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April 1, 1997

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Federal Communications Commission
Office of Secretary

Mr. William F. Caton
Secretary
Federal Communications Commission
1919 M. St., NW, Room 222
Washington, D.C. 20554

RE: Ex Parte Presentation
Universal Service: CC Docket No. 96-45
Access Reform: CC Docket No. 96-262

Dear Mr. Caton,

AT&T and MCI met today with Anthony Bush, Patrick DeGraba, Vakunth Gupta, David Konuch, Robert Loube and William Sharkey of the Common Carrier Bureau staff. Discussed at this meeting were how the logic and the input value assumptions of the Hatfield Model can be modified to generate cost outputs that match those produced by the BCPM. In addition, Hatfield Model calculation methods for computing the cost of universal service support were presented as well. Representing AT&T were myself and Michael Iaccarino. Mary Sisak represented MCI. A copy of the presentation materials that were discussed at this meeting is attached.

Two copies of this Notice are being submitted to the Secretary of the FCC in accordance with Section 1.1206(a)(1) of the Commission's rules.

Sincerely,

Richard N. Clarke

Attachments

cc: Anthony Bush
Patrick DeGraba
William Sharkey
Mary Sisak
Robert Loube
Vakunth Gupta
David Konuch

Monthly Cost of Basic Local Service

(Sample of Study Areas)

Study Area	BCPM @ Default Input Values	HM 3.1 @ BCPM-mimicing Input Values	Dollar Difference	Percent Difference
CA - Pacific Bell	$28.10	$28.24	$0.14	0.5%
CA - GTE/Contel	$27.86	$30.93	$3.07	11.0%
CO - US West	$33.40	$33.07	-$0.33	-1.0%
FL - BellSouth	$29.96	$31.20	$1.24	4.1%
FL - GTE	$30.16	$32.18	$2.02	6.7%
IN - Ameritech	$33.54	$32.45	-$1.09	-3.2%
MD - Bell Atlantic	$30.43	$30.32	-$0.11	-0.4%
MI - Ameritech	$31.95	$31.09	-$0.86	-2.7%
NY - NYNEX	$26.61	$26.17	-$0.44	-1.7%
NC - Sprint	$47.10	$43.64	-$3.46	-7.3%
TX - Southwestern Be	$32.23	$32.11	-$0.12	-0.4%
VT - NYNEX	$45.07	$42.75	-$2.32	-5.1%
WA - US West	$31.04	$30.80	-$0.24	-0.8%
WV - Bell Atlantic	$50.14	$42.61	-$7.53	-15.0%
Unweighted Average	$34.11	$33.40	-$0.72	-1.1%

NYNEX - VT	0-10	11-50	51-150	151-500	501-2000	2001-5000	5001+	Totals
Monthly Costs	**0-5**	**5-100**	**100-200**	**200-650**	**650-850**	**850-2550**	**2550-5000**	**5000-10000**	**>10000**	**Totals**
Default BCPM	$ 140.70	$ 69.05	$ 50.89	$34.04	$ 26.56	$ 22.37	$20.00	$ 45.07
HM3 @ BCPM	$ 92.23	$ 56.94	$ 43.24	$ 35.78	$ 33.12	$ 29.14	$ 25.48	$ 23.45	$ 20.39	$ 42.75

INVESTMENT per LINE	BCPM	HM @BCPM
Loop Distribution	$ 1,101.19	$ 1,171.65
Loop Feeder	$ 521.52	$ 398.15
Total Loop	$ 1,622.71	$ 1,569.80
EO Switch	$ 266.54	$ 292.88
IO Facilities	$ 8.00	$ 8.79
Other	$ 123.97	$ 52.4
Total	$ 2,021.22	$ 1,915.10

	A	B	C	D	E
1	ALTERATIONS TO HM 3.1 DEFAULT INPUT VALUES NEEDED TO MIMIC BCPM v1.1				
2	Preliminary Analysis - 3/27/97				
3					
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
6	**Cost of Capital Factors**				
7	***Depreciation Lives***				
8	Loop Distribution	Aerial cable, metallic	-16.80	10.93	Direct insert from BCPM
9	Loop Feeder	Aerial cable, non-metallic	22.11	15.89	Direct insert from BCPM
10	Loop Concentrator	Underground cable, metallic	21.17	11.01	Direct insert from BCPM
11	Wire Center	Underground cable, non-metallic	22.87	16.57	Direct insert from BCPM
12	End Office Switching	Buried cable, metallic	19.86	13.57	Direct insert from BCPM
13	Tandem Switching	Buried cable, non-metallic	24.13	17.21	Direct insert from BCPM
14	Transport Facilities	Intrabuilding cable, metallic	15.64	10.93	BCPM serial equivalent
15	Operator Systems	Intrabuilding cable, non-metallic	23.65	15.89	BCPM serial equivalent
16	STP	NID, SAI	calculated		
17	SCP	Conduit systems	51.35	43.97	Direct insert from BCPM
18	Links	Poles	16.13	14.71	Direct insert from BCPM
19	Public Telephones	Buildings	48.99	39.97	Direct insert from BCPM
20	General Support	Digital Electronic Switching	16.54	10.49	Direct insert from BCPM
21		Digital Circuit Equipment	10.09	8.67	Direct insert from BCPM
22		Operator Systems	9.94		
23		Public telephone term. equipment	8.01		
24		General purpose computers	6.24	5.80	Direct insert from BCPM
25		Office support equipment	11.25	11.16	Direct insert from BCPM
26		Company comm. equipment	7.59		
27		Furniture	16.56	16.57	Direct insert from BCPM
28		Motor vehicles	9.16	9.21	Direct insert from BCPM
29		Garage work equipment	11.47	12.32	Direct insert from BCPM
30		Other work equipment	13.22	14.08	Direct insert from BCPM
31					
32					
33	***Cost of Capital***				
34	Debt Percent		45.00%	32.82%	Direct insert from BCPM
35	Cost of Debt		7.70%	7.85%	Direct insert from BCPM
36	Cost of Equity		11.90%	13.12%	Direct insert from BCPM
37	*Discount Rate*	Edit in Expense Module CCF sheet	10.01%	7.85%	Direct insert from BCPM
38					
39	**Misc Expense Factors**				
40					
41	Variable Overhead Factor		10.40%	0.00%	Zeroed out to permit BCPM $11.34/line entry
42	Federal Income Tax Rate	Income tax rate (federal/state)	39.25%	37.29%	BCPM input data adjusted to reflect incorrect BCPM tax gross-up methodology
43	Other Taxes Factor		5.00%	4.58%	
44	Billing/Bill Inquiry per line per month		$1.22	$0.00	Zeroed out to permit BCPM $11.34/line entry
45	Directory Listing per line per month		$0.15	$0.00	Zeroed out to permit BCPM $11.34/line entry
46	Forward-Looking Network Operations Factor		50.00%	0.00%	Zeroed out to permit BCPM $11.34/line entry
47	Central Office Switching Expense Factor		2.69%	0.00%	Zeroed out to permit BCPM $11.34/line entry
48	End Office Traffic-Sensitive Fraction		70.00%		
49	per-line Monthly LNP Cost		$0.25	$0.00	Zeroed out to permit BCPM $11.34/line entry
50	alternative circuit equipment factor		0.0153	0.0000	Zeroed out to permit BCPM $11.34/line entry
51	Carrier-carrier customer service per line per year		$1.69		
52	NID expense per line per year		$1.00	$0.00	Zeroed out to permit BCPM $11.34/line entry
53	Switch line circuit offset per DLC line		$5.00	$0.00	Zeroed out to permit BCPM $11.34/line entry
54					
55	**Fill Factors**				
56	*Copper feeder*				
57		Density zone			
58		0-5	0.65	0.75	BCPM value for 0-10 density zone
59		5-100	0.75	0.80	BCPM value for 11-50 density zone
60		100-200	0.80	0.85	BCPM value for 51-150 density zone
61		200-650	0.80	0.85	BCPM value for 151-500 density zone
62		650-850	0.80	0.85	BCPM value for 151-500 density zone
63		850-2,550	0.80	0.85	BCPM value for 501-2000 density zone
64		2,550-5,000	0.80	0.85	BCPM value for 2001-5000 density zone
65		5,000-10,000	0.80	0.85	BCPM value for >5000 density zone
66		10,000+	0.80	0.85	BCPM value for >5000 density zone
67	*Distribution*				
68		0-5	0.50	0.40	BCPM value for 0-10 density zone
69		5-100	0.55	0.55	BCPM value for 11-50 density zone
70		100-200	0.55	0.65	BCPM value for 51-150 density zone
71		200-650	0.60	0.75	BCPM value for 151-500 density zone
72		650-850	0.65	0.75	BCPM value for 151-500 density zone
73		850-2,550	0.70	0.80	BCPM value for 501-2000 density zone
74		2,550-5,000	0.75	0.80	BCPM value for 2001-5000 density zone
75		5,000-10,000	0.75	0.80	BCPM value for >5000 density zone
76		10,000+	0.75	0.80	BCPM value for >5000 density zone
77	**EO Switching Parameters**				
78					
79	Busy hour call attempts, residential		1.3		
80	Busy hour call attempts, business		3.5		
81	Switch Maximum Line Size		80,000		

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
82		Switch port administrative fill	0.98	0.85	Direct insert from BCPM
83	Switch Maximum Processor Occupancy		0.9		
84	Processor Feature Loading Multiplier		1.2-2.0	1.0	BCPM assumes all lines are the same
85		Business penetration threshold	0.3		
86	Switch Installation Multiplier		1.1		
87					
88	*Switch Parameters*				
89	Switch real-time limit, BHCA				
90	1 - 1,000		10,000		
91	1,000 - 10,000		50,000		
92	10,000 - 40,000		200,000		
93	40,000+		600,000		
94					
95	Switch traffic limit, BHCCS				
96	1.- 1,000		30,000		
97	1,000 - 10,000		150,000		
98	10,000 - 40,000		600,000		
99	40,000+		1,800,000		
100					
101		Constant term in switch inv. curve			
102		BOC/large ICO	$242.73	Edit in Exp	Insert BCPM equation $225 + $261.871/Lines
103		Small ICO	$416.11	Module	
104					
105	Residential Holding Time Multiplier		1.00		
106	Business Holding Time Multiplier		1.00		
107	Busy Hour fraction of daily usage		0.10		
108	Annual to daily usage reduction factor		270		
109					
110	**Interoffice and Tandem Parameters**				
111					
112	Operator Traffic Fraction		0.02		
113	Total Interoffice Traffic Fraction		0.65		
114	Direct-Routed Fraction of Local Interoffice		0.98		
115	Maximum Trunk Occupancy, CCS		27.5		
116	Trunk Termination Investment, per end		$100		
117	Average Trunk Usage Fraction		0.30		
118					
119	*Toll traffic inputs*				
120	Tandem-routed % of total intraLATA traffic		0.2		
121	Tandem-routed % of total interLATA traffic		0.2		
122					
123		Entrance facility distance from			
124		SWC to IXC POP, miles	0.5		
125		Number of POPs per LEC tandem	5		
126	*Tandem Switching parameters*				
127	real time limit, BHCA		750,000		
128	port limit, trunks		100,000		
129	common equipment investment		$1,000,000		
130	maximum trunk fill		0.90		
131	maximum real time occupancy		0.90		
132	common equipment intercept factor		0.50		
133					
134	**Wire Center Parameters**				
135					
136	Lot size, multiplier of switch room size		2		
137	Tandem/EO wire center common factor		0.4		
138					
139	*Power and frame investment*	Power (only) investment			
140	0-1,000 lines		$5,000	$0	Included in BCPM switch investment figure
141	1,000-5,000 lines		$10,000	$0	Included in BCPM switch investment figure
142	5,000-25,000 lines		$20,000	$0	Included in BCPM switch investment figure
143	25,000-50,000 lines		$50,000	$0	Included in BCPM switch investment figure
144	50000+ lines		$250,000	$0	Included in BCPM switch investment figure
145		MDF/protector investment per line	$17.50		
146					
147	*Switch room size*				
148	0-1,000 lines		500		
149	1,000-5,000 lines		1,000		
150	5,000-25,000 lines		2,000		
151	25,000-50,000 lines		5,000		
152	50000+ lines		10,000		
153					
154	*construction costs*				
155	0-1,000 lines		$75		
156	1,000-5,000 lines		$85		
157	5,000-25,000 lines		$100		
158	25,000-50,000 lines		$125		
159	50000+ lines		$150		
160					
161	*Land price, per sq ft*				
162	0-1,000 lines		$5.00		

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
163	1,000-5,000 lines		$7.50		
164	5,000-25,000 lines		$10.00		
165	25,000-50,000 lines		$15.00		
166	50000+ lines		$20.00		
167					
168					
169	**ICO Surrogates**				
170	Surrogate per-line investments				
171	for small ICOs	Factor up later			
172		STP	$5.50		
173		local tandem	$1.90		
174		OS tandem	$0.80		
175		SCP	$2.50		
176		local tdm wire center	$2.50		
177		OS tdm wire center	$1.00		
178		STP/SCP wire center	$0.40		
179		C-link/tandem A-link	$0.30		
180					
181	**Distribution Structure Inputs**				
182	*Aerial fraction*	*Aerial/block cable fraction*			
183		0-5	0.25	0.40	BCPM value for 0-10 density zone
184		5-100	0.25	0.30	BCPM value for 11-50 density zone
185		100-200	0.25	0.30	BCPM value for 51-150 density zone
186		200-650	0.30	0.30	BCPM value for 151-500 density zone
187		650-850	0.30	0.15	BCPM value for 151-500 density zone
188		850-2,550	0.30	0.15	BCPM value for 501-2000 density zone
189		2,550-5,000	0.30	0.05	BCPM value for 2001-5000 density zone
190		5,000-10,000	0.60	0.00	BCPM value for >5000 density zone
191		10,000+	0.85	0.00	BCPM value for >5000 density zone
192	*Buried fraction*				
193		0-5	0.75	0.60	BCPM value for 0-10 density zone
194		5-100	0.75	0.65	BCPM value for 11-50 density zone
195		100-200	0.75	0.65	BCPM value for 51-150 density zone
196		200-650	0.70	0.65	BCPM value for 151-500 density zone
197		650-850	0.70	0.70	BCPM value for 151-500 density zone
198		850-2,550	0.70	0.70	BCPM value for 501-2000 density zone
199		2,550-5,000	0.65	0.75	BCPM value for 2001-5000 density zone
200		5,000-10,000	0.35	0.10	BCPM value for >5000 density zone
201		10,000+	0.05	0.10	BCPM value for >5000 density zone
202					
203	*Buried installation/foot*				
204		0-5	$1.77	$1.47	BCPM normal buried distribution w/o sharing for dz 0-10
205		5-100	$1.77	$1.73	BCPM normal buried distribution w/o sharing for dz 11-50
206		100-200	$1.77	$2.48	BCPM normal buried distribution w/o sharing for dz 51-150
207		200-650	$1.93	$4.36	BCPM normal buried distribution w/o sharing for dz 151-500
208		650-850	$2.17	$5.22	BCPM normal buried distribution w/o sharing for dz 151-500
209		850-2,550	$3.54	$5.22	BCPM normal buried distribution w/o sharing for dz 501-2000
210		2,550-5,000	$4.27	$8.23	BCPM normal buried distribution w/o sharing for dz 2001-5000
211		5,000-10,000	$13.00	$8.84	BCPM normal buried distribution w/o sharing for dz >5000
212		10,000+	$45.00	$8.84	BCPM normal buried distribution w/o sharing for dz >5000
213					
214	Conduit installation, per foot	Adjusted to include BCPM manhole cost			
215		0-5	$10.29	$6.41	BCPM u/g distribution normal structure costs w/o sharing for dz 0-10 modified to assume BCPM handholes
216		5-100	$10.29	$4.89	BCPM u/g distribution normal structure costs w/o sharing for dz 11-50 modified to assume BCPM handholes
217		100-200	$10.29	$8.88	BCPM u/g distribution normal structure costs w/o sharing for dz 51-150 modified to assume BCPM 4X manholes
218		200-650	$11.35	$9.69	BCPM u/g distribution normal structure costs w/o sharing for dz 151-500 modified to assume BCPM 4X manholes
219		650-850	$11.88	$15.53	BCPM u/g distribution normal structure costs w/o sharing for dz 151-500 modified to assume BCPM 9X manholes
220		850-2,550	$16.40	$15.53	BCPM u/g distribution normal structure costs w/o sharing for dz 501-2000 modified to assume BCPM 9X manholes
221		2,550-5,000	$21.60	$18.48	BCPM u/g distribution normal structure costs w/o sharing for dz 2001-5000 modified to assume BCPM 9X manholes
222		5,000-10,000	$50.10	$19.09	BCPM u/g distribution normal structure costs w/o sharing for dz >5000 modified to assume BCPM 9X manholes
223		10,000+	$75.00	$19.09	BCPM u/g distribution normal structure costs w/o sharing for dz >5000 modified to assume BCPM 9X manholes
224					
225					
226	Pole spacing, feet	0-5	250	250	BCPM pole spacing for density zone 0-10
227		5-100	250	250	BCPM pole spacing for density zone 11-50
228		100-200	200	250	BCPM pole spacing for density zone 51-150
229		200-650	200	250	BCPM pole spacing for density zone 151-500
230		650-850	175	150	BCPM pole spacing for density zone 151-500
231		850-2,550	175	150	BCPM pole spacing for density zone 501-2000
232		2,550-5,000	150	150	BCPM pole spacing for density zone 2001-5000
233		5,000-10,000	150	150	BCPM pole spacing for density zone >5000

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
234		10,000+	150	150	BCPM pole spacing for density zone >5000
235					
236	Pole investment	Pole materials	$201	$436.17	Approximate BCPM pole installation cost
237		Pole labor	$216	$365.95	Approximate BCPM pole cost
238		Pole total investment	$417	$802.12	Sum of pole material cost and pole labor cost
239	Conduit investment per foot		$0.60	$0.83	BCPM conduit cost per duct foot
240		Spare tubes per route	1		
241	Manhole investment, per manhole	Included in conduit installation cost	(not used)		BCPM manhole cost loaded into conduit installation cost
242	Buried cable jacketing multiplier		1.04		
243					
244	**Copper Feeder Structure Inputs**				
245					
246	*Aerial Fraction*	*Aerial/block cable fraction*			
247		0-5	0.50	0.10	BCPM value for 0-10 density zone adjusted to HM3.1 dz
248		5-100	0.50	0.07	BCPM value for 11-50 density zone adjusted to HM3.1 dz
249		100-200	0.50	0.06	BCPM value for 51-150 density zone adjusted to HM3.1 dz
250		200-650	0.40	0.05	BCPM value for 151-500 density zone adjusted to HM3.1 dz
251		650-850	0.30	0.03	BCPM value for 151-500 density zone adjusted to HM3.1 dz
252		850-2,550	0.20	0.03	BCPM value for 501-2000 density zone adjusted to HM3.1 dz
253		2,550-5,000	0.15	0.00	BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
254		5,000-10,000	0.10	0.00	BCPM value for >5000 density zone adjusted to HM3.1 dz
255		10,000+	0.05	0.00	BCPM value for >5000 density zone adjusted to HM3.1 dz
256					
257	*Buried Fraction*				
258		0-5	0.45	0.80	BCPM value for 0-10 density zone adjusted to HM3.1 dz
259		5-100	0.45	0.08	BCPM value for 11-50 density zone adjusted to HM3.1 dz
260		100-200	0.45	0.07	BCPM value for 51-150 density zone adjusted to HM3.1 dz
261		200-650	0.40	0.70	BCPM value for 151-500 density zone adjusted to HM3.1 dz
262		650-850	0.30	0.22	BCPM value for 151-500 density zone adjusted to HM3.1 dz
263		850-2,550	0.20	0.22	BCPM value for 501-2000 density zone adjusted to HM3.1 dz
264		2,550-5,000	0.10	0.15	BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
265		5,000-10,000	0.05	0.05	BCPM value for >5000 density zone adjusted to HM3.1 dz
266		10,000+	0.05	0.05	BCPM value for >5000 density zone adjusted to HM3.1 dz
267					
268	*Buried Installation/foot*				
269		0-5	$1.77	$1.35	BCPM normal buried feeder w/o sharing for dz 0-10
270		5-100	$1.77	$1.79	BCPM normal buried feeder w/o sharing for dz 11-50
271		100-200	$1.77	$2.96	BCPM normal buried feeder w/o sharing for dz 51-150
272		200-650	$1.93	$4.18	BCPM normal buried feeder w/o sharing for dz 151-500
273		650-850	$2.17	$5.18	BCPM normal buried feeder w/o sharing for dz 151-500
274		850-2,550	$3.54	$5.18	BCPM normal buried feeder w/o sharing for dz 501-2000
275		2,550-5,000	$4.27	$8.22	BCPM normal buried feeder w/o sharing for dz 2001-5000
276		5,000-10,000	$13.00	$8.84	BCPM normal buried feeder w/o sharing for dz >5000
277		10,000+	$45.00	$8.84	BCPM normal buried feeder w/o sharing for dz >5000
278					
279	*Conduit Installation/foot*				
280		0-5	$10.29	$2.76	BCPM underground feeder normal structure costs w/out sharing for density zone 0-10
281		5-100	$10.29	$3.04	BCPM underground feeder normal structure costs w/out sharing for density zone 11-50
282		100-200	$10.29	$3.93	BCPM underground feeder normal structure costs w/out sharing for density zone 51-150
283		200-650	$11.35	$4.53	BCPM underground feeder normal structure costs w/out sharing for density zone 151-500
284		650-850	$11.38	$5.27	BCPM underground feeder normal structure costs w/out sharing for density zone 151-500
285		850-2,550	$16.40	$5.27	BCPM underground feeder normal structure costs w/out sharing for density zone 501-2000
286		2,550-5,000	$21.60	$8.22	BCPM underground feeder normal structure costs w/out sharing for density zone 2001-5000
287		5,000-10,000	$50.10	$8.84	BCPM underground feeder normal structure costs w/out sharing for density zone >5000
288		10,000+	$75.00	$8.84	BCPM underground feeder normal structure costs w/out sharing for density zone >5000
289					
290	*Manhole Spacing, ft*				
291		0-5	800	725	BCPM manhole spacing for density zone 0-10
292		5-100	800	725	BCPM manhole spacing for density zone 11-50
293		100-200	800	725	BCPM manhole spacing for density zone 51-150
294		200-650	800	725	BCPM manhole spacing for density zone 151-500
295		650-850	600	550	BCPM manhole spacing for density zone 151-500
296		850-2,550	600	550	BCPM manhole spacing for density zone 501-2000
297		2,550-5,000	600	550	BCPM manhole spacing for density zone 2001-5000
298		5,000-10,000	400	550	BCPM manhole spacing for density zone >5000
299		10,000+	400	550	BCPM manhole spacing for density zone >5000
300					
301	Pole spacing, feet	0-5	250	250	BCPM pole spacing for density zone 0-10
302		5-100	250	250	BCPM pole spacing for density zone 11-50
303		100-200	200	250	BCPM pole spacing for density zone 51-150

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
304		200-650	200	250	BCPM pole spacing for density zone 151-500
305		650-850	175	150	BCPM pole spacing for density zone 151-500
306		850-2,550	175	150	BCPM pole spacing for density zone 501-2000
307		2,550-5,000	150	150	BCPM pole spacing for density zone 2001-5000
308		5,000-10,000	150	150	BCPM pole spacing for density zone >5000
309		10,000+	150	150	BCPM pole spacing for density zone >5000
310					
311	Pole investment	Pole materials	$201	$436.17	Approximate BCPM pole installation cost
312		Pole labor	$216	$365.95	Approximate BCPM pole cost
313		Pole total investment	$417	$802.12	Sum of pole material cost and pole labor cost
314	Conduit investment per foot		$0.60	$0.83	BCPM conduit cost per duct foot
315					
316					
317					
318	Manhole investment, per manhole	0-5	$5,140	$1,344	BCPM handhole cost including installation w/out sharing
319		5-100	$5,140	$1,344	BCPM handhole cost including installation w/out sharing
320		100-200	$5,140	$3,783	BCPM 4X manhole cost including installation w/out sharing
321		200-650	$5,140	$3,783	BCPM 4X manhole cost including installation w/out sharing
322		650-850	$5,540	$5,640	BCPM 9X manhole cost including installation w/out sharing
323		850-2,550	$5,840	$5,640	BCPM 9X manhole cost including installation w/out sharing
324		2,550-5,000	$5,840	$5,640	BCPM 9X manhole cost including installation w/out sharing
325		5,000-10,000	$7,340	$5,640	BCPM 9X manhole cost including installation w/out sharing
326		10,000+	$7,340	$5,640	BCPM 9X manhole cost including installation w/out sharing
327	Buried cable jacketing multiplier		1.04		
328					
329	**Fiber Feeder Structure Inputs**				
330					
331	*Aerial fraction*	*Aerial/block cable fraction*			
332		0-5	0.35	0.10	BCPM value for 0-10 density zone adjusted to HM3.1 dz
333		5-100	0.35	0.07	BCPM value for 11-50 density zone adjusted to HM3.1 dz
334		100-200	0.35	0.06	BCPM value for 51-150 density zone adjusted to HM3.1 dz
335		200-650	0.30	0.05	BCPM value for 151-500 density zone adjusted to HM3.1 dz
336		650-850	0.30	0.03	BCPM value for 151-500 density zone adjusted to HM3.1 dz
337		850-2,550	0.20	0.03	BCPM value for 501-2000 density zone adjusted to HM3.1 dz
338		2,550-5,000	0.15	0.00	BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
339		5,000-10,000	0.10	0.00	BCPM value for >5000 density zone adjusted to HM3.1 dz
340		10,000+	0.05	0.00	BCPM value for >5000 density zone adjusted to HM3.1 dz
341					
342	*Buried Fraction*				
343		0-5	0.60	0.80	BCPM value for 0-10 density zone adjusted to HM3.1 dz
344		5-100	0.60	0.08	BCPM value for 11-50 density zone adjusted to HM3.1 dz
345		100-200	0.60	0.07	BCPM value for 51-150 density zone adjusted to HM3.1 dz
346		200-650	0.60	0.70	BCPM value for 151-500 density zone adjusted to HM3.1 dz
347		650-850	0.30	0.22	BCPM value for 151-500 density zone adjusted to HM3.1 dz
348		850-2,550	0.20	0.22	BCPM value for 501-2000 density zone adjusted to HM3.1 dz
349		2,550-5,000	0.10	0.15	BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
350		5,000-10,000	0.05	0.05	BCPM value for >5000 density zone adjusted to HM3.1 dz
351		10,000+	0.05	0.05	BCPM value for >5000 density zone adjusted to HM3.1 dz
352					
353	*Buried Installation/foot*				
354		0-5	$1.77	$1.35	BCPM normal buried feeder w/o sharing for dz 0-10
355		5-100	$1.77	$1.79	BCPM normal buried feeder w/o sharing for dz 11-50
356		100-200	$1.77	$2.96	BCPM normal buried feeder w/o sharing for dz 51-150
357		200-650	$1.93	$4.18	BCPM normal buried feeder w/o sharing for dz 151-500
358		650-850	$2.17	$5.18	BCPM normal buried feeder w/o sharing for dz 151-500
359		850-2,550	$3.54	$5.18	BCPM normal buried feeder w/o sharing for dz 501-2000
360		2,550-5,000	$4.27	$8.22	BCPM normal buried feeder w/o sharing for dz 2001-5000
361		5,000-10,000	$13.00	$8.84	BCPM normal buried feeder w/o sharing for dz >5000
362		10,000+	$45.00	$8.84	BCPM normal buried feeder w/o sharing for dz >5000
363					
364	*Conduit Installation/foot*				
365		0-5	$10.29	$2.76	BCPM normal u/g feeder w/o sharing for dz 0-10
366		5-100	$10.29	$3.04	BCPM normal u/g feeder w/o sharing for dz 11-50
367		100-200	$10.29	$3.93	BCPM normal u/g feeder w/o sharing for dz 51-150
368		200-650	$11.35	$4.53	BCPM normal u/g feeder w/o sharing for dz 151-500
369		650-850	$11.38	$5.27	BCPM normal u/g feeder w/o sharing for dz 151-500
370		850-2,550	$16.40	$5.27	BCPM normal u/g feeder w/o sharing for dz 501-2000
371		2,550-5,000	$21.60	$8.22	BCPM normal u/g feeder w/o sharing for dz 2001-5000
372		5,000-10,000	$50.10	$8.84	BCPM normal u/g feeder w/o sharing for dz >5000
373		10,000+	$75.00	$8.84	BCPM normal u/g feeder w/o sharing for dz >5000
374					
375	*Manhole Spacing, ft.*	Pullbox spacing, ft			
376		0-5	2,000	725	BCPM manhole spacing for density zone 0-10
377		5-100	2,000	725	BCPM manhole spacing for density zone 11-50
378		100-200	2,000	725	BCPM manhole spacing for density zone 51-150
379		200-650	2,000	725	BCPM manhole spacing for density zone 151-500
380		650-850	2,000	550	BCPM manhole spacing for density zone 151-500
381		850-2,550	2,000	550	BCPM manhole spacing for density zone 501-2000
382		2,550-5,000	2,000	550	BCPM manhole spacing for density zone 2001-5000

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
383		5,000-10,000	2,000	550	BCPM manhole spacing for density zone >5000
384		10,000+	2,000	550	BCPM manhole spacing for density zone >5000
385					
386		pullbox investment			
387		0-5	$500.00	$1,344	BCPM handhole cost including installation w/out sharing
388		5-100	$500.00	$1,344	BCPM handhole cost including installation w/out sharing
389		100-200	$500.00	$3,783	BCPM 4X manhole cost including installation w/out sharing
390		200-650	$500.00	$3,783	BCPM 4X manhole cost including installation w/out sharing
391		650-850	$500.00	$5,640	BCPM 9X manhole cost including installation w/out sharing
392		850-2,550	$500.00	$5,640	BCPM 9X manhole cost including installation w/out sharing
393		2,550-5,000	$500.00	$5,640	BCPM 9X manhole cost including installation w/out sharing
394		5,000-10,000	$500.00	$5,640	BCPM 9X manhole cost including installation w/out sharing
395		10,000+	$500.00	$5,640	BCPM 9X manhole cost including installation w/out sharing
396					
397		fiber strand fill factor			
398		0-5	1.00		
399		5-100	1.00		
400		100-200	1.00		
401		200-650	1.00		
402		650-850	1.00		
403		850-2,550	1.00		
404		2,550-5,000	1.00		
405		5,000-10,000	1.00		
406		10,000+	1.00		
407					
408	Buried fiber cable jacketing, per foot		$0.20		
409					
410					
411	**Misc. Loop Investment Inputs**				
412					
413	Drop investment per line	Drop distance (feet)			
414		0-5	150	491	Approximate BCPM drop distance for density zone 0-10
415		5-100	150	689	Approximate BCPM drop distance for density zone 11-50
416		100-200	100	437	Approximate BCPM drop distance for density zone 51-150
417		200-650	100	250	Approximate BCPM drop distance for density zone 151-500
418		650-850	50	250	Approximate BCPM drop distance for density zone 151-501
419		850-2,550	50	131	Approximate BCPM drop distance for density zone 501-200
420		2,550-5,000	50	87	Approximate BCPM drop distance for density zone 2001-5000
421		5,000-10,000	50	91	Approximate BCPM drop distance for density zone >5000
422		10,000+	50	91	Approximate BCPM drop distance for density zone >5000
423					
424		Drop placement cost - aerial total			
425		0-5	$58.33	$378.07	BCPM drop distance for dz 0-10 times $0.77/foot
426		5-100	$58.33	$530.53	BCPM drop distance for dz 11-50 times $0.77/foot
427		100-200	$46.67	$336.49	BCPM drop distance for dz 51-150 times $0.77/foot
428		200-650	$35.00	$192.50	BCPM drop distance for dz 151-500 times $0.77/foot
429		650-850	$23.33	$192.50	BCPM drop distance for dz 151-500 times $0.77/foot
430		850-2,550	$11.67	$100.87	BCPM drop distance for dz 501-2000 times $0.77/foot
431		2,550-5,000	$11.67	$66.99	BCPM drop distance for dz 2001-5000 times $0.77/foot
432		5,000-10,000	$11.67	$70.07	BCPM drop distance for dz >5000 times $0.77/foot
433		10,000+	$11.67	$70.07	BCPM drop distance for dz >5000 times $0.77/foot
434					
435		Drop placement cost - buried per foot			
436		0-5	$0.75	$0.77	BCPM drop cost per foot of $0.77
437		5-100	$0.75	$0.77	BCPM drop cost per foot of $0.77
438		100-200	$0.75	$0.77	BCPM drop cost per foot of $0.77
439		200-650	$0.75	$0.77	BCPM drop cost per foot of $0.77
440		650-850	$0.75	$0.77	BCPM drop cost per foot of $0.77
441		850-2,550	$0.75	$0.77	BCPM drop cost per foot of $0.77
442		2,550-5,000	$1.13	$0.77	BCPM drop cost per foot of $0.77
443		5,000-10,000	$1.50	$0.77	BCPM drop cost per foot of $0.77
444		10,000+	$5.00	$0.77	BCPM drop cost per foot of $0.77
445					
446		Drop structure % aerial			
447		0-5	0.25		
448		5-100	0.25		
449		100-200	0.25		
450		200-650	0.30		
451		650-850	0.30		
452		850-2,550	0.30		
453		2,550-5,000	0.30		
454		5,000-10,000	0.60		
455		10,000+	0.85		
456					
457		Drop cable investment, per foot			
458		Aerial	$0.095		
459		Buried	$0.140		
460		# pairs per drop			
461		Aerial	2		
462		Buried	3		

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
463					
464	NID investment per line	NID Case - residential	$25.00	$30.73	BCPM NID cost
465		NID case - business	$40.00	$30.73	BCPM NID cost
466		Max lines per NID case - res	6		
467		Protection block per line - res	$4.00		
468		Protection block per line - bus	$4.00		
469					
470	Terminal and splice per line	Terminal/splice per line - aerial	$32.00	$54.00	BCPM average aerial splice cost
471		Terminal/splice per line - buried	$42.50	$113.00	BCPM buried splice cost
472					
473					
474		Long loop adjustments			
475			*Loading investment*		
476		*distance, feet*	*per line*		
477		18,000	$20	0.00	No copper loops >12kft. in BCPM
478		27,000	$40	0.00	No copper loops >12kft. in BCPM
479		55,000	$75	0.00	No copper loops >12kft. in BCPM
480		99,000	$110	0.00	No copper loops >12kft. in BCPM
481		178,000	$175	0.00	No copper loops >12kft. in BCPM
482			*cable gauge multiplier*		
483		18,000	1.36	1.00	No copper loops >12kft. in BCPM
484		27,000	2.55	1.00	No copper loops >12kft. in BCPM
485		55,000	2.55	1.00	No copper loops >12kft. in BCPM
486		99,000	13.07	1.00	No copper loops >12kft. in BCPM
487		178,000	13.07	1.00	No copper loops >12kft. in BCPM
488					
489			*DLC channel unit adj.*		
490		18,000	1.00	1.00	No copper loops >12kft. in BCPM
491		27,000	1.00	1.00	No copper loops >12kft. in BCPM
492		55,000	1.25	1.00	No copper loops >12kft. in BCPM
493		99,000	1.00	1.00	No copper loops >12kft. in BCPM
494		178,000	1.25	1.00	No copper loops >12kft. in BCPM
495					
496	**Demographics and Terrain**				
497	**Factors**				
498					
499		dist. multiplier, difficult terrain	1.2		
500		rock depth threshold, inches	24.0		
501		hard rock placement multiplier	3.5		
502		soft rock placement multiplier	2.0		
503		difficult surface multiplier	1.0		
504		urban sidewalk/street fraction	0.20		
505		RT in cluster threshold, feet	18,000	12,000	BCPM default value
506					
507		town factor	0.85	0.99	Uniform customer distribution in BCPM
508		maximum lot size, acres	3.0	1,000,000	No limits on lot size in BCPM
509		maximum town lot size, acres	3.0	1,000,000	No limits on lot size in BCPM
510		lot configuration (frontage:depth)	1.2	1.1	Edit in Distribution module
511	Average lines per business location		4		
512					
513	*Distribution structure % assigned to telephone*				
514	*telephone*				
515	aerial	0-5	0.50	0.55	Approximate BCPM value for 0-10 density zone adjusted to HM3.1 dz
516		5-100	0.33	0.55	Approximate BCPM value for 11-50 density zone adjusted to HM3.1 dz
517		100-200	0.25	0.55	Approximate BCPM value for 51-150 density zone adjusted to HM3.1 dz
518		200-650	0.25	0.55	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
519		650-850	0.25	0.55	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
520		850-2,550	0.25	0.55	Approximate BCPM value for 501-2000 density zone adjusted to HM3.1 dz
521		2,550-5,000	0.25	0.55	Approximate BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
522		5,000-10,000	0.25	0.55	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
523		10,000+	0.25	0.55	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
524					
525	buried	0-5	0.33	1.00	Approximate BCPM value for 0-10 density zone adjusted to HM3.1 dz
526		5-100	0.33	0.98	Approximate BCPM value for 11-50 density zone adjusted to HM3.1 dz
527		100-200	0.33	0.96	Approximate BCPM value for 51-150 density zone adjusted to HM3.1 dz

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
528		200-650	0.33	0.84	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
529		650-850	0.33	0.84	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
530		850-2,550	0.33	0.84	Approximate BCPM value for 501-2000 density zone adjusted to HM3.1 dz
531		2,550-5,000	0.33	0.80	Approximate BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
532		5,000-10,000	0.33	0.80	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
533		10,000+	0.33	0.80	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
534					
535	underground	0-5	1.00	1.00	Approximate BCPM value for 0-10 density zone adjusted to HM3.1 dz
536		5-100	0.50	0.95	Approximate BCPM value for 11-50 density zone adjusted to HM3.1 dz
537		100-200	0.50	0.90	Approximate BCPM value for 51-150 density zone adjusted to HM3.1 dz
538		200-650	0.50	0.80	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
539		650-850	0.40	0.80	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
540		850-2,550	0.33	0.80	Approximate BCPM value for 501-2000 density zone adjusted to HM3.1 dz
541		2,550-5,000	0.33	0.80	Approximate BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
542		5,000-10,000	0.33	0.80	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
543		10,000+	0.33	0.80	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
544					
545	*Feeder structure % assigned to telephone*				
546	aerial	0-5	0.50	0.55	Approximate BCPM value for 0-10 density zone adjusted to HM3.1 dz
547		5-100	0.33	0.55	Approximate BCPM value for 11-50 density zone adjusted to HM3.1 dz
548		100-200	0.25	0.55	Approximate BCPM value for 51-150 density zone adjusted to HM3.1 dz
549		200-650	0.25	0.55	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
550		650-850	0.25	0.55	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
551		850-2,550	0.25	0.55	Approximate BCPM value for 501-2000 density zone adjusted to HM3.1 dz
552		2,550-5,000	0.25	0.55	Approximate BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
553		5,000-10,000	0.25	0.55	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
554		10,000+	0.25	0.55	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
555					
556	buried	0-5	0.40	1.00	Approximate BCPM value for 0-10 density zone adjusted to HM3.1 dz
557		5-100	0.40	0.99	Approximate BCPM value for 11-50 density zone adjusted to HM3.1 dz
558		100-200	0.40	0.98	Approximate BCPM value for 51-150 density zone adjusted to HM3.1 dz
559		200-650	0.40	0.95	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
560		650-850	0.40	0.95	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
561		850-2,550	0.40	0.95	Approximate BCPM value for 501-2000 density zone adjusted to HM3.1 dz
562		2,550-5,000	0.40	0.85	Approximate BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
563		5,000-10,000	0.40	0.85	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
564		10,000+	0.40	0.85	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
565					
566	underground	0-5	0.50	1.000	Approximate BCPM value for 0-10 density zone adjusted to HM3.1 dz
567		5-100	0.50	0.975	Approximate BCPM value for 11-50 density zone adjusted to HM3.1 dz
568		100-200	0.40	0.950	Approximate BCPM value for 51-150 density zone adjusted to HM3.1 dz
569		200-650	0.33	0.925	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz
570		650-850	0.33	0.925	Approximate BCPM value for 151-500 density zone adjusted to HM3.1 dz

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
571		850-2,550	0.33	0.900	Approximate BCPM value for 501-2000 density zone adjusted to HM3.1 dz
572		2,550-5,000	0.33	0.850	Approximate BCPM value for 2001-5000 density zone adjusted to HM3.1 dz
573		5,000-10,000	0.33	0.850	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
574		10,000+	0.33	0.850	Approximate BCPM value for >5000 density zone adjusted to HM3.1 dz
575					
576	*SAI Investment, installed*				
577	*Distribution cable size*		Outdoor (*)		
578	0	6	$250	$407	Interpolated from BCPM data
579	100	12	$250	$407	Interpolated from BCPM data
580	200	25	$250	$1,885	Interpolated from BCPM data
581	400	50	$300	$2,120	Interpolated from BCPM data
582	600	100	$642	$2,590	Interpolated from BCPM data
583	900	200	$902	$6,848	Interpolated from BCPM data
584	1200	400	$1,071	$8,717	Interpolated from BCPM data
585	1800	600	$1,500	$11,490	Interpolated from BCPM data
586	2400	900	$2,028	$11,713	Interpolated from BCPM data
587	3000	1200	$2,610	$19,299	Interpolated from BCPM data
588	3600	1800	$3,569	$23,426	Interpolated from BCPM data
589		2400	$4,469	$27,553	Interpolated from BCPM data
590					
591					
592	*Distribution cable size*		Indoor (*)		
593	0	6	$48	$340	Interpolated from BCPM data
594	100	12	$48	$340	Interpolated from BCPM data
595	200	25	$48	$340	Interpolated from BCPM data
596	400	50	$48	$509	Interpolated from BCPM data
597	600	100	$48	$812	Interpolated from BCPM data
598	900	200	$96	$1,293	Interpolated from BCPM data
599	1200	400	$192	$2,324	Interpolated from BCPM data
600	1800	600	$288	$3,757	Interpolated from BCPM data
601	2400	900	$432	$4,901	Interpolated from BCPM data
602	3000	1200	$576	$6,045	Interpolated from BCPM data
603	3600	1800	$864	$7,189	Interpolated from BCPM data
604		2400	$1,052	$8,333	Interpolated from BCPM data
605					
606		* Assume same SAI for fiber and copper, differentiated			
607		by indoor (high-rise) and outdoor			
608					
609					
610	**Digital Loop Carrier Inputs**				
611					
612	*SLC (TR-303)*	*DLC (TR-303)*			
613	site, housing, and power per remote terminal		$3,000	$0	Value calculated to approximate BCPM DLC investment per line curve
614	maximum lines	Maximum lines per line module	672		
615	remote terminal fill factor		0.90	0.85	Direct input of BCPM data
616	common equipment investment	common eqpt. invst., initial line mod.	$66,000	$92,147	Value calculated to approximate BCPM DLC investment per line curve
617		common eqpt inv., per addt'l line mod.	$18,500	$32,974	Value calculated to approximate BCPM DLC investment per line curve
618		max number of addt'l line mods.	2	1	
619					
620	channel unit investment per line	POTS channel unit investment	$310	$371	Direct input of BCPM data
621		POTS lines per CU	4		
622		coin channel unit investment	$250	$371	No coin units assumed in BCPM, POTS unit used
623		coin lines per CU	2	4	No coin units assumed in BCPM, POTS characteristics used
624	DS-0s per fiber		(not used)		
625	Fibers per remote terminal		4		
626		optical patch panel	$1,000	$0	Not costed in BCPM
627					
628					
629		TR-303/LD crossover, lines	384	240	Direct input of BCPM data
630					
631	AFC	LOW-DENSITY DLC			
632	site, housing, and power per remote terminal	Number is supposed to be negative	$2,500	-$22,278	Value calculated to approximate BCPM DLC investment per line curve
633	maximum lines		96	120	Direct input of BCPM data
634	remote terminal fill factor		0.90	0.85	Direct input of BCPM data
635	common equipment investment	Common eqpt. invst., initial line mod.	$13,000	$75,855	Value calculated to approximate BCPM DLC investment per line curve
636		common eqpt inv per addt'l line mod.	$11,000	$31,299	Value calculated to approximate BCPM DLC investment per line curve
637		max number of addt'l line mods.	1		
638	channel unit investment per line	POTS channel unit investment	$310	$371	Direct input of BCPM data
639		POTS lines per CU	4		
640		coin channel unit investment	$250	$371	No coin units assumed in BCPM. POTS unit used

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
641		coin lines per CU	2	4	No coin units assumed in BCPM. POTS characteristics used
642	DS-0s per fiber		(not used)		
643	Fibers per remote terminal		4		
644		optical patch panel	$1,000	$0	Not costed in BCPM
645	Fiber feeder distance threshold, ft. (feeder length)		9,000	7,500	Distance threshold necessary to approximate the percentage of lines served by DLC in BCPM
646					
647					
648	**Signaling Parameters**				Captured via BCPM assumption of 3% factor against EO switching investment
649					
650	STP Link Capacity		720		
651	STP Maximum Fill		0.8		
652	STP Investment, per pair, fully equipped	max STP inv per pair	$5,000,000		
653	STP common equipment investment, per pair	min STP inv per pair	$1,000,000		
654	Link Termination, both ends		$900.00		
655	Signaling Link Bit Rate, bits per second		56,000		
656	Link Occupancy		0.40		
657	C Link Cross-Section		24		
658	ISUP messages per interoffice BHCA		6		
659	ISUP message length, bytes		25		
660	TCAP messages per transaction		2		
661	TCAP message length, bytes		100		
662	Fraction of BHCA requiring TCAP		0.10		
663	SCP investment per transaction per second		$20,000		
664					
665	**Miscellaneous Inputs**				
666					
667	*Operator position parameters*				
668	Investment per position		$8,400		
669	Maximum utilization per position, CCS		32		
670	Operator intervention factor		10		
671					
672	*Crossover points*				
673	DS0/DS1 crossover	DS0/DS1 terminal factor	12		
674	DS1/DS3 crossover	DS1/DS3 terminal factor	10		
675					
676	Public Telephone investment per station		$760		
677					
678		State-specific labor adj. factor	1.0		
679					
680					
681	**Transport Investment**				Captured via BCPM assumption of 3% factor against EO switching investment
682					
683	*Terminal Investment*				
684	Number of Fibers (point-to-point)	Number of fibers (ring)	24		
685		Number of fibers per ADM	4		
686	FOT capacity, DS-3s		(not used)		
687	FOT fill	Terminal fill (DS-0 level)	0.90		
688	FOT, installed	OC-48 ADM, installed, 48 DS-3s	$50,000		
689		OC-48 ADM, installed, 12 DS-3s	$40,000		
690		OC-3 term mux, installed, 84 DS-1s	$26,000		
691		(inv per 7 DS-1s)	$500		
692		DCS equipment, installed, per DS-3	$30,000		
693					
694		channel bank investment, per 24 lines	$5,000		
695		fraction of SA lines requiring DS-1 mux	0.50		
696					
697	Pigtails		$60.00		
698	Optical distribution panel		$1,000.00		
699	EF&I, per hour		$55.00		
700	EF&I units		32		
701					
702	*Medium Investment*				
703	Fraction of structure assigned to telephone	Aerial structure fractionassigned to tel.	0.33		
704		Buried structure fraction assigned to tel.	0.33		
705		u/g structure fraction assigned to tel	0.33		
706					
707	Fraction of structure shared with feeder		0.75	0%	sharing not assumed by BCPM
708	Regenerator spacing, mi.		40		
709	Regenerator investment, installed		$15,000.00		
710	Fiber cable investment per foot		$3.50		
711	Trenching per foot	u/g placement	$18.40		
712	Conduit per foot		$0.60		
713	Number of tubes	spare tubes per route	1		
714	Manhole investment	pullbox investment	$500	$5,640	
715	Manhole spacing	pullbox spacing, ft	2,000	550.00	
716	Buried installation per foot	buried placement	$1.77	$1.35	
717	Pole investment	Pole materials	$201	$436.17	
718		Pole labor	$218	$365.95	

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
719		Pole total investment	$417	$802.12	
720	Pole spacing		150		
721					
722	Buried fraction		0.60		
723	Aerial fraction		0.20		
724	Underground fraction (calculated)		0.20		
725					
726		Buried fiber cable jacketing, per ft.	$0.20		
727					
728	**Call Attempts & DEMs**				
729					
730	*Call Attempts*				
731	Local				
732	Call Completion Fraction		0.70		
733					
734	*DEMs*				
735	Local bus/res DEMs		1.1		
736	Intrastate bus/res DEMs		2.0		
737	Interstate bus/res DEMs		3.0		
738					
739	**Line Counts**		ARMIS data		
740					
741					
742	**Cable Investments**				
743	*Copper feeder - Underground*				
744	Cable Size	Cable Size	Inv. per foot (EF&I)		
745	4200	4200	$74.25	$35.31	Avg of aerial, buried, and u/g cable cost for 4200 pair cable
746	3600	3600	$63.75	$32.50	Avg of aerial, buried, and u/g cable cost for 3600 pair cable
747	3000	3000	$53.25	$30.25	Avg of aerial, buried, and u/g cable cost for 3000 pair cable
748	2400	2400	$42.75	$24.85	Avg of aerial, buried, and u/g cable cost for 2400 pair cable
749	1800	1800	$32.25	$19.04	Avg of aerial, buried, and u/g cable cost for 1800 pair cable
750	1200	1200	$21.75	$12.65	Avg of aerial, buried, and u/g cable cost for 1200 pair cable
751	900	900	$16.50	$10.18	Avg of aerial, buried, and u/g cable cost for 900 pair cable
752	600	600	$11.25	$7.33	Avg of aerial, buried, and u/g cable cost for 600 pair cable
753	400	400	$7.75	$5.93	Avg of aerial, buried, and u/g cable cost for 400 pair cable
754	200	200	$4.25	$3.64	Avg of aerial, buried, and u/g cable cost for 200 pair cable
755	100	100	$2.50	$2.72	Avg of aerial, buried, and u/g cable cost for 100 pair cable
756					
757	*Copper Feeder - Aerial*				
758	Cable Size	Cable Size	Inv. per foot (EF&I)		
759	4200	4200	$74.25	$35.31	Avg of aerial, buried, and u/g cable cost for 4200 pair cable
760	3600	3600	$63.75	$32.50	Avg of aerial, buried, and u/g cable cost for 3600 pair cable
761	3000	3000	$53.25	$30.25	Avg of aerial, buried, and u/g cable cost for 3000 pair cable
762	2400	2400	$42.75	$24.85	Avg of aerial, buried, and u/g cable cost for 2400 pair cable
763	1800	1800	$32.25	$19.04	Avg of aerial, buried, and u/g cable cost for 1800 pair cable
764	1200	1200	$21.75	$12.65	Avg of aerial, buried, and u/g cable cost for 1200 pair cable
765	900	900	$16.50	$10.18	Avg of aerial, buried, and u/g cable cost for 900 pair cable
766	600	600	$11.25	$7.33	Avg of aerial, buried, and u/g cable cost for 600 pair cable
767	400	400	$7.75	$5.93	Avg of aerial, buried, and u/g cable cost for 400 pair cable
768	200	200	$4.25	$3.64	Avg of aerial, buried, and u/g cable cost for 200 pair cable
769	100	100	$2.50	$2.72	Avg of aerial, buried, and u/g cable cost for 100 pair cable
770					
771	*Distribution - Underground*				
772	Cable Size	Cable Size	Inv. per foot (EF&I)		
773	2400	2400	$42.75	$25.02	Avg of aerial, buried, and u/g cable cost for 2400 pair cable
774	1800	1800	$32.25	$19.10	Avg of aerial, buried, and u/g cable cost for 1800 pair cable
775	1200	1200	$21.75	$12.69	Avg of aerial, buried, and u/g cable cost for 1200 pair cable
776	900	900	$16.50	$9.99	Avg of aerial, buried, and u/g cable cost for 900 pair cable
777	600	600	$11.25	$7.33	Avg of aerial, buried, and u/g cable cost for 600 pair cable
778	400	400	$7.75	$5.93	Avg of aerial, buried, and u/g cable cost for 400 pair cable
779	200	200	$4.25	$3.64	Avg of aerial, buried, and u/g cable cost for 200 pair cable
780	100	100	$2.50	$2.72	Avg of aerial, buried, and u/g cable cost for 100 pair cable
781	50	50	$1.83	$2.39	Avg of aerial, buried, and u/g cable cost for 50 pair cable
782	25	25	$1.19	$1.98	Avg of aerial, buried, and u/g cable cost for 25 pair cable
783		12	$0.76	$1.45	Avg of aerial, buried, and u/g cable cost for 12 pair cable
784		6	$0.63	$1.45	Avg of aerial, buried, and u/g cable cost for 12 pair cable because the BCPM will never take advantage of the cost savings for less than a 12 pair cable
785					
786	*Distribution - Aerial*				
787	Cable Size	Cable Size	Inv. per foot (EF&I)		
788	2400	2400	$42.75	$25.02	Avg of aerial, buried, and u/g cable cost for 2400 pair cable
789	1800	1800	$32.25	$19.10	Avg of aerial, buried, and u/g cable cost for 1800 pair cable
790	1200	1200	$21.75	$12.69	Avg of aerial, buried, and u/g cable cost for 1200 pair cable
791	900	900	$16.50	$9.99	Avg of aerial, buried, and u/g cable cost for 900 pair cable
792	600	600	$11.25	$7.33	Avg of aerial, buried, and u/g cable cost for 600 pair cable
793	400	400	$7.75	$5.93	Avg of aerial, buried, and u/g cable cost for 400 pair cable

	A	B	C	D	E
4	HM2.2.2 Input Name	HM3 Input Name	HM3 Values	BCPM-Mimicing Values	Logic Source for BCPM-Mimicing Value
5					
794	200	200	$4.25	$3.64	Avg of aerial, buried, and u/g cable cost for 200 pair cable
795	100	100	$2.50	$2.72	Avg of aerial, buried, and u/g cable cost for 100 pair cable
796	50	50	$1.63	$2.39	Avg of aerial, buried, and u/g cable cost for 50 pair cable
797	25	25	$1.19	$1.98	Avg of aerial, buried, and u/g cable cost for 25 pair cable
798		12	$0.76	$1.45	Avg of aerial, buried, and u/g cable cost for 12 pair cable
799		6	$0.63	$1.45	Avg of aerial, buried, and u/g cable cost for 12 pair cable because the BCPM will never take advantage of the cost savings for less than a 12 pair cable
800					
801		*Distribution - Riser cable*			
802		Cable Size	Inv. per foot (EF&I)		
803		2400 pair	$42.75	$25.02	Avg of aerial, buried, and u/g cable cost for 2400 pair pair cable
804		1800	$32.25	$19.10	Avg of aerial, buried, and u/g cable cost for 1800 pair cable
805		1200	$21.75	$12.69	Avg of aerial, buried, and u/g cable cost for 1200 pair cable
806		900	$16.50	$9.99	Avg of aerial, buried, and u/g cable cost for 900 pair cable
807		600	$11.25	$7.33	Avg of aerial, buried, and u/g cable cost for 600 pair cable
808		400	$7.75	$5.93	Avg of aerial, buried, and u/g cable cost for 400 pair cable
809		200	$4.25	$3.64	Avg of aerial, buried, and u/g cable cost for 200 pair cable
810		100	$2.50	$2.72	Avg of aerial, buried, and u/g cable cost for 100 pair cable
811		50	$1.63	$2.39	Avg of aerial, buried, and u/g cable cost for 50 pair cable
812		25	$1.19	$1.98	Avg of aerial, buried, and u/g cable cost for 25 pair cable
813		12	$0.76	$1.45	Avg of aerial, buried, and u/g cable cost for 12 pair cable
814		6	$0.63	$1.45	Avg of aerial, buried, and u/g cable cost for 12 pair cable because the BCPM will never take advantage of the cost savings for less than a 12 pair cable
815	*Fiber Feeder - Underground*	*Fiber Feeder - Underground*			
816	Cable Size	Cable Size	Inv. per foot (EF&I)		
817	216	216	$13.10	$12.10	Avg of aerial, buried, and u/g fiber cost for 288 strand cable because the BCPM does not place a 216 strand fiber cable and will not be able to get the cost savings
818	144	144	$9.50	$10.03	Avg of aerial, buried, and u/g fiber cost for 144 strand cable
819	96	96	$7.10	$7.34	Avg of aerial, buried, and u/g fiber cost for 96 strand cable
820	72	72	$5.90	$6.33	Avg of aerial, buried, and u/g fiber cost for 72 strand cable
821	60	60	$5.30	$5.56	Avg of aerial, buried, and u/g fiber cost for 60 strand cable
822	48	48	$4.70	$4.99	Avg of aerial, buried, and u/g fiber cost for 48 strand cable
823	36	36	$4.10	$4.28	Avg of aerial, buried, and u/g fiber cost for 36 strand cable
824	24	24	$3.50	$3.71	Avg of aerial, buried, and u/g fiber cost for 24 strand cable
825	18	18	$3.20	$3.33	Avg of aerial, buried, and u/g fiber cost for 18 strand cable
826	12	12	$2.90	$2.96	Avg of aerial, buried, and u/g fiber cost for 12 strand cable
827					
828	*Fiber Feeder - Aerial*	*Fiber Feeder - Aerial*			
829	Cable Size	Cable Size	Inv. per foot (EF&I)		
830	216	216	$13.10	$12.10	Avg of aerial, buried, and u/g fiber cost for 288 strand cable because the BCPM does not place a 216 strand fiber cable and will not be able to get the cost savings
831	144	144	$9.50	$10.03	Avg of aerial, buried, and u/g fiber cost for 144 strand cable
832	96	96	$7.10	$7.34	Avg of aerial, buried, and u/g fiber cost for 96 strand cable
833	72	72	$5.90	$6.33	Avg of aerial, buried, and u/g fiber cost for 72 strand cable
834	60	60	$5.30	$5.56	Avg of aerial, buried, and u/g fiber cost for 60 strand cable
835	48	48	$4.70	$4.99	Avg of aerial, buried, and u/g fiber cost for 48 strand cable
836	36	36	$4.10	$4.28	Avg of aerial, buried, and u/g fiber cost for 36 strand cable
837	24	24	$3.50	$3.71	Avg of aerial, buried, and u/g fiber cost for 24 strand cable
838	18	18	$3.20	$3.33	Avg of aerial, buried, and u/g fiber cost for 18 strand cable
839	12	12	$2.90	$2.96	Avg of aerial, buried, and u/g fiber cost for 12 strand cable

Benchmark Cost Proxy Model Results

Plant Summary Report

PACIFIC BELL
California
Investment: UnCapped[1]

Density Group	0 to 10	11 to 50	51 to 150	151 to 500	501 to 2000	2001 to 5000	> 5001	Total
Investment Per Line Data								
Loop Distribution Investment	$ 3,352	$ 1,999	$ 1,151	$ 664	$ 411	$ 317	$ 213	$ 424
Loop Feeder Investment	$ 3,295	$ 1,053	$ 516	$ 320	$ 249	$ 218	$ 154	$ 262
Total Uncapped Loop Investment	$ 6,647	$ 3,052	$ 1,667	$ 984	$ 660	$ 535	$ 367	$ 686
Switch Investment	$ 341	$ 261	$ 239	$ 231	$ 226	$ 224	$ 223	$ 227
InterOffice Facilities	$ 10	$ 8	$ 7	$ 7	$ 7	$ 7	$ 7	$ 7
Other Investment	$ 401	$ 199	$ 123	$ 85	$ 67	$ 60	$ 51	$ 69
Total Investment	$ 7,400	$ 3,520	$ 2,036	$ 1,307	$ 960	$ 826	$ 648	$ 989
Cost Per Month Data								
Capital Cost	$ 121.01	$ 58.50	$ 33.98	$ 22.08	$ 16.37	$ 14.06	$ 11.10	$ 16.75
Operating Expense per Line	$ 11.34	$ 11.34	$ 11.34	$ 11.34	$ 11.34	$ 11.34	$ 11.34	$ 11.34
Total Cost per Line (Excluding Gross Reciepts Tax)	$ 132.36	$ 69.84	$ 45.33	$ 33.42	$ 27.71	$ 25.40	$ 22.44	$ 28.10
Line Data								
Loop Distribution Length	5,366	5,594	5,214	3,873	2,189	1,186	782	1,784
Loop Feeder Length	75,083	39,644	25,400	16,553	12,198	10,208	7,386	12,014
Total Loop Length	80,448	45,237	30,613	20,426	14,387	11,394	8,168	13,797
Number of Households	35,503	262,909	276,850	502,851	1,811,372	3,412,016	1,909,179	8,210,680
Number of Residential Lines	41,588	307,970	324,300	589,036	2,121,828	3,996,810	2,236,398	9,617,929
Number of Single Business Lines	9,667	64,927	110,371	251,082	842,423	1,150,927	782,210	3,211,607
Multiple Business Lines	8,376	56,250	95,622	217,529	729,849	997,126	677,682	2,782,434
Total CBG Lines Served	59,631	429,147	530,293	1,057,647	3,694,100	6,144,863	3,696,290	15,611,970

Benchmark Cost Proxy Model Results

Plant Summary Report

PACIFIC BELL
California
Investment: UnCapped[1]

Aggregate Support Data	0 to 10	11 to 50	51 to 150	151 to 500	501 to 2000	2001 to 5000	> 5001	Total
Support Over $20 Benchmark	$ 62,782,517	$ 200,864,034	$ 124,204,875	$ 130,704,146	$ 265,734,266	$ 313,129,055	$ 90,366,156	###########
Support Over $30 Benchmark	$ 57,366,062	$ 161,606,476	$ 80,119,462	$ 53,499,496	$ 44,947,641	$ 16,192,510	$ 840,872	$ 414,572,520
Support Over $40 Benchmark	$ 51,965,027	$ 123,064,951	$ 41,747,892	$ 8,279,511	$ 1,643,315	$ 427,383	$ 23,785	$ 227,151,866
Support Over $50 Benchmark	$ 46,633,678	$ 86,446,906	$ 15,315,646	$ 653,464	$ 114,896	$ 75,973	$ 7,599	$ 149,248,162
Support Over $60 Benchmark	$ 41,398,876	$ 53,608,604	$ 4,213,972	$ 180,056	$ 29,819	$ 21,126	$ -	$ 99,452,453
Support Over $70 Benchmark	$ 36,184,806	$ 28,987,256	$ 850,021	$ 96,565	$ 10,790	$ 8,546	$ -	$ 66,137,984
Support Over $80 Benchmark	$ 31,220,373	$ 14,520,397	$ 142,888	$ 69,908	$ 7,616	$ 7,346	$ -	$ 45,968,528

[1] **The Average Loop Investment per line**

Assumptions:
NATLBASE.CSV, CAPCOST.INF
BCPM.XLS
National Run at BCPM Defaults

Benchmark Cost Proxy Model Results

Key Elements

PACIFIC BELL
California

Analysis	Total	Per Line
CBG Lines Served	15,611,970	
Average Distribution Length	27,845,935,840	1,784
Average Feeder Length	187,554,807,359	12,014
Average Loop Length	215,400,743,199	13,797
Distribution Investment	$ 6,623,924,344	$ 424
Feeder Investment	$ 4,090,584,220	$ 262
Loop Investment (Uncapped)	$ 10,714,508,564	$ 686
Loop Investment (Capped)	$ 10,682,167,284	$ 684

Plant Type	Capped Annual Investment	Percentage	Annual Per Line Investment
Motor Vehicle	$ 105,867,419	0.69%	$ 6.78
Special Purpose Vehicle	$ 143,258	0.00%	$ 0.01
Garage Work	$ 4,584,245	0.03%	$ 0.29
Other Work	$ 89,822,560	0.58%	$ 5.75
Furniture	$ 33,379,037	0.22%	$ 2.14
Office	$ 100,423,627	0.65%	$ 6.43
General Purpose Computers	$ 424,758,995	2.76%	$ 27.21
Total Support Investment	$ 758,979,141	4.93%	$ 48.62
Land	$ 42,660,721	0.28%	$ 2.73
Building	$ 269,090,701	1.75%	$ 17.24
Switching Equipment	$ 3,540,015,018	22.99%	$ 226.75
Circuit Equipment	$ 2,595,265,270	16.86%	$ 166.24
Buried Cable	$ 4,117,206,314	26.74%	$ 263.72
Aerial Cable	$ 691,427,038	4.49%	$ 44.29
Underground Cable	$ 1,679,858,521	10.91%	$ 107.60
Pole Investment	$ 308,614,234	2.00%	$ 19.77
Conduit Investment	$ 1,393,380,705	9.05%	$ 89.25
Total Plant Investment	$ 14,637,518,523	95.07%	$ 937.58
Total Investment	$ 15,396,497,664	100.00%	$ 986.20

Assumptions:
NATLBASE.CSV, CAPCOST.INF
BCPM.XLS
National Run at BCPM Defaults

Benchmark Cost Proxy Model Results

Key Elements

PACIFIC BELL
California

Expense Account		Capped Annual Expense	Percentage		Monthly Per Line Cost
Plant Specific Expenses					
Network Support	$	27,914,203	0.82%	$	0.15
General Support	$	224,812,374	6.59%	$	1.20
COE Switch	$	63,696,839	1.87%	$	0.34
Operator Systems	$	1,686,093	0.05%	$	0.01
COE Transmission	$	43,276,382	1.27%	$	0.23
Information IOT	$	12,552,024	0.37%	$	0.07
Cable & Wire	$	516,881,118	15.15%	$	2.76
Total Plant Specific Expenses	$	890,819,034	26.11%	$	4.76
Plant Non-Specific Expenses					
Other PP&E	$	5,620,309	0.16%	$	0.03
Network Operations	$	249,541,736	7.31%	$	1.33
Depreciation/Amort	$	1,286,449,293	37.71%	$	6.87
Marketing	$	66,319,650	1.94%	$	0.35
Customer Opr Service	$	453,371,622	13.29%	$	2.42
Executive & Planning	$	25,666,079	0.75%	$	0.14
General & Administration	$	402,039,463	11.78%	$	2.15
Prov Uncollectibles	$	31,848,420	0.93%	$	0.17
Total Plant Non-Specific Expenses	$	2,520,856,572	73.89%	$	13.46
Total Operating Expense	$	3,411,675,606	100.00%		18.21
Federal and State Taxes	$	653,532,163		$	3.49
Return On Investment	$	1,192,368,441		$	6.36
Monthly Cost per Line	$	5,257,576,210		$	28.06
Gross Receipts Tax[1]	$	213,366,776		$	1.14

[1] **Application varies so much on a state by state basis, it is not included in the Monthly Cost.**

Assumptions:

NATLBASE.CSV, CAPCOST.INF

BCPM.XLS

Benchmark Cost Proxy Model Results

Area Wide Summary Report

PACIFIC BELL
California

Investment Per Line Data	Uncapped Annual Amount	Capped[1] Annual Amount
Loop Investment	$ 686	$ 684
Switch Investment	$ 227	$ 227
IOF Investment	$ 7	$ 7
Other Investment	$ 69	$ 69
Total Investment	$ 989	$ 986
Expense Per Month Data		
Capital Cost	$ 16.75	$ 16.72
Operating Expense per Line	$ 11.34	$ 11.34
Total Cost per Line	$ 28.10	$ 28.06
Gross Receipts Tax[2]	$ 1.14	$ 1.14
Line Data		
Average Loop Length in Feet	13,797	
Lines Above $10K Loop Inv	6,113	
Number of Households	8,210,680	
Number of Residential Lines	9,617,929	
Number of Single Business Lines	3,211,607	
Multiple Business Lines	2,782,434	
Total CBG Lines Served	15,611,970	
Aggregate Support Data		
Support Over $20 Benchmark	$ 1,187,785,048	$ 1,182,520,574
Support Over $30 Benchmark	$ 414,572,520	$ 409,308,045
Support Over $40 Benchmark	$ 227,151,866	$ 221,887,391
Support Over $50 Benchmark	$ 149,248,162	$ 143,983,687
Support Over $60 Benchmark	$ 99,452,453	$ 94,187,978
Support Over $70 Benchmark	$ 66,137,984	$ 60,873,510
Support Over $80 Benchmark	$ 45,968,528	$ 40,704,053

[1] **CBGs with Average Loop Investment per line over $10,000 are capped at $10,000**

[2] **Application varies so much on a state by state basis, it is not included in the Monthly Cost.**

Assumptions:
NATLBASE.CSV, CAPCOST.INF
BCPM.XLS
National Run at BCPM Defaults

Benchmark Cost Proxy Model Results

Plant Summary Report

GTE CO OF CA
California
Investment: UnCapped[1]

Density Group	0 to 10	11 to 50	51 to 150	151 to 500	501 to 2000	2001 to 5000	> 5001	Total
Investment Per Line Data								
Loop Distribution Investment	$ 2,861	$ 1,806	$ 1,046	$ 669	$ 441	$ 330	$ 233	$ 435
Loop Feeder Investment	$ 3,203	$ 957	$ 460	$ 305	$ 233	$ 201	$ 139	$ 240
Total Uncapped Loop Investment	$ 6,064	$ 2,763	$ 1,506	$ 974	$ 674	$ 531	$ 372	$ 674
Switch Investment	$ 314	$ 252	$ 236	$ 230	$ 227	$ 225	$ 224	$ 227
InterOffice Facilities	$ 9	$ 8	$ 7	$ 7	$ 7	$ 7	$ 7	$ 7
Other Investment	$ 367	$ 182	$ 114	$ 84	$ 68	$ 60	$ 52	$ 68
Total Investment	$ 6,754	$ 3,205	$ 1,862	$ 1,295	$ 976	$ 823	$ 655	$ 976
Cost Per Month Data								
Capital Cost	$ 110.45	$ 53.36	$ 31.15	$ 21.87	$ 16.58	$ 13.93	$ 11.18	$ 16.51
Operating Expense per Line	$ 11.34	$ 11.34	$ 11.34	$ 11.34	$ 11.34	$ 11.34	$ 11.34	$ 11.34
Total Cost per Line (Excluding Gross Reciepts Tax)	$ 121.79	$ 64.70	$ 42.49	$ 33.21	$ 27.92	$ 25.28	$ 22.53	$ 27.86
Line Data								
Loop Distribution Length	5,218	5,650	5,183	4,121	2,360	1,219	815	1,946
Loop Feeder Length	77,491	42,834	22,758	16,661	11,629	9,118	6,859	11,402
Total Loop Length	82,709	48,484	27,941	20,782	13,989	10,338	7,674	13,348
Number of Households	4,938	51,166	69,863	174,716	619,140	1,043,742	402,038	2,365,603
Number of Residential Lines	5,784	59,935	81,837	204,661	725,256	1,222,631	470,944	2,771,049
Number of Single Business Lines	2,102	16,611	38,132	82,053	236,821	310,061	133,525	819,306
Multiple Business Lines	1,822	14,391	33,036	71,089	205,175	268,627	115,681	709,820
Total CBG Lines Served	9,708	90,937	153,005	357,803	1,167,252	1,801,319	720,150	4,300,175

Benchmark Cost Proxy Model Results

Plant Summary Report

GTE CO OF CA
California
Investment: UnCapped[1]

Aggregate Support Data	0 to 10	11 to 50	51 to 150	151 to 500	501 to 2000	2001 to 5000	> 5001	Total
Support Over $20 Benchmark	$ 8,994,487	$ 37,851,271	$ 31,602,132	$ 44,012,644	$ 86,670,154	$ 89,801,620	$ 18,202,374	$ 317,134,681
Support Over $30 Benchmark	$ 8,149,629	$ 29,780,035	$ 20,060,790	$ 17,874,648	$ 13,691,585	$ 3,358,189	$ 133,678	$ 93,048,554
Support Over $40 Benchmark	$ 7,306,906	$ 21,986,029	$ 10,487,778	$ 2,810,953	$ 352,687	$ 151,255	$ 2,946	$ 43,098,553
Support Over $50 Benchmark	$ 6,489,227	$ 14,912,908	$ 4,038,052	$ 136,434	$ 106,472	$ 57,058	$ -	$ 25,740,151
Support Over $60 Benchmark	$ 5,748,689	$ 9,182,084	$ 1,303,941	$ 60,642	$ 79,601	$ 37,609	$ -	$ 16,412,567
Support Over $70 Benchmark	$ 5,033,781	$ 5,368,551	$ 431,761	$ 49,461	$ 67,899	$ 31,969	$ -	$ 10,983,422
Support Over $80 Benchmark	$ 4,336,997	$ 3,178,146	$ 9,909	$ 39,141	$ 56,477	$ 26,329	$ -	$ 7,646,999

[1] **The Average Loop Investment per line**

Assumptions:
NATLBASE.CSV, CAPCOST.INF
BCPM.XLS
National Run at BCPM Defaults

Benchmark Cost Proxy Model Results

Key Elements

GTE CO OF CA
California

Analysis	Total	Per Line
CBG Lines Served	4,300,175	
Average Distribution Length	8,369,700,663	1,946
Average Feeder Length	49,029,457,625	11,402
Average Loop Length	57,399,158,289	13,348
Distribution Investment	$ 1,868,809,657	$ 435
Feeder Investment	$ 1,031,208,608	$ 240
Loop Investment (Uncapped)	$ 2,900,018,265	$ 674
Loop Investment (Capped)	$ 2,894,959,236	$ 673

Plant Type	Capped Annual Investment	Percentage	Annual Per Line Investment
Motor Vehicle	$ 28,812,647	0.69%	$ 6.70
Special Purpose Vehicle	$ 38,989	0.00%	$ 0.01
Garage Work	$ 1,247,638	0.03%	$ 0.29
Other Work	$ 24,445,913	0.58%	$ 5.68
Furniture	$ 9,084,366	0.22%	$ 2.11
Office	$ 27,331,076	0.65%	$ 6.36
General Purpose Computers	$ 115,601,485	2.76%	$ 26.88
Total Support Investment	$ 206,562,113	4.93%	$ 48.04
Land	$ 11,756,279	0.28%	$ 2.73
Building	$ 74,154,991	1.77%	$ 17.24
Switching Equipment	$ 975,543,861	23.28%	$ 226.86
Circuit Equipment	$ 657,835,871	15.70%	$ 152.98
Buried Cable	$ 1,163,161,287	27.75%	$ 270.49
Aerial Cable	$ 177,592,742	4.24%	$ 41.30
Underground Cable	$ 483,035,794	11.52%	$ 112.33
Pole Investment	$ 78,336,747	1.87%	$ 18.22
Conduit Investment	$ 363,363,331	8.67%	$ 84.50
Total Plant Investment	$ 3,984,780,905	95.07%	$ 926.66
Total Investment	$ 4,191,343,018	100.00%	$ 974.69

Assumptions:
NATLBASE.CSV, CAPCOST.INF
BCPM.XLS
National Run at BCPM Defaults

Benchmark Cost Proxy Model Results

Key Elements

GTE CO OF CA
California

Expense Account		Capped Annual Expense	Percentage		Monthly Per Line Cost
Plant Specific Expenses					
Network Support	$	7,688,713	0.82%	$	0.15
General Support	$	61,922,524	6.62%	$	1.20
COE Switch	$	17,544,715	1.88%	$	0.34
Operator Systems	$	464,419	0.05%	$	0.01
COE Transmission	$	11,920,086	1.27%	$	0.23
Information IOT	$	3,457,341	0.37%	$	0.07
Cable & Wire	$	142,370,204	15.22%	$	2.76
Total Plant Specific Expenses	$	245,368,003	26.23%	$	4.76
Plant Non-Specific Expenses					
Other PP&E	$	1,548,063	0.17%	$	0.03
Network Operations	$	68,734,002	7.35%	$	1.33
Depreciation/Amort	$	349,910,679	37.41%	$	6.78
Marketing	$	18,267,145	1.95%	$	0.35
Customer Opr Service	$	124,877,091	13.35%	$	2.42
Executive & Planning	$	7,069,488	0.76%	$	0.14
General & Administration	$	110,738,114	11.84%	$	2.15
Prov Uncollectibles	$	8,772,358	0.94%	$	0.17
Total Plant Non-Specific Expenses	$	689,916,940	73.77%	$	13.37
Total Operating Expense	$	935,284,942	100.00%		18.12
Federal and State Taxes	$	177,496,652		$	3.44
Return On Investment	$	323,698,674		$	6.27
Monthly Cost per Line	$	1,436,480,268		$	27.84
Gross Receipts Tax[1]	$	58,296,286		$	1.13

[1] **Application varies so much on a state by state basis, it is not included in the Monthly Cost.**

Assumptions:
NATLBASE.CSV, CAPCOST.INF
BCPM.XLS

Benchmark Cost Proxy Model Results

Area Wide Summary Report

GTE CO OF CA
California

Investment Per Line Data	Uncapped Annual Amount	Capped[1] Annual Amount
Loop Investment	$ 674	$ 673
Switch Investment	$ 227	$ 227
IOF Investment	$ 7	$ 7
Other Investment	$ 68	$ 68
Total Investment	$ 976	$ 975
Expense Per Month Data		
Capital Cost	$ 16.51	$ 16.49
Operating Expense per Line	$ 11.34	$ 11.34
Total Cost per Line	$ 27.86	$ 27.84
Gross Receipts Tax[2]	$ 1.13	$ 1.13
Line Data		
Average Loop Length in Feet	13,348	
Lines Above $10K Loop Inv	744	
Number of Households	2,365,603	
Number of Residential Lines	2,771,049	
Number of Single Business Lines	819,306	
Multiple Business Lines	709,820	
Total CBG Lines Served	4,300,175	
Aggregate Support Data		
Support Over $20 Benchmark	$ 317,134,681	$ 316,315,840
Support Over $30 Benchmark	$ 93,048,554	$ 92,229,713
Support Over $40 Benchmark	$ 43,098,553	$ 42,279,712
Support Over $50 Benchmark	$ 25,740,151	$ 24,921,310
Support Over $60 Benchmark	$ 16,412,567	$ 15,593,725
Support Over $70 Benchmark	$ 10,983,422	$ 10,164,580
Support Over $80 Benchmark	$ 7,646,999	$ 6,828,157

[1] **CBGs with Average Loop Investment per line over $10,000 are capped at $10,000**

[2] **Application varies so much on a state by state basis, it is not included in the Monthly Cost.**

Assumptions:
NATLBASE.CSV, CAPCOST.INF
BCPM.XLS
National Run at BCPM Defaults