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ORIGINAL

**FINAL COMMENTS TO THE FLORIDA  
PUBLIC SERVICE COMMISSION  
Docket 980733-FL Final Comments**

**Dr. Robert G. Harris, LECG**

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## I. INTRODUCTION AND OVERVIEW

In my previous filing, I demonstrated that the affordability of local telephone service should be viewed in the context of: the value of basic residential service perceived by consumers, the price of this service relative to median household income, prices of other goods and services, and the impact of today's prices on future service quality and affordability. Given that telecommunications customers in Florida today use basic local service to access an increasing number of complementary goods and services at a lower real price compared to the pre-divestiture period,<sup>1</sup> I concluded that the current price of basic local service has been unreasonably pinned down relative to value, affordability, and cost. Therefore, moving prices closer to the real economic cost would be in accordance with the general principles of economic efficiency.

These Final Comments build on that conclusion. In this document I provide concrete examples and quantitative evidence showing that the value of a residential telephone subscription has increased in recent years. I also outline the well-recognized economic principles regarding cost causation and the allocation of telecommunications infrastructure costs to help explain why basic local telephone prices for many classes of customers are below cost. Finally, I address the concept of elasticity of demand as it relates to consumer and producer surplus and public welfare when basic local rates are increased and rates for vertical services and access charges are decreased.

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<sup>1</sup> See *Report on Residential Telephone Service in Florida: Public Policy, Pricing, and Affordability*, Robert G. Harris, Sep. 23, 1998, Florida Public Service Commission's Fair and Reasonable Rate Proceeding, Docket #980733-TL, p. 28, Figure 3.

- Changes in consumer tastes have increased the demand for local telephone service and complementary goods and services.

**A. TECHNOLOGICAL ADVANCES HAVE IMPROVED BASIC LOCAL SERVICE**

Over the last 15 years a number of new technologies have been integrated into the local exchange network which have improved the underlying quality and reliability of local exchange services. These improvements include the rollout of digital switches with touch tone, and SS7 capabilities. Additionally, local companies have increased their deployment of fiber optic transmission facilities particularly in interoffice transport plant and to a lesser degree into the local loop, improving reliability. Appendix 1 contains a graph that shows the dramatic growth in total sheath kilometers of fiber plant deployed by BellSouth and GTE in Florida between 1990 - 1997.

Indeed, the deployment of digital switching has improved the quality, reliability, and functionality of local telephone service and led to substantial savings in switching related costs. One key advance in local exchange technology has been the development and deployment of Signaling System 7 (SS7) technology. In the switch, SS7 provides a protocol for networks and interoffice switches to communicate with each other, speeding up call processing and allowing increases in functionality such as fraud detection, 800 number portability and the deployment of new complementary services.<sup>3</sup> Appendix 2 contains a graph that shows the deployment of SS7 technologies in the Florida local exchange network, as well as an explanation of the technological benefits.

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<sup>3</sup> *Infrastructure of the Local Operating Companies Aggregated to the Holding Company Level, 1991-95.* Report released March 1997, Federal Communications Commission. ([http://www.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCC-State\\_Link/infra.html](http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/infra.html))

as their default carrier when they dialed 1+ interLATA calls.<sup>3</sup> As equal access was implemented by the local exchange companies, competition increased in long distance markets bringing the benefits of lower prices and improved service to consumers. Appendix 3 shows that equal access lines in Florida increased dramatically between 1984 and 1997 improving the value of local exchange and interLATA services for Florida's consumers.

Since divestiture prices for domestic and international long distance service have decreased and features, calling plans, the number of competitors providing service, and total minutes of use have increased dramatically. These changes have clearly benefited local subscribers. In fact, cross price elasticity can increase subscribership. Consumer sensitivity to changes in long distance relative to basic service prices shows the complementary relationship between the two.

### WIRELESS SERVICES

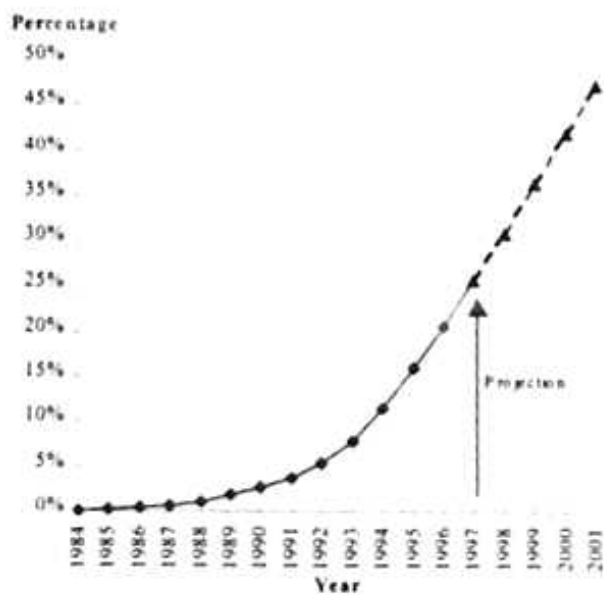
Wireless services such as paging, cellular, and PCS which have traditionally served largely as complements to local exchange service, have also increased the value of having a wireline local service subscription. Local wireline subscribers have improved access to their colleagues, friends and families via wireless communications. Each new wireless subscriber increases the value of the entire telecommunications network to all other wireline and wireless subscribers. In economics this is known as a positive network externality because each new subscriber gains private benefits from their service but also increases the value of the network to all other subscribers.<sup>4</sup> Figure 1 below shows that the penetration of cellular and PCS services in the

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<sup>3</sup> Without equal access, long distance carriers such as MCI and Sprint could only be used if the customer dialed extra digits putting them at a disadvantage *vis-a-vis* AT&T.

<sup>4</sup> Increases in the number of subscribers in the U.S. and internationally also clearly have a positive network externality effect for residential subscribers in the U.S. I have not quantified increases in landline U.S. mainline subscribers because they have been limited in recent years because the penetration rate is already relatively high. However, worldwide, main telephone lines have increased from 407 million in 1985 to a projected 970 million by 2000. See International Telecommunications Union, *World Telecommunications Development Report 1998: Universal Access*, Chapter 1, Global Access, Figure 1.2.

**Figure 1**  
**Historical and Projected PCS and Cellular Subscribers**  
**as a Percent of US Population Age 15 and Older**



Source: Vanston, Lawrence K., *Wireless vs. Wireline For Voice Services*, Technology Futures Inc., Third Edition.

**Figure 3**  
**Originating Toll-Free\* MOUs for BellSouth Florida**  
**(millions)**

	1996	1997	1998 Projected	CAGR
<b>Total</b>	5,269,667,338	6,335,846,901	7,131,119,595	16.3%

\*Note: Includes 800, 888, 877 inter and intraLATA calls

Source: BellSouth Internal Data

Figure 4 provides a summary of current U.S. spending on toll-free and 900/976 service.

**Figure 4**  
**Summary of Toll-Free and 900/976 Market in 1997**

InterLATA toll-free revenues	\$11.26 billion
IntraLATA toll-free revenues	\$290 million
900/976 revenues	\$1.5 billion
CAGR for total market projected for 1997-2004	9.80%

Source: Frost and Sullivan, see DM News, "Increased Competition Equals Growth for Toll Free Market," July 6, 1998.

Given the size of this market, toll free and 900/976 services are providing substantial and growing benefits to local subscribers who access these services from their residential phone.

Figure 5

## Selected Government Services Available via Local Calls in Dade County Florida

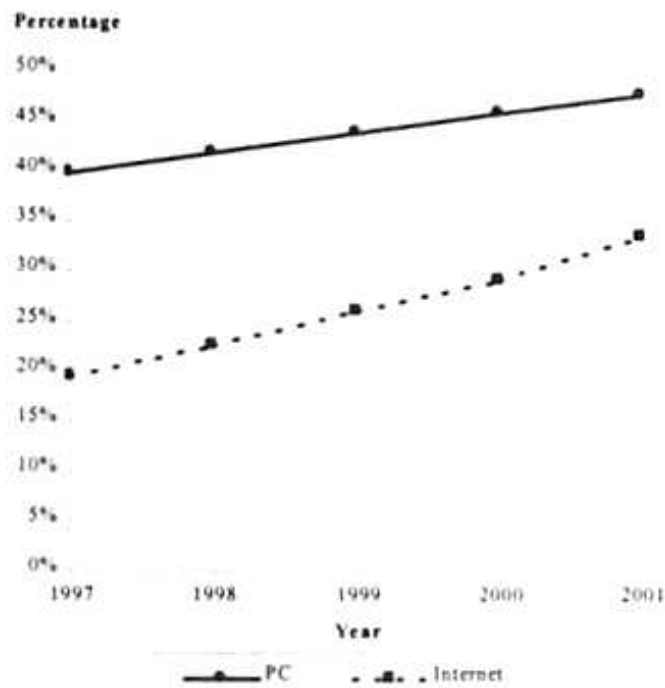
AGENCY	RECIPIENTS	SERVICES AVAILABLE OVER PHONE
Miami-Dade Housing Authority (305) 644 - 5100	Low-income families, individuals and the elderly.	Information about rental programs and first time homebuyer loans. Applicants can check the status of their application by calling the Applicant Leasing Center, which features an automated answering system. Potential applicants can also call in to find out what type of applications are being accepted currently (i.e. individuals, elderly, etc.)
Homeless Assistance Program (Under the Dept. of Human Services) (305) 638 - 6368	Homeless persons and families	Homeless individuals can call in, give their location, and a social worker will come out and meet them. Service recipients can also call in to check their housing placement status.
Farmworker Training Program (under the Employment and Training Services of the Dept. of Human Services) (305) 245 - 5865	Eligible migrant and seasonal farm workers	Provides education, training, and employment services. Applicants can call in to get information on current classes, and request transportation (which is provided by the Program) to and from the agency or job interview.
FL Dept. of Motor Vehicles (850) 487 - 4303	All FL residents	Drivers can call the customer service line to make appointments, check the status of a license, and hold fines. Floridians can also pay a reinstatement fee (assuming no court restrictions against the holder) via the phone with a credit card, and renew licenses or the phone by calling a 900 #.
Consumer Protection Division (305) 375 - 4222	All FL residents	Provides information to consumers about businesses and products. An automated answering system routes in-coming calls. The information line answers consumer questions about products and companies operating in FL. Explains how to file a complaint, and takes other general questions.
County Court -- Traffic Division (305) 275 - 1111	All eligible drivers	Handles court cases dealing with traffic violations. The Division has an automated answering system, which can be accessed 24 hours a day. The system directs calls according to information needed, which includes office locations and directions, a list of approved traffic schools, and "Answers to Commonly Asked Questions."
Fire and Rescue (305) 596 - 8576 or 911	All FL residents	Dispatches emergency calls and information. The Department provides information over the phone such as insurance information, location of the nearest hydrant fire station, and relays citizen and police information to family members who call looking for information on relatives involved in accidents (i.e. location of the accident and hospitals where the victim was taken to).
Office of Human Development (305) 375 - 3576	Children, elderly, disabled, and veterans	Provides home, personal, and childcare. People wishing to access the services of this agency call in to register via phone, leaving a name, phone number, and SS#, agency personnel will return the phone call and fill out an application for the caller. Once registered, they can receive care services. The agency also offers a special transportation service--those who need transportation to an appointment (i.e. to the doctor's office) or need things dropped off to them (i.e. prescriptions, documents) call the agency to schedule a time.
Jackson Memorial Hospital (305) 585 - 1111	All FL residents	The hospital has an automated answering system to direct incoming calls. Instructions are given in English, Spanish, and Creole. The caller can choose from getting patient information, transfer to the ER, or reaching a patient's room, making an appointment, transfer to a specific department, and paging a doctor.
County Court (305) 375 - 5278	U.S. citizens selected for Jury Duty.	Those who receive notices to appear for jury duty must call the juror hotline for stand-by instructions.
Economic Services (Dept. of Children and Families) (305) 377 - 7154	All those eligible for public assistance.	Administer welfare programs and payments to recipients. Recipients can call an 800 # to obtain information on their accounts. They can call the direct line for all other questions. There are separate numbers for SS and Medicaid, which recipients call for questions about benefits, payments, referrals, claims, etc.

Source: Miami/Dade White Pages and Telephone Interviews with the Agencies Listed



accessing the Internet from home is via a local telephone dial up connection to an ISP/online service. Figure 6 below shows current and projected penetration rates for home PCs and Internet access.

**Figure 6**  
**Projected Penetration of PCs and Internet Services in US Households**



Source: "ADSL Coalition UAWG Unveiled; List of UAWG Promoters: Cable Modem 1997-2006," in *Cable TV Technology (CTT)*, February 28, 1998, Paul Kagan Associates, Inc.

Thus, a large number of United States citizens from an increasingly diverse population has access to PCs and derives potential benefits from access to the Internet and other electronic services accessible via local telephone service.

High-speed data transport services such as integrated services digital network (ISDN) and asymmetric digital subscriber line (ADSL) are also becoming available for home subscribers. Both of these services are provided by upgrading and/or modifying existing local exchange plant, can be rolled out to individual subscribers with relatively small investments on the part of carriers, and increase the value and extend the economic life of local phone companies' networks. These services allow home users to access the Internet at very high speeds. Currently, BellSouth offers 64 Kbps ISDN Internet connectivity in the following cities: Ft. Lauderdale, Jacksonville, Miami, Orlando, and West Palm Beach.<sup>13</sup> GTE and Sprint also offer this service in a number of locations in Florida.<sup>14</sup>

BellSouth plans to rollout ADSL service for consumers in 30 markets in 1998 and 1999. Jacksonville and Ft. Lauderdale are scheduled for launch in 1998.<sup>15</sup> Sprint has completed a trial of ADSL technology in Orlando, Florida and GTE is rolling out ADSL offerings in Sarasota, St. Petersburg and Tampa, Florida starting in June 1998.<sup>16</sup> Appendix 4 below shows the availability of ISDN and the projected availability of ADSL services across the U.S.

Another complementary communications device that is increasingly penetrating the home and home-office market, and has increased the value of a local telephone subscription, is the fax

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<sup>13</sup> See (<http://www.bellsouth.com/residential/isdn/florida.html>)

<sup>14</sup> Sprint press release, January 26, 1998 (<http://www.sprint.com/sprint/press/releases/9801/9801260516.html>);

GTE press release, April 27, 1998, (<http://www.gte.com/AboutGTE/news/980427.html>)

<sup>15</sup> BellSouth Press Release, May 19, 1998 (<http://www.bellsouthcorp.com/proactive/documents/render/21462.vtml>)

<sup>16</sup> Sprint press release, January 26, 1998 (<http://www.sprint.com/sprint/press/releases/9801/9801260516.html>);

GTE press release, April 27, 1998, (<http://www.gte.com/AboutGTE/news/980427.html>)

benefit to recruit workers. According to an executive with a national employment out patient firm:

"We need to come up with innovative ways to attract and retain people...One of the ways...many employers have adopted is offering greater flexibility and leeway."<sup>20</sup>

Figure 9 below shows the estimated number of people who work at home at least one day a week has almost tripled between 1990 and 1997 and is projected to increase over time.

**Figure 9**  
**Number of People in the U.S. Who Work from Home**  
**at Least One Day per Week**

Year	1990	1997	2000 (projected)
Number of Telecommuters	4 mil.	11 mil.	14 mil.

*Source: Find/SVP (see Reuters, "Telecommuting on the Rise," October 8, 1998)*

Another cultural shift increasing the value placed on local telephone services is the increasing need to access news and information "on the go" or outside the traditional news cycles (i.e. morning news paper, 10 o'clock television news, etc.). As more people begin to access news and information on a continuous basis through the Internet and other interactive media and assimilate this into their professional and personal lives, cultural momentum increases the demand for services which facilitate the flow of information. This socio-cultural factor clearly is expedited by and expedites the other two factors listed above.

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<sup>20</sup> Reuters, "Telecommuting on the Rise," October 8, 1998.

#### A. *COST CAUSATION AND ECONOMIC EFFICIENCY*

To achieve these efficiency based public policy goals, the regulatory framework developed must meet three criteria. First, prices need to be set to cover costs including a risk-adjusted return on capital, mimicking the results of an unregulated competitive market. Second, to achieve the first criteria it is necessary to accurately measure costs. Third, given these first two criteria, it follows that one must develop principles for analyzing and identifying cost causation. That is, to estimate costs accurately so that prices do indeed cover the full economic costs of providing the service, it is necessary first to understand how and when costs are caused.

During the Fair and Reasonable Rates Workshop, I heard distinct viewpoints regarding cost causation. Presenters had different theories of how and when costs are incurred and what actually causes them. Given the great amount of debate on cost causation and allocation, I believe it instructive to review the basic economic principles of cost causation.

Cost causation means untangling how and when the costs of producing a product or service were incurred. Let me start with an example, which helps define what I would call the first principle of cost causation: *Multiple use does not imply common cost*. A refrigerator is a durable good with multiple uses that are familiar to all of us (each different food product which is refrigerated could be defined as a different use in this case). Regardless of how many different ways a consumer uses the refrigerator, the price and the cost of constructing the refrigerator will be the same. Economic principles of multiple use dictate that just because the refrigerator can be used in multiple ways, its production costs are *not* common costs associated with the food stored in the refrigerator. Therefore these costs of producing the refrigerator should *not* be allocated to not be recovered from food sales. Extending this principle to telephone service, although the local loop has many uses, that does not imply that the loop is a common cost. Thus the cost of the

some benefit from being able to contact a particular subscriber through her local loop, the subscriber controls that access. Indeed, the popularity of caller ID and answering machines that allow screening of incoming calls clearly indicates that subscribers appreciate and exercise control over access to their premises.

*The third key cost-causation principle is that when costs vary with usage then it is appropriate to recover those costs in charges that vary with usage. Accordingly, when costs do not vary with usage then it is inappropriate for those costs to be recovered in charges for usage because they will cause distortions in consumption patterns, i.e. reducing allocative inefficiency.*

Basic local residential prices are below cost for certain classes of customers since part of the costs of the loop have been implicitly allocated to switched access charges. Any assertion to the contrary depends upon the violation of the three cost principles that I have outlined above.

Noted economist Dr. Alfred Kahn explained in 1984 that:

“Some state regulators are being presented with testimony purporting to demonstrate that revenues from local service cover its fully distributed costs and that the asserted subsidy of local charges is therefore a fraud. In economic terms (and I cannot think what other terms are relevant) those demonstrations are nonsense. They rely on the economically false proposition, legally approved by Smith v. Illinois Bell, that interstate usage should bear some part of the non-traffic-sensitive costs of providing subscribers access to the local exchange. Only by allocating some portion of those costs to interstate usage do these studies ‘demonstrate’ that the basic charge for local service fully covers the ‘cost’ of providing this service. Once one accepts, instead, the economically incontestable propositions that costs that do not vary with usage should not be recovered in charges for usage and that there is no such separate service or phenomenon as access to the interexchange (as distinguished from the local) network, one recognizes inescapably – again, as a matter of economics – that imposition of any of those costs on usage constitutes an improper subsidy.”

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<sup>24</sup> Alfred E. Kahn, “The Road to More Intelligent Telephone Pricing,” *Yale Journal on Regulation*, Vol. 1 (1984) at pp. 141-143

## ***B. DISTRIBUTIONAL EQUITY AND UNIVERSAL SERVICE***

Distributional equity is among the goals of universal service. To this end, this Commission, the FCC and telecommunications providers have made an effort to increase the availability of telephone services. Regulators have provided for those who might not be able to afford telephone service at today's prices by introducing the Lifeline and Link-Up programs.<sup>29</sup> According to a report by the Florida Public Service Commission, there are currently are over 800,000 people eligible for the Lifeline subsidy.<sup>30</sup> According to GTE's Don Perry, a witness in the Fair and Reasonable Rate Proceeding, almost 70% of those eligible for the program are unaware of their eligibility and not participating in the program.<sup>31</sup> Efficiently implemented Lifeline and Link-Up programs would cover distributional equity concerns with little or no negative impact on consumer welfare. I discuss this topic with regard to price elasticity in the next section.

Addressing the distributional equity issue in this proceeding, two witnesses touted the recent University of Florida survey on consumer value. There has been great disagreement over the interpretation of the results. The main cause of this disagreement is that the results were extremely confusing and the survey was not well designed for a number of reasons.<sup>32</sup>

First, the survey would have been better constructed if it included comparisons between the prices of local telephone service and other similar services purchased by consumers. Also, a

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<sup>29</sup> The primary mechanism for the distribution of federal support in aid of local telephone service is the federal Universal Service Fund. LinkUp and Lifeline are programs that assist people in connecting to the local telephone network with reduction in the charges for installation of local service and discounts on monthly basic telephone service charges.

<sup>30</sup> Florida Public Service Commission, 1998, *Study to Estimate the Amount of Support Necessary to Provide Residential Basic Local Telecommunications Service to Low Income Customers*, Draft, p. 2

<sup>31</sup> Perry, Don. October 2, 1998, "Transcript of Fair and Reasonable Residential Basic Local Telecommunications Rates," p. 361.

<sup>32</sup> The thoughts expressed here are based on an in-depth discussion of the University of Florida survey with marketing and survey expert Professor Itamar Simonsen of Stanford University.

survey regarding consumer value should examine consumers' perceptions of an increase in the price of basic telephone service (possibly, accompanied by a reduction in the cost of other telephone services).

Additionally, the survey could have been better constructed by offering clearer responses to the question of what consumers would do if the price of basic local service went up. It seems unlikely that many of the respondents truly understood that the "discontinue basic local service" option meant that they would be giving up dial-tone and telephone service all together. Other response options might have included switching to metered service. This, and the confusing order of questions regarding different price increases, led to illogical results. While some workshop presenters argued in favor screening out the most illogical responses, the fact that so many of the answers are illogical shows *prima facie* evidence that the survey is poorly constructed. Making *ex post* changes to the results may be well-intentioned, but does not reduce the underlying problem areas of the survey design and may substantially bias the data sample used to ultimately estimate consumer opinions. Although inconclusive, the results from the survey highlight the necessity of devoting attention and resources to distributional equity and overall efficiency goals.

### C. *PROMOTING EFFICIENT COMPETITION*

Given the passage of the 1996 Telecom Act, the federal mandate for telecommunications is clear: move towards market-based competition. This cannot be achieved when prices for some services are set well below cost with the expectation that excess revenues from other services will make up the difference. Currently, with competition for local service, and access to unbundled elements, a competitor can combine its own switch with a leased loop to offer vertical features (such as voice mail or call waiting) at prices well below those that are required to subsidize basic service. Furthermore, CLECs can cherry-pick high revenue, high margin customers because current usage prices are maintained artificially high to subsidize basic residential service. The



Second, in competitive markets, no incumbent is required to charge prices above a competitive level as a means of cross-subsidizing services that are priced below a competitive level. The existing policy of requiring some ILEC customers to cross-subsidize others produces an implicit tax on the subsidizing customers. This tax distorts the competitive process because it enables CLECs to compete with the incumbent unfairly, by providing a "tax loophole" to CLEC customers. By purchasing services from a CLEC, which are not required to cross-subsidize, the customer can avoid the implicit tax in the prices of the ILEC.

Third, in competitive markets, incumbent firm are not subjected to extensive regulation of prices and service offerings while its competitors are free of most such regulations. The asymmetric regulation of LECs and ALECs will distort competition by handicapping LECs, inhibiting them from pricing to market conditions, meeting competition, offering new services expeditiously and responding to competitors' initiatives.

Fourth, in competitive markets, incumbent firms are not required to provide service to customers in areas where no other competitor is willing to provide service. The regulatory policy of "carrier of last resort" distorts competition because it imposes the costs of that obligation on some competitors, while others are allowed to avoid it, by serving only those customers they choose to serve.

The results from effecting policies that promote a competitive marketplace will enhance economic efficiency. Competitors will make *technically efficient* investments because the incentives that they receive through market signals (prices) will be based upon cost and demand. Customers will consume a mix of services which better satisfies their preferences, promoting *allocative efficiency* as subsidies from usage sensitive services are removed and prices better reflect costs. Competition will act as a catalyst to promote *dynamic efficiency* by furthering innovation, lowering costs and increasing value to end-users, the citizens of Florida. Finally, given appropriate universal service support, ILECs and other carriers of last resort will have the wherewithal to serve high-cost customers and promote *equity objectives*.



cancel their local service subscriptions. This result is discussed in the work of Hausman et al,<sup>13</sup>, as well as in Don Perry's testimony in the workshop.

I want to directly respond to claims by Mr. Dunkel that the Utah commission reduced prices for basic residential local service in response to declining penetration rates as shown in the handout he distributed during the workshop.<sup>14</sup> Mr. Dunkel was using the Utah example in an attempt to convince this Commission not to increase basic residential prices in Florida. However, there are several flaws with his example, the first being Mr. Dunkel's data is inconsistent with the rate and penetration data publicly available. It is unclear how the basic residential rates used by Mr. Dunkel were calculated given that there are many possible components (such as the EAS, DTLRX, IFR, and SLC) and various other Federal and State surcharges.

First, what makes the data put forth in Mr. Dunkel's chart suspect is that he shows that the rates from 1991 to 1996 as unchanged. Publicly available data from US West confirms that there were several changes in rate components in 1991.<sup>15</sup> (See Appendix 6 for specific data.) However, Mr. Dunkel's chart does not show those changes. This indicates that either he did not include the varying components in his calculations (which would be odd since the rates shown for 1995-1996 appear include EAS, DTLRX, and IFR components), or that Mr. Dunkel's analysis is at fault. Furthermore, Mr. Dunkel's chart is suspect because he has extended the axis showing penetration percentage to present the change over time as being significant. Presented in proportion, it is unlikely that the change in penetration would appear to be very large as he suggests.

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<sup>13</sup> Hausman, Jerry, Timothy Tardiff and Alexander Belinfante, "The Effects of the Breakup of AT&T on Telephone Penetration in the United States," *American Economic Review*, vol. 83 (May 1993), pp. 178-84.

<sup>14</sup> Dunkel, William (October 9, 1998) Fair and Reasonable Rates Workshop, p.399 of transcript

<sup>15</sup> Conversation with Betty June Carman, U S WEST, Utah Public Policy division, November 11, 1998.

Thus the Utah example actually is consistent with the Hausman prediction that increases in basic service prices in conjunction with decreases in complementary services prices can actually improve residential basic penetration rates and promote consumer welfare.<sup>16</sup>

In my research on the impact of price on penetration rates<sup>17</sup>, I found that to the extent that the gradual elimination of subsidies puts upward pressure on basic service prices, price is not the most significant cause of non-subscribership. Instead, poverty contributes to low subscribership among some customer segments. However, low-income households, especially those dependent upon public assistance, can have their service subsidized by Lifeline programs. These programs are much more efficient and competitively neutral methods for increasing local subscribership than providing below-cost basic residential service to everyone. Common sense, casual observation, and statistical analysis support the fact that the vast majority of residential customers do not disconnect service in response to price increases of the magnitude typically proposed. One industry analyst concludes that:

[T]he price of access [meaning a basic local exchange subscription] has a negative effect, albeit small, on the probability of a household having a telephone... income is the primary factor in determining subscription, and in identifying the socio-demographic and economic dimensions along which a targeted subsidy program... could be designed.<sup>18</sup>

There is also evidence that people disconnect service or fail to subscribe in response to high installation and/or toll costs, or to lack of education regarding service availability.

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<sup>16</sup> See Utah Public Service Commission, Docket No. 97-049-08, *REPORT AND ORDER*, December 4, 1997.

<sup>17</sup> Direct testimony of Robert G. Harris on behalf of US West Communications (In the Matter of the Request of US West Communications Inc. for an Increase in its Rates and Charges), Inc., April 8, 1997, Docket No. 97-049-08.

<sup>18</sup> Lester D. Taylor, *Telecommunications Demand in Theory and Practice*, Kluwer Academic Publishers, 1994, pp. 126-127.

Finally, the conclusion that some residential customers disconnect service in response to higher long-distance prices is supported by statistical analysis of the data.<sup>39</sup> Indeed, studies that I mentioned in my Report show that the majority of customers without telephone service were at one time subscribers.<sup>40</sup> For these customers, disconnection studies find that the primary reason for involuntary disconnection of telephone service is the inability to pay long distance charges.

**B. THE OVERLAP BETWEEN CONSUMER AND LOCAL EXCHANGE CARRIER INTERESTS**

I would like to point out that the tradeoff between consumer and local exchange carrier interests is not a zero sum game as some have claimed. In my initial report, I quoted Scott Cleland of Legg-Mason stating that:

"shareholders' interest and ratepayer interests are inextricably linked. In the long-term, they can't be separated. What's good for one is ultimately going to be good for the other, and what's bad for one long-term is going to be bad for the other."<sup>41</sup>

If the ability of local exchange companies to cover their total costs of providing service is jeopardized it will cause irreparable harm to these companies, their shareholders, and ultimately the citizens of Florida.

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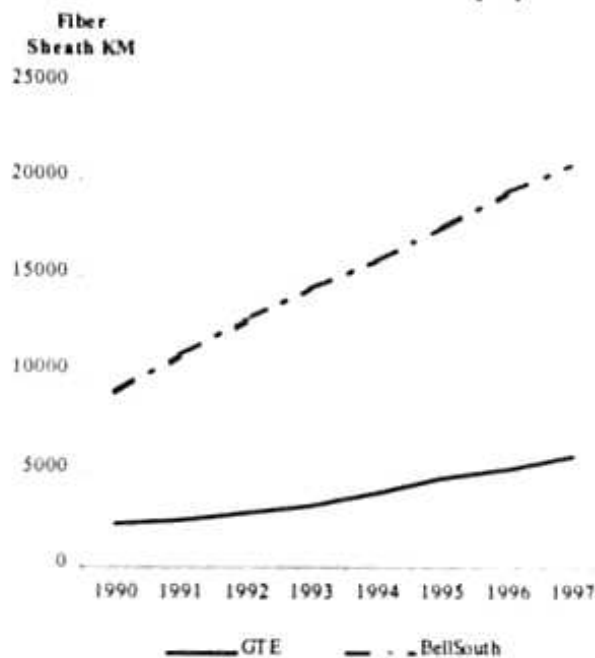
<sup>39</sup> A recent study concludes that the demand for basic residential service is an inverse function of long-distance rates. See Jerry Hausman, Timothy Tardiff, and Alexander Belinfante, "The Effects of the Breakup of AT&T on Telephone Penetration in the United States," *American Economic Review*, vol. 83 (May 1993), pp. 178-84.

<sup>40</sup> See Field Research Corp., *Affordability of Telephone Service* (1993) (survey funded by GTE and Pacific Bell, available from Pacific Telesis, Federal Regulatory Relations, 1275 Pennsylvania Ave., Suite 400, Washington, DC 20004). Milton Mueller & Jorge Reina Schement, Rutgers Univ. Project on Info Policy, *Universal Service from the Bottom Up: A Profile of Telecommunications Access in Camden, New Jersey* (1995) (available from Rutgers University School of Communication, Information and Library Studies, New Brunswick, New Jersey 08903). Chesapeake & Potomac Tel. Co., *Submission of Telephone Penetration Studies in Formal Case No. 850* (D.C. Pub. Service Commission, October 1, 1993). John B. Horrigan & Lodis Rhodes, *The Evolution of Universal Service in Texas* (Sept. 1995) (available from the LBJ School of Public Affairs, University of Texas at Austin, Austin, TX 78713-8925).

<sup>41</sup> Testimony of Scott Cleland before the Telecommunications Policy Committee of the Illinois Commerce Commission, July 1998.

## Appendix 1

## Total Sheath KM of Fiber Deployed in Florida



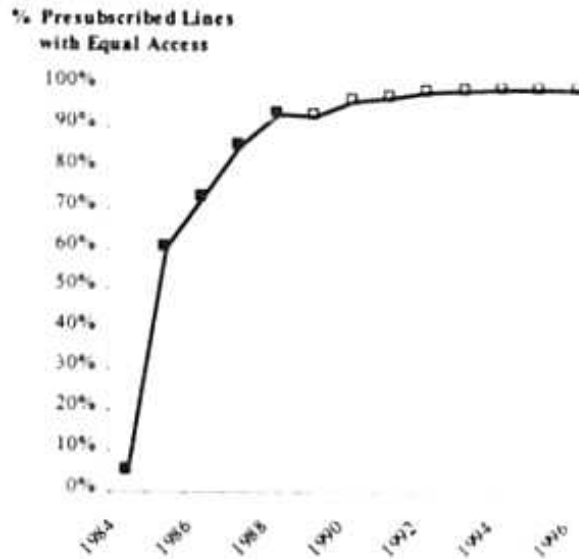
Source: "Infrastructure Report 43-07: Transmission Facilities," ARMIS Data Retrieval System, FCC.

Notice the two companies sheath mile deployment more than doubled between 1990 and 1997. By 1990, according to FCC data, 99 percent of BellSouth and GTE's local switches were touch tone capable.<sup>42</sup>

<sup>42</sup> "Infrastructure Report (43-07): Switching Equipment," Automated Reporting Management Information System (ARMIS), FCC, see (<http://www.fcc.gov/ccb/armis/db/>)

### Appendix 3

#### Equal Access Line Conversion for BellSouth Florida



Source: "Equal Access Report," Common Carrier Bureau, FCC, Released 6/96 and "Distribution of Equal Access."

Note: 1984 to 1988 data extrapolated for BellSouth conversion region wide data only. 1989 to 1996 data is based on the conversion level for all telecommunications companies in Florida.

## Appendix 5

### Economic Principles of Loop Allocation

There is no dispute that loop costs should not be allocated to complementary services or recovered by usage sensitive charges in economics literature. For example, even competitive local exchange carriers agree that local loop costs are properly assigned to the cost of basic local exchange service. AT&T's external economics expert, Dr. David Kaserman, argued this point on behalf of AT&T in a proceeding in Iowa:

"Economic efficiency requires that customer access to the network be priced according to the incremental costs or additional network costs necessary to make that access available. Such incremental cost pricing conforms to the 'cost causation' principle in which those costs directly attributable to a product are recovered through the pricing of that product."<sup>44</sup>

In the same proceeding, Dr. Richard Emmerson echoed this argument:

"First, the cost of the local loop is clearly and separately identifiable and is associated with local access, not usage or other telecommunications services. This cost cannot be compensated by any service (or group of services): (a) which is subject to separate competitive erosion, and (b) for which there is no cost savings if such competition is successful."<sup>45</sup>

A recent study by the National Association of Regulatory Utility Commissions also recognizes this:

"The allocation of loop costs to other than basic local service and the resulting pricing will mean that customers who take only local service may not cover the cost of their service...Companies have the incentive to service only those customers that are profitable."<sup>46</sup>

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<sup>44</sup> Iowa Docket No. RPU-95-11: p.10-11

<sup>45</sup> Iowa Docket No. RPU-95-11: p.10-11

<sup>46</sup> Makeeff, Sandra, *Loop Dreams: The Price of Connection for Local Service, Competition*, Executive Summary, Working paper, July 21, 1995, p. 2.