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Report to the Chairman, Committee on Government Reform, House of Representatives

November 2006

TELECOMMUNICATIONS

FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services

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GAO-07-80

November 2006

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Highlights

Highlights of GAO-07-80, a report to the Chairman, Committee on Government Reform, House of Representatives

TELECOMMUNICATIONS

FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services

Why GAO Did This Study

Government agencies and businesses that require significant capacity to meet voice and data needs depend on dedicated access services. This segment of the telecommunications market generated about $16 billion in revenues for the major incumbent telecommunications firms in 2005. The Federal Communications Commission (FCC) has historically regulated dedicated access prices.

With the Telecommunications Act of 1996, FCC reformed its rules to rely on competition to bring about cost-based pricing. Starting in 2001, FCC granted pricing flexibility on the basis of a proxy measure of competition. GAO examined (1) the extent that alternatives are available in areas where FCC granted pricing flexibility, (2) how prices have changed since the granting of pricing flexibility, and the effect on government agencies, and (3) how FCC monitors competition. GAO's work included analyzing data on competitive alternatives, list prices, and average revenue, and interviewing FCC officials and industry representatives.

What GAO Recommends

GAO recommends that FCC better define effective competition, and consider additional data to measure and monitor competition. FCC disagreed that they need to better define competition and collect additional data. GAO maintains that additional data collection is necessary for FCC to better fulfill its regulatory responsibilities.

www.gao.gov/cgi-bin/getrpt?GAO-07-80.

To view the full product, including the scope and methodology, click on the link above. For more information, contact JayEtta Z. Hecker at 202-512-2834 or HeckerJ@gao.gov.

What GAO Found

In the 16 major metropolitan areas we examined, available data suggest that facilities-based competitive alternatives for dedicated access are not widely available. Data on the presence of competitors in commercial buildings suggest that competitors are serving, on average, less than 6 percent of the buildings with demand for dedicated access in these areas. For buildings with higher levels of demand, facilities-based competition is more moderate, with 15 to 25 percent of buildings showing competitive alternatives, depending on the level of demand. Limited competitive build out in these MSAs could be caused by a variety of entry barriers, including government zoning restrictions and difficulty gaining access to buildings from building owners. In addition, where demand for dedicated access is relatively small, it is unlikely to be economically viable for competitors to extend their networks to the end user. FCC has also noted that, where competitors can lease unbundled network elements from incumbent providers, there may be less incentive for competitors to invest in their own facilities.

Available data suggest that incumbents' list prices and average revenues for dedicated access services have decreased since 2001, resulting from price decreases due to regulation and contract discounts. However, in areas where FCC granted full pricing flexibility due to the presumed presence of competitive alternatives, list prices and average revenues tend to be higher than or the same as list prices and average revenues in areas still under some FCC price regulation. According to the large incumbent firms, many large customers needing service in areas with pricing flexibility purchase dedicated access services under contracts that provide additional discounts. However, GAO found that contracts do not generally affect the differential cited previously, and that contracts also contain various conditions or termination penalties competitors argue inhibit customer choice. Government agencies, to the extent that they purchase dedicated access off of General Services Administration contracts, are generally shielded from price increases due to prenegotiated rates. However, not all agencies purchase off of these contracts.

FCC uses various data to assess competition in dedicated access, but these data are limited in their ability to describe the state of competition accurately. For example, these data measure potential competition at one point in time and are not revisited or updated, even though competitors may enter bankruptcy or be bought by the incumbent firm. FCC also collects data from external parties through its rulemaking proceedings, but those parties have no obligation to provide data, and FCC has limited mechanisms to verify the reliability of any data submitted. FCC's strategic plan and various rulemakings have defined FCC's obligation to assess and ensure competition in dedicated access. FCC stated that gathering and analyzing additional data would be costly and burdensome. Yet without more complete and reliable data, FCC is unable to determine whether its deregulatory policies are achieving their goals.

Contents

Letter 1

Results in Brief 12
Background 16
Facilities-Based Competition to End Users Does Not Appear to Be Extensive 19
Prices for Dedicated Access Services in MSAs with Phase II Pricing Flexibility Are on Average Higher Than Prices Elsewhere 27
FCC Plays an Important Role in Ensuring Competition, but Lacks Sufficient Information to Determine the Success of Its Deregulatory Policies 36
Conclusions 41
Recommendations for Executive Action 43
Agency Comments 44

Appendix I **Objectives, Scope and Methodology** 50

Appendix II **Analysis of Average Revenue Data and List Prices** 62

Appendix III **Comments from the Federal Communications Commission** 71

Appendix IV **GAO Contact and Staff Acknowledgments** 76

Tables

Table 1: Conditions for Granting Different Phases of Pricing Flexibility in an MSA 16
Table 2: Percentage of Buildings with a Fiber-Based Competitive Alternative by Demand (July 2006) 20
Table 3: Change in Competitive Colocation in “Price-flex” Wire Centers 24
Table 4: Examples of Contract Terms and Conditions 31
Table 5: MSAs in Analysis, by Price-Cap Incumbent and Applicable Pricing Flexibility 50
Table 6: GeoResults’ Dedicated Access Demand Model 54

Table 7: Summary Statistics of Average Revenue for Channel Terminations, Unweighted Nominal Dollars 63
Table 8: Summary Statistics of Average Revenue for Channel Terminations, Unweighted Adjusted Dollars Using Telecommunications Price Index 64
Table 9: Summary Statistics of Average Revenue for Channel Terminations, Unweighted Adjusted Dollars Using General GDP Price Index 65
Table 10: Summary Statistics of Average Revenue for Channel Terminations, Weighted Adjusted Dollars Using the Telecommunications Price Index 66
Table 11: Summary Statistics of List Price Comparisons for all DS-1 Combinations in Nominal Dollars 67
Table 12: Summary Statistics of List Price Comparisons for all DS-3 Combinations in Nominal Dollars 69

Figures

Figure 1: Simplified Components of Dedicated Access Circuits 5
Figure 2: Average Differences in Dedicated Access Prices Across All Terms and Zones in Nominal Dollars 29
Figure 3: Change in Average Revenue for DS-1 and DS-3 Channel Terminations in Phase I and Phase II Areas 33

Abbreviations

ARMIS	Automated Reporting Management Information System
CALLS	Coalition for Affordable Local and Long Distance Service
DOJ	Department of Justice
FCC	Federal Communications Commission
GDP	Gross Domestic Product
GSA	General Services Administration
Mbps	megabytes per second
MSA	Metropolitan Statistical Area
RBOC	Regional Bell Operating Company
USDA	Department of Agriculture

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Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

November 29, 2006

The Honorable Tom Davis
Chairman
Committee on Government Reform
House of Representatives

Dear Mr. Chairman:

Government agencies and businesses rely on "special access" services (also known as "dedicated access") to meet their voice and data telecommunications needs (i.e., large volumes of long-distance services, secure point-to-point data transmissions, and reliable Internet access).[1] The federal government, with its extensive network of agency offices spread throughout the nation, is a major consumer of these services. Due to increasing data transmission needs, these dedicated access services are a growing segment of the telecommunications market and represented about $16 billion in revenues in 2005 for the major providers of those services—the largest incumbent telecommunications firms (i.e., AT&T Corporation [formerly SBC Communications], BellSouth Corporation, Qwest Communications, and Verizon Communications). The incumbent firms have an essentially ubiquitous local network that generally reaches all of the business locations in their local areas. For long-distance or other telecommunications companies (such as Sprint Nextel, Time Warner Telecom, and Level 3 Communications) to provide their services to large business customers, they often purchase dedicated access services on a wholesale basis from the incumbents for local connectivity. The incumbent firms have stated that the majority of the dedicated access services they sell are sold wholesale to other carriers. Alternatively, competitors may build out to reach customers using their own facilities, or purchase connections from other competitive carriers that have built out to those businesses, resulting in "facilities-based" competition. The Telecommunications Act of 1996 (the 1996 Act), allowed the major

[1]Because these services operate separately from the local "switched" telecommunications network used to route telephone calls, they are considered "dedicated." Customers do not consider switched access services to be a viable substitute for dedicated access because they do not offer the guaranteed bandwidth, high service levels, and security that dedicated access provides.

incumbent firms to compete in the long-distance market;[2] therefore, incumbent firms are now competing to provide businesses with long-distance services as well as acting as a wholesale supplier of local connectivity to their competitors.

The Federal Communications Commission (FCC), which is an independent United States government agency, regulates interstate and international communications by radio, television, wire, satellite, and cable. Because the major incumbent firms initially controlled all dedicated access connections, prices for these services have traditionally been regulated by FCC. In 1991, FCC implemented a system of regulations that altered the manner in which the incumbent firms established interstate dedicated access prices. FCC "capped" the prices that could be charged by the large incumbent firms. (Those firms are hereafter called "price-cap incumbents.")[3] The 1996 Act, which Congress designed to foster a procompetitive, deregulatory national policy framework for the United States telecommunications industry, led FCC to reconsider its current regulatory framework for access prices, including whether and how to remove price-cap incumbents' access services from price caps and tariff regulation once they are subject to substantial competition.

In 1999, FCC issued the Pricing Flexibility Order,[4] which, among other things, permitted the deregulation of prices for dedicated access services

[2]Upon a showing that local markets are open to competition, the Regional Bell Operating Companies (RBOC) were granted authority to enter the market for long distance services, pursuant to section 271 of the Communications Act of 1934, as amended by the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996). 47 U.S.C. § 271. Originally, seven RBOCs formed after the break up of AT&T—Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, and US West. Through various mergers, these companies have combined into four—AT&T, BellSouth, Qwest, and Verizon.

[3]Sections 203 and 204 of the Communications Act of 1934, as amended, establish tariff filing requirements applicable to common carriers. 47 U.S.C. §§ 203, 204. FCC implemented the rules establishing regulations, including the filing, form, content and notice, and the pricing rules and related requirements that apply to incumbent carriers subject to price-cap regulation. A tariff is the document filed by a carrier describing their services and the payments to be charged for such services.

[4]*Access Charge Reform*, CC Docket No. 96-262, Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 14221 (1999) (*Pricing Flexibility Order*), aff'd, *WorldCom, Inc. v. FCC*, 238 F.3d 449 (D.C. Cir. 2001). Price-cap incumbents must file a petition seeking pricing flexibility. 47 C.F.R. § 1.774.

in metropolitan statistical areas (MSA)[5] where price-cap incumbents could show that certain "competitive triggers" had been met. The competitive trigger refers to the extent to which competitors have "colocated" equipment in a price-cap incumbent's wire center (i.e., an aggregation point on a local telecommunications' network).[6] FCC determined that once a certain level of colocation in wire centers throughout a metropolitan area had been achieved, it was a good predictor that competitors had made significant, irreversible sunk investments in facilities, and indicated the likelihood that a competitor could eventually extend its own network to reach its customers. In FCC's view, sufficient sunk investments of this sort would constrain monopoly behavior by price-cap incumbents. Accordingly, FCC determined that colocation at the wire center level can reasonably serve as a measure of competition in a given MSA, rather then looking to more granular assessments of the level of competition at a building level or at the level of individual customers. FCC also determined that the colocation-based triggers would not be overly burdensome on parties and on FCC's limited resources as would be more granular assessments. The United States Court of Appeals for the District of Columbia affirmed FCC's decision to grant additional pricing flexibility to price-cap incumbents through a series of colocation-based triggers.[7]

Depending on the extent of competitive colocation that is achieved in an MSA, FCC grants either partial or full pricing flexibility to the price-cap incumbent carriers.[8]

[5]The Office of Management and Budget defines an MSA as an area having at least one urbanized area of 50,000 or more population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.

[6]FCC's *Expanded Interconnection Orders* required price-cap incumbent firms to allow competing firms to install ("colocate") certain network equipment in particular wire centers at reasonable terms and conditions. 47 CFR § 64.1401(a).

[7]Specifically, the court found that FCC made a reasonable policy determination that colocation was a sufficient proxy for market power, and that the court had no basis upon which to require FCC to engage in a more searching analysis of competition before granting pricing flexibility. *WorldCom, Inc. v. FCC*, 238 F.3d 449 (D.C. Cir. 2001). See also *Covad Communications Co. v. FCC*, 450 F.3d 528 (D.C. Cir. 2006). The court noted that under the 1996 Act, colocation can reasonably serve as a measure of competition in a given market, particularly where it is superior to the various alternatives proposed by objecting petitioners.

[8]Competitive, nonincumbent firms are not subject to rate regulation and, therefore, do not apply for pricing flexibility.

- In MSAs where price-cap incumbents can demonstrate a certain level of competitive colocation, they would satisfy the triggers that would result in partial price deregulation (known as "phase I" flexibility). With phase I flexibility, FCC allows price-cap incumbents to offer customized contracts to customers that provide discounts off the price-capped "list prices." This flexibility was designed to allow price-cap incumbents to more adequately respond to competition, where price-cap regulation may be too constricting to allow the incumbent to lower its prices to respond to competitive pressures. Price-cap incumbents must file their contract terms and conditions—-on a day's notice—with FCC and make that same contract available to other customers that meet the contract's specified terms and conditions. Alternatively, for customers that do not sign up for contracts, incumbents are required to offer dedicated access at price-capped prices. Those prices may include term and volume discounts (e.g., lower list prices may exist for 3-year or 5-year terms compared with month-to-month list prices or for purchasing greater amounts of dedicated access).

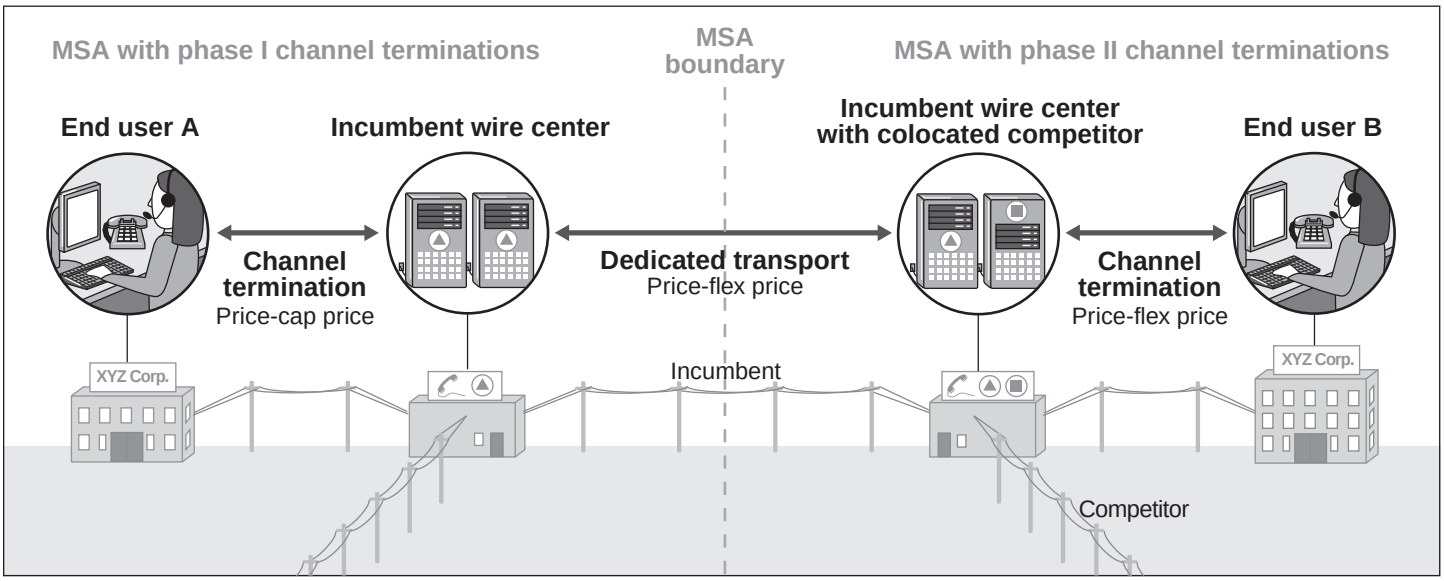
- In MSAs where price-cap incumbents can demonstrate a higher level of competitive colocation, price-cap incumbents may meet more stringent competitive triggers and qualify for greater price deregulation (known as "phase II" flexibility). Because FCC deems phase II areas to be sufficiently competitive to ensure that rates for dedicated access are just and reasonable, phase II flexibility frees the incumbent from price caps and allows it to raise or lower its list prices. Price-cap incumbents must still file these new "price-flex" list prices with FCC. As with phase I flexibility, contracts can be offered that provide additional discounts to respond to competitive pressures.

- Where neither trigger for competition is met, price-cap incumbents' prices remain subject to FCC's price cap and customers can only purchase dedicated access from the price-capped list prices (which can include volume and term discounts).

FCC's pricing flexibility pertains to two separate components of dedicated access services—the end user channel termination and dedicated transport. In general, the end user channel termination component (sometimes referred to as a "local loop") connects an end user's location (e.g., the corporate headquarters or field office) with the nearest incumbent's serving wire center. The dedicated transport component connects one wire center to another wire center or to another carrier's point of presence. Figure 1 illustrates these components in MSAs with different levels of pricing flexibility for channel terminations and the pricing that applies for each component. In the MSA on the left-hand side

of the figure, the price-cap incumbent has received phase I flexibility for channel terminations. As figure 1 shows, with phase I flexibility, the *price-cap* price is still available for channel terminations. In the MSA on the right-hand side of the figure, the incumbent has received phase II flexibility for channel terminations, and the *price-flex* price is used. If a competitor is colocated in the wire center as the figure illustrates, FCC has noted that the potential exists for the competitor to build out its own network to end user B.

Figure 1: Simplified Components of Dedicated Access Circuits



Source: GAO.

In 2000, prior to its granting any pricing flexibility, FCC further reformed its price-cap rules. That reform was initiated by a group of incumbent firms and long-distance companies, called the Coalition for Affordable Local and Long Distance Service (CALLS).[9] The CALLS plan was envisioned as a 5-year transitional regime to resolve, among other things,

[9]CALLS consisted of four of the five largest incumbent firms and two of the three largest long-distance carriers at the time (mergers since then have reduced the number of incumbents and long-distance carriers). CALLS consisted of the AT&T Corporation, Bell Atlantic Telephone Companies, BellSouth Corporation, GTE Service Corporation, SBC Communications Inc., and Sprint Corporation.

price-cap issues.[10] Specifically, as FCC adopted, the CALLS plan provided for yearly reductions in price caps for dedicated access services based on agreed-upon percentages. The percentage decreases were 3 percent in 2000 and 6.5 percent each year from 2001 through 2003. Beginning in 2004, price-cap rates have essentially been frozen, with no further decreases in prices, with the exception of adjustments based on cost factors outside of the incumbents' control (e.g., taxes and fees). The "CALLS Order" was intended to run until June 30, 2005, but the order remains in place until FCC adopts a subsequent plan.

In 2001, concurrently with the scheduled decreases in price caps resulting from the CALLS Order, FCC began granting pricing flexibility to price-cap incumbents. Some level of pricing flexibility has since been granted to the four major price-cap incumbents in 215 of the 369 MSAs in the United States and Puerto Rico. These four price-cap incumbents have received full price deregulation (phase II for all circuit components) in 112 MSAs. Only 3 of the 100 largest MSAs in the United States and Puerto Rico are not under any pricing flexibility.[11]

In January 2005, in response to a petition that AT&T filed in 2002, FCC initiated a rulemaking proceeding on dedicated access price regulation to examine whether the pricing flexibility rules should remain intact or be revised.[12] The basic economic theory underlying FCC's regulatory approach postulates that greater competition should constrain incumbent pricing power and drive prices toward the marginal cost of providing those dedicated access services. However, competitors and business customers have raised concerns that, in places where FCC has granted phase II pricing flexibility, prices have incongruously risen. Concerns also have been raised that the competitive triggers that FCC used were inadequate to accurately judge the extent of competition in the market. Price-cap

[10] *Access Charge Reform*, CC Docket Nos. 96-262, 94-1, 99-249, 96-45, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, Eleventh Report and Order in CC Docket No. 96-45, 15 FCC Rcd 12962 (2000) (CALLS Order). See also *Texas Office of Public Util. Counsel v. FCC*, 265 F.3d 313 (5th Cir. 2001).

[11] Price-cap incumbents have also received some level of pricing flexibility in the non-MSA areas of 14 states, and phase II flexibility for all circuit components in the non-MSA area of 1 state. The 3 MSAs of the top 100 in the United States and Puerto Rico without pricing flexibility are San Juan-Bayamon, Puerto Rico; Youngstown-Warren, Ohio; and Sarasota-Bradenton, Florida.

[12] *Special Access Rates for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, Order and Notice of Proposed Rulemaking, 20 FCC Rcd 1994 (2005).

incumbents, on the other hand, generally oppose the petition. They contend that their dedicated access rates are reasonable, that there is robust competition in the dedicated access market, and that the colocation-based triggers are an accurate metric for competition. FCC's rulemaking is still ongoing.

Recent mergers of major telecommunications firms—SBC's acquisition of AT&T (and subsequently assuming the AT&T name); Verizon's merger with MCI; and, more recently, AT&T's proposed purchase of BellSouth—have further complicated the issues surrounding dedicated access services. As long-distance companies, the former AT&T and MCI were two of the largest purchasers of dedicated access services from the incumbents and were major competitors for providing large business customers with telecommunications services. At the federal level, FCC and the Department of Justice (DOJ) reviewed these mergers.[13] DOJ filed separate civil antitrust complaints on October 27, 2005, seeking to enjoin the proposed acquisitions. DOJ found the likely effect of these acquisitions

[13]Because mergers involve a change in the ownership or control of companies holding licenses or lines needed to offer telecommunications services in the United States, merging firms must apply to FCC for approval of the transfer of those licenses or lines. 47 U.S.C. §§ 214(a); 310(d). The purpose of FCC's review is to determine that the license transfers are in the "public interest." In making this determination, FCC considers several factors such as the effects of a merger on competition in the industry, the FCC's ability to enforce its obligations under the 1996 Act and the deployment of advanced telecommunications services. When FCC finds a merger to be in the public interest, it will approve the transfers of licenses and lines necessary to allow the merger to go forward. If FCC finds the public interest harm outweighs the public interest benefit of a transaction, it may enter into discussions with the merging parties, and ultimately, adopt conditions—that is, specific activities that the merged company would have to perform—that will change the balance of the public interest effects and thus enable FCC to find the license transfers to be in the public interest. 47 U.S.C. §§ 214(c); 303(r). FCC may, after taking the necessary steps, determine that the merger is not in the public interest and decline to approve the merger. Whatever FCC actions are taken in a particular case, interested parties (including, but not limited to, the merging companies) can file a lawsuit challenging FCC's decision. Any party filing such a lawsuit against an FCC decision bears the burden of proof in showing that the decision was "arbitrary and capricious" or beyond FCC's authority.

DOJ reviews mergers under federal antitrust laws to assess whether a merger may substantially lessen competition. If DOJ determines that a merger will substantially harm competition and, therefore, violates antitrust laws, it can bring a court action to stop the merger. DOJ also can negotiate an agreement with the merging companies, where the merging companies agree to undertake activities that would eliminate the competitive harm of the merger, such as divesting certain properties. That agreement, called a proposed Final Judgment, is filed with the court and is legally enforceable upon compliance with the Antitrust Procedures and Penalties Act, 15 U.S.C. § 16(b)-(h) ("Tunney Act"). Under a Tunney Act review, the court may enter the judgment if it concludes that it is in the public interest.

would be to lessen competition substantially for dedicated access in 19 metropolitan areas.[14] FCC approved the proposed mergers on October 31, 2005, subject to the parties' agreeing to certain commitments, including freezing the prices for dedicated access for 30 months.[15] More recently, AT&T announced plans to purchase BellSouth. Concerns have been raised that this proposed merger also may lessen competition in the dedicated access market. FCC's review of this merger is ongoing.

The availability of unbundled network elements (UNE) also complicates the issues surrounding facilities-based competition in dedicated access because they are functional equivalents to certain dedicated access services, but, where available, are generally less expensive than dedicated access services.[16] The 1996 Act gave the FCC broad power to require incumbent firms to make UNEs available to competitive carriers to provide them with local connectivity.[17] Recently, a federal appellate court upheld FCC's fourth attempt to impose UNE rules.[18] Under the new rules, FCC modified its unbundling framework[19] for high-capacity loops and transport. The Commission adopted a wire-center-based analysis that used the number of access lines and fiber colocations in a wire center as

[14]At the same time that the complaints were filed in the mergers between SBC and AT&T and MCI and Verizon, DOJ also filed stipulations and proposed Final Judgments that are designed to eliminate the anticompetitive effects of the acquisitions in the affected buildings. Under the proposed Final Judgments, defendants are required to divest, in most situations, indefeasible rights of use for lateral connections to certain buildings located in a number of metropolitan areas. DOJ and defendants have stipulated that the proposed Final Judgments may be entered into after compliance with the Antitrust Procedures and Penalties Act, 15 U.S.C. § 16(b)-(h) ("Tunney Act"). These actions were consolidated. The Tunney Act review is still ongoing.

[15]Memorandum Opinion and Order, *In the Matter of SBC Communications Inc. and AT&T Corporation Applications for Approval of Transfer of Control*, FCC WC Docket No. 05-65 (rel. Nov. 17, 2005); and Memorandum Opinion and Order, *In the Matter of Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, FCC WC Docket No. 05-75 (rel. Nov. 17, 2005).

[16]A network element is defined as "a facility or equipment used in the provision of a telecommunication service." 47 U.S.C. § 153(29).

[17]Congress left to the FCC the choice of elements to be "unbundled" specifying that it must "consider, *at a minimum*, whether . . . the failure to provide access to such network elements would *impair* the ability of the telecommunications carrier seeking access to provide the services that it would seek to offer." 47 U.S.C. § 251(d)(2) (emphasis added).

[18]*Covad Communications Company v. FCC*, 450 F.3d 528 (D.C. Cir. 2006).

[19]*Unbundled Access to Network Elements*, WC Docket No. 04-313, CC Docket No. 01-338, Order on Remand, FCC 04-290 (rel. February 4, 2005) (*Triennial Review Remand Order*).

proxies to determine impairment for high-capacity loops and dedicated transport.[20] Where such triggers are not met, the incumbent must make UNEs available at rates based on forward-looking economic costs.[21] FCC hopes that this framework will lead to the right incentives for both incumbents and competitors to invest rationally in the telecommunications market.

In light of these issues, this report discusses (1) the extent to which facilities-based competition to customer locations exists in areas where FCC granted pricing flexibility; (2) how prices for dedicated access services for businesses as well as federal government agencies have changed since phase II pricing flexibility; and (3) what data FCC uses to monitor competition in dedicated access services, along with the limitations, if any, that exist in its monitoring effort. We are not making a judgment on the legal sufficiency of competition in dedicated access services, including whether recent mergers violate antitrust laws or whether proposed remedies that DOJ identified would be sufficient to eliminate the competitive harm of the mergers.

To determine the extent of facilities-based competition in areas where FCC has granted pricing flexibility, we analyzed data on dedicated access

[20]Competing carriers are impaired without access to DS-1 transport except on routes connecting a pair of wire centers, where both wire centers contain at least four fiber-based colocators or at least 38,000 business access lines. Competing carriers are impaired without access to DS-3 or dark fiber transport except on routes connecting a pair of wire centers, each of which contains at least three fiber-based colocators or at least 24,000 business lines. Finally, competing carriers are not impaired without access to entrance facilities connecting an incumbent's network with a competitor's network in any instance. FCC adopted a 12-month plan for competing carriers to transition away from use of DS-1 and DS-3 capacity dedicated transport where they are not impaired, and an 18-month plan to govern transitions away from dark fiber transport. These transition plans apply only to the embedded customer base, and do not permit competitors to add new dedicated transport UNEs in the absence of impairment. During the transition periods, competitive carriers will retain access to unbundled dedicated transport at a rate equal to the higher of (1) 115 percent of the rate the requesting carrier paid for the transport element on June 15, 2004, or (2) 115 percent of the rate the state commission has established or establishes, if any, between June 16, 2004 and the effective date of FCC's UNE Order.

[21]The Commission has concluded that UNE prices must be based on each element's Total Element Long-Run Incremental Cost (TELRIC). *See* 47 C.F.R. § 51.505(b); *Verizon Communs., Inc. v. FCC*, 535 U.S. 467, 523 (2002). TELRIC rates are akin to wholesale prices because competitors are supposed to economically be able to rent UNEs and then use them to sell telecommunication services to their retail customers. *Covad Communications Company v. FCC*, *supra*. These rates are determined by states' public utility commissions.

services in selected metropolitan areas from Telcordia® Technologies, Inc., a leading global provider of telecommunications network software and services, and GeoResults, which is a firm that the telecommunications industry has used extensively to analyze Telcordia data.[22] We analyzed data showing not only the extent that competitors continue to be colocated in incumbent wire centers (FCC's measure), but also data showing the extent to which competitors have equipment in commercial office buildings that provides actual (or "lit") service to end users of dedicated access services. We selected 16 metropolitan areas in which FCC has granted the price-cap incumbents with varying phases of pricing flexibility.[23] We selected 4 metropolitan areas in the geographic areas broadly served by each of the four major price-cap incumbents (AT&T, BellSouth, Qwest, and Verizon). We also interviewed officials with price-cap incumbents and competitive firms, industry analysts, and representatives of major telecommunications customers. To describe how prices have changed since phase II pricing flexibility was granted, we used the following three methods to analyze changes in prices in areas where phase II flexibility was granted to areas where phase I flexibility was granted and areas still under the price cap.

- We analyzed listed prices for channel terminations and dedicated transport for month-to-month, 3-year, and 5-year terms across 3 density zones.[24] As previously noted, FCC requires price-cap incumbent firms to file list prices in all areas that they serve. Price-flex list prices are made generally available in areas with phase II flexibility. Price-cap list prices are made generally available to all customers in areas with phase I pricing flexibility as well as all other areas that remain subject to full price-cap regulation.

[22]Telcordia and COMMON LANGUAGE are registered trademarks and CLCI, CLEI, CLFI, CLLI, and NC/NCI are trademarks of Telcordia Technologies, Inc.

[23]The 16 MSAs we included in our analysis were as follows: Atlanta, Georgia; Chicago, Illinois; Detroit, Michigan; Greenville, South Carolina; Los Angeles, California; Miami, Florida; Minneapolis, Minnesota; New Orleans, Louisiana; New York, New York; Norfolk, Virginia; Phoenix, Arizona; Pittsburgh, Pennsylvania; Portland, Oregon; San Jose, California; Seattle, Washington; and Washington, D.C.

[24]Typically, price-cap incumbents offer prices across different zones that reflect the concentration of business demand for dedicated access within a geographic area. Zones generally correspond with areas of relatively high, medium, and low business demand density. Zone 1 is generally considered as inclusive of the central business area, where a large portion of businesses that would require DS-1 and DS-3 would reside. Prices are generally lower in zone 1 than in zones 2 or 3—with zone 3 generally having the highest prices, because costs to provide services are likely higher in less dense areas. Occasionally an incumbent will offer prices across five zones. In cases where an incumbent provided pricing across five zones, we analyzed prices associated with zones 1, 3, and 5.

- Because many larger customers may purchase dedicated access through various contracts with incumbents, we analyzed a substantial number of these contracts, which each price-cap incumbent firm also files with FCC.

- We could not obtain specific data on the prices paid by individual customers purchasing dedicated access services at various pricing levels (i.e., month-to-month or 3-year terms, or different density zones) or under different contract options, or the exact amount of dedicated access purchased. Therefore, as a proxy for the average prices charged, we analyzed the average revenue that price-cap incumbents received from selling dedicated access in 56 selected MSAs under phase I flexibility or phase II flexibility for channel terminations. We compared changes in average revenue for channel terminations between the period prior to pricing flexibility being granted and 2005, and also compared average revenue in 2005 across areas under phase I flexibility, phase II flexibility, and remaining under the price cap. We obtained average revenue data for the 56 MSAs under pricing flexibility from the four major price-cap incumbents. We obtained average revenue data for price-cap areas from annual tariff review plans submitted to the FCC by price-cap incumbents. Because only 1 of the MSAs in the data provided to us by the price-cap incumbents was under phase I flexibility for dedicated transport, we were unable to conduct a comparison of price trends for transport under different phases of pricing flexibility. These averages mask variation that exists across MSAs and across price-cap incumbents. Because the data provided by the price-cap incumbents are proprietary, we relied on these averages to examine overall trends in markets under different phases of pricing flexibility.[25] We were unable to independently verify the reliability of these data. However, we performed logic tests that were based on listed prices and available discounts to determine if there were any major inaccuracies.

In each of the three methods, we limited our analysis to prices for high-capacity dedicated access services at two speeds—1.544 megabytes per second (Mbps), which is known as a DS-1 circuit, and 45 Mbps, which is known as a DS-3 circuit—because they represent the majority of dedicated access revenues that the price-cap incumbent firms generate. We also were unable to collect data on prices that competitors charged; therefore,

[25]Not all of the major incumbent firms were able to include every discount that was based on price-flex contracts. One firm was unable to include discounts that were based on revenue commitments; however, because these discounts are available in both phase I and phase II areas, there is little reason to believe that these discounts would affect the prices available in phase II areas greater or less than it would affect prices in phase I areas.

those prices are excluded from this analysis. According to competitors, they could not provide data on prices because of nondisclosure agreements they have in place. We interviewed representatives from these firms, and they provided anecdotal information about their prices. Furthermore, we were unable to measure the extent to which price trends related to cost trends, because these data were also unavailable.[26] In addition, we analyzed available data on prices that two federal government departments paid under General Services Administration (GSA) contracts as well as prices paid under separate agency contracts. To determine what data FCC uses to monitor competition and any limitations that may exist to their monitoring efforts, we reviewed and analyzed FCC triggers for predicting competition as well as FCC data collection processes for determining and monitoring competition. We analyzed FCC's strategic plan, performance budget, and measures used by the agency to track their progress toward meeting their stated goals of increasing competition and choice for businesses. We also reviewed the rulemaking proceeding on dedicated access and public comments filed in that proceeding. We conducted our work from November 2005 through October 2006 in accordance with generally accepted government auditing standards. See appendix 1 for a more detailed discussion of our objectives, scope, and methodology.

Results in Brief

In the 16 major metropolitan areas we examined, facilities-based competition for dedicated access services exists in a relatively small subset of buildings. Our analysis of data on the presence of competitors in commercial buildings suggests that competitors are serving, on average, less than 6 percent of the buildings with at least a DS-1 level of demand. Competition is more widespread where buildings have a higher level of demand. For the subset of buildings identified as likely having companies with a DS-3 level of demand, competitors have a fiber-based presence in about 15 percent of buildings on average. For buildings identified in our model with 2 DS-3s of demand, competitors have a fiber-based presence in 24 percent of buildings on average. The data also show that the theoretically more competitive phase II areas generally have a lower percentage of lit buildings than phase I areas, indicating that FCC's competitive triggers may not accurately predict competition at the

[26]FCC discontinued cost studies several years ago. In addition, FCC gave price-cap incumbents the option to accept the CALLS Order price decreases, or to have prices reinitialized on the basis of detailed cost studies. No price-cap incumbents provided a cost study.

building level. The data also show that there has been a decline in some MSAs in the level of competitive colocation in the wire centers used by the price-cap incumbents to obtain pricing flexibility. Limited competitive build out in these MSAs could be caused by a variety of entry barriers, including zoning restrictions, or difficulties in obtaining access to buildings from building owners that discourage competitors from extending their networks. In addition, where demand for dedicated access is relatively small, such as buildings with less than three or four DS-1s of demand, it is unlikely to be economically viable for competitors to extend their networks to the end user. Incumbent firms have noted that, where competitors can lease UNEs from incumbent providers, there may be less incentive for competitors to invest in their own facilities. However, even if UNEs were not available, competitors still may find it uneconomical to extend their own networks to end users if their demand for dedicated access is relatively low.

Since FCC first began granting pricing flexibility in 2001, average revenue from channel terminations and average revenue for dedicated transport across the four major price-cap incumbents has generally decreased. This suggests that average prices may have fallen as well and is generally what would be expected with automatic decreases to the price-cap list prices required under FCC's existing CALLS Order. Additionally, the decrease appears to be consistent with the prospect of competition that FCC predicted. However, our analysis of data from the four major price-cap incumbent firms and FCC, which was intended to determine how prices have changed since the granting of phase II pricing flexibility, generally shows that prices and average revenues are higher, on average, in phase II MSAs—where competition is theoretically more vigorous—than they are in phase I MSAs or in areas where prices are still constrained by the price cap.

- Since phase II pricing flexibility was first granted, list prices for dedicated access that apply under phase II, on average, have increased. Conversely, price-cap list prices available in phase I and price-cap areas were pushed downward over the same period—largely by the CALLS order. As a result, average list prices in areas with phase II flexibility are higher than average list prices in phase I and price-cap areas.

- According to representatives of the price-cap incumbent firms, many customers that represent a significant amount of revenue purchase services under price-flex contracts that apply additional discounts to circuit components in areas with phase I or II pricing flexibility. However, most of these contracts provide overall discounts off the list price, and,

therefore, since price-flex list prices are higher on average than price-cap list prices, prices will remain higher in phase II areas. Over time, however, our analysis shows that most contracts provide discounts that, coupled with CALLS Order decreases in phase I areas, can eliminate any increases in the list prices and result in an overall decrease in price when compared with prices that existed prior to pricing flexibility. For many contracts we were unable to determine their effect on net prices because certain data were unavailable. Competitors also argue that price-flex contracts require customers to meet contractual terms and conditions that may limit the ability of competing vendors to win that business. For example, contracts may include termination penalties that discourage customers from switching to competing firms during the length of the contract.

- Not all customers are under price-flex contracts, and detailed data on the number of customers and circuits that are purchased at the price-flex list price were not available to us. Therefore, we compared average revenue data for dedicated access services under price-cap regulation (filed with the FCC), and under phase I or phase II flexibility (on the basis of data from 56 MSAs—27 phase II and 29 phase I—provided by the four major price-cap incumbents) to examine the net effect of changes in list prices and the application of contract discounts. Average revenue for channel terminations and dedicated transport for DS-1 and DS-3 has generally decreased over time, although the decline in average revenue for channel terminations is larger in phase I areas compared with phase II areas. Comparing average revenue across price-cap areas, phase I areas, and phase II areas as of 2005—the most recent period available—we found that average revenue in the 27 phase II areas is higher, on average, than it is in the 29 phase I areas and not statistically different that average revenue in areas that are still under a price cap.

Although no total spending figures are available, the federal government is also a large consumer of dedicated access services. Our review of spending on dedicated access services by the Department of Agriculture (USDA) and DOJ indicated that they procured most of their services through the government-wide telecommunications contract, FTS2001. With FTS2001 expiring and GSA currently negotiating a new contract, it is unclear what prices the government will pay for dedicated access services.

FCC uses various data to assess competition for dedicated access, but most of these data have significant limitations in their ability to describe the presence, extent, or change in competition in any given area. For example, the data presented in a price flexibility petition measure potential competition at one point in time and FCC does not revisit or update them, even though competitors may enter bankruptcy or be bought

by another firm. FCC also attempts to collect data from external parties through its rulemaking proceedings, but those parties generally have no obligation to provide data, and FCC has limited mechanisms to verify the reliability or accuracy of any data submitted. For example, as part of its rulemaking proceeding on dedicated access, FCC requested data on price indices in price flexibility areas to determine how prices have changed in areas with varying levels of price deregulation; however, no incumbent firm provided these data. FCC's strategic plan and various rulemakings have defined FCC's obligation to assess and ensure competition for dedicated access. FCC has stated that gathering and analyzing additional data would be costly and burdensome. FCC has expressed concern about its ability to gather data without disturbing the market and also noted that any additional reporting requirements on incumbent firms or any requirements on competitive firms to report information on their networks would have to conform to the Paperwork Reduction Act[27] and also proceed through a lengthy administrative process. Certainly, FCC must balance the additional costs of gathering more data with the potential benefit that might result from additional data. Yet without more complete and reliable measures of competition, FCC is unable to determine whether its deregulatory policies are achieving their goals.

We are making recommendations to FCC to revisit the issues it initiated in its rulemaking proceeding on dedicated access and to develop measures and methods to monitor competition on an ongoing basis that more accurately represents market developments and customer choice. We provided copies of the draft report to FCC for its formal comment. FCC did not disagree with the facts presented in the report but contended that the report implied a need for regulatory price controls and consequently disagreed with the recommendations. Counter to FCC's interpretation, the report does not call for the reregulation of dedicated access prices. Instead, the report concludes that in order to better meet its regulatory responsibilities, FCC needs a more accurate measure of effective competition and needs to collect more meaningful data. We also made

[27]The Paperwork Reduction Act sets standards for information collection. These standards include avoiding unnecessary duplication; reducing burdens on the public and small entities; ensuring that collection is developed so that information is used in an efficient and effective manner; and using information technology to the maximum extent practicable to reduce burden and improve data quality, agency efficiency, and responsiveness to the public. 44 U.S.C. §§ 3501 et. seq. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Pub. L. No. 107-198, 44 U.S.C. § 3506(c)(4), FCC generally seeks specific comment on how it might "further reduce the information collection burden for small business concerns with fewer than 25 employees."

copies of the draft report available to the major incumbent carriers. They generally disagreed with the information presented, stating that the data we used were incomplete and unreliable. We recognize the limits of available data on the extent and effect of competition in the market for dedicated access services, but believe the data used provided a reasonable and sufficiently reliable picture of the extent of facilities-based competition.

Background

FCC is an independent United States government agency, directly responsible to Congress. Established by the Communications Act of 1934, FCC is charged with regulating interstate and international communications by radio, television, wire, satellite, and cable. The Telecommunications Act of 1996 established that FCC should promote competition and reduce regulation to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies. FCC's strategic plan clarifies its support for these principles by stating that competition in the provision of communications services, both domestically and overseas, supports the Nation's economy.

After passage of the 1996 Act, FCC started several actions to encourage competition in the telecommunications market. As previously discussed, FCC instituted pricing flexibility where incumbents could meet specific competitive triggers. Table 1 summarizes the conditions under which incumbents could qualify for phase I or phase II flexibility. According to FCC, all of the applications for pricing flexibility have utilized the revenue-based triggers, and not the percentage of total wire centers in an MSA.

Table 1: Conditions for Granting Different Phases of Pricing Flexibility in an MSA

Level of pricing flexibility	Dedicated access components	Requires installed colocation equipment from at least one competitor in:		
Partial ("phase I") price deregulation	Channel terminations to end users	Wire centers with 65 percent of revenues	or	50 percent of total wire centers
	Dedicated transportation[a]	Wire centers with 30 percent of revenues	or	15 percent of total wire centers
Full ("phase II") price deregulation	Channel terminations to end users	Wire centers with 85 percent of revenues	or	65 percent of total wire centers
	Dedicated transportation[a]	Wire centers with 65 percent of revenues	or	50 percent of total wire centers

Source: FCC Pricing Flexibility Order.

Note: In addition to the wire center requirements, price-cap incumbents must also demonstrate in their petitions for price flexibility that, in each wire center relied on in the applicant petition, at least one competitor relied on dedicated transport facilities provided by a nonincumbent carrier.

[a]Dedicated transport includes entrance facilities, direct-trunked transport, and the flat-rated portion of tandem-switched transport as well as dedicated access services other than channel terminations to end users.

Phase I flexibility is essentially downward pricing flexibility. Under phase I flexibility, prices charged by price-cap incumbents are generally not expected to increase (except for changes to the price cap resulting from cost factors outside the price-cap incumbents' control, such as taxes and fees, or from increases in certain prices under the price cap, which would require the price-cap incumbent to lower other prices under the cap). Phase II flexibility allows price-cap incumbents to raise or lower their list prices. Although prices are permitted to increase, under phase II flexibility competition is expected to constrain incumbent pricing power. The Pricing Flexibility Order noted that it is possible past regulation may have resulted in setting some prices below cost, and, therefore, some price increases would be expected under phase II flexibility,[28] although the order does not speculate on which prices may increase or to what extent price increases were expected. Regulation could have caused prices to be below costs in some areas because price-cap incumbents are required to offer the same "average" price throughout a geographic area, although costs may not be uniform throughout that area. As a result, the price-cap incumbent may have had to price certain services too high where costs were low, and too low where costs were high. Therefore, if the triggers are correct, and sufficient competition does exist in phase II areas, one might expect prices in the more dense areas of metropolitan areas to decrease (perhaps as a result of contract offerings) because costs are likely lower in these areas. Prices in more sparsely populated parts of the MSA, with fewer businesses, may show some increases due to the likely higher cost of providing service in such areas.

If the price-cap incumbents raise their prices, and there is not sufficient competition to constrain these prices, competitors' input costs to serve business customers may rise. Generally speaking, economic theory holds that as competitors' input costs increase, they would have greater incentive to search for an alternative supply of that input, or produce it themselves, leading to further entry by competitors into building their own facilities to compete with incumbents. Representatives of several

[28]*Pricing Flexibility Order*, 80.

competitive providers with whom we spoke stated that they generally prefer to provide service over their own facilities or to purchase from other competitive providers, wherever it is possible to do so, rather than use incumbent facilities because of price considerations, concerns over the reliability of the facilities, and the ability to quickly fix service problems should they arise. Alternative supply for dedicated access can also be provided by competitors in the form of alternative technologies, such as point-to-point wireless connections. Some industry analysts when we spoke were encouraged by the prospect of fixed wireless and WiMax technology that could provide alternative dedicated access. However, according to these analysts, this technology is still being developed and has only been used in limited circumstances to replace high-capacity dedicated access connections.[29]

An alternative theory suggests that an incumbent can discourage full facilities-based entry into the market by allowing competitors to lease the incumbent's network at a price just equal to the competitors' cost to build out their own networks, thus making the competitors indifferent to leasing or building. This theory would suggest that prices will adjust to the point where it remains uneconomical for competitors to build their own facilities. By extension, this theory argues that full facilities-based competition is unlikely to ever occur, because the incumbent will discourage entry by keeping competitors on its own network, rather than risk splitting or losing the market. Representatives of incumbent firms have pointed out that the vast majority of their dedicated access services are sold to competitors on a wholesale basis.

The federal government has been somewhat shielded from market developments through long-term contracts that GSA negotiated. Government agencies can acquire telecommunications services and dedicated access services through GSA's FTS2001 contracts. FTS2001 contracts will soon be replaced by GSA's "Networx" contracts, which are planned for award in 2007. FTS2001 was negotiated with set rates for dedicated access connections over the life of the contract. However, government agencies are not required to use the FTS2001 contract, and not all agencies purchase off of this contract.

[29]WiMAX is defined as Worldwide Interoperability for Microwave Access by the WiMAX Forum, and was formed in April 2001 to promote conformance and interoperability of the IEEE 802.16 standard, officially known as WirelessMAN. The forum describes WiMAX as "a standards-based technology enabling the delivery of last mile wireless broadband access as an alternative to cable and DSL."

Facilities-Based Competition to End Users Does Not Appear to Be Extensive

Based on the data available to us, facilities-based competition for dedicated access services to end users at the building level (i.e., analogous to channel terminations to end users) does not appear to be extensive in the MSAs we examined, although moderate levels of competition appear where demand for dedicated access exceeds the DS-3 level. The data further suggest that there have been some declines in competition in wire centers used by incumbents to obtain pricing flexibility. These findings suggest that FCC's competitive triggers—which look at competition at the wire center level—may not adequately predict competition at the building level throughout an MSA. The limited amount of facilities-based competition could be due to a variety of factors, including the high cost of constructing local telecommunications networks, government regulations, and limited competitive access to buildings.

Competitive Alternatives Exist in a Relatively Small Subset of Buildings

According to data from July 2006, facilities-based competitors have extended their networks to a relatively small subset of buildings in the MSAs that we examined.[30] Of the buildings with a level of demand greater than the DS-1 level in our model, we found that only about 6 percent of buildings, on average, have a fiber-based competitor. Competition is more widespread where buildings have a higher level of demand. For the subset of buildings identified in our model as likely having companies with a DS-3 worth of demand, competitors have a fiber-based presence in 15 percent of buildings, on average. For buildings identified in our model with at least 2 DS-3s of demand, competitors have a fiber-based presence in 25 percent of buildings, on average (see table 2). The data also show that phase II

[30]These figures are the product of the following two sources: (1) the number of buildings believed to be served by competing firms present in the database and (2) estimates of the total number of commercial buildings in each MSA that include commercial businesses likely to demand dedicated access with at least a DS-1 level of service, at least one DS-3 of service, or 2 DS-3s or greater of service. We used the Telcordia Location Registry (formerly "CLONES") to make inferences about buildings lit by competitors. The Location Registry is a hosted database of network locations and related network functions for the telecommunications industry. Estimates of commercial buildings with demand for dedicated access are derived from a proprietary model owned by GeoResults. That model estimates likely demand generally on the basis of the type of business, number of employees per business location, and existence and size of the corporate parent to that business location. GeoResults reports that all major incumbent firms, as well as a number of competing firms, also use the model to forecast demand.

We analyzed the extent to which competitors had extended their networks to end users utilizing fiber and wireless based connections. While other transmission mediums are available (such as copper wire) competitors have generally built fiber networks that have greater capacity and lower costs. See appendix I for additional information.

areas—which are the theoretically more competitive MSAs—generally have a lower percentage of lit buildings than phase I areas.

Table 2: Percentage of Buildings with a Fiber-Based Competitive Alternative by Demand (July 2006)

MSA[a]	Buildings with demand of DS-1 or greater	Number of buildings with a "lit" competitor	Percent with a competitor	Buildings with demand of DS-3	Number of buildings with a "lit" competitor	Percent with a competitor	Buildings with demand of 2 DS-3s and greater	Number of buildings with a "lit" competitor	Percent with a competitor
Phase II MSAs									
Atlanta	12,718	446	3.5%	278	25	9.0%	67	10	14.9%
Los Angeles	22,639	508	2.2%	650	26	4.0%	265	34	12.8%
Miami	14,300	363	2.5%	421	14	3.3%	136	21	15.4%
Norfolk	5,008	2,080[b]	41.5%	56	35	62.5%	13	9	69.2%
Phoenix	7,981	297	3.7%	155	17	11.0%	51	5	9.8%
Pittsburgh	4,733	383	8.1%	78	15	19.2%	25	9	36.0%
Portland	3,683	126	3.4%	67	9	13.4%	26	3	11.5%
San Jose	4,653	287	6.2%	98	13	13.3%	20	2	10.0%
Total	**75,715**	**4,490**	**5.9%**	**1,803**	**154**	**8.5%**	**603**	**93**	**15.4%**
Phase I MSAs									
Chicago	16,732	361	2.2%	325	37	11.4%	185	47	25.4%
Detroit	12,174	298	2.4%	168	13	7.7%	48	2	4.2%
Greenville	2,551	68	2.7%	28	5	17.9%	4	0	0.0%
Minneapolis	6,786	389	5.7%	147	31	21.1%	56	12	21.4%
New Orleans	3,540	207	5.8%	65	15	23.1%	37	9	24.3%
New York	34,650	2,354	6.8%	762	198	26.0%	380	158	41.6%
Seattle	4,951	188	3.8%	100	15	15.0%	51	14	27.5%
Washington, D.C.	20,472	1,967	9.6%	518	131	25.3%	146	40	27.4%
Total	**101,856**	**5,832**	**5.7%**	**2,113**	**445**	**21.1%**	**907**	**282**	**31.1%**
Grand total	**177,571**	**10,322**	**5.8%**	**3,916**	**599**	**15.3%**	**1,510**	**375**	**24.8%**

Source: GAO analysis of Telcordia and GeoResults data.

[a]This table includes the portions of the MSAs that are served by the incumbent firm. Therefore, we excluded portions of those MSAs where another incumbent firm provides service, but may not have the same level of pricing flexibility. For example, both AT&T and Verizon serve parts of Los Angeles, but we only considered those areas that AT&T serves, because AT&T has received phase II flexibility for channel terminations in Los Angeles.

[b]According to a local cable official, Norfolk's high competition numbers are due to the local cable company's long-term financial commitment to build a fiber optic network to provide business telecommunications services.

The data in table 2 may *overstate* the availability of facilities-based competition to some extent. Some equipment that does not provide service, no longer provides service, or no longer exists may remain in the database, falsely indicating a competitive presence. Several companies and government agencies, such as mobile telephone companies and GSA, are included in the number of competitors, even though they do not provide dedicated access connectivity for businesses. Also, according to GeoResults, cellular phone sites are significantly underrepresented in the number of buildings with demand for dedicated access. However, cellular sites with competitive fiber are included in the number of buildings with a fiber-based competitor. Furthermore, these numbers include bankrupt companies, such as Jato Communications and Ciera Network Systems, whose equipment is still listed in the database. It is unclear whether these assets are being used by another company or have been liquidated. These data also include equipment owned by the former AT&T and MCI prior to the recent mergers. We did not filter out these data because DOJ has required divestiture of some of these assets and the courts have yet to finalize that action. DOJ's analysis is discussed further later in this report.

In addition, the results from table 2 also may *understate* facilities-based competition to some extent. Both incumbent and competitive firms voluntarily populate their network locations and functions into the database for the purposes of interconnection and network management. According to Telcordia, data on competitive firms may be less comprehensive than data on incumbent firms, but a precise estimate of underreporting is not available from Telcordia. In order to gauge the extent that the data are underreported, we compared entries in the database with lists of "lit" buildings provided to us by two of the largest competitive firms. One firm showed 465 lit buildings in the data they provided to us in the 16 MSAs we examined, of which, 436 showed the presence of a "lit" competitor, suggesting an underreporting error of a little over 6 percent. However, the database also showed this same competitor as being the sole competitive presence in 81 additional buildings that were *not* on the firm's list of lit buildings, suggesting, that, for this competitor, the database is overreporting the level of competition by about 12 percent. However, the other firm from which we obtained data provided us a list with 693 lit buildings in the MSAs we examined, of which, 289 showed the presence of a "lit" competitor, indicating underreporting of about 400 buildings across the MSAs for this competitor. These two examples show that individual competitor's presence may be

underreported and overreported. One price-cap incumbent has suggested that the database may be underreported by 30 percent, although representatives of GeoResults disagreed that the data are underreported to that extent. If the data were underreported by 30 percent, we would find a competitive presence in 8 percent of buildings with demand greater than DS-1; 20 percent of buildings with demand of DS-3, and about 32 percent of buildings with demand greater than 2 DS-3s. These estimates still suggest that competitive alternatives exist in a relatively small subset of buildings, with more moderate levels of competition in buildings where demand is higher.

Because there is no compulsory process through which telecommunications companies report such data to FCC or private data sources, no single public or private data source is universally recognized as comprehensive. As we have indicated, the data may be understating or overstating competition to varying degrees. It is not clear the extent to which underreporting by competitors will be offset by the inclusion of bankrupt and merged companies. Regardless, this database is the most comprehensive available to us, and price-cap incumbent firms, such as AT&T and BellSouth, have used the database for similar purposes. We discuss data reliability in more detail in appendix I.

Our competition analysis, while not a complete representation of competition, is a more granular view than that taken by FCC in its Pricing Flexibility Order—which was to extrapolate the state of competition throughout an MSA by the presence of competitors' equipment colocated in incumbent firms' wire centers. We analyzed the extent of competitive entry in a market at the level of individual buildings—that is, at individual locations where business or government end users would choose from service providers to purchase dedicated access. In its review of the SBC/AT&T and Verizon/MCI mergers, DOJ's Antitrust Division also adopted the building level as its basis of analysis. There is some disagreement among FCC, incumbent firms, and competitors on the appropriate level of analysis to judge the state of competition for dedicated access. For example, some observers have stated that the proper level of granularity for any competition analysis is not the presence of a competitor within a building, but the presence of the competitor at the business location within that building. Competitors have pointed out that while they may have a connection to a building, they are unable to connect to businesses on all floors within that building. In this case, our analysis would be overstating the level of competition. However, that level of detailed data is not available.

Another view taken by some observers is that, from a business' perspective, demand for dedicated access will be determined by that business' individual location and the other locations where the business needs dedicated access, such as field offices or branches. These other locations could be within the same MSA or could be spread out over several MSAs, several states, or even nationwide. For example, a bank may have 30 or 40 locations in 12 states in one region of the country that require dedicated access. To serve that customer wholly over its own facilities, a competitor would need to extend its network to all of those locations. Alternatively, a competitor could compete for that customer against the incumbent, who likely has connections to all of the customer's locations in that region, using some of its own facilities and some facilities purchased from the incumbent or from another competitor. Our analysis does not consider an individual customer's total demand—a level of data that is unavailable—but rather their demand within a building in an MSA. However, because the percentage of buildings in these MSAs with a competitor appears to be relatively small, our analysis suggests that it is unlikely that a single competitor would have very many of its own facilities to serve such a customer.

FCC's Metric Shows a Decline in the Extent of Colocation in Some MSAs since the Granting of Pricing Flexibility

Using FCC's competition metric—competitive colocation in incumbent wire centers—the data suggest that, for some MSAs, fewer competitors exist in the wire centers used by the incumbents to meet FCC's competitive triggers than when the incumbents were granted pricing flexibility. In fact, in many MSAs we examined, some wire centers that had competitive colocation several years ago, appear to no longer have any competitive colocation. Price-cap incumbents have noted in the rulemaking proceeding on dedicated access that competitors will often bypass their wire centers, and that FCC's trigger would not detect these competitors. This analysis cannot test the extent to which formerly colocated competitors have removed equipment to bypass incumbent facilities, or the extent to which bypass occurs in general. Table 3 shows the change in the number of price-cap incumbents' price-flex wire centers used to meet FCC's competitive triggers in which competitors were colocated as of July 2006.[31]

[31]Because Telcordia's database is used primarily for interconnection purposes, it is likely that there is little underreporting of competitors' presence in price-cap incumbent wire centers.

Table 3: Change in Competitive Colocation in "Price-flex" Wire Centers

MSA	Number of "price-flex" wire centers with competitive colocation: In pricing flexibility application	Number of "price-flex" wire centers with competitive colocation: July 2006	Percentage change
Phase I channel termination markets			
Chicago	58	42	(28)
Detroit	27	22	(19)
Greenville	5	5	0
Minneapolis	20	18	(10)
New Orleans	6	6	0
New York	80	75	(6)
Seattle	11	11	0
Washington, D.C.	46	39	(15)
Total	**214**	**193**	**(10)**
Phase II channel termination markets			
Atlanta	16	16	0
Los Angeles	64	64	0
Miami	38	38	0
Norfolk	15	15	0
Phoenix	19	18	(5)
Pittsburgh	34	22	(33)
Portland	10	10	0
San Jose	11	11	0
Total	**256**	**227**	**(11)**

Source: GAO analysis of Pricing Flexibility applications, and Telcordia and GeoResults data.

Note: Percentages have been rounded.

FCC does not monitor ongoing colocation to continually affirm that the triggers are met, even in situations where major mergers or bankruptcies may change the competitive landscape. According to FCC, continually deregulating and reregulating prices on the basis of such changes would not produce a desirable outcome and the costs of such actions would likely outweigh the potential benefits.

The recent telecommunications mergers between AT&T and SBC, and between Verizon and MCI—although still undergoing an Antitrust Procedures and Penalties Act (Tunney Act)[32] review by the federal courts as of the date of this report—are also likely to decrease the number of buildings with a competitor for dedicated access in the MSAs we examined. DOJ's Antitrust Division conducted a review of the effects these mergers would have on competition. DOJ concluded that, viewed as a whole, the transactions were likely to create substantial efficiencies that could benefit consumers. However, DOJ found that, for the vast majority of buildings in the MSAs it reviewed, no competitive providers of dedicated access facilities existed, which is consistent with the data in table 2. For the purposes of its merger review, however, DOJ did not review the state of competition in the dedicated access market as a whole, but rather focused on the hundreds of buildings where the transactions would combine the only two firms that owned or controlled a direct fiber-optic connection to the building.[33] For those buildings where the competitors were reduced from two to one, DOJ used the level of dedicated access demand in a building, coupled with the distance of the building from the nearest competitor's network in the MSA, to determine whether competitors could be induced to enter. For a subset of the two to one buildings, potential entry was not sufficiently likely to offset the potential anticompetitive effect. For this subset of buildings, DOJ proposed a remedy designed to eliminate those anticompetitive effects, under which the companies would be required to divest "indefeasible rights of use" for connections to those buildings, along with transport facilities sufficient to enable purchasers to provide competing telecommunication services. The proposed divestiture involved hundreds of buildings in 8 metropolitan areas in Verizon's franchised territory and 11 metropolitan areas in SBC's franchised territory. Despite the divestiture, for the other set of two to one buildings where DOJ deemed entry to be likely, there will at least be an initial reduction in competition before any entry occurs.

[32]The Tunney Act requires that proposed consent judgments in antitrust cases brought by the United States be subject to a 60-day comment period, after which the courts shall determine whether entry of the proposed Final Judgment "is in the public interest." 15 U.S.C. § 16(e)(1).

[33]Dedicated access, as previously mentioned, can be provided over other mediums, such as copper wire, or using wireless technology; however, competitive firms have generally used fiber-optic cable to build their networks.

Concerns have arisen that the proposed merger between AT&T and BellSouth may cause a further decline in competitive alternatives available in BellSouth's territory. DOJ has also reviewed this merger, and, using the same criteria it used in the mergers between AT&T and SBC, and between Verizon and MCI, DOJ determined that AT&T could provide service over its own facilities to only a small minority of buildings in BellSouth's territory. The potential of other competitors' extending their networks to serve that minority of buildings was substantial enough to make divestitures, such as those ordered in the other mergers, unnecessary. FCC's review of this proposed merger is still ongoing.

Limited Competition Could Be Caused by a Variety of Factors

The apparent limited competition at the building level could be caused by a variety of factors, including the high sunk costs—that is, costs that once incurred cannot be readily recovered—of constructing local networks, the cost of local government regulations, and limited access to buildings. All of these factors can increase competitors' cost to deploy facilities and provide dedicated access services to locations within an MSA. Constructing a local telecommunications network can be extremely capital intensive. Most communications equipment has no other use and therefore can not be reused for alternative purposes. Because these investments would have virtually no alternative value if the business fails, competitors must have a certain level of expected revenue to extend their networks. The level of demand required for a competitor to build out its own facilities varied across the firms we interviewed depending on the extent to which the firm had already invested in the market, and the distance of the potential customer from the competitor's network. Based purely on the expected returns on their capital investment and ignoring other potential barriers, representative from one firm estimated that they would need three to four DS-1s of demand, while representatives from two other firms estimated demand of greater than 2 DS-3s was required. However, one incumbent firm and one cable company noted that the necessary revenue to extend a nearby network into a building is relatively low. Incumbent firms also have noted that the availability of UNEs may provide disincentives for competitive firms to extend their networks, because these rates are generally below the prices charged for dedicated access services. Therefore, competitive firms may have an incentive to continue to lease UNEs as opposed to incurring the costs of extending their own networks. However, FCC has recently limited the availability of UNEs. Others have argued that, as UNEs become less available to competitors, competitors may still find it uneconomical to extend their own networks to those end users, and will instead have to purchase those connections as dedicated access services from the incumbent. Moving

from UNE rates to dedicated access pricing effectively raised the cost of the competitor to serve the end user customer, and may create a disadvantage for the competitor in trying to win or retain that customer.

In addition, local government regulations also can increase the cost of deploying these networks. The local government building and zoning permitting process often includes extensive inquiries into the planned construction activities of a competitor. This process can delay the deployment of competitive networks and raises competitors' costs. Representatives of some competitive firms we interviewed also stated that some cities have moratoriums on construction that prevent them from providing service to certain buildings.

Lastly, competitors also noted that it may be difficult to provide service into buildings because some building owners may seek to charge competitors for extending their network into their buildings or may refuse access to additional carriers. This additional cost can be prohibitively expensive because the building owner may demand a percentage of the revenue that competitors earn in that building as a condition of granting access. In such cases, competitors are forced to lease dedicated access lines from the incumbent to serve customers in those buildings.

Prices for Dedicated Access Services in MSAs with Phase II Pricing Flexibility Are on Average Higher Than Prices Elsewhere

Since FCC first began granting pricing flexibility in 2001, our comparison of prices and revenue across phase I flexibility and phase II flexibility suggests that list prices and revenue are higher on average for circuit components in areas under phase II flexibility (areas where competitive forces are presumed to be greatest) than in areas under phase I flexibility or under price caps. First, our comparison of 1,152 list prices for channel terminations and dedicated transport for both monthly and multiyear terms found that price-flex list prices were almost always higher than price-cap list prices. This is a result of the following two effects: (1) price-flex prices have increased over time on average and (2) the CALLS Order has pushed price-cap prices downward on average. However, according to representatives of the incumbent firms, many of the largest customers in pricing flexibility markets are under price-flex contracts. Many of these contracts provide discounts off of the applicable price-cap or price-flex list price. Because of the differences in the underlying list prices, contract prices for dedicated access in phase II areas will still be higher than phase I areas. Some contracts also contain terms and conditions that, competitors argue, may limit a customer's ability to choose other vendors. Third, average revenue for channel terminations and dedicated transport for DS-1 and DS-3 in 2005 are generally lower than average revenue in 2001

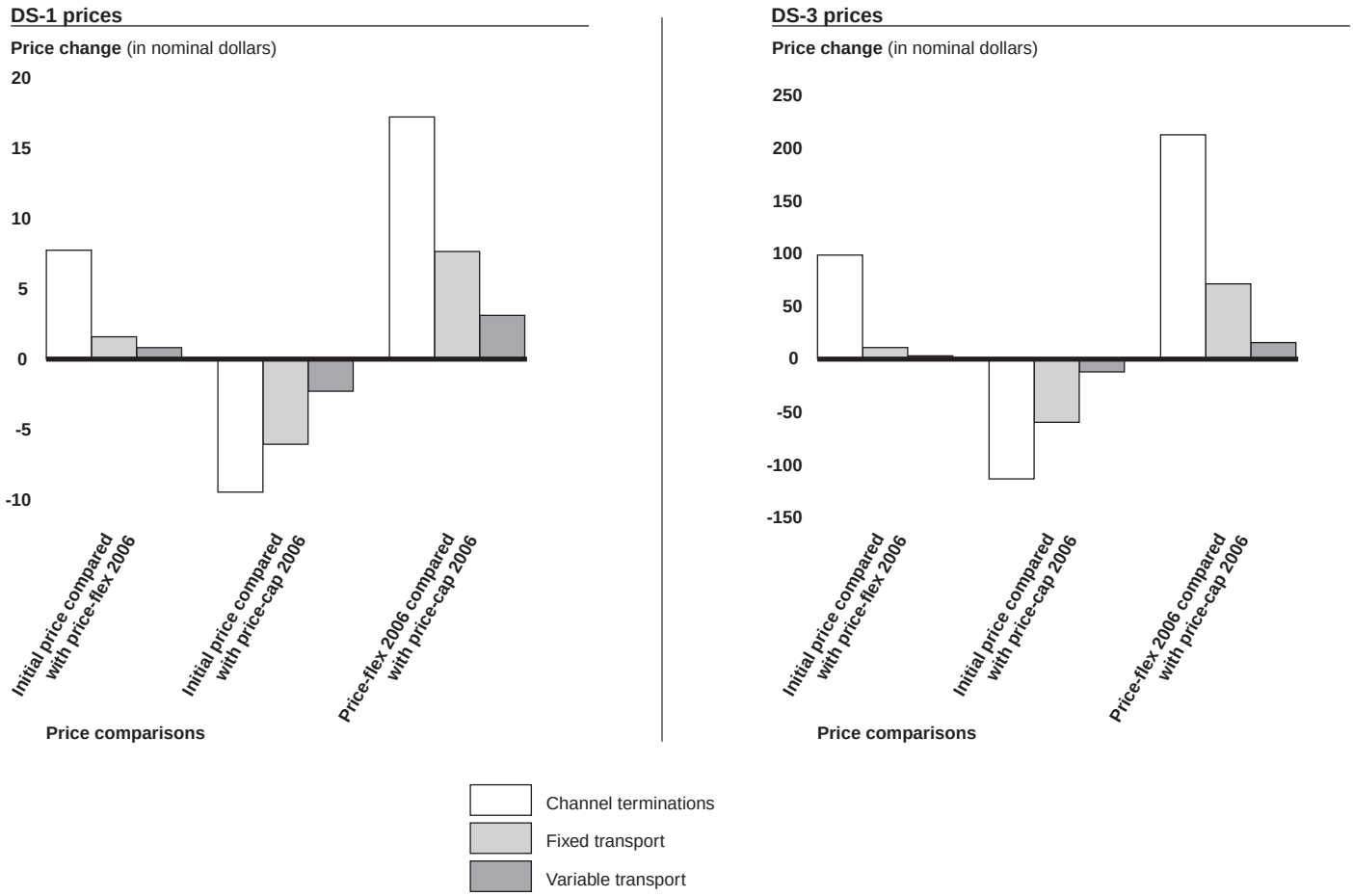
and 2002, although the decline in average revenue for channel terminations is larger in phase I areas compared with phase II areas. Furthermore, as of 2005, average revenue for channel terminations is higher, on average, in phase II areas than in phase I areas or price-cap areas.

Although no total spending figures are available, the federal government is also a large consumer of dedicated access services, most of which are procured through the FTS2001 contracts. Our analysis of federal agencies' spending found that while most dedicated access services were acquired through FTS2001—which is acknowledged to have low prices—there were limited instances where agencies could be paying more, either by purchasing independently of FTS2001 or not using the lowest cost FTS2001 service provider. With FTS2001 expiring and GSA currently negotiating a new contract, it is unclear what prices the government will pay.

Price-Flex List Prices Are Higher on Average Than Price-Cap List Prices

Our comparison of 1,152 prices found that, as of June 2006, the price-flex list price was on average higher than the price-cap price, regardless of whether the price was for channel terminations, interoffice mileage, DS-1 or DS-3 service, different term arrangements, or different density zones. This is due to two effects. First, price-flex prices as of June 2006 are higher on average than list prices in effect just prior to FCC granting pricing flexibility. As previously discussed, FCC expected price increases in some areas, and these increases would likely be in areas where costs were higher and, therefore, regulation had pushed prices below costs. Our analysis showed that prices increased on average, regardless of density zone or any other parameters—although prices did increase more on average in lower density areas than higher density zones, and increased more for shorter term lengths than longer term lengths. Second, list prices available in areas where price caps remain (MSAs with phase I flexibility and MSAs under full price-cap regulation) decreased on average over the same period, mainly as a result of the CALLS Order. (See app. II for more information on this analysis and for results using data adjusted for inflation into 2005 dollars using the Bureau of Labor Statistics Producer Price Index for Wired Telecommunications Carriers. Adjusting prices using this price index does not change the result that prices are higher in phase II areas on average, or that prices have increased over time in phase II areas. However, adjusting prices using this price index resulted in price-cap prices increasing in constant terms over the period.) Average differences in dedicated access prices across all terms and zones are shown in figure 2.

Figure 2: Average Differences in Dedicated Access Prices Across All Terms and Zones in Nominal Dollars



Source: GAO analysis of data from tariffs filed with FCC by AT&T, BellSouth, Qwest, and Verizon.

Circuits may cross MSA boundaries, and customers may purchase circuits in several different MSAs with different levels of pricing flexibility. Therefore, looked at more broadly, a full circuit, or a customer's entire purchase may cost less overall than it did prior to pricing flexibility. In other words, decreases resulting from the CALLS Order, coupled with contract discounts may offset any increases in price-flex list prices. However, examining prices in this way would not show the effects of differing levels of pricing flexibility, and, in particular, how phase II flexibility has changed prices, which was the objective of our analysis.

Effects of Contracts on Prices Varied, but Are Generally the Same Under Phase I Flexibility and Phase II Flexibility

In general, because many contracts provide for discounts off the list price, effective prices for dedicated access under these contracts in phase II areas will generally be higher than phase I areas because price-flex list prices are, on average, higher than price-cap list prices. The exceptions to this generality are those contracts with set prices for circuit components, rather than discounts. Representatives of price-cap incumbents, however, state that discounts from these contracts in phase I areas will compensate for the increases in the price-flex list price, when considering a customer's entire purchase of dedicated access or when considering circuits that may cross MSA boundaries or are located in both phase I and phase II MSAs. Our analysis confirmed that many contracts with major incumbent carriers provide discounts that, along with CALLS Order decreases to the price-cap list price, can eliminate any increases in the price-flex list price that may have occurred as a result of phase II pricing flexibility. However, for other contracts we could not determine the effect on net prices, because key data (e.g., the length of dedicated interoffice mileage) were unavailable.

Conditions and Terms May Inhibit Switching Circuits to Competitors

Customers who sign contracts may need to meet various conditions, which competitors argue limits customers' ability to choose another provider. These conditions include such things as revenue guarantees, requirements for shifting business away from competitors, and severe termination penalties. Table 4 shows examples of contracts with such conditions and terms. In revenue guarantee contracts, the customer guarantees that it will spend a certain amount with the incumbent (e.g., $301 million per year), and, in some contracts, that amount will increase over the course of the contract. These types of contracts may inhibit choosing competitive alternatives because the customer does not receive the applicable discount, credit, or incentive if the revenue targets are not met and additional penalties may also apply. Unless a competitor can meet the customer's entire demand, the customer has an incentive to stay with the incumbent and to purchase additional circuits from the incumbent, rather than switch to a competitor or purchase a portion of their demand from a competitor—even if the competitor is less expensive. FCC has indicated that if any party believes that these contract offerings are discriminatory or unlawful in any way, they may file a complaint under section 208 of the 1996 Act.[34] According to FCC, no such complaints have been filed.

[34] 47 U.S.C. § 208.

Table 4: Examples of Contract Terms and Conditions

Type of terms and conditions	Specific contracts
Revenue guarantees	Verizon contract number 1 (no longer available) was a 3-year-term contract that required an annual revenue commitment of $301 million in year 1, $346 million in year 2, and $386 million in year 3, with discounts on the amount spent above these targets but below a maximum. If the customer did not achieve the revenue targets, no discount was applied. If the customer spent more than the maximum, the amount above the maximum was not eligible for a discount.
	BellSouth contract number 10 is a 2-year-term contract with minimum revenue commitments of $8,800,000 in year 1, and $10,100,000 in year 2, with discounts on the amount spent above these targets but below a maximum. If the customer does not achieve revenue minimums, no discount is applied, and the customer will not be allowed to subscribe to another contract with revenue minimums for a period extending 6 months beyond the term of the contract. If the customer spends over the maximum, the amount above the maximum is not eligible for a discount.
Shifting business away from competitors	Several AT&T contracts (Southwestern Bell contract number 15, Ameritech & Pacific Bell contract number 20, and Southern New England Telephone contract number 1) require that at least 4 percent of services ordered from AT&T must be switched over from a nonincumbent provider.
Termination penalties	A variety of AT&T contracts contain severe termination penalties. For example, if (SWBT) contract number 3 is terminated at the end of year 3 of a 5-year contract, termination penalties are 50 percent of the remaining 2 years of recurring charges, or approximately 100 percent of annual billings. To provide comparable rates, a competitor (1) would have to provide a 50 percent discount over the next 2 years, just to match the incumbent's offer, and (2) would need to provide a higher discount to provide a lower rate.
	Qwest contract number 06-009 is a 3-year-term contract that requires a monthly commitment of at least $16,935,000, but no more than $20,161,000. If the contract is terminated, the customer is liable for 50 percent of the minimum revenue commitment for each remaining month of the contract term.
	Verizon contract number 25 is a 2-year-term contract that requires an annual commitment of at least $162,500,000. If the contract is terminated, the customer is liable for 50 percent of the difference between the amount of revenue billed when terminated and the minimum annual commitment of $162,500,000. If the contract is terminated in year 1, there is no penalty for year 2 of the contract.

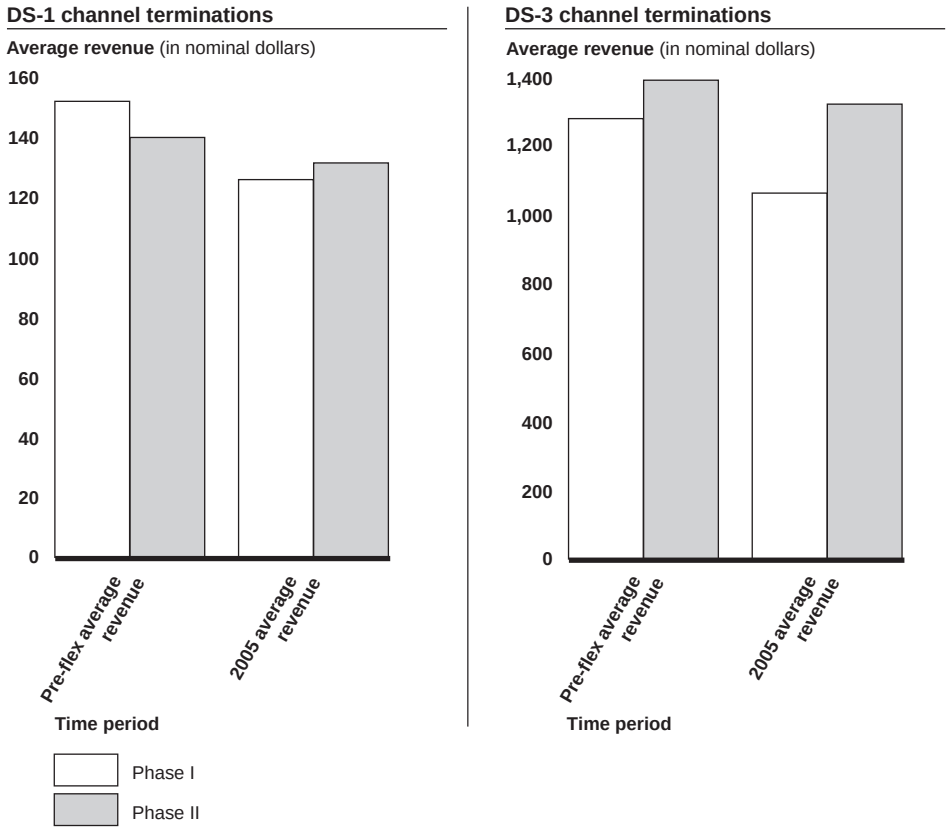
Source: GAO analysis of contracts filed with FCC.

Average Revenue Has Declined Over Time, but Is Generally Higher for Channel Terminations under Phase II Flexibility Than under Phase I Flexibility

Not all customers use price-flex contracts, and detailed data on the number of customers and circuits that are purchased at price-flex list prices were not available to us. Therefore, to examine the net effect of changes in list prices and the application of contract discounts, we compared average revenue data for dedicated access services under phase I and phase II pricing flexibility. Our analysis of average revenue data for channel terminations and transport for both DS-1 and DS-3 shows that, in general, average revenue has declined in nominal dollars.[35] However, the decline in average revenue for channel terminations is larger in the 29 phase I areas for which we had data, compared with the 27 phase II areas. Average revenue decreased about 17 percent for DS-1 and DS-3 channel terminations in the phase I areas, and 6 percent for DS-1 and 5 percent for DS-3 in the phase II areas. As of 2005, the data show that average revenue in the phase II areas is about 4 percent higher for DS-1 channel terminations, and 24 percent higher for DS-3 channel terminations, compared with average revenue in the phase I areas. (See appendix II for more information on this analysis and for results using (1) data adjusted for inflation into 2005 dollars, using both the Bureau of Labor Statistics Producer Price Index for Wired Telecommunications Carriers and the general GDP price index, and (2) results weighted by the number of businesses in the MSA. Regardless of weighting or the price index used, phase II average revenue is consistently higher than phase I average revenue in 2005.) Figure 3 shows the change in average revenue generated in 2005 for both DS-1 and DS-3 channel terminations compared with the average revenue generated from sales in the year just prior to when FCC granted pricing flexibility. (We do not specify that year because it varied among price-cap incumbents—i.e., 2000, 2001, or 2002.)

[35]These averages mask the variation in average revenue generated by each price-cap incumbent carrier and the variation across specific MSAs. In a limited number of cases there was almost no difference between phase I and phase II areas. Due to confidentiality concerns, we do not report data for specific incumbents or MSAs and, therefore, rely on these aggregated figures.

Figure 3: Change in Average Revenue for DS-1 and DS-3 Channel Terminations in Phase I and Phase II Areas



Source: GAO analysis of data from a sample of phase I and phase II MSAs provided by AT&T, BellSouth, Qwest, and Verizon.

Note: Data are in nominal dollars. The differences between phase I and phase II revenue shown in 2005 are statistically significant at the 1 percent level or lower.

We also compared average revenue for channel terminations under phase II flexibility with average revenue for channel terminations in areas remaining under the price cap. We calculated the average price-cap revenue from data submitted by price-cap incumbents in their annual tariff review plans, where price-cap incumbents provide the FCC with detailed data on the number of channel terminations sold under the various zone and term prices available in their tariffs. Not all discounts available under price caps were included in our calculation because we were not able to determine how such discounts would be applied to only channel terminations. Therefore, the average price-cap revenue is biased upward. Comparing average revenue in the 27 phase II MSAs with average revenue in price-cap areas governed by the same tariff, we find no statistical

difference on average. Therefore, on average, phase II flexibility does not appear to have resulted in prices lower than are available under price-cap regulation. These averages mask variation across price-cap incumbents and across MSAs. For example, comparing average revenue in price-cap areas with average revenue in phase II areas for DS-3 channel terminations, two of the price-cap incumbents showed higher average revenue in phase II areas and two showed lower.

Data on average revenue for dedicated transport that the incumbent firms provided shows that average revenue per unit for dedicated transport has declined over the same period. However, we were unable to compare revenue across differing levels of deregulation for transport, because nearly all MSAs with pricing flexibility are under phase II flexibility for dedicated transport. In fact, only 13 of the 215 MSAs with pricing flexibility have only phase I flexibility for transport, and all of the data provided to us were for MSAs where the price-cap incumbent had received phase II pricing flexibility for dedicated transport. Price-cap incumbent firms have argued that the market for dedicated transport is a more competitive segment of the dedicated access market. FCC's colocation triggers capture the extent to which competitors have their own dedicated transport from incumbent wire centers.

Data from Two Departments Show That Their Spending on Dedicated Access Services Is Generally Made Through FTS2001

The federal government spends millions of dollars annually on dedicated access services. Our analysis of spending by USDA and DOJ found that, of the estimated $9 million they spent annually on dedicated access services in fiscal year 2006, most of these services were acquired through the FTS2001 program.[36] Agencies purchasing under FTS2001 can obtain services from one or more contractors, who may offer different prices for similar services. Prices for services under the FTS2001 contracts decreased annually over the life of those contracts, and GSA and the telecom managers we interviewed recognized these prices to be generally below rates with similar conditions and terms in price-cap, phase I, and phase II markets.[37] We found that the data on prices provided by the federal agencies regarding purchases through FTS2001 generally matched dedicated access price estimates found in FTS2001. However, government agencies are not required to use the FTS2001 program, and agencies may procure dedicated access connections for high-capacity telecommunications services directly from telecommunications carriers. Agencies may use their own telecommunications contracts to procure dedicated access connections.

[36]The FTS2001 program is the successor to the FTS2000 program. The former program represented an improvement over its predecessor in terms of available services and technology. FTS2001 provides voice, data, video, Internet Protocol, and managed network services to federal agencies nationally and internationally. Under FTS2001, GSA awarded an FTS2001 long distance services contract to Sprint in December 1998 and another to MCI WorldCom in January 1999. Under the terms of those contracts, each contractor is guaranteed minimum revenue of $750 million over the life of the contracts, which run for 4 base years and have four 1-year options. Another GSA-managed telecommunications contract program is the Metropolitan Area Acquisition, which provides local telecommunications services in selected metropolitan areas. Under this program, certain identified contractors as well as FTS2001 contractors are allowed to offer services in both local and long-distance markets, a process termed "crossover." For additional information, see GAO, *FTS2001: Transition Challenges Jeopardize Program Goals*, GAO-01-289 (Washington, D.C.: Mar. 30, 2001).

USDA purchased all of its dedicated access services through FTS2001 to connect the offices of its various agencies, such as the Forest Service and the Agricultural Research Service. Our review of spending on dedicated access in DOJ was limited to that contracted by DOJ's Justice Management Division. It thus excluded any spending done by the Federal Bureau of Investigation. See appendix I for additional information on the federal agencies included in this review.

[37]A direct comparison between FTS prices and commercial tariff and contract prices cannot be made due to the difficulty in acquiring mileage data as well as identifying applicable contracts. The government requires carriers to provide it with the lowest applicable rates.

Our review of government expenditures on dedicated access services indicated instances in which the government was not paying the lowest price for these services in two ways.

- First, even if the procurement is made through FTS2001, an agency may not necessarily use the lowest cost service provider for a particular point-to-point circuit. Given a particular dedicated circuit, FTS contractors each have prices that may differ substantially. Agencies may not use the lowest cost service provider because it may mean that they would have to switch providers, and there may be significant costs involved in switching.

- Second, because rates available through FTS2001 were usually less than the rates government agencies received when purchasing directly through a contract other than FTS, spending on dedicated access services may be higher. However, these other contracts may provide the agency with additional services, and thus we were unable to fairly compare the different rates.

With the FTS2001 contracts expiring and a new contract vehicle, Networx, currently being defined and negotiated, it is unclear what prices the government will pay for dedicated access services. In many instances list prices, as previously discussed in this report, have increased since FTS2001 was initially negotiated. However, because of newer technologies (e.g., metro Ethernet and MPLS) and bundling of services, such increases in one service may be offset by overall gains in efficiency and lower prices for other services.

FCC Plays an Important Role in Ensuring Competition, but Lacks Sufficient Information to Determine the Success of Its Deregulatory Policies

FCC uses various data to assess competition for dedicated access services, but most of these data have significant limitations in their ability to describe the presence, extent, or change in competition. FCC's strategic plan and various rulemakings have defined FCC's obligation to ensure and assess competition for dedicated access services. The agency attempts to collect data from external parties through its rulemaking proceedings, but those parties have no obligation to provide data, and the agency has limited mechanisms to verify the reliability or accuracy of any data submitted. FCC has stated that (1) gathering and analyzing additional data would be costly and burdensome and (2) that it is reluctant to impose additional reporting requirements on incumbent firms or to require competitive firms to report information on their networks. The agency must balance the additional costs of gathering more data with the potential benefit that might result from these additional data. Yet without more complete and reliable data, FCC is unable to determine whether its

deregulatory policies are achieving their goals. FCC contends that its open proceeding on dedicated access will address what steps the agency should take to ensure that rates for dedicated access services remain just and reasonable.

Ensuring Competition Is a Central FCC Responsibility

The promotion of competition is one of the two policy objectives of the 1996 Act. The stated outcomes of this policy objective are to lower prices and increase the quality of telecommunications services available to American telecommunications consumers as well as promote the rapid deployment of new telecommunications technologies. FCC is the federal agency charged with executing and enforcing the provisions of the 1996 Act.

In support of the goals of the 1996 Act, FCC implemented its 2006-2011 Strategic Plan, which defines the promotion of competition as one of the agency's goals.[38] To support this goal, FCC's current strategic plan says that it will collect and evaluate information on competition in the domestic and international communications markets. Additionally, FCC stated that it will continually review FCC rules to determine what rules need to be implemented, revised, or eliminated to achieve its competition objectives effectively and efficiently. As part of its review of the progress the agency has made toward meeting its strategic plan, FCC determined that it was making adequate progress toward ensuring that American consumers can choose among multiple reliable and affordable means of communications.

In January 2005, based on a petition filed in 2002, FCC opened a rulemaking proceeding in which it stated its commitment to periodically examine its deregulatory judgments regarding competition for dedicated access services.[39] FCC further affirmed that its review of deregulation for dedicated access services is consistent with its ongoing commitment to ensure that its predictive judgments about competition for dedicated access are consistent with actual marketplace developments.

[38]Federal Communications Commission, Strategic Plan 2006-2011 (2005), 8.

[39]*Special Access Rates for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, Order and Notice of Proposed Rulemaking, 20 FCC Rcd 1994 (2005).

FCC Uses Various Data to Assess Competition for Dedicated Access Services

FCC uses data provided in incumbents' pricing flexibility applications to determine the extent of competition in dedicated access. As part of these applications, incumbents provide FCC with data on competitors colocated in their wire centers. FCC has determined that the collection of these data does not pose a high administrative burden on applicants and allows FCC to assess the state of competition in dedicated access. To minimize disputes about these data, FCC requires the incumbent to notify colocated competitors that the incumbent has listed their presence in their application for pricing flexibility. Incumbents provide these data to FCC in a confidential format that protects the exact names and locations of these competitors.

A second major source of data that FCC uses to gauge competition in the markets for dedicated access services comes from its Automated Reporting Management Information System (ARMIS). FCC initiated ARMIS in 1987 to collect and report on incumbent financial and operational data. Incumbents annually report this information to FCC. ARMIS data include general rates of return as well as specific revenue figures and line counts for last mile connections per incumbent. ARMIS data are publicly available through FCC's Web site.

In other markets, FCC has identified some data needed to assess competition. For example, in its 2005 Performance and Accountability Report, FCC identified the following measures to assess competition for various telecommunications services:

- Number of consumers having a choice among wireless and wireline service providers.
- Percentage of households with competing providers for multichannel video programming and information services.
- Relative prices for wireless and wireline services.
- Price for international calls.

However, these measures relate to competition for residential customers, not business customers.

Finally, in various rulemaking proceedings, FCC has requested that outside parties provide data regarding the state of competition in dedicated access services. The information filed by these parties is generally available for inspection and comment by the public. FCC takes

into account the data provided by outside parties as part of its rulemaking proceedings. In its rulemaking proceeding on competition in dedicated access services, FCC received a variety of comments and data from incumbents, competitors, cellular telephone companies, and large business users.

Data Available to FCC Are Not Current, Specific or Reliable

The data that FCC uses to assess competition for dedicated access services have several limitations that prevent the agency from describing the current state of competition—that is, these data are not current, specific, or reliable. FCC has stated that gathering and analyzing additional data would be costly and burdensome. Furthermore, FCC has not traditionally required competitive firms to report data, and the agency is reluctant to impose further reporting requirements on incumbent firms, which would be subject to OMB approval and the Paperwork Reduction Act.[40]

First, the data are not current. The data that FCC receives from incumbents when they apply for pricing flexibility represent a one-time assessment of the state of competition for dedicated access services. Once it grants pricing flexibility, FCC does not review the state of competition in dedicated access for those incumbent markets. Because many pricing flexibility applications were granted in 2001 and 2002, FCC has not reviewed the state of competition in 4 to 5 years in markets, such as Atlanta, Los Angeles, Phoenix, and Pittsburgh, where pricing flexibility has been granted. Additionally, FCC has no mechanisms in place in its rules to review competition. As previously shown, the amount of competition has changed between 2001 and 2006 in some markets, according to our analysis that used FCC's means of measuring competition—colocation of incumbents and competitors in wire centers. FCC also collects marketplace data from rulemaking proceedings on an irregular basis, and the agency generally does not establish a fixed timeline to resolve rulemaking proceedings.[41]

Second, data provided to FCC in rulemaking proceedings are often not specific enough to be useful. Outside parties are under no obligation to

[40]See footnote 20.

[41]Generally, comments are due 60 days after a Notice of Proposed Rulemaking is published in the *Federal Register* and reply comments are due 90 days after publication in the *Federal Register*. FCC extended the reply comment period to on or before July 29, 2005.

provide data FCC requests in rulemaking proceedings, and these parties often do not provide requested data. For example, in its rulemaking on competition for dedicated access services, FCC requested data to create an average price index for MSAs with pricing flexibility and MSAs under price-cap regulation to determine how prices have changed. However, no companies filed such indices. Instead, the companies provided aggregate figures of average revenue. These average revenue figures were not disaggregated to enable comparisons of price trends under different levels of deregulation.

As with the major incumbent providers, FCC also has limited data on competitors' provision of dedicated access services. For example, ARMIS only requires certain price-cap incumbents to file information. Competitors are not required to file any financial or operational data through this system. In addition, competitors may file tariffs for their dedicated access service offerings, but they are not obligated to do so. As a result, FCC has no specific or current data on competitors' prices for dedicated access services or on the extent to which competitors have extended their networks. FCC has noted that requiring competitors to disclose that information could disturb the market by providing information that would not otherwise be publicly available. However, some competitors we interviewed stated that they have information on where other competitors are because they use other competitors wherever possible as an alternative to using price-cap incumbents.

Third, FCC's data also have limited reliability for assessing competition in dedicated access. Outside parties are often economically interested parties that have an incentive to provide incomplete or biased data. For example, most of the outside parties in the rulemaking proceeding on competition in dedicated access are parties that would directly profit from further regulation or deregulation. FCC is limited in its ability to assess the reliability of these parties' information. Instead, it relies on other parties to challenge or affirm these data's reliability. Additionally, parties involved in the rulemaking on dedicated access have raised concerns over the reliability of ARMIS data to make assessments of competition in dedicated access services. While competitors have used ARMIS data to show that price-cap incumbents are earning large rates of return on dedicated access, price-cap incumbents state that ARMIS cannot be used to make competitive assessments due to outdated accounting rules, including such things as arbitrary cost allocations and the inclusion of certain revenues but not the corresponding costs. The question of ARMIS data utility is part of the open proceeding on dedicated access.

As previously noted, FCC's Performance and Accountability Report recognizes the need for data to assess competition, but the available data lack metrics for competition in dedicated access for businesses. The Government Performance and Results Act of 1993 outlines criteria for agencies to define and measure their progress in relation to the agencies' performance goals.[42] These criteria state that an agency should identify performance measures that adequately indicate progress toward its performance goals. In our review of FCC's Performance and Accountability Report, we found no data or measures of competition and choice that were relevant to the business market or to dedicated access services, although increasing consumers' and businesses' choice in telecommunications is a stated goal of the agency. FCC's data focus instead on consumers' access to residential wireless providers or video programming (such as cable or satellite TV), or on the cost of an international telephone call. However, FCC stated that there is no easily identifiable and understandable measure for competition in the business market or in dedicated access. Furthermore, more competition has traditionally existed in the business sector than in the residential sector, and, therefore, FCC has focused on metrics in the residential sector.

Conclusions

The market for dedicated access services is complex and multidimensional, including a wholesale market for dedicated access facilities as well as a retail market that relies on dedicated access facilities to provide high-capacity telecommunications services for large business customers with multiple locations. The wholesale market has historically been controlled by the incumbent firms, who have virtually ubiquitous networks within their regions. Competitors have entered segments of this market with their own networks, encouraged by FCC's actions dating back many years, and are active participants in the retail market, reselling incumbent dedicated access services to provide business services, or relying on their own or other competitors' local connections, where they exist.

FCC has initiated several deregulatory actions and access charge reforms in an effort to fulfill the intent of the 1996 Act and allow market forces and competition to govern prices for dedicated access. At the heart of FCC's actions was a vision of facilities-based competition, where competitors would compete with the incumbents mainly using their own networks and

[42]Pub. L. No. 103-62.

facilities. Under facilities-based competition, incumbents would be constrained from pursuing predatory and exclusionary pricing practices, and prices would be driven toward marginal costs. FCC's deregulatory actions were predicated on proxy measures that FCC predicted would indicate whether sufficient facilities-based competition existed for dedicated access services in order for market forces to function in this way. However, our analysis of facilities-based competition suggests that FCC's predictive judgment — that MSAs with pricing flexibility have sufficient competition — may not have been borne out, particularly for channel terminations to the end users of dedicated access. Even more troublesome is the fact that some of our analysis, which is based on FCC's competition metrics, suggests that competitive alternatives for dedicated access have declined in some MSAs in the past few years. The effect that such changes may be having on consumers of all sizes, including the federal government, could be significant.

Taking a broader view of the competitive landscape, our analysis suggests that wireline facilities-based competition itself may not be a realistic goal for some segments of the market for dedicated access. Long-standing entry barriers continue to exist and are not likely to be alleviated. Where demand for dedicated access is less than 3 or 4 DS-1's, it would appear unlikely that any competitor would extend its network for that business. While competitors may be able to serve such lower demand customers using UNEs in the hopes that demand might increase to such a level that makes build out a real possibility, FCC has recognized that the availability of lower-priced UNEs has discouraged investment by competitors (as well as incumbents). Furthermore, the FCC has recently limited the availability of UNEs. New technologies, such as WiMax, also have the potential to bring more competition. However, it is unclear the extent to which this technology can provide a widespread alternative to wireline dedicated access, how long that transition will take to become an effective alternative, or who will be in the best position to provide that alternative. Concurrently, price-cap incumbents have received a significant amount of price deregulation allowing them to negotiate price-flex contracts and to raise their list prices. However, competitors argue that price-flex contracts, in addition to other entry barriers, discourage the use of competitive networks, and thus discourage investment by competitive firms.

In its ongoing rulemaking proceeding on dedicated access, FCC recognized its responsibility to revisit its proxy measures to determine whether its predictive judgments comport with actual market developments and to fulfill its mission to encourage competition and to

ensure lower prices, higher quality services, and adequate choices for consumers. Much of the specific data and information that FCC collects and has requested from incumbents, competitors, and dedicated access customers that would enable the agency to effectively analyze trends in competition and the effects of deregulation were not provided by these parties, and the information that has been provided is of limited reliability, and has come from parties that would directly profit from further deregulation or regulation. Even with the data that has been provided, FCC's rulemaking proceeding, which began with a petition filed in 2002, is still unresolved.

Regardless of where competition may come from in the future, it is clear that FCC does not regularly monitor and measure the development of competition, which will affect how FCC responds to emerging trends, and the actions it takes to encourage and foster such competition. We have consistently noted the need for better data at FCC to track competition and deployment of telecommunications services to a variety of consumers.[43] Without data that are reliable, relevant, and current, FCC is limited in its ability to adequately monitor the state of competition for dedicated access, and thus is limited in its ability to determine whether its predictive judgments were correct, and whether its deregulatory actions are achieving their goals.

Recommendations for Executive Action

To more effectively monitor and determine whether its deregulatory actions are achieving their goals of encouraging competition, and ensuring lower prices and adequate consumer choice, FCC should take the following two actions:

- Develop a meaningful and workable definition of effective competition, or true customer choice, using an approach that evaluates the competitive nature of a market by accounting for the number of effective competitive choices available to customers.
- Consider collecting additional data and developing additional measures to monitor competition on an ongoing basis that more accurately represents

[43]GAO, *Telecommunications: Broadband Deployment Is Extensive Throughout the United States, but It Is Difficult to Assess the Extent of Deployment Gaps in Rural Areas*, GAO-06-426 (Washington, D.C.: Mar. 2006); and *Challenges to Assessing and Improving Telecommunications For Native Americans on Tribal Lands*, GAO-06-189 (Washington, D.C.: Jan. 2006).

market developments and individual customer choice (e.g., price indices and the extent of competitors' networks).

If, through this monitoring, FCC finds that competition is not developing as it expected, it should determine what actions are necessary to accelerate competition for dedicated access.

Agency Comments

We obtained comments on a draft of this report from FCC officials, which are presented in appendix III. In summary, FCC stated that our report "appears to imply the need for a return to price control policies" and thus generally disagreed with the report's recommendations. Consistent with that interpretation of the report's overall message, FCC notes that "the cost of price regulation to carriers and the public is still greater than the benefits." FCC's comments assert that it "takes seriously its obligation to foster competition … and will use all available data" to do so, but also indicates that gathering reliable data and analyzing actual competition in communications markets would be difficult. FCC adds that in 2001, a federal court agreed with its theoretical approach to gauging competition based on proxy measures.[44] Regarding our recommendation to develop a meaningful and workable definition of effective competition, FCC states that there is no universally accepted, bright-line definition of "effective competition," and that any definition that suggests a geographic market more granular than its existing measures would be administratively infeasible to implement and may not be consistent with the deregulatory goals of the 1996 Act. Regarding our recommendation to consider collecting additional data and developing additional measures to monitor competition, FCC states that they continue to monitor competition in dedicated access, and suggested that the detailed data FCC requested in its ongoing rulemaking proceeding on dedicated access will allow it to evaluate competitive entry in these markets.

Contrary to FCC's interpretation, the report does not call for the reregulation of dedicated access prices, nor do we intend to imply that broad reregulation of prices is either necessary or the appropriate response to the evidence of less competition and higher prices in deregulated markets. The market for dedicated access services is estimated to be worth $16 billion annually. The data developed in this report indicates that there are fewer competitive alternatives and that

[44] *Worldcom, Inc. v. FCC*, 238 F.3d 449 (D.C. Cir. 2001).

prices for dedicated access in the theoretically more competitive phase II markets are higher on average than prices in phase I markets, and not statistically different than prices in price-cap markets. The report also demonstrates that FCC does not have the type of meaningful data that would allow it to effectively oversee the extent of competition in the market. Thus, the report calls for FCC, serving in its capacity as the federal regulator of interstate communications services, to better define effective competition and then collect meaningful data on the state of competition in the marketplace. Only by doing so can FCC measure its progress toward its stated goals to encourage competition and secure lower prices and higher quality services for telecommunications consumers, or adjust its approach toward that goal, as needed.

We recognize that the United States Court of Appeals for the D.C. Circuit held that FCC made a reasonable policy determination regarding its proxy measures of competition, and that regulation could impose costs that outweigh benefits.[45] However, given the changes in the market and the questions raised by our analysis, we believe FCC should not be static and should seek more discrete measures that are necessary in an evolving environment. Indeed, although FCC's existing rules on pricing flexibility were adopted based on predictive judgment and its ongoing rulemaking on dedicated access is intended to examine whether available data support maintaining, modifying, or repealing those rules, FCC's comments now suggest a preference for economic theory rather than empirical data. The data used in our analysis was obtained in a manner that prohibited our sharing it; FCC could obtain those data and analyses contractually in the same way that we did. The data developed in this report, at a minimum, raise questions about FCC's assertion that higher prices will induce competitive entry. For example, although FCC's comments note that high prices will induce competitive entry, the data developed in this report suggest otherwise. There appear to be fewer competitors in areas where prices are higher. Moreover, economic theory generally holds that competitive entry would occur if markets are "contestable." FCC itself recognizes that the substantial sunk costs required to compete in these markets may serve as a barrier to entry.

We agree with FCC that there is no universally accepted, bright-line definition of "effective competition." However, we believe that FCC is in the best position to develop meaningful and workable definitions despite

[45]*Worldcom, Inc. v. FCC*, 238 F.3d 449 (D.C. Cir. 2001).

any difficulties associated with such a task. Further, we maintain that this is a relevant and important task for the requisite federal regulatory body. Furthermore, we maintain that FCC would be significantly hindered in its ability to fulfill its regulatory responsibilities and statutory goals of promoting competition if it cannot define competition, does not have measurable goals, and does not collect and analyze reliable data on the state of competition for dedicated access.

Regarding our second recommendation that FCC consider additional data and measures, we disagree with FCC's assertion that it continues to monitor competition and that requesting detailed data in the rulemaking proceeding on dedicated access is sufficient to allow FCC to evaluate pricing behavior. FCC's strategic plan and performance budget contain no measures by which the Congress or the American public can ascertain the extent to which its deregulatory polices are encouraging competition in the business market or in the provision of dedicated access services. Furthermore, while FCC requested information in its rulemaking proceeding—such as price indices pertaining to services sold in phase I and phase II areas and cost studies—it is our understanding, based on review of the submissions of major carriers, that such detailed data were not supplied by the parties to the proceeding. Instead, FCC received data that were either incomplete or in a more aggregated form that can obscure the effect of phase II pricing flexibility. Thus, we disagree with FCC's position that the data gathered from the rulemaking is adequate to monitor competition and that additional data collection is not needed. We support the FCC's rulemaking and believe that data collection is a critical factor in the proceeding.

We also provided the major incumbent carriers an opportunity to review a draft of the report, as well as representatives of the trade association representing competing carriers and a group representing a coalition of major users of telecom services. Three of the four major incumbent firms provided comments on a draft of the report. Generally, these firms (AT&T, BellSouth, and Verizon) took issue with the report's underlying data and the conclusions we drew from those data, as follows:

- Concerning the extent of facilities-based competition in the market for dedicated access services, the incumbent firms asserted that data we used were incomplete. They asserted that competing firms often did not supply information on the buildings served as a competitive alternative. Further, the incumbents asserted that even if individual buildings were not served by a competitive alternative, the proximity of those firms' fiber networks (or the presence of wireless alternatives and cable providers) could

provide a competitive check. Additionally, the incumbents disagreed with the draft report's characterization of the dedicated access product market as being defined by demand for a DS-1 or greater level of service, commenting that we should have examined competition at DS-3 and greater levels of demand. Incumbent firms also asserted that DOJ and FCC have found the markets for dedicated access to be competitive.

- Concerning our analysis of changes in prices, the incumbents argued that the analysis was unreliable because the data we used were incomplete. More specifically, they insisted that prices paid by customers could not be analyzed by focusing on channel terminations in particular areas because prices need to be examined on the basis of the total circuit (i.e., including the mileage portion), which may cross multiple geographic boundaries, and that the data show that prices have decreased over time.

  We recognize the limits of available data on the extent and effect of competition in the market for dedicated access services. It is highly unlikely that any data set on telecommunications networks would be perfect. DOJ has noted that even with the ability to obtain data through subpoena power, its analysis also likely experienced some errors due to underreporting and overreporting. Nevertheless, we believe the data used provide a reasonably and sufficiently reliable picture of the extent of facilities-based competition at the building level. The report acknowledges the potential for underreporting and overreporting of competitors' equipment and notes the extent of data errors using data supplied by two large competitors. As noted, the database we relied upon has been used by at least two incumbents in petitions before state public utility commissions. We disagree that we are not accounting for the competitive presence of cable and wireless providers. The database we used shows the presence of these competitive alternatives, and our analysis does not exclude such competitive alternatives. And although a competing firm may have fiber relatively nearby, that does not mean that competitive entry into a location is necessarily likely. DOJ has recognized in its Competitive Impact Statements that "such entry is a difficult, time-consuming, and expensive process." We took note of the incumbents' objections to our definition of the product market and incorporated additional analyses of the extent of competition in the market for higher levels of demand (e.g., DS-3 and higher). We disagree that DOJ believes these markets to be competitive. Although DOJ cleared the proposed mergers, it required Verizon and SBC to divest portions of certain local fiber-optic network facilities to proceed with their respective acquisitions. Moreover, DOJ clearly noted in its Competitive Impact Statements on the mergers that "[f]or the vast majority of commercial buildings in [their] territory" the

incumbents are the only provider of dedicated access. We note also that FCC approved the mergers with conditions.

On the concerns raised by the incumbents on the draft's analysis of changes in pricing, it is true that we did not have complete information on pricing; neither incumbents nor competitors were able to provide that information, which is usually restricted contractually by non-disclosure agreements. It is also true that we focused our analysis on channel terminations and not on the price of a total circuit, including transport, or on a customer's entire purchase. Our objective was to examine the effect of phase II pricing flexibility, which is the only circumstance under which price increases can occur. By disaggregating the data on the basis of how pricing flexibility was granted, we were able to examine price trends under different levels of pricing flexibility. We were unable to examine trends in transport prices under different levels of pricing flexibility because the vast majority of MSAs have received phase II pricing flexibility for dedicated transport (and therefore very few data points with which to compare) and because other key data elements associated with transport (e.g., varying mileage) was unavailable. Analysis based on more aggregated data, such as suggested by the incumbents, obscures the effect of phase II pricing flexibility by including prices that are based on base rates resulting from the CALLS Order, which were automatically decreasing until 2003. We took note of the incumbents' issue that we did not compare average revenue under pricing flexibility with average revenue under price caps, and incorporated additional analyses comparing price-cap average revenue to price-flex average revenue. The draft makes clear that average revenue for both channel terminations and dedicated transport have declined over time. At the same time, however, it is also clear from the data provided by the incumbents themselves that they generate higher levels of average revenue from sales of channel terminations in the theoretically more competitive phase II areas—a finding that is incongruous with greater levels of competition.

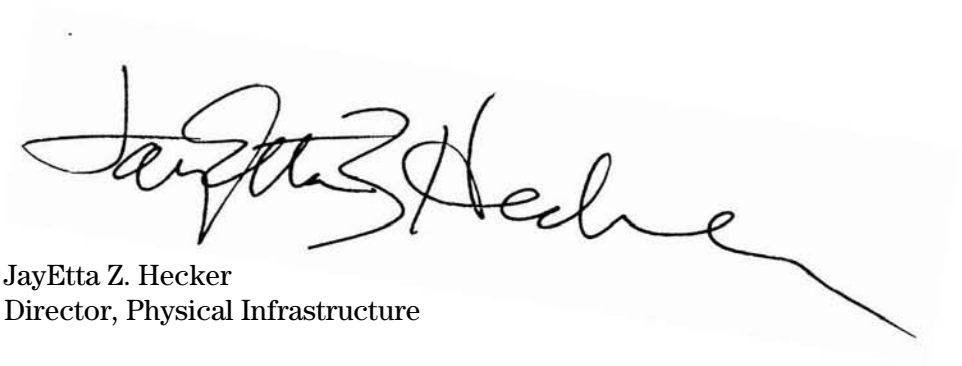
Finally, we also provided GSA, USDA, and DOJ the opportunity to comment on segments of the report that pertain to the data and information they provided. GSA, USDA, and DOJ verified the key facts we obtained from them, and provided technical clarifications which we incorporated where appropriate.

We are sending copies of this report to the appropriate congressional committees and to appropriate officials of the FCC, GSA, USDA, and DOJ. We will also make copies available to others upon request. In addition, the

report will be available at no charge on the GAO Web site at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or at heckerj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.

Sincerely yours,



JayEtta Z. Hecker
Director, Physical Infrastructure

Appendix I: Objectives, Scope and Methodology

This report examines the state of competition within the markets for dedicated access services by addressing three issues: (1) the extent to which competitive alternatives to the major incumbent telecommunication carriers are available; (2) pricing for dedicated access services in fully deregulated markets versus regulated markets, as well as prices the government is paying for dedicated access; and (3) the data the Federal Communications Commission (FCC) uses to measure competition in dedicated access and the limitations, if any, that may exist in such efforts.

Extent of Competitive Alternatives to Major Incumbent Firms

To determine the extent that competitive alternatives exist for dedicated access, we analyzed the extent to which competitive telecommunications providers provide dedicated access service to end user buildings in 16 metropolitan statistical areas (MSA). We selected those 16 MSAs, divided evenly between phase I and phase II deregulated markets (for channel terminations) and evenly among the major incumbent firms (AT&T Corporation, BellSouth Corporation, Qwest Communications, and Verizon Communications). Table 5 summarizes the selected MSAs. Our sample of MSAs is intended to illustrate the extent that competition has entered the market for dedicated access services only; the results are not generalizable to all MSAs in the United States. We are not making a judgment on the legal sufficiency of competition in dedicated access services including, whether recent mergers violate antitrust laws or whether proposed remedies that the Department of Justice (DOJ) identified would be sufficient to eliminate the competitive harm of the mergers.

Table 5: MSAs in Analysis, by Price-Cap Incumbent and Applicable Pricing Flexibility

Price cap incumbent	Phase I for channel terminations, phase II for dedicated transport	Phase II for channel terminations and dedicated transport
AT&T	Detroit, Chicago	Los Angeles, San Jose
BellSouth	Greenville, New Orleans	Atlanta, Miami
Qwest	Seattle, Minneapolis	Phoenix, Portland
Verizon	New York, Washington, D.C.	Norfolk, Pittsburgh

Source: GAO analysis of FCC pricing flexibility report and orders.

Data on the presence of relevant telecommunications equipment in businesses throughout the United States is not independently available from public sources. To conduct our analysis, we contracted with two firms: Telcordia Technologies, Inc., and GeoResults.

We contracted with Telcordia, a leading global provider of telecommunications network software and services, to obtain an extract from the Location Registry (formerly, CLONES), which is a hosted database of network locations and related network functions for the telecommunications industry. A given location and network function for an incumbent or competitive firm can be identified uniquely using a CLLI™ Code. The CLLI Code is an alphanumeric code and key into the Location Registry, providing additional information such as physical address and coordinates. The CLLI Code can be used to make inferences about network equipment. It is not an equipment identifier. Both incumbent and competitive firms can subscribe to the COMMON LANGUAGE® Location Information Service from Telcordia to gain access to the Location Registry, enabling the voluntary entry of their information into the registry. Incumbent and competitive firms are responsible for maintaining the integrity of their records and providing any data reconciliation regarding records that may be incorrect or incomplete. The Location Registry provides subscribing firms with a standardized method for identifying network locations and related network functions. The Location Information Service, in conjunction with the Connection Information Service, provides a method for standardizing orders for network interconnection and network transport between the different firms.

We assessed the reliability of the Telcordia Location Registry and determined that the information was sufficiently reliable for our purposes. According to Telcordia, the information in the registry may be less comprehensive for competitive firms than for incumbent firms because some smaller competitive firms do not subscribe to the service, and there may be some underreporting of competitors' locations due to competitive concerns. However, Telcordia is unable to estimate the extent to which competitors' data are underreported. To gauge the extent that the data are understated, we compared entries in the database with lists of "lit" buildings provided to us by two of the largest competitive firms. One firm showed 465 lit buildings in the data they provided to us in the 16 MSAs we examined, of which 436 showed the presence of a "lit" competitor, suggesting an underreporting error of a little over 6 percent. However, the database also showed this same competitor as being the sole competitive presence in 81 additional buildings that were not on the firm's list of lit buildings, suggesting, that, for this competitor, the database is overreporting the level of competition. However, the other firm from which we obtained data provided us a list with 693 lit buildings in the MSAs we examined, of which 289 showed the presence of a "lit" competitor, indicating underreporting of about 400 buildings across the

MSAs for this competitor. These two examples show that individual competitor's presence may be underreported and overreported.

The data in the location registry may also overstate the presence of competitors for other reasons. Bankrupt and merged companies, such as the former AT&T and MCI, still have entries in the registry, although that equipment may not be in use or may now be equipment owned by the incumbent firm. Furthermore, the registry may also incorporate some equipment from active competitors that is not currently providing service or is no longer in service, as shown above. For instance, there may be equipment in a vacant building where a competitor used to provide service, but the competitor had not removed the equipment from the registry.

For the purposes of analyzing the presence of competitors at incumbent wire centers, the registry is likely more accurate. Because the registry is primarily used for interconnection purposes, and because wire centers are locations where aggregation of traffic and interconnections take place, underreporting of competitors' presence in wire centers is unlikely. There is no single public or private data source universally recognized as comprehensive. This is because there is no compulsory process through which telecommunications companies report such data to FCC or private data sources. This database is the most comprehensive available to us, and price-cap incumbent firms, such as BellSouth and AT&T, have used the database for similar purposes. While we recognize that there is both underreporting and overreporting in the database, it would appear that these two errors offset one another to some degree. Therefore, while our analysis does not provide pinpoint accuracy regarding the state of facilities-based competition, we determined that the database was sufficiently reliable to illustrate the general level of competitive build out to end-user locations.

To analyze the extract of the Location Registry, we contracted with GeoResults, which is a firm that the telecommunications industry has used extensively to analyze Telcordia data. GeoResults analyzes the CLLI Codes within the Location Registry to make inferences about the presence of fiber-optic equipment within a given building. GeoResults' analysis (known in the telecommunications industry as its "GeoLit" report), provides us with the necessary filtered data to indicate which end user buildings have a "lit" presence from a competitor. Telcordia has not validated methods or assumptions of any analysis performed by GeoResults for accuracy or completeness. GeoResults' GeoLit analysis is based on July 2006 extract from the Location Registry. The firm provided GAO with analysis on the

extent to which competitors provide dedicated access using fiber and wireless facilities at commercial buildings in those 16 MSAs. While copper, fiber, and wireless facilities may be used for access, industry participants told us that for practical purposes, competitive local access providers extend their facilities primarily via fiber and to a lesser extent via wireless, due to the higher revenue capacity and the lower maintenance costs of fiber or wireless.

We also analyzed the presence of any type of telecommunications equipment owned by competitors located in those buildings. This analysis thus included data on telecommunications equipment that GeoResults identified as non-fiber optic or could not be positively identified as fiber optic. It also included data on other equipment not used to provide service, such as testing equipment. In general, this analysis found presence of any type of equipment in buildings with greater than a DS-1 of demand ranging from about 17 percent to 30 percent, excluding Norfolk. We believe this analysis is not a valid measure of facilities-based competition because the equipment included in the analysis includes non-fiber optic equipment attached to non-fiber optic dedicated access from price-cap incumbents—which may represent leased lines—and testing equipment, both of which falsely indicate a facilities-based competitive presence.

To analyze the extent to which business users are likely to purchase dedicated access from incumbent firms or competitors, we also contracted with GeoResults. GeoResults provided GAO with their standard demand model that estimated the number of buildings that might require dedicated access at three levels of demand, as shown in table 6.

Table 6: GeoResults' Dedicated Access Demand Model

Level of demand	Definition
At least DS-1	A commercial building with one or more business tenants that have a dedicated access demand for one or more DS-1 circuits. An individual business that has a data bandwidth demand of 512 Kb to 8 Mb will be defined as a business that has a dedicated access demand for one or more DS-1 circuits.
At least DS-3	A commercial building with a business tenant that has a dedicated access demand for one DS-3 circuit. An individual business that has a data bandwidth demand of 8 Mb to 16 Mb will be defined as a business that has a dedicated access demand for one DS-3 circuit.
At least 2 DS-3's	A commercial building with one or more business tenants that have a dedicated access demand for two or more DS-3 circuits. An individual business that has a data bandwidth demand of 16 Mb or more will be defined as a business that has a dedicated access demand for two or more DS-3 circuits.

GeoResults' model focuses on the number of employees per business; the type of business (e.g., ones that are telecommunications intensive versus ones that are not, such as bakeries); and the "family size" of the business (i.e., the extent to which a business was a branch office of a larger corporate parent). For our analysis of facilities-based competition for buildings with at least one DS-1 of demand, we included cellular phone sites, mobile switching offices, "carrier hotels"—locations where several competitors locate for interconnection purposes—and any other locations where competitors had placed fiber-based equipment, regardless of whether the model indicated any demand for dedicated access. For our analysis of competition in locations with a greater level of demand, we only examined those locations GeoResults identified as having a DS-3 level of demand or a level of demand of 2 DS-3s or higher.

GeoResults obtained data on businesses from Experian's National Business Database. Experian is a national company that provides, among other products, information regarding businesses in the United States. We assessed the reliability of Experian's National Business Database and reviewed Experian's quality procedures that it uses to verify the information contained within its National Business Database and found it sufficiently reliable for our purposes. No available database is 100 percent inclusive of all commercial buildings. GeoResults uses records for some 15 million commercial buildings in its demand model. GeoResults estimates that this data covers about 70-75 percent of the total number of commercial buildings. GeoResults officials told us that this demand model is widely used by a variety of incumbent and competitive firms as well.

According to GeoResults, these firms use their demand model to identify target dedicated access customers within various buildings throughout MSAs in the United States.

Analysis of Available Information on Dedicated Access Pricing

To describe how deregulation has affected available prices for dedicated access services, we analyzed changes in list prices, prices available under customized contracts, and average prices in MSAs under phase I flexibility and phase II flexibility from the period prior to the granting of pricing flexibility (generally, 2001 or 2002) to the present, or to the latest period for which data were available. We limited our analysis to prices for high-capacity dedicated access services at two speeds—1.544 megabytes per second (Mbps), which is known as a DS-1 circuit, and 45 Mbps, which is known as a DS-3 circuit—because they represent the majority of dedicated access revenues. Where possible, we compared prices for the two major components of dedicated access services—channel terminations and dedicated transport. Although dedicated access services can be ordered with multiple options and configurations, such as value-added services geared toward providing added network reliability, we focused our analysis on DS-1 and DS-3 monthly recurring charges only, without any such features or options.

Separately, we analyzed spending on dedicated access services by selected federal departments and agencies. We analyzed available data on prices that selected federal government departments under General Services Administration (GSA) contracts paid, as well as prices paid under separate agency contracts for services purchased directly in the marketplace.

Change in List Prices

We analyzed listed prices for channel terminations and dedicated transport for month-to-month, 3-year, and 5-year terms across three density zones.[1] FCC requires incumbent firms to file list prices in all areas that they serve. “Price-flex” list prices are made generally available in areas with phase II flexibility. “Price-cap” list prices are made generally

[1]Typically, price-cap incumbents offer prices across different zones that reflect the concentration of business demand for dedicated access within a geographic area. Zones generally correspond with areas of relatively high, medium, and low business demand density. Zone 1 is generally considered as inclusive of the central business area, where a large portion of businesses that would require DS-1 and DS-3 would reside. Prices are generally lower in zone 1 than in zones 2 or 3—with zone 3 generally having the highest prices, because costs to provide services are likely higher in less dense areas. Occasionally an incumbent will offer prices across five zones. In cases where an incumbent provided pricing across five zones, we analyzed prices associated with zones 1, 3, and 5.

available to all customers in areas with phase I pricing flexibility as well as all other areas in which FCC has granted neither phase I nor phase II flexibility. We analyzed 1,152 elements of dedicated access service across the four major price-cap incumbents' filings. We compared both current price-flex prices with current price-cap prices as well as current price-flex prices to prices in effect in 2001. We left these prices in nominal dollars and did not adjust for inflation. These comparisons were made using like components and parameters. For example, we compared the price for a 3-year term, zone 1, channel termination in a phase II MSA in 2006 against the price for a 3-year term, zone 1, channel termination in that same MSA in 2001, as well as against the price for a 3-year term, zone 1, channel termination in a phase I MSA in 2006. Some price-cap incumbents also offered 1-year, 2-year, 4-year, or 7-year terms. We did not include these prices in our analysis, because not all price-cap incumbents offered such terms. Including these additional term prices would not change the overall results of the analysis because term prices are generally determined by a percentage discount off of the month-to-month list prices.

Customized Contracts

Because larger customers may purchase dedicated access through various contracts with incumbents made allowable under phase I and phase II deregulation, we analyzed a substantial number of these contracts, which FCC requires incumbents to file. In reviewing contracts, we generally compared net prices (i.e., after discount and credits) under the contracts to the initial price prior to the granting of pricing flexibility and examined the effect of contract discounts on the price-flex list price and the price-cap list price. However, because we do not know the details of how the circuits purchased under these contracts are configured (i.e., some circuit components can be in phase I areas, others in phase II, some circuits may traverse both phase I and phase II areas or even price-cap areas), we could not determine the overall effect of the contracts on customers' entire purchases.

In some cases, prices on some contracts did not vary on a per-mile basis. Because list prices have a mileage component, we were not able to compare many of the flat contract prices with prices available prior to pricing flexibility. Additionally, some contracts cover multiple regions. For example, several AT&T contracts require subscription of concurrent dedicated access services in specific MSAs in four regions, each of which has its own list prices. Since base prices are not identical across AT&T's regions, it is possible that under a multiregion contract, the contract discounts result in lower prices in one region, but not another. The data required to analyze the various factors that contribute to an overall contractual price were not available. For example, mileage data for

individual contracts or specific detailed data on the number of DS-1 and DS-3 circuits purchased under each contract were not available.

Change in Average Revenue

Because we could not obtain specific data on the number of customers purchasing dedicated access services at various pricing levels (i.e., month-to-month, term, various zones, and various contract options) and the exact amount purchased, we could not test the effect of phase II pricing flexibility over time through an analysis of list prices and contract discounts. Therefore, we requested that incumbents provide us with data on their average revenue per unit for channel terminations and dedicated transport from the period just prior to the granting of pricing flexibility and the most current period for which data were available across MSAs with phase I flexibility for channel terminations and phase II flexibility for channel terminations. We requested that the incumbents provide us with data representing total average monthly recurring charges, which would include any discounts or termination penalties from price-flex contracts,[2] and exclude any non-recurring charges associated with the initial purchase of the services. The average revenue per unit effectively suggests the average (arithmetic mean) price that customers paid for the specific dedicated access components. As an average, the data reflect the net effect of circuits purchased in different density zones, and across different term lengths or volume arrangements. The mean price is susceptible to effect from a few large customers with heavily discounted prices. One major incumbent carrier told us that 5 percent of its customers had contracts with customized discounts, and those customers represented about 50 percent of the firm's dedicated access business. To compensate for such an effect, data on the median prices paid would also have been useful, but were not available to us.

We analyzed the average amount of revenue in nominal dollars that the major incumbent carriers reported from the sales of DS-1 and DS-3 dedicated access channel terminations in 56 MSAs—27 MSAs with phase II flexibility for channel terminations, and 29 MSAs with phase I. We received data for 20 MSAs from AT&T and Verizon, and data for 10 MSAs from BellSouth and Qwest, for a total of 60 MSAs. We excluded two MSAs from the data that Verizon provided and two from AT&T's data because

[2]Not all of the major incumbent firms were able to include every discount that was based on price-flex contracts. One firm was unable to include discounts that were based on revenue commitments; however, because these discounts are available in both phase I and phase II areas, there is little reason to believe that these discounts would affect the prices available in phase II areas greater or less than it would affect prices in phase I areas.

those MSAs were not under phase I or phase II flexibility for channel terminations. We were unable to independently verify the reliability of the data provided by the price-cap incumbents. However, we performed some logic tests based on listed prices and available discounts to determine if there were any major inaccuracies. Due to confidentiality concerns, we aggregated these averages across MSAs and across all four major price-cap incumbents, which masks some variation across the firms, as well as variation across MSAs, but still allows us to examine overall trends in markets under different phases of deregulation.

We also calculated the average revenue in areas that remain under full price-cap regulation from data submitted by price-cap incumbents in their annual tariff review plans, where price-cap incumbents provide the FCC with detailed data on the number of specific circuit components sold under the various zone and term prices available in their tariffs. We calculated an average price-cap price for DS-1 and DS-3 channel terminations for tariffs corresponding to the phase II MSAs for which we had average revenue data. For example, the phase II MSAs in Verizon's territory for which we received data corresponded to the area covered by Verizon's FCC No. 1 tariff filing. The average price-cap revenue is likely to be biased upward. Because areas still under price-cap regulation have not qualified for phase I or phase II flexibility, these areas are likely to have lower business density. Therefore, a higher percentage of circuits are likely to be sold under zone 3 pricing, which is generally priced higher than circuits under zone 1 pricing. For example, in Qwest's annual tariff review plan, 51 percent of DS-1 channel terminations were sold under zone 3 pricing. Because we do not have detailed data on the number of channel terminations sold under different zones in phase II areas, we were unable to correct for this bias. Furthermore, not all discounts available under price-cap regulation (such as AT&T's Managed Value Plan) were included in our calculation because we were not able to determine how such discounts would be applied to only channel terminations. However, despite these biases, we find that phase II average revenue for the 27 MSAs, on average, is not statistically different than price-cap average revenue.

We compared how the average revenue for channel terminations in phase I and phase II areas had changed over time, from prior to deregulation through 2005 (the latest full year for which data were available), and we compared average revenue figures for 2005 across phase I areas, phase II areas, and areas remaining under the price cap. We also performed our analysis using two different price indexes and after weighting the data based on the relative size of the MSAs to determine how sensitive our

results were to such effects. We used both the general GDP price index, as well as the Bureau of Labor Statistics' Producer Price Index for Wired Telecommunications Carriers to adjust the data to 2005 constant dollars. To account for the relative difference in the size of the MSAs, we weighted the data on the basis of the number of businesses with 20 or more employees in each MSA. While an imperfect weight, this was used as a rough estimate of the level of demand in these MSAs. Regardless of the deflator used or weighting the data, phase II average revenue was higher than phase I average revenue. See appendix II for the detailed results of this sensitivity analysis.

We also analyzed the changes in average revenue for dedicated transport. Because all but one of the MSAs in the data provided to us were areas where the price-cap incumbents had received phase II flexibility for transport, we were unable to compare changes in average revenue for transport under different levels of pricing flexibility. In fact, of the 215 MSAs where pricing flexibility has been granted, the four major price-cap incumbents have received phase II flexibility for dedicated transport in 202 MSAs, and phase I flexibility in only 13 MSAs.

We were unable to collect data on prices that competitive firms charged; therefore, those prices are excluded from this analysis. We asked competitive firms to supply prices, however, they did not. We interviewed representatives from these firms who provided anecdotal information about their prices. Furthermore, we did not include the costs of providing dedicated access services in our analysis to measure the extent to which prices approach costs, because these data also were unavailable. FCC, which previously collected data on costs, discontinued cost studies several years ago. In addition, FCC gave price-cap incumbents the option to accept price decreases resulting from the CALLS Order, or have prices reinitialized on the basis of detailed cost studies that the incumbent could provide. However, no price-cap incumbent provided a cost study.

Federal Spending on Dedicated Access Services

To examine prices that the government has paid for dedicated access, we interviewed and obtained dedicated access monthly prices from the Department of Agriculture (USDA) and DOJ. We selected those departments because they have many offices that require high-speed dedicated access. USDA officials indicated they provided data for all dedicated access purchased by the entire department. At DOJ, we obtained data from the Justice Management Division, which both uses and orders a substantial portion of telecommunication services for agencies within the department. The Justice Management Division provided data on dedicated access services. However, these data did not include

information from the Federal Bureau of Investigation. The results from these departments and agencies may not be representative of the federal government as a whole.

We interviewed officials with GSA, which awarded and administers the governmentwide FTS2001 telecommunications contracts with Sprint and MCI. We also obtained access to GSA's automated pricing tool, the "SDP Pricer," which provides pricing estimates for dedicated access and other services and is available to federal departments and agencies. We compared the prices provided by USDA and DOJ with prices obtained from the pricing tool. GSA officials indicated that the SDP Pricer provides estimates only, and that actual prices paid may be different. For example, GSA officials indicated that they are aware of instances where service initiation charges are negotiated and waived between the FTS2001 contractor and the federal government entity purchasing the services. GSA also indicated that federal entities are not required to purchase services using FTS2001, nor are they required to use the lowest cost contractor.

USDA and DOJ provided aggregate and individual circuit pricing data for 1 month of data and indicated that the month provided was representative of average spending. These entites also indicated whether the circuit was purchased under the FTS2001 contracts and also the identity of the service provider. Each entity provided individual circuit data that included circuit endpoints, monthly recurring charges, and speed of the service, among other information.

We compared the channel termination and local interoffice costs of dedicated access services, and not the total or long-distance costs. We were not able to directly compare total entity or GSA prices to list or contract prices offered by incumbents, as data on interoffice mileage and the closest wire center were not available. For circuits purchased under FTS2001, we compared prices paid with the estimates that the SDP Pricer produced.

FCC Oversight of Dedicated Access

To determine what data FCC utilizes to monitor competition and any limitations that may exist to its monitoring efforts, we analyzed FCC triggers for predicting competition as well as FCC data collection processes for determining and monitoring competition. We analyzed FCC's strategic plan, performance budget, and measures that the agency uses to track its progress toward meeting its stated goals of increasing competition and choice for business. We then compared these plans, budgets, and measures against criteria developed from the Government

Performance and Results Act of 1993.[3] We discussed all of those elements with FCC senior staff.

In addition, for our three objectives we analyzed and summarized comments in the rulemaking proceeding on dedicated access, and interviewed the major incumbent telecommunications carriers, competitive local exchange providers, Wall Street analysts covering the dedicated access markets, and representatives of large telecommunication users.

We conducted our work from November 2005 through October 2006 in accordance with generally accepted government auditing standards.

[3]Pub. L. No. 103-62.

Appendix II: Analysis of Average Revenue Data and List Prices

We analyzed the average amount of revenue that the major incumbent carriers reported from the sales of DS-1 and DS-3 dedicated access channel termination in 56 MSAs--27 MSAs with phase II flexibility for channel terminations and 29 with phase I. We excluded two MSAs from the data that Verizon provided and two MSAs from AT&T's data because those MSAs were not under phase I or phase II flexibility for channel terminations. We performed our analysis in nominal dollars. We also performed our analysis using the Bureau of Labor Statistics' Producer Price Index for Wired Telecommunications Carriers ("telecommunications price index"), as well as using the general GDP price index to adjust these data to 2005 constant dollars. Regardless of the price index used, phase II average revenue in 2005 was higher than phase I average revenue in 2005. However, using nominal dollars or dollars adjusted using the general GDP price index did not result in any increases in average revenue in phase II MSAs over time, whereas adjusting these data using the telecommunications price index did result in increases in phase II MSAs.

Because MSAs in these data varied greatly in their size (e.g., Los Angeles and Greenville), we also performed the analysis and weighted these data on the basis of the number of businesses with 20 or more employees in each MSA. While an imperfect weight, this was used as a rough estimate of the level of demand in these MSAs. We obtained data on the number of businesses from the U.S. Census Bureau's 2002 Statistics of U.S. Businesses. These were the most recent data available. Weighting these data did not change our finding that phase II average revenue was higher than phase I average revenue.

Tables 7 through 10 show the results of our analysis using unweighted nominal dollars, unweighted adjusted dollars using the telecommunications price index, unweighted adjusted dollars using the general GDP price index, and weighted adjusted dollars using the telecommunications price index.

Table 7: Summary Statistics of Average Revenue for Channel Terminations, Unweighted Nominal Dollars

Speed	Time frame and level of current pricing flexibility	Mean	Lower limit[a]	Upper limit[a]	Number of MSAs
DS1	Pre-flex—all MSAs	$146.53	$139.10	$153.96	56
	Pre-flex—MSAs that became phase I	152.35	140.40	164.29	29
	Pre-flex—MSAs that became phase II	140.28	131.56	149.01	27
	2005—all MSAs	128.88	123.49	134.27	56
	2005—Phase I MSAs	126.20	120.28	132.12	29
	2005—Phase II MSAs	131.77	122.24	141.29	27
	2005 less pre-flex—all MSAs	(17.65)[b]	(22.63)	(12.66)	56
	2005 less pre-flex—Phase I MSAs	(26.15)[b]	(33.95)	(18.35)	29
	2005 less pre-flex—Phase II MSAs	(8.52)[b]	(12.72)	(4.32)	27
	2005 less pre-flex—Phase II less phase I	17.63[b]	8.92	26.35	56
DS3	Pre-flex—all MSAs	1,341.46	1,264.28	1,418.65	56
	Pre-flex—MSAs that became phase I	1,287.32	1,183.23	1,391.41	29
	Pre-flex—MSAs that became phase II	1,399.62	1,282.08	1,517.15	27
	2005—all MSAs	1,194.97	1,125.05	1,264.90	56
	2005—Phase I MSAs	1,069.58	997.75	1,141.41	29
	2005—Phase II MSAs	1,329.65	1,225.40	1,433.91	27
	2005 less pre-flex—all MSAs	(146.49)[b]	(202.75)	(90.23)	56
	2005 less pre-flex—Phase I MSAs	(217.74)[b]	(296.17)	(139.31)	29
	2005 less pre-flex—Phase II MSAs	(69.96)	(144.84)	4.91	27
	2005 less pre-flex—Phase II less phase I	147.78[b]	41.49	254.06	56

Source: GAO analysis of data from AT&T, BellSouth, Qwest and Verizon.

Note: The average revenue data for pre-flex are from 2000, 2001, or 2002. Verizon provided data from 2000, AT&T and BellSouth provided data from 2001, and Qwest provided data from 2002.

[a]The values are based on 95 percent confidence intervals.

[b]The difference is statistically significant at the 1 percent level or lower (two-tailed), using mean-difference tests.

Table 8: Summary Statistics of Average Revenue for Channel Terminations, Unweighted Adjusted Dollars Using Telecommunications Price Index

Speed	Timeframe and level of current pricing flexibility	Mean	Lower limit[a]	Upper limit[a]	Number of MSAs
DS1	Pre-flex—all MSAs	$133.50	$127.49	$139.51	56
	Pre-flex—MSAs that became phase I	138.31	128.57	148.05	29
	Pre-flex—MSAs that became phase II	128.33	121.42	135.25	27
	2005—all MSAs	128.88	123.49	134.27	56
	2005—Phase I MSAs	126.20	120.28	132.12	29
	2005—Phase II MSAs	131.77	122.24	141.29	27
	2005 less pre-flex—all MSAs	(4.62)[c]	(8.82)	(0.42)	56
	2005 less pre-flex—Phase I MSAs	(12.11)[b]	(18.08)	(6.14)	29
	2005 less pre-flex—Phase II MSAs	3.43	(0.99)	7.86	27
	2005 less pre-flex—Phase II less phase I	15.54[b]	8.26	22.82	56
DS3	Pre-flex—all MSAs	1,226.36	1,156.10	1,296.61	56
	Pre-flex—MSAs that became phase I	1,173.73	1,078.19	1,269.27	29
	Pre-flex—MSAs that became phase II	1,282.88	1,177.30	1,388.47	27
	2005—all MSAs	1,194.97	1,125.05	1,264.90	56
	2005—Phase I MSAs	1,069.58	997.75	1,141.41	29
	2005—Phase II MSAs	1,329.65	1,225.40	1,433.91	27
	2005 less pre-flex—all MSAs	(31.38)	(81.71)	18.95	56
	2005 less pre-flex—Phase I MSAs	(104.15)[b]	(173.45)	(34.84)	29
	2005 less pre-flex—Phase II MSAs	46.77	(17.89)	111.43	27
	2005 less pre-flex—Phase II less phase I	150.91[b]	58.29	243.54	56

Source: GAO analysis of data from AT&T, BellSouth, Qwest and Verizon.

Note: Average revenue figures are in 2005 dollars using the Bureau of Labor Statistics Producer Price Index for Wired Telecommunications Carriers.

[a]The values are based on 95 percent confidence intervals.

[b]The difference is statistically significant at the 1 percent level or lower (two-tailed), using mean-difference tests.

[c]The difference is statistically significant at the 5 percent level or lower (two-tailed), using mean-difference tests.

Table 9: Summary Statistics of Average Revenue for Channel Terminations, Unweighted Adjusted Dollars Using General GDP Price Index

Speed	Timeframe and level of current pricing flexibility	Mean	Lower limit[a]	Upper limit[a]	Number of MSAs
DS1	Pre-flex—all MSAs	$161.62	$152.82	$170.42	56
	Pre-flex—MSAs that became phase I	168.47	154.38	182.56	29
	Pre-flex—MSAs that became phase II	154.26	143.81	164.71	27
	2005—all MSAs	128.88	123.49	134.27	56
	2005—Phase I MSAs	126.20	120.28	132.12	29
	2005—Phase II MSAs	131.77	122.24	141.29	27
	2005 less pre-flex—all MSAs	(32.73)[b]	(38.72)	(26.75)	56
	2005 less pre-flex—Phase I MSAs	(42.26)[b]	(52.05)	(32.49)	29
	2005 less pre-flex—Phase II MSAs	(22.49)[b]	(27.09)	(17.89)	27
	2005 less pre-flex—Phase II less phase I	19.77[b]	9.12	30.43	56
DS3	Pre-flex—all MSAs	1,475.83	1,391.02	1,560.64	56
	Pre-flex—MSAs that became phase I	1,419.26	1,305.38	1,533.15	29
	Pre-flex—MSAs that became phase II	1,536.59	1,406.46	1,666.72	27
	2005—all MSAs	1,194.97	1,125.05	1,264.90	56
	2005—Phase I MSAs	1,069.58	997.75	1,141.41	29
	2005—Phase II MSAs	1,329.65	1,225.40	1,433.91	27
	2005 less pre-flex—all MSAs	(280.86)[b]	(343.40)	(218.32)	56
	2005 less pre-flex—Phase I MSAs	(349.68)[b]	(437.96)	(261.40)	29
	2005 less pre-flex—Phase II MSAs	(206.94)[b]	(292.16)	(121.72)	27
	2005 less pre-flex—Phase II less phase I	142.74[c]	22.85	262.63	56

Source: GAO analysis of data from AT&T, BellSouth, Qwest and Verizon.

Note: The average revenue figures are in 2005 dollars using the general GDP Price Index.

[a]The values are based on 95 percent confidence intervals.

[b]The difference is statistically significant at the 1 percent level or lower (two-tailed), using mean-difference tests.

[c]The difference is statistically significant at the 5 percent level or lower (two-tailed), using mean-difference tests.

Table 10: Summary Statistics of Average Revenue for Channel Terminations, Weighted Adjusted Dollars Using the Telecommunications Price Index

Speed	Timeframe and level of current pricing flexibility	Mean	Lower limit[a]	Upper limit[a]	Number of MSAs[c]
DS1	Pre-flex—all MSAs	$132.95	$132.88	$133.02	56
	Pre-flex—MSAs that became phase I	134.57	134.48	134.67	29
	Pre-flex—MSAs that became phase II	130.25	130.17	130.34	27
	2005—all MSAs	126.80	126.73	126.86	56
	2005—Phase I MSAs	123.93	123.86	124.00	29
	2005—Phase II MSAs	131.56	131.44	131.67	27
	2005 less pre-flex—all MSAs	(6.15)[b]	(6.20)	(6.11)	56
	2005 less pre-flex—Phase I MSAs	(10.64)[b]	(10.70)	(10.59)	29
	2005 less pre-flex—Phase II MSAs	1.30[b]	1.23	1.38	27
	2005 less pre-flex—Phase II less phase I	11.95[b]	11.86	12.04	56
DS3	Pre-flex—all MSAs	1,175.38	1,174.62	1,176.14	56
	Pre-flex—MSAs that became phase I	1,128.80	1,128.08	1,129.48	29
	Pre-flex—MSAs that became phase II	1,252.78	1,251.23	1,254.34	27
	2005—all MSAs	1,163.53	1,162.74	1,164.32	56
	2005—Phase I MSAs	1,081.89	1,081.28	1,082.50	29
	2005—Phase II MSAs	1,299.13	1,297.54	1,300.71	27
	2005 less pre-flex—all MSAs	(11.85)[c]	(12.34)	(11.37)	56
	2005 less pre-flex—Phase I MSAs	(46.89)[c]	(47.46)	(46.32)	29
	2005 less pre-flex—Phase II MSAs	46.34[c]	45.54	47.14	27
	2005 less pre-flex—Phase II less phase I	93.23[c]	92.25	94.21	56

Source: GAO analysis of data from AT&T, BellSouth, Qwest and Verizon.

Note: The average revenue figures are in 2005 dollars using the Bureau of Labor Statistics' Producer Price Index for Wired Telecommunications Carriers. Data are weighted on the basis of the number of businesses with 20 or more employees.

[a]The values are based on a 95 percent confidence intervals.

[b]The difference is statistically significant at the 1 percent level of lower (two-tailed), using mean-difference tests.

[c]The number of observations for the frequency weights is 349,512 for the 56 MSAs; 218,164 for the 29 MSAs; and 131,348 for the 27 MSAs.

We also analyzed list prices in the published tariffs from the four major incumbent firms to compare how phase II pricing flexibility and the CALLS Order have changed these prices. We compiled data on prices for channel terminations and dedicated transport (both fixed and variable charges) for month-to-month, 3-year, and 5-year terms across three density zones from the published tariffs as of June 1, 2006. We eliminated any

comparisons where the tariff contained price-flex prices for channel terminations, but no MSAs covered by the tariff had phase II flexibility for channel terminations (e.g., AT&T's tariff that covers Nevada has price-flex list prices for channel terminations, yet AT&T has not received phase II flexibility for channel terminations in any MSAs in Nevada).

We made the following three comparisons for all combinations of circuit components, terms, and zones: (1) 2006 price-flex list prices compared with initial prices (prior to pricing flexibility); (2) 2006 price-cap prices compared with initial prices; and (3) 2006 price-flex prices compared with 2006 price-cap prices. We also performed this analysis after adjusting the data to constant dollars. Adjusting the dollars did not change the basic findings of our analysis. Tables 11 and 12 show the results in nominal dollars.

Table 11: Summary Statistics of List Price Comparisons for all DS-1 Combinations in Nominal Dollars

			Mean price comparisons			
Component	**Term**	**Zone**	**Price-flex 2006 less initial price**	**Price-cap 2006 less initial price**	**Price-flex 2006 less price-cap 2006**	**Number of comparisons**
Channel terminations	All	All	$7.73[a]	$(9.46)[a]	$17.20[a]	144
	Monthly	All	20.56[a]	(3.45)	24.01[a]	48
		Zone 1	17.76[a]	(1.20)	18.96[a]	16
		Zone 2	21.03[a]	(4.25)	25.28[a]	16
		Zone 3	22.89[a]	(4.90)	27.79[a]	16
	3-yr	All	2.74	(12.54)[a]	15.28[a]	48
		Zone 1	0.87	(9.80)[a]	10.67[a]	16
		Zone 2	3.17	(13.27)[a]	16.45[a]	16
		Zone 3	4.17	(14.55)[a]	18.73[a]	16
	5-yr	All	(0.10)	(12.39)[a]	12.30[a]	48
		Zone 1	(1.12)	(9.34)[a]	8.22[a]	16
		Zone 2	(0.21)	(13.21)[a]	13.00[a]	16
		Zone 3	1.05	(14.62)[a]	15.67[a]	16
Fixed transport	All	All	1.58[b]	(6.06)[a]	7.64[a]	216
	Monthly	All	4.16[a]	(4.16)[a]	8.32[a]	72
		Zone 1	3.60[a]	(4.11)[a]	7.71[a]	24
		Zone 2	4.11[a]	(4.27)[b]	8.37[a]	24
		Zone 3	4.78[a]	(4.09)[b]	8.87[a]	24
	3-yr	All	0.39	(6.79)[a]	7.18[a]	72
		Zone 1	0.07	(6.11)[a]	6.19[a]	24

			Mean price comparisons			
Component	Term	Zone	Price-flex 2006 less initial price	Price-cap 2006 less initial price	Price-flex 2006 less price-cap 2006	Number of comparisons
		Zone 2	0.39	(6.73)[a]	7.12[a]	24
		Zone 3	0.70	(7.52)[a]	8.22[a]	24
	5-yr	All	0.19	(7.24)[a]	7.44[a]	72
		Zone 1	(0.10)	(6.28)[a]	6.18[a]	24
		Zone 2	0.20	(6.77)[a]	6.96[a]	24
		Zone 3	0.49	(8.68)[a]	9.17[a]	24
Variable transport	All	All	0.81[a]	(2.29)[a]	3.10[a]	216
	Monthly	All	1.37[a]	(2.00)[a]	3.36[a]	72
		Zone 1	1.28[a]	(1.91)[a]	3.18[a]	24
		Zone 2	1.38[a]	(1.95)[a]	3.33[a]	24
		Zone 3	1.44[a]	(2.13)[a]	3.56[a]	24
	3-yr	All	0.65[a]	(2.50)[a]	3.14[a]	72
		Zone 1	0.51[c]	(2.39)[a]	2.90[a]	24
		Zone 2	0.63[b]	(2.51)[a]	3.14[a]	24
		Zone 3	0.80[a]	(2.59)[a]	3.39[a]	24
	5-yr	All	0.43[a]	(2.37)[a]	2.80[a]	72
		Zone 1	0.40	(2.22)[a]	2.63[a]	24
		Zone 2	0.45[c]	(2.39)[a]	2.84[a]	24
		Zone 3	0.44	(2.50)[a]	2.94[a]	24

Source: GAO analysis of data from tariffs filed with the FCC in 2001 and 2006, including AT&T (Ameritech FCC No. 2, Nevada Bell FCC No. 1, Pacific Bell FCC No. 1, Southern New England Bell FCC No. 39, and Southwestern Bell FCC No. 73), BellSouth FCC No. 1, Qwest FCC No. 1, and Verizon FCC Nos. 1, 11, and 14.

Note: Initial prices are from 2001 and 2006 prices are as of June 2006.

[a]The price difference is statistically significant at the 1 percent level or lower, two-tailed.

[b]The price difference is statistically significant at the 5 percent level or lower, two-tailed.

[c]The price difference is statistically significant at the 10 percent level or lower, two-tailed.

Table 12: Summary Statistics of List Price Comparisons for all DS-3 Combinations in Nominal Dollars

			Mean price comparisons			
Component	**Term**	**Zone**	**Price-flex 2006 less initial price**	**Price-cap 2006 less initial price**	**Price-flex 2006 less price-cap 2006**	**Number of comparisons**
Channel terminations	All	All	$98.12[a]	$(113.95)[a]	$212.08[a]	144
	Monthly	All	137.37[a]	(118.78)[a]	256.14[a]	48
		Zone 1	127.88[b]	(112.81)[a]	240.69[a]	16
		Zone 2	137.37[b]	(121.90)[a]	259.27[a]	16
		Zone 3	146.87[b]	(121.61)[a]	268.48[a]	16
	3-yr	All	90.59[a]	(115.75)[a]	206.34[a]	48
		Zone 1	82.17[b]	(114.37)[a]	196.54[a]	16
		Zone 2	90.07[b]	(113.81)[a]	203.88[a]	16
		Zone 3	99.54[b]	(119.07)[a]	218.61[a]	16
	5-yr	All	66.41[a]	(107.34)[a]	173.75[a]	48
		Zone 1	57.08[c]	(105.19)[a]	162.28[a]	16
		Zone 2	66.92[b]	(106.71)[a]	173.63[a]	16
		Zone 3	75.23[b]	(110.11)[a]	185.33[a]	16
Fixed transport	All	All	10.50[b]	(60.34)[a]	70.84[a]	216
	Monthly	All	21.95[b]	(52.55)[a]	74.50[a]	72
		Zone 1	21.72	(52.32)[a]	74.03[a]	24
		Zone 2	21.96	(49.53)[a]	71.49[a]	24
		Zone 3	22.17	(55.81)[a]	77.98[a]	24
	3-yr	All	3.46	(66.64)[a]	70.09[a]	72
		Zone 1	3.12	(66.19)[a]	69.31[a]	24
		Zone 2	2.98	(65.49)[a]	68.47[a]	24
		Zone 3	4.28	(68.23)[a]	72.50[a]	24
	5-yr	All	6.09	(61.83)[a]	67.92[a]	72
		Zone 1	5.78	(60.68)[a]	66.47[a]	24
		Zone 2	5.65	(60.61)[a]	66.25[a]	24
		Zone 3	6.86	(64.20)[a]	71.06[a]	24
Variable transport	All	All	2.64[a]	(12.57)[a]	15.21[a]	216
	Monthly	All	3.84[a]	(13.46)[a]	17.29[a]	72
		Zone 1	3.51[c]	(11.83)[a]	15.34[a]	24
		Zone 2	4.04[c]	(13.11)[a]	17.15[a]	24
		Zone 3	3.97[c]	(15.43)[a]	19.39[a]	24
	3-yr	All	2.18[c]	(14.01)[a]	16.19[a]	72
		Zone 1	2.05	(12.30)[a]	14.35[a]	24

Component	Term	Zone	Mean price comparisons: Price-flex 2006 less initial price	Price-cap 2006 less initial price	Price-flex 2006 less price-cap 2006	Number of comparisons
		Zone 2	2.01	(13.78)[a]	15.79[a]	24
		Zone 3	2.48	(15.96)[a]	18.44[a]	24
	5-yr	All	1.90	(10.24)[a]	12.15[a]	72
		Zone 1	1.81	(8.81)[b]	10.62[b]	24
		Zone 2	1.76	(10.12)[b]	11.88[b]	24
		Zone 3	2.14	(11.80)[b]	13.94[b]	24

Source: GAO analysis of data from tariffs filed with the FCC in 2001 and 2006, including AT&T (Ameritech FCC No. 2, Nevada Bell FCC No. 1, Pacific Bell FCC No. 1, Southern New England Bell FCC No. 39, and Southwestern Bell FCC No. 73), BellSouth FCC No. 1, Qwest FCC No. 1, and Verizon FCC Nos. 1, 11, and 14.

Note: Initial prices are from 2001 and 2006 prices are as of June 2006.

[a]The price difference is statistically significant at the 1 percent level or lower, two-tailed.

[b]The price difference is statistically significant at the 5 percent level or lower, two-tailed.

[c]The price difference is statistically significant at the 10 percent level or lower, two-tailed.

Appendix III: Comments from the Federal Communications Commission

Federal Communications Commission
Washington, D.C. 20554

November 13, 2006

VIA FACSIMILE
Mr. Mark L. Goldstein, Director
Physical Infrastructure Issues
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Goldstein,

Thank you for the opportunity to review and comment on the Government Accountability Office's (GAO) Draft Report *Telecommunications, FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services* (GAO Draft Report). This letter provides the Federal Communications Commission's (FCC) written response to the GAO conclusions and recommendations contained in the GAO Draft Report.

The GAO Draft Report, taken as a whole, appears to imply the need for a return to price control policies that the Commission abandoned in 1999 during the previous Administration.[1] Since 1996, the Commission has followed the direction found in the Telecommunications Act of 1996 to foster policies and rules that "promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies." In 1999, the Commission specifically recognized the significant costs associated with direct price regulation (including regulation of wholesale prices) of special access services. The Commission recognized that special access price regulation "imposes costs on carriers and the public."[2] Moreover, in granting pricing flexibility for special access services to price-cap incumbent LECs, the Commission explicitly found that the cost of further delaying regulatory relief was greater than the cost of granting relief prematurely. The Commission determined that "the public interest is better served by permitting market forces to govern the rates for the access services at this point."[3]

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[1] In the GAO Draft Report, the GAO concludes that "facilities-based competition for [high capacity] dedicated access services to individual buildings does not appear to be widespread" and that "prices and average revenues are higher in phase II [metropolitan statistical areas (MSAs)], where competition is theoretically more vigorous, than they are in phase I MSAs, where prices are still constrained by the price cap." GAO Draft Report at 9-10. The GAO Draft Report finds further that the GAO's analysis of these "pricing trends also suggests that the FCC's predictive judgment [in the *Pricing Flexibility Order*] may not have been borne out." *Id.* at 36.
[2] *Access Charge Reform*, CC Docket Nos. 96-262, 94-1, 98-157, CCB/CPD File No. 98-63, Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd 14221, 14271-72, para. 90 (1999) (*Pricing Flexibility Order*), *aff'd*, *WorldCom, Inc. v. FCC*, 238 F.3d 449 (D.C. Cir. 2001).
[3] *Id.* at 14301, para. 155.

In that order, the Commission explained:

> "[W]e will not require incumbent LECs to demonstrate that they no longer possess market power in the provision of any access services to receive pricing flexibility... [R]egulation imposes costs on carriers and the public, and the cost of delaying regulatory relief outweigh any costs associated with granting that relief before competitive alternatives have developed to the point that the incumbent lacks market power."[4]

Thus, the Commission determined that, even if competition had not fully developed, the cost of regulating special access pricing was still greater than the benefits. So, even if GAO is correct that competitive alternative facilities have not developed as fast as the Commission had projected, the cost of price regulation to "carriers and the public" is still greater than the benefits.

Instead of requiring a disaggregated market power analysis, the Commission, in the *Pricing Flexibility Order*, determined to rely on more easily verifiable investment in collocation as a proxy for competition in access services. The Commission found that "collocation by competitors in incumbent LEC wire centers is a reliable indication of sunk investment by competitors."[5] The Commission rejected any approach to price deregulation that relied on granular findings of "non-dominance" because "non-dominance showings are neither administratively simple nor easily verifiable."[6] Indeed, the Commission reasoned that it was simply infeasible to rely on evidence of market share erosion or supply elasticity because such "analyses require considerable time and expense, and they generate considerable controversy that is difficult to resolve."[7]

Moreover, the Commission explicitly recognized that Phase II pricing relief could lead to price increases for customers in some areas, but rationalized that such a result was still superior to continued price regulation for two reasons. First, the Commission recognized that our special access pricing rules "may have required incumbent LECs to price access services below cost in certain areas."[8] Second, the Commission found that "[i]f an incumbent LEC charges an unreasonably high rate for access to an area that lacks a competitive alternative, that rate will induce competitive entry, and that entry will in turn drive rates down."[9]

In its review of the Commission's decision, the United States Court of Appeals for the D.C. Circuit (D.C. Circuit) rejected arguments that the Commission should be required to measure actual competition before allowing incumbent carriers pricing flexibility. The D.C. Circuit found the Commission's determination to use collocation as a proxy for competition to be reasonable.[10]

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[4] *Id.*
[5] *Id.* at 14263-65, paras. 79-81.
[6] *Id.* at 14271-72, para. 90.
[7] *Id.*
[8] *Id.* at 14301-02, para. 155.
[9] *Id.* at 14297-98, para. 144.
[10] *WorldCom, Inc. v. FCC*, 238 F.3d at 459.

2

Both the Commission and the courts have determined that price regulation of incumbents' network facilities imposes costs and creates significant disincentives -- for both incumbent and competitive carriers -- to invest in economically beneficial facilities and innovation. Thus, such price regulation should be used minimally in areas where sunk investment indicates that competition is developing.[11] The Commission is committed to continued implementation of policies that bring the benefits of competition - - more and better services and lower prices - - to all Americans.

The GAO Draft Report contains factual findings which appear to be based primarily on two studies.[12] Significantly, the FCC was not provided the data used to perform these studies. Without access to the data used to perform these studies, the FCC cannot evaluate the reliability of the GAO studies or assess the validity of the conclusions drawn therefrom. For example, we do not know what rate elements the incumbent LECs included in generating their average revenue data and how that might have affected the estimates.[13] It is also not clear how differences in demand from one MSA to another may have affected the average revenue estimates. Although the GAO Draft Report states that it attempted to address this problem by weighting the data, it is not clear how this was accomplished. Moreover, the GAO Draft Report acknowledges that theirs was an "imperfect weight."[14] Thus, we are unable to assess the reliability or relevance of these studies.

The GAO Draft Report makes two specific recommendations. The GAO Draft Report first recommends that the FCC "develop a definition of effective competition, or true customer choice, using an approach that evaluates the competitive nature of a market by accounting for the number of effective competitive choices available to customers."[15] This recommendation seems

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[11] *See, e.g., Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 96-98, 98-147, 01-338, Report and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, 17150, para. 290 (2003) (*Triennial Review Order*) ("Section 706 requires the Commission to encourage deployment of advanced telecommunications services by using, among other things, 'methods that remove barriers to infrastructure investment.'" (citation omitted)), *aff'd in part, remanded in part, vacated in part, United States Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004) (USTA II), *cert. denied sub nom. Nat'l Ass'n Regulatory Util. Comm'rs v. United States Telecom Ass'n*, 125 S.Ct. 313, 316, 345 (2004); *see also Petition for Forbearance of the Verizon Telephone Companies Pursuant to 47 U.S.C. § 160(c); SBC Communications Inc.'s Petition for Forbearance Under 47 U.S.C. § 160(c); Qwest Communications International Inc. Petition for Forbearance Under 47 U.S.C. § 160(c); BellSouth Telecommunications, Inc. Petition for Forbearance Under 47 U.S.C. § 160(c)*, WC Docket Nos. 01-338, 03-235, 03-260, 04-48, Memorandum Opinion and Order, 19 FCC Rcd 21496, 21505, para. 21 (2004) (*Section 271 Broadband Forbearance Order*), *aff'd, Earthlink v. FCC*, 462 F.3d 1 (D.C. Cir. 2006).

[12] First, using data from GeoResults providing building level estimates of demand for dedicated access services and from Telcordia and GeoResults concerning the extent to which competitive alternatives exist in particular buildings, GAO estimated the extent of facilities-based competition for end-user channel terminations in sixteen MSAs. Second, the GAO conducted an average revenue study to compare the rates paid for dedicated access services in MSAs where incumbent LECs have received pricing flexibility.

[13] It is not clear from the report whether non-recurring charges, early termination penalties, or other charges were included in the data.

[14] GAO Draft Report at 44.

[15] *Id.* at 37.

3

administratively impracticable. First, there is no universally accepted, bright-line definition of "effective competition." Second, before applying such a definition, it would be necessary to define the relevant product and geographic markets, which, as GAO suggests, are likely to be extremely narrow. For example, the GAO study seems to suggest that at least each individual building and perhaps each floor of a building needs to be considered a separate market.[16] As the Commission recognized, and as the D.C. Circuit has agreed, implementing national telecommunications price deregulation by counting the number of competitive alternatives available to individual consumers would be administratively infeasible.[17] Recognizing these difficulties as well as the need to adopt an administratively feasible methodology, the Commission, in the *Pricing Flexibility Order*, chose to develop triggers that would apply to MSAs. The Commission reasoned that "defining geographic areas smaller than MSAs would force incumbents to file additional pricing flexibility petitions, and, although these petitions might produce a more fine-tuned picture of competitive conditions, the record does not suggest that this level of detail justifies the increased expenses and administrative burdens associated with these proposals."[18] Finally, the Commission recognized that it would "not delay ... regulatory relief until access customers have a competitive alternative for access to every end user."[19]

In affirming this order, the D.C. Circuit found that the choice of MSAs for pricing flexibility was reasonable because "the Commission considered alternatives to MSA-wide relief and determined that, on balance, these alternatives would be less beneficial to consumers and regulated entities."[20] Similarly, in considering and rejecting a building-by-building approach to its impairment analysis, the Commission concluded:

> [A] building specific impairment analysis would be impracticable and unadministrable. As noted above, it would be exceedingly difficult for us to conduct ... nationwide, fact-intensive, building specific inquiries .... The record suggests that there are at least 700,000 commercial buildings, and perhaps as many as 3 million buildings, for which impairment would have to be evaluated. Such case-by-case evaluation would be impracticable even if the relevant evidence were entirely objective and readily forthcoming. Here, however, the difficulty would be magnified by carriers' disincentives to provide relevant data that is in their possession and by the subjectivity inherent in the interpretation of that data.[21]

Thus, we question whether the recommendation to measure effective competition on a granular basis is consistent with the deregulatory goals of the 1996 Act and court orders sustaining the Commission's implementation of the Act.

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[16] *Id.* at 17.
[17] *See Pricing Flexibility Order,* 14 FCC Rcd at 14260, paras. 72-74.
[18] *Id.*
[19] *Id.* at 14298, para. 144.
[20] *See WorldCom, Inc. v. FCC*, 238 F.3d at 460-61.
[21] *Unbundled Access to Network Elements, Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, WC Docket No. 04- 313 & CC Docket No. 01-338, Order on Remand, 20 FCC Rcd 2533, 2620, para. 157 (2004) (*Triennial Review Remand Order*) *aff'd, Covad Communications v. FCC*, 450 F.3d 528.

4

The GAO Draft Report's second recommendation is that we consider collecting additional data and developing additional measures to monitor special access competition. We note that the Commission continues to monitor the extent to which markets are open to competitive entry and has requested extremely detailed information about the special access market in the *Special Access NPRM*.[22] For example, the Commission has requested detailed special access cost information, expense matrix data, cost studies, and other information on special access rates that would allow the Commission to further evaluate pricing behavior.[23] The Commission takes seriously its obligation to foster competition in telecommunications markets and will use all available data to fulfill its obligations.

We appreciate the opportunity to review and comment on the GAO Draft Report. If we can assist in any further way in the completion of this report, please let me know.

Sincerely,

Anthony Dale
Managing Director

[22] *See Special Access Rates for Price Cap Local Exchange Carriers,* WC Docket No. 05-25, RM-10593, Order and Notice of Proposed Rulemaking, 20 FCC Rcd 1994 (2005) (*Special Access NPRM*).
[23] *Id.* at 2006, 2008, 2015, 2016-17, 2019, paras. 29, 36, 62, 65, 72.

5

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition, Steve Martin, Assistant Director; Eli Albagli; Edda Emmanuelli-Perez; Colin Fallon; Brandon Haller; John Karikari; Logan Kleier; Teague Lyons; Grant Mallie; Josh Ormond; Andrew Von Ah; and Mindi Weisenbloom made key contributions to this report.

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