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CALLS Analysis

May 25, 2000

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Calls Model

This study compares access rates and revenues under the current rules (BASE CASE) with access rates and revenues that would occur under the Coalition for Affordable Local and Long Distance Service (CALLS) plan. The estimates utilize the Delphi-based programs and the spreadsheet quantity estimator discussed below. The analysis was performed individually for each of 70 Tariff Review Plan (TRP) areas.[1] Inputs reflect the January 1, 2000 access changes as well as current universal service funding levels. The CALLS plan implemented in the code is based on the version released on March 8, 2000 by DA 00-533. Appendix A lists the assumptions made to resolve ambiguities in the March 8 version of CALLS.

The central effort was the development of two special purpose tools. The first tool is an access rate calculator. Starting with historic information on rates, revenues, lines and minutes in each TRP area, this tool calculates the prices of dozens of access rate elements for each area. These individual "rate elements" were then combined into the eight broader aggregates summarized in the graphs and appendixes.[2] This calculator was constructed using Delphi-based programming. The calculator generates a different set of access prices for each alternative set of access charge rules.[3]

The second tool is a growth module. This is a Lotus spreadsheet that incorporates information on demand elasticities, universal service requirements and historical growth rates. This growth module is used to estimate how future demand levels will change as a result of access rate changes. Appendix B details the assumptions used in this spreadsheet.

Using these two tools to estimate changes over time requires a series of iterations. The results of the rate calculator are used in the growth module to estimate demand levels for the subsequent period. The resulting demand levels, in turn, are fed back into the calculator to determine the access rates for the next period. This process is repeated until the end of the study period. Combined, the tools are a cumbersome model that allows us to compare scenarios over a five-year period.

In many instances, existing rules allow carriers considerable flexibility in setting their access charges. Carriers may choose to calculate most rates using data for

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[1] The carriers subject to price cap regulations are allowed to file either by study area or by groups of study areas. The filings are called Tariff Review Plans (TRPs). Approximately 94% of the nation's local telephone lines are in the 70 TRP areas covered in this analysis.

[2] The resulting aggregates are the Primary and Single Line Business Subscriber Line Charge (SLC); the Non-Primary SLC; the Multiline Business SLC; the Primary and Single Line Business Presubscribed Interexchange Carrier Charge (PICC); Non-Primary PICC; Multiline Business PICC; Total Charge per Originating Access Minute; and Total Charge per Terminating Access Minute.

[3] In actuality, the CALLS proposal is substantially different from existing access charge rules. Therefore, it was more efficient to develop two access calculators--one for analyzing the CALLS proposal and one to analyze the BASE CASE.

individual study areas or pooled for broad groupings of study areas. Thus, carriers evaluate many permutations of choices to maximize their potential profitability. As a result, for example, Bell Atlantic chooses to charge separate Subscriber Line Charge (SLC) rates for each of its Bell Atlantic South study areas, uniform SLC rates for each of its Bell Atlantic North study areas, and uniform Presubscribed Interexchange Carrier Charge (PICC) rates for all of its study areas. Carriers would continue to have flexibility under the CALLS rules.

While existing rules require some calculations to be made at the study area level, carriers are not required to file with the Commission all information underlying their calculations. This means that we had to construct models at the TRP level rather than at the more detailed state or study area level. We also are unable to evaluate the relative profitability of, or possible marketing strategies underlying, various choices carriers might make. These factors have required us to adopt a number of standardized interpretations of rules to limit the actual choices available. Similarly, these factors required us to assume that carriers rates of return would remain above 10.25%.rate that triggers the low end adjustment mechanism.

Access Scenarios

"BASE CASE"

The first scenario is termed the BASE CASE. It assumes that the annual productivity factor ("X Factor") of 6.5 percent would remain in place. No changes are made in access rules except that, because of a recent court order,[4] Universal Service Fund (USF) contributions are based only on interstate revenues. [5]

"CALLS"

The CALLS Coalition proposes a significant departure from the existing access rules for major carriers that are currently under price cap regulation rather than traditional rate of return regulation.[6] In general, the plan increases fixed monthly charges for

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[4] *Texas Office of Pub. Util. Counsel v. FCC*, 183 F.3d 393 (5th Cir. 1999).

[5] Carriers may use other strategies to recover their USF responsibilities. All scenarios assume that LECs will recover contributions associated with subscriber line charges (SLCs) through percentage surcharges on end users. All scenarios also assume that toll carriers will recover contributions associated with toll charges through percentage surcharges on toll rates and that they will recover PICC charges through flat-rated PICC pass-through charges.

[6] Under the CALLS proposal, some LECs could elect to remain under the existing price cap rules. The analytical effort in this study, however, applies the CALLS plan to all price cap carriers. In addition, some carriers will be eligible for the small rural carrier safeguard and the transitional safeguard for carriers with above average reductions in cost. based upon CCB-CPD discussions with the CALLS coalition See

primary residential and single line business access lines, but reduces fixed monthly charges for non-primary residential and multiline business access lines.[7] At the same time, it reduces per minute charges. Under current rules, productivity improvements result in lower access charges. Under the CALLS plan, productivity offsets would be eliminated once the phase in of other proposed changes was completed. Finally, the CALLS plan employs a new Universal Service Fund Access payment of $650 million per year to be redistributed among participating carriers[8]. The CALLS plan also would increase universal service outlays because the lifeline program benefits automatically would increase to match increases in the federal subscriber line charge.

Growth

The CALLS proposal was accompanied by 5-year projections. CALLS has not provided the underlying data and the formulas used to make these projections. It is clear, however, that the projections are based on the assumption that there will be no change in the number of lines or minutes provided by the ILECs. This "no growth" assumption is useful for highlighting mechanics of plans without considering changes that occur because of relative changes in the demand for service by region or by access rate element. Growth, however, has a tremendous impact on the level of access revenues and carrier profits that should be anticipated under the various scenarios.

The demand module uses trend growth rates along with information on base period rates to calculate percentage changes in local and toll rates for residential and business customers. Calculations by TRP area are made to determine how changes in SLCs, PICC pass-through charges, access reductions, and changes in universal service surcharges would translate to percentage changes in local and toll charges to end users. These percentage changes are compared with trend rate changes. Changes relative to the trend are combined with elasticity of demand information to estimate changes in quantities, again, relative to trend changes. For example, a reduction in local rates would tend to increase the number of primary residential lines. This, in turn, would tend to increase the number of toll minutes. Toll rates declining faster than the trend would also tend to increase minutes. New quantities are translated to key growth rates in lines and minutes, which are then used by the access rate calculators to determine access rates for the next period. The process is repeated until rates and quantities are projected through the end of the study period.

Appendix A. Access rates under CALLS would be higher if additional carriers qualified for these safeguards.

[7] The fixed monthly charges consist of subscriber line charges (SLCs) and presubscribed interexchange carrier charges (PICCs). While the CALLS plan immediately eliminates residential PICCs and reduces the industry Multiline Business PICC cap, it raises the industry caps on residential SLCs. The CALLS plan calls for an immediate freeze on the Multiline Business industry SLC cap.

[8] As discussed in Appendix A, we distributed the $650 million by carrier based on the actual distributions shown in the spreadsheet associated with the original CALLS proposal. We distributed carrier amounts to the TRP level based on January 1, 2000 common line revenues. We use this distribution for all periods in the model. The $650 million is funded by increasing the universal service contribution factor.

Figures and Appendixes

Chart 1 shows SLCs as a percentage of price cap LEC access revenues for 1984 through 1998, and projections based on the models. Chart 2 shows similar information for PICC charges and Chart 3 shows SLCs and PICCs combined. Graphs 1 through 27 present detailed comparisons of revenue, rates and usage under CALLS and the BASE CASE. Where amounts are discounted to the present, 11.25% was used as the discount rate because it is the authorized rate of return for price cap LEC interstate services. Appendix A summarizes assumptions made in modeling the CALLS proposal. Appendix B provides the assumptions that underlie the spreadsheet growth module. Appendix C shows estimates of the cost of telephone service for residential customers with different levels of assumed usage. Appendix D shows revenue estimates for individual carriers. Appendix E shows projected access rates by TRP for each July.

The five-year projections shown in the graphs and tables are solely intended to compare scenarios under a common set of assumptions. The results for future years should not in any way be taken as forecasts. No attempt has been made to assess how major structural changes in the industry might play out. Indeed, if local competition develops rapidly, market forces could lead to major changes in how both local and toll carriers price services.

Charts and Graphs

Chart 1: SLC Revenues as a Percentage of LEC Interstate Access Revenues *

	Statistics of Communications Common Carriers			Base Case			CALLS		
	Total Interstate Access Revenues	Interstate SLC * Revenues	Percent SLC	Interstate Access Revenues	Interstate SLC Revenues	Percent SLC	Interstate Access Revenues	Interstate SLC Revenues	Percent SLC
1984	$15.1	$0.7	5%						
1985	$17.4	$1.8	10%						
1986	$18.7	$2.9	15%						
1987	$18.9	$3.7	20%						
1988	$19.5	$4.3	22%						
1989	$19.4	$5.3	27%						
1990	$19.2	$5.7	29%						
1991	$19.3	$5.9	30%						
1992	$19.8	$6.0	31%						
1993	$20.4	$6.4	31%						
1994	$21.4	$6.8	32%						
1995	$22.2	$7.1	32%						
1996	$23.3	$7.3	31%						
1997	$24.0	$7.7	32%						
1998	$25.4	$9.5	37%						
1999-2000				$26.3	$10.1	38%	$26.3	$10.1	38%
2000-2001				$25.3	$10.6	42%	$24.6	$11.0	45%
2001-2002				$25.4	$10.8	42%	$24.8	$12.2	49%
2002-2003				$25.6	$11.1	43%	$25.5	$13.7	54%
2003-2004				$25.8	$11.5	45%	$26.4	$14.7	56%
2004-2005				$26.0	$11.9	46%	$27.7	$15.5	56%

* SLC revenues for 1984 through 1998 are based on interstate end-user revenue reported by large incumbent local exchange carriers (ILECs), initially in FCC Form M and then in FCC ARMIS reports. In 1998, a minority of carriers reported PICC revenues in the end-user category. Carriers whose data are contained in the SOCC represent about 94% of the industry and roughly equate to the carriers subject to price caps and covered by this study. July 1999 through June 2000 estimates were based on model calculations.

Chart 2: PICC Revenues as a Percentage of LEC Interstate Access Revenues

	Statistics of Communications Common Carriers			Base Case			CALLS		
	Total Interstate Access Revenues	PICC Revenues	Percent PICC	Interstate Access Revenues	PICC Revenues	Percent PICC	Interstate Access Revenues	PICC Revenues	Percent PICC
1984	$15.1	$0.0	0%						
1985	$17.4	$0.0	0%						
1986	$18.7	$0.0	0%						
1987	$18.9	$0.0	0%						
1988	$19.5	$0.0	0%						
1989	$19.4	$0.0	0%						
1990	$19.2	$0.0	0%						
1991	$19.3	$0.0	0%						
1992	$19.8	$0.0	0%						
1993	$20.4	$0.0	0%						
1994	$21.4	$0.0	0%						
1995	$22.2	$0.0	0%						
1996	$23.3	$0.0	0%						
1997	$24.0	$0.0	0%						
1998	$25.4	$2.0	8%						
1999-2000				$26.3	$2.7	10%	$26.3	$2.7	10%
2000-2001				$25.3	$2.3	9%	$24.6	$1.5	6%
2001-2002				$25.4	$2.3	9%	$24.8	$1.1	4%
2002-2003				$25.6	$2.2	8%	$25.5	$0.4	1%
2003-2004				$25.8	$1.9	7%	$26.4	$0.2	1%
2004-2005				$26.0	$1.7	7%	$27.7	$0.2	1%

Chart 3: Revenue Collected on a Per line Basis (SLC + PICC) as a Percentage of LEC Interstate Access Revenues

	Statistics of Communications Common Carriers			Base Case			CALLS		
	Revenues	Access	Line Access	Revenues	Access	Line Access	Revenues	Access	Line Access
1984	$15.1	$0.7	5%						
1985	$17.4	$1.8	10%						
1986	$18.7	$2.9	15%						
1987	$18.9	$3.7	20%						
1988	$19.5	$4.3	22%						
1989	$19.4	$5.3	27%						
1990	$19.2	$5.7	29%						
1991	$19.3	$5.9	30%						
1992	$19.8	$6.0	31%						
1993	$20.4	$6.4	31%						
1994	$21.4	$6.8	32%						
1995	$22.2	$7.1	32%						
1996	$23.3	$7.3	31%						
1997	$24.0	$7.7	32%						
1998	$25.4	$11.5	45%						
1999-2000				$26.3	$12.8	49%	$26.3	$12.8	49%
2000-2001				$25.3	$12.9	51%	$24.6	$12.5	51%
2001-2002				$25.4	$13.1	52%	$24.8	$13.3	54%
2002-2003				$25.6	$13.3	52%	$25.5	$14.1	55%
2003-2004				$25.8	$13.4	52%	$26.4	$14.9	56%
2004-2005				$26.0	$13.6	52%	$27.7	$15.7	57%

Graph 1

Total Access Revenue for Price Cap Carriers *

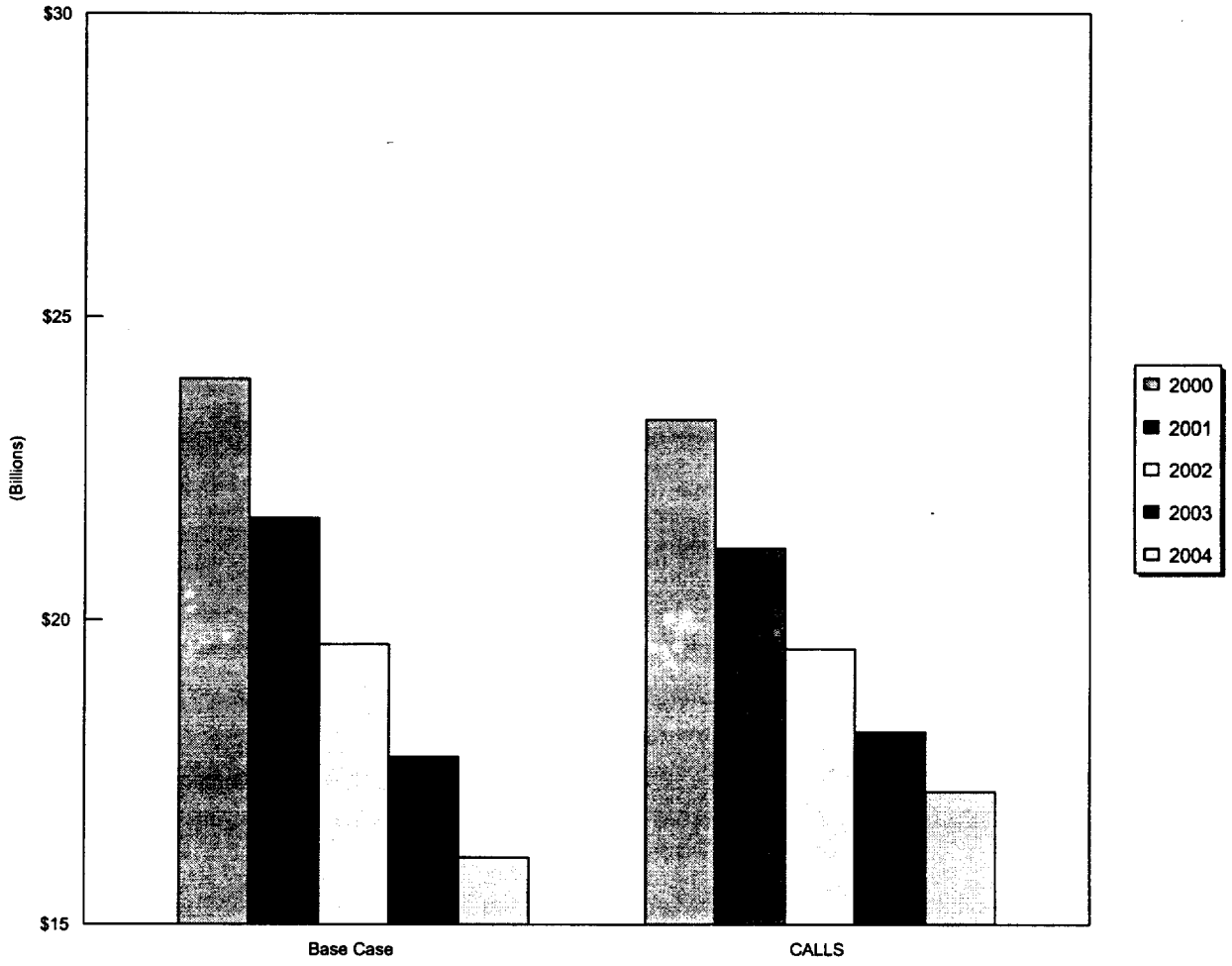
Discounted Present Values **

Graph 1

	July 2000 to June 2001 (billions)	July 2001 to June 2002 (billions)	July 2002 to June 2003 (billions)	July 2003 to June 2004 (billions)	July 2004 to June 2005 (billions)	Total Present Value
Base Case	$24.0	$21.7	$19.6	$17.8	$16.1	$99.1
CALLS	$23.3	$21.2	$19.5	$18.2	$17.2	$99.4

* CALLS totals include the proposed Access-USF payments, at $650 million per year. All figures assume that no LEC qualifies for exogenous rate increases that can occur when the interstate rate of return falls below 10.25%.

** Figures shown discounted to July 1, 2000 with an annual discount rate of 11.25%.

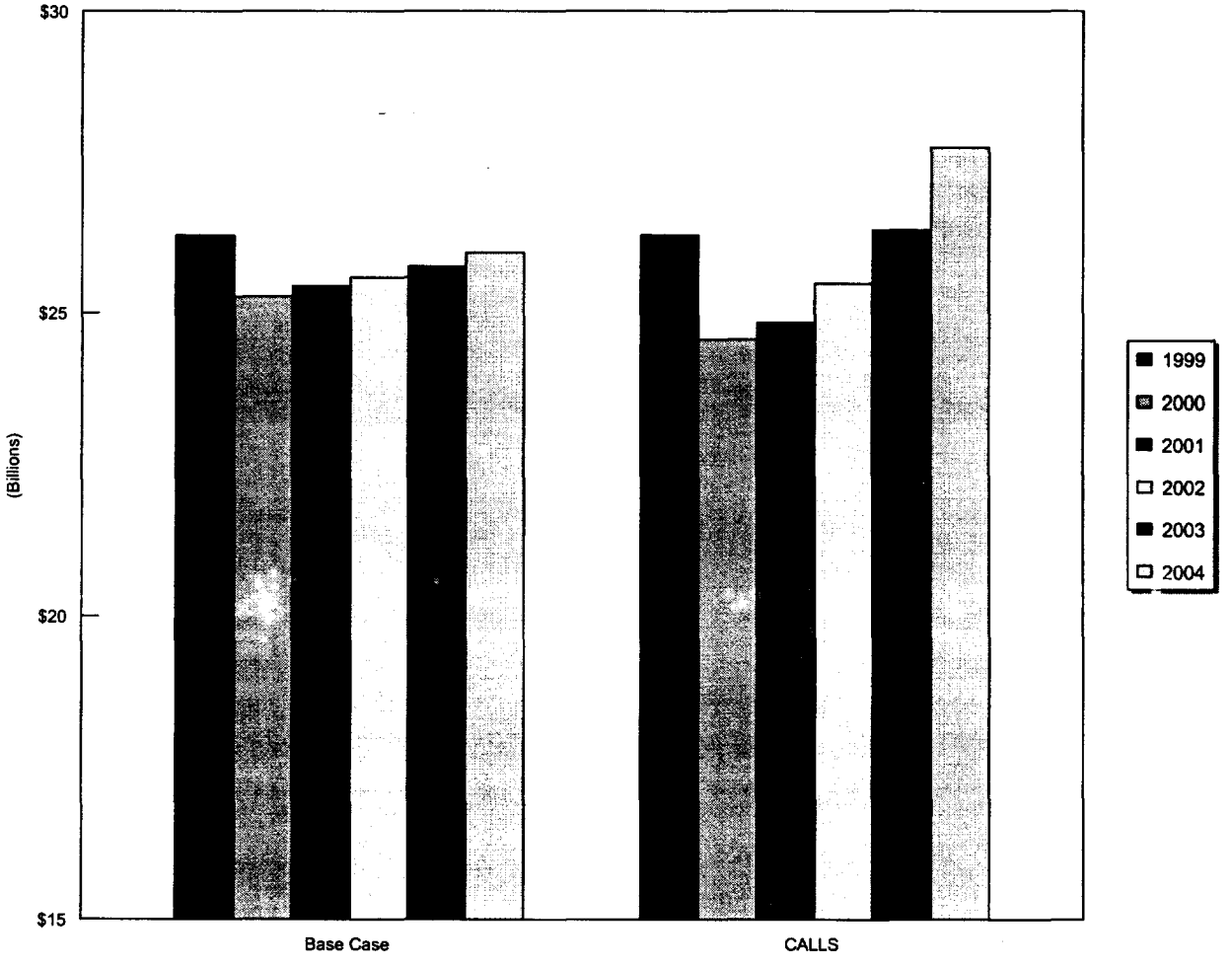


Total Access Revenue for Price Cap Carriers

Graph 2

July 1999 to June 2000 (billions) $26.3	July 2000 to June 2001 (billions)	July 2001 to June 2002 (billions)	July 2002 to June 2003 (billions)	July 2003 to June 2004 (billions)	July 2004 to June 2005 (billions)	Total
Base Case	$25.3	$25.4	$25.6	$25.8	$26.0	$128.1
CALLS	$24.6	$24.8	$25.5	$26.4	$27.7	$129.1

* CALLS totals include the proposed Access-USF payments, at $650 million per year. All figures assume that no LEC qualifies for exogenous rate increases that can occur when the interstate rate of return falls below 10.25%.



Graph 3

Total Switched Access Revenue for Price Cap Carriers

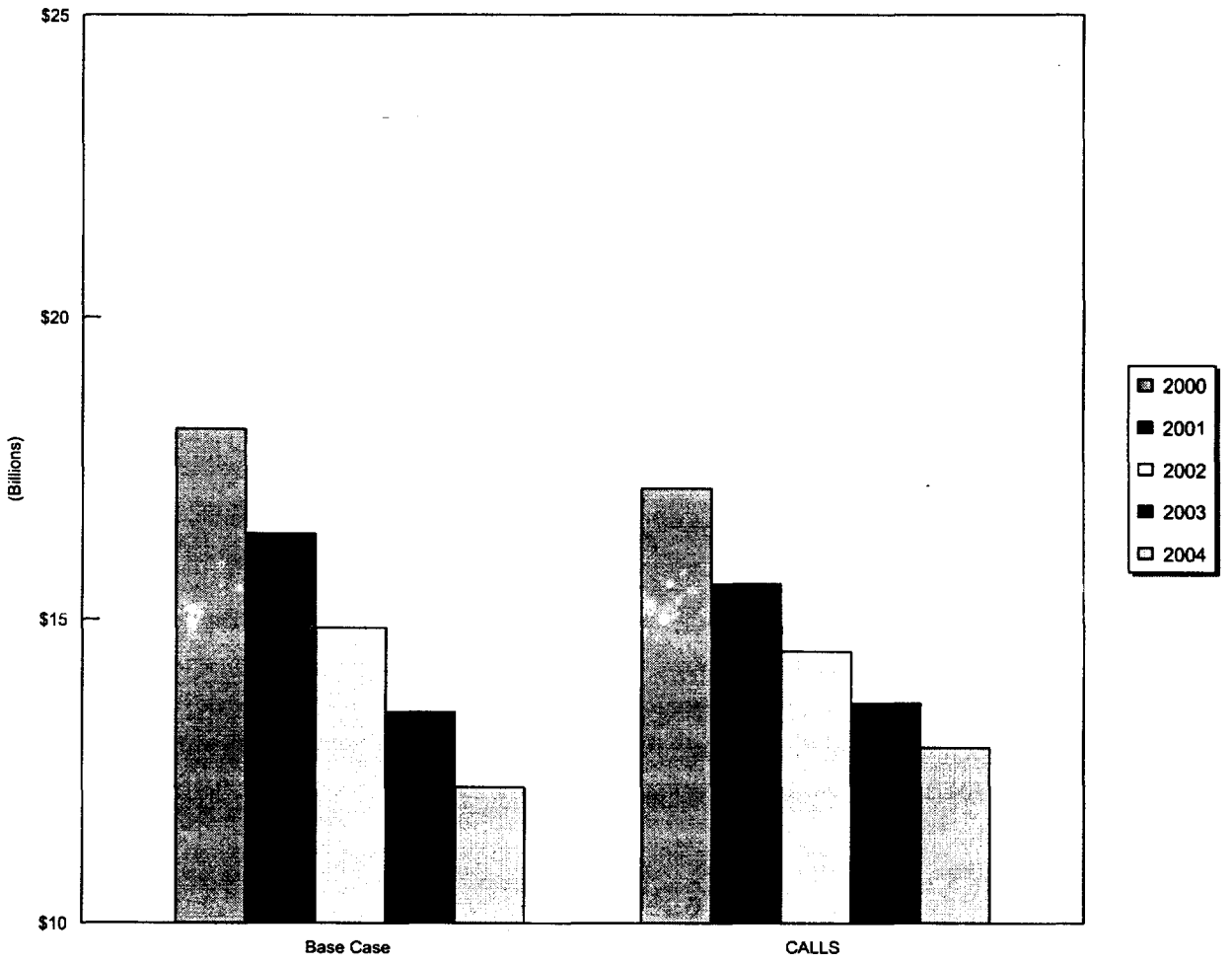
Graph 3

Discounted Present Values **

	July 2000 to June 2001 (billions)	July 2001 to June 2002 (billions)	July 2002 to June 2003 (billions)	July 2003 to June 2004 (billions)	July 2004 to June 2005 (billions)	Total Present Value
Base Case	$18.2	$16.4	$14.9	$13.5	$12.2	$75.2
CALLS	$17.2	$15.6	$14.5	$13.6	$12.9	$73.8

* CALLS totals include the proposed Access-USF payments, at $650 million per year. All figures assume that no LEC qualifies for exogenous rate increases that can occur when the interstate rate of return falls below 10.25%.

** Figures shown discounted to July 1, 2000 with an annual discount rate of 10.25%.



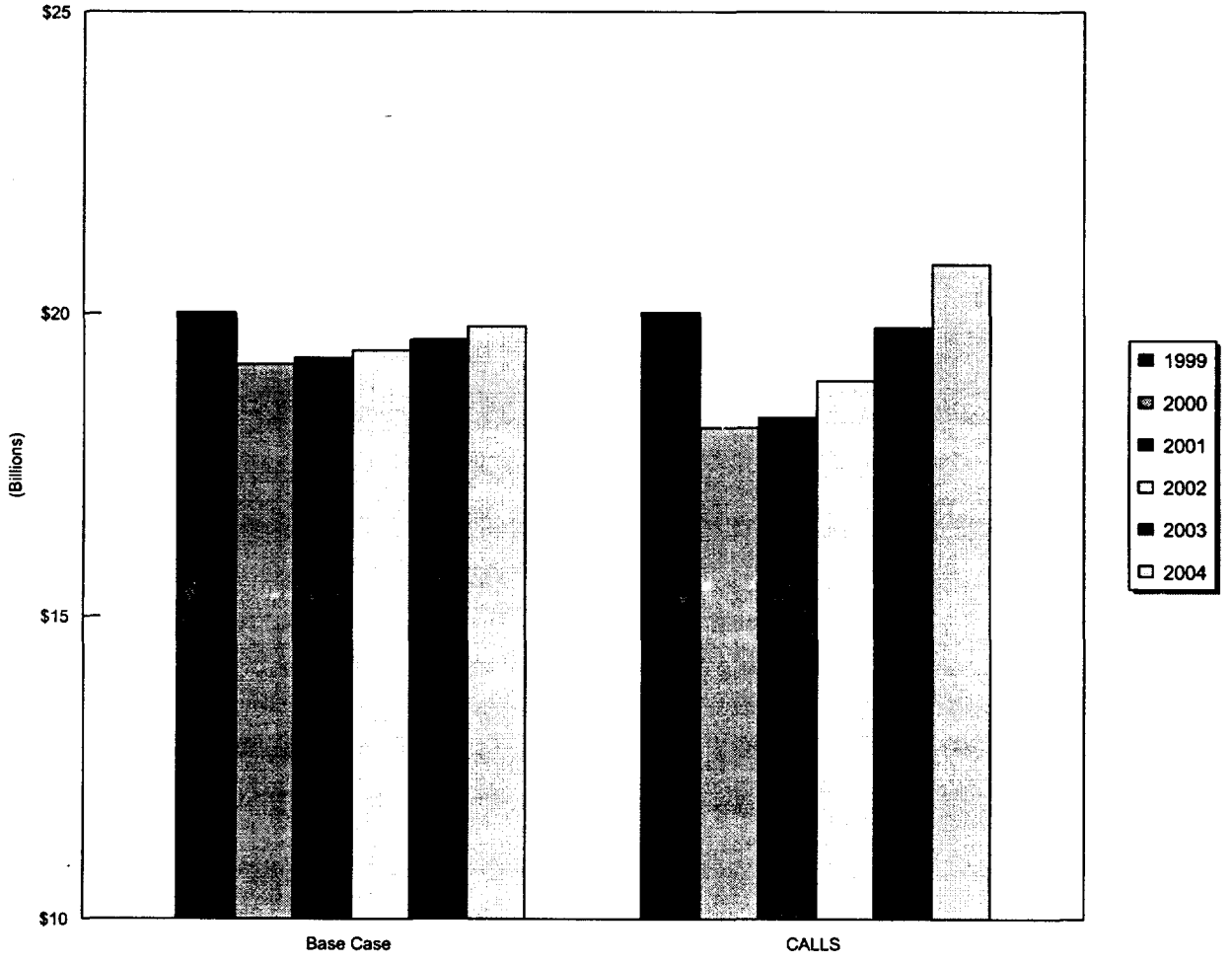
Graph 4

Total Switched Access Revenue for Price Cap Carriers

Graph 4

July 1999 to June 2000 (billions) $20.0	July 2000 to June 2001 (billions)	July 2001 to June 2002 (billions)	July 2002 to June 2003 (billions)	July 2003 to June 2004 (billions)	July 2004 to June 2005 (billions)	Total
Base Case	$19.2	$19.3	$19.4	$19.6	$19.8	$97.2
CALLS	$18.1	$18.3	$18.9	$19.8	$20.8	$95.9

* CALLS totals include the proposed Access-USF payments, at $650 million per year. All figures assume that no LEC qualifies for exogenous rate increases that can occur when the interstate rate of return falls below 10.25%.

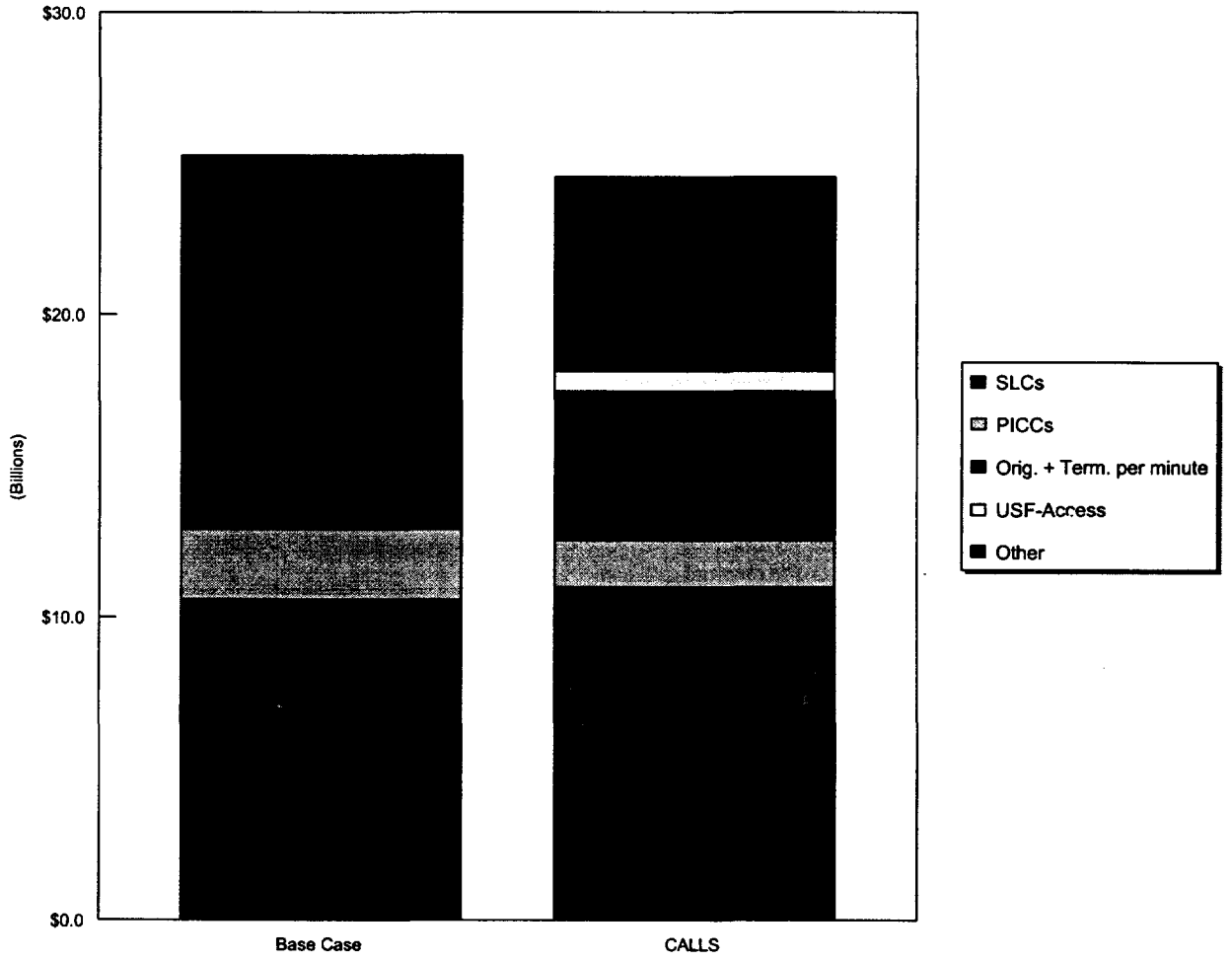


Graph 5

Components of LEC Access Revenue: July 2000 to June 2001
($ Billions)

Graph 5

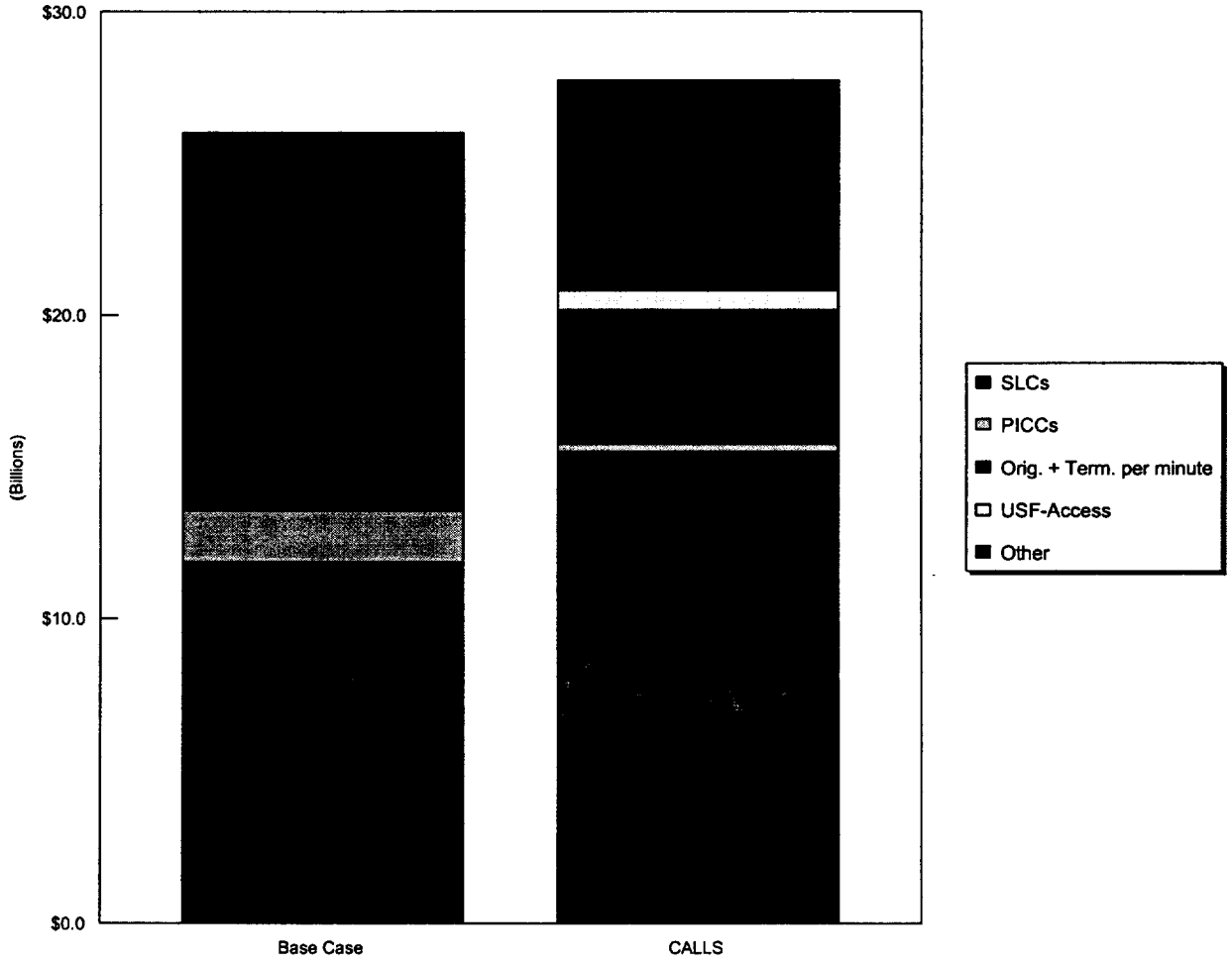
Plan	SLCs	PICCs	Orig. + Term.	USF - Access	Other	Total
Base Case	$10.6	$2.3	$6.2	$0.0	$6.1	$25.3
CALLS	$11.0	$1.5	$4.9	$0.7	$6.5	$24.6



Components of LEC Access Revenue: July 2004 to June 2005
($ Billions)

Graph 6

Plan	SLCs	PICCs	Orig. + Term.	USF - Access	Other	Total
Base Case	$11.9	$1.7	$6.2	$0.0	$6.2	$26.0
CALLS	$15.5	$0.2	$4.4	$0.7	$6.9	$27.7

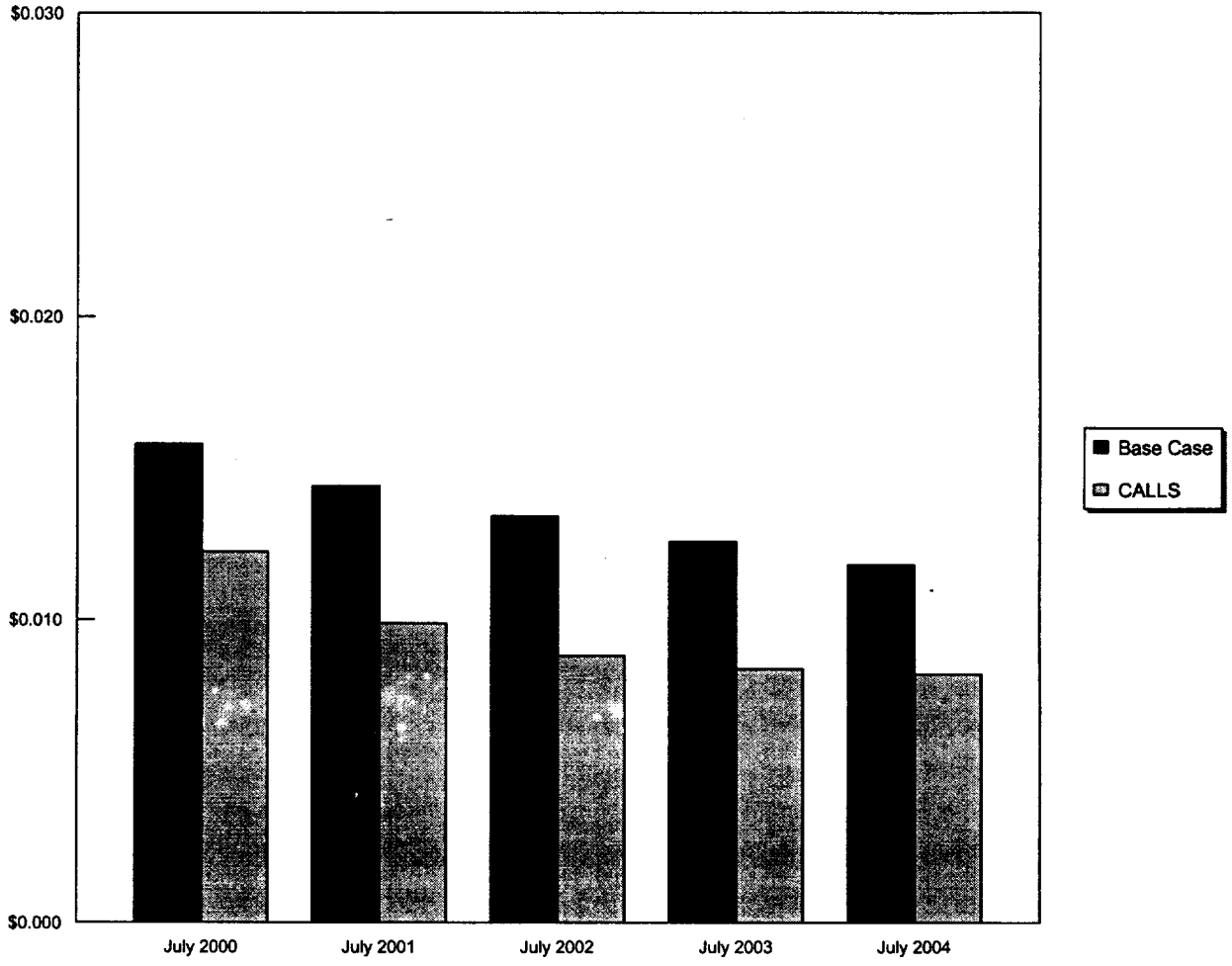


Graph 7

Originating & Terminating Access Charge
For an Average Interstate & International Toll Minute

Graph 7

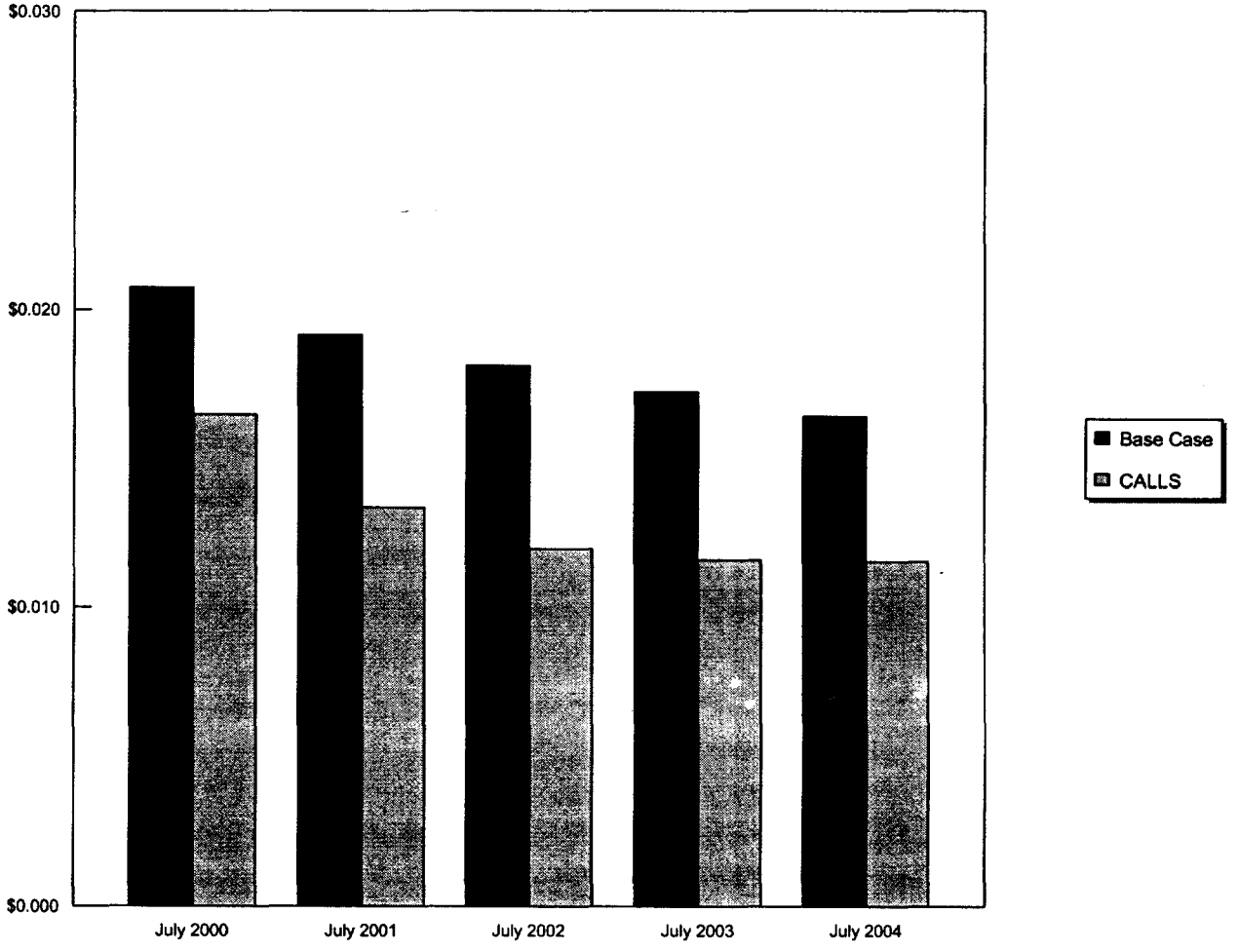
Plan	July 1999 $0.0186	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$0.0158	$0.0144	$0.0134	$0.0126	$0.0118
CALLS		$0.0123	$0.0099	$0.0088	$0.0084	$0.0082



Originating & Terminating Access Charge for a Two-ended Interstate Toll Minute

Graph 8

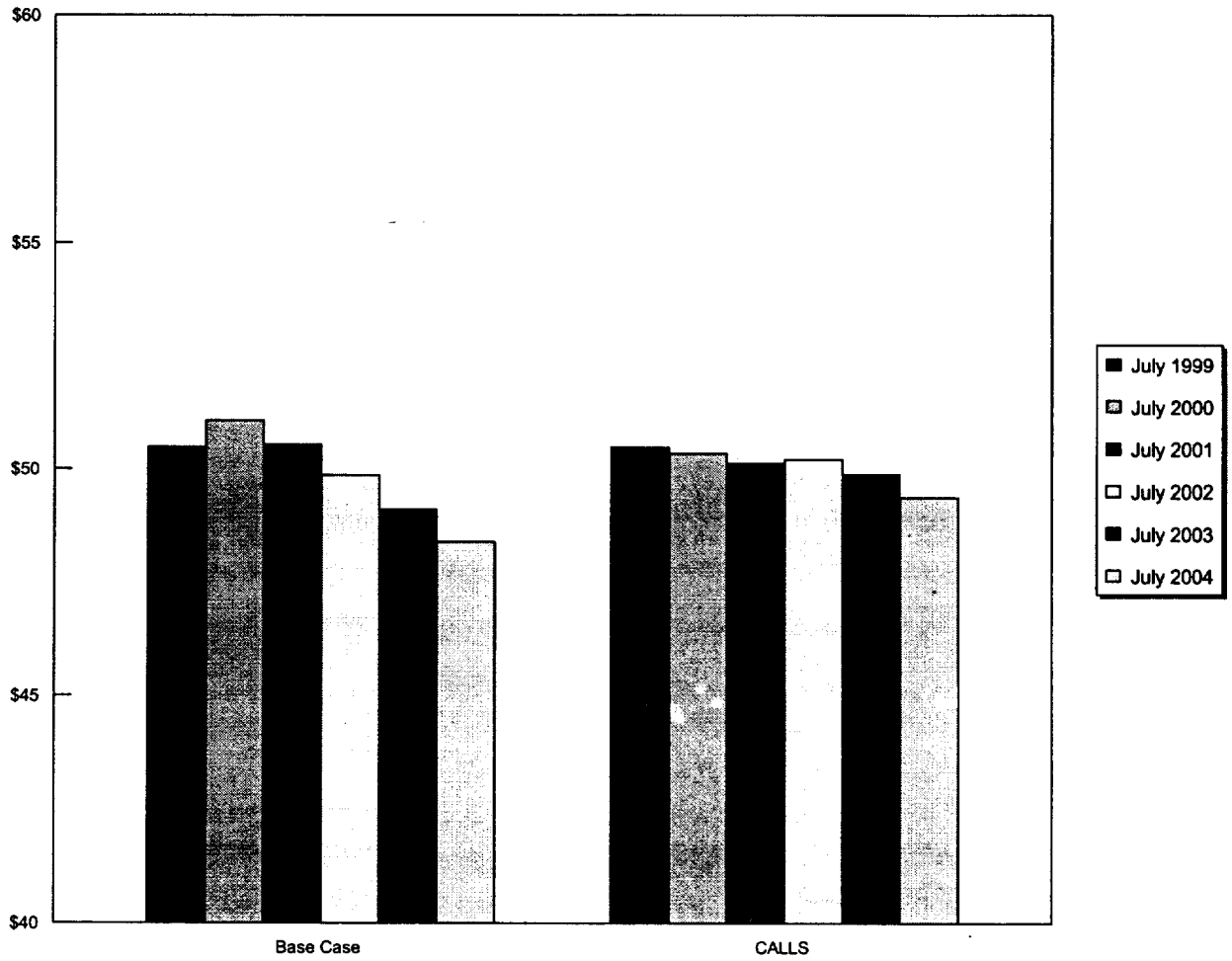
Plan	July 1999 $0.0245	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$0.0207	$0.0191	$0.0181	$0.0172	$0.0164
CALLS		$0.0165	$0.0134	$0.0120	$0.0116	$0.0115



Residential Customers With One Line: Average Monthly Bill

Graph 9

Plan	July 1999	July 2000	July 2001	July 2002	July 2003	July 2004
	$50.88					
Base Case		$51.07	$50.54	$49.86	$49.12	$48.41
CALLS		$50.35	$50.14	$50.23	$49.89	$49.39

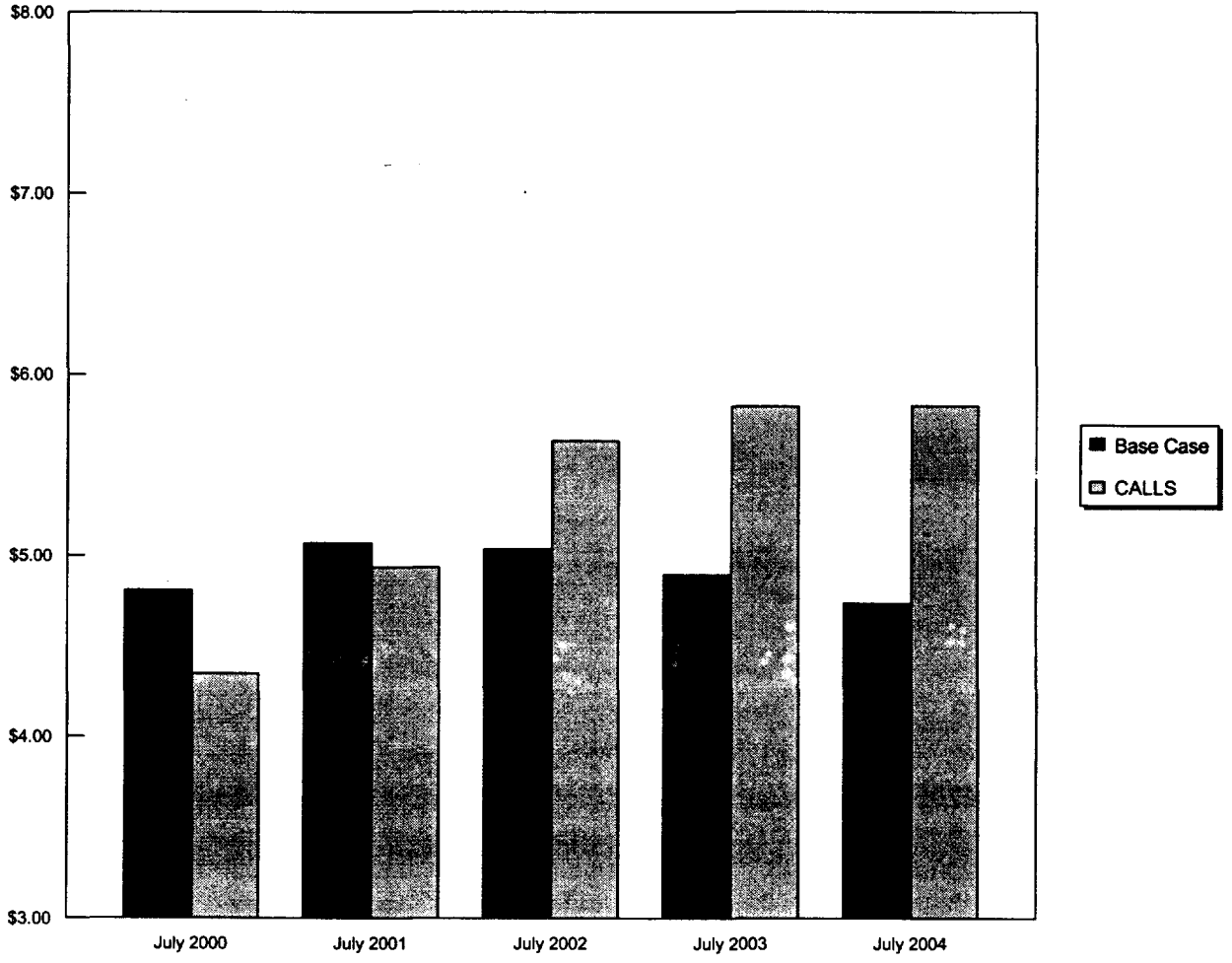


LEC Per-Line Access Revenue *
for a Primary Residential Line

Graph 10

Plan	July 1999 $4.45	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$4.81	$5.07	$5.04	$4.90	$4.73
CALLS		$4.35	$4.93	$5.63	$5.82	$5.83

* Figures represent the sum of the primary line SLC (charged to end users) and the primary line PICC charge (charged to carriers). Most residential customers pay IXC PICC pass-through charges on an account basis rather than on a per-line basis. The amount shown in Graph 10 is the amount the LEC charges to the IXC and not the amount actually charged to customers. The latter is shown in Graph 12



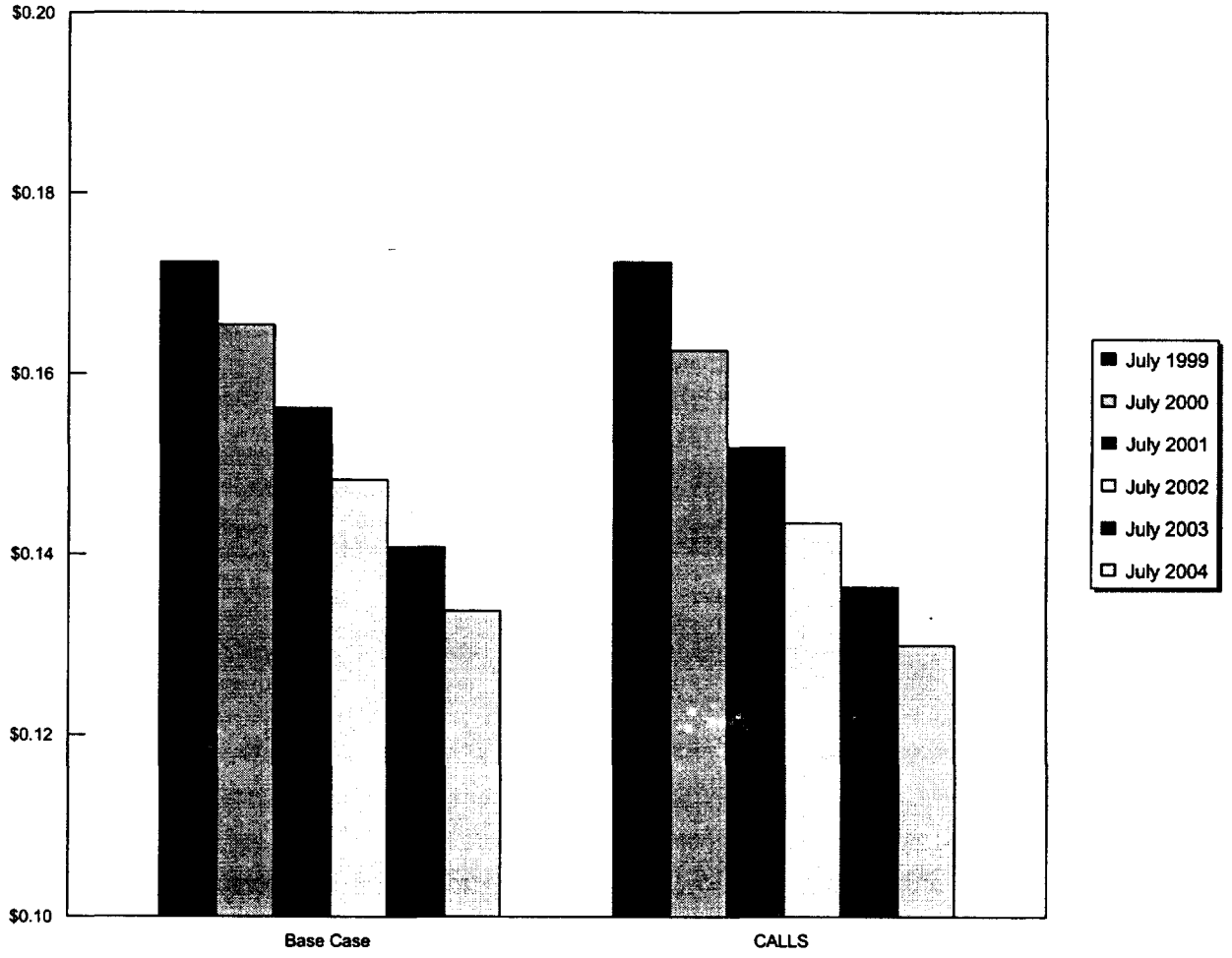
Graph 11

Toll Prices Per Minute * for Residential Customers

Graph 11

Plan	July 1999 $0.172	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$0.165	$0.156	$0.148	$0.141	$0.134
CALLS		$0.163	$0.152	$0.143	$0.136	$0.130

* The amounts shown represent average revenue per minute, including all IXC charges except PICC pass-through and USF surcharges.



Components of Monthly Bill -- Single Line Residential
July 2004

Graph 12

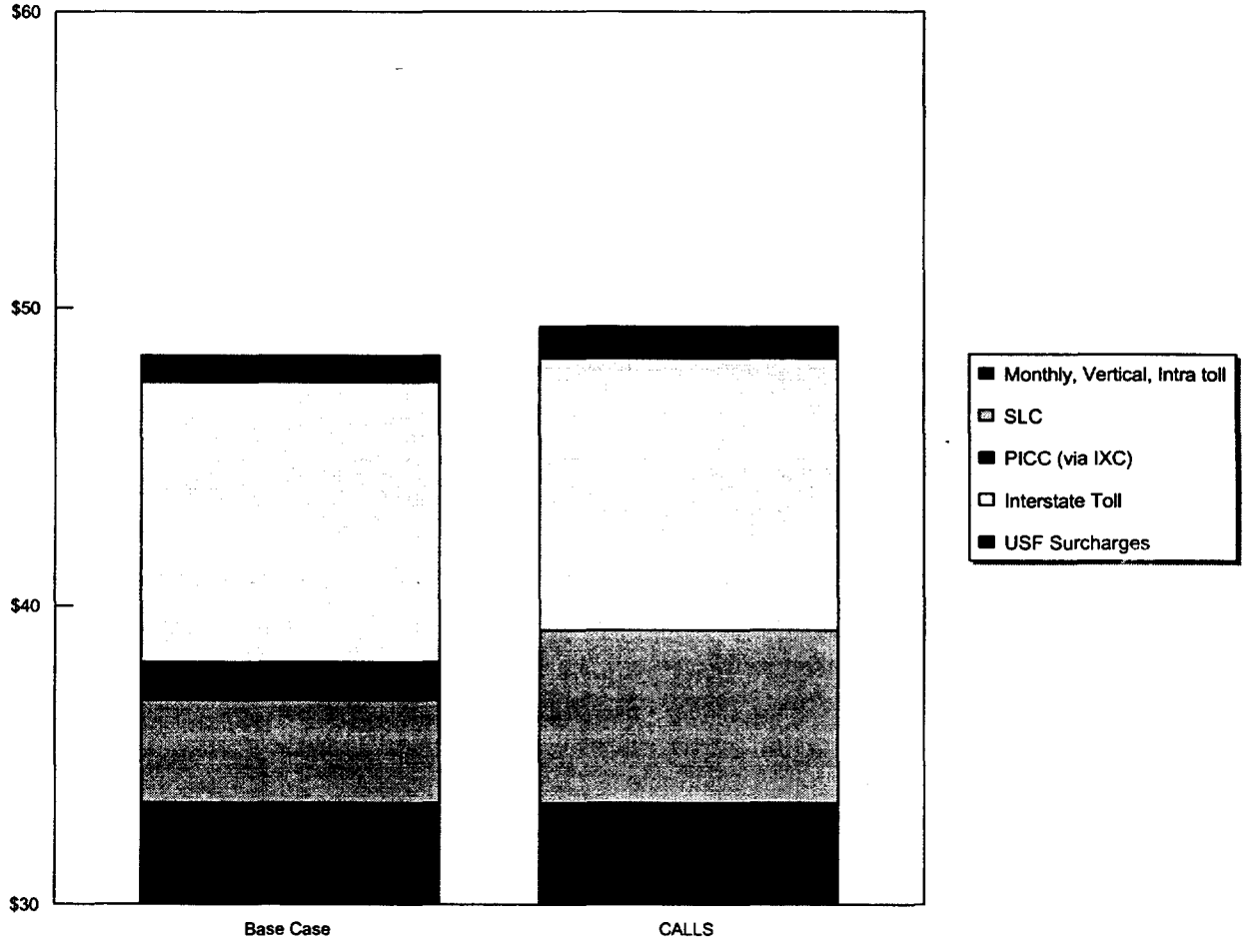
Plan	Monthly Vertical Features & Intrastate Toll	SLC *	IXC PICC Pass-through **	Interstate Toll ***	Direct & Indirect USF Contribution ****	Total
Base Case	$33.36	$3.47	$1.27	$9.42	$0.88	$48.41
CALLS	$33.36	$5.83	$0.00	$9.15	$1.06	$49.39

* LECs do not collect SLCs from lifeline customers. Instead, LECs collect from universal service.

** Reflects the assumption that toll carrier PICC pass-through charges for primary residential lines recover toll carrier costs for primary line and secondary line PICCs.

*** Calculated as the toll rates shown in Graph 11 times average minutes of calling.

**** Reflects the assumption that ILECs will recover their universal service contributions using percentage surcharges. ILECs have the option of using flat-rated per- line charges, which could increase charges to residential customers.

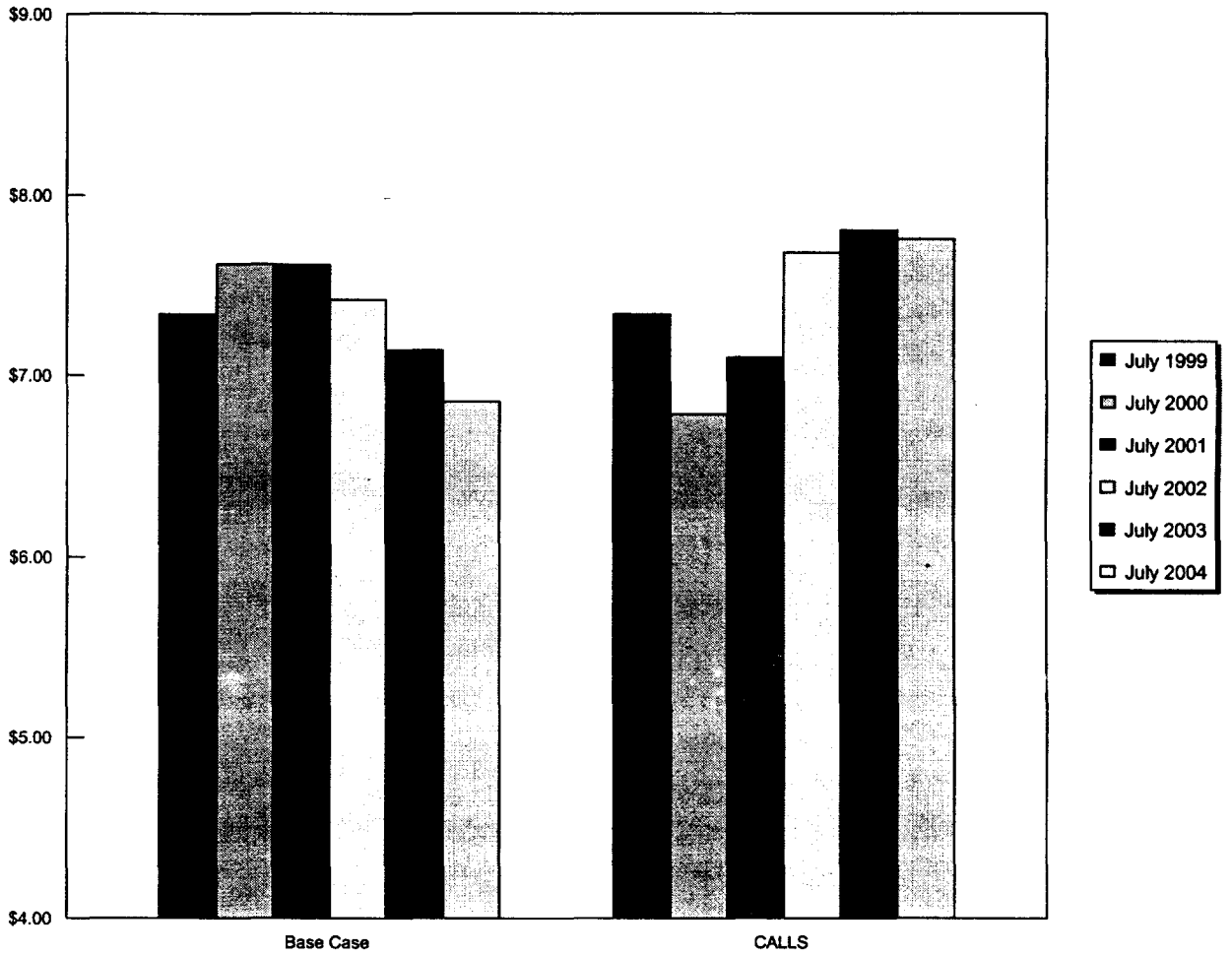


Graph 13

SLC, PICC Pass-through, USF Surcharges, & Per-Minute Access on Interstate Toll: for an Average Residential Customer with One Line

Graph 13

Plan	July 1999 $7.34	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$7.62	$7.62	$7.42	$7.14	$6.85
CALLS		$6.79	$7.10	$7.68	$7.80	$7.75

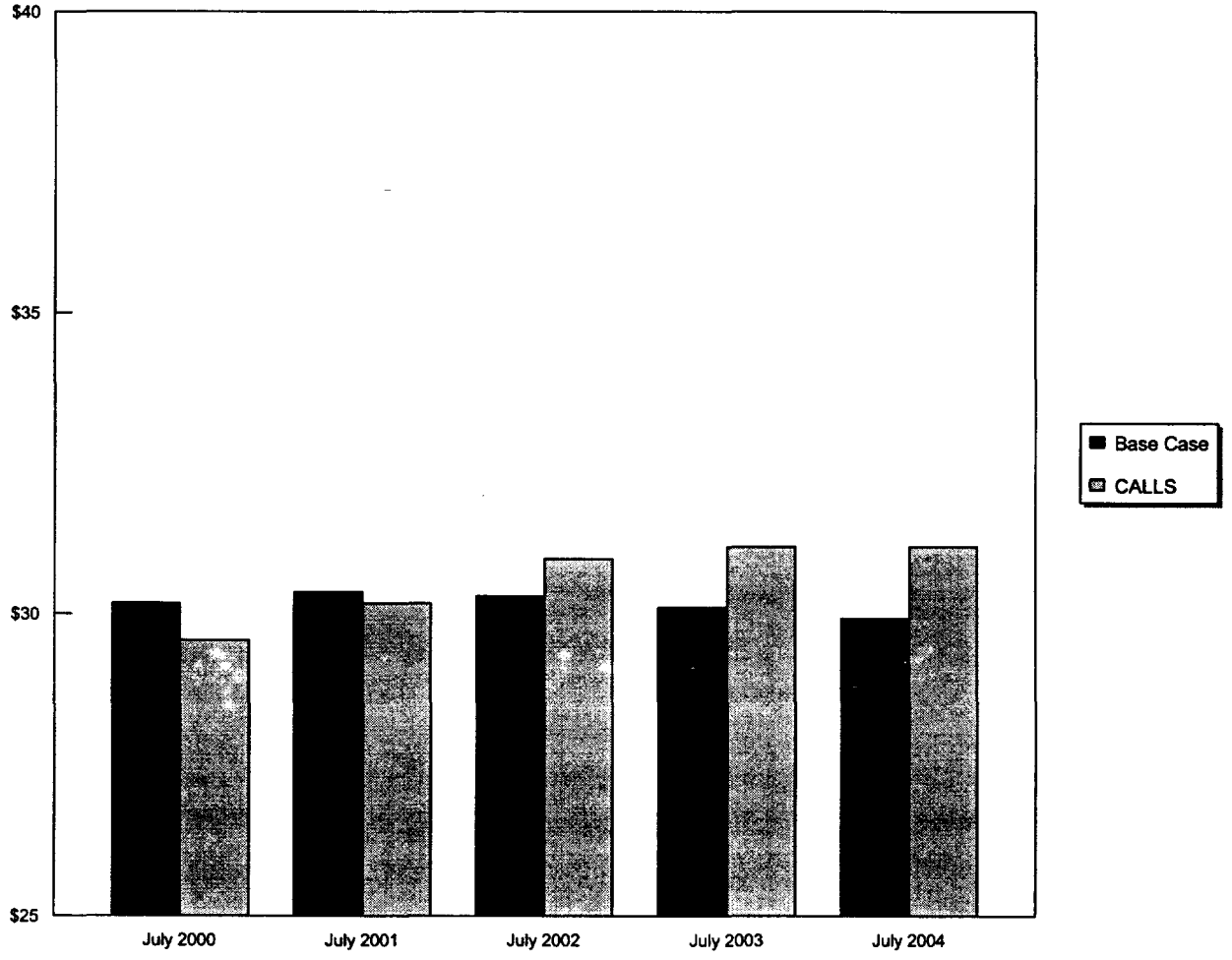


Residential Customers Who Make No Interstate Toll Calls and Who have One Line: Average Monthly Bill *

Graph 14

Plan	July 1999 $29.78	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$30.17	$30.36	$30.29	$30.11	$29.92
CALLS		$29.55	$30.18	$30.92	$31.12	$31.12

* The amounts shown include charges for 20 intrastate toll minutes. The amounts do not include the $3 monthly minimum amounts charged by some toll carriers or flat rated USF charges, but does include PICC pass-through charge, including the USF contribution associated with that charge.

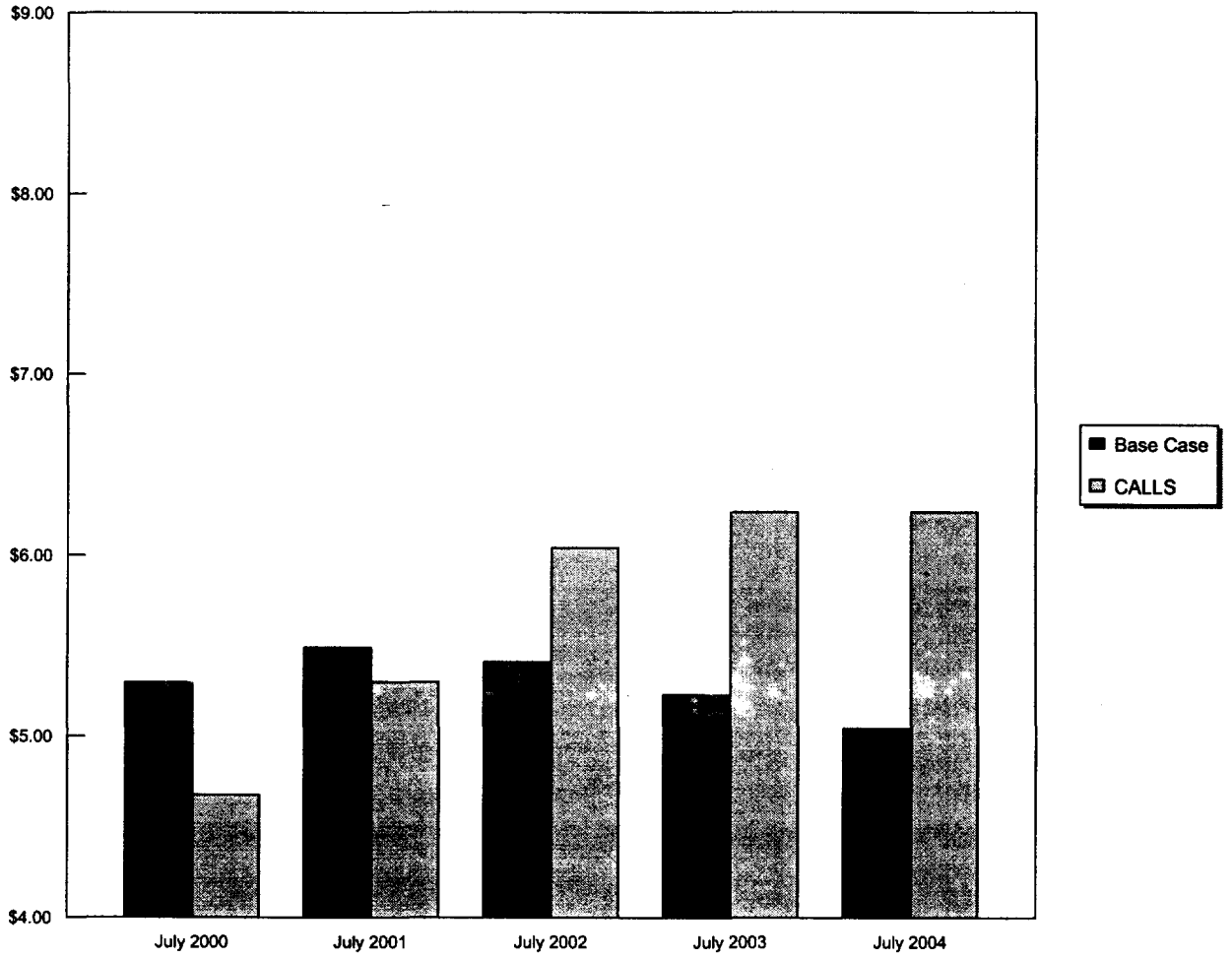


Graph 15

Average Monthly Bill: Residential Customers with One Line, and no Interstate or International Calls: SLCs, PICC Pass-throughs & USF Surcharges

Graph 15

Plan	July 1999 $5.04	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$5.29	$5.49	$5.41	$5.23	$5.04
CALLS		$4.68	$5.30	$6.04	$6.24	$6.24



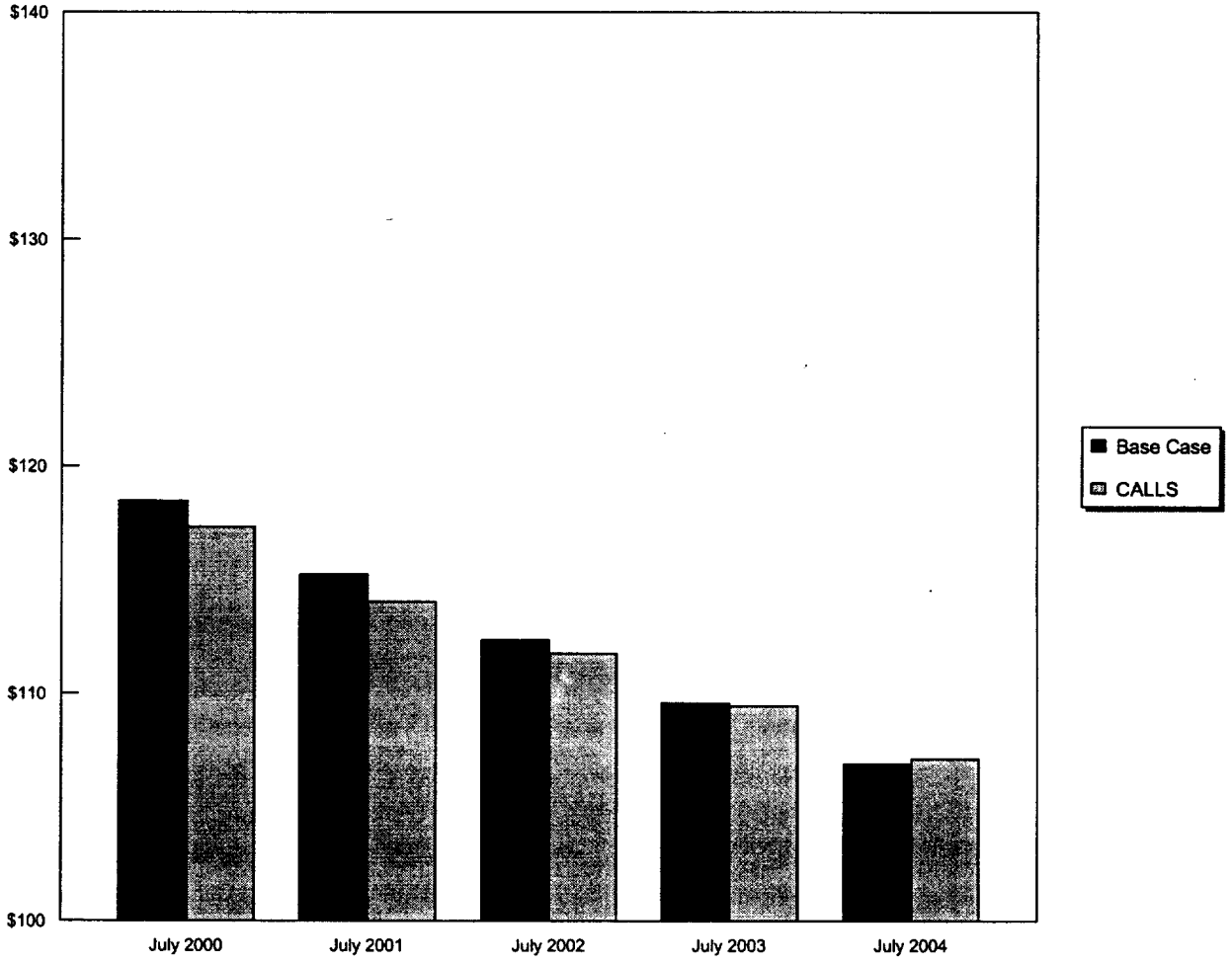
Graph 16

Residential Customers Who Make The Most Toll Calls * and have One Line: Average Monthly Bill

Graph 16

Plan	July 1999 $118.99	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$118.46	$115.26	$112.38	$109.58	$106.92
CALLS		$117.35	$114.08	$111.78	$109.45	$107.13

* This graph covers households who make 6 1/2 hours or more of interstate and international calls in a month and also includes the cost of three hours of intrastate toll calling.



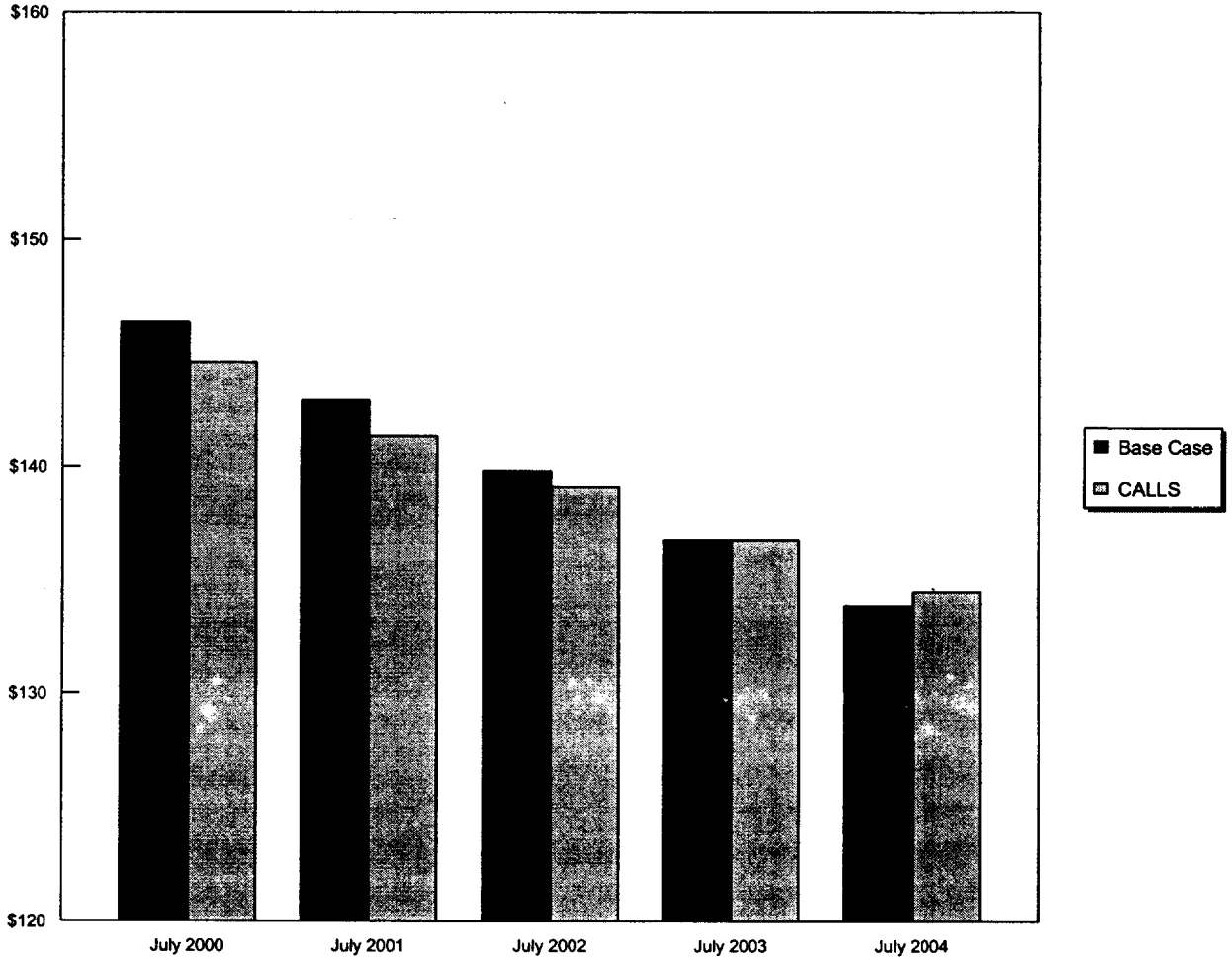
Graph 17

Residential Customers Who Make The Most Toll Calls * and have Two Lines: Average Monthly Bill

Graph 17

Plan	July 1999 $145.93	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$146.36	$142.92	$139.81	$136.81	$133.89
CALLS		$144.62	$141.36	$139.09	$136.79	$134.51

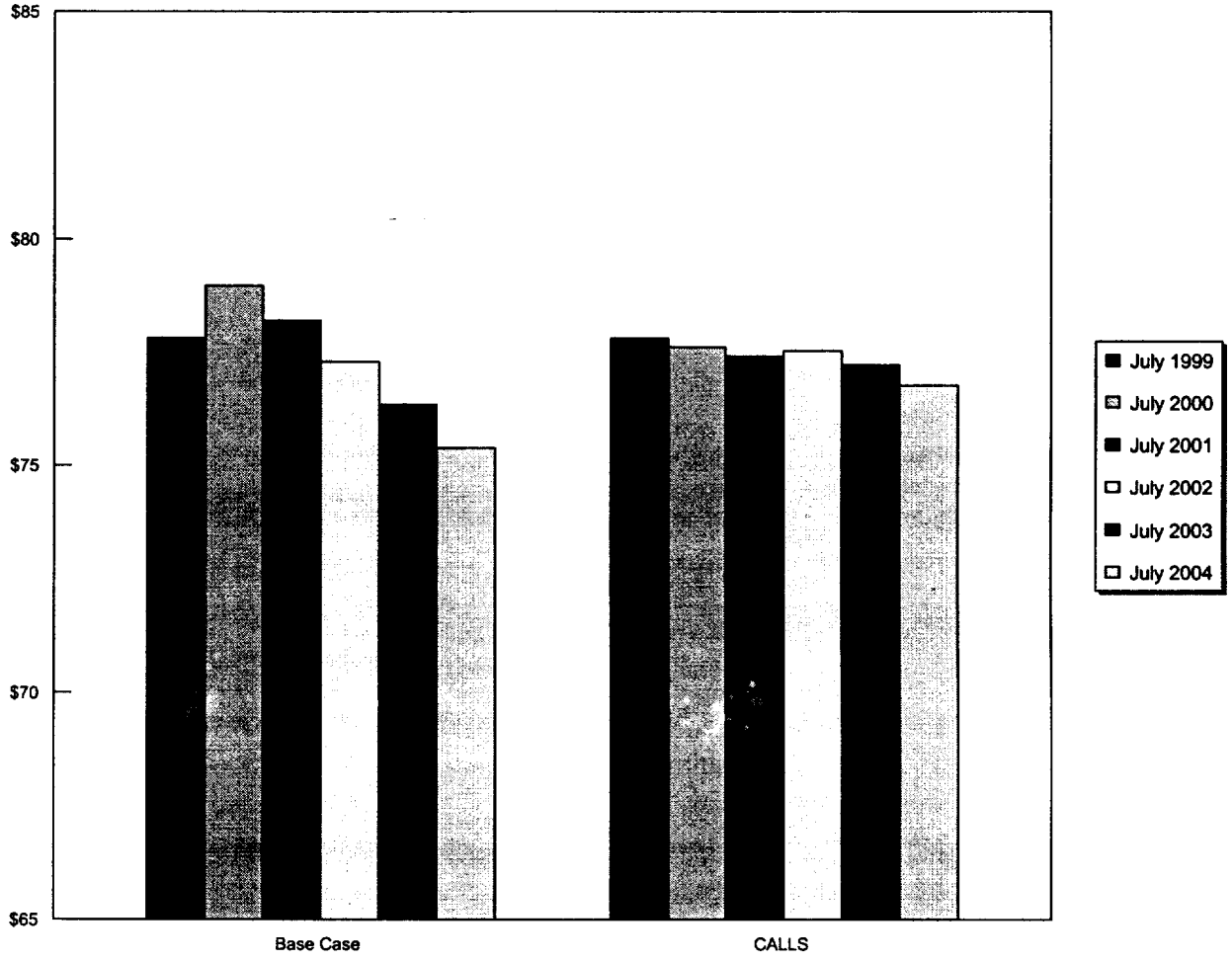
* This graph covers households who make 6 1/2 hours or more of interstate and international calls in a month and also includes the cost of three hours of intrastate toll calling.



Residential Customers With Two Lines: Average Monthly Bill

Graph 18

Plan	July 1999	July 2000	July 2001	July 2002	July 2003	July 2004
	$77.82					
Base Case		$78.98	$78.20	$77.30	$76.35	$75.38
CALLS		$77.62	$77.42	$77.54	$77.23	$76.77



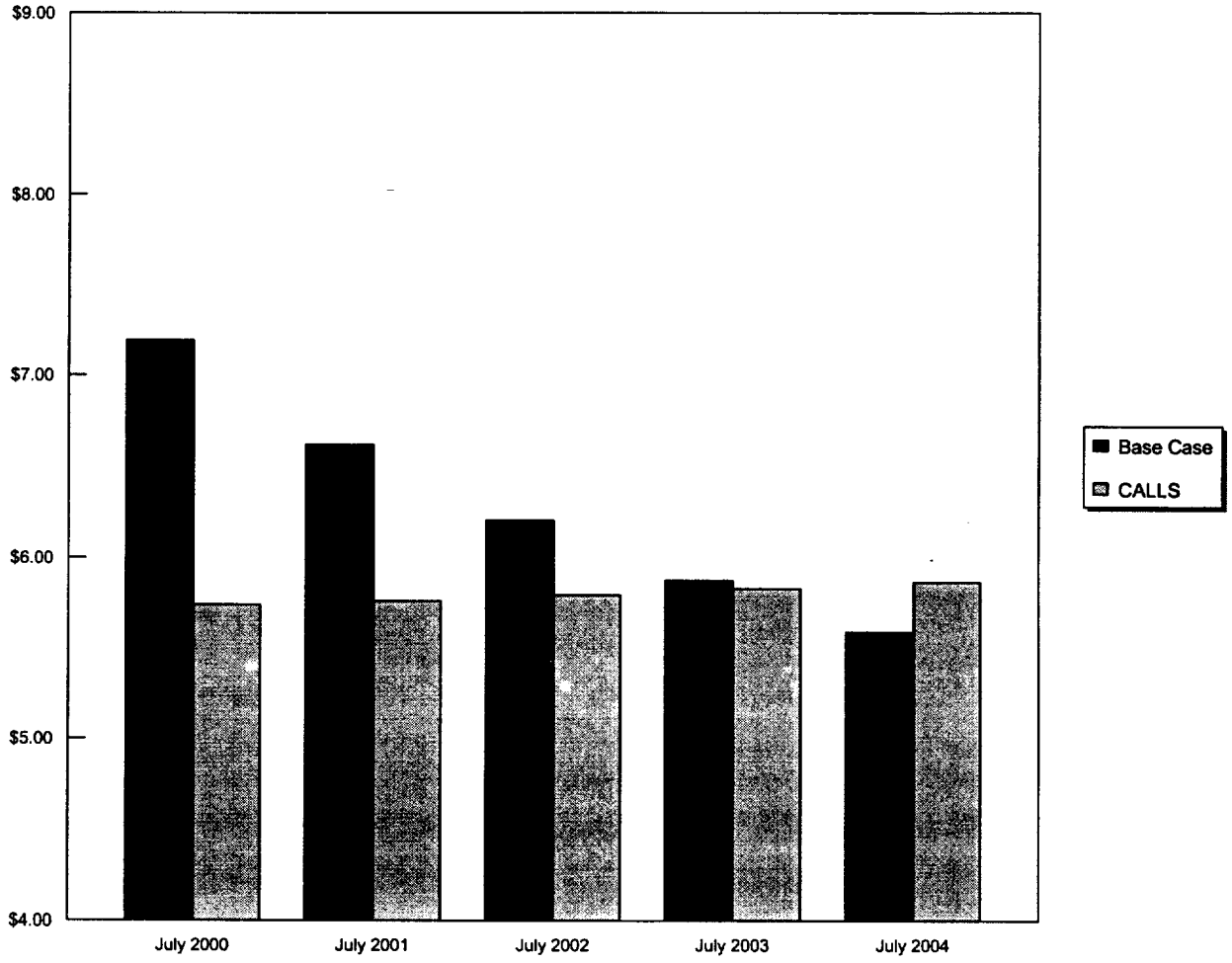
Graph 19

LEC Per-Line Access Revenue * for a Second Residential Line

Graph 19

Plan	July 1999 $7.34	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$7.19	$6.62	$6.20	$5.88	$5.59
CALLS		$5.74	$5.76	$5.79	$5.83	$5.86

* Figures represent the sum of the second line SLC (charged to end users) and the second line PICC charge (charged to carriers). Most residential customers pay IXC PICC pass-through charges only on the first line. Therefore, the total of LEC revenue for a second line differs from the charges to residential customers as shown in Graph 20.

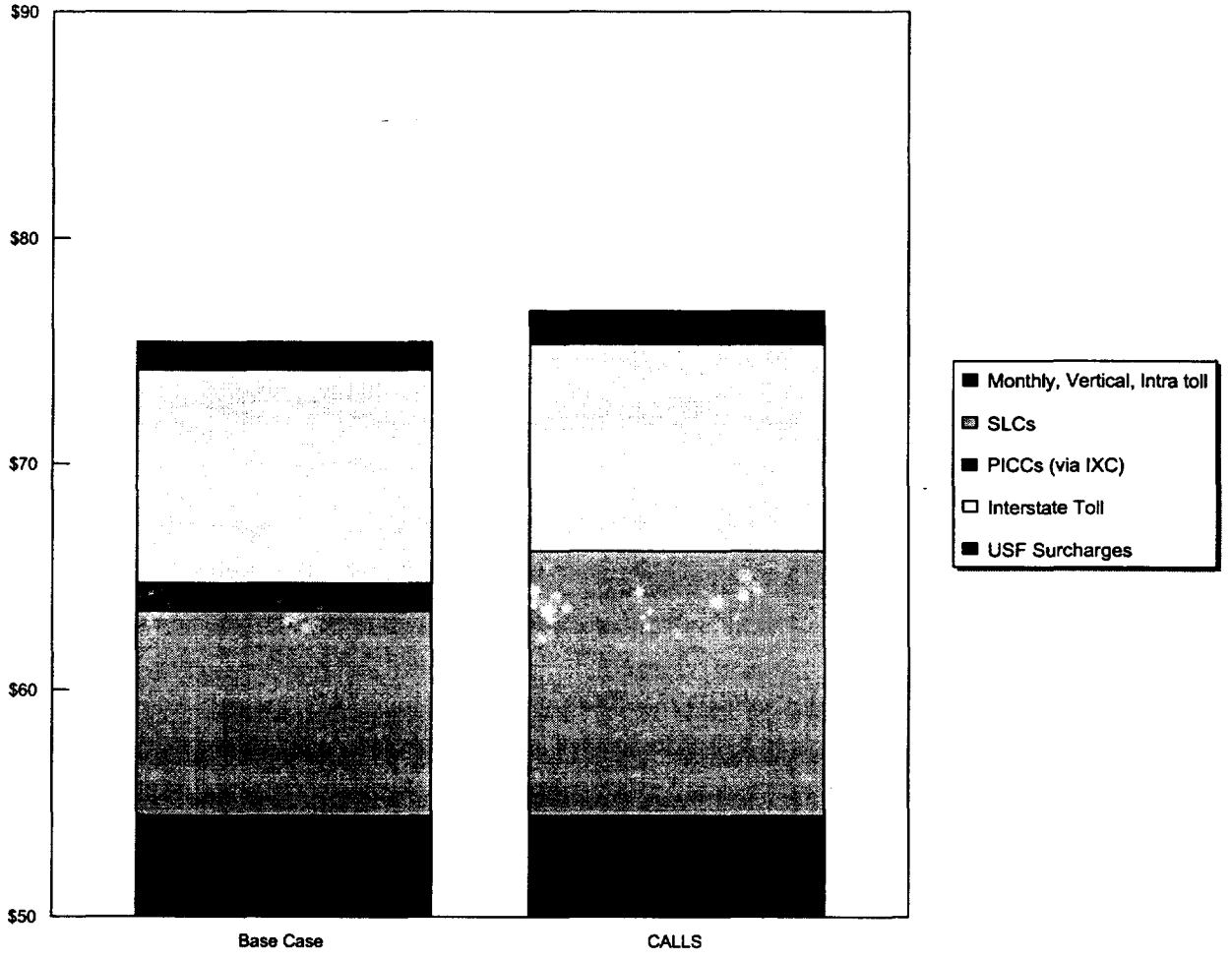


Residential Customer with Two Lines: Components of the Average Monthly Bill for July 2004

Graph 20

Plan	Monthly Vertical Features & Intrastate Toll	SLC	IXC PICC Pass-through *	Interstate Toll	Direct & Indirect USF Contribution	Total
Base Case	$54.46	$9.00	$1.27	$9.42	$1.22	$75.38
CALLS	$54.46	$11.69	$0.00	$9.15	$1.47	$76.77

* Reflects the assumption that toll carrier PICC pass-through charges for primary residential lines recover toll carrier costs for primary line and secondary line PICCs. There is no additional PICC pass-through for the second line.

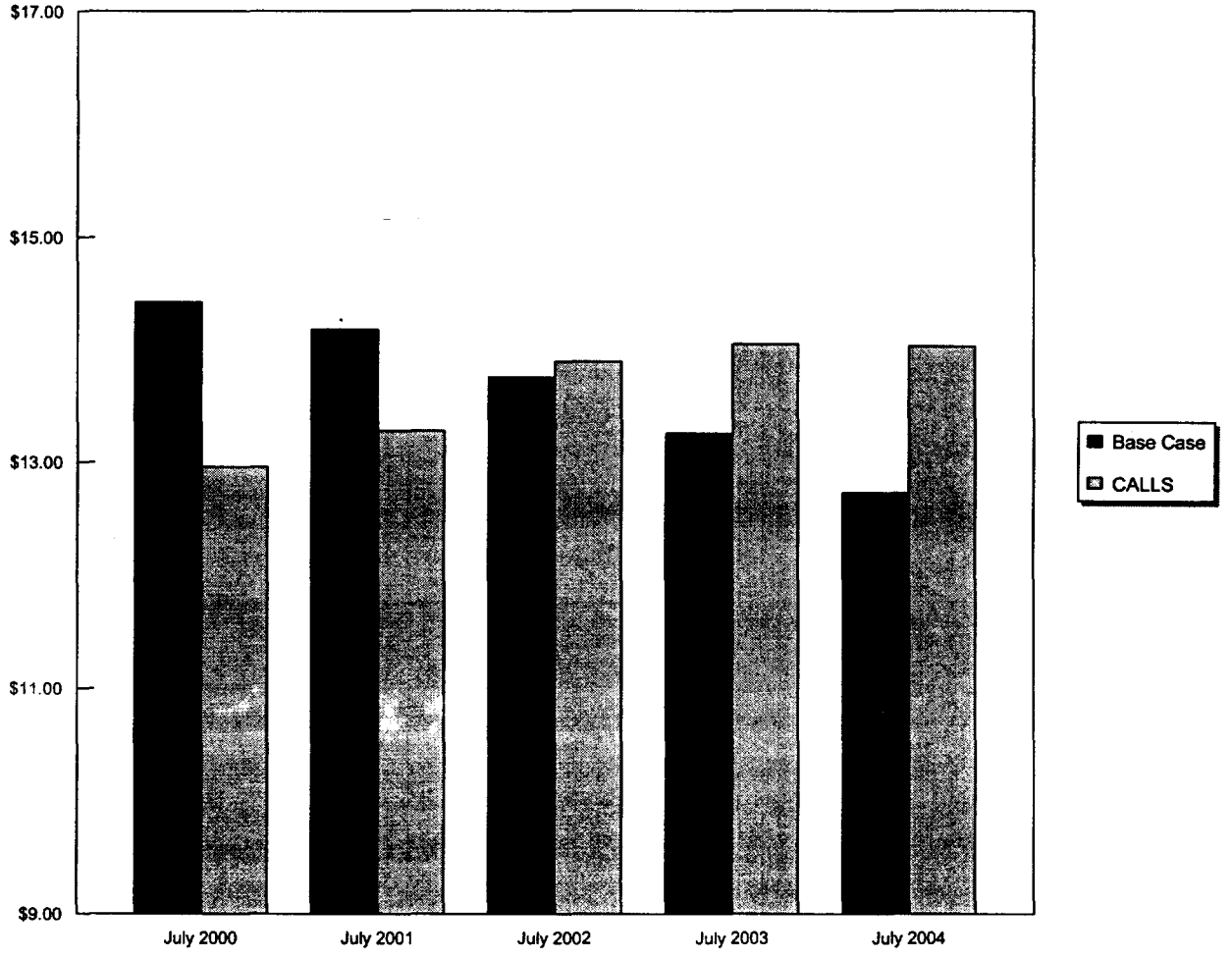


Graph 21

SLC, PICC pass-through, USF Surcharges, & Per-Minute Access on Interstate Toll: for an Average Residential Customer with Two Lines

Graph 21

Plan	July 1999 $13.42	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$14.43	$14.18	$13.76	$13.26	$12.73
CALLS		$12.96	$13.28	$13.89	$14.05	$14.03

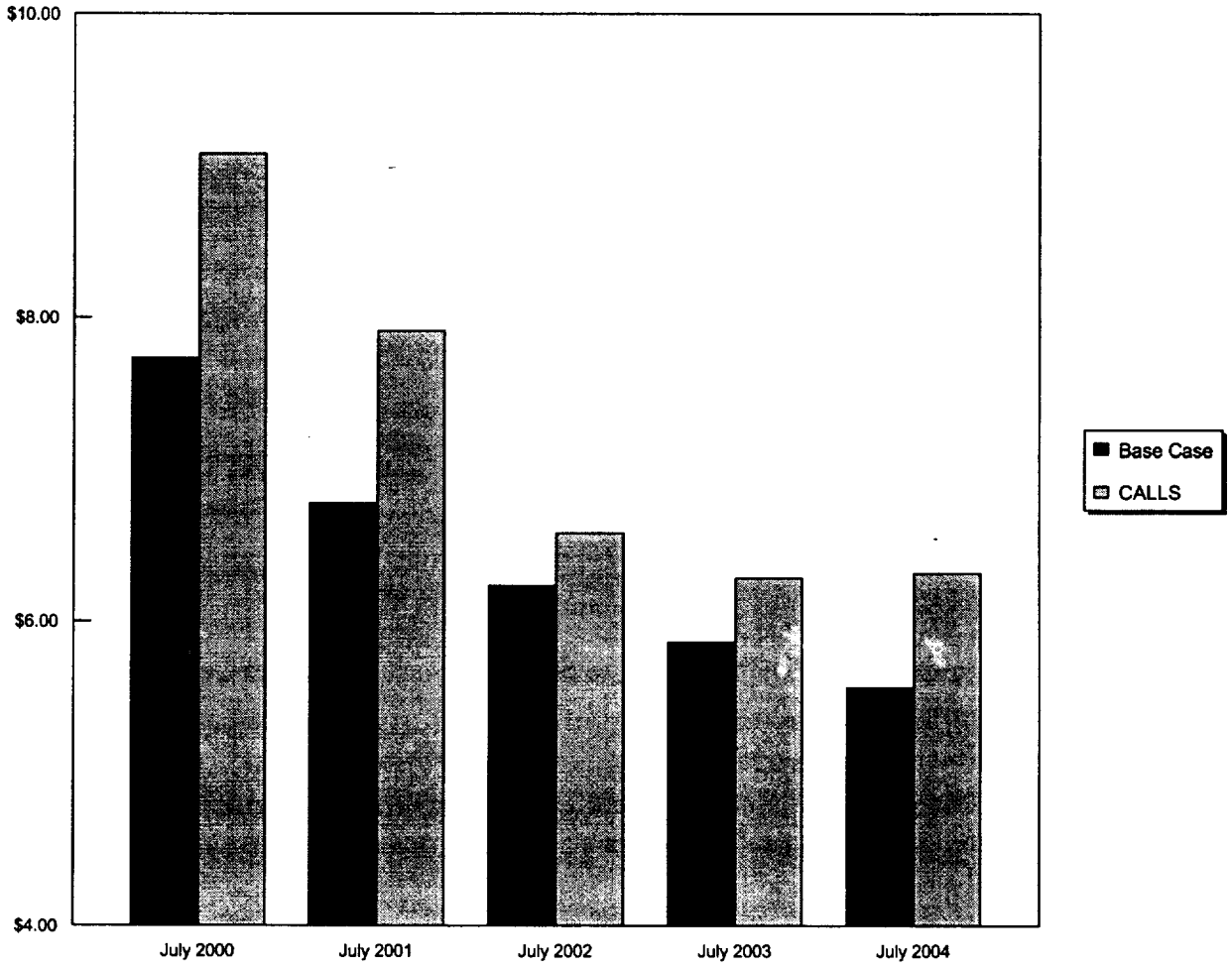


LEC Per-Line Access Revenue *
for a Multi-line Business Line

Graph 22

Plan	July 1999 $9.97	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$7.73	$6.78	$6.24	$5.86	$5.56
CALLS		$9.08	$7.91	$6.58	$6.28	$6.32

* Figures represent the sum of the multi-line SLC (charged to end users) and the Multi-line PICC (charged to carriers). The Multi-line SLCs and PICCs cannot be less than the respective second line charges in any TRP. The overall averages in Graph 20 can be lower than the charges in Graph 19. However, because the ratio of multi-lines and second lines differs from TRP to TRP and the figures shown in the graphs are weighted averages.

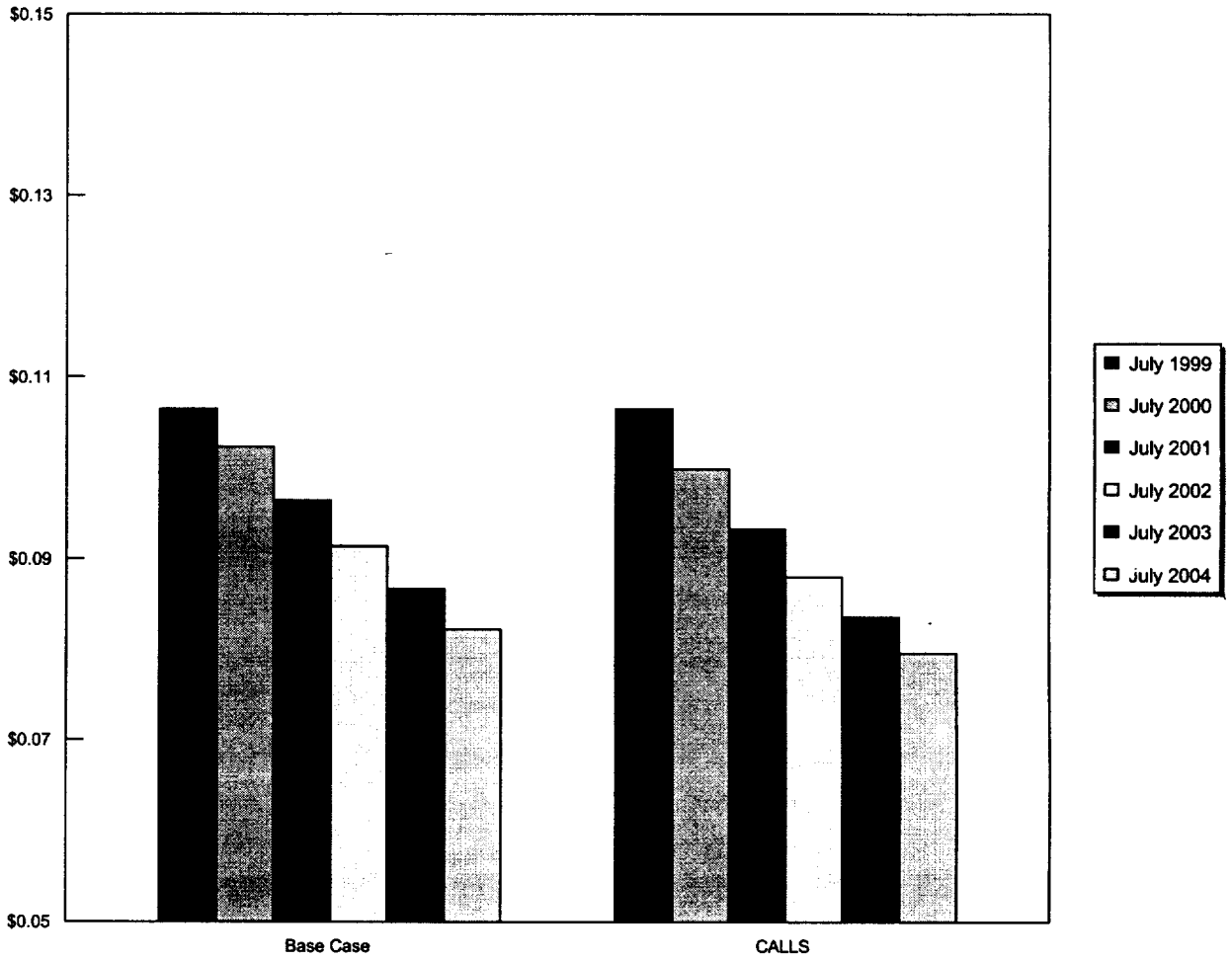


Toll Prices Per Minute* for Multi-line Business

Graph 23

Plan	July 1999 $0.107	July 2000	July 2001	July 2002	July 2003	July 2004
Base Case		$0.102	$0.096	$0.091	$0.087	$0.082
CALLS		$0.100	$0.093	$0.088	$0.084	$0.080

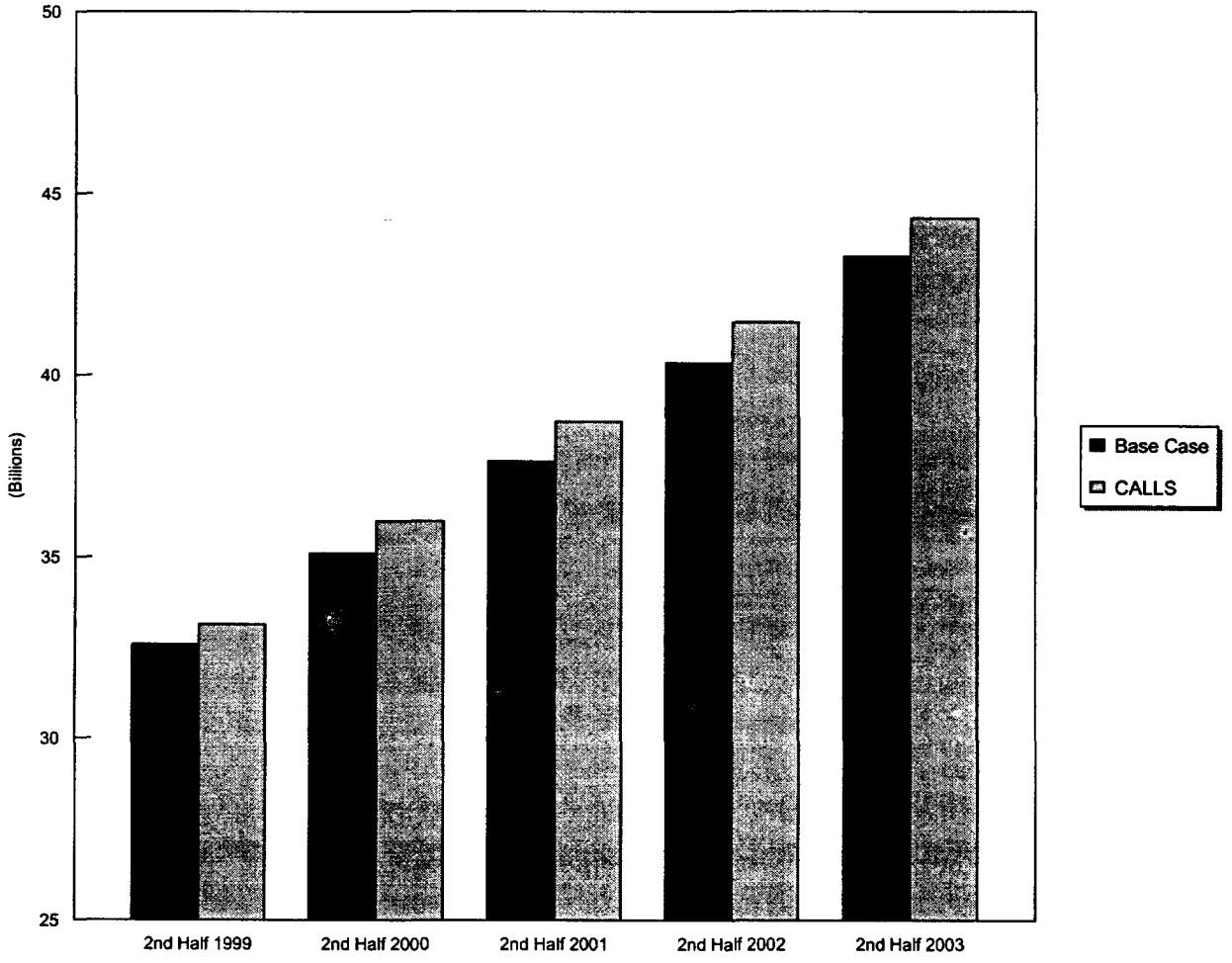
* The amounts shown represent average revenue per minute, including all IXC charges except PICC pass-through and USF surcharges.



Interstate & International Toll Minutes Per Month
(Billions)

Graph 24

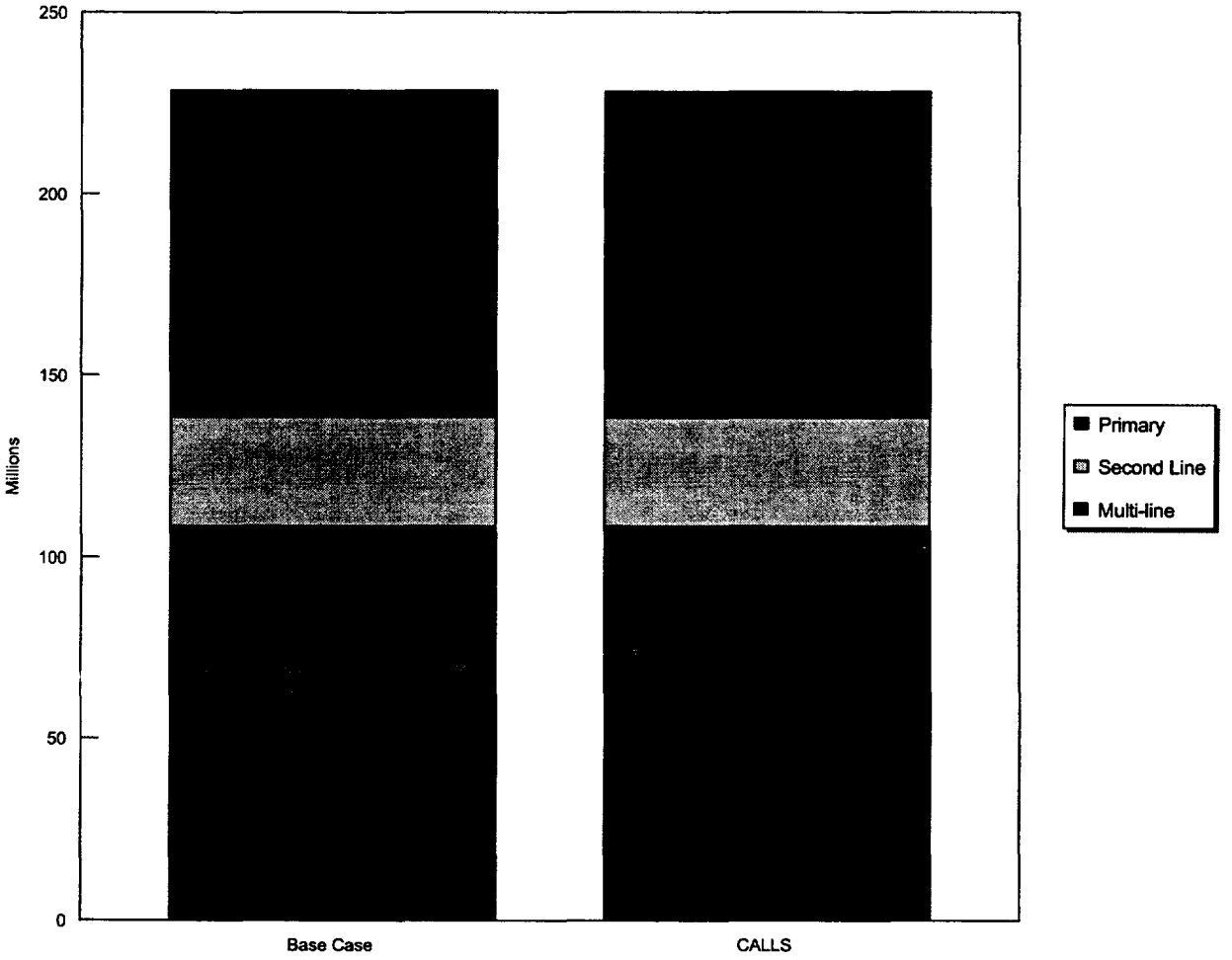
Plan	2nd Half 1999	2nd Half 2000	2nd Half 2001	2nd Half 2002	2nd Half 2003	2nd Half 2004
	29.5					
Base Case		32.6	35.1	37.6	40.3	43.3
CALLS		33.1	36.0	38.7	41.5	44.3



Access Lines -- Second Half 2004
(Millions)

Graph 25

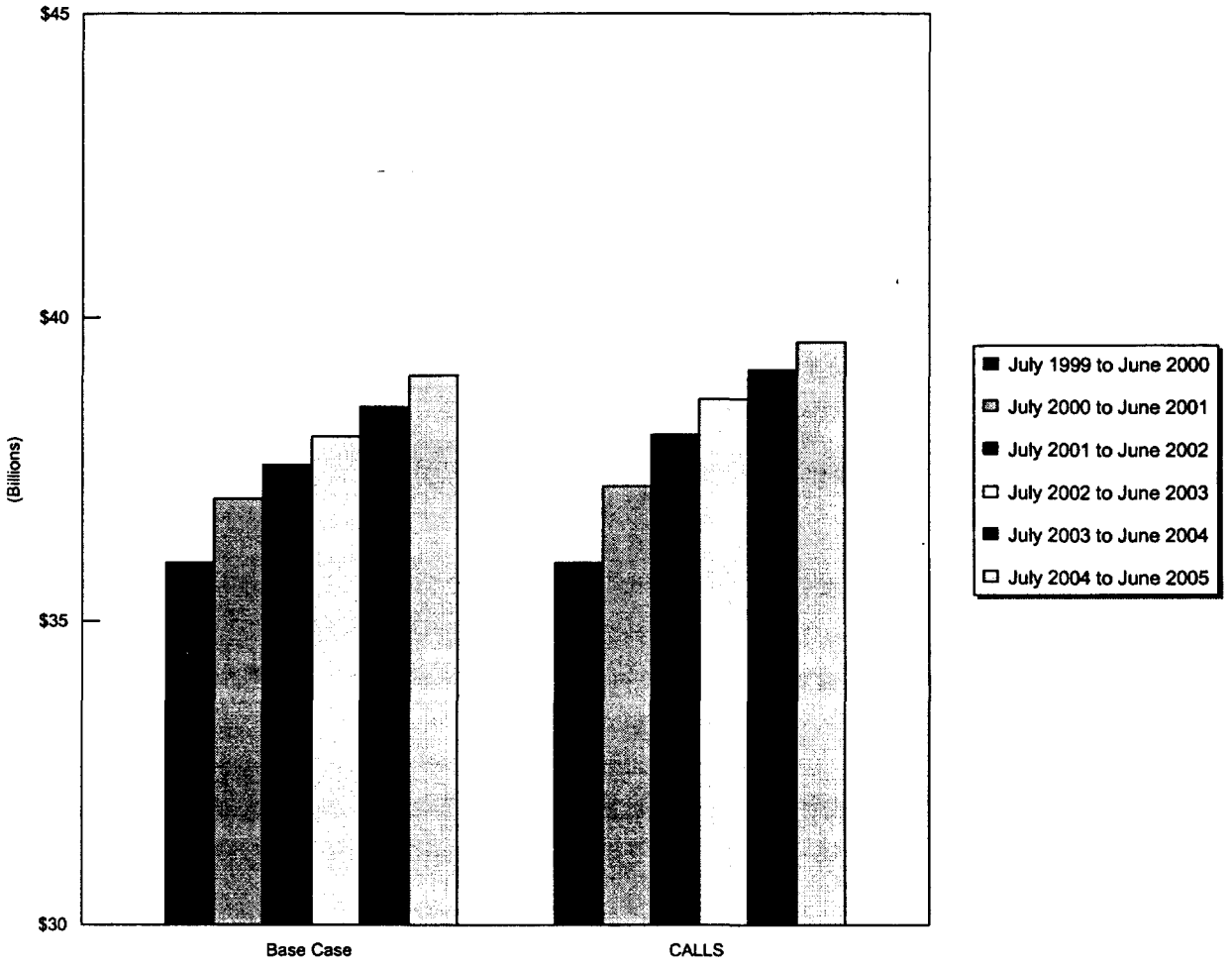
Plan	Primary Residential & Single Line Business	Residential Second Line	Multi-line	Total
Base Case	108.7	29.7	90.2	228.6
CALLS	108.6	29.5	90.0	228.2



Interstate Toll End-User Revenue Net of Access Payments
(IXCs and other providers of MTS)

Graph 26

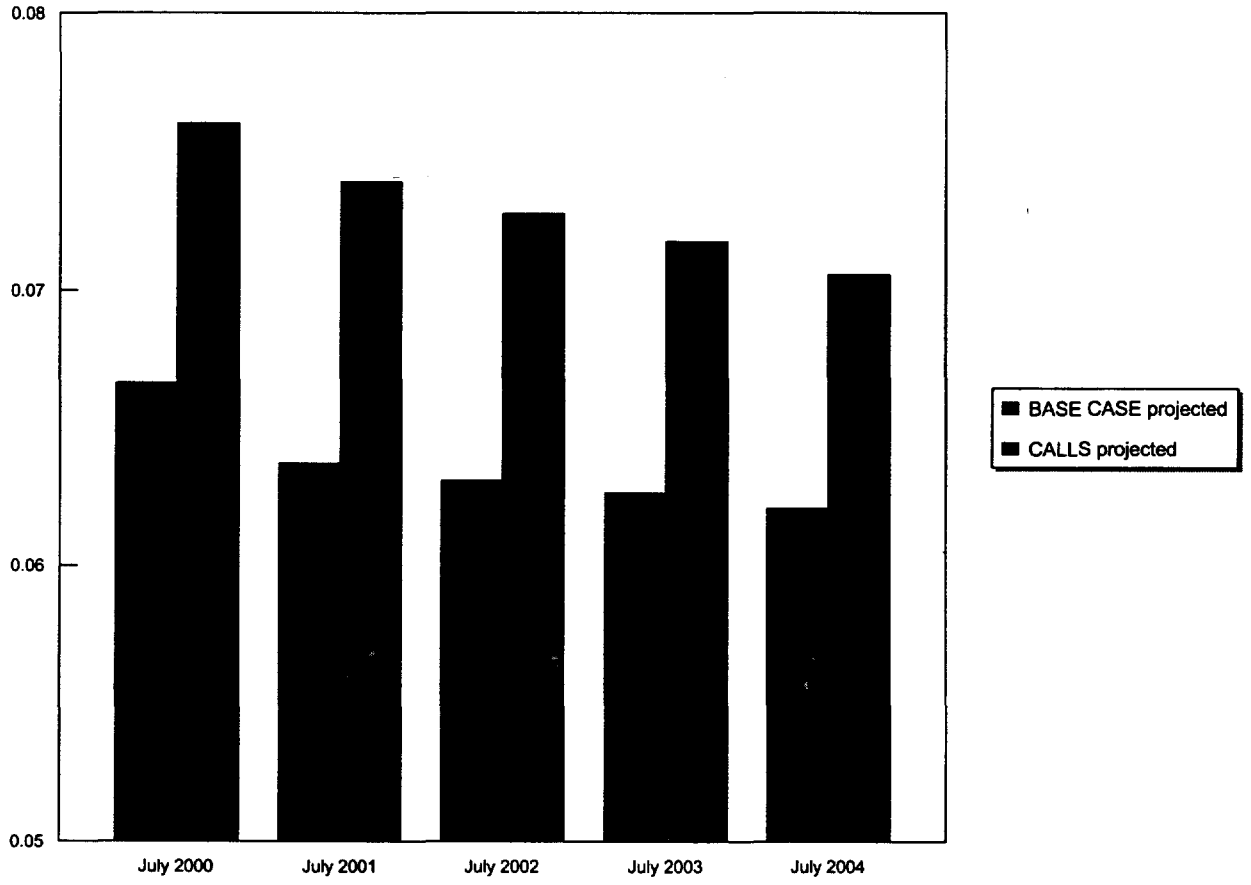
Plan	July 1999 to June 2000 ($ billions) $36.0	July 2000 to June 2001 ($ billions)	July 2001 to June 2002 ($ billions)	July 2002 to June 2003 ($ billions)	July 2003 to June 2004 ($ billions)	July 2004 to June 2005 ($ billions)
Base Case		$37.0	$37.6	$38.0	$38.5	$39.1
CALLS		$37.2	$38.1	$38.7	$39.1	$39.6



Graph 27

Projected Universal Service Contribution Rates *

Graph 27

Plan		July 2000	July 2001	July 2002	July 2003	July 2004
Base Case	projected	0.06661	0.06368	0.06308	0.06263	0.06209
CALLS	projected	0.07601	0.07391	0.07274	0.07176	0.07056

* All rates shown are based on requirements projected for the first quarter of 2000 plus an estimate of requirements for the new non-rural high cost program, plus additional low income expenditures that would be caused by increases in subscriber line charges. The contribution base is based on the contribution base for the first quarter of 2000, adjusted for changes in interstate end-user revenue projected by the model.