolina							
\$40 benchmark	\$142,022,304	\$139,812,182	1.6%	\$117,842,042	17.0%	\$84,514,709	40.5%
\$30 benchmark	\$282,980,936	\$271,445,358	4.1%	\$216,274,808	23.6%	\$148,799,552	47.4%
\$20 benchmark	\$529,685,378	\$488,487,059	7.8%	\$372,759,555	29.6%	\$251,830,093	52.5%
HH Income	\$26,847	\$40,257		\$29,850		\$25,062	

CERTIFICATE OF SERVICE

I, Anthony J. Mangino, hereby certify that on this the 13th day of January, 1999, true and correct copies of the foregoing "Reply Comments of the Ad Hoc Telecommunications Users Committee" in CC Dkt. No. 96-45 were served by hand delivery, on the persons on the attached service list.



Anthony J. Mangino