IMPLEMENTING ACCESS CHARGES: STAKEHOLDERS AND OPTIONS

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SOURCE NOTES

S1. Taken from work done at the Program on Information Resources Policy.

S2. Ibid.

S3. Ibid.

S4. Ibid.

S5. Ibid.

S6. Federal Communications Commission. CC Docket No. 78-72, In the Matter of MTS and WATS Market Structure, AT&T Comments, March 3, 1980, p. 90.

S7. Ibid., p. 93
AT&T

S8. Ibid., p. 96
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S9. Ibid., p. 92
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S10a. Oettinger, A.G., Borchardt, K. with Weinhaus, C.W. Stakes in Telecommunications Cost and Prices, Program on Information Resources Policy, Harvard University, Cambridge, MA, 1980, p. 31.

b. Adapted from above.

S11a. Oettinger, A.G., Borchardt, K. with Weinhaus, C.W. Stakes in Telecommunications Cost and Prices, Program on Information Resources Policy, Harvard University, Cambridge, MA, 1980, p. 34.

b. Adapted from above.

S12. Federal Communications Commission. CC Docket No. 80-286, In the Matter of Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, Telephone Industry presentation to Joint Board staff, February 2, 1982, p. 3.

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John McGarrity

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EXECUTIVE SUMMARY

. Legislative, regulatory and judicial forums are actively considering access charge concepts and proposals as the telecommunications environment changes from a monopoly to a more competitive, less regulated marketplace. Access charges are those charges made by the local telephone company and paid by either an individual or an interexchange carrier for the use of the local telephone company's facilities to originate or terminate interexchange communications.

. There is reasonable consensus that some basic goals for access charges are: fairness to local exchange carriers, equal treatment of inter-city carriers, visibility to the public, adaptability to an unsure future, and explicit subsidies.

. Other attempts at resolving access charge-related issues have included negotiations leading to the 1978 ENFIA Agreement as well as the AT&T settlement, which is a separate issue. Since ENFIA, legislators and regulators have worked toward a proposal more responsive to long-term needs.

. Allocations of non-traffic sensitive costs -- formulating a viable cost allocation process and translating it into prices for access -- is the critical issue, because NTS costs are the most significant part of any access charge. The fact that NTS costs have

INTRODUCTION: OPTIONS FOR TODAY'S MARKETPLACE

Basic Goals

The most basic purposes for access charges have been quite well defined. In 1979 President Jimmy Carter commented on the efforts to reform the regulation of telecommunications and pointed out that "...Legislation is needed to eliminate needless regulatory controls, and to encourage competition and innovation, and keep telephone service affordable throughout the country."[1] He further suggested that:

> We need a new system, which would be administered openly by public officials. The legislation should provide a charge on all long-distance services—including those of the new competitors—which use local exchanges. This "access charge" would cover the actual cost of using local facilities, provide support for local service, and finance protection for rural residents against large toll rate increases.[2]

The goals as set forth by President Carter could well serve as a guideline for the players in the telecommunications industry. Not only might they be acceptable to providers of interexchange and local services, but also to various categories of toll users and local subscribers. The difficulty, however, is to translate these broad aims into the detailed and concrete steps needed for the day-to-day operations of the communications industry. Recognizing the diverse objectives of the participants, progress will likely be halting. It seems clear that a policy for access charges cannot be reduced to a simple formula. Adequate solutions may be frustrated by regulators' and legislators' attempts to offer some accommodation for everyone.

been allocated to toll services and collected in toll rates on a traffic-sensitive basis accounts for much of the difficulty access charges have encountered in a competitive environment. Now there is at least broad agreement that toll services cannot continue to carry the current level of use-related non-traffic sensitive cost allocation and associated pricing policies. Yet changes should not jeopardize universal telephone service.

. Current access charge thinking considers alternatives to use-related allocation. Alternatives for collecting NTS costs include flat monthly interstate access charges or reduction of interstate NTS allocation as a customer's level of toll use increases.

. Any step in implementing access charges influences the prices of interexchange services; for stakeholders, the legal costs of opposing any change may be lower than the pricing impact of the change.

The Commission seemed more at ease in dealing with the complexities of a comprehensive access charge plan than it did with the specific question of the number of minutes of use for ENFIA. The interim access plan constituted only an FCC proposal offered for interested parties' comment. It did not affect the cost of doing business, whereas the narrow issue of the ENFIA agreement extension significantly affected the cost for OCCs using ENFIA as well as, residually, the telephone companies' interstate costs.

Any access-charge decision will affect not only the obvious stakeholders but also the decision makers and their own interests. Analysts should bear in mind that just as industry members will argue their different positions, so legislators and regulators will likewise justify decisions beneficial to them in terms most acceptable to public scrutiny.

It is important for decision makers to establish basic policy goals against which they can measure their decisions. Without such a stable foundation, the transition will be more difficult and may result in unnecessary costs for both the industry and the general public. Industry and customers alike will be confused and misled by postponed and inconsistent decisions, as when Congress, in 1982, substantially reduced the funds available for loans to rural telephone companies and concurrently gave a high priority to rural telephone subsidies as a part of legislative access charge proposals.

Continuing the current toll cost allocation and pricing of local non-traffic sensitive costs will be difficult to reconcile with the present demand for a more competitive marketplace. The adjustment will make a new set of rules for the industry necessary which, in turn, will require difficult decisions by legislators and regulators.

Excerpts from the chronology of the FCC's access charge considerations reflect this difficulty. In April 1980 the FCC issued a tentative access charge plan and invited comments by interested parties in Docket CC 78-72. As Chairman Charles Ferris stated, with this plan the Commission "insure(s) that an important basic building block for those newly competitive markets will be fairly priced for all competitors."[3]

Two years later, the FCC met twice to deal with the extension of the "rough justice" ENFIA (Exchange Network Facilities for Interstate Access) agreement. On April 14, 1982, the Commission ordered an extension of that agreement. Commissioner Anne Jones commented that such an action, "...is in the public interest only in the very narrow sense that not extending this agreement may well lead to an even worse result."[4] An April 29, 1982, FCC meeting dealt with the number of minutes of use for which the Other Common Carriers (OCCs) should be billed under the extension of the ENFIA agreement. At first glance this appears to be a simple task since the answer is a number which seemingly could be determined with relative ease. However, Commissioner James Quello conceded that "three years of 'rough justice' have brought us to the admission that we still cannot make reasoned decisions in this important area."[5]

competition in the normal sense. In selecting local communications distribution systems, business judgments would not be driven by a forward look at new technology nor with an eye to economy in the normal sense. Rather, the judgments could be driven primarily by a desire to avoid a cost allocation and pricing policy for the use of the local network prescribed by regulators for interexchange calls.

Reducing the Allocation of Local Costs to Toll Services.

As the marketplace becomes more competitive, there is at least broad agreement that toll services cannot continue to carry the current level of non-traffic sensitive cost allocation and associated pricing policies. This seems based on a conclusion that current cost allocation/pricing policies make a competitively "fair" access charge policy for non-traffic sensitive costs unachievable. However, there is a recognition that any reduction in the allocation of these costs to toll services must be managed with care so that the related increases in local rates will not jeopardize universal telephone service.

Many proposals for reducing the allocation of local costs to toll services have suggested across-the-board reductions; that is, they reduce the per-minute cost allocation, but continue the use relationship. With this kind of change, the high-volume customer who pays many times his/her local access costs and the low-volume user who only pays a small portion of the cost for his/her local access costs in the toll bill would both benefit from toll price reductions. This kind of change does not directly address the competitive inequity created by allocating and pricing non-usage related costs on the basis of use.

Significant Access Charge Issues

Non-Traffic Sensitive (NTS) Plant Costs

Non-traffic sensitive costs are basically the subscribers' telephones and the facilities necessary to connect them to the local telephone office. These costs are termed non-traffic sensitive because the amount of use (traffic) that they receive has little to do with the cost of their provision.

The treatment of non-traffic sensitive costs is a critical issue because non-traffic sensitive costs are likely to be the most significant part of any access charge proposal. In 1980, for the telephone industry, over $7 billion in local NTS costs were allocated to interstate. This level of the interstate allocation combined with the practice of allocating NTS costs to toll services and collecting them in toll rates on a usage-sensitive basis accounts for much of the difficulty access charges have encountered in a competitive environment.

Since the first uniform jurisdictional separations plan of the mid-1940s, non-traffic sensitive costs have been allocated to interstate toll services as if somehow these costs varied with use. The cost allocation process is converted into a toll pricing policy that collects the non-traffic sensitive costs on a message-by-message basis from the toll user. Allocating non-traffic sensitive costs to toll services and pricing them as if those costs somehow vary with use seems incompatible with a competitive marketplace. A high-volume toll user effectively pays many times the cost of his/her access line through his/her toll rates. This could violate the value of

competitive marketplace. Customers will have more options in the provision of the on-premises portions of their telephone service. This applies not only to their telephones, but to on-premises wiring as well. They can make these selections to minimize their costs. Acceleration of depreciation, which may temporarily increase the cost of local service, in the long run holds the promise of reduced local rates.

It is unlikely that a competitive marketplace will be able to accommodate the absence of cost-based pricing of local service, as exists today. If regulators fail to recognize and act upon this inconsistency now, then this failure in itself may be the greatest hazard to continued universal service in the future. If sophisticated business and residence customers who currently produce higher than average revenues for the local telephone company are driven to alternative suppliers of local distribution systems, the costs for providing service to the remaining subscribers may be substantially increased.

The future financial viability of local telephone companies may be closely tied to having each subscriber pay a more equitable share of the costs of his/her local telephone service. Local telephone companies' main business will continue to be the supply of local telephone and information services. Pricing ancillary services substantially above their costs, so they will carry a significant portion of the costs of basic local service and at the same time be viable in a competitive marketplace, may be an unachievable goal. Priced substantially above their costs, such services may be driven

Alternatives for Allocating or Collecting Non-traffic Sensitive Costs.

There are a variety of alternatives to move toward collecting the non-traffic sensitive costs from the toll user in ways less related to use. The simplest, most direct method might be simply to divide the total NTS costs allocated to interstate by the number of telephone subscribers and charge each subscriber a flat monthly interstate access charge.

Another approach would be to reduce the interstate NTS allocation and price a customer's level of toll use increases. For example, the first so many minutes of use might carry an NTS allocation of $.10 per minute; the per minute allocation would decline so that after a certain number of minutes or hours of interstate toll use per month the allocation of NTS costs for that customer would be eliminated. From that level on, the customer would pay the toll rate, less any NTS allocation.

Determining and selecting an alternative is a complex task. The costs for keeping track of the information necessary for both the cost allocation and the price could be substantial. Assuring that the interstate cost allocation and the revenues collected matched could be difficult. And finally, the plan would need to be acceptable to the telephone-using public.

Universal Service

Recent proposals emphasized the universal availability of telephone service at reasonable rates. Access charges are only one of the many issues which affect the goal of universal service in a more

process. The discount requirement leaves the regulators in a position where they may be unable to avoid acting as competitive handicappers. Handicapping any player could significantly decrease the benefits available from a truly competitive industry.

The ENFIA Agreement.

The ENFIA agreement was an important first step in dealing with the issue of access charges. Both the telecommunications industry and regulators gained experience in dealing with critical issues which they will continue to face in future years. The agreement demonstrated how valuable the negotiation process can be under specific circumstances. The failure of the subsequent ENFIA II and ENFIA III negotiations can be traced to the complexities of the issues under discussion and the fact that not all of the parties involved in these negotiations would benefit from an agreement.

As the telecommunications industry finds itself in a transition to a substantially altered environment and market, there is a need to search for new procedures which can simplify and expedite the regulatory process. A realistic appraisal of the negotiation process may mean, however, that the toughest issues will still have to be directly dealt with by the regulators.

from the marketplace by competing services without such an added profit requirement.

Price of Access and Interconnection

There is an obvious relationship between the type of interconnection which a local telephone company provides and its cost. The costs of access fall into two categories. The first deals with the degree of sophistication of the facilities used to provide the interconnection; the second is the non-traffic sensitive cost.

Recent legislative and regulatory access-charge proposals require that the level of payment for access be related to the degree of equivalence with those interconnections which the telephone industry receives for its MTS and WATS services. Discounting access rates began with the negotiated ENFIA rates, which discounted the charges for the use of non-traffic sensitive plant. However, non-traffic sensitive plant is more or less universal to all interconnections.

Some recent proposals would limit the discount to the price of the technology that causes the less-than-equal interconnection. Broad agreements on absolute equivalence in interconnection arrangements may not be achieved in the immediate future. Many proposals for the interim period require that the price for any "less-than-equal" interconnection must be discounted in direct proportion to its reduced value. On the surface, this sounds like a reasonable objective. However, with or without legislation, regulators will be hard pressed when they have to determine the reduced value of any "less than equal" interconnection arrangements. It may well be that such a proposal cannot be transformed into an acceptable and administratively viable

To provide a sense of the complexity of the issues, the paper will discuss the major current processes which fulfill those functions that are to be achieved through access charges. For example, local telephone companies will need to be reimbursed for the use of their facilities for interexchange services, and a central banker or clearing house may still be necessary to simplify the financial transactions. Current processes may have to be modified and may have their names changed, but the financial clearing house function will still need to be accomplished.

The paper will look at the local telephone company reimbursement procedures for the use of its facilities, and how they have evolved over time. This will reveal some of the pressures and controversies over the implementation of access charges.

The paper outlines the negotiations that led to the initial ENFIA agreement and other attempts at resolving access charge-related issues, and analyzes the AT&T antitrust settlement that has become a separate issue.

Access Charge Definition

For the purpose of this paper, access charges are defined as those charges made by the local telephone company and paid by either an individual or an interexchange carrier for the use of the local telephone company's facilities in order to originate or to terminate interexchange communications.[6]

2

OVERVIEW

Purpose of the Paper

This paper provides a survey of critical access charge issues at a time when legislative, regulatory and judicial forums are actively considering access charge concepts and proposals. Many of the specific proposals referred to in this paper will have been modified or withdrawn while the paper is being printed. However, the purpose of the paper is to illuminate the continuing issues associated with access charges. Current proposals regarding access charges are included in the discussion.

After an introduction and explanation of access terms, the author traces the evolution of the access charge concept from separations to current proposals which are intended for a more competitive, less regulated marketplace where the relationship between the local telephone company and the interexchange carrier will be redefined.

The paper relies on statements by stakeholders, considers alternative resolutions, and reports the "public interest" views of regulators, legislators and government officials. It is clear, however, that there are broad differences in the definition for "public" and how its "interest" will best be served.

relationship between the local telephone company and interexchange carriers.

Access Charges--The First Step

The introduction of MTS-type services by non-telephone companies (Other Common Carriers, or OCCs) led to the introduction of the concept of access charges. The services provided by the OCCs were initially described by them as "foreign exchange services;" therefore, the connections to the local telephone company were those used for foreign exchange service.[7] The FCC, however, concluded that the services provided by the OCCs had the basic characteristics of regular long-distance message telephone service (MTS).[8]

With this ruling, it became necessary to consider how these MTS-type services should be charged for their use of local telephone facilities. The ENFIA (Exchange Network Facilities for Interstate Access) agreement provided the first interim "rough justice" access charge. Since the ENFIA agreement in 1978[9], regulators and legislators have worked toward an access charge proposal which is more refined and more responsive to long-term needs.

Non-Traffic Sensitive Costs--The Critical Issue

The majority of the local telephone company's costs are generated by expenditures for the facilities which are necessary to connect the basic telephone subscriber to the telephone network. A basic telephone subscriber's local service normally

The access charge will include a portion of the cost of the user's access line which consists of those facilities that connect the user's telephone with the local telephone office. It may also include the costs for trunking and switching to get from the customer's access line to the interexchange carrier. There may be additional charges for special data conditioning. Billing or other administrative functions might be included that are not an integral part of the communications path.

Access charges will be filed as tariffs with the appropriate regulatory body.

Background

Access charges respond to an environment which is changing from a monopoly where services are provided on a joint basis to a more varied, less regulated marketplace. Cost allocation and pricing policies appropriate for a monopoly require rethinking and future policies need to reflect the changes in the marketplace.

As they have in the past, cost studies will be required and geographically local costs will be allocated to interexchange services. Local telephone companies will continue to be reimbursed for the use of their facilities. However, a competitive environment, with alternative providers of an increasing variety of interexchange and local services, requires a rethinking of the method by which the local telephone company is reimbursed. It also necessitates a redefinition of the

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ACCESS CHARGES: THE BASIC GOALS

Access charges are intended to achieve certain basic goals. These are interpreted differently depending on the stakes that the various players have in the access charge concept. The following discussion is limited to those goals on which there is reasonable consensus of both regulators and legislators.

General Considerations

Former FCC Chairman Ferris stated that the purpose of access charges is "to create a fair system to pay local exchange carriers for the origination and termination of interstate telephone calls."[10]

President Carter commented on legislative proposals for telecommunications reform in 1979. He indicated access charges should cover the cost of using local facilities, provide support for local service, and finance protection for rural residents against large toll increases. The access charge system, which would be administered by public officials, would charge for long distance services using local exchanges.[11]

Equal Treatment

There is hardly a participant in the discussion of access charges who does not state that there are serious inequities in the current process by which intercity carriers reimburse local

includes, as a minimum, one telephone in addition to the facilities necessary to connect this equipment to the telephone company switch. Because the cost for the access line is virtually independent of the use it receives, these facilities are termed non-traffic sensitive (NTS). How, and what share of, these costs should then be covered by the access charge is the cause for much contention. It has led to a variety of proposals by regulators, legislators, telephone companies, OCCs, and other stakeholders.

The challenge consists of formulating a viable cost-allocation process and then translating it into prices for access. The importance for such a process becomes especially clear when we consider that in 1980 more than 40% of the Bell System's total revenue of more than $50 billion was required to cover the costs of NTS facilities, that is, the equipment and wiring on customers' premises and connections to the local telephone company's switch. Though these non-traffic sensitive facilities are geographically local, they are used for both local and interexchange services.

affected carriers and the regulators and by other representatives of the "public interest." In fact, there is little likelihood, based on past experience, that members of the general public would have either the interest or the technical competence to make detailed inquiries into the system of pricing.

Adaptability to an Unsure Future

There is a good deal of uncertainty about how the compunications industry and its markets will develop in the future. Legislative proposals for access charge methods have recognized that the methods must be adaptable to future needs. Senate Bill S.898 sets as a goal that access charges must "...achieve flexibility in accommodating changes in market conditions and technology."[14] Most legislative proposals have created a transitional authority to implement and modify access charges as the industry, its markets and services evolve.

Make Subsidies Explicit

Any discussion on access charges sooner or later addresses the issue of subsidy. The House Committee Report of 1980 discusses the relationship between access charges and subsidies. This access charge proposal:

> ...clearly identifies priority areas for subsidies from all long-distance carriers--high local distribution costs and high cost of connecting rural, local service to long-distance networks--thus eliminating significant disparities in costs of telephone availability between urban and rural areas...it provides an entitlement

telephone companies for the use of local facilities. In spite of the consensus that inequities do exist, there is substantial disagreement on what the inequities are or how they should be resolved, principally dependent on the perspective of the stakeholder. The controversy over access charges includes not only the financial relationship between the local and the intercity carrier, but also the physical interconnection and the services covered by these charges.

A 1979 National Telecommunications and Information Administration (NTIA) working paper expresses the goal of access charges as:

> ...parity of treatment of all inter-city carriers. Each inter-city carrier should be subject to the same terms and conditions of interconnection, and the same access charge schedules for similar local distribution capability.[12]

Visibility

The bill S.898, passed by the Senate in October 1981, states that access charges are to:

> ...assure that payments and assignments of costs relating to exchange access are carried out in a manner which is open to public examination and which insures accountability to the public.[13]

The financial relationship between the local and inter-exchange carrier should be open to scrutiny and easy to understand. Charges to one interexchange carrier should be reasonable and at the same level as those paid by any other interexchange carrier with the same type of interconnection. The intent is to create a process which can be audited by the

4

THE SIGNIFICANCE OF ACCESS COSTS IN RELATION TO TOTAL BELL SYSTEM COSTS[16]

An important perspective on access charges can be gained by looking at access costs in relation to total Bell System costs.

Figures 1 through 4 illustrate the significance of access costs from various perspectives. Viewing access costs in this way gives a sense of the significance of access costs to both the local telephone company and the interexchange carrier. It also demonstrates how these costs and the way they are allocated between jurisdictions or divided among services can impact customers' rates.

Each figure represents the same total Bell System costs for 1980, approximately $53 billion.

It is assumed for this discussion that total costs will be approximately the same in any restructuring of the Bell System. Therefore, while the costs may be divided between different corporate entities (AT&T and Local Bell Operating Companies [BOCs] in the future), the same aggregrate revenue will be required.

Figure 1--providing a base for comparison--represents total Bell System costs. It lists the major cost categories into which the aggregate has been divided. These labels have been eliminated from Figures 2, 3 and 4, but the cost categories remain in the same position. The labels on the left break the costs between non-traffic sensitive, traffic sensitive and other. Non-traffic sensitive costs are of special significance in access charges. They make up about 42%

process for small carriers if they have high local distribution costs, eliminating red tape or ajudicatory proceedings.... It avoids substantial or undue increases which might otherwise result from a transition to a cost-based interconnection system.[15]

of the total Bell System costs, or more than $20 billion.

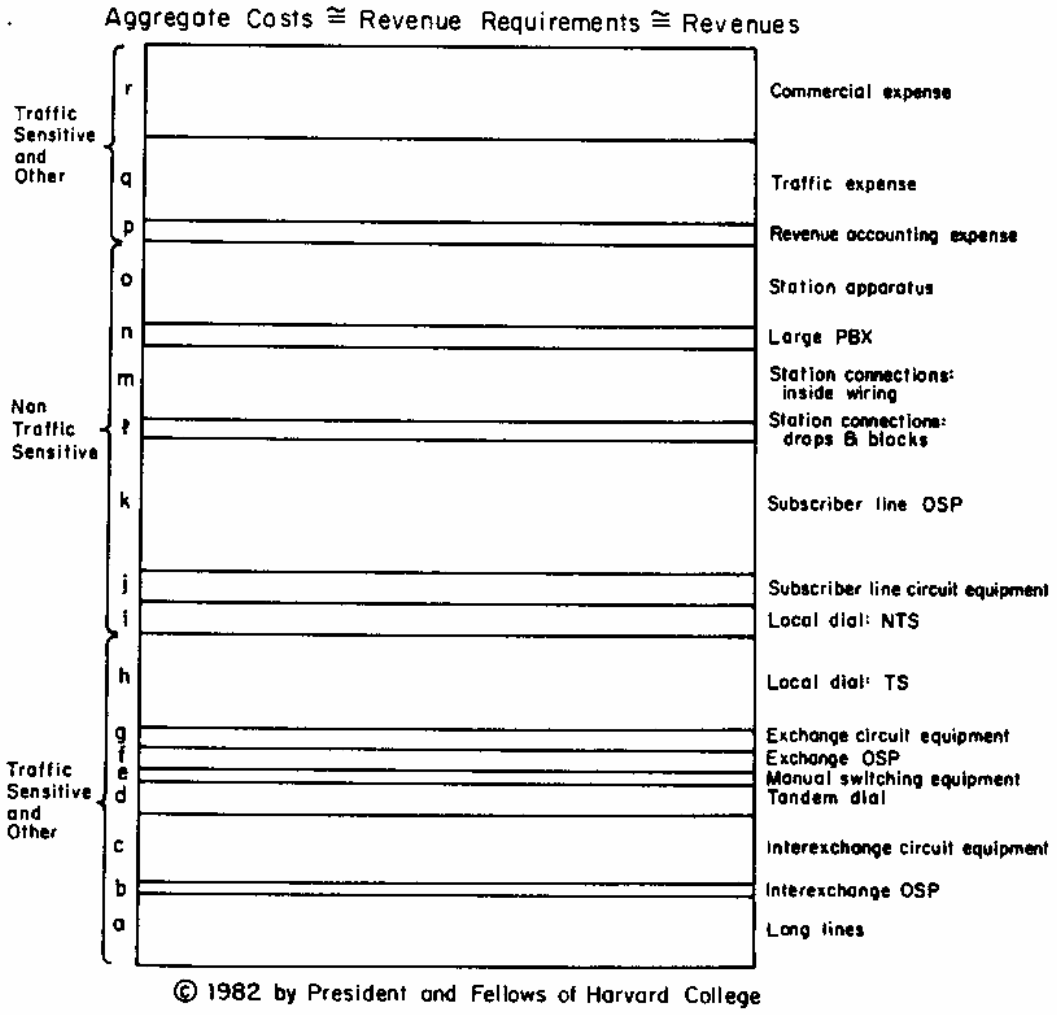
Figure 2 divides the costs between exchange and interexchange services, and further subdivides interexchange between state and interstate.

The interstate interexchange allocation is based on the jurisdictional separations process. The state interexchange allocation applies the same allocation process for Bell costs as is used to reimburse independent telephone companies for their participation in state interexchange service. This method puts the state interexchange allocations of NTS costs at about two-thirds of the interstate level. Using this method, any level of interstate access charges would be accompanied by a state access charge at about two-thirds of the interstate level.

There is no standard procedure for allocating geographically local costs to state interexchange service. Some states have procedures that generally follow the FCC jurisdictional separations procedures; other states have no such formal process.

Figure 3 takes the same block of Bell System costs and puts them in the perspective of the proposed AT&T antitrust modified final judgment. It assumes that Yellow Pages and various other commercial expenses as well as some traffic and revenue accounting expenses would be transferred to AT&T. (The consent decree reached in August 1982 would leave Yellow Pages revenues with the BOCs.) It also assumes that customer premises equipment would be transferred to AT&T.

Figure 4 illustrates that, while not exactly defined, a substantial portion of the BOC costs will be met by access charges to the interexchange carriers, or customers.



dollars are in square area:

1976 Bell System Costs = $33,291 million
1980 Bell System Costs = $53,266 million

Figure 1

Bell System Costs by Category

Source[S1]

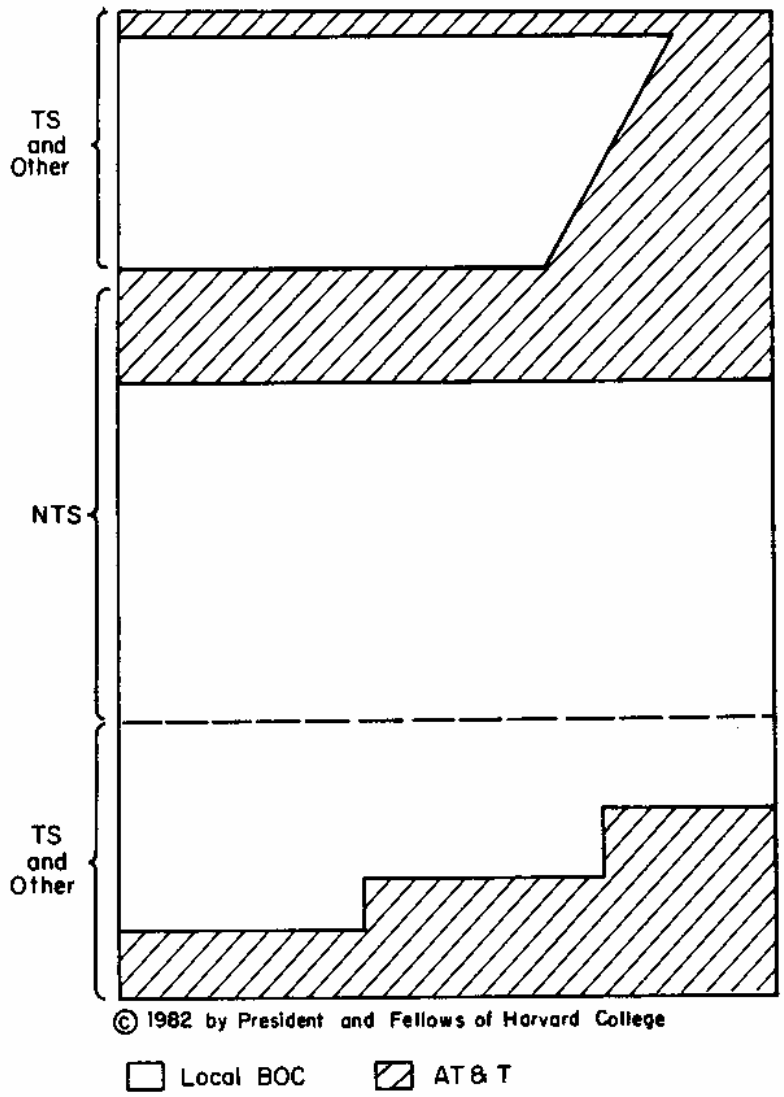
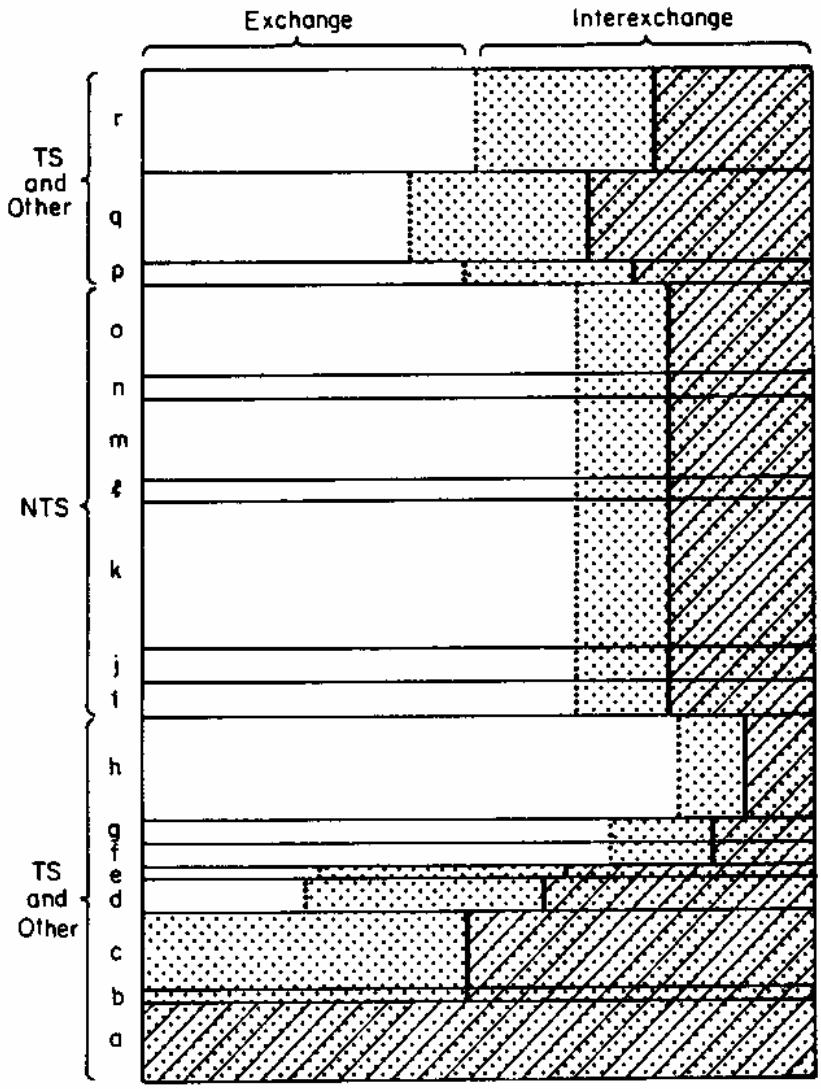


Figure 3

Ownership of the Current Bell System under 1982 Proposed Antitrust Settlement

Source[S3]



Exchange (State) State Interexchange Federal Interexchange

dollars are in square area:

1976 Bell System Costs = $33,291 million
1980 Bell System Costs = $53,266 million

Figure 2

Bell System Costs: Exchange/Interexchange and State/Federal

Source[S2]

5

WHAT IS NON-TRAFFIC SENSITIVE PLANT?

Non-traffic sensitive plant (NTS) in its most common use is that plant from the telephone on the customer's premises to the connection to the serving telephone office. The costs of providing this plant are virtually insensitive to the amount of use it receives, hence the term non-traffic sensitive. For example, a customer for minimum, basic telephone service has one telephone and one telephone line. The telephone company costs do not vary significantly whether customers make one call or 100 calls per month. Customer phone use has little impact on the initial cost of its installation or of its ongoing maintenance costs. For the Bell System in 1980, the annual NTS cost--telephone instruments, loops and terminations in the central office--was about $22 billion.[17]

NTS plant is used for completion of local calls, state toll calls and interstate toll calls. Of the total 1980 $22 billion Bell System NTS costs, the interstate allocation of NTS costs was about $5.8 billion. That is, about one-quarter of the NTS costs was assigned to interstate long distance service. The interstate allocation of NTS costs for the telephone industry, Bell and independents was about $7.3 billion in 1980. (See page 44.)

The plant beyond the local central office termination includes the remainder of the local central office, other switching offices,

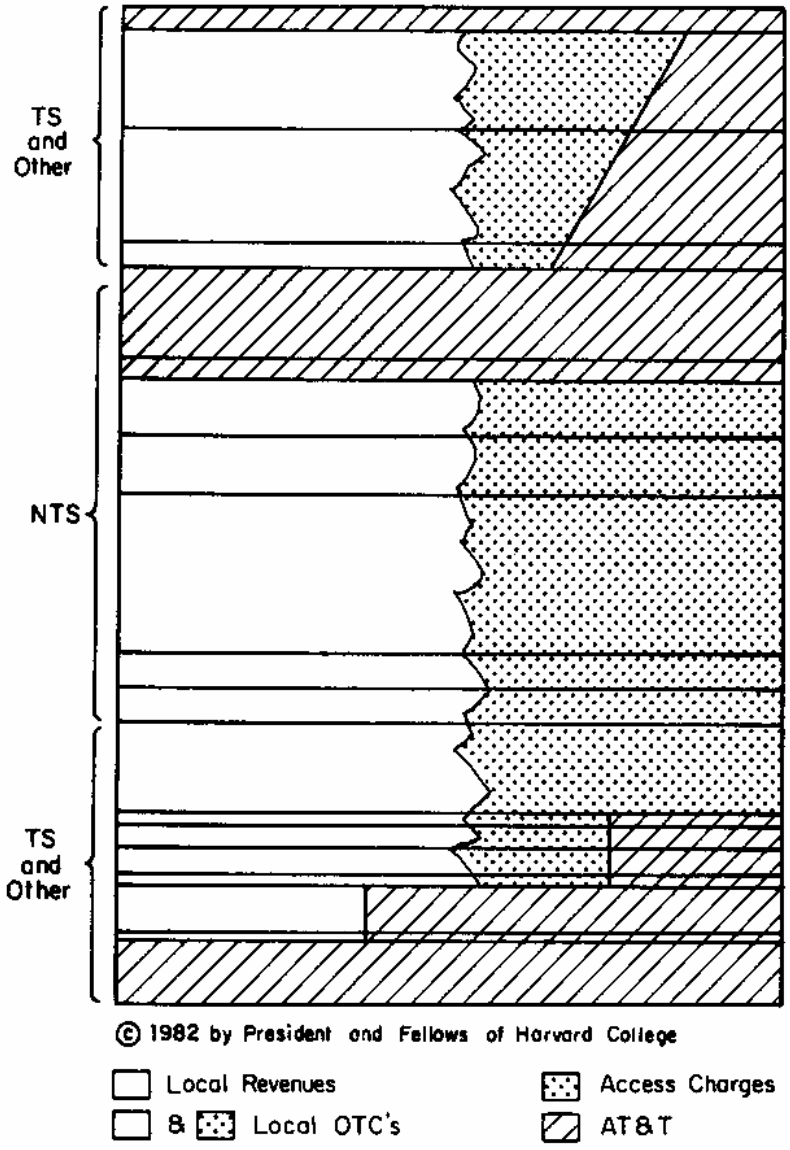


Figure 4

Possible Access Charges under the

1982 Proposed Antitrust Settlement

Source[S4]

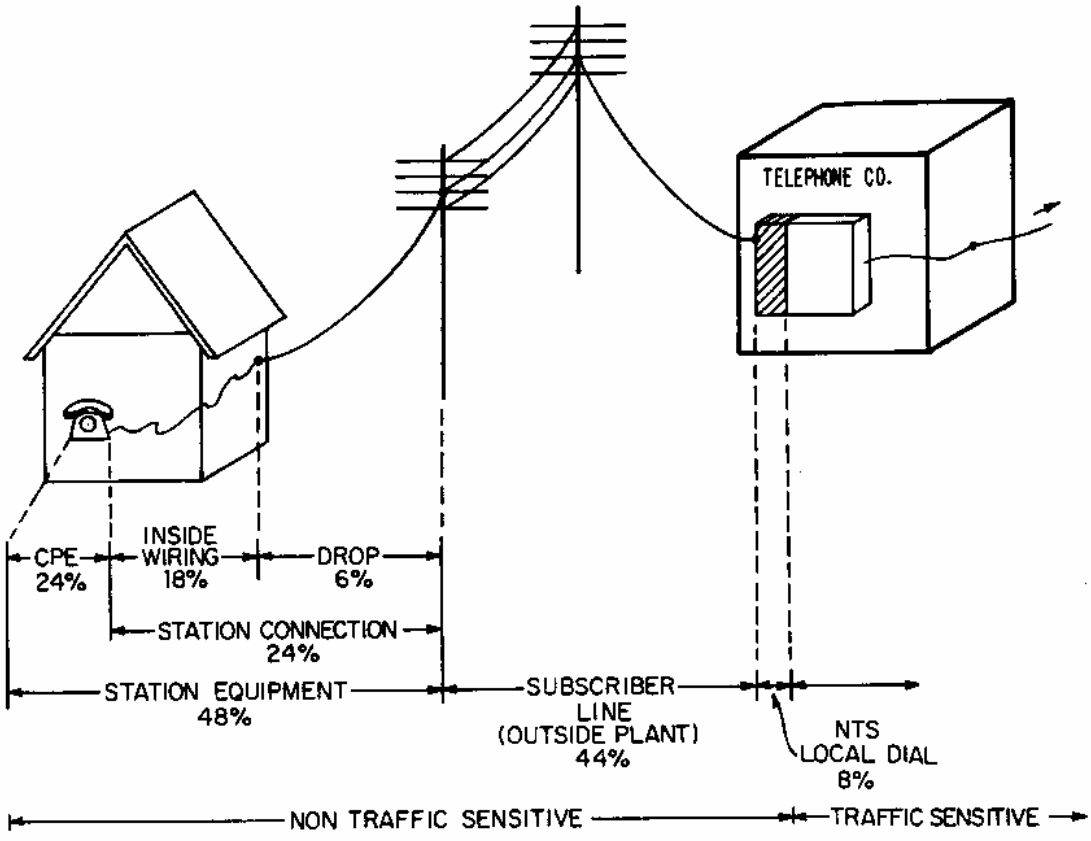


Figure 5

Non-Traffic Sensitive Plant

Source[S5]

local as well as interexchange trunks, and transmission facilities. These are considered traffic sensitive.

As reflected in Figure 5, NTS can be further subdivided.

Station equipment includes the plant from the subscriber's telephone to the telephone pole connection. It accounts for about 48% of all non-traffic sensitive costs. Station equipment can be further subdivided: about half of the station equipment or 24% of the total NTS is the station apparatus or telephone instrument. In the case of a residential subscriber, this could be the plain black hand telephone and extensions, or for a more sophisticated business subscriber, it might be a key system or PBX.

This is the NTS that would be deregulated, in the main, by the FCC's order in Computer Inquiry II (CC Docket 20828) or in most of the legislative proposals.

The other half of station equipment, also 24% of the total non-traffic sensitive cost, is the station connection. This consists of the wire or cable which makes a connection from the subscriber's telephone instrument to the telephone pole. A sub-category of the station connection is inside wiring on the customer's premises. This is the wiring which is necessary to connect the subscriber's telephone to the drop wire from the telephone pole where it attaches to the house. Inside wiring makes up about 18% of the NTS costs.

Historically, the costs of this plant were primarily capitalized. However, on a phased basis, these costs are now being expensed. The capitalization process allowed the revenues required to cover installation costs to be partially recovered through a one-time installation charge and the remainder covered over an extended period

6

SEPARATIONS: A BRIDGE TO ACCESS CHARGES

Before we look at the functions and processes which the proposed access charge methods aim to implement, it will help to consider how these functions and processes are done today. These are often misperceived.

In their most general application, access charges replace portions of the jurisdictional separations process and the division of revenue processes. When Senate Bill 611 was introduced in 1979, Senator Ernest Hollings described this change as:

> ...a transition from the current process of separations and settlements (wherein AT&T collects the fees for long distance calls and distributes funds to the local carriers which originate and terminate such calls) to a system where the local carriers charge intercity carriers directly for the cost of handling their traffic.[19]

The statement implies that AT&T collects all of the revenues and would then, at its discretion, reimburse the local companies.

In practice, the local telephone companies, Bell as well as the independents, collect fees for long distance calls. Each local telephone company keeps its due revenues in return for providing its portion of the long distance calls. Thus, out of the revenue it collects for originating calls, a local telephone company keeps its share of the revenues proportionate to its costs, not only for the calls it originates, but also for those calls it completes. The latter are mostly originated and billed for by other companies. It is

of monthly local service charges and interstate allocations. The change from capitalizing the installation costs to expensing them has encouraged raising the installation charges so that they more nearly cover the total installation costs. This has meant significant increases in installation prices for local telephone service. In many jurisdictions, customers have the option to provide portions of their own inside wiring. In the long run, this will probably become a more common phenomenon. The drop, the connection between the customer's premises and the telephone pole, or a main telephone facility in the street, makes up the remainder of the station connection and accounts for about 6% of the NTS total.

The subscriber line is the outside plant between the drop connection at the telephone pole and the connection to the serving telephone company switching office. This accounts for about 44% of the non-traffic sensitive costs and includes the wires, cables, amplifiers, telephone poles, and other equipment necessary to connect from the telephone pole at the customer's premises to the telephone company central office.

Local dial switching equipment makes up the remaining 8% of the non-traffic sensitive costs and is principally the non-traffic sensitive termination of the subscriber's line in the local telephone switching office.[18]

It is helpful to look at the individual functions that make up separations and settlements and from there build a foundation for any meaningful analysis.

Separations: A Political-Regulatory Tool

Separations has played an important role in the regulation of the telephone industry. The regulators, as well as the industry, have used it as the tool which can redistribute the costs that must be covered by the combination of state and interstate revenues.

> The development of jurisdictional separations since 1943 has reflected the attempt not to subdivide the indivisible but, contrary to the implications of the word separations, to treat the telephone system as an economic whole.[21]

In this context most of the changes in the process have affected the allocation of non-traffic sensitive (NTS) costs to the interstate jurisdiction to be covered by interstate MTS and WATS revenues.

The Separations Manual has been modified approximately every five years since its inception in the mid-1940s. The "Ozark Plan" had been in effect for more than a decade and thus outlasted any previous plan. It was adopted as Part 67 of the FCC rules and prescribes "...the standard procedures for separating telephone property costs, revenues, expenses, taxes and reserves."[22]

In terms of the effect on interstate cost allocation, the most significant revision in this manual has been the change in the allocation of non-traffic sensitive costs. Up to 1982, the consistent goal was to increase the allocation of local non-traffic sensitive costs to interstate.

only the remainder of the revenues which actually finds its way into the interstate revenue pool administered by AT&T.

It is quite possible that the implication of the statement in regard to S. 611 is the result of oversimplification, explaining a complex process with extreme brevity. It is also possible that this misstatement truly reflects a lack of understanding of the current separations and division of revenue process. Whatever the foundation, such misstatements, in turn, could lead to decisions about access charges and their implementation which are built on a weak foundation.

Definitions

"Separations" is used with multiple meanings. This helps explain why it is often the source of confusion. In its broadest sense, separations is sometimes used to describe both the cost allocation process and the division of revenue, or settlements process. The Separations Manual defines jurisdictional separations as "the process by which telephone property costs, revenues, expenses, taxes and reserves are apportioned among the operations."[20] The Separations Manual limits the definition to the cost allocation process.

The process for dividing up the interstate revenues, which is based on the separations cost allocation, is generically called the settlements process. For the local Bell operating companies it is called "Division of Revenues," and for the independent telephone companies it is referred to as "settlements."

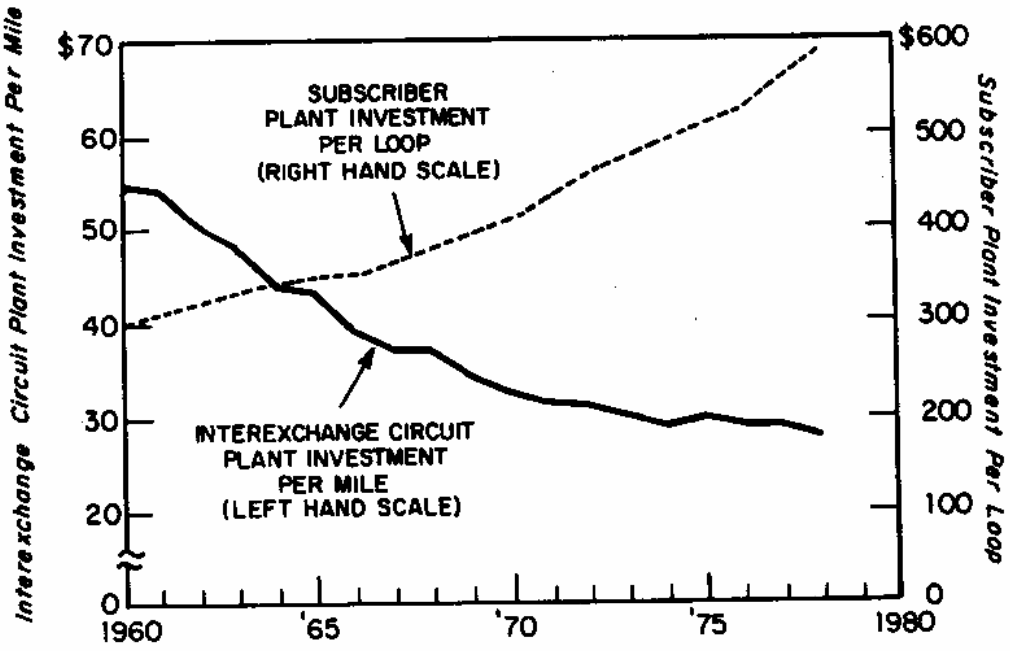


Figure 6

Interexchange Investment Per Circuit Mile vs. Subscriber Plant Investment Per Loop

Source[S6]

This is not surprising when we look at the stakeholders who decided these changes, and when we look at the technological and economic realities of the provision of telephone service. Technological advances and improved economies in long-haul transmission systems have contributed to a substantial reduction in the unit cost for intercity circuits. Conversely, during the same period, costs of the provision of the local telephone access line have increased. Figure 6 contrasts the chronological evolution of investments for interexchange circuits and local telephone loops.

Without the periodic separations changes that have occurred, federal regulators and interstate toll rate payers would have had the almost exclusive advantage of the decline of long-haul interexchange costs, and state regulators would have had to burden customers with substantial increases in price. This explains why each successive separations change has increased the allocation of costs to interstate. This has been accomplished by effectively changing the multiplier which is an integral part of the separations formula for non-traffic sensitive costs so that a greater proportion of those costs would be allocated to interstate. Figure 7 shows the changes from unweighted relative use (SLU) in 1943 to the current Ozark weighting factor for the Bell System of approximately 3.3.[23]

Until the onset of extreme inflation in the 1970s and 1980s, these changes allowed interstate rates to continue on a relatively flat level and also made it possible to keep local telephone rates substantially lower than may otherwise have been necessary. For the telephone industry, the changes in separations significantly reduced the necessity for rate changes in either jurisdiction. Regular

intrastate increases with parallel interstate rate decreases could be avoided.

Separations as a Day-to-Day Administrative Process

Separations and the division of revenue and settlements process serve an essential function in the day-to-day financial relationships within the telephone industry.

A long distance telephone call can involve a Bell and independent local telephone company, and if it is furthermore an interstate call it may also involve the AT&T Long Lines Department. When it comes to the billing, the originating telephone company usually bills for and collects the revenues for the total call from end to end. Some administrative process is needed to determine which portions of that revenue are due to each of the companies involved in the call. After this is accomplished, telephone companies also need to be assured that they get a fair share of the profits.

Presently this is done in the following manner: 1) Each company conducts monthly studies which determine the costs that should be assigned to the interstate jurisdiction. These studies are based on the multi-volume manual Division of Revenue Procedures prepared by AT&T. 2) The cost determined by those studies then becomes the foundation for the settlements and division of revenue processes. 3) The preliminary settlement is determined within five working days of the close of each month. 4) A final settlement which takes into account any differences between estimates and final data is provided during the second succeeding month.

Jurisdictional Separations Changes	Bell System Approximate Weighting Factor X SLU
1943-52; local access costs allocated based on minutes of use.	1.0
1952-65; local access costs allocated based on Charleston Plan.	1.8
1965-69; local access costs allocated based on Denver plan.	2.5 (a)
1969-70; local access costs allocated based on FCC plan.	3.2
1971-1982; local access costs allocated based on Ozark plan.	3.3
1982-	decreasing over time (b)

(a) Weighting factor for Denver Plan varied from year to year; average factor for initial year shown.

(b) Frozen subscriber plant factor (SPF), phased removal of customer premises equipment (CPE).

Figure 7

Variations in the Weighting Factor

Applied to NTS Costs

Source[S7]

The management of this process requires determining an appropriate balance between two extremes. The extremes are inordinately complicated and expensive processes, on the one hand. On the other hand, shortcuts would be less expensive and less difficult, but may leave doubts about their equity. The process for jurisdictional separations and division of revenues also provides the foundation for the settlement between the Bell operating companies and the independent companies within each state.

The FCC stated in its proposed access charge plan in Docket CC 78-72:

> As is the case with the Separations Manual, we will permit "short cuts" where practicable and where their application produces substantially the same separations results as would be obtained by the use of more detailed procedures....[24] We also recognize that even with the additional data we are requesting, we cannot expect perfection. There must always be some compromise between the need for detailed information and the cost or availability of additional data.[25]

Any parties involved in this process have the opportunity to appeal to the appropriate regulatory body if they think that they are not receiving a fair settlement. The minimal complaints to the FCC and to state regulatory agencies suggest that this process has been handled with reasonable satisfaction.

A Look at the Future

While the complaints to the regulatory agencies have been surprisingly low in numbers, telephone companies are nevertheless scrutinizing each other's performance. The future will bring changes in both players and services which will require significant modifications in study procedures and in the ultimate transfer of funds.

The revenue settlement itself grows out of this process and consists of the transfer of funds between Long Lines and the local telephone companies. Actually, much of the monies involved never changes hands. This is because each telephone company has already determined its costs under the procedures described above, and it knows how much revenue it should earn from its involvement in interstate services. It retains that portion of the revenue it collected from the interstate calls it originated up to the amount of its own costs in the provision of interstate services. The remaining revenues go to the interstate settlement pool, which serves to reimburse Long Lines for its costs and for final balancing among all of the participants in the interstate enterprise. Interstate costs also include each local Bell company's settlements with those independent telephone companies which operate within the Bell territory.

The Historical Players in the Process and Their Perspectives

The division of revenues and settlements process has been referred to as the "glue" that holds the telephone industry together. Each of the players involved--the Bell operating companies, Long Lines as well as the independent telephone companies--has strong motivation to make sure that they it gets its fair share of the monthly revenue settlement. The task is satisfactorily to divide up billions of dollars each month. The division of the revenues requires determining the costs and revenues associated with various pieces of equipment with an aggregate investment which exceeds $100 billion and spans several technological generations.

regulators and the telephone industry. Again, while none of the parties involved may have been totally satisfied with each change, the number of appeals for regulatory and judicial review has been low. It is noteworthy that all these changes up to 1982 pointed in the same direction, namely, increasing the interstate allocation of NTS costs. The technological economies of providing service followed a consistent pattern: Long-haul technology costs declined and local costs increased. It is also significant that the market environment remained stable and there was no important competition for either local or interexchange services. Furthermore, the players remained the same.

Yet changes in the external environment and the introduction of interexchange competition have taken away this stability. One reason why the Ozark Plan remained unchanged for more than a decade was the inability to reach a consensus on the appropriate separations change. Previous plans were generally changed within five years of their implementation. Presently there is a somewhat reluctant consensus that the level of local costs which are allocated to interstate or at least their growth should be reduced.

In February 1982, the FCC, based on a recommendation of the Joint Board in CC Docket 80-286, ordered a temporary freeze in the percent of NTS costs that are allocated to interstate. The order also included a provision for a phased removal of Customer Premises Equipment (CPE) from the separations process that would parallel the FCC's previous order in Computer Inquiry II to de-tariff CPE.

This action would reduce the interstate allocation of NTS costs to interstate relative to what would have occurred under the unaltered

Practically, the originating telephone company will likely continue to collect the total revenue for many end-to-end calls. Given a future of expanding services, carriers and resellers, there will obviously be many cases in which the originating telephone company will not bill for an end-to-end service. In some cases, the interexchange carrier or a reseller may want to retain a clear identity with the customer that direct billing would help to assure. It seems likely, for the near future, that the financial transactions among the companies involved in a simple long distance call will remain much as they are today. This means that for a particular call, the originating telephone company receives from its customer revenues that not only cover the originating company's costs, but the interexchange costs and the terminating company's costs as well. The originating telephone company will keep the revenues to cover its costs for both originating and terminating calls; the remainder will go to the interexchange carrier to cover its costs. Some central banking operation will be required for keeping the revenues and costs of the individual companies in balance. It is difficult to perceive this being replaced, in the near future, by any in which each telephone company submits and pays bills to each other telephone company for services rendered. It seems equally unlikely that each user of a service will be billed directly by each of the carriers who is involved in the end-to-end operation.

Changes in the Interstate Allocation of NTS Costs

The major changes in separations procedures since the mid-1940s were the result of considerable negotiations among state and federal

previously received from the separations, division of revenues and settlements processes. Revised access charge rates would be filed by a local telephone company when its interstate rate of return dropped below the level authorized by the FCC. The new rates would be set high enough to assure the authorized rate of return, over some planning period.

The rate-of-return projections, then, might not be much different for local telephone companies filing access charges than they were previously for the total interstate enterprise. That is, rates would be set initially to achieve the maximum authorized rate of return. Over time, as costs increase from inflation or other factors, the achieved rate of return would drop below the authorized level which would then be followed by new access rate filings.

Ozark Plan. Thus the new order reversed the trend that began in the mid-1940s with the introduction of the first uniform separations plan and continued through each successive separations change that increased the allocation of NTS costs to interstate.[26]

Financial Integration

Some access charge proposals would eliminate the sharing of a common rate of return among the joint providers of interstate services as part of the settlements process. Presently each participant in the interstate enterprise shares the profits based on its share of the interstate net investment (after the expenses and taxes for the provision of joint services are met).

Interstate service rates are based on the end-to-end costs of the services; included in the cost is the rate of return which has been authorized by the FCC. In the recent past, interstate rate increases were approved every year or two. The increases were prompted by increased costs, but also because the FCC authorized an increased rate of return. Between rate increases all parties in the interstate enterprise shared a declining rate of return.

Let us consider how rates of return would be adjusted if each local company files access charge tariffs. Rates would be filed with the FCC based on a prescribed cost method. Initial filings might well be based on a method similar to the one telephone companies presently employ for the calculation of their costs. If the cost allocation process is not changed, then the local telephone company would be entitled to revenues for interstate access services which would be almost indistinguishable in level from those revenues that it

guiding framework. The Smith decision does not elaborate on the basis for assessing the use of that property in the cost allocation process.

The decision further states:

> While the difficulty in making an exact apportionment of the property is apparent, and extreme nicety is not required, only reasonable measures being essential... it is quite another matter to ignore altogether the actual uses to which the property is put.[30]

Let us consider what this statement implies when it is interpreted outside its narrow legal context. It recognizes that the establishment of an ongoing process for the apportionment of costs can be a substantial as well as costly undertaking. It is likely that the court was sensitive to imposing an unreasonably costly process for the apportionment of the costs. The court must have been aware that its decision would be consulted for the ongoing regulatory process, and one way to speculate is that the decision intended to provide a certain amount of freedom for the regulators. This would allow for an apportionment process which would not add unreasonably to the cost of the provision of services.

Non-traffic Sensitive Cost Allocation

From 1943 to the present, the basis for the allocation of NTS costs has been that of relative use by jurisdiction. The first Uniform Separations Plan provided an allocator of strict, unweighted relative use. Each successive change in separations continued to rely on relative use, though there have been changes in the procedures for determining "relative."

The main change in the separations process for NTS costs has effectively increased the multiplier applied to the basic relative use

7

SEPARATIONS: A CURRENT PERSPECTIVE

The Influence of Smith v. Illinois Bell

The first uniform nationwide separations plan of the 1940s was influenced by the U.S. Supreme Court decision, Smith v. Illinois Bell, of the early 1930s.[27] A review and an analysis of the decision will alert us to its limitations and to its influences on our current view of separations.[28]

The decision states:

> It is obvious that, unless an apportionment is made, the intrastate service to which the exchange property is allocated will bear an undue burden—to what extent is a matter of controversy. We think that this subject requires further consideration, to the end that by some practical method the different uses of the property may be recognized and the return properly attributable to the intrastate service may be ascertained accordingly.[29]

This says that the jurisdictional use of property must be considered in the apportionment process. Not much specific guidance is provided. A common interpretation is that whenever property is used in providing service in a jurisdiction, then some portion of that property and its associated costs must be allocated to that same jurisdiction. Some argue that no apportionment is required so long as the revenues in each jurisdiction cover the costs in that jurisdiction. Others have taken the position that the FCC should assert jurisdiction over total non-traffic sensitive costs, but that the specific ratemaking responsibility should be left with the states, the FCC providing a

	Bell		Telephone Industry	
Year	MTS and WATS Relative Interstate Use (SLU)	Portion of NTS Costs Allocated Interstate (SPF)	NTS Costs Allocated Interstate (Billions)	MTS and WATS Interstate NTS Costs As % Of Interstate MTS and WATS Revenues
1971	5.2%	17%	$ 1.6	27%
1975	6.0	19.77	3.0	30
1976	6.2	20.37	3.6	32
1978	6.9	23	5.1	34
1979	7.3	25	6.3	36
1980	7.6	26	7.3	37
1983 (a)	8.5	28	11.8	41

(a) The projection to 1983 assumes the 1971-1978 growth rates would continue.

Figure 8

Ozark Growth

Source[S8]

which is initially calculated. The Ozark Plan of 1971[31] provides a Bell System average multiplier of approximately 3.3 times relative use.

The Growth of Interstate Ozark Costs

The aggregate growth in the allocation of NTS costs to interstate jurisdiction which is met by interstate MTS/WATS revenues has been substantial. (See Figure 8.)[32]

We can see that the interstate use of the NTS plant has grown from about 5.2% in 1971 to about 7.6% in 1980. This amounts to a growth rate of about 46% in nine years. During the same period the NTS costs allocated to interstate have grown from $1.6 billion to $7.3 billion for the telephone industry. The Bell System NTS costs allocated to interstate in 1980 were about $5.8 billion. The costs allocated to interstate double about every four to five years, and between 1978 and 1980, the annual growth in interstate assignment of NTS costs has averaged more than $1 billion.

Between 1971 and 1980, interstate rate increases amounted to about $2 billion, but during this same period the allocation of non-traffic sensitive costs to interstate increased to about $5.7 billion.

A principal reason for the interstate rate increases was the growth in the allocation of NTS costs to interstate. It appears that economies in the provision of others portions of the telephone network

were able to offset some of the increase in the allocation of NTS costs to interstate, but such economies were not enough to absorb all of the increase in NTS allocation without additionally requiring interstate rate increases.

The aggregate allocation of NTS costs is a very significant factor in the total interstate MTS/WATS costs. Since these transactions involve billions of dollars they must be handled with sensitivity. The drafts of proposed telecommunications legislation as well as actions by the FCC attest to that concern. Ideally, a transition period may be required so that all parties involved adjust to an updated cost allocation system. One goal which is often discussed is reducing the current Ozark weighting of 3.3 to strict unweighted relative use.[33] Most proposals for transition periods suggest a time frame of five to ten years. Some of them would simply not allow the current interstate dollar allocation of NTS costs to grow any further until the strict relative use level reaches an equivalent dollar level.

Year	Rate Changes (a)	Jurisdictional Separations Changes (b)
1956	---	$ 40
1959	$ (47)	---
1960	(3)	---
1962	---	46
1963	(30)	---
1965	(98)	134 (c)
1967	(104)	---
1968	(20)	---
1969	---	108 (c)
1970	(237)	---
1971	175	131 (c)
1972	---	(d)
1973	135	
1974	---	
1975	328	
1976	209	
1977	73	
1978	---	
1979	499	
1980	---	

(a) Changes only reflect the amount of interstate revenues affected in the particular year noted. The cumulative effects over succeeding years are not shown.

(b) Changes reflect increased allocations of revenue requirements to interstate with corresponding decreases in intrastate revenue requirements in the particular year noted. The cumulative effects over succeeding years are not shown.

(c) Changes in Allocation of Subscriber Plant.

(d) For years beginning in 1972, the following are the annual increases in Ozark allocation of NTS costs to Interstate, though there were no separations changes per se.

Year	Ozark Increase
1972	270
1973	320
1974	360
1975	460
1976	620
1977	670
1978	840
1979	1,170
1980	1,066

Figure 9

Interstate Rate Changes and

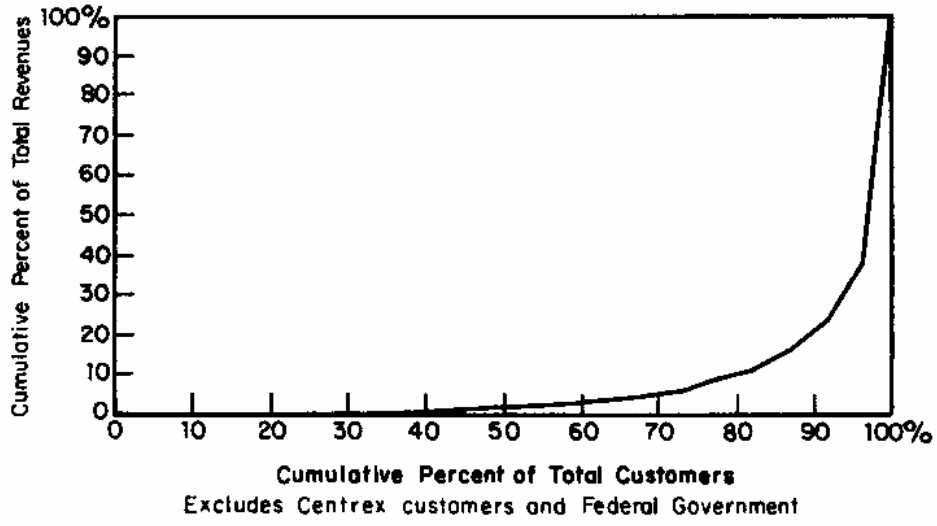
Jurisdictional Separations Changes

Source S9

Average Monthly Billing ($)	% of Total Customers	Cumulative %		% of Total Revenue	Cumulative %	
0.00	14.1	100	14.1	.0	100	0
2.00	28.5	85.9	42.6	.6	100	0.6
4.00	10.8	57.4	53.4	.8	99.4	1.4
7.00	8.7	46.6	62.1	1.2	98.6	2.6
10.00	5.3	37.9	67.4	1.1	97.4	3.9
15.00	6.1	32.6	73.5	1.9	96.3	5.6
20.00	3.7	26.5	77.2	1.7	94.4	7.3
30.00	4.7	22.8	81.9	2.9	92.7	10.1
50.00	5.3	18.1	87.2	5.2	89.8	15.4
100.00	5.2	12.8	92.4	9.4	84.6	24.8
200.00	3.7	7.6	96.1	13.5	75.2	38.3
200.00+	3.9	3.9	100.0	61.7	61.7	100.0

Mean = $39.31
Excludes Centrex customers and federal government

(a)



(b)

Figure 10

Distribution of Interstate Long Distance

Business Billing, 1976

Source[S10]

8

CUSTOMER IMPACT

How will the NTS allocation affect the prices for both business and residential customers in an increasingly competitive marketplace?

As indicated before, the costs of non-traffic sensitive categories of plant are not much influenced by customer use. However, the traditional method for allocating those costs to interstate is based on the relative interstate minutes of use. Once these costs have been allocated to interstate, the pricing policy has been to charge the interstate message toll user (MTS/WATS) for each minute of each call that is placed. For each minute, an interstate minute tally appears on the interstate cost allocation side so that the customer pays for each minute of use of the NTS plant. As we shall see, the level of interstate MTS/WATS calling varies substantially among customers and with increasing competition this pricing policy may lose its viability. It is therefore valuable to investigate other methods which could provide a basis for a policy that accommodates the needs of a changed market environment.

Variations in Interstate Calling

How does the NTS allocation affect customers' long distance rates? Figures 10 and 11 demonstrate that "the average customer" notion does not provide much guidance because of the skewed distribution of the customers' use of interstate services (MTS/WATS).

For both the business and residential markets, the distribution of customers' use of services is quite similar. That is, for both markets a relatively small proportion of customers produce a large proportion of the traffic. Conversely, about half of the subscribers are relatively low interstate long distance users. Obviously this does not mean that many individuals never place message toll calls, but it does indicate that during any month a significant portion of both the business and residential local exchange customers make no long distance calls.

In the mid-range of the usage distribution for both the business and residential markets, there is a rather gradual slope to the increase in customer use of message services.

At the high end, the slope turns very steep rather abruptly. For business customers, 12.8% of the customers produce 84.6% of the revenues. The skewed residential market distribution is only slightly less severe, with 16.1% of the customers producing 64.3% of the revenues.

Per Minute Cost of NTS Plant

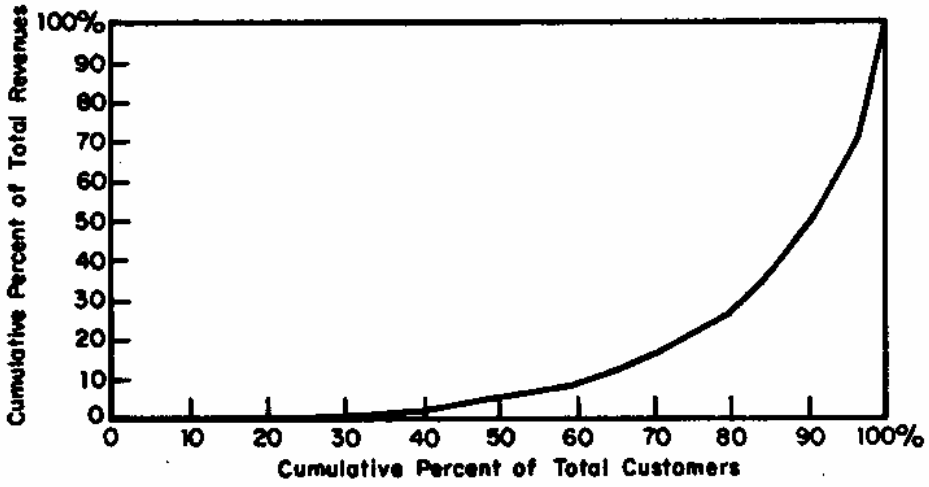
To assess the implication of such a pricing policy, it is necessary to determine the per-minute use cost of each call. The NTS allocation to interstate at each end of a call amounted to approximately $.06 per billed MTS minute in 1981.[34] When we look at the impact on various market segments of this $.06 per-minute allocation we will be able to gain additional perspective on its significance.

At the low toll use level, the impact for interexchange

Average Monthly Billing ($)	% of Total Customers	Cumulative %		% of Total Revenues	Cumulative %	
.00	15.5	100.0	15.5	.0	100.0	0
.50	13.8	84.5	29.3	.6	100.0	0.5
1.00	9.2	70.7	38.5	1.3	99.5	1.8
2.00	12.2	61.5	50.7	3.3	98.2	5.1
3.00	8.1	49.3	58.8	3.7	94.9	8.8
4.00	6.2	41.2	65.0	4.0	91.2	12.8
5.00	4.6	35.0	69.6	3.9	87.2	16.7
7.50	8.6	30.4	78.2	9.8	83.3	26.5
10.00	5.7	21.8	83.9	9.2	73.5	35.7
15.00	6.5	16.1	90.4	14.8	64.3	50.5
25.00	5.6	9.6	96.0	19.6	49.5	70.1
25.00+	4.0	4.0	100.0	29.9	29.9	100.0

Mean = $5.39

(a)



(b)

Figure 11

Distribution of Interstate Long Distance Residential Billing, 1976

Source[S11]

While there are no perfectly competitive markets, there are few competitive markets that would sustain a product with an annual charge more than 10 times its cost. However, that is exactly the condition that is created in the message toll market by allocating and collecting a non-usage related cost on a usage-sensitive basis.

A commonly suggested long-term goal for separation of NTS costs to interstate is to eliminate the weighting factor from the current Ozark Plan, reverting to strict relative use. Today, the Ozark weighting factor is about 3.3 times relative use. If that weighting factor were removed and relative use continued to be measured as it is today, the same high-volume customer would effectively pay annually about $1,300 for the same facility whose annual costs would still be only $320 per year. This reduces the effective price distortion from 13-1 to roughly 4-1. While this reduction is substantial, the remaining distortion still may well not be sustainable in a competitive marketplace.

The elimination of Customer Premises Equipment (CPE) or station connections (inside wire) from the equation would reduce the NTS allocation to interstate, but would not change the relationship of the plant allocated to interstate to the total annual costs of that same plant. High-volume customers would continue to pay many times the cost of the plant they use.

The Basis of the Difficulty

At the foundation of the competitive or anti-competitive significance of NTS costs is simply allocating and pricing a non-usage sensitive cost on the basis of usage. An additional distortion is

competition will not be significant, because there is no incentive for competitors to worry about a customer who places less than one long distance call per month. It might well be argued that simply keeping a customer of that propensity for use in the billing stream would absorb most of any revenues produced. In a fully competitive marketplace, the question might be raised whether it would be to the financial best interest of any intercity carrier to serve such a customer. Present advertising by OCCs for their MTS-type services seem specifically directed to those customers who pay more than $25.00 per month for their long distance calls.

The significance of charging $.06 per minute of interstate NTS use becomes evident at the high-use level. When we consider a high-volume MTS or a WATS consumer with 100 hours of use per month, then this seemingly small figure of $.06 per minute translates into $360 per month. Over a period of a year the allocation of NTS costs to interstate because of 100 hours use per month would exceed $4,000. In 1980 the approximate annual NTS cost per equivalent main station, a reasonable proxy for single exchange lines, was approximately $315 for the Bell System and $320 for the independent telephone companies.[35]

The Competitive Significance

The bottom line impact for a high-volume toll user (100 hours or more of toll use per month) is that the toll rates include a monthly toll allocation of NTS costs greater than the total annual costs for the same plant. Annually, the toll rates paid by a high-volume user would include about $4,300 in NTS cost. This would be more than 13 times the total annual NTS costs per main station (or exchange line).

normal sense, but rather primarily as a contrivance to avoid a costing/pricing practice that is inconsistent with a competitive marketplace.

By-Pass and Access Charges

There is considerable discussion today of the technological alternatives to the local telephone company network that are becoming available or are on the horizon. They range from cable TV--through short-haul microwave and cellular radio--to small satellite earth stations.

Each of the technologies has its own significant advantages and impediments. Cable TV systems connect to about one quarter of the nation's TV homes, but more than half of the nation's homes are in cable franchise territories.[36] While cable TV systems clearly have the edge in market penetration, they have distinct technological limitations as a replacement for the telephone company's local distribution network. Cable TV systems are principally one-way services, the subscribers are not individually addressable on the network, and the systems are lacking in necessary network switching support. However, cable TV systems have a distinct advantage in that their band width (information capacity) is far greater than most portions of the existing telephone local distribution network.

Short-haul microwave systems have gained acceptance in limited applications. When used for transmission of high-speed data, they are often called Digital Termination Systems (DTS).

Cellular radio systems offer the opportunity in the not-too-distant future to provide local communicating networks that

added because of the extremely skewed use level of customers.

Today some 7.6% (see Figure 8--Ozark Growth) of NTS plant use is for interstate calling.

If customers' use of interstate toll service were less skewed and variable, then use might not be an inappropriate basis for allocation and pricing. However, the current variability among customers introduces pricing and costing distortions of both short- and long-term significance.

In the short term, high-volume customers and carriers will be encouraged to search for local distribution facilities for completion of their interstate traffic that are as little encumbered by a usage-sensitive allocation of NTS costs as possible.

An alternative approach is to interconnect facilities or services so that there is not a flow-through of interstate jurisdiction. For example, customers with an interstate private line service connect through a distant PBX to a local exchange line. The exchange service remains in the state jurisdiction, and the user pays exchange rates that are substantially lower than the interstate allocation and pricing of the same costs.

The longer term implication of pricing non-usage-sensitive costs on a usage basis would be to encourage application of technology simply to avoid the usage-sensitive allocation and pricing of those costs. Using the example of the 100 hour-per-month, high-volume customer, an alternative technology which costs 10 times the basic NTS costs would be economically attractive to the intercity customer or carrier. This could force business judgments that are caused not by a forward look at new technology or an eye toward cost economy in the

a customer or a carrier as its choice for local distribution of its traffic.

By-Pass Implications

There are several implications of inappropriately pricing access charges. First, high-volume customers will seek alternative methods of accessing the variety of interexchange services that are available. Second, as the contribution those high-volume customers had made to local costs and the value of the local network are dissipated, the real costs for the remaining telephone subscribers will be increased.

If access charges are instituted that encourage technology that could not otherwise be economically viable, regulators then may feel obligated to keep those access charges priced at a non-economic level to ensure the new systems remain viable. Conversely, new systems for local distribution may be developed and implemented that have extremely short-term economic viability. While regulators and the Congress have a goal of encouraging competition, it would not seem beneficial to encourage the development of technologies that have only a short-term viability exclusively on the basis of inappropriately pricing the telephone company's local network.

Inappropriately priced access charges also have implications for universal telephone service. Taking the highest revenue-producing customers off the local telephone network may require substantial rate increases for those customers who remain.

can handle up to 200,000 subscribers in each metropolitan area.[37]

Though satellite systems have been primarily used for long-haul intercity traffic, as the costs for earth stations decline, they may also offer opportunities for local distribution systems.

Clearly, the technological waters are just beginning to be tested in terms of alternative methods for local communications distribution systems. Predicting which systems will fill which niches in the market now would be speculative at best. However, with the increasing interest in developing these alternative technologies, it is conceivable that they will find their market niches in local distribution systems.

Pricing and By-Pass

The basic economic and technological advances of various systems, however, may not be the principal determinant of their success in the marketplace. Pricing of the local distribution systems may be the principal determinant of what systems meet what market needs.

This is where access-charge pricing becomes especially critical. If access charges are tied directly to the current separations process which allocates the non-traffic sensitive access costs to toll service on a continuing minutes-of-use basis, then the high-volume customers will be driven to alternative technologies. However, they may not choose those technologies on the basis of their technological advantages or basic economic advantages, but rather because of the pricing structure for access charges. Pricing access charges so that some customers pay many times the cost of their access line could significantly disadvantage the local telephone network in the eyes of

This request reflects the legislators' recognition that there would be significant and immediate need to deal with the issues of separations and access charges.

S.898, which was passed by the Senate in October 1981, relies on the traditional section 410C type joint board of the 1934 Communications Act for dealing with jurisdictional cost issues. It stipulates that the FCC appoint such a joint board at "the earliest practicable date."[39]

Consistencies in Historic Changes in the Separations Process

As discussed previously, the changes which are made in the allocation of non-traffic sensitive costs to interstate have been consistent up until 1982 so that each change increased the allocation of those costs to the interstate jurisdiction. Thus, what began as a strict unweighted relative-use allocation to interstate has evolved into a process in which the relative use allocation is multiplied by approximately 3.3 on average for the Bell System.

Yet in these changes there is another consistency which only recently has gained significance in this discussion. The first uniform nationwide separations plan of the 1940s adopted a principle of relative use as a foundation for the allocation of non-traffic sensitive costs to interstate. Each subsequent change in the separations formula has been consistent in its reliance on relative use as the foundation for the allocation. Though some changes modified the procedures for determining relative use, the more common modification was to leave the relative-use calculation much as it had been, but to introduce within the separations formula changes that

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ALTERNATIVE SOLUTIONS: COST ALLOCATION AND PRICING

The Process for Changing the Interstate Allocation of Costs

The Communications Act of 1934 recognized that the process for changing jurisdictional separations or allocation of common carrier costs between the state and interstate jurisdictions was of interest to the regulatory authorities in both jurisdictions.

Section 410(c) of the Communications Act establishes a federal-state joint board process and requires that the FCC refer proposed changes in the jurisdictional separations process to such a joint board. Such 410(c) Joint Boards are composed of three FCC commissioners and four state regulatory commissioners with the FCC chairman normally acting as Chairman of the Joint Board. The Joint Board's authority is similar to the authority of an administrative law judge in the FCC: its decisions become recommendations to the Federal Commission, which has the latitude to approve, modify or reject them.

The current round of proposed telecommunications legislation also recognizes that the jurisdictional separation of costs reflects concern of both the federal and state regulatory authorities. H.R. 5158 required an interexchange joint board to be established within 30 days of passage of legislation. This board would, among other things, deal with the allocation of non-traffic sensitive costs between exchange services and access charges for interexchange carriers.[38]

> constituted as hereinafter provided, and which shall execute and enforce the provisions of this Act.[43]

Only a few weeks after the introduction of the Senate Bill S.898, the House published its ideas on universal service in H.R. 5158. Again, many of the basic goals go back to the Communications Act of 1934, and like S.898, this bill places significant additional obligations on the regulators. A careful reading of this legislative proposal, H.R.5158, suggests that some of the purposes which the Act aims to achieve may conflict with one another. For example, this conflict could arise from the rate structure. As a result of competitive services that may be mainly of benefit to high-income residence and business subscribers, the rates for low-income rural subscribers may have to be raised.

Providing a network that is the most responsive to national emergencies (item 4) may be at conflict with the encouragement of new competitors (item 5). As the number of suppliers of communications networks increases, the job of planning for emergencies is likely to become significantly more complex.

Following are some of the basic obligations set forth in S.898:

> (b) The purposes of this Act shall be (1) to make available to all the people of the United States efficient nationwide and worldwide telecommunications at reasonable and affordable charges;
>
> (2) to rely, whenever possible, on competition, rather than regulation, to determine the variety, quality, and cost of telecommunications, and to promote the development of such competition;
>
> (3) to maintain and improve universal telecommunications services which are vital to the national economy;
>
> (4) to support the national defense, emergency preparedness, and the safety and property through the use of telecommunications;

effectively increased the weighting factor or multiplier of relative use. The multiplier was modified to create the desired result of an increased interstate allocation of non-traffic sensitive costs. The pricing policy has been to collect the revenue to cover those costs on a message-by-message basis.

Proposed Future Changes in NTS Allocation

A variety of proposals for the jurisdictional allocation of non-traffic sensitive costs have been under consideration during the past several years. Legislative proposals range from general guidance to specific formulas for the allocation of access costs. Both House and Senate proposals allow for a transition period. Proposed revisions of the separations process have been brought before the joint board in FCC Docket CC 80-286. Legislative proposals have recognized the necessity for flexibility in the future to respond to such variables as changes in market conditions and technological developments.

These proposals have varied significantly, but the common thread in most proposals for separations charges is that they recognize a need for reducing the growing allocation of NTS costs to interstate.

Across-the-Board Separations Changes

One alternative for changing the interstate allocation of local non-traffic sensitive costs is the kind of a change that effectively reduces the per-minute-of-use allocation of those costs. It continues, however, to treat each minute of use as having the same value as every other.

The jurisdictional cost balance and rate impacts might be minimized by phasing their implementation over an appropriate transition period.

Following are examples of alternatives for allocating or pricing non-traffic sensitive access costs.

Interstate Toll Access Charge.

From sample studies of exchange lines, the separations process today determines the proportion of the total use that is for placing interstate calls. An average interstate allocation could be calculated from currently available separations and division-of-revenue studies.

A uniform flat rate interstate access charge could be determined from available information and without measuring and determining the bill for each individual subscriber's line.

For illustration, suppose that the total cost of an access line is $25 per month, and based on the separations process, on average, 25% of the costs are allocated to interstate. The monthly interstate subscriber access charge would be $6.25.

The interstate allocation of costs would not have been disturbed; therefore, state rates would not be directly affected. However, interstate long distance rates could be reduced by the amount of the interstate NTS allocation, since those costs were now met by a $6.25 per month interstate toll access charge. Figure 8 shows that NTS costs make up approximately 37% of total interstate MTS/WATS revenues; therefore, interstate MTS/WATS prices could be reduced by 37%. Any economies in providing the demand stimulated by the price reduction could allow a price decrease greater than 37%. Conversely, if the

NTS costs continues to grow, the 25% of this increased base will, of course, result in an increased dollar allocation to interstate. The change will then reduce the growth rate in the allocation of NTS costs to interstate from the current Ozark process where the base costs continue to grow as well as the percent of those costs that are allocated to interstate.

To be consistent with the FCC's proposed detariffing of Customer Premises Equipment (CPE), the February 23, 1982 action also required a phased removal of the interstate allocation of CPE. The freezing of the SPF along with the phased removal of CPE could lead to a significant decline in the growth of the allocation of non-traffic sensitive costs to interstate. The final result would largely depend on the growth in the NTS base after CPE is removed.

Breaking the Relative-Use-Related Link

There are alternatives to the continuous measurement of minutes of use for the allocation of NTS costs to interstate and for recovering those costs through message-by-message charges.

Alternative cost allocation or pricing approaches would likely need to avoid drastic changes in the balance of costs between state and interstate. They would also need to be converted to rate schedules that would be acceptable to customers. And finally they would need to satisfy the judicial requirement of Smith vs. Illinois Bell and other precedents that might set limits on future alternatives for allocating access costs or pricing access.

To the degree a local telephone subscriber places interstate calls, the effective local rate increase could be offset by interstate rate reductions.

Arguments are also offered that it is unreasonable and may be illegal to charge an interstate access charge to local telephone subscribers who make no interstate calls. As a contrast, a number of electric and water utilities have instituted minimum-use charges that apply whether or not use is made of the service. And, of course, local telephone basic service rates continue whether or not the phone is used.

The separations process allocates a percentage of the total non-traffic sensitive cost base to interstate, including lines of customers who made no interstate calls. If lines were allocated based on individual use levels, the current process would allocate to interstate many times the total cost of the line of the high-volume interstate toll user. It could be argued that a flat interstate access charge is much more in line with the separations process than the current toll pricing practice that effectively collects many times the cost of an access line from a high volume interstate toll user.

Individual Line Relative Use Charge

This charge is really a somewhat more complex application of the interstate toll access charge.

Rather than using an average interstate charge, each customer's relative interstate use would be calculated, and the interstate charge would vary customer to customer, month to month. For example, using the illustrations above, if an individual customer had 50% interstate use, then the interstate access charge would be $12.50, or if the

carrier is allowed increased earnings, then the price decrease might be less than 37%.

The separations/division of revenue studies done today could produce the numbers necessary to calculate such a charge. The charge could be made a nationwide average charge or could be calculated for each separations study area. (In most cases, a study area covers a state.)

If a transition to such a charge was determined desirable, the toll access charge could be phased in while concurrently phasing down the interstate toll rates. For example, the first step could be a $1 toll access rate.

Each successive year an additional dollar could be removed from the interstate toll rates and collected as a part of the interstate subscriber access charge until the entire interstate allocation of the access line would be covered by the individual's subscriber access charge.

The interstate toll access charge is much like that discussed by the FCC in its Fourth Supplemental Notice in Docket CC 78-72, and called pure 2:

> ...MTS and WATS bills would contain a per line NTS assignment that would not vary with usage. Every customer, under this approach, would pay a flat (per line) access charge that did not vary with use, plus usage based interstate charges that reflected only usage sensitive facilities plus local charges.[41]

"Pure 2" has created a substantial amount of discussion and contrasting views. Concerns are raised about the number of low income non-interstate toll-using subscribers who may be forced to drop their telephone service. As a contrast a $6-$7 monthly telephone increase is characterized as less than the cost of a carton of cigarettes.

interstate toll use where the customer had already paid more than the cost of his/her access line through toll rates.

In implementing this concept, it would also seem possible to introduce a sliding scale of the value of interstate minutes. For example, for the first 100 minutes of toll use per month the interstate assignment and the customer's rate would be at the full level. The second 100 minutes might be reduced by some percentage of the NTS assignment. The third 100 minutes might be at a further reduced percentage of the interstate NTS costs, eventually eliminating any charge to the customer or assignment to interstate of NTS costs for additional toll use above a level that paid for the total access lines or NTS costs.

Obviously, the development of a rate schedule based on this concept is a substantial undertaking. There would be an additional requirement to assure a match between the costs allocated to interstate and the recovery of the revenue necessary to meet those costs in the interstate jurisdiction.

Non-Use-Related Allocation

Recent proposals would simply establish a percentage of the gross NTS costs allocated to interstate and then continue to assign that same percentage of the costs to interstate, irrespective of changes in the future levels, or relative levels to interstate use. A basic frailty in these proposals is that there is no generally accepted logic for determining the percentage allocation.

Though not normally discussed as a long term allocation proposal, the current frozen SPF allocation is a frozen percentage allocation. It simply adopted the percent of NTS costs allocated to interstate at

interstate use was only 10%, then the interstate access charge would be $2.50.

This alternative has the advantage of specifically recognizing the individual, month-by-month use of each access line. However, it has distinct disadvantages. The information necessary for the calculation is not universally available. It could only be approached in those cases where the measurement technology for usage-sensitive local rates already exists. Even where the technical capability of such measurement exists, the ongoing administration could add significantly to the overall costs of phone service.

For the state and interstate costs and revenues to balance, the current separations studies would require significant modification.

Capping the Per Line Allocation.

A basic inequity in the current pricing process is the extremely high charge for non-traffic sensitive costs to the high-volume toll customer. One way to deal specifically with the high-volume customer would be simply to reduce the toll rates for this customer by the amount of the non-traffic sensitive costs once his/her interstate toll use reached a level where she/he had effectively paid the total cost of his/her access line through the interstate toll charges.

It would seem necessary to assure that there was a match between the costs allocated to interstate and the revenues collected from interstate access charges.

This proposal also needs a transitional period for full implementation. Since many high-volume interstate toll customers effectively pay many times the cost of their access line through their toll rates, the initial cut off or cap might have to be at a level of

However, the advantage might be short lived if the resellers' price advantage is totally dependent on a pricing distortion that exists only during a brief transition period.

Any such program that was introduced without consideration of the impacts of resale and sharing could create jurisdictional cost imbalances, and the impact on individual customers' rates could be substantial. This might then violate much of the planning and judgment that went into creating a cost allocation and rate plan intended to create a manageable nondisruptive transition period for customers, regulators and the telephone industry.

the time of the freeze as the appropriate percentage. While the logic for the freeze percentage is unsophisticated, its practicality has attraction in that it keeps everyone whole at the time of the freeze.

Though the nationwide average interstate allocation of NTS costs is roughly 25%, there are substantial variations around that average among jurisdictions and individual local telephone companies. The joint board staff proposed a Buffered Gross Allocation (BGA) that would, over time, compress the variations closer to the average.

A hazard with any fixed percentage allocator is that if there is a decline in toll messages, then the value of the per minute allocation could increase, causing a further decline in toll use. This could create a spiral of reduced toll use and toll rate increases.

A fixed-percentage allocator might have advantages in establishing intrastate access charges where in most jurisdictions there is no existing prescribed process for allocating NTS costs to state toll service.

The Impact of Resale and Sharing.

Any separations, access-charge or interstate-toll ratemaking proposal that tends to reduce a toll customer's unit rates as his/her volume increases creates an additional problem in an environment with resale or shared use of services. If the reduction in the unit rate is great enough for high-volume customers, then the opportunity is open for a reseller to enter the market and purchase a high-volume toll service with capped access line costs and resell that same service to low-volume customers. Resellers would provide advantages and alternative sources for service to certain portions of the market.

Since the first uniform separations plan of the 1940s, the penetration of telephone service has increased steadily so that by 1980, 97.5% of the households in the United States had telephone service. Only Alaska, Mississippi and West Virginia had less than a 90% penetration. At the same time, more than 100 main telephones per 100 households are found in 18 states. New Jersey and Vermont were at the top of the list with 106.3 main telephones. This leads to the present general acceptance that universal voice-telephone service had been reasonably well accomplished.

Looking to the Future

Most recent drafts of telecommunications legislation have emphasized broad availability of telephone service at a reasonable cost. S.898 of October 1981 echoed many of the ideas which were first introduced in the Communications Act of 1934. It further expanded the issue of responsibility for the availability of this service, and it included a specific reference which aims to ensure universal telecommunications service. The bill tried to anticipate future needs:

> For the purpose of making available, so far as possible, to all the people of the United States, rapid, efficient, nationwide, and worldwide telecommunications services with adequate facilities at reasonable charges; for the purpose of providing universal basic telecommunications service at reasonable charges; for the purpose of encouraging continuing improvements in telecommunications service in all areas of the United States; for the purpose of encouraging competition in the provision of telecommunications; for the purpose of encouraging continuing improvement in the use of technologies; for the purpose of promoting the technological leadership of United States telecommunications equipment and service suppliers; and for the purpose of promoting interstate and foreign commerce in telecommunications services, there is hereby created a commission to be known as the Federal Communications Commission, which shall be

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UNIVERSAL TELEPHONE SERVICE

Have the Goals Been Met?

The development of universal telephone service has been one of the principal goals in the evolution of the separations process and the increasing allocation of costs to interstate toll services. State and federal regulators and the telephone industry have supported this goal.

While there is no standard definition for universal service, the concept suggests that nearly every household should be able to afford a telephone. Section I of the 1934 Communications Act is often quoted as having placed a significant responsibility on the regulators and the telephone industry to assure that universal service should be achieved:

> For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible to all the people of the United States a rapid, efficient, nationwide, and worldwide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communication, and for the purpose of securing a more effective execution of this policy by centralizing authority heretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication, there is hereby created a commission to be known as the "Federal Communications Commission," which shall be constituted as hereinafter provided, and which shall execute and enforce the provisions of this Act. [emphasis added][42]

> (5) to encourage the entry of new competititors and the development and use of new technologies to increase the variety and efficiency of telecommunications services and facilities;
>
> (6) to maximize efficient utilization of the electromagnetic spectrum;
>
> (7) to promote a diversity of information sources;
>
> (8) to advance the technological and commercial leadership of United States suppliers of telecommunications in domestic and foreign markets;
>
> (9) to ensure that the users of regulated telecommunications services and facilities pay only reasonable and nondiscriminatory charges and that such charges do not include the costs of competitive activities of carriers;
>
> (10) to encourage cooperation between the Federal Government and the States in regulating telecommunications carriers, to recognize the appropriate jurisdictional authority of the States, and to utilize effectively the regulatory expertise of State commissions; and
>
> (11) to promote interstate and foreign commerce.[44]

Future Assurance of Universal Service

S.898 and H.R.5158 demonstrate there is a broad consensus on the requirement for broadly available telephone service at reasonable rates. There is much contention, however, on the meaning of this concept and how this broad availability could be achieved. Strong arguments are raised against the assurance of universal telephone service through a subsidy from the pricing of toll telephone service. Instead there are many arguments that this assurance of service to a low income segment of the population could be better accomplished within the structure of various social services or welfare programs which are administered by federal, state or local agencies.

> constituted as hereinafter provided, and which shall execute and enforce the provisions of this Act.[43]

Only a few weeks after the introduction of the Senate Bill S.898, the House published its ideas on universal service in H.R. 5158. Again, many of the basic goals go back to the Communications Act of 1934, and like S.898, this bill places significant additional obligations on the regulators. A careful reading of this legislative proposal, H.R.5158, suggests that some of the purposes which the Act aims to achieve may conflict with one another. For example, this conflict could arise from the rate structure. As a result of competitive services that may be mainly of benefit to high-income residence and business subscribers, the rates for low-income rural subscribers may have to be raised.

Providing a network that is the most responsive to national emergencies (item 4) may be at conflict with the encouragement of new competitors (item 5). As the number of suppliers of communications networks increases, the job of planning for emergencies is likely to become significantly more complex.

Following are some of the basic obligations set forth in S.898:

> (b) The purposes of this Act shall be (1) to make available to all the people of the United States efficient nationwide and worldwide telecommunications at reasonable and affordable charges;
>
> (2) to rely, whenever possible, on competition, rather than regulation, to determine the variety, quality, and cost of telecommunications, and to promote the development of such competition;
>
> (3) to maintain and improve universal telecommunications services which are vital to the national economy;
>
> (4) to support the national defense, emergency preparedness, and the safety and property through the use of telecommunications;

Reductions in the Interstate Allocation of NTS Costs

The Aggregate Concern.

In 1980 the aggregate Bell and Independent allocation of NTS costs to interstate for message toll services was approximately $7.3 billion. The size of the number and the concerns raised by significantly disturbing the balance in revenue requirements between the state and federal jurisdictions has been a concern since the earliest draft of proposed legislation. It has also been on the minds of the FCC and state regulatory agencies.

The NTS allocation process as we know it now is a closed loop system. That is, any change in the interstate allocation process will have an equal but opposite effect on state jurisdictions. If the interstate allocation is increased, the interstate revenue requirements will also be increased; this ultimately leads to a reduction of state revenue requirements. On the other hand, if the NTS interstate allocation is reduced, the state revenue requirements will be increased by the same amount (assuming identical rate of return, etc.).

Need for a Transition

There is currently a reasonable consensus that something needs to be done to at least reduce the growth in the assignment of NTS costs to interstate. Most proposals suggest a need for a rather extended transition period which would result in a reduction of the allocation to an appropriate level. Whether the appropriate level is strict relative use, or no interstate allocation or something else is not clear. There is no consensus on what the final level should be. Most

Universal Service Redefined

The general purposes expressed in S.898 and H.R.5158 parallel the Communications Act of 1934. Both legislative proposals include more details and further amplify the goals of the previous Act. They recognize that in a traditional sense universal service is reasonably accomplished today, but that more specific needs which arise from new technological possibilities have to be met. This creates a new framework for the interpretation of universal service obligations. To accommodate an expanding market in telecommunications, H.R.5158 encourages:

> ...the entry of new competitors and the development and use of new technologies...[and promotes]...a diversity of informations sources....[Similar thoughts are included in S.898 though the phrasing differs slightly.]...encouraging continuing improvements in telecommunication service in all areas of the United States...encouraging improvement in the use of technologies....[45]

This statement allows for a wide interpretation of how universal service can be redefined and how regulators will handle cost allocation and other subsequent price policy issues. While the historic interpretation of universal service was aimed principally at affordable local serivce, current legislative proposals tend to include both local and interexchange service under the universal service umbrella. The "improvement in the use of technologies" may well aim at the possibility for a universal digital connectivity which will provide the most economical and error-free access to data bases, electronic mail, and security sensing devices in the future.

installation charges for local telephone service. But customers will increasingly be able to choose among alternatives for their equipment. They will also be able to provide their own premises wiring and thus make decisions which allow for greater economic flexibility. A customer will have increased options in choosing the elements of telephone service that best meet his needs.

The interstate allocation of NTS costs is the awesome amount of $7.3 billion. It loses much of its awesomeness when we focus on the impact for the individual customer.

The significance of an interstate NTS allocation is further reduced when it is considered in light of the many ongoing changes impacting local telephone service. The reduction in regulation and the increase in competitive alternatives to the telephone company's provision of local service may provide the opportunity for a customer to offset the impact of a reduction of local NTS costs to interexchange services.

FCC Access Plan, Final Goal and Transition

On December 22, 1982, the FCC adopted a comprehensive Access Charge Plan[47]. It gave a signal that the final goal was to have the interstate-allocated portion of each access line paid through a flat monthly access charge to the end user. However, it also established processes to deal with a number of transitional concerns.

Some of the specific points of the plan:

- It establishes a minimum flat rate monthly interstate charge ($2-Residence, $4-Business) to be paid per line by each telephone

proposals suggest that a move from Ozark to an appropriate future level of allocation may require a transition period of from 5 to 10 years.

Subscriber Impact.

The aggregate $7.3 billion industry allocation of NTS costs to interstate message toll services is presently met by interstate MTS/WATS revenues. Let us consider how changes in this aggregate number influence individual residential or business customers' bills for their local telephone service. The average annual allocation to interstate of NTS costs per main station was approximately $80 for 1980.[46] If the interstate allocation would have been reduced to zero during that same year, local rates would have gone up by approximately $80 per year, or $6.66 per month. If, however, the change from Ozark to zero interstate allocation is phased over five years, the increase in the monthly local rate will only amount to $1.33 each year. And if the transition period is extended to 10 years, the necessary increase per month would drop to $.67.

These examples do not attempt to reflect the impact of inflation. On the other hand, if an inflation factor were built into these calculations an offsetting adjustment would be required to provide a common dollar value. The basic relationship between time and reduction of cost would remain the same.

Separations changes do not happen in an economic vacuum, however. Changes in depreciation rates will require short-term increases in local rates, but may allow longer-term rate reductions. The expensing of station connections has already led to increases in the

- An exchange carrier association would be established to collect and distribute certain portions of the access charges paid by the interexchange carriers. The association would also act as a filing agent and administrator of revenue pools at the option of association members.

- The access charge docket would be kept open to monitor and make any adjustments necessary during the transition period.

The FCC's action establishes rather complex guidelines and processes that address the most critical issues that have been raised during consideration of access charges. It gives a clear signal that the final goal is to have each customer eventually pay for his/her cost of access. The plan provides flexibility within its guidelines for carriers and regulators to fine tune the rates customers will pay for access.

subscriber. During a service-year transition period, the flat-rate subsriber charge would be increased so that it would eventually cover the total instrastate allocation.

- Access lines that are dedicated to interstate service (e.g. private line or WATS access line) will be charged at a rate to cover their costs. The maximum interstate charge for a local telephone subscriber can not exceed the dedicated access line charges.

- A "Universal Service Fund" is established to assure the availability of telephone service in high cost and rural areas. The Commission deferred action on the criteria for sizing and distributing the fund until it receives a recommendation from the Federal/State Joint Board in Docket CC 80-286.

- The discount for "less than equal access" as discussed in legislative proposals, the MFJ and as it exists in ENFIA is converted to a premium access charge to be paid by AT&T. The surcharge would be phased out as improvements in access are made available.

- At the plan's inception the interexchange carriers would pay the lion's share of the interstate access costs. However, as the flat-rate subscriber access charge increases, the carrier charge would be reduced and eventually eliminated.

companies have actively expressed their opinions before Congress and the FCC. Their main argument is that low population density adds significantly to the cost of providing rural telephone service. Low rural rates are only possible because a high proportion of the local costs is covered by state and interstate toll service revenues.

Most recent bills for telecommunications reform aim to protect the rural subscriber from substantial rate increases. This goal is based on the expectation that the allocation of NTS to toll service will be reduced. H.R. 5158, for example, includes provisions for a "National Telecommunications Fund (NTF)."[49] This Fund recognizes that rural telephone service rates may be affected by a reduced contribution from toll services and by higher costs for the connection from the local office to the toll office. It also provides a process by which telephone companies with fewer than 50,000 main stations can be reimbursed for their costs of providing local service and the connecting link to the toll office. The company would have to demonstrate that its costs exceeded the national average by 10%.[50]

An Interexchange Joint Board would have the responsibility to establish and to oversee these procedures. The money for this type of reimbursement would be generated by surcharges which are applied to access charge payments of interexchange carriers when they use the local telephone company's facilities.

S.898 sets out to meet similar goals. Here the stipulation is that a telephone company must be "...eligible for telephone loans under the Rural Electrification Act of 1936, as amended." S.898 also provides subsidies for telephone service from or within the state of Alaska.[51] S.898 further requires the FCC to assure that:

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WHO SHOULD BE SUBSIDIZED?

As previously discussed, the introduction and growth of interexchange competition has led to a recognition that there will likely be a reduction in the allocation of local costs to be met by toll revenues. There has been much discussion about the inability of the interexchange services to continue to carry the burden of local costs as they have in the past. As expressed by NTIA administrator, Bernard Wunder, "NTIA believes that current allocation procedures which increasingly over-assign non-traffic sensitive (NTS) to interexchange services is not sustainable in a competitive environment."[48]

Assuming a reduction in the interstate allocation of costs will occur, what are the transitional and the more far-reaching implications for the various categories of customers? Regulators and legislators raise the issue of a protective mechanism, such as the assurance of a reasonable transition period for those customers who would be most affected by this reduction. However, there is no consensus as to which categories of customers will in fact be disadvantaged, and which categories truly deserve protection.

The Rural Concern

In this context, the rural telephone subscriber is often cited as being in need of protection. The Rural Telephone Coalition (RTC) along with a number of individual small independent rural telephone

Formula

$$ACF = [UF * (HCF) \times T] + [SPF (1-T)]$$

Definitions

ACF = Access cost factor
UF = Usage factor (e.g. SLU, TCM, Users, etc.)
HCF = High cost factor(s)
T = Transition time factor (for a phased introduction of a change)
* = Addition, multiplication, or other arithmetic operation
SPF = Subscriber plant factor (as defined)

Figure 12

Low Density, High Cost Generic Formula

Source[S12]

> ...insofar as it is practicable and consistent with other provisions of this act, [that rates for qualifying telephone companies] not exceed 110% of the national average for comparable service, taking into account such factors as distance, duration and time of day for interexchanging service and rate structure and calling scope of exchanging service.[52]

As we have seen the goals of the Senate and House proposals are in general agreement. The Senate bill goes a bit farther by creating a separate category for the provision of telephone service in Alaska.[53]

Joint Board Considerations, Docket CC 80-286

The telephone companies participating in the joint board in Docket CC 80-286 have recognized that a realistic evaluation of the future will require at least reduced growth in the allocation of non-traffic sensitive costs to interstate toll service. Given that recognition, there has also been significant discussion of needs for transitional protection for the rural telephone companies with high costs and a significant historical dependence on toll support.

The telephone industry (as represented by a group of small rural telephone companies identified as the Wyoming et al. Companies, United States Independent Telephone Association, Rural Telephone Coalition and the American Telephone and Telegraph Company) proposed, to the joint board, a generic formula for recognizing low-density, high-cost situations (Figure 12).

A great deal of research must be undertaken to identify what factors are involved in these high-cost situations. There are obviously significant options available as to what data should be used in calculating the ACF. Once the appropriate data are identified, then those factors can be determined which should be included in the formula. Only then can this generic formula be meaningful.

Legislative proposals, in particular, have limited any flow of dollars from access charges to offset local rate increases to those telephone companies which are small and which serve exclusively rural areas. However, there are a significant number of rural subscribers who are served by larger independent companies or the Bell Operating Companies. Possibly, the legislative perspective presumes that the larger Bell and independent companies will be able to maintain reasonable rates for their rural customers through some internal pricing cross-subsidies. If that is not the case, then situations could arise where two rural subscribers who live across the street from each other pay substantially different rates. The one who lives in a Bell or large independent operating territory would have to pay high rates which are due to legislative misperceptions, and the other who lives in small independent telephone company territory will pay lower rates which are due to subsidies.

Lack of Consistent Perspective on Subsidy Programs

The support for reasonable rural telephone rates, as reflected by Congress, the FCC and the Joint Board, grows out of a mounting concern for the implications of a transition from monopoly telephone service to an aggressively competitive marketplace. A high priority is given to establishing procedures which will assure continued low rates for customers of small telephone companies. However, at the same time, Congress approved a budget for fiscal year 1982 which affects the insured loan program administered by the Rural Electrification Administration:

> The insured loan program would be trimmed from a range beginning at $250 million in current fiscal 1982 to $75

This proposed generic formula for high cost, low density won approval at a February 24, 1982, meeting of the Joint Board, and was supported by the Joint Board staff:

> All of the specifics need to be filled in, the staff members told the board, but the proposal was endorsed as an approach to the general agreement that there are urgent needs to revise the allocation of non-traffic sensitive exchange plant, but to provide at the same time a factor to insure universal service.[54]

An Explicit Subsidy for Whom?

Legislators and regulators will determine which category of telephone users, if any, will deserve a subsidy in the access charges.

Some have argued that the current separations process benefits the local rate payers regardless of their individual economic status. It appears that the subsidy which is presently proposed by both House and Senate seems not so much directed at the needy rural customer but at the interests of the small rural telephone companies. In contrast, the generic formula accepted by the Joint Board would consider the needs of a rural exchange whether it was provided by a large or small independent telephone company or a Bell Operating Company.

An AT&T study based on 1960 census data concludes that in places with populations of fewer than 2,500 people, Bell and the independent companies serve about the same number of people. In places where the population rises to the 2,500 to 5,000 range, Bell serves about twice the customers of the independent companies.[55] This study did not identify those rural customers who would be excluded from the rural subsidy program because they are served by the larger independent telephone companies.

determinations be made in advance whether there will be a need for specific support of low rural telephone rates through a subsidy which is limited to small rural telephone companies? If indeed the predictions come true that rural rates will increase "unreasonably" in relation to other telephone rates, then it may be possible that rural subscribers of the larger companies are as much in jeopardy as those customers of the small separately owned rural company. Simply to assume that larger telephone companies will be able to subsidize their rural subscribers may be a gross error. As facilities for by-passing the local telephone network become available, the local telephone companies may not be able to price other services enough above their costs to underwrite low rural rates.

If one of the goals of access charges is to make subsidies more explicit, then how can larger companies be expected to support and subsidize their rural subscriber rates through revenues from other services? To institute a specific subsidy program at this point may be unwise because the market is just beginning to move toward its full competitive potential.

Predicting Future Needs

Furthermore, once a subsidy program has become institutionalized, it may well continue to exist even though public need may have passed or may have never fully developed. If there is a need at all to define those user categories worthy of subsidies, would it not make better sense if the subsidy would go to the low-income subscriber regardless of whether rural or urban? Should not the disabled as well

> million, under the proposed budget.... In one of the most significant reductions the RTB (Rural Telephone Bank) capitalization fund of $30 million this year would be eliminated entirely.[56]

When we consider the attention which has been given to the subject of rural rate protection, we may conclude that universal service is far from achieved in these rural places. The majority staff report of the House Subcommittee on Telecommunications, Consumer Protection and Finance tells us that in 1980, 94% of the rural households had telephone service[57]. In comparison, 96% of the total households in the nation had telephone service. When we discuss the achievement of universal telephone service, the 2% difference does not seem insignificant. Rural telephone service grew from 90% to 94% per household between 1975 and 1980. For the nation as a whole, the growth in telephone service for the same period was only 2%. Rural service currently expands at a rate twice the national average. So the minimal variation in telephone development appears not to justify special concern about rural telephone subscribers.

Subsidy Issues in a Competitive Environment

A telecommunications future which provides competition and thus freedom of choice for the consumer will provide substantial and to a large degree unpredictable changes. Competition is often discussed as a replacement for regulation; however, the reality may well be an infrastructure of regulated competition. Further advancement of technology will also influence services and their rate structures. Any attempt to predict what will happen in an individual segment of the market or for any category of customer has to be speculative.

Taking these considerable uncertainties into account, how can

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WHO PAYS NTS COSTS? HOW MUCH?

The allocation of local costs to interexchange services has a significant effect on the end-to-end rate for the intercity user. The current interstate process was recommended by a Federal State Joint Board and was thereafter ordered by the FCC.

The National Association of Regulatory Utility Commissioners (NARUC) represented the states on a general level. But the needs of each individual state also had to be addressed. Large and small independent telephone companies presented their views. The Bell System was obviously an influential participant in these considerations since its interests as a supplier of both local and intercity services were at stake. By final vote, the FCC had to be satisfied that the views and needs of each party were adequately addressed and its responsibility for the public interest had been met. The fact that non-traffic sensitive plant is jointly used provides an opportunity for varied and often disparate views on how this cost should be allocated to toll services.

If we accept that the demand elasticity for toll service is greater than the elasticity for local service, then it might be reasonable to conclude, on the basis of economic efficiency, that if any allocation of local costs to toll services is justified, it should be minimal. Any cost that is little influenced by levels of use provides significant additional opportunity for argument as to the appropriate foundation for allocation. While there may not be

as the elderly deserve special consideration when it comes to subsidies?

To institutionalize subsidies now through legislation runs a significant risk of becoming a mistargeted project. It also inhibits regulatory judgments to develop more appropriately directed subsidies as needs develop. The Joint Board's acceptance of the telephone industry's generic formula indicates that it has the authority to propose a subsidy program that does not require any additional legislative direction.

The issue of subsidies raises an important question: How appropriate is a subsidy program designed to meet general public need which would be exclusively dependent on revenues collected from the use of local telephone networks by interexchange carriers? If such a program is implemented on a nationwide basis, then the revenues should perhaps be generated through general tax funds based on legislation.

To add a surcharge to access charges may be self-defeating, because this surcharge may increase the cost to some customers of the local telephone network beyond its reasonable economic value. This will encourage segments of the market to look for alternatives to present local distribution systems. Improper pricing could reduce the use of the local networks and in turn increase the rates of those subscribers to whom new technological alternatives are not attractive. What then is the purpose of any subsidy in connection with access charges? Is it wise to adopt a proposal that may be mistargeted, given the inability to predict what problems will arise and what inequities will result from such a process? There may be a question of the constitutional authority for such a hidden tax.

In May 1978, the Bell System filed a tariff for Exchange Network Facilities for Interstate Access (ENFIA). This was a tariff to provide local exchange facilities for those OCCs offering MTS-type services. The ENFIA tariff provoked numerous filings with the FCC. Shortly before the ENFIA tariff was filed, the FCC had instituted Docket CC 78-72, an inquiry into the MTS and WATS market structure[63], which at times has been called the "public interest" docket and evolved to the "Access Charge Docket." One function of this inquiry was to determine whether services such as Execunet would, in fact, be in the public interest.

The issues of this docket were so substantial and complex that a quick solution to them appeared out of the question. There was pressing need, however, to settle the issue of reimbursement of local companies for their provision of local distribution facilities for MTS-type services. Henry Geller, the Assistant Secretary of Commerce for Communication and Information, urged the FCC to avoid time-consuming litigation of the issues raised in ENFIA. He recommended a "...reasonable interim solution [by making] every effort to achieve a negotiated settlement among the parties similar to the successful negotiations that took place under Docket 20099. [Facilities for Use by Other Common Carriers]"[64]

So negotiations began under the aegis of the FCC and led to a joint, interim agreement by participating telephone companies and OCCs which was then filed with the Commission.[65] This "rough justice" interim agreement was accepted by the FCC in April 1979.

There were significant characteristics of this agreement. Above all, it was a negotiated agreement. Under the aegis of a regulator

consensus, there is at least quite broad acceptance that since the costs are allocated as they are today, this must be the foundation for any transition to the future.

ENFIA—A Beginning

The ENFIA interim settlement agreement along with the events which led to its acceptance by the FCC[58] is a step in that transition. What are the characteristics of this agreement?

In October 1974, MCI revised its tariff so that it could offer a service which was subsequently marketed under the name of Execunet. AT&T filed a complaint with the FCC in which it claimed that Execunet was not a private line service as the FCC authorized MCI to provide, but that it was a service with the essential characteristics of MTS. After several rounds of exchanges between AT&T, MCI and the FCC, the FCC issued its order of July 2, 1975:

> While no one of these characteristics is necessarily sufficient in itself to classify Execunet as identical to MTS, the combination of these similarities, under the factual situation presented here, inescapably leads the Commission to conclude that your Execunet is essentially a switched public message telephone service rather than a private line.[59]

> It further concluded in regard to Execunet service provided by MCI, "Since your authorizations are limited to private line services, you cannot lawfully tariff and operate other services on these facilities."[60]

> The FCC reaffirmed this action in July 1976.[61]

The Court of Appeals overruled that portion of the FCC order which required the withdrawal of the Execunet service, but it did not address the question of how the local telephone company should be reimbursed for the use of local facilities for MTS-type services.[62]

Limitations of Negotiation

The negotiation process played a very important role as ENFIA became the beginning of access charges. It will most likely not replace the adjudicatory or regulatory process. The success of negotiations depends to a large degree on the right selection and limitation of the issues under discussion, on a small number of participants and on an adequate moderator.

A Comprehensive Agreement of Limited Duration

The ENFIA settlement agreement, though limited in duration and in other ways, did deal broadly enough with issues to avoid revisiting the subject for three years.

It established a phased increase in the rates for the use of jointly used NTS plant. The initial rate to the OCCs was "35% of the amount per minute calculated under the Separations Manual for the respective Bell System and GTE interstate MTS and WATS minutes of use."[68] The percentage rate paid by the OCCs increased as the OCC market for MTS-type services increased; when the combined OCC revenues for MTS-type services exceeded $250 million per year, the percentage rate was increased to 55%.

There were two phases in the ENFIA agreement. At the end of three years, phase one expired, and with it a number of the particulars that avoided revisiting the agreement during the initial three-year period.

The signal value of dealing with all of the details required for an ongoing ENFIA agreement, without regulatory intervention, became

(in this case, the FCC), parties--with strongly opposing views--were able to sit down and work out at least an interim basis for conducting business together. There is little question that the negotiation process, in the case of ENFIA, substantially reduced the time required to obtain a defined arrangement for doing business over what would have been required by going through an adversary proceeding before the FCC.

The ENFIA negotiations may provide a limited model for resolving disputes among competing parties in the telecommunications industry. Given the industry's trend toward reduced regulation and increased competition, the process of negotiating should be a useful tool for settling disputes. However, it will likely accommodate only a limited range of disagreements, and as has been pointed out before, there are a number of factors which favored the success of these particular negotiations.[66]

As Kurt Borchardt points out in his analysis of the ENFIA interim settlement agreement negotiations, the motivation to reach an agreement was possibly of greatest significance.[67] The courts obligated AT&T to provide the interconnections which were necessary for the OCCs' provision of MTS-type services. Yet there was no adequate guideline on how to charge for those interconnections. It was to the advantage of the OCCs to have arrangements for billing under the jurisdiction of the FCC, as long as the price was right. In this way the OCCs would only have to deal wih one regulator instead of individual state regulators. Furthermore, the FCC would be likely to view more favorably the provision of competitive services than would the state regulators.

services which should pay a share of local non-traffic sensitive costs. Following are four alternative proposals for including NTS costs as a part of the access charge concept.

1. All Interexchange Services.

Senator Hollings introduced Senate Bill S.611 of 1979 with the comment that:

> ...since all intercity carriers rely upon the existence of universal, local networks, whether or not they connect with them, for any particular service, the money for the basic exchange maintenance program would be collected by a surcharge on all intercity traffic handled by each in the previous year.[71]

A similar position was taken by AT&T. Its filing in Docket CC 78-72 on March 3, 1980 states:

> All interstate services, both basic and non-basic (including private communication systems), should make an equivalent contribution based on the cost of non-traffic sensitive local plant. This is crucial if market equality is to be achieved; i.e., to insure that the amount of contribution borne by particular services does not become the criterion by which customers select one interstate service over another.[72]

Both positions recognize that the contribution to non-traffic sensitive local costs have a significant impact on the price of interexchange services. To facilitate competition among interexchange services in additional areas of price and service, these proposals argued that all services make an equivalent contribution to non-traffic sensitive local costs. This, however, has the characteristic of a two-edged sword. Not only will it have an impact on the price of interexchange services, but it will furthermore influence the selection of local distribution facilities for the interexchange service.

especially apparent as the April 15, 1982 date for expiration of phase one of the agreement approached. For the agreement to be extended for the additional two years, FCC action was required.

The drafters of the ENFIA agreement were even able to predict the probability of contention over extension of the agreement:

> It is expected that, with respect to the implementation of phase two, the Bell System and GTE will urge that OCC's level of payment be increased to 100%. Conversely, it is expected that the OCCs will urge that the level of payment for phase two should be substantially reduced below the phase two level.[69]

The contention over the extension of the ENFIA agreement is certainly not surprising. It effectively reopened the opportunity for negotiation. The initial ENFIA negotiation required accommodations be made by parties with opposing views.

Expansion of the ENFIA Concept

The parties involved in the ENFIA agreement recognized its limitations and they suggested that the Commission take immediate action. They suggested an expansion of the application of ENFIA-type access charges to services beyond those MTS-type services covered in the initial ENFIA agreement:

> The parties recognized that the overall question of interim charges for access to local telephone company exchange plant by services not included in this agreement—such as FX (Foreign Exchange), CCSA ONALS (Common Control Switching Arrangement Off Net Access Lines), Value-added Data and Facsimile Services, etc.--needs resolution while CC Docket 78-72 is pending.[70]

The FCC took no action on this issue during the first three years of the agreement, but there were discussions within the Commission, Congress and other interested parties about additional types of

> would pay a non-discriminatory charge to local telephone companies to cover the local cost associated with the origination and termination of intercity service. Such a charge would cover not only the direct and traffic-sensitive costs, but may initially contain some contribution to non-traffic sensitive costs that are common to both intraexchange and toll usage.[73]

The Rural Telephone Coalition expressed a similar view:

> An access charge which continues to recover the present federal share of exchange costs is both fair and sustainable. As long as the allocation of exchange facility common costs to all interexchange services which use those facilities is equitable, no one service can gain a competitive advantage.[74]

S.898 would establish a Joint Board "for the purpose of ascertaining the direct, joint, and common costs of exchange telecommunications service and exchange access and apportioning those costs between exchange telecommunications services and exchange access."[75]

Once the costs for access are determined, S.898 requires a system of exchange access charges which will "...achieve equal treatment among all telecommunications carriers and other customers using the services of each exchange carrier through direct or indirect interconnection."[76] This suggests that NTS costs will then be allocated to all of those interexchange carriers which use telephone company local distribution on an equivalent basis.

The telecommunications legislation which was introduced by the House as H.R. 5158 in February 1982 takes a slightly different approach, but one with similar consequences. Each exchange carrier is required to submit a schedule of fees for application "...to interexchange carriers and to other customers which interconnect to the facilities of such (exchange) carrier."[77] H.R. 5158 mandates that a transitional joint board determine the amount of NTS costs

Clearly, if the price to the consumer of interexchange services can be reduced by selecting a mode of local distribution that makes a reduced contribution to local non-traffic sensitive costs, this could become a principal consideration in the selection of local distribution facilities. The local distribution facility would be chosen, not because of its real economy or its special attractiveness in terms of terminating a certain kind of interexchange service, but rather principally because it avoids contribution to local non-traffic sensitive costs.

2. Connectability to Exchange Facilities

An alternative with somewhat narrowed application argued that those interexchange services that have access to exchange facilities of the telephone company should pay a share of the NTS costs.

Those that take this position seem to recognize that this may favor those services that do not make make use of telephone company local distribution facilities. However, they seem to judge that the availability of such technology is quite limited today and if and when such avoidance of the contribution to non-traffic sensitive costs becomes significant, then the subject of what services should contribute to non-traffic sensitive costs will have to be reviewed. This approach discounts the significance of encouraging development and implementation of local distribution technology that may be viable, not on its own merits, but only because it avoids a contribution to non-traffic sensitive costs.

NTIA, in its March 3, 1980 filing (Docket CC 78-72), took this position:

> All long-distance carriers making use of local exchange facilities for origination or termination of toll traffic

> on the basis of holding time minutes is the most reasonable solution available to us in accomplishing our goal in achieving approximate parity among the various interstate services.[81]

As we have seen, however, a variety of problems arise from per-minute-of-use pricing, particularly for the high-volume user. (See Section 8, Customer Impact.)

4. Maintaining the Status Quo

There are a number of stakeholders in the discussion on access charges who argue that the only appropriate approach is to leave things basically as they are. In Docket CC 78-72, United States Transmission Systems (USTS) argued that:

> The calculation of access charges, is intermingled with and dependent upon the questions of interconnection such that the latter should be resolved prior to the imposition of the former.[82]

> [The argument of USTS continues.] It is obvious that the Commission cannot jump headlong into this area of access charges without first changing the separations process to reasonably apportion costs among the interstate and intrastate jurisdictions.[83]

Southern Pacific Communications Company (SPCC) offered a similar view in the same docket:

> While SPCC recognizes the political reasons why the SPF factor was initially developed, SPCC also believes that its application in the establishment of rates to be paid by OCC, as opposed to whatever joint rate arrangements have been made by members of the 'partnership' which jointly developed the SPF [Subscriber Plant Factor] arrangement, would be unlawful because it results in rates not reasonably related to costs.[84]

The claim is that the current Ozark separations process, though prescribed by the FCC, does not make a reasonable allocation of a joint cost. The foundation for this approach is that the process for allocating the non-traffic sensitive costs to interstate requires

which can be appropriately allocated to interexchange use of exchange facilities. In addition, the bill requires that any requirement for allocation of NTS costs has to "...avoid substantial or undue rate increases...[those costs] shall not be recovered from access fees, but rather from a separate National Telecommunications Fund."[77] This Fund is accumulated from a surcharge on access fees which the interexchange carriers pay to the telephone companies. If an interexchange carrier can avoid the use of telephone company local distribution facilities, then the competitive benefits to that service could be substantial. The H.R. 5158 proposal could well have led to surcharges to be paid to the National Telecommunications Fund that were greater than the access fees themselves, at least in the early years after enactment. If an interexchange carrier avoided the use of telephone company-provided local distribution facilities, then it would pay no surcharge.

3. FCC's Four Categories of Interstate Services.

In its second supplemental notice in Docket CC 78-72, the FCC established a tentative access charge plan which:

> ...prescribed access charges for four categories of interstate service (MTS/WATS, FX/CCSA Access, Private Line, and OCC-ENFIA) that will pay for the use of exchange plant to originate and terminate interstate traffic.[79]

The plan recognized that because there are functional differences in the access charge categories, some items of investment and expense would vary accordingly.[80]

When the plan addressed the issue of non-traffic sensitive categories of cost, it concluded that:

> ...access is accomplished through the use of local central office facilities, subscriber loops, and station equipment. Given these similarities, and given the fact that we cannot quantify any cost differences between the different access service categories, we believe that allocating investment...

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RATE LEVELS AND INTERCONNECTION

Since the introduction of Execunet followed by other MTS-type services, there has been considerable contention over the type of interconnection which should be used for these services.

The initial ENFIA negotiations were limited to setting a price for the interconnection. They did not consider what type of interconnection there should be. The successful conclusion of the initial ENFIA negotiations may have been heavily dependent on the limited issues considered. The subsequent ENFIA negotiations (that become known as ENFIA II and ENFIA III) did not lead to an agreement. Reviewing their halting path and contrasting it with the initial ENFIA negotiations may provide some insights as to when negotiations may be fruitful and when they may have limited prospects for success.

In July 1979, United States Transmission Systems (USTS) suggested to AT&T that the telephone industry and USTS networks should "...have a common ability to meet the local operating company."[86] USTS referred to the present method of access as "...both cumbersome to (USTS) customers and unnecessarily complicated....The substantial burden placed on USTS subscribers is not fostering fair competition."[87]

New Negotiations Proposed

In a letter to FCC's Chairman Ferris, AT&T's Vice-President James R. Billingsley proposed resumption of ENFIA-type negotiations. He

rethinking and ultimately a revision before any expansion of access charges to other services should be considered.

Continuing the status quo would mean, until there are revisions in the cost allocation process, the telephone industry's MTS and WATS service would continue to carry the allocation of non-traffic sensitive costs at the separations level. In addition, the ENFIA agreement, with its extension by the FCC for an additional two years until April 1984,[85] has established a working, ongoing arrangement for reimbursing the telephone companies for those services that the FCC has judged to be most like MTS and WATS service provided by the telephone industry.

In summary, the status quo argument maintains that provisions for reimbursement of the local telephone companies for use of their facilities are reasonably adequate to meet today's needs. To take any additional steps in the direction of more broadly applicable access charges, interconnection provisions need to be satisfactorily dealt with by the FCC and the interstate cost allocation process has to be rethought.

Lines can be accomplished."[91] AT&T Assistant Vice President Irwin Dorros thought that a more thorough understanding of the OCCs' needs was required. He stated:

> ...now there are new demands on the network, and we don't know the details of what our competitors are doing regarding their network. Once we can figure out what you are trying to accomplish, there may be a way to get you what you want, without completely redesigning our network.[92]

The discussion on enhanced interconnection arrangements continued into January 1980. There was hardly a meeting in which continuing the negotiations was not in jeopardy. There was an inability to limit the agenda and the discussions to those issues that were meaningful to everyone. The final meeting of what later became known as ENFIA II occurred on January 29, 1980. OCC representatives expressed their view that the price for the improvements in interconnections substantially exceeded the value of the improvement. Southern Pacific Communications Services Company's President Jeff Kushan "objected to the OCCs 'spending a lot more money and not getting anything' they had originally requested."[93]

> Head AT&T negotiator John F. Fischer, Assistant Vice President-Industry Relations, said that his company had "spent a lot of time on this, and we've been hopefully looking for some input on how to do it differently." Noting that the proposals thus far would have given the OCCs answer supervision and better transmission, he told the OCCs that they must make their own business judgments on whether or not to leave things as they are.[94]

The FCC's report in the Third Supplemental Notice in Docket CC 78-72 provided insights and guidance for interconnection provisions:

> The adjournment of the ENFIA II negotiations does not appear to be the kind of impasse which warrants the commencement of a proceeding to prescribe an access arrangement. The negotiating meetings were adjourned because the participants did not appear to be ready to proceed further until this Commission resolved some unresolved questions including the entry policy with respect to the MTS-WATS market. We are

stated that AT&T "...would be willing, if the Commission feels that such an approach is desirable, to meet with the interested parties under the Commission's aegis to explore alternative interim solutions."[88] FCC Common Carrier Bureau Chief Philip L. Verveer made an attempt to limit the issues of the proposed discussions, perhaps with the intention of improving the likelihood of their eventual success:

> These discussions, therefore, would not address treatment of other services accessing local exchange plant, i.e. FX [Foreign Exchange], CCSA [Common Control Switching Arrangements], or ONAL [Off-Net Access Lines]. Of course, any negotiated modifications to the existing interim solutions would be subject to appropriate Commission action.[89]

In September 1979, Verveer also made an attempt to limit the negotiations to those modifications which might be accomplished in the near future:

> Furthermore, unlike the prior ENFIA negotiations in which a "rough justice" interim solution was sought, the Bureau's role in these meetings is to facilitate explorations of possible alternative interim solutions and related tariff changes if appropriate. Should the parties conclude that the interim arrangements are adequate or that alternatives cannot be agreed upon by the parties, the series of meetings would be terminated.[90]

Limiting Issues is Difficult

Even with Verveer's attempts to limit the issues, the telephone company and other carrier representatives could not agree on the agenda for new negotiation sessions. MCI Telecommunications Corporation's Senior Vice President Burt C. Roberts, Jr. represented the OCCs' sentiments when he claimed that we "...are not here to discuss whether we have a right to the same thing Long Lines is getting. We're here to discuss how functional equivalence with Long

acknowledged the inadequacies if the Commission prescribed access arrangements. Perhaps it anticipated that the OCCs and the telephone companies would continue the dialogue because of their own interests. The Commission clearly encouraged further negotiations. It also suggested that if progress would not be made, then the Commission would institute additional proceedings for the prescription of access arrangements.

AT&T wrote to the FCC in November 1980 and indicated that it was "'ready to commence promptly' discussions with other common carriers concerning both short-and long-term plans for interconnection arrangements."[98] The letter further explained why AT&T thought that the interim interconnection arrangements could be a foundation for renewed interconnection negotiations:

> ...our efforts have centered on arrangements which would provide trunk-type connections on local central office ESS [Electronic Switching System] switches which can provide local or tandem functions and a unique nation-wide access code for each OCC. The arrangement could also provide answer supervision and improved transmission and testing capabilities.[99]

AT&T's proposal for reconvening discussions on improved access arrangements found support by NTIA and the GTE Service Corporation. Assistant Secretary of Commerce Henry Geller reiterated the position which NTIA took in its filing in Docket CC 78-72. He suggested the goal might be:

> ...access interconnection arrangements where all interexchange carriers could choose from a 'menu' of interconnection arrangements with varying costs and performance characteristics. Further negotiations may be the most effective and expeditious way of achieving equitable results in this regard. We therefore believe a commitment by all interested parties to reasonable and fair negotiations under the Commission's auspices could lead to solutions which are acceptable to all parties.[100]

confident that the carriers will proceed in good faith to examine both short-term and long-term solutions to access arrangement problems in light of the decisions we have reached. If that confidence proves to be unwarranted, this Commission will institute appropriate proceedings.[95]

"Equal" May Not be the Total Answer

The same notice also states:

...the suggestion that all of the access problems can be resolved by requiring identical access at identical charges is probably too simplistic. If carriers are afforded freedom to offer any service that fits into a particular carrier's marketing strategy at a particular time, different carriers will probably need different facilities and services from the operators of the local exchange and the same carrier may require different access arrangements for different services. We are concerned that any effort to establish a single arrangement at a single charge for all access to the local exchange might create a regulatory straight-jacket that would tend to inhibit the innovation and service diversity our open entry policy is designed to promote. Even generic categories such as MTS-WATS equivalent or nonbasic services may also tend to obscure differences within such categories. The MTS-WATS offerings of the telephone companies include several variations of a switched service. Execunet, Sprint and City-Call are not precisely the same as any of them. The carriers that offer the latter services may ultimately replace or supplement them with other MTS-WATS type services that are less analogous to a credit card service. Such services might have access requirements that differ from Execunet-type services.[96]

Furthermore,

We have concluded that we should not prescribe a single access arrangement or a single access charge. A flexible approach is necessary which encourages the carriers to adapt access arrangements to the service provided. Under such an approach, it will probably be necessary to prescribe access charges for several different access arrangements and to revise the charges from time to time to fit new access arrangements. However, we do underscore the basic principal [le] that there should be equal charges for equal facilities.[97]

New Negotiations Encouraged

The FCC recognized the difficulty of the negotiations process in its Third Supplemental Notice in Docket CC 78-72. It also

the ENFIA Agreement.[104] The session concluded with the agreement that the OCCs should submit an information request to AT&T within two weeks. AT&T would then respond to it after an additional two weeks. The next meeting was to be held after AT&T's response was received.[105] Several rounds of interrogatories, responses and questions followed the ENFIA II negotiation sessions.

There was great disagreement on what issues should be discussed in future ENFIA III meetings. The range of disagreements made it extremely unlikely that conclusions could be reached within a short period of time.[106]

In July 1981, AT&T submitted an illustrative tariff for ENFIA B and ENFIA C to the Commission and an accompanying request for a temporary waiver of economic support requirements.[107] MCI Telecommunications Corporation asked the FCC to deny the AT&T request. Satellite Business Systems, on the other hand, supported the AT&T waiver request since it had indicated an interest in ENFIA B and ENFIA C arrangements.[108]

The FCC granted the AT&T waiver request, but required that the ENFIA B and ENFIA C tariff be separate from the existing ENFIA A. In granting the waiver, the Common Carrier Bureau made the point that its action on the waiver:

> ...should not be construed as an indication that the bureau lacks interest in the continuation of the ENFIA III negotiations. To the contrary, we are committed to finding a solution that will ensure the availability of the type of interconnection to which the OCCs are entitled. And we remain convinced that the ENFIA III negotiations constitute a practical forum for resolution of the issues that have prevented achievement of this objective.[109]

The tariff offering ENFIA B and ENFIA C went into effect January 8, 1982. However, "the FCC's Common Carrier Bureau instituted an

The next meeting took place on April 29, 1981, nine months after the FCC's initial encouragement, and five months after the proposal by AT&T which was subsequently endorsed by the NTIA and GTE Service Corporation.

Agreement on Issues Still Difficult

As in previous meetings on this issue, it was difficult to agree on an agenda. While the OCCs showed some interest in AT&T's specific proposal for improved interconnection, they made it clear that this proposal did not go far enough.[101] There was also disagreement on who should participate in these meetings. According to Telecommunications Reports, "OCCs thought that the talks should be held between the Bell System and the firms who are purchasing facilities under the ENFIA tariff, in order to limit the number of participants and speed up the discussion."[102] Parties present finally agreed that the discussions should include those carriers and telephone companies which would be affected by these negotiations at some later point.

Two Alternative Interconnections Offered

AT&T's proposal outlined two new types of interconnection, "as distinguished from the existing line-side termination (ENFIA A), the essence of the proposed alternative arrangement is a trunk connection to end offices (ENFIA B), and No1/1A ESS local tandem offices (ENFIA C)."[103] Some of the participants in these discussions also wanted to renegotiate issues raised in the initial ENFIA tariff which later led to the ENFIA Settlement Agreement of 1979. These issues related primarily to the renegotiation of rate levels which were included in

The telephone companies were clearly not satisfied with the rate level which was negotiated in the initial ENFIA discussions. However, the agreement did establish the principle that as the OCC market increased so should the rates. The OCCs argued the price was too high.

As we have seen, the initial ENFIA negotiations were limited to the issue of price, and all parties recognized that this price would either be established by a process of negotiation among the parties or by action on the part of the FCC. Two main arguments emerged in the discussions: The OCCs demanded as low a price as possible and the telephone companies argued that the price should be equivalent to that cost which is allocated to interstate MTS-WATS services.

ENFIA II and ENFIA III negotiations included a broader range of topics. Issues included short-term achievable interconnection arrangements as well as long-term "full-equivalence." MCI, SPCC and USTS--companies already providing MTS-type services--showed little interest in AT&T's proposal for improved interconnection arrangements. SBS, however, indicated that it wanted to become a competitor in this market and that it would want to take full advantage of these improved interconnections. While it was of advantage to SBS to get the tariff in effect as soon as possible, it was not necessarily advantageous to those companies already providing MTS-type service.

As carriers and services become more diverse, there may even be less likelihood of successful negotiations. It will no longer be possible to reduce the issues for negotiation to the relative simplicity which characterized the initial ENFIA negotiations. This will reduce the likelihood of achieving a negotiated resolution.

investigation into the tariff and ordered AT&T to keep an accurate account of revenues received pursuant to it, in case it is found that the charges are too high."[110]

The Commission responded to the arguments rejecting the tariff and challenging AT&T's costs development. The Commission concluded, "We see no merit to these claims. While we agree that some of the questions raised should be investigated, we do not conclude that the data are so inadequate as to warrant rejection."[111] The Commission approved the tariff even though it recognized that it was far from providing a final answer to interconnection issues. The ENFIA B and ENFIA C interconnection arrangements provided some additional features which were not included in the previous ENFIA A agreement. The approval of ENFIA B and ENFIA C allowed for optional arrangements for interconnection of MTS-type services which otherwise would not have been available.

Contrasts between ENFIA I, ENFIA II and ENFIA III

The initial ENFIA negotiations were quite limited in scope. They dealt, nearly exclusively, with the question of price for interconnections which already existed. There was hardly an alternative to the local telephone companies but to continue with the provision of the interconnection. The FCC had no tariff under which these companies could collect for their services. Quite obviously the OCCs had to pay something for the interconnections which they used. If the OCCs and the telephone companies could not reach an agreement among themselves, then the FCC would eventually have to prescribe a rate.

the price for improvements in interconnection will continue to be the subject of considerable debate. Extensive disagreement will probably continue over the appropriate cost process to support a rate for interconnection. This is not really surprising; if one reflects on the initial ENFIA negotiations where the interconnection arrangements were already in existence, the single point of contention was the price for those interconnection arrangements.

Rationalizing Cost and Value

However, in going forward the discussions will have at least two dimensions. For incremental improvements in interconnection, there will be an argument between the value of the improved or alternative interconnection arrangements as perceived by the OCCs and the cost of that interconnection as determined by the telephone companies.

As was obvious in the telephone company's proposal for ENFIA B and ENFIA C, Satellite Business Systems saw a value in the ENFIA B and ENFIA C arrangement for their entry into the MTS-type market. While suggesting that the FCC should initiate an investigation into the appropriate rates for ENFIA B and ENFIA C, they did seem to find that the value of the alternative interconnection arrangements was worth the proposed rate at least on an interim basis. The OCCs who were already providing MTS-type services took a quite different position, viewing the improvements offered by ENFIA B and ENFIA C of little value and arguing that what needed to be addressed was the question of equal interconnection.

Future steps toward improvements in interconnection may be equally arduous, and determining the appropriate cost process to be

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LONG-TERM INTERCONNECTION CONSIDERATIONS

Participants in the ENFIA II and III discussions dealt mainly with short-term improvements in interconnection arrangements. They did not deal with the longer-term goal of "equal" interconnection. There seemed to be some difference of opinion among the OCCs as to which steps in improving interconnection should be taken first. There was also a lack of agreement as to the value of various interconnection alternatives for the MTS-type services. The ENFIA discussions indicated that equal interconnection may not be achieved in one simple jump, but may more likely be achieved through a step-wise process of incremental improvements. FCC Commissioner Jones expressed the following views on interconnection:

> To begin with, the public switched telephone network was not designed for interexchange competition. The current numbering plan has been in use nationally since 1947. When the network was designed it was natural to assume that there would be only one interexchange carrier. To suppose otherwise, and to believe that the design of the network was some kind of anti-competitive plot, is to give AT&T long-range planning, far more credit than it deserves! Given the state of the public switched network, it is presently not possible in most locations to give the OCCs the same quality of local interconnection as is given to the Bell/Independent Interexchange "partnership."[112]

There might not be much argument over the historic perspective of Commissioner Jones' statement. The contention addressed in congressional and regulatory forums is whether the local telephone companies have moved expeditiously enough in offering improvements in interconnection. Many of these contentions were covered in the previous discussion of the ENFIA II and III negotiations. As before,

The reference to "affiliated" relationships between exchange and interexchange carriers reflects the fact that this bill preceded the proposed Modified Final Judgment that would divest the local telephone companies from the interexchange portion of AT&T's business.

Technological Impediments to Equal Interconnection

S.898 recognized that there would be some legitimate reasons for not providing such equal interconnection and established a waiver process for such eventualities:

> ...upon application of an exchange carrier, the Commission may grant a limited waiver of the September 1, 1986 deadline for equal access in those instances in which waivers permit ...such a waiver may be granted only upon a showing that for particular categories of services, such access is not physically feasible except at costs that clearly outweigh potential benefits to users of telecommunication service.[114]

S.898 recognized a special difficulty in providing equivalent digits to be dialed for all carriers as is reflected in the following provisions:

> At such time as the national numbering area (area code) plan is revised to require the use of additional digits, each exchange carrier shall provide exchange access to any inter-exchange carrier, including any dominant regulated carrier, through a uniform number of digits.[115]

This provision seems to accept that the current uniform 10-digit long distance dialing code could not reasonably be modified to allow for the identification of the large number of OCCs and resale or sharing applicants who would all have a desire for equivalent dialing arrangements. There is also a legitimate question whether requiring all long distance users to dial 13 or more digits was in the public interest.

used in setting rates for alternative interconnection procedures will be difficult. One basic difficulty will certainly be to have improved interconnection arrangements available at all locations. There will be added attractiveness for the MTS-type service of an OCC to have a standard operating procedure for all of its customers at all locations.

Even though the change required for a specific alternative interconnection arrangement may be small in each local central office, when the customer base is relatively small, the impact on rates may be quite substantial. OCCs may argue such costs should not be met by their customers exclusively, but should be spread more broadly to all telephone users. Local telephone companies providing the improved interconnection may argue that the carriers who caused the cost for the alternative interconnection arrangement should subsequently fully pay its cost.

Emphasis on Equal Interconnection

Legislative proposals have placed significant emphasis on the achievement of equivalent interconnection with exchange facilities for all interexchange carriers. However, they have recognized that there will be difficulties in achieving equal interconnection. S.898, the Telecommunications Competition and Deregulation Act of 1981, requires that:

> ...not later than September 1, 1984, every exchange carrier shall begin to offer to all interexchange carriers exchange access...on an unbundled, tariff basis, that is equal in type and quality to that provided for its own interexchange telecommunications services and those of any affiliated interexchange carrier.[113]

Access Charges for Nonidentical Interconnection

The ENFIA negotiations and the filing of the tariff for ENFIA B and ENFIA C foresaw that there would be a variety of methods of interconnection between interexchange and exchange carriers. In its Third Supplemental Notice the FCC recognized that:

> ...if carriers are afforded freedom to offer any service that fits into a particular carrier's marketing strategy at a particular time, different carriers will probably need different facilities and services from the operators of local exchange. Yet the same carrier will require different access arrangements for different services.[119]

The legislative proposals seem to accept that achieving equal interconnection may require many more years. In the interim a variety of interconnection arrangements will be available.

There is a clear agreement that the charges for identical interconnection should be the same. It is likely to be the rockiest of roads in determining the access charge--especially the NTS costs--for those interconnection arrangements which are not identical.

S.898 provides for discounting the access charge for any less-than-equal access, so that the less-than-equal exchange access which is provided by an exchange carrier:

> ...shall be no greater than (a) the charges for the type of exchange access provided to the exchange carrier of affiliated carriers that were the subject of the waiver proceeding, less (b) the decreased value to the nonaffiliated interexchange carrier and its customers from the exchange access provided such carrier in comparison with the exchange access provided, the exchange carrier or its affiliated carriers.[120]

This requires a regulatory body to judge the decreased value of whatever "less than equal" access is provided in comparison to the most favored form of access. Thus the Commission is left with the

H.R. 5158, as passed by the House Subcommittee March 22, 1982, dealt with equivalent interconnection in a somewhat different way. (H.R. 5158 was withdrawn in July 1982.) It required that by January 1, 1986, every exchange carrier:

> ...offer to all interexchange carriers or other customers (on an unbundled, tariff basis) exchange access to any exchange which is equal in type, quality, and range of supporting function to access provided to the interexchange services which it or any other carrier offers.[116]

H.R. 5158 also accommodated the need to postpone this date in certain cases. It allowed latitude for the FCC's administration of the equal interconnection process. The bill stated that:

> ...the Commission shall postpone, until January 1, 1990, the application of the requirements for equal interconnection to any carrier without appropriate electronic switching equipment. The Commission shall postpone the application of such requirements to any rural exchange if the Commission determines that such a postponement shall avoid undue burdens upon such carrier or customers of such carrier. Any such postponement shall allow a minimum divergence from equal exchange access necessary and shall have effect for the minimum time necessary.[117]

The Modified Final Judgment in the AT&T antitrust suit proposed an additional option for achieving equal interconnection. It required that customers be allowed to designate a single interexchange carrier for all of their interexchange traffic.[118]

In locations where access codes were not available, this would create equivalent interconnection by letting a customer select a single interexchange carrier for all of his or her interexchange traffic. This option would be useful where local telephone switching equipment could not accommodate the additional access codes necessary to identify each individual interexchange carrier.

now prohibit the telephone company from recovering its access costs, due to a condition that the regulatory body already agreed was beyond the reasonable ability of the telephone company.

responsibility to quantify the lesser value when there is only minimal objective data for making such a judgment.

S.898 accommodates this difficulty by offering an optional arrangement for establishing rates. It seems to rely on the initial ENFIA agreement by providing a process by which "tariffs reflecting an agreement among carriers as to the decreased value of less-than-equal access shall be considered by the Commission to be in conformance."[121] This includes the discount process described above.

H.R. 5158 introduced a discount process which is similar to the Senate bill. The procedures are different:

> Any exchange common carrier which offers any type of element of exchange access to any interexchange carrier which is superior in quality or value to that exchange access which it offers to other carriers shall, beginning on January 1, 1986, offer such other carriers a discount reflecting the value of any type or element or exchange access which is not offered to the extent that the value of such type or element exceeds any differential in cost.[122]

If the Commission determines that the value to the interexchange carrier is less than the cost of the interconnection, then this procedure would require that the exchange carrier provides the interconnection to an interexchange carrier at less than its cost.

Requiring an exchange carrier to provide interconnection at less than its costs will likely face considerable court tests on the question of confiscation of property. For example, a situation could arise where a telephone company has satisfied a regulatory body that it cannot provide equal interconnection for all carriers. The same regulatory body may have prescribed a process for the telephone company to determine its costs of access. The regulatory body could

legislation has dealt with access charges. The record in the FCC's access charge docket (CC Docket 78-72) is several thousand pages, including numerous rounds of comments, reply comments and rebuttal by a substantial number of interested parties. Access charges were also a significant issue in the recent settlement of the U.S. Department of Justice suit against AT&T.

A principal reason for the difficulty in supplanting the ENFIA agreement with a more comprehensive access charge proposal has been the financial significance of access charges to the diverse participants in the communications industry.

Setting down broad goals for access charges came with relative ease. However, any step in actually implementing a further development in access charges influences the prices of interexchange services. The interexchange carriers, resellers and sharers are still in the process of identifying their niche in the market. Any pricing change will be perceived as detrimental -- and therefore strongly opposed — by some stakeholders. In the simplest economic terms, the legal costs of opposing a change may be substantially lower than the pricing impact of the change.

Early access charge thinking by regulators and legislators began with the usage-related allocation of local NTS costs to telephone company-provided interexchange service as a given. Early access charge proposals then took the step of attempting to reallocate some of those costs among other interexchange services, but continued the use-related allocation.

More current access charge thinking begins a step further back and considers alternatives to use-related allocation and pricing of

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CONCLUSION

This paper is intended to illuminate the issues that will continue; however, the actual evolution of access charges still develops. The concept of access charges was a quite natural growth of the interexchange market's changing from one provided mainly by telephone companies to a much more competitive market of multiple terrestrial and satellite carriers overlayed with resellers and sharers. These changes created a need to establish a system that assured "fair" treatment of the competing interexchange entities by the local telephone companies without whose facilities the interexchange carriers could not deliver traffic to their customers.

The first access charge that reflected this rethinking of the relationship between the interexchange carrier and the local telephone company was the 1978 ENFIA agreement. The ENFIA agreement was of limited duration, dealing with a narrow range of services. The progress toward a comprehensive system of access charges has been and will likely continue to be slow and unsteady. The perspectives of the stakeholders are too diverse. There are no perfect solutions in access charges, and any move toward access charges will adversely impact some participants and encroach on what they see as their turf.

However, the halting progress is not from lack of effort. The issues associated with access charges have been considered in a number of forums. Each round of hearings on proposed communications

Appendix A

ANTITRUST--MODIFIED FINAL JUDGMENT*

On January 8, 1982, the American Telephone & Telegraph Company and the Department of Justice reached an agreement to modify the 1956 AT&T Consent Decree.[123] The main impact of this proposed Modified Final Judgment (MFJ) is that AT&T will divest itself of all local exchange telephone operations. Further provisions are based on this basic action.

Many of the provisions in the MFJ are based on recent legislative proposals as well as FCC actions. The measure does not affect the boundaries between state and federal regulatory jurisdictions nor will it significantly change the jurisdictional separations process. Consequently, the same local costs would be allocated to interstate with or without the MFJ. Embedded CPE would be transferred to AT&T. However, the previously ordered phased elimination of the interstate allocation of CPE seems likely to continue relatively undisturbed. The future levels of cost allocation will be argued by the same parties who were involved in this discussion before the agreement between AT&T and the Department of Justice was reached.[124]

Since the MFJ does not address the cost allocation process, some early critics' conclusion seems incorrect--that local rates would immediately have to be significantly raised due to the MFJ. The interstate revenue requirements of the local telephone company would

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* The consent decree entered in August 1982 did not differ significantly from the MFJ regarding access charges.

the NTS portions of access costs that don't vary with use. This added perspective on access charges may provide an opportunity for an implementable comprehensive access charge plan that was not previously forthcoming.

that is equal in type and quality to that provided for interexchange telephone communications services of AT&T and its affiliates."[125]

o September 1, 1985--"Such equal access shall be offered through end offices of each BOC serving at least 1/3 of that BOC's exchange access lines."[126]

o September 1, 1986--"Upon bonafide request, every end office shall offer such access."[127]

The MFJ requirements for "equal" access parallel legislative proposals. However, the agreement also introduced another "equal" alternative. The MFJ required each BOC to permit a customer to designate a single carrier for all of its interexchange traffic.[128] This would be especially attractive where technological limitations of local switching equipment required significant additional digits to select a specific interexchange carrier for each call.

The MFJ recognizes that in the future there will be substantially different types of exchange access required by interexchange carriers. It anticipates this by requiring that a BOC must provide "exchange or information access superior or inferior in type or quality to that provided for AT&T's interexchange services or information services at charges reflecting the reduced or increased cost of such access."[129]

The separated BOCs will then have to provide a variety of access arrangements to any interexchange carrier. It does not matter whether this is a type of access which is required by AT&T. The MFJ recognizes that, in certain instances, old local switching technology may provide substantial restraints for the BOC in the provision of equal access. In such cases the MFJ requires that the BOC demonstrate to the satisfaction of the court that the desired equal

not be influenced directly by the MFJ. The state revenue requirements would be changed only as costs are divided between the BOC and AT&T.

AT&T's divestiture of its local exchange telephone operations will produce significant changes in access and interconnection. The MFJ constitutes a more severe measure than any of the previous legislative proposals. It was intended to remove, from the local telephone companies, corporate structural bias which might influence their interconnections with any interexchange carrier.

Under this agreement AT&T will retain the interexchange facilities which were previously owned in part by AT&T's Long Lines Department and the Bell Operating Companies (BOCs). The local Bell Operating Companies, as the divested portion of AT&T, would retain those facilities which are necessary for the provision of local telephone, access and information services. But they would be prohibited from the provision of any interexchange services.

The MFJ's provision for access charges deal with issues already expressed in earlier legislative proposals. However, here the provisions are much more detailed and explicit. They deal with two general categories: the provision for interconnection between exchange and interexchange carriers, and the filing of tariffs with the subsequent establishment of interexchange access rates.

BOC Interconnection Requirements

The MFJ provides for a phase-in of equal exchange access.

o September 1, 1984--"Each BOC shall begin to offer to all interexchange carriers exchange access on an unbundled, tariff basis,

to be filed with the FCC, and access charges for intrastate services would require acceptance by the appropriate state regulatory agency.

A carrier or subscriber will benefit from unbundled tariffs, in that unbundling will allow for a choice of the type of access which will best meet specific needs. Unbundled tariffs would also prevent an interexchange carrier from paying for pieces of interconnection which it does not require.

The MFJ recognizes that discrimination could result from less-than-equal access. Therefore, it allows BOCs to collect "reduced charges in instance(s) in which it permissibly fails to offer equal access."[136]

> Such reduced charges might reflect the reduced value of the less-than-equal access to the interexchange carrier and its customers compared to the exchange access provided to AT&T and might be at a charge below that which would be cost justified.[137]

interconnection cannot be provided.[130] But the MFJ assures that denials of equal access must be kept to a minimum by requiring that such denials "...shall be for the minimum divergence in access necessary, and for the minimum time necessary, to achieve such feasibility."[131]

Dialing Equivalent Digits

The MFJ separately treats the digits dialed to complete a long distance call.

In the long run it demands that when the national numbering plan "is revised to require the use of additional digits, each BOC shall provide exchange access to every interexchange carrier, including AT&T, through a uniform number of digits."[132] However, until this revised plan is instituted, each BOC is required to provide access codes with the minimum number of digits so that local subscribers can dial thier calls to the carrier of choice.[133] Additionally, when further digits may be required to reach long distance carriers other than AT&T, each BOC must provide an option so that the customer can designate a specific carrier to receive all of his/her long distance traffic.[134]

Access Charge Tariffs

The MFJ requires that BOCs file unbundled access charge tariffs with the appropriate regulatory agencies. These tariffs will become effective on the date of AT&T's divestiture.[135]

Since the MFJ does not change the jurisdictional responsibilities of the regulators, access charges for interstate services would have

companies and will require state regulators to deal with issues that would not have otherwise arisen. As the MFJ redefines the corporate entities providing the service, the state regulators will have an orientation to minimize the rate changes.

The rate revisions may make an expansion of distance-sensitive measured service rates attractive to carriers, regulators and customers. The final result has the potential to be a rate structure that is substantially more reflective of the cost of the call and as well may seem more logical to customers.

Parallels Between Legislation and Proposed MFJ

The definition and purpose for the local exchange or access area is very similar in the MFJ and recent legislative proposals. The MFJ defines the exchange areas as being:

> ...large enough to comprehend contiguous areas having common social and economic characteristics but not so large as to defeat the intent of the decree to separate the provision of intercity services from the provision of local exchange service.[138]

H.R. 5158 sets similar purposes for exchange areas. They "shall encompass an area serving common social, economic, and other similar purposes. The boundaries of each exchange area shall be established in a manner which promotes competition in interexchange telecommunications service."[139] S.898 uses nearly identical words to define its goals in regard to establishing exchange areas:

> Any such area may encompass one or more contiguous local exchange areas serving common social, economic, and other purposes, even where such configuration transcends municipal or other local governmental boundaries.[140]

The MFJ and the legislative proposals all rely upon the Standard Metropolitan Statistical Area (SMSA) as the basic consideration in

Appendix B

EXCHANGE AREA DEFINITION

The Significance of Access Areas

Establishing local access areas is significant for a number of reasons. The access area defines the boundary between the local telephone company and the intercity carriers. LATA (Local Access and Transport Area) has been used in relation to the Modified Final Judgment to define the local area to be served by the divested Bell Operating Companies. The discussion here uses local exchange or access area as generic terms rather than LATA. Generally telephone and information services that originate and terminate within an access area would be provided by the local telephone company. Those services that cross access-area boundaries would be provided by the interexchange carrier, though the intra-access area local distribution would, in most cases, still be provided by the local telephone company.

The public will be affected because, in many cases, the new access area boundaries will be different from the current exchange areas. Calls within the new access areas may well include a combination of what were previously local and toll calls. Conversely, some calls between access areas may have previously been local calls. Determining rate schedules for these calls, given the new boundaries will take some time and effort by the local and interexchange

should be larger. This would of course allow the state regulators to retain greater authority, should all intercity (-LATA) service become the responsibility of the FCC as most legislative drafts had proposed.

Intercity carriers generally argued that LATAs should be smaller. Smaller LATAs would increase the traffic between LATAs and thereby the competitive marketplace.

Independent telephone companies evidenced a concern about the future ability to plan and work jointly with the BOCs. A number of parties argued that more information than was contained in the 600-plus page LATA material filed by AT&T was required to judge the adequacy of the LATA boundaries.

Joint or Separate Areas

The MFJ and legislative proposals for defining access areas allow Bell and independent telephone companies to file joint access rates in those access areas where they participate in providing the local telephone service.[144] The MFJ applies only to the Bell Operating Companies; it does not apply directly to the independents. The perspective of the MFJ is to limit the BOCs to the provision of local telephone service. Therefore, if the service between the BOC and the independent would be considered local under the MFJ guidelines, then the latitude would be there for the BOC and independent to interconnect directly.

The joint provision of access services under a combined or unified rate schedule would require agreement by both the Bell and independent local telephone company to provide such commonly rated

determining the maximum size for an exchange area. The most significant difference between the MFJ and legislative proposals is that the MFJ is restricted to divested Bell Operating Companies (BOC) in its application, while the legislative proposals apply to all local telephone companies--both Bell and independent.[141]

In the MFJ the responsibility for approving exchange area boundaries and adjudicating boundary disputes is left with the court system, but with the indication that the Justice Department:

> ...will urge the court to give great weight to views of appropriate regulatory bodies any decision concerning the appropriateness of exchange areas.[142]

> Legislative proposals leave the basic responsibility for determining the appropriateness of exchange areas with the state regulatory agencies; however, disputes over state regulatory agency judgments on exchange boundaries would be referred to a Federal-State joint board.[143]

The Size of the Local Access Area

The size of the local access area is of consequence to both the local telephone companies and the intercity carriers. Generally, the smaller the geographic size of the access area the less traffic the BOC would provide. Smaller local access areas could also limit the opportunity for BOCs and independents jointly to provide local or access service.

Larger local access areas would reduce the number of locations where intercity carriers would have to terminate their facilities and interconnect with the local carrier.

There is no consensus on the appropriate size for local access areas. The comments of most parties regarding proposed Bell LATAs seemed not surprisingly to be coincident with the self-interest of the party. State regulatory commissions seemed generally to argue LATAs

between those areas versus some of the advantages of a combined or joint access or exchange areas. One scenario: Initially some access or exchange areas might be provided jointly, but in the longer term--as local telephone companies become more acclimated to the changed environment--there might be an increasing number of separated individual telephone company access areas.

service. BOCs and independents could also agree on joint access areas, but file separate access rates.

Conversely, the Bell and independent local telephone companies have the option of creating their own separate exchange access areas. To participate in a joint access area would require agreement by both the Bell and independent telephone companies. However, lack of agreement on such an arrangement by either the Bell or independent company would mean that they each would operate within separate exchange access areas with separate exchange and access rates.

The final determination of how many access areas will include Bell and independent telephone companies and how many access areas will be separated will require considerable analysis and judgment by the individual companies involved. On the surface, providing access areas on a joint basis would seem to have some attractiveness for its simplicity. However, making such a determination is not a casual activity. Agreements, possibly requiring regulatory approval, would have to be reached specifying how the costs and revenues for access charges would be determined for the BOCs and independent telephone companies providing service in a joint access area. And, it would be difficult to generalize whether the joint or individual provision of an access area would be most often beneficial. The determination would have to be made by each of the telephone companies involved in the individual exchange area.

A basic issue would be the relative costs of the companies considering a joint access territory. Another important consideration would be balancing the additional revenues gained by having separate exchange areas--being able to charge access charges for the traffic

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