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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

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
Common Carrier Bureau Seeks Comment on Model Platform Development	)	DA 98-1587

REPLY COMMENTS OF AT&T CORP.
ON MODEL PLATFORM DEVELOPMENT ISSUES

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September 11, 1998

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REPLY COMMENTS OF AT&T CORP.
ON MODEL PLATFORM DEVELOPMENT ISSUES

Pursuant to the Commission's Public Notice,[1] AT&T Corp. ("AT&T") hereby submits its reply comments on the designated universal service cost model platform development issues.

INTRODUCTION

Three basic principles are confirmed in the comments submitted by various parties in response to the Commission's Notice. First, all parties agree that geocode data provide the best information regarding customer location and that the selected cost mechanism should incorporate actual customer locations in modeling outside plant costs. Second, despite ongoing debate about the optimal customer cluster formation, the overwhelming weight of the record evidence

[1] Public Notice, Common Carrier Bureau Seeks Comment on Model Platform Development, DA 98-1587 (rel. August 7, 1998) ("Notice").

supports the reasonableness of a customer clustering approach like that incorporated into the HAI Model. Third, there is universal agreement that while the Hybrid Cost Proxy Model ("HCPM") has significant potential, it still should be subject to the rigorous testing and public scrutiny before the Commission may conclude that it accurately estimates universal service costs.

I. THE COMMENTS CONFIRM THAT THE SELECTED COST MECHANISM SHOULD USE GEOCODE DATA SUPPLEMENTED WITH SURROGATE GEOCODE LOCATIONS ONLY WHERE GEOCODE DATA IS UNAVAILABLE.

As the Comments reveal, there is no remaining opposition to the use of geocode data because, as all parties acknowledge, geocode data indisputably are the best source of customer location information.[2] Nevertheless, a few parties continue to propose exceptions to the use of geocode data, some of which are so broad that, if adopted, they would effectively prevent their use. These arguments are without merit.

GTE (at 6) admits that geocode data are superior, but then proposes that the selected cost model exclude geocode data in smaller wire centers. GTE at 8. GTE may be correct that less geocode data may be available in smaller wire centers, but a customer location algorithm that uses actual geocode data where available and surrogate customer location in other instances is necessarily superior to an algorithm that always displaces actual customer locations with surrogate ones in those smaller wire centers.[3]

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[2] See, e.g., BellSouth Telecommunications, Inc., U S WEST, Inc., and Sprint Corporation ("BCPM Sponsors") at A-2; Maine at 2; BJA at 3; AT&T at 3; MCI at 5; GTE at 6; accord Maine PUC at 2.

[3] Despite GTE's unwillingness throughout this proceeding to provide data that would facilitate the development of universal service cost mechanisms, GTE (at 6) continues to complain that the PNR geocode data is not "open." That is false. In fact, GTE's own representatives have visited

(. . . continued)

The BCPM Sponsors make a similar, but even less tenable claim. Citing no support other than unnamed "GIS experts," the BCPM Sponsors assert that geocode data should be excluded altogether unless over 80 percent of the customers in a serving area have actual geocode locations. BCPM Sponsors at A-3. The BCPM Sponsors concede that the 80 percent figure has been plucked out of thin air with no "empirical support" (at A-3), and, in any event, this "throw out the baby with the bathwater" approach simply defies logic.

The BCPM sponsors also wildly overstate the case for their preferred surrogate approach. They fail to acknowledge, for example, that the Census Block boundaries that they oppose using in the surrogate process are likely to be roads, which they assert are good surrogates for customer locations. They also ignore the fact that PNR does place its surrogates uniformly on the boundaries starting from an arbitrary location that is random with respect to actual geocode points. Further, the BCPM Sponsors disregard the fact that it is not at all uncommon for multiple customers to exist at the same latitude and longitude location, e.g., office buildings and multifamily dwelling units. And it is truly ironic that the BCPM Sponsors who continue to harangue the HAI Model developers that geocodes within clusters should not be ignored, now propose expanded use of a surrogating methodology that would do just that. Id. at A-8. In short, the Commission should recognize the BCPM Sponsors' criticisms for what they are – baseless attempts by proponents of a model that does not use geocode data, to hamper other models that do use this information and to allow made-up data to trump actual data.[4]

(continued . . .)
PNR on three recent occasions – April 16, May 12, and May 13, 1998 – to examine the PNR data.

[4] The BCPM Sponsors also continue to insist that geocode data must account for unpopulated households. As an initial matter, households without people do not need universal service support. Local carriers should only be compensated for the universal service that they actually
(. . . continued)

Ben Johnson Associates ("BJA") contends that its white page geocode database is superior to the PNR database used by HAI because white page data are publicly available. BJA at 3. This is false. To begin with, the white page listings omit about 20 percent of all lines due to unpublished numbers or over twice as many locations as may be missing from the PNR MetroMail database. This lack of completeness is exacerbated by the absence of a numbered street addresses for many white page listings. Without street addresses, accurate geocode locations cannot be determined from the white pages. Obviously, then, the BJA white page database is far less comprehensive than the PNR database and BJA provides no quantitative statistics to contradict this.

Finally, Bell Atlantic's proposal (at 5) to apply a wire center-specific "road factor" is not supported by any quantitative analysis demonstrating either the need for such an adjustment or how its value should be determined. AT&T has shown previously that cluster sizes are already overstated due to use of surrogate points. See Ex Parte Letter by Richard N. Clarke, submitted June 22, 1998. Indeed, it is odd that Bell Atlantic is advocating an additional "road factor" multiplier when its own analysis of the HCPM suggests that that model already produces too much cable in the loop distribution. Bell Atlantic, simultaneously faults a model for producing too much outside plant and suggests that the Commission compound that error by further increasing the amount of outside plant cable.

In short, it is clear that the PNR geocode data are currently the best available. As better data emerge, the selected cost mechanism can incorporate that information. In the meantime, the

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(continued . . .)
provide. In all events, the PNR data do include addresses for many unpopulated houses and Census Block surrogates may reflect their remote locations.

Commission should not ignore the actual customer location data that do exist when the only alternatives are synthetic locations.

II. THERE IS VIRTUALLY NO OPPOSITION TO THE COMMISSION'S TENTATIVE CONCLUSION THAT THE SELECTED COST MODEL INCORPORATE A CUSTOMER CLUSTERING ALGORITHM.

Almost every commenter addressing customer location issues agrees that some form of adaptive clustering is superior to arbitrary gridding.[5] The BCPM Sponsors are the sole exception. AT&T will not repeat the arguments it has made on this issue in previous comments. It is clear, however, that here, as in their past arguments to the Commission, the BCPM Sponsors have drawn a specious conclusion.[6] The BCPM Sponsors (at A-8) suggest a cluster approach just as arbitrary as a grid approach. They note that a clustering approach can be sensitive to the "starting point" used in building a cluster. Specifically, a change in the starting point might result in two customers who are located side-by-side being located in the same cluster when one starting point is used and different clusters when another starting point is selected. But that is only likely to be true in the highest density areas, where clusters reach a limit in the number lines before they reach the maximum permissible area. In any event, the impact of this change in cluster boundaries is inconsequential when customers are packed very tightly together. In rural areas, cluster boundaries are much less sensitive to the starting point. By contrast, the grid approach is always completely arbitrary and may create significant cost estimation errors.

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[5] See, e.g., Bell Atlantic at 2; MCI at 6; AT&T at 4-5; BJA at 3; accord Maine PUC at 2.

[6] See, e.g., Federal-State Joint Board on Universal Service, Forward-Looking Mechanism for High Cost Support for Non-Rural LECs, CC Docket Nos. 96-45, 97-160, "Reply Comments of AT&T Corp. and MCI Telecommunications Corporation on Corporation on Customer Location Issues," at 3-8 (filed September 10, 1997).

In addition to affirming its earlier conclusion that the selected cost model should use a clustering approach like that incorporated into the HAI Model, the Commission should reject the Maine PUC's proposal (at 3) to locate customers lacking geocode information randomly along roads in "unpopulated" portions of a census block. Such an approach will undoubtedly overstate cost because customers are at least as likely to be located near those customers for whom geocode information is available as they are to be located in areas of the census block that may have no customers. Indeed, that customers tend locate near one another is the primary reason the Commission properly concluded that the selected universal service cost mechanism should employ a clustering algorithm. Simply put, if the Maine PUC's proposal were adopted, cost models would be routinely building outside plant to areas where there are no customers.

III. THE COMMENTS UNIVERSALLY AGREE THAT THE HCPM SHOULD NOT BE ADOPTED UNTIL IT HAS BEEN SUBJECT TO RIGOROUS PUBLIC SCRUTINY AND TESTING USING ACTUAL DATA.

With respect to the HCPM, the comments submitted by all the parties are similar. The HCPM has potential, but it must be subject to public scrutiny and intensive testing using real data before the Commission can reasonably adopt it as its forward-looking cost mechanism for estimating universal service support.[7] As AT&T (at 6) discussed in its initial comments, the BCPM and HAI models have benefited from years of public scrutiny both at the Commission and in numerous state proceedings. By contrast, evaluation of the HCPM largely has been limited to analysis of its documentation and analysis of the results it produces using randomly generated customer data in a single state. If the HCPM achieves the results promised in its

[7] See, e.g., BCPM Sponsors at A-1; Arizona at 3 (there is no evidence that the HCPM is any better than either the BCPM or HAI); MCI at 5; BJA at 11-3 (listing HCPM clustering approach has design problems); Bell Atlantic at 1; GTE at 3.

documentation, then it will be a very useful universal service cost estimation tool. But the current record evidence is inadequate to support that conclusion. For example, Bell Atlantic's quantitative analysis of HCPM outputs appears to reveals significant inconsistencies. Bell Atlantic at 5-7. Such inconsistencies are not surprising at this early stage given the difficulties in developing a cost model as well as the possibility that the HCPM's algorithms may contain design flaws. See BJA at 11-13. Until the reasonableness of the HCPM's cost estimates have been confirmed using actual data for many different service areas, the Commission cannot reasonable conclude that it is a reliable universal service cost mechanism.

CONCLUSION

For the foregoing reasons, the Commission should adopt the HAI Model as the base platform for a geocode model for estimating universal service costs. Similarly, the Commission should require the selected cost mechanism to use a customer clustering algorithm as opposed to an arbitrary grid approach. In addition, the Commission should use HCPM algorithms only when that model's logic and results have been thoroughly scrutinized by the industry, have been tested using actual customer locations, and have been shown to be superior to the HAI alternatives.

Respectfully submitted,
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September 11, 1998

CERTIFICATE OF SERVICE

I, Scott M. Bohannon, do hereby certify that on this 11th day of September, 1998, I caused a copy of the foregoing Reply Comments of AT&T Corp. on Model Platform Development Issues to be served upon each of the parties listed on the attached Service List by U.S. First Class mail, postage prepaid.

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