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

In the Matter of	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
Forward-Looking Mechanism for High Cost Support for Non-Rural LECs	)	CC Docket No. 97-160
	)	DA 98-848

COMMENTS OF AT&T CORP. AND MCI TELECOMMUNICATIONS CORPORATION ON DESIGNATED INPUT AND REVENUE BENCHMARK ISSUES

David L. Lawson
Scott M. Bohannon
1722 I Street, N.W.
Washington, D.C. 20006
(202) 736-8034

Mark C. Rosenblum
Peter H. Jacoby
Room 3245H1
295 North Maple Avenue
Basking Ridge, New Jersey 07920
(908) 221-2631

Attorneys for AT&T Corp.

Chris Frentrup
Senior Economist
1801 Pennsylvania Avenue, N.W.
Washington, D.C. 20006
(202) 887-2731

Senior Economist for MCI Telecommunications Corporation

June 1, 1998

TABLE OF CONTENTS

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

In the Matter of	)	
Federal-State Joint Board on Universal Service	)	CC Docket No. 96-45
Forward-Looking Mechanism for High Cost Support for Non-Rural LECs	)	CC Docket No. 97-160
	)	DA 98-848

COMMENTS OF AT&T CORP. AND MCI TELECOMMUNICATIONS CORPORATION ON DESIGNATED INPUT AND REVENUE BENCHMARK ISSUES

Pursuant to the Commission's Public Notice,[1] AT&T Corp. ("AT&T") and MCI Telecommunications Corporation ("MCI") hereby submit their joint comments on the designated input and revenue benchmark issues.

INTRODUCTION AND SUMMARY

Through multiple rounds of comments and reply comments last fall AT&T and MCI exhaustively demonstrated the efficacy of the Hatfield Model's key default input values.[2] Since

[1] Public Notice, Common Carrier Bureau Requests Further Comment On Selected Issues Regarding The Forward-Looking Economic Cost Mechanism For Universal Service Support, DA 98-848 (rel. May 4, 1998) ("Notice").

[2] *See Federal-State Joint Board on Universal Service*, "Comments of AT&T Corp. and MCI Telecommunications Corporation on Designated Input and Platform Issues," CC Docket Nos. 96-
(continued . . .)

then, AT&T and MCI have submitted two successive updated editions of the "Hatfield/HAI Input Portfolio," which provide additional explanation and support for hundreds of default inputs.[3] AT&T and MCI have also demonstrated the accuracy and reliability of the HAI model and its inputs through numerous *ex parte* filings and meetings with Commission staff members during the same period. Where appropriate, AT&T and MCI have modified the HAI model and its inputs to reflect additional guidance from the Commission and its staff.

Most of the arguments and evidence presented by the HAI sponsors in support of these input values have never been refuted. Moreover, the sponsors of the BCPM and HCPM failed to defend or even comment on the vast majority of their models' input values, an omission that has prevented other parties from scrutinizing these assumptions and data sources, and delayed the resolution of this proceeding. And the BCPM and HCPM supporters appear not to recognize and correct documented and fundamental flaws in the inputs and assumptions of those models. As a result, the quality gap between the HAI model and the other models under consideration has only widened.

(. . . continued)
45, 97-160 (October 17, 1997); *Federal-State Joint Board on Universal Service*, "Comments of AT&T Corp. and MCI Telecommunications Corporation on Designated Input and Platform Issues," CC Docket Nos. 96-45, 97-160 (October 27, 1997). AT&T and MCI incorporate by reference those comments and reply comments as well as the additional comments and reply comments they submitted on August 8, 1997, August 18, 1997, September 2, 1997, September 10, 1997, September 24, 1997, and October 3, 1997.

[3] *See* Ex Parte Letter from Richard N. Clarke, AT&T, to Magalie Roman Salas, Secretary, FCC, December 11, 1997, in CC Docket No. 96-45 ("Dec. 11, 1997 Ex Parte Letter") (HIP 5.0); Ex Parte Letter from Mr. Clarke to Ms. Salas, February 6, 1998, in CC Docket No. 96-45 (Feb. 6, 1998 Ex Parte Letter") (HIP 5.0a). The HIP 5.0a was also filed via Ex Parte Letter from Chris Frentrup, MCI, to Ms. Salas on February 18, 1998.

As these comments explain, the HAI Model is the only cost mechanism that uses geocode data on customer locations. In an environment in which the debate has shifted from whether or not geocode data should be used to which *type* of geocode data to use, the BCPM and HCPM can no longer be considered viable candidates. As demonstrated below, geocode data provide the most accurate approach to identifying customer locations, and those data are available from multiple sources, including the global positioning system ("GPS") data referenced in the Notice. The HAI model can easily use GPS, along with other geocode data, if properly documented.

These comments also demonstrate that the HAI model: (i) includes sufficient line card costs for copper loops over 12,000 feet in length; (ii) defines households in a manner that ensures the number of residential lines in a study area equals the number of lines actually in service, and reflects the geographic scope of an network appropriate to provide universal service; (iii) employs forward-looking depreciation lives that properly reflect expectations of future competition, future changes in asset prices, and future service mixes; and (iv) produces accurate outside plant cost installation estimates that reflect regional installation cost differences and that are further validated by Dr. David Gabel's analyses of rural cost data. By contrast, the BCPM continues to inflate costs by specifying unnecessarily expensive line cards, mixing different and inconsistent household definitions, significantly and unjustifiably shortening asset lives, and using inflated outside plant cost inputs.

The Commission's deadline for selecting a forward-looking cost mechanism is approaching quickly, and industry participants need to know how universal service costs will be estimated. The record in this proceeding leaves no doubt that the HAI model provides the best vehicle for ascertaining those costs and should be adopted as soon as possible.

Finally, use of a revenue benchmark proposed by the Commission is appropriate. A universal service subsidy should be the *minimum* amount needed to encourage carriers to serve high cost areas. In deciding whether to serve an area, a carrier will rationally consider *all* present and anticipated sources of revenue that are related to the supply of local service. Similarly, in determining affordability, customers will consider the sum of all their telephone costs.

I. INPUT ISSUES

A. Collection And Use Of Geocode Data Is The Most Affordable and Accurate Method For Estimating Customer Location.

The Commission seeks comment on alternative sources of geocode data, or databases that could be used to develop geocode data for use in 1999, specifically asking whether the benefits of a Global Positioning System ("GPS") approach outweigh the burdens. Notice at 4. Without question, geocode data are the most accurate and useful customer location information for estimating the cost of serving customers in a particular geographic area, especially as compared to the flawed "grid cell" approach advocated by the BCPM sponsors. *See Federal-State Joint Board on Universal Service*, "Reply Comments of AT&T Corp. and MCI Telecommunications Corporation on Customer Location Issues," CC Docket Nos. 96-45, 97-160 at 3-8 (filed Sept. 10, 1997).[4] The Commission should therefore give primacy to obtaining as much geocode data as possible, and to ensuring that the selected cost model is capable of employing those data to produce accurate cost estimates.

The HAI model's customer location algorithms are flexible and can use multiple types of geocode data -- so long as the methods used to collect the different data sets are thoroughly

[4] While a grid cell approach is also used by the HCPM, its sponsors appear to agree that a geocode approach would be preferable.

documented to permit appropriate adjustments to reflect any potential differences in location measurement conventions.[5] Thus, if GPS geocode data of sufficient quality are available, they certainly could (and should) be used to augment the street address-based geocode data currently used in the HAI model. Indeed, in the long term, GPS geocode data could eventually supplant other geocode data entirely if those data ultimately prove more accurate and complete. In the interim, however, AT&T and MCI believe that the street address-based geocode data currently used in the HAI is the best data set currently available and should be used for the areas it covers. Certainly, the selection of a cost model need not and should not be delayed pending acquisition, testing and implementation of a full-blown GPS approach.

Whatever geocode approach the Commission adopts, however, it is critical that the Commission both acknowledge that different geocode data sets may use different measurement conventions, and insist that its selected model be flexible enough to use these data accurately to count, locate and cluster customer locations. Only models that make consistent use of these data are appropriate. The HAI Model is the only model that now does so.

B. The Cost Of A Line Card Used For A Loop 12,000 To 18,000 Feet Long Does Not Differ Significantly From The Cost Of A Line Card Used To Serve Loops Under 12,000 Feet.

The Commission seeks comment on the type and cost of line cards required for copper loops with lengths between 12,000 and 18,000 feet from a DLC remote terminal. Notice at 4. The *standard* line card assumed by the HAI model is adequate for copper loop lengths up to 17,600 feet. *See* Alabama Public Service Commission Docket 25980 (Rebuttal Testimony of

---

[5] For example, the geocode for a location may map to the street centerline, curb, an offset from the centerline, or the actual structure. The PNR and HAI processes can accommodate these conventions if they are known and documented.

John C. Donovan) (Alabama PSC, filed Feb. 13, 1998) (attached as Appendix A hereto). This is because signal loss on customer lines driven by DSC Litespan-2000 RPOTS cards (the line cards assumed by both the BCPM and the HAI models) does not exceed 6.5 dB until the copper loop reaches 17,600 feet.[6] *Id.* The engineering algorithms employed in the HAI model generally limit the maximum copper loop length to approximately 17,700 feet.[7] *Id.* at 8. Thus, no adjustment to the inputs or algorithms of the HAI model is necessary to estimate line card costs accurately.[8]

C. The HAI Model Appropriately Identifies "Households."

The Notice seeks "comment on the appropriate universe of 'households' that should be assumed for purposes of calculating the forward-looking cost of providing the supported services: total housing units (occupied and unoccupied), total households (housing units that are occupied), or households with telephones." Notice at 5. This definitional choice, coupled with its appropriate *implementation* in the calculation of average basic service costs, plays an important role in accurate universal service cost estimation.

---

[6] Even longer functional copper loops are possible, but the 6.5 dB threshold is a standard industry threshold for IDLC loops.

[7] *See* Hatfield Model Release 5.0 Model Description at 28 n.33 ("Because the rasterization into 150 foot square cells may cause customer locations that actually are in the farthest corner of a cell to be considered at the cell's center, the clustering algorithm will actually check to ensure that no cells added to a cluster exceed 17,700 (18,000 - (2 x 150)) feet from the centroid"). The HAI model's Distribution Module further checks that no analog copper loops are engineered exceeding a user-adjustable threshold that defaults to 18,000 feet.

[8] There may be a very few instances in which the modelled loop length lies between 17,600 and 17,700 feet. As a practical matter, however, because there will be so few such instances and because the cost of the line card required for this additional distance is only 25% more than the cost of the standard line card used by the HAI model (and because a standard line card could, in fact, provide adequate service at 17,700 feet), no adjustment is necessary.

In these regards, it is critical that the Commission recognize that there are two important dimensions to the "household" definition: (1) the size or "depth" of the network to be modeled, and (2) the geographic scope of the network. The cost model's approach to households should properly reflect both criteria by (1) sizing the modeled network to match the current number of lines deployed in a study area; and (2) geographically "scoping" the network to reach all areas currently served by the network (i.e., households with telephones). Only the HAI model accomplishes both steps.

The HAI model approach ensures that the number of residential lines used in the cost estimation process equals the number of residential lines reported by the incumbent LEC in the relevant area.[9] The HAI model extracts address and telephone number data from the Metromail residential database. This database, which is updated continuously, contains over 90 percent of all household addresses in the United States. These Metromail data on household address counts are then compared to Claritas' household projections by Census Block Group ("CBG"). The HAI model selects the greater of the Metromail counts and Claritas projections.[10] PNR then uses its models to project first and second line penetration at these residential locations.

With respect to the second criterion – the scope of the households included in cost calculation – the HAI model performs extremely well, modeling facilities to *every* census block in

---

[9] The sources of data used in the HAI 5.0 Model to determine the number of residential and business customers is fully documented in the Model Descriptions filed December 11, 1997, and in the February 6, 1998. *See* Ex Parte Letters from Richard N. Clarke, AT&T, to Magalie Roman Salas, Secretary, FCC, December 11, 1997 and February 6, 1998, in CC Docket No. 96-45.

[10] If the Claritas projections are used, the difference at the CBG level between Metromail and Claritas is apportioned among Census Blocks, the constituents of CBGs, in proportion to 1990 Census household distributions.

which a household with telephone service is projected. Indeed, because PNR projects non-negative telephone penetration in almost 100 percent of all Census Blocks with households, the HAI model essentially constructs plant in every populated Census Block. The geographic dispersion of customer locations reflected in the HAI Model is thus likely greater than the actual dispersion of customers who receive telephone service. Nonetheless, as demonstrated below, the HAI Model overstates costs to a much smaller degree than the competing models.

These residential line counts by census block ("CB") are then normalized so that they will sum to the study area wide line counts provided by the incumbent LECs. In other words, because the lines and locations are projected in each CB with households, and because those figures are then normalized to the study area totals, the total number of customer locations and lines reflected in the HAI Model are consistent, both in number and in geographic scope, to current household units with telephones.

Although the HAI model methodology of counting and locating lines is already highly accurate, it would also be appropriate for the Commission to require all ILECs to report their own wire center boundary lines, and customer location and line counts within those boundaries. If the Commission follows this course, however, it should be mandatory for all ILECs. Otherwise, ILECs would have an incentive to provide this information only when their specific data would increase universal service costs estimates.

In contrast to the HAI Model approach, the BCPM approach is overstated and internally inconsistent by failing to reconcile the sizing and geographic scoping dimensions of the household problem. The BCPM models a network to *all* housing units, regardless of whether they are occupied or have telephone service, and then estimates the per line cost by dividing this inflated

total cost only by the number of households with telephones. Clearly, this technique of improperly mixing household definitions inflates the cost of serving each household that has a telephone to cover the full cost of providing loops to houses that have neither inhabitants nor telephones. Moreover, as the BCPM sponsors have conceded, many households without telephones are located in remote rural areas,[11] and incumbent LECs generally charge substantial connection, or loop deployment, fees to connect such locations to the local network.[12] Further, if and when such households order telephone service, they will not receive service for free -- they will pay the same connection and recurring charges as other subscribers. The BCPM approach thus clearly would produce double recovery of the costs of serving households without telephones -- once through a subsidy based on the LEC's cost of serving only customers *with* telephones, and again through connection and recurring charges should households without telephones ever order service. The pitfalls of this approach are well illustrated by the fact that BCPM projects "forward-looking" costs that frequently exceed incumbents' bloated embedded costs. For these and other reasons, several states have directed that the cost models should build only to housing

---

[11] The Notice seeks comment on the "*HAI proponents'* assumption that uninhabited housing unites or households without telephones are more likely to be located in remote areas than households with telephones." Public Notice at 5 (emphasis added). In fact, it is the BCPM sponsors who made this statement, in an attempt to explain why their purportedly forward-looking cost model may generate costs in excess of historic costs. AT&T and MCI merely cited this language in an ex parte letter to the Commission. *See* presentation of Sprint witness James Dunbar to Pennsylvania Public Utility Commission (quoted in AT&T & MCI, *Modeling Customer Location: Hatfield 5.0 vs. BCPM3* (Dec. 1997) at 2-3).

[12] *See, e.g., Federal-State Joint Board on Universal Service*, "Proposal of the Arizona Corporation Commission for Distribution of Federal USF Funds to Establish Service to Low-Income Customers in Unserved Areas, or in the Alternative, for Amendment of the May 8, 1997 Report and Order to Provide for Federal USF Distribution for this Purpose," CC Docket Nos. 96-45, 97-160 (April 27, 1998). Incumbent LECs' tariffs generally do not require them to offer service to any housing unit that does not already have a loop running to it.

units with telephones.[13] The Commission should likewise reject the BCPM proponents' invitation to base universal service subsidies on a network with a geographic scope that is way beyond the scope not only of their current networks but of the networks they are willing to bear the expense to build.

D. The HAI Model Uses Forward-Looking Depreciation Lives.

The HAI default depreciation values are the weighted average depreciation lives and net salvage percentages from 76 study areas, which include all of the BOCs, SNET, Cincinnati Bell, and several GTE and United companies.[14] Weighting is based on total lines per operating company. These lives and salvage values are determined in a triennial review, conducted with input from the incumbent LEC, the FCC, and the relevant state commission. In particular, these values are set considering both the incumbent LEC's recent experience in retiring plant, and its projected plans for future retirements. As such, they represent the best forward-looking estimates of depreciation lives and net salvage percentages – a conclusion recently confirmed by many state commissions in establishing forward-looking cost-based unbundled network element charges.[15]

---

[13] *See In re Develoment of Rules and Regulations Applicable to the Entry and Operations of, and the Providing of Services By, Competitive and Alternative Access Providers in the Local, Intralstate and/or Interexchange Telecommunications Market in Louisiana*, Docket U-20883, Staff Recommendation at 17 n.12 (Feb. 20, 1998) ("Staff believes that the implicit assumption that universal service funding should include the cost to serve the entire population is without merit and would overcompensate BellSouth for its universal service obligation."); *Minnesota USF Case* ¶¶ 151-55.

[14] The depreciation lives and net salvage percentages used as defaults in the HAI model are documented in Section 5.2 of the Inputs Portfolio. See Dec. 11, 1997 Ex Parte Letter and Feb. 6, 1998 Ex Parte Letter, *supra*.

[15] *See, e.g., In re Establishment of Universal Support Mechanisms Pursuant to Section 254 of the Telecommunications Act of 1996*, N.C. Utils. Comm. Docket No. P-100 (Sub 133b) (April 20, 1998) (adopting BCPM, but changing depreciation lives to comply with FCC lives); *MFS Communications Company, Inc., Petition for Arbitration with Southwestern Bell Telephone* (continued . . .)

The BCPM proponents and other incumbents nonetheless have suggested three factors that they claim might require adjustment to the Commission's forward-looking depreciation lives: (i) potential or actual competition; (ii) changes in asset prices over time; and (iii) the desire to introduce new services. Notice at 7. No such adjustments are warranted. First, the depreciation lives and net salvage percentages set in the triennial reviews already reflect the forward-looking expectations of incumbents, the Commission, and state commissions regarding these three factors. Consequently, it is both unnecessary and inappropriate for the Commission to unilaterally re-address, in the context of a Universal Service proceeding -- without the benefit of the extensive

---

(. . . continued)
Company, Case No. TO-97-23, "Arbitration Order" at 8 (Missouri PSC, November 6, 1996) (Very aggressive depreciation schedules which contain very short asset lives and low to negative salvage values should not be adopted); *Petition of AT&T for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and GTE; Petition of MCI for Arbitration and Mediation of Unresolved Interconnection Issues with GTE*, No. 16300, Arbitration Award at 118 (Texas P.U.C. Dec. 12, 1996) ("[I]t is appropriate for GTE to use depreciation parameters most recently prescribed by the FCC."); *Joint Complaint of AT&T Communications of New York, Inc., MCI Telecommunications Corporation, WorldCom, Inc. d/b/a LDDS WorldCom and the Empire Association of Long Distance Telephone Companies, Inc. against New York Telephone Company Concerning Wholesale Provisioning of Local Exchange Service by New York Telephone Company and Sections of New York Telephone Company's Tariff No. 900*, Case 95-C-0657, Opinion No. 97-2, "Opinion and Order Setting Rates for First Group of Network Elements" at 52 (New York Pub. Serv. Comm'n Apr. 1, 1997) (The depreciation rates should be those most recently prescribed for New York Telephone itself); *Consolidated Petitions of New England Telephone and telegraph Company d/b/a NYNEX, Teleport Communications Group, Inc., Brooks Fiber Communications, AT&T Communications of New England, Inc., MCI Communications Company, and Sprint Communications Company, L.P., pursuant to Section 252(b) of the Telecommunications Act of 1996, for arbitration of interconnection agreements between NYNEX and the aforementioned companies*, D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94 - Phase 4 Order at 54, 56 (Mass. Dept. of Pub. Utils. Dec. 4, 1996) ("[T]he projection lives prescribed by the FCC in its last represcription of NYNEX's depreciation rates are the kind of forward-looking projection lives required in a TELRIC study. Accordingly, we direct that these lives, rather than those used in either the NYNEX model or the Hatfield model, be incorporated into NYNEX's compliance filing when calculating the rates for unbundled network elements using the NYNEX TELRIC model.").

triennial collaborative process -- supposed unanticipated effects of competition, asset prices changes, or the introduction of new services. If adjustments are warranted in the future, they should and will be made through the collaborative effort of the incumbent LECs, the FCC, and the state commissions.

Second, there is no evidence that competition has caused, or is likely to cause, a decline in demand for the incumbent LECs' networks. Despite ILEC claims that they already face substantial competition, ILEC line counts have continued to grow at a healthy pace. Indeed, if competition does eventually arrive, ILEC line growth likely will continue because entrants initially will lease incumbent LEC facilities or resell incumbent LEC services. Each of these entry vehicles requires the entrant to use the incumbent LEC's lines and other physical plant. Only widespread, large-scale facilities-based competition could result in idle incumbent LEC plant. And even in the case of facilities-based competition, competition most likely will reduce prices and increase incumbent LECs' total demand, just as AT&T's market share fell, but its total traffic volume rose in the long distance market following the divestiture of the regional Bell operating companies. These factors, coupled with the creation of the new universal service fund, which will virtually guarantee incumbent LEC cost recovery in high cost areas, significantly reduce and possibly eliminate altogether any financial risk associated with idle facilities as a result of competition. Hence, it is quite possible that truly forward-looking depreciation rates are lower, not higher, than those currently approved by the Commission and state regulators.

Third, the competitive and other financial risks the incumbents identify are already more than compensated for in the overly generous 11.25% cost of capital the Commission apparently plans to use in universal service cost models. The HAI Model sponsors have submitted data

showing the incumbent LECs' cost of capital is only 10.01 percent, not the current 11.25 percent federal rate of return the Commission has advocated for use in universal service cost estimation.[16] And state commissions resolving cost of capital issues in recent interconnection agreement arbitrations -- and considering the very same competitive issues the incumbents have raised here -- have determined that even lower costs of capital are appropriate.[17]

---

[16] *See Federal -State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order served May 8, 1997 at ¶ 250(4).

[17] *See, e.g., In the Matter of the Application of Bell Atlantic-Delaware, Inc. for Approval of its Statement of Terms and Conditions under Section 252(f) of the Telecommunications Act of 1996*, Docket No. 96-324, Interlocutory Order No. 4488 at 3 (PSC of Delaware, Apr. 29, 1997) (10.28%); *In re U S West Communications, Inc.*, Docket No. RPU-96-9, Final Decision & Order (Iowa Dept. of Commerce Utils. Board, Apr. 23, 1998), p. 22; *Consolidated Petition of AT&T Communications of the Southwest, Inc., and MCI Telecommunications Corporation and its Affiliates, including MCImetro Access Transmission Services, Inc., for Arbitration with Southwestern Bell Telephone Company*, Case Nos. TO-97-40 and TO-97-67 at 6-7 (Missouri Public Service Commission, December 11, 1996) (10.03%); *Petition of AT&T for Compulsory Arbitration to Establish an Interconnection Agreement between AT&T and GTE; Petition of MCI for Arbitration and Mediation of Unresolved Interconnection Issues with GTE*, No. 16300, Arbitration Award at 116-17 (Texas P.U.C. Dec. 12, 1996) (10.58%); *Joint Complaint of AT&T Communications of New York, Inc., MCI Telecommunications Corporation, WorldCom, Inc. d/b/a LDDS WorldCom and the Empire Association of Long Distance Telephone Companies, Inc. against New York Telephone Company Concerning Wholesale Provisioning of Local Exchange Service by New York Telephone Company and Sections of New York Telephone Company's Tariff No. 900*, Case 95-C-0657, Opinion No. 97-2, "Opinion and Order Setting Rates for First Group of Network Elements" at 43 (New York Pub. Serv. Comm'n Apr. 1, 1997) (10.2%); *In the Matter of the Interconnection Contract Between AT&T Communications of the Mountain States, Inc., and GTE Southwest, Inc., Pursuant to 47 U.S.C. § 252*, Findings of Fact, Conclusions of Law and Order, Docket No. 97-35-TC at 13 (N.M. State Corp. Comm'n Sept. 19, 1997) (10.72%); *Petition of MFS Communications, et al.*, "Arbitration Award," Docket Nos 16189, 16196, 16226, 16285, 16290 at 32 (PUC of Texas, Nov. 7, 1996) (10.36%); *Ex Parte to Determine prices Bell Atlantic-Virginia, Inc. is authorized to charge Competitive Local Exchange Carriers in Accordance with the Telecommunications Act of 1996 and Applicable State Law*, Order, Case No. PUC9970005 at 6 (State Corp. Comm. of Virginia, May 22, 1998) (10.12%).

Fourth, the incumbent LECs' desires to introduce new services should not affect the depreciation lives used in calculating universal service costs. Those new services should be able to cover their own costs, without raising the cost of existing services. In other words, basic telephone service customers should not face increased costs simply because incumbent LECs wish to earn greater profits by offering new services such as broadband that may require early retirement or augmentation of perfectly efficient narrow-band capable equipment. If anything, universal service costs should *fall* with the introduction of new services because potential economies of scope will be enhanced. Indeed, forcing entrants to pay higher universal service contributions whenever the incumbent LEC introduces or considers introducing new services would constitute an impermissible implicit subsidy of those services.

Finally, it is unnecessary to adopt the proposals of some industry participants to require the use of other than straight-line depreciation methods, with more depreciation costs taken in the earlier years. *See* Notice at 7. Because of its simplicity and ease of implementation, the straight-line method has been adopted by most state commissions addressing this subject in § 252 arbitrations. Moreover, all models' levelizing of the annual depreciation charges, taxes, and return on investment generally neutralizes the effect of accelerated vs. gstraight-line depreciation. Nevertheless, AT&T and MCI do not object to the use of accelerated depreciation if the tax savings are flowed through in determining the present value of the expected life-cycle tax liability. Indeed, a company would be expected to adopt accelerated depreciation only if it doing so would reduce the net present value of the company's anticipated costs over the full life cycle of the investment.

E. The Analysis Conducted By Dr. Gabel Supports The HAI Model's Cost Estimations Of Installing Outside Plant.

The Notice refers to an analysis of cable installation costs conducted by Dr. David Gabel based on data filed with the Rural Utilities Service ("RUS"), and seeks comment on the possible use of this data for non-rural companies. Notice at 7. Dr. Gabel's analysis encompasses a limited universe of cable installation costs because it focuses on rural areas and examines no cable sizes over 900 pair. Dr. Gabel's analysis thus is directly instructive only for determining non-rural carriers' costs of providing service in *rural* areas. In any event, his analysis validates the HAI model's cost estimates for rural areas. AT&T and MCI estimate that in most instances the HAI model rural cost estimates are within a few percent of the Gabel estimates. Indeed, the Gabel results generally track the HAI model estimates even when extrapolated to larger cable sizes and other conditions appropriate to non-rural areas.[18]

The Commission also asks whether it is appropriate to use a national composite rate for the costs of installing outside plant, or whether the rates should differ by state or region. Notice at 8. AT&T and MCI believe that a nationwide composite rate is more appropriate. First, costs appear to vary more with density -- i.e., whether the area is urban, suburban, or rural -- than with the state where the area is located. The HAI Model default values reflect these urban, suburban, and rural cost differences. In addition, the HAI model captures other state- and region-specific costs by accounting for different soil types and variations in expense levels reflecting differences in climate or other regional characteristics. For example, if Colorado has less ideal outside plant installation terrain than Iowa, so the HAI model will generate higher overall installation costs in

---

[18] The HAI Model's input values for the cost of installing outside plant are supported in the Inputs Portfolio previously filed in this docket. *See* Ex Parte Letter, Inputs Portfolio at Section 6.

Colorado than in Iowa. Further, the HAI model also produces results distinguishing between the higher installation costs in the mountainous regions of Colorado and the lower costs incurred in the high plains of eastern Colorado. By and large, though, many installation costs will be very similar from state to state. Many construction jobs are performed by contractors that operate nationally, an industry characteristic that levels many costs across the country. In any event, if an important difference in labor costs across states can be identified, the HAI Model is able to reflect that through its regional labor adjustment factor.

II. THE COMMISSION'S USE OF A REVENUE BENCHMARK IS APPROPRIATE.

A universal service subsidy should be the *minimum* amount necessary to encourage carriers to serve high cost areas while maintaining affordable basic rates. To accomplish this goal, the subsidy need be no higher than the difference between the expected costs of providing universal service and *all* revenues that can be expected from the facilities placed to provide that service when basic service is provided at affordable rates. In this regard, the Commission should not lose sight of the fact that investment in a local telephone network produces a valuable long-lived asset with an expected revenue stream from *multiple* current and future sources. History teaches that wireline connections to residences and businesses provide a delivery vehicle for myriad services, many of which are not even conceived when the facilities are placed. A carrier that establishes a wireline connection (i.e., access) to a customer -- high cost or otherwise -- knows that, and makes its investment decision on the basis of all expected revenues, including the expectation that the connection will provide an access delivery vehicle for future, and even currently nonexistent, revenue-producing services. The appropriate revenue benchmark,

consistent with the fundamental goal of setting subsidies at the minimum level necessary to encourage service, is thus an affordability target that approximates the expected revenues generated by local telephone assets when basic service rates are maintained at affordable levels.

To use a very simple example, the facilities used to serve a representative customer might be expected to generate $30 in basic service revenues and $10 in toll revenues. Absent any other revenues, the benchmark should be set at $40. Some parties have argued that toll revenues may fall or that the service mix may change, and thus that the Commission's $31/$51 benchmarks based on current revenues are too high. The conclusion does not follow from the premise. Certainly, the service mix may change, revenues from some sources may decrease, revenues from other sources may increase, and entirely new services may come on line. But the $31/$51 benchmarks merely use approximate current *revenues* -- including basic service set at affordable rates[19] -- as a proxy for future revenues; they do not suggest that service mixes will be the same. And both stock prices and recent acquisition activity of incumbent LECs demonstrate that expectations of the future revenue potential from local network facilities are, if anything, much higher than current revenues. Recent ILEC announcements concerning the provision of xDSL services over existing loops also demontrate that local and access revenues will continue to be robust. Indeed, AT&T and MCI submit that the $31/$51 benchmarks established by the Commission are, if anything, likely to be conservatively low. Moreover, speculation about revenue declines should not impact the *current* benchmarks – if such declines ever occur, the Commission can revisit the issue at that time.

---

[19] The Commission and the Joint Board already have determined that, based on the nationwide average, basic service rates are affordable.

By the same token, a benchmark based on total revenues currently received by the ILECs also provides assurance that telephone service prices (which provide these revenues) will be maintained at affordable levels because customers already have revealed their willingness to pay those prices.

Some also have suggested that the Commission's revenue benchmark's should exclude access revenues not because those revenues are extraneous to basic service, but because the universal service cost models are not configured to include the costs of building a network to provide access. This is simply untrue with respect to the HAI Model. Contrary to the Commission's statement in the Notice (at 9), the HAI Model (at the user's selection) *does* already compute and display all costs of providing access. [20]

[20] Moreover, the HAI model includes many costs necessary for providing other services like Call Waiting, Caller ID, and other CLASS services because those capability are built into the switches assumed by the model.

CONCLUSION

For the foregoing reasons, and those stated in the previous comments of AT&T and MCI, the Commission should adopt the HAI Model approach.

Respectfully submitted,

AT&T CORP.

/s/ Mark C. Rosenblum/dll
Mark C. Rosenblum
Peter H. Jacoby
Room 3245H1
295 North Maple Avenue
Basking Ridge, New Jersey 07920
(908) 221-4243

David L. Lawson
Scott M. Bohannon
1722 Eye Street N.W.
Washington, D.C. 20006
(202) 736-8034

Attorneys for AT&T Corp.

MCI Telecommunications Corporation

/s/ Chris Frentrup/dll
Chris Frentrup
Senior Economist
1801 Pennsylvania Avenue, N.W.
Washington, D.C. 20006
(202) 887-2731

Senior Economist for MCI Telecommunications Corporation

June 1, 1998

BEFORE THE

ALABAMA PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY

OF

JOHN C. DONOVAN

ON BEHALF OF

AT&T COMMUNICATIONS OF THE SOUTH CENTRAL STATES, INC.

DOCKET 25980

FILED: FEBRUARY 13, 1998

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is John C. Donovan and my business address is 11 Osborne Road, Garden City, New York 11530.

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am the President of Telecom Visions, Inc. Currently, I am providing telecommunications consulting services to AT&T concerning outside plant infrastructure design, construction and the costing aspects of the local loop.

Q. PLEASE DESCRIBE YOUR BACKGROUND AND EXPERIENCE.

A. I received a Bachelor of Science in Engineering from the United States Military Academy at West Point, an MBA from Purdue University, and completed the Executive Development Program at Penn State University.

I have 30 years of telecommunications experience. My last employment before forming Telecom Visions, Inc. was with the NYNEX Corporation, now known as Bell Atlantic-North. I retired from NYNEX after 24 years of experience in a variety of line and staff assignments, primarily in outside plant engineering and construction. That experience included everything from splicing fiber and copper cables, to heading an organization responsible for the procurement, warehousing,

and distribution of approximately $1 million per day in telecommunications equipment. I have had detailed hands-on experience in rural, suburban, and high density urban environments, consisting of assignments in Upstate New York for the northeastern portion of the state including the Adirondack Mountain area, in suburban Long Island, and in Midtown Manhattan. I spent several years on the corporate staff of NYNEX responsible for the development of all Methods and Procedures for Engineering and Construction within that company.

Additional information regarding my training and experience is included in the direct testimony that I submitted in this case.

Q. HAVE YOU PREVIOUSLY PRESENTED TESTIMONY BEFORE STATE REGULATORY COMMISSIONS?

A. Yes. I have testified on telecommunications issues at the FCC, and before regulatory commissions of several states, including Arizona, Colorado, Georgia, Louisiana, Maine, New Jersey, New York, Oklahoma, Pennsylvania, Texas, and Washington. In addition, as the chief engineering witness for AT&T, I provide engineering support for other witnesses involved in proceedings such as these.

Q. ARE YOU THE SAME JOHN DONOVAN WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON FEBRUARY 3, 1998.

A. Yes, I am.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of AT&T.

II. PURPOSE

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The purpose of my rebuttal testimony is to provide an analysis of the testimony submitted by BellSouth in this proceeding regarding the Benchmark Cost Proxy Model version 3.1 (BCPM).

III. SUMMARY OF FINDINGS:

Q. IN GENERAL, WHAT IS YOUR OPINION OF BCPM SUBMITTED BY BELLSOUTH IN THIS PROCEEDING.

A. In general, the proponents of BCPM have created a model that is inferior to the Hatfield Model ver. 5.0 (HM 5.0) in many ways. Any transport design should attempt to aggregate demand and transport it over a high capacity pipeline. BCPM breaks areas into tiny grids, serves them with many inefficiently deployed small digital loop carrier systems, each with multiple small Serving Area Interfaces. The BCPM model includes a significant number of technical engineering errors, that cannot be corrected by user inputs, and which result in