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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

ORIGINAL

In the Matter of)
)
Implementation of the Local) CC Docket No. 96-98
Competition Provisions in the)
Telecommunications Act of 1996)

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COMMENTS OF AT&T CORP.

Pursuant to the Commission's Public Notice, DA 96-1007, IAD 96-175, released June 20, 1996 ("Notice"), AT&T Corp. ("AT&T") submits these comments on the staff's "Industry Demand & Supply Stimulation Model" ("the Model").¹

According to the Notice, the Model is intended to "allow users to simulate the relative impact" on "traditional industry segments" of "particular changes in the industry." Based on its the review during the limited period allowed subsequent to the Model's release, AT&T has concluded that using the Model to make, justify or explain any decision in this proceeding would be highly inadvisable. The results of the Model depend on more than 180 "assumptions" about market share, costs, carrier-to-carrier prices, end-user prices and other critical factors. By varying the input assumptions, the Model can readily be manipulated to achieve any result the user

¹ By Public Notice (DA 96-1030, IAD 98-176) released June 25, 1996, the Commission extended the date for comments to July 8, 1996.

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desires. Moreover, due to the extraordinary dynamics of the telecommunications market, the results that would be produced by the Model necessarily would be highly speculative. Part I of AT&T's Comments elaborates on these two points.

In addition to seeking comments on the utility of the Model itself, the Notice invites parties to use or create variations of the Model. Notwithstanding its serious reservations regarding the relevance of the Model and the reliability of its speculations, AT&T has attempted to run the Model using inputs and assumptions under three different scenarios. Those scenarios, and the results of the Model runs, are discussed briefly in Part II, and set forth in greater detail in the Appendix hereto.

I. THE MODEL SHOULD NOT BE USED IN THIS PROCEEDING.

The Model is designed to determine the results of particular scenarios, which the user creates by supplying specifications, or assumptions, for 186 rows of inputs.² Although many of the assumptions are logically related (e.g., the level of marketing expenditures and market share), they may be input independently, and there is thus no assurance of internal consistency. The user is not required to justify any of

² Critical documentation of the Model, including an overview of its operation and definitions of User Input Specifications, are entirely missing from the material made available to the public. This absence of documentation is a serious impediment to users' ability to run the model with any assurance of accuracy. See also Motion for Extension of Time of Cox Communications, Inc., CC Docket No. 96-98, filed June 21, 1996, p. 2 ("[n]either the Public Notice nor the Model itself gives any instruction whatsoever on how to use the Model or the critical underlying assumptions behind each of the hundreds of model inputs").

the assumptions, either independently or when considered together with related assumptions.

Thus, the types and degree of manipulation to which the Model is subject are virtually limitless. The user can identify in advance the decision at which it desires the policymaker to arrive, and then tinker with one or more of the other assumptions until the Model produces a result that it believes will be acceptable to the policymaker. Alternatively, the user can input certain assumptions based on the adoption of proposals to which it is opposed, combine them with other unfavorable assumptions, and use the negative results to convince policymakers not to adopt the disfavored proposals.³ Thus, as conceived, the Model is not a measurement tool but, at best, a rationalization tool.

Even assuming good faith efforts on the part of users to input reasonable, internally consistent assumptions, the results produced by the Model will be highly speculative and unreliable. Outcomes in the telecommunications market depend on an array of decisions and actions by millions of consumers, hundreds of carriers, as well as federal and state legislatures and agencies. The fact that the Model requires more than 180 assumptions is itself evidence of the market's complexity. The likelihood that all

³ For example, an incumbent LEC could attempt to run the Model assuming that prices of network elements are priced at some level below its embedded costs, and then manipulate the model to achieve apparently disastrous financial results for the LECs by adding significant costs for so-called stranded plant. In this regard, AT&T has serious reservations about the lengths to which the Model appears to go to include costs for stranded plant. As AT&T has demonstrated, LEC claims about stranded plant are neither supported nor supportable. See AT&T Reply Comments, Appendix C, CC Docket No. 96-98, filed May 30, 1996.

assumptions input to the Model will turn out to be correct (or even reasonable) is exceedingly small. A material error in one or more of the assumptions will compromise the results of the Model. The Model is thus not a useful tool for making decisions in this proceeding.

Indeed, presumably to avoid compounding concerns about its complexity, the Model omits certain variables, and requires the user to make several unrealistic assumptions, further undermining the usefulness of its results.⁴ For example, as the Commission has recognized, the Telecommunications Act of 1996 was intended to provide carriers seeking to enter the local exchange to deploy a variety of entry strategies, or a mixture thereof, including resale of an ILEC's services, use of unbundled network elements, and use of the entrant's own facilities.⁵ The Model, however, cannot readily be run with multiple entry strategies, contrary to the very premise of the Act, and common sense.

Further, the Model is pervaded by the wholly unrealistic assumption that all industry participants in a particular market will behave in the same manner, and have

⁴ In addition, AT&T has uncovered the following errors in the Model. First, USF costs are double counted for CLEC/IXCs. See Sheet D, rows 521 and 538. Second, intraLATA residence toll costs are inaccurate because their computation is based on interstate unit costs. See Sheet E, row 582. These errors have been corrected in the runs performed by AT&T and described in Part II hereof. Other similar coding errors in the Model may also exist.

⁵ Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, NPRM, CC Docket No. 96-98, FCC 96-182, released April 19, 1996, ¶ 9.

precisely the same cost structure. Thus, the Model requires the user to assume that IXC's and other CLECs will incur the same costs as ILECs in providing local exchange service. This assumption ignores the economies of scope and scale that incumbent LECs enjoy, and the start-up costs that IXC's and other CLECs (but not ILECs) must incur to provide local service.

II. IF THE MODEL HAS ANY VALUE, IT IS TO CONFIRM THE NEED TO PRICE UNBUNDLED NETWORK ELEMENTS AND ACCESS AT TSLRIC.

Notwithstanding its concerns about the Model, and in response to the request in the Notice, AT&T has attempted to run the model based on assumptions comprising three different scenarios, as follows:

- (a) A "Base" scenario is included to provide a baseline from which changes in consumer surplus are measured in each of the remaining two scenarios. The Base scenario is premised on an industry evolving without the Telecommunications Act of 1996. Legal and economic barriers to entry into the market for exchange and exchange access services remain. Access charges continue to be determined under price cap rules. The RBOCs and GTE continue to be prohibited from providing interLATA interexchange service.
- (b) In the Option 1 scenario, CLECs can and do enter the local market by using unbundled network elements purchased from ILECs, at prices based on the ILECs' embedded costs (as the ILECs have proposed in this proceeding). Option 1 assumes no comprehensive access charge reform,

and -- also contrary to the Act -- that all interexchange traffic is subject to access charges except that the CCL is assumed not to apply to such traffic routed over unbundled network elements used by CLECs to provide local service. Finally, Option 1 assumes that the RBOCs begin providing in-region, interLATA services in 1998.

- (c) In the Option 2 scenario, CLECs can and do enter the local market using unbundled network elements purchased from the ILECs, but at prices based on TSLRIC.⁶ There is no comprehensive access reform, but CLECs purchasing unbundled network elements to provide local service are not required to pay any additional charge to the ILEC for originating or terminating interexchange calls. As in Option 1, the RBOCs begin providing in-region, interLATA service in 1998.

AT&T has made every effort to use reasonable assumptions in each scenario, and ensure that related assumptions are consistent within each scenario.⁷

⁶ The Model employs a "one size fits all" approach to the cost of particular network elements, and does not allow for cost variations in different density zones or census block groups. Accordingly, for Option 2, AT&T developed nationwide average cost figures using the results of the Hatfield Model, Version 2.2, Release 1, submitted by AT&T to the Commission with AT&T's Reply Comments on May 30, 1996.

⁷ The assumptions and specifications comprising the scenarios are set forth in detail in the Appendix hereto.

Table A below summarizes the results of the Options 1 and 2 scenarios, as compared to the Base Case, for the year 2002. It shows that under the Option 1 scenario (pricing of unbundled network elements based on the ILECs' embedded costs), the change in consumer surplus (residential and business) relative to the Base Case is negative \$16 billion for 2002 alone. ILEC earnings (as measured by earnings before interest, taxes and depreciation, or "EBITDA") exceed those in the Base Case by \$39 billion, while IXC and CLEC operating profits are nearly \$20 billion less than in the Base Case. Under the Option 2 scenario (pricing of unbundled network elements based on TSLRIC), the change in consumer surplus for 2002 relative to the Base Case is positive \$43 billion. ILEC earnings are \$4.8 billion (about 6%) less than in the Base Case,⁸ while IXC and CLEC operating profits are \$5.8 billion (or nearly 20%) less than in the Base Case.

⁸ However, ILECs' earnings in 2002 under Option 2 exceed ILECs' 1996 earnings by over \$19 billion.

TABLE A

	1996	2002		
	Base	Base	Option 1	Option 2
Market				
Toll Minutes (billions)	476.4	893.9	849.3	1100.9
Telephone Penetration	93.9	94.1	94.1	94.2
Inflation Index	105.2	123.5	123.5	123.5
Residential Price Index (1994 = 100)	97.5	86.6	94.0	70.0
Average Total Residential Bill at 1994 Usage Levels				
Lowest toll users	\$30	\$29	\$30	\$26
Mid Range Customer	\$47	\$43	\$45	\$37
Highest 3% of toll users	\$230	\$190	\$198	\$150
LEC high cost/Surcharge funding (\$Billions)	\$0.7	\$0.7	\$0.7	\$0.7
ILECs				
Total ILEC Revenues (\$Billions)	\$105.7	\$137.0	\$193.2	\$130.3
ILEC EBITDA (\$Billions)	\$53.2	\$77.4	\$116.6	\$72.6
ILEC EBITDA (1994 \$Billions)	\$50.6	\$62.7	\$94.4	\$58.8
ILEC rate of return on rate base	16.2%	35.1%	72.1%	28.3%
IXC & CLECS				
Total IXC & CLEC Revenues (\$Billions)	\$75.2	\$116.4	\$78.8	\$112.3
IXC & CLEC operating profits (\$Billions)	\$15.5	\$29.4	\$10.0	\$23.6
IXC & CLEC operating profits (1994 \$Billions)	\$14.7	\$23.8	\$8.1	\$19.1
Change in Surplus				
Residential	0.000	0.000	-7.302	16.981
Business	0.000	0.000	-8.826	26.204
ILEC Surplus	0.000	0.000	25.802	-3.835
IXC & CLEC	0.000	0.000	-11.622	-3.499
Government	0.000	0.000	5.933	-6.710
total	0.000	0.000	3.985	29.141

The runs performed by AT&T show that if the Model has any use in this proceeding, it is to confirm that the ILECs' proposals to price unbundled network elements based on their embedded costs, and gain simultaneous entry into the interexchange market, if adopted, would create enormous profits for the ILECs, to the detriment not only of IXCs and CLECs, but to consumers. If prices for unbundled network elements are based on TSLRIC, however, consumers (residence and business)

will be better off by more than \$59 billion per year by 2002.⁹ Significantly, even with prices of unbundled network elements based on TSLRIC, the Option 2 results show that IXC's and CLECs will bear a proportionately greater share of this consumer benefit than will ILECs.

Further, if the Model were run assuming comprehensive access reform, the effect would be even more beneficial for consumers. A reduction in access charges would result in lower prices for interexchange calls, increasing consumer surplus.

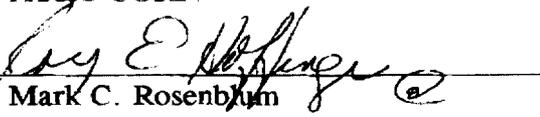
⁹ The \$59 billion figure is the difference (relative to the Base Case) between negative \$16 billion under Option 1 and positive \$43 billion under Option 2.

Lower interexchange prices would also stimulate demand, resulting in further increases to consumer surplus, and increased revenues net of access for IXCs. The results of the Model thus dramatically underscore the urgent need for access reform.

Respectfully submitted,

AT&T CORP.

By



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Appendix

Input Specifications (Sheet A in Model) for:

	Page
Option 1	1-1
Option 2	2-1
Base Case	B-1

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
□2F□bModel Specification□		□□	Option 1								2036	□□
30 MODEL30.WK3												
Organization of spreadsheet												
A:level	Specifications											
B:level	Snapshot results											
C:level	Detailed results, consumer/producer welfare analysis											
D:level	Calc. of interstate access charge, revenue & expense buildups, input productivity											
E:level	Residential demand simulation											
F:level	Business demand simulation											
G:level	MACROS (use <alt>M to see documentation), Spavins-Lande productivity											
Rates: Traditional Access Charges												
1	Price Cap X Factor:				5.3							
The FCC price cap rules calculates growth (g) using loops and interstate access minutes. If the following specification is 1, the model uses LEC retail customer loops and minutes that are billed at traditional access rates. If the specification is 0, then the model uses total LEC-provided loops (included unbundled loops) and total interstate minutes that hit												
2	LEC switches regardless of how they are billed.				1							
3	Percent that LECs price below interstate cap (Note that the 1996 interstate access price reflects the fact that some LECs charge below cap. Thus, a positive specification represents additional pricing below the interstate cap.					0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
4	Price of interstate toll access minutes	\$0.0310	\$0.0303	\$0.0288	\$0.0273	\$0.0258	\$0.0246	\$0.0239	\$0.0226	\$0.0216	\$0.0206	
5	Percent decline in intrastate access rates (relative to avg. inflation for three prior years)					15.25%	15.25%	15.25%	15.25%	15.25%	15.25%	
6	Price of intrastate access	\$0.0497	\$0.0467	\$0.0449	\$0.0436	\$0.0381	\$0.0333	\$0.0291	\$0.0255	\$0.0223	\$0.0195	
If CLECs pay traditional access charges for minutes originating or terminating on unbundled loops:												
7	% of CCL the CLEC pays on unbundled loop minutes				0%	0%	0%	0%	0%	0%	0%	
8	% of non-CCL portion of access not applicable if CLEC provides local switching				0%	0%	0%	0%	0%	0%	0%	
Rates: Alternatives to Traditional Charges (for unbundled elements provided to CLECs)												
Price of unbundled loops and vertical services expressed as a markup of current incremental cost (CIC) (□iNote: Specify CIC in the cost section.□) [0 = 100% of cost; -50% = half; 100% = double; -100% = no charge]												
9	One-time charge for unbundling or churning a loop					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
10	Monthly charge for residential loops					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
11	Monthly charge for business loops					100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
12	Monthly charge for average amount of vertical services					230.0%	230.0%	230.0%	230.0%	230.0%	230.0%
	If CLECs pay non-traditional access charges for minutes originating or terminating on unbundled loops: Price of interconnection toll minutes expressed as a markup of of current incremental cost (CIC) (Note: Specify CIC in the cost section.)										
13						0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Supplemental Access Billing: Percent of difference between traditional and non traditional access rates bulk billed on:										
14	Interstate originating minutes not subject to access charges					0%	0%	0%	0%	0%	0%
15	Interstate terminating minutes not subject to access charges					0%	0%	0%	0%	0%	0%
16	Intrastate originating minutes not subject to access charges					0%	0%	0%	0%	0%	0%
17	intrastate terminating minutes not subject to access charges					0%	0%	0%	0%	0%	0%
18	Negotiated interconnection rate between CLEC & IXCs expressed as a percentage of difference between LEC non-traditional vs traditional access charges (which is added to the non-traditional rate to get the total)				95%	95%	95%	95%	95%	95%	95%
	Rates: Local service										
19	Residential customer local service rate	\$13.22	\$13.24	\$13.66							
20	Business customer average service rate	\$29.10	\$27.40	\$27.56							
21	Annual change in local rates (before inflation)				-2.0%	-2.0%	-2.0%	-2.0%	1.0%	1.0%	1.0%
22	Residential subscriber line charge (SLC) cap	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50
23	SLC cap for additional residential access lines	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50
24	Multi-line Business SLC cap	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00
	(Note: single line business loops - 10% of total business loops - pay the residential charge. Also, some SLCs, especially for multi-line business, are below caps. The model gradually increases actual averages up to caps.										
	For LEC customers, percent change in										
25	Residential local rates first year of CLEC competition				0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
26	Business local rates first year of CLEC competition				0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	CLEC local rates as a percentage of LEC monthly rates including SLCs:										
27	Residential			90%	90%	90%	90%	90%	90%	90%	90%
28	Business			90%	90%	90%	90%	90%	90%	90%	90%
29	CLEC/LEC "total bill" customer discount (shown as positive) for residential additional lines				\$2.00	\$2.04	\$2.08	\$2.12	\$2.16	\$2.21	\$2.25
	Rates: Toll										
	Average price per toll minute - all switched services including 800, 900, operator service, calling card, etc.										
	Residential average toll rates										
30	Interstate (including international)	\$0.1976	\$0.1960								
31	InterLATA intrastate	\$0.1607	\$0.1594								

	CCB/OGC Simulation	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
32	IntraLATA	\$0.1258	\$0.1243								
	Business average toll rates										
33	Interstate (including international)	\$0.1746	\$0.1722								
34	InterLATA intrastate	\$0.1198	\$0.1181								
35	IntraLATA	\$0.1258	\$0.1243								
36	IXC "wholesale" price break to LECs for toll minutes that LECs resell			90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
	Flow through of traditional access charge changes (in per minute toll rates):										
37	Residential interstate			100.00%	100.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
38	Residential intrastate			100.00%	100.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
39	Business interstate			100.00%	100.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
40	Business intrastate			100.00%	100.00%	100.00%	100.00%	100.00%	90.00%	90.00%	90.00%
	CLEC flow-through (in per minute toll rates) of the difference between traditional and alternative access charges:										
41	Residential interstate			10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
42	Residential intrastate			10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
43	Business interstate			10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
44	Business intrastate			10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
	Annual change in non-access component of toll rates										
45	before inflation			3.3%	5.00%	5.00%	5.00%	5.00%	0.00%	1.00%	3.00%
46	STD				0.02						
	Added price cuts to non-access portion of toll charges for										
47	CLEC/LEC "total bill" residential customers				0.00%	0.00%	0.00%	10.00%	10.00%	-10.00%	-10.00%
48	STD				0.05						
49	CLEC/LEC "total bill" business customers				0.00%	0.00%	0.00%	-10.00%	-10.00%	-10.00%	-10.00%
50	STD				0.05						
51	All customers first year of LEC entry into interLATA				0.0%	0.0%	0.0%	-10.0%	2.0%	2.0%	2.0%
	Price Elasticities										
52	Toll service elasticity based on current period rate change				-0.40						
53	Toll service elasticity based on current one-year prior rate change				-0.25						
54	Toll service elasticity based on current two-year prior rate change				-0.05						
55	Residential local service elasticity (based on total bill)				-0.008						
56	Residential additional line elasticity (based on local rate)				-0.10						
57	Business local service elasticity (based on local rate)				-0.10						
	Surcharges										
58	Universal service funding (\$billions)	\$0.683	\$0.685	\$0.698	\$0.719	\$0.741	\$0.741	\$0.741	\$0.741	\$0.741	\$0.741
59	Flat amount per customer line					\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
60	Per interstate traditional access minute					\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
61	Per intrastate traditional access minute					\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	
62	Percentage of all TRS reportable end-user revenue					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
63	Percentage of all TRS reportable interstate end-user revenue					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
64	Per minute of toll service (interLATA and intraLATA)					\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	
65	Per minute of interstate toll service					\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	
Industry Structure												
66	Distribution skewing factor [.1= very little; 1 = pure cream skim]				0.00	STD	0.1					
<p>Note: CLECs are likely to target the most profitable customers when they enter a market. The LECs would likely do the same when entering IXC markets. This is called "cream skimming." The model has 7 categories of residential customers and 3 categories of business customers stratified by toll usage. The model assumes that the highest volume toll customers are the most profitable. The user uses the skewing factor to specify how successful competitors will be at cream skimming. To see how this factor works, specify a growing percentage of residential CLEC or LEC "total bill" loops, vary the skew, and then observe the modeled distribution of 'proprietary' customers by toll usage category. (approx. lines 77-84 in the E level)</p>												
67	% of CLEC traffic at alternative access charges vs. traditional access charges					0%	0%	0%	0%	0%	0%	
<input type="checkbox"/> 2F% of all loops provided by CLECs <input type="checkbox"/> 7F (Note: /RUN will range value all of the percentages.)												
68	Residential					0.0%	1.0%	3.0%	4.9%	6.7%	8.4%	10.0%
69	Business					0.0%	1.5%	4.5%	7.4%	10.1%	12.6%	15.1%
70	STD1 for avg. percent difference all years					0.25						
71	STD2 for year-over-year changes					0.25						
72	% CLEC loops served by CLEC switch					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
73	% CLEC loops provided with CLEC's own facilities					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
74	Likelihood of terminating with affiliate if CLEC originates a call					1%	4%	6%	8%	10%	12%	
75	% of terminating toll that IXCs "reroute" to LEC thru CLEC			0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
76	% of business originating minutes via special access		43.0%	43.4%	43.9%	44.3%	44.7%	45.2%	45.6%	46.1%	46.6%	
IXC share of LEC residual customer IntraLATA toll:												
77	Residential		0%	5%	7%	8%	7%	5%	2%	0%	0%	
78	Business		0%	10%	15%	16%	14%	10%	6%	6%	6%	
<input type="checkbox"/> 2F% of all loops that become LEC "total bill" customers <input type="checkbox"/> 7F (Note: /RUN will range value all of the percentages.)												
79	Residential					0.00	0.00	35.0%	44.8%	53.0%	60.1%	66.1%
80	Business					0.00	0.00	25.0%	30.6%	35.8%	40.6%	45.1%
81	STD1 - avg. percent difference					0.25						
82	STD2 - year over year changes					0.25						
83	Percent of LEC originated Interstate that terminates "in region"		30%	30%	30%	30%	30%	30%	30%	30%	30%	
84	Percent of LEC originated Intrastate that terminates "in region"		90%	90%	90%	90%	90%	90%	90%	90%	90%	

	CCB/OGC Simulation	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
85	Churn: % 'total bill' & unbundled CLEC loops that churn in 1996				25.00%						
86	STD initial churn rate				25.0%						
87	Year-over-year change in churn rate through 2002				-2.00%						
88	Churn rate for 2002 through 2010				10.00%						
Key Cost Specifications											
89	Inflation in the economy (chain-type GDP price index)	2.7%	2.7%	2.5%	2.6%	2.8%	2.7%	2.7%	2.7%	2.7%	2.7%
90	STD				0.009						
91	Growth in real GDP	2.9%	4.1%	2.6%	1.8%	2.0%	2.0%	2.2%	2.2%	2.2%	2.2%
92	Moody's Aaa Corporate bond yield	7.22	7.97	7.59	7.10	7.40	7.40	7.40	7.40	7.40	7.40
93	Depreciation rate	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073
94	Increase in depr. reserve per dollar of depr. expense	0.4545611	0.4489084	0.55	0.45	0.45	0.45	0.45	0.45	0.45	0.45
95	One-time write-offs of gross plant (\$billions, shown positive)			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96	Change in deferred taxes and other prepaid expenses	1.5%	-0.4%								
97	Amortization of deferred taxes and other prepaid expenses			-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%
98	Percent of tax at statutory rate that will be deferred			50%	50%	50%	50%	50%	50%	50%	50%
<p>Note: The model calculates the traditional LEC's ROR on rate base. The model's rate base is calculated as gross plant minus accumulated depreciation less cost-free capital. For 1994, LECs reported about \$50 billion of other liabilities and deferred credits in USOA 4300 level accounts. These include, for example, over \$20 billion in federal taxes which were included in LEC revenue requirements but which had not been paid as of December 31, 1994. Regulators traditionally treat these amounts as cost free capital. The totals in the 4300 accounts grew rapidly through 1994 but may become relatively stable starting in 1995 because of tax law changes. Setting the two preceding specifications at -8% and 50% produces a relatively stable total in the base case. See the expense section (approx. line 260) in the C: level.</p>											
Key Cost Specifications - continued											
Expense											
Current incremental cost - modelled as cost per change in physical units:											
99	Added monthly cost for providing an additional loop			\$15.10							
100	(Less included ROR & depreciation)			\$7.55							
101	Added switching cost for additional access minute		\$0.0045	\$0.0045	\$0.0043	\$0.0042	\$0.0041	\$0.0039	\$0.0038	\$0.0037	\$0.0036
102	(Less included ROR & depreciation)		\$0.0023	\$0.0023	\$0.0022	\$0.0021	\$0.0020	\$0.0020	\$0.0019	\$0.0018	\$0.0018
103	Assumed percent difference between CICs specified above and the actual CICs for loops and access minutes			10%	10%	10%	10%	10%	10%	10%	10%
104	Added monthly cost to provide billing/customer service			\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
(Note: Cost is per loop. Half the amount specified is removed from expense if LEC customer loops decrease.)											
105	Added LEC expense of adding or churning an unbundled loop (including own)					\$50.00	\$49.85	\$49.70	\$49.55	\$49.40	\$49.25
106	Added CLEC expense of adding or churning an unbundled loop (incl. marketing)					\$75.00	\$74.78	\$74.55	\$74.33	\$74.10	\$73.88
To provide residential toll per minute (less ROR & depreciation):											

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
107	Interstate toll including international settlements		\$0.0600	\$0.0600	\$0.0670	\$0.0662	\$0.0653	\$0.0645	\$0.0636	\$0.0628	\$0.0620
108	Intrastate toll		\$0.0300	\$0.0300	\$0.0370	\$0.0366	\$0.0361	\$0.0356	\$0.0351	\$0.0347	\$0.0342
To provide business toll per minute (less ROR & depreciation):											
109	Interstate toll including international settlements		\$0.0500	\$0.0500	\$0.0420	\$0.0415	\$0.0410	\$0.0404	\$0.0399	\$0.0394	\$0.0389
110	Intrastate toll		\$0.0200	\$0.0200	\$0.0310	\$0.0306	\$0.0302	\$0.0298	\$0.0294	\$0.0291	\$0.0287
Added operating expense that are modeled as percentages of added revenue:											
111	LEC Vertical services			30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
112	LEC Special Access Services			64%	64%	64%	64%	64%	64%	64%	64%
113	Private line services			64%	64%	64%	64%	64%	64%	64%	64%
114	Other and misc. LEC services (billing & collection, etc)			40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
115	Other IXC/CLEC revenue (other than switched toll)			70%	70%	70%	70%	70%	70%	70%	70%
Expense kickers:											
116	Percentage of loops that are unbundled above which full additional expenses occur				0%	10%	20%	40%	40%	40%	40%
Total added LEC marketing expense when unbundled loops exceeds threshold:											
117	Residential (billions)			\$0.0	\$0.0	\$0.3	\$1.0	\$1.0	\$1.1	\$1.1	\$1.1
118	Business (billions)			\$0.0	\$0.0	\$0.3	\$1.0	\$1.0	\$1.1	\$1.1	\$1.1
Total added LEC marketing expense if LEC share of "total bill" customer loops exceeds threshold:											
119	Residential (billions)			\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
120	Business (billions)			\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
Total added IXC marketing expense if LEC share of total bill loops exceeds threshold:											
121	Residential (billions)			\$0.0	\$0.0	\$2.5	\$2.6	\$2.6	\$2.7	\$2.8	\$2.9
122	Business (billions)			\$0.0	\$0.0	\$2.5	\$2.6	\$2.6	\$2.7	\$2.8	\$2.9
123	Maximum percent by which LEC reduces embedded costs in year if prior year ROR on rate base fell below 7.5% in prior year			5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Rates of change in costs:											
124	Annual change in CIC for loops (before inflation)				-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%
125	STD				0.01						
126	Annual change in CIC for access minutes (before inflation)				-6.00%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%
Decrease to CIC for access minutes for the first year that competition exceeds % of loops specified on line 116 [shown for appropriate years]											
127					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
128					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
129	Annual change in CICs for toll minutes (before inflation)				-4.00%	-4.00%	-4.00%	-4.00%	-4.00%	-4.00%	-4.00%
130	STD				0.01						
131	Annual change in embedded cost before inflation (LEC, IXC & CLEC)			-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%
132	STD				0.01						
133	Annual change in added cost of billing/collection per new line			-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%
Investment											
Additions to LEC gross plant:											

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
134	Net replacement investment [percentage of prior year plus constant]					percentage		0.7760%		Constant	\$0.00
135	Per added residential primary loop (in dollars)	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350
136	Per added residential additional loops	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350
137	Per added business loop (in dollars)	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350	\$350
138	Per 'shadow' loop (in dollars) [see line 151 below]	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
139	Per thousand added access minutes (in dollars)	\$30	\$23	\$23	\$23	\$23	\$23	\$22	\$22	\$22	\$21
140	Per thousand added toll minutes (in dollars)	\$30	\$30	\$30	\$30	\$30	\$29	\$29	\$28	\$28	\$28
141	To a loop unbundleable (in dollars)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
142	For vertical services per \$1000 added revenue	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
143	For special access per \$1000 added revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
144	For private line per \$1000 added revenue	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
145	For other & misc. per \$1000 added revenue	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
Key Cost Specifications - continued											
Rates of change in investment per unit (before inflation):											
146	Per loop or access minute		-3.0%	-3.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%
147	Associated with stranded plant		-3.0%	-3.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%
148	To make loops unbundleable		-3.0%	-3.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%
149	Per toll minute		-3.0%	-3.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%
150	All other types of investment		3.0%	3.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Unavoidable costs when loops are lost to facilities based competition.											
<p>Note: The model adds fixed amount CIC expense and investment per loop. Reductions in total loops, therefore, reduce total expenses and investment. In reality, when loops are lost to competition, some portion of the plant and associated expenses remain. Even though total loops may be growing, some losses to facilities competition may be occurring. The spreadsheet uses "shadow growth" to model this. You should specify a loop growth rate below which some costs are unavoidable and some plant is stranded due to facilities-based competition. For each loop below the threshold you specify, a small fraction of a shadow or stranded loop is imputed. The fraction increases until it reaches 1 shadow loop per lost loop at the second user specified threshold. A third specification sets the percentage of normal CIC for each shadow loop that will be included in expenses. Since costs associated with lost customers can be reduced over time, you should use the fourth specification to set the percentage of CIC for shadow loops that will be eliminated in each of ten successive years. The investment associated with stranded plant per shadow loop is specified on line 138. The rate of change in that specification is set by the user in line 147.</p>											
151	Loss in line growth at which cost is increased to represent stranded plant					-2.0%					
152	Loss in line growth at which maximum "shadow" lines per lost line is imputed					-10.0%					
153	Percentage of ordinary line cost attributed to "shadow" lines					10%					
154	% of which is reduced in each of 10 successive years (maximum 10%)					10%					

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Key Growth Rates and Ratios											
155	Growth rate for vertical services per line	2.51%	0.54%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%
156	STD				0.03						
157	Underlying growth in total residential lines	2.57%	3.25%	2.90%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
158	STD				0.01						
159	Underlying growth in business lines	5.05%	4.55%	6.30%	5.30%	5.30%	5.30%	5.30%	5.30%	5.30%	5.30%
160	STD				0.02						
Underlying toll-minute growth (exclusive of price elastic stimulation):											
161	Residential interLATA interstate (per household)			3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
162	STD				0.01						
163	Residential interLATA intrastate (per household)			3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
164	STD				0.01						
165	Residential intraLATA (per household)			-10.0%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
166	Business interLATA toll per line	5.06%	0.16%	2.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
167	STD				0.01						
168	Business intraLATA toll per line			-15.0%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
169	Special access revenue	-2.5%	5.6%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
170	Percent of special access that is interstate	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%	68.7%
171	LEC private line & misc toll revenue	12.8%	10.2%	0.0%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%
172	Percent of PL & misc that is interstate	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
173	All other LEC revenue	4.7%	3.7%	9.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
174	Percent of other revenue that is regulated	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
175	Percent of other revenues that is interstate	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%	2.8%
176	Growth rate in other taxes	1.5%	-0.4%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
177	Interest expense as percent of net plant	2.6%	2.4%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
178	Effective FIT rate	31.8%	33.1%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
179	LEC shareholder equity as percent of net plant	46.6%	45.7%	46.0%	46.0%	46.0%	46.0%	46.0%	46.0%	46.0%	46.0%
180	Growth in other IXC revenue			3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
181	percent of other IXC revenue that is interstate	80%	80%	80%	80%	80%	80%	80%	80%	80%	80%
182	Growth in other CLEC revenue			10%	10.0%	9.5%	9.0%	8.6%	8.1%	7.7%	7.4%
183	percent of other CLEC revenue that is interstate	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
184	Growth rate in mobile other than cellular & PCS			2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
185	Growth in cellular & PCS	33.5%	41.6%	34.0%	30.62%	27.56%	24.81%	22.32%	20.09%	18.08%	16.27%
186	percent mobile & cellular revenue that is interstate	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%

CCB/OGC Simulation	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002			
<input type="checkbox"/> 2F <input type="checkbox"/> bModel Specification <input type="checkbox"/>	<input type="checkbox"/>		Option 2						2036	<input type="checkbox"/>			
30 MODEL30.WK3													
Organization of spreadsheet													
A:level	Specifications												
B:level	Snapshot results												
C:level	Detailed results, consumer/producer welfare analysis												
D:level	Calc. of interstate access charge, revenue & expense buildups, input productivity												
E:level	Residential demand simulation												
F:level	Business demand simulation												
G:level	MACROS {use <alt>M to see documentation}, Spavins-Lande productivity												
Rates: Traditional Access Charges													
1	Price Cap X Factor:			5.3									
The FCC price cap rules calculates growth (g) using loops and interstate access minutes. If the following specification is 1, the model uses LEC retail customer loops and minutes that are billed at traditional access rates. If the specification is 0, then the model uses total LEC-provided loops (included unbundled loops) and total interstate minutes that hit													
2	LEC switches regardless of how they are billed.			1									
3	Percent that LECs price below interstate cap (Note that the 1996 interstate access price reflects the fact that some LECs charge below cap. Thus, a positive specification represents additional pricing below the interstate cap)				0.00%		0.00%		0.00%		0.00%		
4	Price of interstate toll access minutes			\$0.0310	\$0.0303	\$0.0288	\$0.0273	\$0.0258	\$0.0246	\$0.0236	\$0.0226	\$0.0216	\$0.0207
5	Percent decline in intrastate access rates (relative to avg. inflation for three prior years)				15.25%		15.25%		15.25%		15.25%		
6	Price of intrastate access			\$0.0497	\$0.0467	\$0.0449	\$0.0436	\$0.0381	\$0.0333	\$0.0291	\$0.0255	\$0.0223	\$0.0195
If CLECs pay traditional access charges for minutes originating or terminating on unbundled loops:													
7	% of CCL the CLEC pays on unbundled loop minutes			0%		0%		0%		0%			
8	% of non-CCL portion of access not applicable if CLEC provides local switching			65.21%		65.21%		65.21%		65.21%			
Rates: Alternatives to Traditional Charges													
(for unbundled elements provided to CLECs)													
Price of unbundled loops and vertical services expressed as a markup of current incremental cost (CIC) (<input type="checkbox"/> Note: Specify CIC in the cost section. <input type="checkbox"/> [0 = 100% of cost; -50% = half; 100% = double; -100% = no charge])													
9	One-time charge for unbundling or churning a loop			0.0%		0.0%		0.0%		0.0%			
10	Monthly charge for residential loops			0.0%		0.0%		0.0%		0.0%			

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
11	Monthly charge for business loops					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
12	Monthly charge for average amount of vertical services					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
If CLECs pay non-traditional access charges for minutes originating or terminating on unbundled loops:											
Price of interconnection toll minutes expressed as a markup of of current incremental cost (CIC) (Note: Specify CIC in the cost section.)											
13						0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Supplemental Access Billing: Percent of difference between traditional and non traditional access rates bulk billed on:											
14	Interstate originating minutes not subject to access charges					0%	0%	0%	0%	0%	0%
15	Interstate terminating minutes not subject to access charges					0%	0%	0%	0%	0%	0%
16	Intrastate originating minutes not subject to access charges					0%	0%	0%	0%	0%	0%
17	intrastate terminating minutes not subject to access charges					0%	0%	0%	0%	0%	0%
18	Negotiated interconnection rate between CLEC & IXC's expressed as a percentage of difference between LEC non-traditional vs traditional access charges (which is added to the non-traditional rate to get the total)				95%	95%	95%	95%	95%	95%	95%
Rates: Local service											
19	Residential customer local service rate	\$13.22	\$13.24	\$13.66							
20	Business customer average service rate	\$29.10	\$27.40	\$27.56							
21	Annual change in local rates (before inflation)				-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%
22	Residential subscriber line charge (SLC) cap	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50
23	SLC cap for additional residential access lines	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50
24	Multi-line Business SLC cap	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00
(Note: single line business loops - 10% of total business loops - pay the residential charge. Also, some SLCs, especially for multi-line business, are below caps. The model gradually increases actual averages up to caps.											
For LEC customers, percent change in											
25	Residential local rates first year of CLEC competition				0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
26	Business local rates first year of CLEC competition				0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CLEC local rates as a percentage of LEC monthly rates including SLCs:											
27	Residential			90%	90%	90%	90%	90%	90%	90%	90%
28	Business			90%	90%	90%	90%	90%	90%	90%	90%
29	CLEC/LEC "total bill" customer discount (shown as positive) for residential additional lines				\$2.00	\$2.04	\$2.08	\$2.12	\$2.16	\$2.21	\$2.25
Rates: Toll											
Average price per toll minute - all switched services including 800, 900, operator service, calling card, etc.											
Residential average toll rates											
30	Interstate (including international)	\$0.1976	\$0.1960								
31	InterLATA intrastate	\$0.1607	\$0.1594								

	CCB/OGC Simulation	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
32	IntraLATA	\$0.1258	\$0.1243								
	Business average toll rates										
33	Interstate (including international)	\$0.1746	\$0.1722								
34	InterLATA intrastate	\$0.1198	\$0.1181								
35	IntraLATA	\$0.1258	\$0.1243								
36	IXC "wholesale" price break to LECs for toll minutes that LECs resell			90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%	90.00%
	Flow through of traditional access charge changes (in per minute toll rates):										
37	Residential interstate			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
38	Residential intrastate			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
39	Business interstate			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
40	Business intrastate			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	CLEC flow-through (in per minute toll rates) of the difference between traditional and alternative access charges:										
41	Residential interstate			10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
42	Residential intrastate			10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
43	Business interstate			10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
44	Business intrastate			10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
	Annual change in non-access component of toll rates										
45	before inflation			-3.3%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%
46	STD				0.02						
	Added price cuts to non-access portion of toll charges for:										
47	CLEC/LEC "total bill" residential customers				0.00%	0.00%	0.00%	-10.00%	-10.00%	-10.00%	-10.00%
48	STD				0.05						
49	CLEC/LEC "total bill" business customers				0.00%	0.00%	0.00%	-10.00%	-10.00%	-10.00%	-10.00%
50	STD				0.05						
51	All customers first year of LEC entry into interLATA				0.0%	0.0%	0.0%	-10.0%	-15.0%	-20.0%	-25.0%
	Price Elasticities										
52	Toll service elasticity based on current period rate change				-0.40						
53	Toll service elasticity based on current one-year prior rate change				-0.25						
54	Toll service elasticity based on current two-year prior rate change				-0.05						
55	Residential local service elasticity (based on total bill)				-0.008						
56	Residential additional line elasticity (based on local rate)				-0.10						
57	Business local service elasticity (based on local rate)				-0.10						
	Surcharges										
58	Universal service funding (\$billions)	\$0.683	\$0.685	\$0.698	\$0.719	\$0.741	\$0.741	\$0.741	\$0.741	\$0.741	\$0.741
59	Flat amount per customer line					\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
60	Per interstate traditional access minute					\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
61	Per intrastate traditional access minute					\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
62	Percentage of all TRS reportable end-user revenue					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
63	Percentage of all TRS reportable interstate end-user revenue					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
64	Per minute of toll service (interLATA and intraLATA)					\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
65	Per minute of interstate toll service					\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
Industry Structure											
66	Distribution skewing factor [1= very little; 1 = pure cream skim]				0.00	STD	0.1				
<p>Note: CLECs are likely to target the most profitable customers when they enter a market. The LECs would likely do the same when entering IXC markets. This is called "cream skimming." The model has 7 categories of residential customers and 3 categories of business customers stratified by toll usage. The model assumes that the highest volume toll customers are the most profitable. The user uses the skewing factor to specify how successful competitors will be at cream skimming. To see how this factor works, specify a growing percentage of residential CLEC or LEC "total bill" loops, vary the skew, and then observe the modeled distribution of 'proprietary' customers by toll usage category. (approx. lines 77-84 in the E. level)</p>											
67	% of CLEC traffic at alternative access charges vs. traditional access charges				100%	100%	100%	100%	100%	100%	100%
<input type="checkbox"/> 2F% of all loops provided by CLECs <input type="checkbox"/> 7F% (Note: /RUN will range value all of the percentages.)											
68	Residential				0.0%	2.0%	10.0%	17.6%	24.8%	31.7%	38.2%
69	Business				0.0%	3.0%	15.0%	26.4%	37.2%	47.5%	57.3%
70	STD1 for avg. percent difference all years				0.25						
71	STD2 for year-over-year changes				0.25						
72	% CLEC loops served by CLEC switch				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
73	% CLEC loops provided with CLEC's own facilities				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
74	Likelihood of terminating with affiliate if CLEC originates a call				2%	12%	21%	30%	38%	46%	
75	% of terminating toll that IXCs "reroute" to LEC thru CLEC			0%	0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
76	% of business originating minutes via special access	43.0%	43.4%	43.9%	44.3%	44.7%	45.2%	45.6%	46.1%	46.6%	
IXC share of LEC residual customer IntraLATA toll:											
77	Residential		0%	5%	7%	7%	1%	0%	0%	0%	0%
78	Business		0%	10%	15%	15%	6%	6%	6%	6%	6%
<input type="checkbox"/> 2F% of all loops that become LEC "total bill" customers <input type="checkbox"/> 7F% (Note: /RUN will range value all of the percentages.)											
79	Residential				0.00	0.00	10.0%	19.0%	27.1%	34.4%	41.0%
80	Business				0.00	0.0%	5.0%	9.8%	14.3%	18.5%	22.6%
81	STD1 - avg. percent difference				0.25						
82	STD2 - year over year changes				0.25						
83	Percent of LEC originated Interstate that terminates "in region"		30%	30%	30%	30%	30%	30%	30%	30%	30%
84	Percent of LEC originated Intrastate that terminates "in region"		90%	90%	90%	90%	90%	90%	90%	90%	90%

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
CCB/OGC Simulation										
85 Churn: % 'total bill' & unbundled CLEC loops that churn in 1996				25.00%						
86 STD initial churn rate				25.0%						
87 Year-over-year change in churn rate through 2002				-2.00%						
88 Churn rate for 2002 through 2010				10.00%						
Key Cost Specifications										
89 Inflation in the economy (chain-type GDP price index)	2.7%	2.7%	2.5%	2.6%	2.8%	2.7%	2.7%	2.7%	2.7%	2.7%
90 STD				0.009						
91 Growth in real GDP	2.9%	4.1%	2.6%	1.8%	2.0%	2.0%	2.2%	2.2%	2.2%	2.2%
92 Moody's Aaa Corporate bond yield	7.22	7.97	7.59	7.10	7.40	7.40	7.40	7.40	7.40	7.40
93 Depreciation rate	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073	0.073
94 Increase in depr. reserve per dollar of depr. expense	0.4545611	0.4489084	0.55	0.45	0.45	0.45	0.45	0.45	0.45	0.45
95 One-time write-offs of gross plant (\$billions, shown positive)			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
96 Change in deferred taxes and other prepaid expenses	1.5%	-0.4%								
97 Amortization of deferred taxes and other prepaid expenses			-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%
98 Percent of tax at statutory rate that will be deferred			50%	50%	50%	50%	50%	50%	50%	50%
<p>Note: The model calculates the traditional LEC's ROR on rate base. The model's rate base is calculated as gross plant minus accumulated depreciation less cost-free capital. For 1994, LECs reported about \$50 billion of other liabilities and deferred credits in USOA 4300 level accounts. These include, for example, over \$20 billion in federal taxes which were included in LEC revenue requirements but which had not been paid as of December 31, 1994. Regulators traditionally treat these amounts as cost free capital. The totals in the 4300 accounts grew rapidly through 1994 but may become relatively stable starting in 1995 because of tax law changes. Setting the two preceding specifications at -8% and 50% produces a relatively stable total in the base case. See the expense section (approx. line 260) in the C: level.</p>										
Key Cost Specifications - continued										
Expense										
Current incremental cost - modelled as cost per change in physical units:										
99 Added monthly cost for providing an additional loop			\$15.10		ROR & depreciation component				50%	
100 (Less included ROR & depreciation)			\$7.55							
101 Added switching cost for additional access minute		\$0.0045	\$0.0045	\$0.0043	\$0.0042	\$0.0041	\$0.0039	\$0.0038	\$0.0037	\$0.0036
102 (Less included ROR & depreciation)		\$0.0023	\$0.0023	\$0.0022	\$0.0021	\$0.0020	\$0.0020	\$0.0019	\$0.0018	\$0.0018
103 Assumed percent difference between CICs specified above and the actual CICs for loops and access minutes			10%	10%	10%	10%	10%	10%	10%	10%
104 Added monthly cost to provide billing/customer service		\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
(Note: Cost is per loop. Half the amount specified is removed from expense if LEC customer loops decrease.)										
105 Added LEC expense of adding or churning an unbundled loop (including own)					\$50.00	\$48.85	\$47.73	\$46.63	\$45.56	\$44.51
106 Added CLEC expense of adding or churning an unbundled loop (incl. marketing)					\$75.00	\$73.28	\$71.59	\$69.94	\$68.33	\$66.76
To provide residential toll per minute (less ROR & depreciation):										

CCB/OGC Simulation		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
107	Interstate toll including international settlements		\$0.0600	\$0.0600	\$0.0670	\$0.0655	\$0.0640	\$0.0625	\$0.0611	\$0.0597	\$0.0583
108	Intrastate toll		\$0.0300	\$0.0300	\$0.0370	\$0.0362	\$0.0354	\$0.0345	\$0.0337	\$0.0330	\$0.0322
To provide business toll per minute (less ROR & depreciation):											
109	Interstate toll including international settlements		\$0.0500	\$0.0500	\$0.0420	\$0.0411	\$0.0401	\$0.0392	\$0.0383	\$0.0374	\$0.0366
110	Intrastate toll		\$0.0200	\$0.0200	\$0.0310	\$0.0303	\$0.0296	\$0.0289	\$0.0283	\$0.0276	\$0.0270
Added operating expense that are modeled as percentages of added revenue:											
111	LEC Vertical services			30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
112	LEC Special Access Services			64%	64%	64%	64%	64%	64%	64%	64%
113	Private line services			64%	64%	64%	64%	64%	64%	64%	64%
114	Other and misc. LEC services (billing & collection, etc)			40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%	40.00%
115	Other IXC/CLEC revenue (other than switched toll)			70%	70%	70%	70%	70%	70%	70%	70%
Expense kickers:											
116	Percentage of loops that are unbundled above which full additional expenses occur				0%	4%	8%	11%	15%	18%	21%
Total added LEC marketing expense when unbundled loops exceeds threshold:											
117	Residential (billions)			\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
118	Business (billions)			\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
Total added LEC marketing expense if LEC share of "total bill" customer loops exceeds threshold:											
119	Residential (billions)			\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
120	Business (billions)			\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
Total added IXC marketing expense if LEC share of total bill loops exceeds threshold:											
121	Residential (billions)			\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
122	Business (billions)			\$0.0	\$0.0	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3
Maximum percent by which LEC reduces embedded costs in year if prior											
123	year ROR on rate base fell below 7.5% in prior year			5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Rates of change in costs:											
124	Annual change in CIC for loops (before inflation)				-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%
125	STD				0.01						
126	Annual change in CIC for access minutes (before inflation)				-6.00%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%	-6.00%
Decrease to CIC for access minutes for the first year											
127	that competition exceeds % of loops specified on line 116				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
128	[shown for appropriate years]				0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
129	Annual change in CICs for toll minutes (before inflation)			0	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%
130	STD				0.01						
131	Annual change in embedded cost before inflation (LEC, IXC & CLEC)			-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%
132	STD				0.01						
133	Annual change in added cost of billing/collection per new line			-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%
Investment											
Additions to LEC gross plant:											