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OFFICE OF THE PUBLIC COUNSEL

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November 12, 1998

Anne E. Marsh
Economic Analyst
Florida Public Service Commission
Division of Communications
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Special Project 980000A-SP

Dear Ms. Marsh:

Enclosed is a copy of a report entitled "A Stand-Alone Cost Study Examination of Fair and Reasonable Rate for Residential Telephone Service," prepared for the Office of Public Counsel by Exeter Associates, Inc.

Please call if you have any questions.

Very truly yours,

Charles J. Beck
Deputy Public Counsel

CJB:bsr

Enclosure
cc: Division of Records and Reporting
(w/enclosure)

1. INTRODUCTION, SUMMARY AND CONCLUSIONS

INTRODUCTION

House Bill 4785 requires the Commission to study and report on existing relationships among the costs and charges for various telephone services and to also report on conclusions as to fair and reasonable local exchange rates. Indeed, this is not the first instance in which the Commission has addressed this set of questions. It can be argued that this commission has addressed these questions in every rate case. However, the industry landscape today is different, or at least hopefully so, from what it was just several years ago. Enormous efforts are now being asserted to open the market for communications services so that, hopefully, competition will be the norm rather than the exception. Consequently, public policy questions with regard to universal service have to be addressed in a manner consistent with the competitive market rather than with one dominated by monopoly and regulation.

As indicated, the question raised by the legislature is to identify a set of rates for local exchange services that are "fair and reasonable." We define a fair and reasonable rate structure as one that is "subsidy-free." It follows from economic theory and common sense that a rate structure is subsidy-free and, therefore, fair and reasonable, if all rates are above their respective incremental costs and below their stand-alone costs.

- If rates charged are above incremental cost, then prices are established to fully recover all additional cost incurred due to the provision of that service. Moreover, if the firm is recovering all forward-looking costs, including shared and common, prices above incremental cost mean that no service (or group of services) is receiving revenue support from any other.

- Stand-alone cost (SAC) is the maximum price that can be expected to exist in a competitive market. Any price in excess of stand-alone cost would simply invite entry of less efficient firms. In a monopoly environment with entry barred, price is limited to stand-alone costs. Thus, price set no higher than SAC provides the potential for a competitive outcome. Since a multiproduct firm realizes benefits from joint production process, pricing below SAC results in these benefits from joint production being reflected in the product price.

For a rate structure to be subsidy free, the prices or rates set for each service must be high enough to fully recover all additional cost incurred and must also be low enough to allow benefits to accrue from the joint production process. It is for this reason that we consider rates to be fair and reasonable if the structure is subsidy free.[1]

In undertaking this investigation, we are mindful that this Commission has already addressed the question of the reasonableness of a rate structure and the appropriateness of the stand-alone cost methodology in that context. Specifically, in Docket No. 860984-TP, the Commission investigated the reasonableness of local exchange, intrastate toll and intrastate access rates, from a fair and reasonable perspective. In that proceeding, the Commission concluded that there was no cost justification for a rebalancing of rates, but that instead the existing rate structure

[1]We use the subsidy free requirement recognizing that there may be instances where subsidies are necessary for rates to be just and reasonable. For instance, the Telecommunications Act of 1996 requires that rates for services in high cost and insular areas be set no higher than the price for such services in more densely populated, lower cost, urban areas. Meeting the requirements of the Act may require a subsidy (universal service support), but that does not negate the just and reasonable conclusion that may follow.

offers an analysis of the trends found in the stand-alone cost study. Finally, Chapter 5 consists of a summary and our conclusions.

The stand-alone cost study provided in Chapter 3 is based on BellSouth's most current data. This study draws upon cost information contained in the BellSouth separations data base. Since embedded costs are generally higher than incremental costs, using the separations data base results in very conservative estimates of incremental costs. As expected, the results obtained are consistent with the results from the analysis that the Commission relied upon earlier, based upon the trend analysis presented in Chapter 3. The results of the stand-alone study are summarized in Table 1-1.

Table 1-1

BELLSOUTH TELECOMMUNICATIONS, INC. - FLORIDA

Stand Alone Cost Study
Summary of Results
($000)

	Local Use		Toll & Access Use	
	Revenue (1)	Cost	Revenue (1)	Cost
Stand-Alone	$1,580,665	$2,349,510	$965,554	$1,966,765
Incremental	$1,244,507	$618,214	$629,396	$235,470

Notes:

(1) Stand alone revenues differ from incremental revenues due to the inclusion of shared revenues for end user access charges and directory.

Table 1-2

BELLSOUTH TELECOMMUNICATIONS, INC. - FLORIDA

BellSouth Price Structure Remains
Subsidy Free

	Changes 1988-1997
Local service rates were found to exceed incremental cost in 1988, since then,	
Local Rates	Unchanged
Costs	Down 25 percent
Toll rates and access charges were found below stand-alone costs in 1988, since then,	
Toll Rates	Down 50 percent
Access Rates	Down 60 percent (12¢ to 5¢)

Trends in access charges and toll rates have also trended downward decidedly, and even more so than have costs. Access and toll charges were found to be below stand-alone costs in the earlier investigation, and that condition holds even more so today. Examining trends in service prices and BellSouth costs suggests that the Commission finding in its earlier investigation, using stand-alone costs, is even more compelling today. The Commission finding that rates for local, access and toll each benefit from the provision of the others, and that no service is the provider of nor recipient of cross-subsidy, continues to hold today.

direction. All rate rebalancing can be accomplished through rate reductions without imposing significant financial harm on the telephone industry. If rebalancing of local, access and toll rate is viewed as advisable by the Commission, this can be accomplished through reductions in local business, access and toll rates, with no increases in local residential rates.

Table 2.1 depicts the operation of a multiproduct firm, where there are costs shared by various services or common to its total operation. This table also provides some insight into the "stand-alone" operation where only a subset of these services would be produced, and some of the benefits of joint or shared production arrangements would be lost. The stand-alone cost is the cost of that type of production arrangement.

Total Cost. At current volumes of output, the total forward-looking cost of this firm is $47.00, which is the sum of the direct, shared family and shared common costs shown. This cost is incremental in the sense that it could be avoided if the firm went out of business.

Direct Costs. Direct costs are those that are directly attributable to individual services. If the individual service is provided, these costs are incurred. If the individual service is not provided, but all other services are, the costs will be avoided. Direct costs may be volume variable or fixed. If volume variable, the cost level will vary with the volume of output produced. If fixed, the cost will not vary with output levels, but is incremental nonetheless, since it will be incurred whenever this specific service is produced and avoided if the service is not produced.

Shared Family Cost. Some costs are attributable to groups or families of services but not to the individual services in that family. Shared family costs are unique only to the services in the family. The cost is incremental because it exists if any service in the family of services is produced, and is avoided if none of the family of services is produced. Thus, this cost is incu red

not only this $7.00, but also the $9.00 of what is now identified as shared family and approximately $10.00 of what is identified as shared common. In other words, the total direct incremental cost of providing Service A on a stand-alone basis would be $26.00 ($7.00 plus $9.00 plus $10.00). Similarly, the stand-alone cost of Service B would be $34.00. Stand-alone costs can also be calculated for a subset that includes more than only one of the services provided. For instance, Services A and B can be provided on a stand-alone basis, that is, without also providing Service C. If Services A and B were provided on a stand-alone basis, the stand-alone cost would be $41.00.

Total Service Long Run Incremental Cost (TSLRIC). In regulatory economics, the total service long run incremental cost represents the direct cost of a particular service or group of services. The TSLRIC for each of the services or group of services included in Table 2-1 can be determined from the information given.

However, information at the level of detail included in Table 2-1 does not often exist. For instance, there may be disagreement as to whether a particular body of costs should be properly treated as direct, shared family or even shared common. If that is the case, the stand-alone cost concept provides insight into how the relevant TSLRIC of individual services or group of services can be determined, even absent the detail of information included in Table 2-1. What is needed are the stand-alone costs of the individual services or group of services in question.

Consider, as an example, that the issue at hand was the TSLRIC of Service A and separately of Service B. There was information available that the stand-alone cost of Service A is $26.00, that the stand-alone cost of Service B is $34.00, and the combined, or total, cost of producing both Service A and Service B is $41.00. Even with no other information, the TSLRIC of both Services A and B can be determined.

The incremental cost of any service is simply the addition to the total cost of the firm that results from producing that service, given the existence of the other. The TSLRIC of Service A can be determined by simply comparing the stand-alone cost of Service B ($34.00) with the total cost of producing both Services A and B ($41.00). In this manner, the TSLRIC of Service A is found to be $7.00. Similarly, the TSLRIC of Service B can be found by comparing the stand-alone cost of Service A ($26.00) and the total cost of combined operations of Services A and B ($41.00). The TSLRIC of Service B is $15.00. From this, the volume of costs that is shared, either as shared family or as shared common by Services A and B, can also be determined. The difference between the stand-alone cost of Service A ($26.00) and its TSLRIC ($7.00) is the sum of the shared family and shared common costs associated with its production, or $19.00. Similarly, the difference between the stand-alone cost of Service B ($34.00) and its TSLRIC ($15.00) identifies the same $19.00 figure as the shared family and shared cost associated with its production.

Fair and Reasonable Prices

We define a fair and reasonable rate structure as one that is "subsidy free." It follows from economic theory and common sense that a rate structure is subsidy free and, therefore, fair and reasonable, if the rates for all services are above their respective incremental costs and below their stand-alone costs.

If rates cover the incremental costs involved, then the prices charged are designed to fully recover all additional costs that result from the provision of the service in question. Clearly a rate any lower than this is not fair and reasonable, as it requires support in some measure from other services.[2] Thus, the incremental cost of a service provides the lower bound for a fair and reasonable test.

As illustrated by Table 2-1, the typical multiproduct firm realizes shared family and/or shared common costs. In fact, the existence of shared family and shared common costs provides a significant justification for multiproduct firms. If the firm is to remain financially viable, the revenue received must result in the recovery not only of the TSLRIC of the individual products and services, but also of the shared costs incurred. Thus, even if no service is priced below its TSLRIC, it follows that at least some of the services must be priced at a markup over TSLRIC. That is, pricing above TSLRIC does not indicate a subsidy. This markup does, however, lead to the question of the upper bound of fair and reasonable rates.

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[2]It is conceivable that various public policy considerations may suggest that a price below incremental cost is indeed both fair and reasonable. While this is possible, we do not introduce this case into the analysis presented here.

This upper bound is the stand-alone cost level. As noted above, the stand-alone cost level is the cost incurred when producing a service on a stand-alone basis, i.e., absent the benefits of using shared production processes. In this sense, the stand-alone cost level represents the maximum resource requirement for a firm to enter this market. In that same sense, the stand-alone cost level represents the maximum price that can be expected in a competitive market situation. Any price in excess of stand-alone costs would attract the entry of less efficient firms. The stand-alone cost level can be exceeded, however, in a monopoly environment. Indeed, in a monopoly environment, costs do not serve as a price ceiling. Thus, since the stand-alone cost level represents the maximum price to be expected in a competitive environment, it represents an efficient and a common sense upper bound for fair and reasonable prices.

In what follows, we use the fair and reasonable price bounds of incremental costs and stand-alone costs to test the reasonableness of BellSouth's current structure of rates for the services it offers today.

3. STAND-ALONE COST STUDY

In this chapter, we describe the stand-alone cost study prepared to evaluate the costs of the Company's local and toll/access operations. This study was developed based on per books expenses and investment reported by BellSouth-Florida for the year 1997. The data necessary to prepare this study were obtained from several sources including: BellSouth-Florida's ARMIS Reports for 1997; the Company's 1997 Annual Report filed with the FPSC; and cost of capital and tax data provided in response to discovery requests.

While the Company's books serve as the basis for the cost study, it must be recognized that a stand-alone cost study is not a mere allocation of these costs to the various service levels. There are two very important differences that must be recognized. First, the stand-alone cost of a service should be based upon the technological requirements of providing that service, and not the technological requirement associated with other services. Consider, as an example, the provision of outside plant, both interoffice and loop facilities. BellSouth and other LECs are in the process of deploying fiber facilities on a widespread basis in order to reduce the incremental cost of data transmission services. The cost of these fiber facilities would be found on the books of the Company -- and would also be included in the incremental cost analysis that BellSouth would produce for its individual services. In contrast, in the cost studies BellSouth produced during the arbitrations and generic investigations into UNE costs, Bell structured the unbundled loop as being made up of only copper facility, except where distance dictated the use of fiber and digital line carrier. Thus, widespread deployment of fiber is not necessary, even by BellSouth's own

engineering standards, for the provision of local service. In a properly structured stand-alone cost study of local service, the fiber costs should be removed from the Company's books and from its incremental cost studies.

Second, to properly identify the costs that would be incurred in the independent provision of any one or group of BellSouth services, it is necessary to examine and consider the demand characteristics of the individual service category. For instance, in a stand-alone cost study for toll service, the facilities provided should not simply be an allocation of those in place or found on the Company's books, but would need to be sufficient to meet the busy hour demand of that toll service offering. Similarly, a stand-alone study for local service would have to include all facilities necessary to meet the busy hour demand of that service. Note, however, that the busy hour for toll services and that for local services are, in all probability, not the same. This diversity contributes to the economies of the joint use of these facilities and results in lower total costs that would be incurred to provide both services individually. Stated differently, the stand-alone cost of local service, and the stand-alone cost of toll service should exceed the total cost of providing the services jointly. This is the case whether the analysis were to be based on embedded or on current cost levels.

Study Results

Table 3-1 summarizes the results of this analysis. Line 1 of Table 3-1 provides the total 1997 embedded cost for the joint provision of local toll and access service. Lines 2 and 3 provide the stand-alone costs of local and toll/access service,

is simply the difference between the total co.. shown on line 1 and the additional cost of toll and access service shown on line 3.

Line 6 of Table 3-1 shows the costs found to be common to the provision of both local and toll service. Arithmetically, these costs are calculated as the difference between the total cost of joint production and the sum of the incremental costs. This is the same result reached by comparing the total of the costs of providing both local and toll/access service on a stand-alone basis to the total cost of providing these services jointly. These costs are necessary for the provision of either local or toll on a stand-alone basis; but their total volume is not affected by the additional provision of either service.

Study Procedure

The first step in the study is to identify the investment associated with the provision of message services. To obtain the necessary information regarding the total amounts (as opposed to the amounts allocable to specific services) of investment associated with the provision of message services, we relied on the Company's ARMIS 43-04 Report for 1997. From this report, we separately identified the investment in tandem switching, local switching, trunking and subscriber loop facilities. Trunking and subscriber loop facilities included both central office circuit and outside plant (cable and wire facilities) investment.

To determine the costs associated with these facilities, we developed cost factors which included maintenance, depreciation, property taxes, return and income taxes, as well as loadings

Table 3-2

BELLSOUTH TELECOMMUNICATIONS, INC. - FLORIDA

Detailed Results of
1997 Stand-Alone Cost Study
Message Telecommunications Services
($000)

	Total Cost	Local Use Percent (1)	Local Use Cost	Toll & Access Use Percent (1)	Toll & Access Use Cost
Local Switching	$ 436,947	89.91%	$ 392,839	18.14%	$ 79,279
Trunking					
Exchange Trunk Circuit	29,387	79.04%	23,226	25.93%	7,619
Interexchange Circuit	50,923	0.00%	0	100.00%	50,923
Host/Remote Circuit	3,736	89.91%	3,359	18.14%	678
Exchange Trunk C&WF	4,984	79.04%	3,939	25.93%	1,292
Interexchange C&WF	7,072	0.00%	0	100.00%	7,072
Host/Remote C&WF	1,988	89.91%	1,787	18.14%	361
Total Trunking	$ 98,090		$ 32,311		$ 67,945
Tandem Switching	$ 15,460	31.05%	$ 4,800	90.44%	$ 13,982
Customer Operations Exp.	$ 268,430		$ 171,885		$ 96,545
Common Costs	$ 81,360		$ 62,982		$ 24,323
Total Usage Costs	$ 900,287		$ 664,817		$ 282,073
Subscriber Access					
Exchange Line Circuit	357,565	100.00%	357,565	100.00%	357,565
Exchange Line C&WF	1,084,629	100.00%	1,084,629	100.00%	1,084,629
Subtotal Sub. Access	$1,442,194		$ 1,442,194		$1,442,194
Common Costs	$ 242,499	100.00%	$ 242,499	100.00%	$ 242,499
Total Sub. Access Costs	$1,684,693		$ 1,684,693		$1,684,693
Stand-Alone Cost	$2,584,980		$ 2,349,510		$1,966,765
Incremental Cost			$ 618,214		$ 235,470

Note:

(1) Reflects estimated local or toll/access busy hour vs system busy hour.

basis as local switching investment related costs. The costs of exchange trunks, which carry both local and toll/access traffic, were assigned to each service based on the estimated busy hour minutes of use which must be transported for each service individually in comparison to the combined busy hour level of such use. Interexchange trunks were assigned to toll/access service.

Tandem switching costs represent the costs of central office equipment other than those associated with switching of the call at the local end office to which the customer is connected. These costs have been assigned based on the estimated busy hour demand which local and toll services individually place on those facilities, compared to the system busy hour demand.

Subscriber access costs include the costs of both the central office circuit equipment and outside plant used to provide dial tone lines. Since a dial tone line is required to place either a local or a toll call, 100 percent of the costs have been assigned to both local and toll service.

Table 3-3 shows the development of the investment related costs associated with the various categories of equipment and facilities used to provide message telecommunications services and included on Table 3-2. As shown on Table 3-3, these costs include return, income taxes, depreciation, plant specific maintenance, plant non-specific maintenance, and ad valorem taxes. As indicated on this table, the portion of right-to-use (RTU) fees associated with providing special features and enhanced services have been excluded from the central office switching plant specific costs attributable to providing local, toll and access service. However,

Table 3-3

BELLSOUTH TELECOMMUNICATIONS, INC.-FLORIDA

Determination of Investment Related Costs
1997 Stand-Alone Cost Study
Message Telecommunications Services
($000)

	Plant in Service(1)	Accumulated Depreciation (1)	Net Plant	ADIT (1)	Net Investment	Return on Investment (2)	Income Taxes (3)	Depreciation (1)	Plant Specific O&M (1)	Eliminate RTU for Features	Plant Non-Specific (1) Other Plant	Plant Non-Specific (1) Network Operations	Ad Valorem Taxes (4)	Investment Related Expenses	Allocation of GSF COE Land & Buildings	Allocation of GSF Other General Support	Adjusted Total
Tandem Switching	$58,187	$29,044	$29,143	$8,735	$20,408	$2,116	$990	$4,547	3,981	(642)	$3	$1,398	$495	$12,891	$1,153	$1,416	$15,460
Local Switching	1,644,592	820,906	823,686	246,875	576,811	59,815	27,975	128,528	112,532	(18,157)	143	39,526	13,979	364,342	32,589	40,016	436,947
Exchange Trunk Circuit	118,840	66,154	52,686	11,177	41,509	4,304	2,013	11,657	2,289	0	10	2,856	1,010	24,140	2,355	2,892	29,387
Exchange Line Circuit	1,445,996	804,939	641,057	135,995	505,063	52,375	24,496	141,835	27,852	0	126	34,753	12,291	293,728	28,654	35,184	357,565
Interexchange Circuit	205,932	114,636	91,296	19,368	71,929	7,459	3,489	20,200	3,967	0	18	4,949	1,750	41,831	4,081	5,011	50,923
Host/Remote Circuit	15,108	8,410	6,698	1,421	5,277	547	256	1,482	291	0	1	363	128	3,069	299	368	3,736
Information Orig/Term	133,294	116,089	17,205	(1,205)	18,410	1,909	893	11,759	38,744	0	12	3,204	1,133	57,653	0	3,243	60,896
Exchange Line C&WF	4,828,591	2,617,716	2,210,875	165,554	2,045,321	212,100	99,198	253,191	245,137	0	421	116,049	41,043	967,139	0	117,490	1,084,629
Exchange Trunk C&WF	22,188	12,029	10,159	761	9,399	975	456	1,163	1,126	0	2	533	189	4,444	0	540	4,984
Interexchange C&WF	31,485	17,069	14,416	1,080	13,337	1,383	647	1,651	1,598	0	3	757	268	6,306	0	766	7,072
Host/Remote C&WF	8,849	4,797	4,052	303	3,748	389	182	464	449	0	1	213	75	1,772	0	215	1,988
General Support Facilities	1,287,011	439,138	847,873	131,890	715,983	74,247	34,725	88,148	138,500	0	112	0	10,940	346,672	(69,131)	(207,140)	70,401
	$9,800,073	$5,050,927	$4,749,146	$721,953	$4,027,193	$417,620	$195,319	$664,624	$576,468	($18,800)	$855	$204,601	$83,301	$2,123,988	$0	$0	$2,123,988
GSF Detail																	
L&B-COE	$ 352,035	$ 59,673	292,362	36,076	256,287	26,577	12,430	7,036	33,659		31	0	2,992	82,725			
L&B-Other	348,223	67,701	280,523	35,685	244,837	25,390	11,875	11,242	33,295		30	0	2,960	84,792			$4,174,635
Subtotal	$ 700,259	$ 127,374	$ 572,885	$ 71,761	$ 501,124	$ 51,967	$ 24,305	$ 18,278	$ 66,954		$ 61	$ 0	$ 5,952	$ 167,516			
Other	586,752	311,764	274,988	60,129	214,859	22,281	10,421	69,870	71,546		51	0	4,987	179,156			
Total	$ 1,287,011	$ 439,138	$ 847,873	$ 131,890	$ 715,983	$ 74,247	$ 34,725	$ 88,148	$ 138,500		$112	$ 0	$ 10,940	$ 346,672			

Notes:
(1) Per ARMIS Report No. 43-04
(2) Reflects capital structure and cost rates per FPSC Staff's First Data Requests, Item 2B. Cost free capital has been accounted for as a deduction from net plant to allow recognition of differences in the level of ADIT associated with different categories of assets.
(3) Reflects composite tax rate of 38.57% per FPSC Staff's First Request, Item 2D applied to the equity component of capital structure, including JDICs.
(4) Reflects ad valorem tax rate of 0.85% per FPSC Staff's First Request, Item 2D.
(5) Remaining balance reflects General Support Facilities costs associated with other investment and services.

with the exception of this adjustment, the study was prepared assuming that all investment related costs applied equally to local and toll/access services. That is, it was not possible to segregate costs which are exclusively attributable to local or toll/access service or to other enhanced or vertical services due to design requirements or standards.

In addition to direct investment related costs, customer operations and common costs have also been included in the development of the total and stand-alone costs of providing message telecommunications services on Table 3-2. Customer operations costs include the costs of operator services, service ordering, message processing billing and collection, etc., associated with providing message services. The details of these costs are shown on Table 3-4. As indicated there, costs directly associated with local, toll and access service have been assigned to those services. To be conservative, costs associated with the establishment and maintenance of service to the Company's customers have been assigned entirely to local service. Since these costs are necessary for a customer to receive any service, some portion of these costs could properly have been treated as shared and thereby included in the stand-alone costs of both local and toll/access service.

Common costs are corporate operations related expenses. As shown on Table 3-5, the common costs associated with the provision of message telecommunications service have been determined by treating corporate overheads as a loading on investment. The amount of these costs included in the stand-alone costs of local and toll/access service have been determined by assigning these costs in the same manner as investment.

Table 3-5

BELLSOUTH TELECOMMUNICATIONS, INC. - FLORIDA

Development of Common Costs
1997 Stand-Alone Cost Study
Message Telecommunications Services
($000)

	Total Investment	Common Costs(1)	Local Use Percent (2)	Local Use Cost	Toll & Access Use Percent (2)	Toll & Access Use Cost
Local Switching	$1,644,592	$ 63,560	89.91%	$ 57,144	18.14%	$ 11,532
Trunking						
Exchange Trunk Circuit	118,840	4,593	79.04%	3,630	25.93%	1,191
Interexchange Circuit	205,932	7,959	0.00%	0	100.00%	7,959
Host/Remote Circuit	15,108	584	89.91%	525	18.14%	106
Exchange Trunk C&WF	22,188	858	79.04%	678	25.93%	222
Interexchange C&WF	31,485	1,217	0.00%	0	100.00%	1,217
Host/Remote C&WF	8,849	342	89.91%	307	18.14%	62
Total Trunking	$ 402,402	$ 15,552		$ 5,140		$ 10,757
Tandem Switching	$ 58,187	$ 2,249	31.05%	$ 698	90.44%	$ 2,034
Total Usage	$2,105,181	$ 81,360		$ 62,982		$ 24,323
Subscriber Access						
Exchange Line Circuit	1,445,996	55,884	100.00%	55,884	100.00%	55,884
Exchange Line C&WF	4,828,591	186,614	100.00%	186,614	100.00%	186,614
Subtotal Sub. Access	$6,274,587	$ 242,499		$ 242,499		$242,499

Notes:

(1) Based on corporate operations expenses of $367,166 divided by plant investment (excluding general support facilities) of $9,500,324.

(2) Reflects estimated local or toll/access busy hour vs system busy hour.

4. TREND ANALYSIS

As noted earlier, we present a stand-alone cost study in Chapter 3 of this report. That cost study, like any economic cost analysis, attempts to draw economic inferences from accounting data. To do that, various assumptions are needed because accounting data do not match perfectly the requirements of an economic study. That immediately raises the possibility that some of the results may depend critically on some of the assumptions made. In this section, we present an analysis to demonstrate the reasonableness of the results obtained from the stand-alone cost study. More specifically, we provide an analysis which attempts to generally update the conclusions found earlier by the Commission that there was neither subsidy nor support among the local toll or access services. Our analysis draws extensively on the work done at the FCC and reported in CC Docket No. 94-1 on trends in telephone company inputs, outputs, productivity and input price trends.

Since the Commission issued its earlier order on the reasonableness of the structure of local, toll and access charges, there have been numerous changes to rates, charges and costs incurred by the telephone company. As we indicate below, taken together, these changes point to the results found earlier to be even more compelling today.

First, consider that rates for toll and access have fallen substantially over this period. Intrastate toll rates in Florida for all but the shortest distance calls have been cut, in some instances, by over one-half. Interstate long distance rates have also fallen, by approximately 50

nationwide. Factor price increases realized since 1988 averaged only 1.26 percent per year. In the last five years, the average was 2.3. Considering both the improvements in technology and the cost increases realized, unit production cost experienced by BellSouth has continued to decline. Since 1988, costs have fallen on an average of 2.5 percent per year, or by about 30 percent through the end of 1997. In the last five years, they have fallen by almost 1 percent per year. Stated differently, the cost of serving the average customer in BellSouth Florida today is approximately 30 percent less than it was in 1988. Whereas the Commission found rates for local exchange service to exceed incremental costs in its earlier investigation, cost trends point to the fact that these rates not only remain above incremental costs, but are even further above incremental costs than they were then.

Table 4-1

BELLSOUTH TELECOMMUNICATIONS, INC. - FLORIDA

Downward Trend in Costs
Annual Rates, 1988-1997

	1988-1997	1992-1997
Factor Productivity Growth	3.80%	3.24%
Factor Price Increases	1.26%	2.31%
Unit Cost Change	-2.54%	-0.93%

factors in combination, can be determined. It is those measures of productivity and inflation that serve as the basis of our analysis reported above.

Table 4-2 shows trends in the various inputs, outputs, and in productivity experienced. Outputs produced by BellSouth continue to grow over the time period. Access line growth represents increases in subscriber populations, as well as an increase in demand for second lines. Interstate access minutes grew, in part, because of a continued expansion in the economy, at least in the post-1990 economy, as well as increases in toll minutes fueled by reductions in interstate toll rates. State local and toll minutes also grew over the period, fueled as well by expansions in the economy, lower rates for toll services, and as expanded EAS coverage.

Increases in outputs normally require increases in inputs, as well. Capital stock increased over the period, in the form of investments both to expand the network and to modernize it. However, levels of employment continued to fall. It is significant that the increases in output outpaced increases in inputs, resulting in the productivity improvements experienced.

Both labor and capital productivity grew over this time period. Labor productivity was fueled not only by greater efficiencies in the production process, but also by an absolute reduction in the workforce. Capital productivity was fueled both by increases in scale from increases in demand, as well as deployment of new technologies. Total factor productivity represents the increase in productivity after combining the influence of all production factors relative to all outputs produced.

Table 4-2

BELLSOUTH TELECOMMUNICATIONS, INC. - FLORIDA

Upward Trend in
Output and Productivity
Annual Growth 1988-1997

	1988-1997	1992-1997
Total Factor Productivity	3.80%	3.24%
Labor Productivity	9.53%	11.83%
Capital Productivity	1.57%	1.16%
Employees	-4.02%	-7.06%
Capital Stock	3.93%	3.60%
Access Lines	3.81%	4.58%
Interstate Access Minutes	8.41%	7.65%
State Local and Toll Minutes	4.04%	3.42%

Table 4-3 provides the details supporting the data shown in Table 4-2, as well as other information. Data on individual services, as well as indices for total output, total input, and for price changes are shown.

While the results shown pertain to the nine-state BellSouth region, they are reasonably applicable to Florida. Consider input price changes as an example. All BellSouth employees are covered by a single labor agreement. Consequently, trends in

Table 4-3

BELLSOUTH TELECOMMUNICATIONS, INC.

Annual Growth Rates

	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1988-97	1992-97
Total Access Lines	3.34%	4.47%	4.20%	-0.67%	3.88%	4.66%	4.30%	5.27%	4.79%	3.81%	4.58%
Switched Access Minutes	13.11%	10.73%	6.09%	7.56%	5.32%	8.48%	8.03%	7.99%	8.42%	8.41%	7.65%
Special Access Lines	-5.29%	-17.93%	98.99%	53.98%	18.69%	14.17%	27.13%	32.99%	6.07%	25.42%	19.81%
Total Local Calls	5.51%	3.46%	6.07%	4.83%	5.22%	5.26%	3.40%	4.39%	3.58%	4.64%	4.37%
Intrastate DEMs	7.39%	6.60%	2.13%	1.68%	-6.86%	1.04%	1.19%	-0.75%	10.32%	2.53%	0.99%
Total Employees	-0.03%	-1.10%	-11.64%	11.90%	-3.67%	-5.69%	-6.58%	-9.72%	-9.65%	-4.02%	-7.06%
Capital Stock	8.41%	5.38%	5.02%	4.17%	2.83%	3.83%	3.36%	3.12%	4.59%	3.93%	3.60%
Total Output Quantity Index	6.63%	4.61%	8.56%	5.96%	3.38%	5.25%	4.63%	5.35%	5.21%	5.51%	4.76%
Total Input Quantity Index	4.95%	1.88%	0.47%	0.42%	0.65%	2.04%	2.60%	-1.50%	3.83%	1.70%	1.52%
Total Input Price Index	-2.75%	-0.01%	0.41%	2.14%	2.93%	2.50%	-0.20%	6.51%	-0.19%	1.26%	2.31%
Labor Productivity	6.66%	5.71%	20.20%	-5.94%	7.05%	10.95%	11.21%	15.06%	14.87%	9.53%	11.83%
Capital Productivity	-1.78%	-0.78%	3.54%	1.79%	0.55%	1.43%	1.26%	2.22%	0.62%	1.57%	1.16%
Materials Productivity	2.94%	5.42%	4.21%	22.18%	1.91%	-1.78%	-5.40%	6.87%	-6.92%	3.27%	2.30%
Total Factor Productivity	1.68%	2.73%	8.08%	5.54%	2.73%	3.22%	2.03%	6.84%	1.38%	3.80%	3.24%

labor costs in Florida will be similar to those in all other BellSouth states. Capital costs are also expected to be similar across the entire region. Even though material costs (electricity, rent, etc.) may vary somewhat from state to state, capital and labor expenses make up almost 80 percent of the total expenditures involved.

Productivity calculations will be affected largely by trends in the quantity of inputs utilized, as well as the technologies selected. These decisions are likely to be made on a region-wide, rather than a statewide basis. Decisions with regard to general employment policies, such as outsourcing and downsizing are regional in nature. Decisions with regard to technology selection and capital budgeting are, again, regional in nature. Hence, employment trends and productivity implications from technology selection in Florida is likely to be similar to that realized in other BellSouth states.

BellSouth's underlying costs. In general, we found that the trend in rates and costs supported the results obtained. Specifically, local rates were virtually unchanged while costs declined. Toll rates and access charges declined even more rapidly than did costs. These facts alone point to the expectation of a conclusion that the rate structure remains subsidy free.

This analysis was conducted in response to the requirements established by the Legislature in HB 3475. The results of this study are being presented to the Florida Commission as an input into its decision making recommendations to the Legislature with regard to the reasonableness of rates for local exchange services.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true copy of the foregoing has been furnished by U. S. Mail or hand delivery (*) this 13th day of November, 1998, to the following:

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