Alan F. Ciamporcero
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Washington, D.C. [illegible]
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PACIFIC TELESIS
Group-Washington

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June 3, 1996

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JUN - 3 1996

EX PARTE

William F. Caton
Acting Secretary
Federal Communications Commission
Mail Stop 1170
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Dear Mr. Caton:

Re: CC Docket No. 96-98, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996

On Friday, May 31, 1996, Marlin Ard, Pacific Telesis Group, Pete Geiler and Ronnie Thierman of Pacific Bell, Dr. Richard Emmerson and James Stegeman of INDETEC, Inc., and I met with David Sieradzki, Anthony Bush, Steve Weingarten, William Sharkey, Peyton Wynns, and David Konuch of the Common Carrier Bureau, Elliot Maxwell of the Office of Plans and Policy, and Jim Ohlson of the Office of General Counsel. We discussed the above docket, specifically the possible relevance of Pacific's Cost Proxy Model to interconnection issues as set forth in the attached materials. David Sieradzki asked that these materials be submitted in the record in this proceeding.

We are submitting two copies of this notice in accordance with Section 1.1206(a)(1) of the Commission's Rules.

Please stamp and return the provided copy to confirm your receipt. Please contact me should you have any questions or require additional information concerning this matter.

Sincerely,

Alan Ciamporcero

cc: D. Sieradzki
A. Bush
S. Weingarten
W. Sharkey
P. Wynns
D. Konuch
E. Maxwell
J. Ohlson

No. of Copies rec'd 0+1
List ABCDE

Cost Proxy Model
Presentation of Methodology

given by

INDETEC International
and
Pacific Bell

May 30-31, 1996

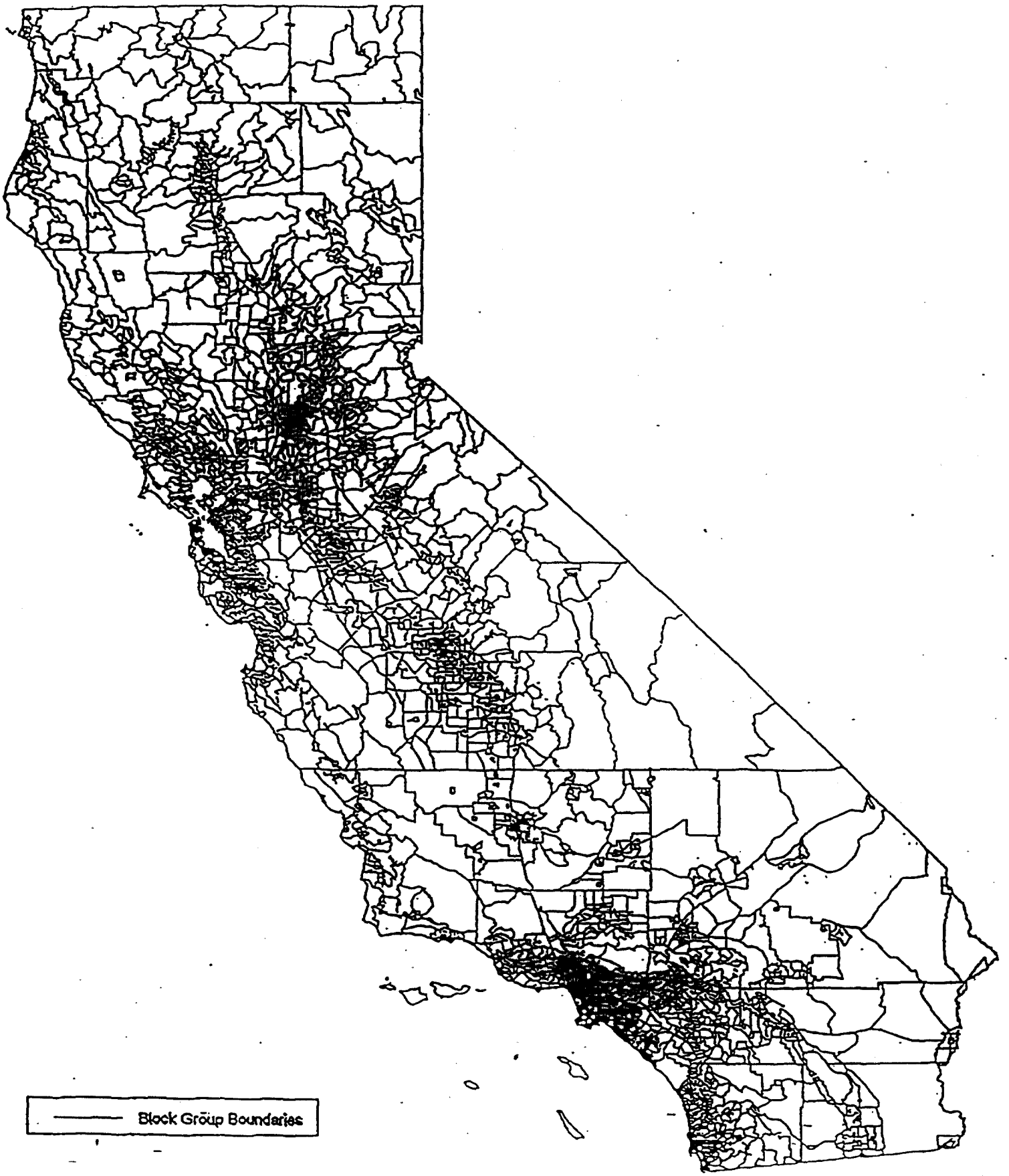
Cost Proxy Model
Significant Design Features

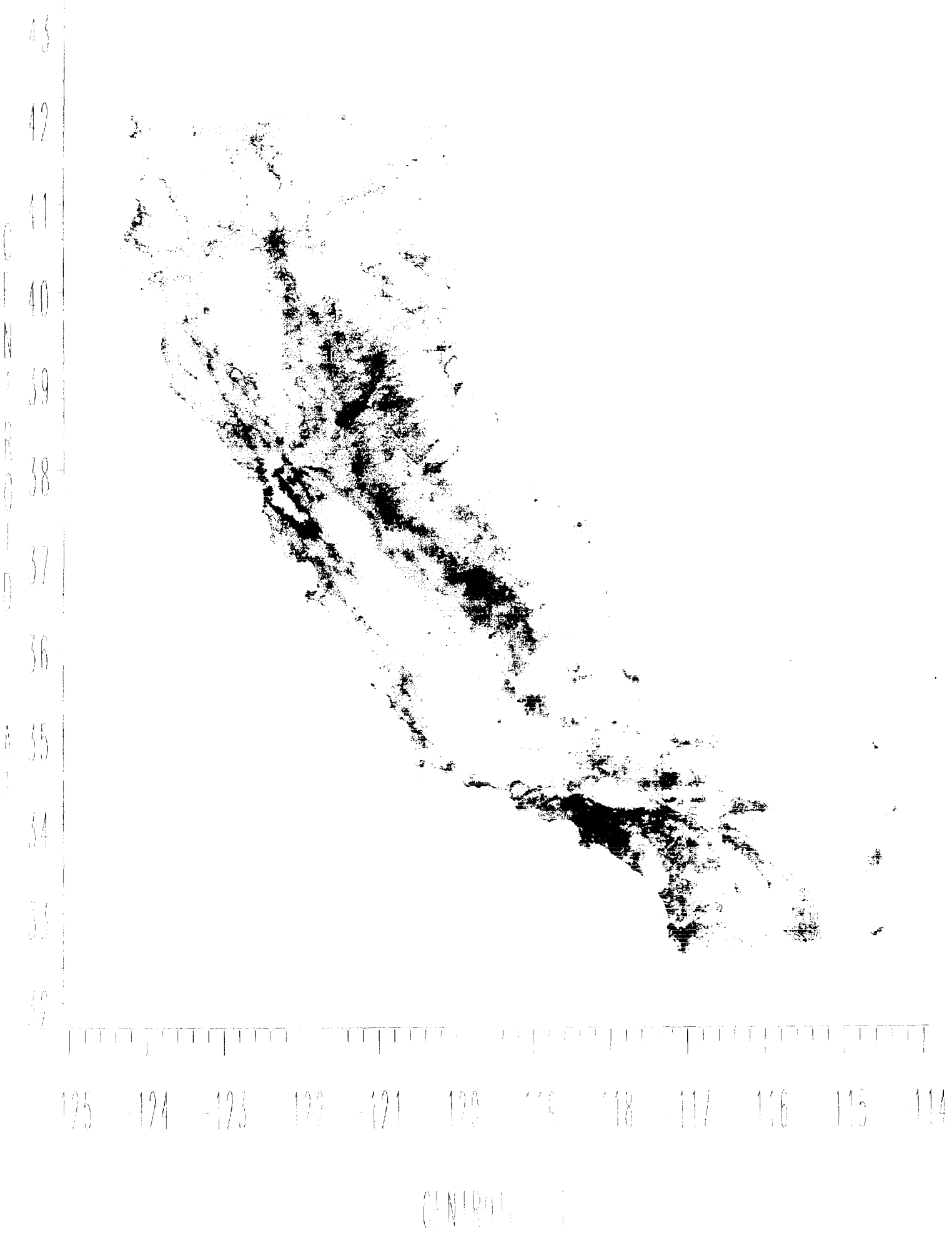
- ⇨ CPM is Efficient and Easy to Use
- ⇨ Based on a Consistent/Uniform Unit of Geography
- ⇨ Accurately Assesses Density for Sizing Plant
- ⇨ Separates Operating Expenses From Investment
- ⇨ Separately Develops Structure Costs
- ⇨ Accounts for Efficiency of LEC Size
- ⇨ Based on Sound Economic, Financial , and Management Accounting Principles.
- ⇨ Provides a Superior Estimate of The TSLRIC of Universal Service

Cost Proxy Model
Customer Engine: The "Grid" Vs CBG

- Size
  - There are Approximately 22,000 Census Block Groups in California
  - There are Approximately 350,000-400,000 Census Blocks in California
  - There are Approximately 6 Million Zip 4 Postal Points in California
- Flexible
  - Various Dimensions are Attached
    - CLLI, CBG, State, Political Boundaries, Density, Etc...
  - Other Dimensions are also Available
    - Ethnicity, Income, Sex, Age, Etc...
- Consistent/Uniform Unit of Geography
  - All Grids are ~0.4 Sqmi (~3000Ft X 3000Ft)

BLOCK GROUP BOUNDARIES IN CALIFORNIA

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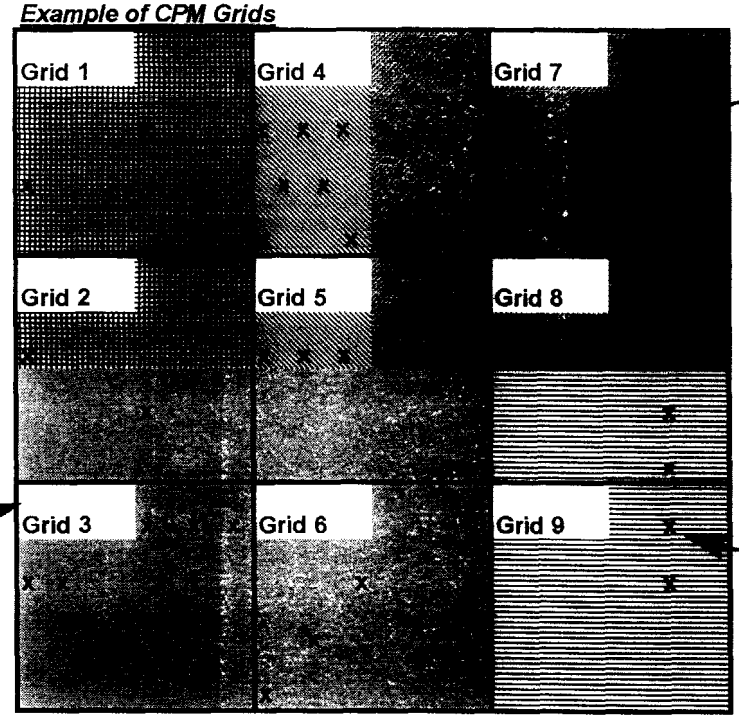
Cost Proxy Model
Customer Engine: The "Grid", Part 1

- ⇨ Current California Model uses Census Block Household data apportioned to "Grids" based on Land Mass
- ⇨ Currently developing improved file using Zip4 data Points as apportioning unit

Example of CPM Grids



|------- ~3000 ft -------|

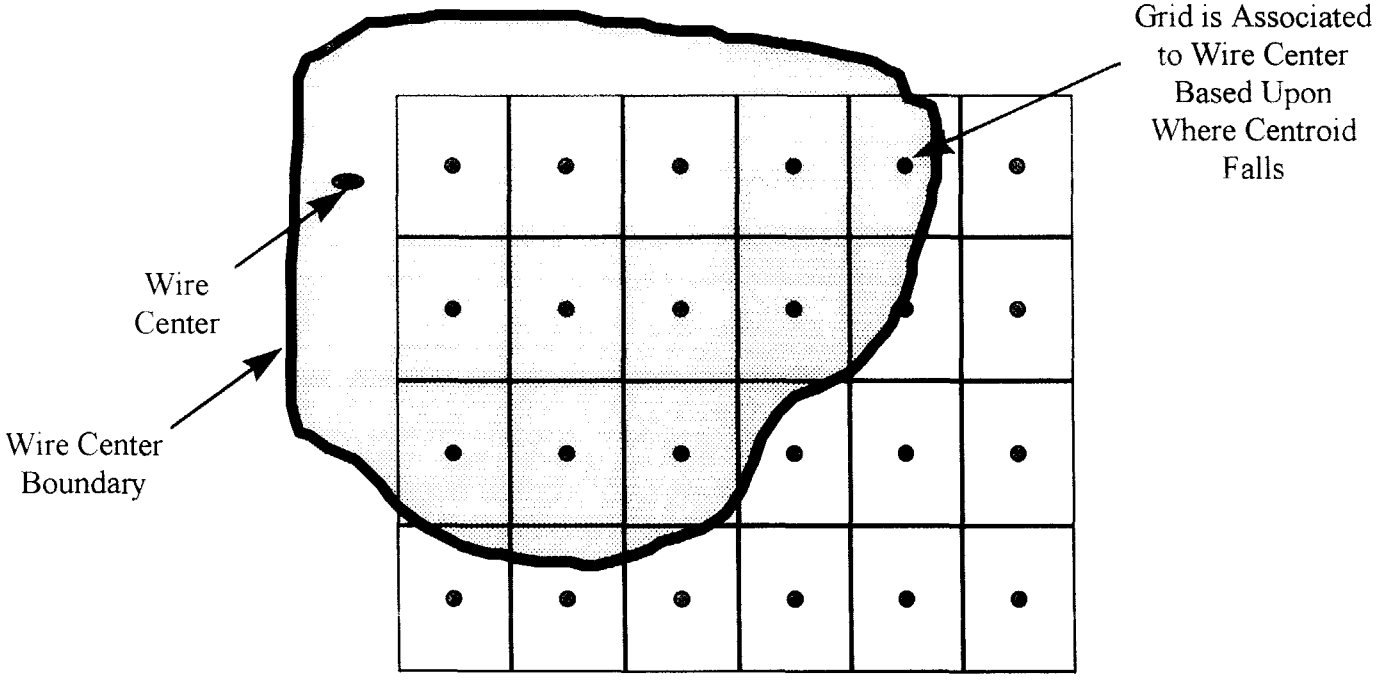
Census Blocks
- Subsets of CBGs (average of 28)
- There are ~ 350,000 in CA

Grids
- Defined by 1/100 of Degree Lat and Long (- or ~ 3000 ft. * 3000 ft_
There are ~ 350,000 in CA

Zip 4
- Can be Geocoded to exact Latitude and Longitude
- ~150M in US

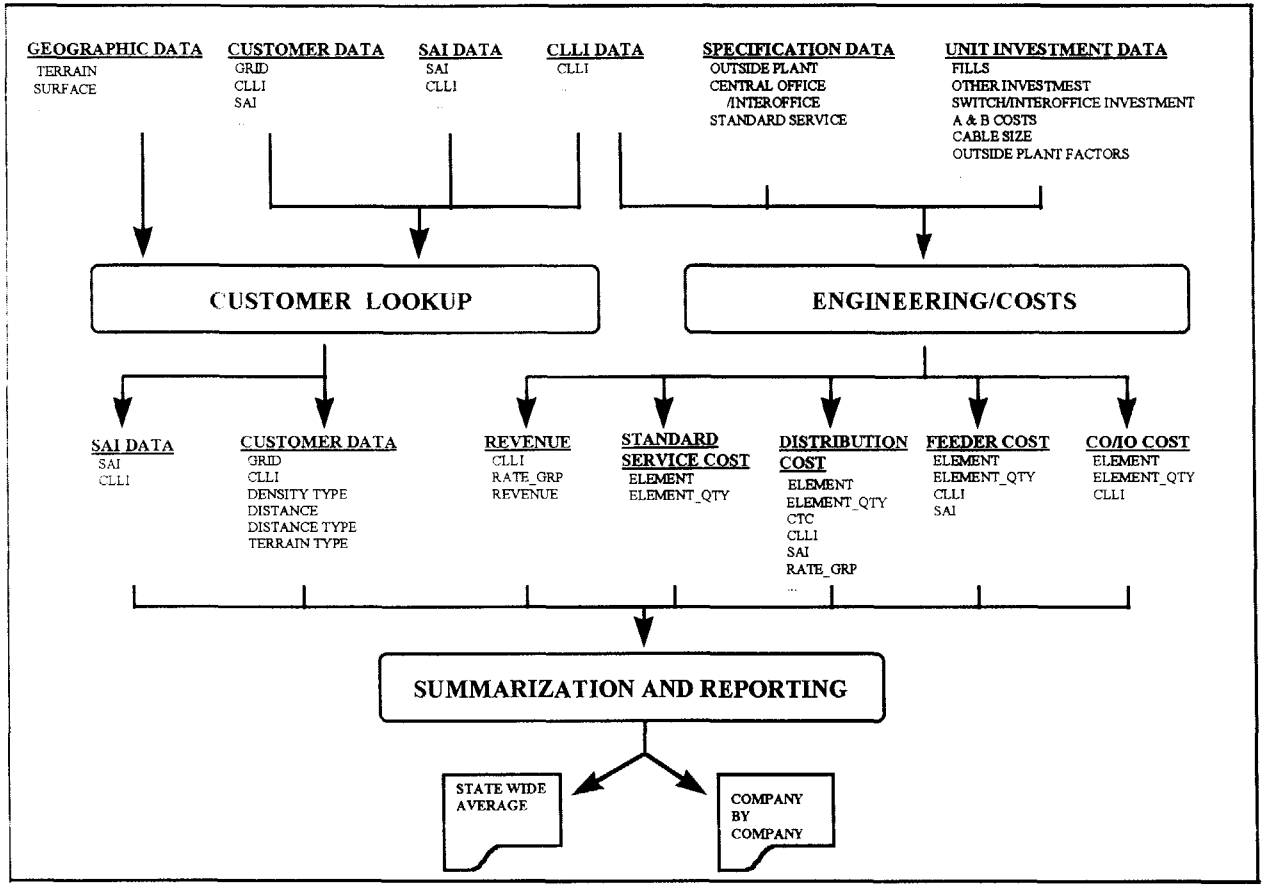
Cost Proxy Model
Customer Engine: The "Grid", Part 2

- ⇨ Commercial Data Source Provides Wire Center Boundaries Along With the Lata, NXX, Switch Type, Rate Center, and Company
- ⇨ Using the Boundary, We can Then Assign the "Grids" to a Wire Center



Cost Proxy Model
System Design

Basic System Design



Cost Proxy Model
Customer Engine: Customer File

OBS	CLLI	SAI	LAT_C	LONG_C	CBG	COS	ST_SEN	ST_REP	DENS_TYP	TERR_TYP	STATE	COMPANY	DISTANCE	LINES	FDR_DIST
78	SNRACA13	1100	38.005	120.375	61090012001	1FR	12	25	Z4	N	CA	PACIFIC	3.78132	67	7.0861
79	SNRACA13	1101	38.005	120.445	61090021988	1FR	12	25	Z2	M	CA	PACIFIC	8.57932	9	18.3612
80	SNRACA13	1101	38.005	-120.435	61090021988	1FR	12	25	Z2	M	CA	PACIFIC	7.53037	9	16.1163
81	SNRACA13	1101	38.005	-120.425	61090021988	1FR	12	25	Z2	M	CA	PACIFIC	6.51978	12	13.9535
82	SNRACA13	1101	38.005	-120.415	61090051002	1FR	12	25	Z3	H	CA	PACIFIC	6.74975	9	10.6725
83	SNRACA13	1101	38.005	-120.405	61090051002	1FR	12	25	Z3	H	CA	PACIFIC	5.71223	112	9.0320
84	SNRACA13	1101	38.005	-120.395	61090011002	1FR	12	25	Z4	M	CA	PACIFIC	3.56791	125	9.3593
85	SNRACA13	1110	38.005	-120.365	61090012001	1FR	12	25	Z3	N	CA	PACIFIC	4.53817	6	7.1756
86	SNRACA13	1110	38.005	-120.355	61090012001	1FR	12	25	Z2	N	CA	PACIFIC	5.24437	6	8.2923
87	SNRACA13	1111	38.005	-120.345	61090012002	1FR	12	25	Z3	N	CA	PACIFIC	6.19477	16	9.7950
88	SNRACA13	1111	38.005	-120.335	61090022007	1FR	12	25	Z3	N	CA	PACIFIC	7.29543	31	11.5353
89	SNRACA13	1111	38.005	-120.325	61090022007	1FR	12	25	Z3	N	CA	PACIFIC	5.72880	38	16.3272
90	TLMNCAXF	1101	38.005	-120.245	61090032002	1FR	12	25	Z2	N	CA	CITIZENS TUOLOMNE	7.57075	16	16.2027
91	TLMNCAXF	1111	38.005	-120.235	61090032002	1FR	12	25	Z2	N	CA	CITIZENS TUOLOMNE	7.49444	20	16.0394
92	TLMNCAXF	1111	38.005	-120.225	61090031985	1FR	12	25	Z2	N	CA	CITIZENS TUOLOMNE	7.59699	11	16.2589

Cost Proxy Model
Cost Engine: End Product

⇨ Using the Cost Tables, the CPM Creates this Internal Cost Matrix for Each Cost Element

			TERR_TYP			
			High	Medium	Normal	Water
			UNIT INVEST.	UNIT INVEST.	UNIT INVEST.	UNIT INVEST.
OSP_TYP	ELEMENT	DENS_TYP				
Copper Dist.	BUR_CU	Z1	0.2172	0.1694	0.1159	0.2172
		Z2	0.1306	0.1090	0.0779	0.1306
		Z3	0.1367	0.1169	0.0943	0.1367
		Z4	0.1315	0.1077	0.0848	0.1315
		Z5	0.1448	0.1162	0.0867	0.1448
		Z6	0.1329	0.1092	0.0870	0.1329
		Z7	0.1292	0.1018	0.0783	0.1292

Cost Proxy Model
Cost Engine: The Elements

⇨ The CPM cost Granularity is determined by the Costs Elements used, Currently

Aerial Copper Cable
Aerial Fiber Cable
Buried Copper Cable
Buried Fiber Cable
Conduit for Copper Cable
Conduit for Fiber Cable (under 9kft)
Conduit for Fiber Cable (over 9kft)
Pair Gain Equipment
Pole for Copper Cable
Pole for Fiber Cable
Serving Area Interface
Underground Copper Cable
Underground Fiber Cable
Switching Line Termination
Switching Message Cost - Flat Service
Switching Shared

Accounting, Advertising/Marketing
Billing
Common
Directory Assistance
Employee Support
Engineering Overhead/Motor Vehicle
General Purpose Computers/Information Systems
Miscellaneous
Non-Recurring Burden
Non-Volume Sensitive Expenses and Investments
Operator Assistance
Repair and Maintenance
Sales
Secondary Investment
Shared
Testing
White Page Listing

Cost Proxy Model
Sample Calculation: Investment

⇨ Using the Customer File

Record	Lat_c	Long_c	Dens_typ	Terr_typ	Dist_Dist	SAI	CLLI
1	33.055	-116.805	Z1	N	5355	1001	ANHMCA11
2	33.055	-117.005	Z3	M	2300	1110	ANHMCA11

⇨ The Amount of Buried Copper Investment in Distribution for Each "Grid" is

First Record:

Distance	5355
x Percent of Buried (Z1)	60% (OSP Specification File)
x Unit Investment (Z1,N)	.1159
TOTAL	372.39

Second Record:

Distance	2300
x Percent of Buried (Z3)	65% (OSP Specification File)
x Unit Investment (Z3,M)	.1169
TOTAL	174.77

⇨ The Final Step is to Apply the Annual Change Factor to Obtain the Monthly Capital Costs

Cost Proxy Model
Sample Calculation: Operating Expense

⇨ Using the Operating Expense file

Cost Element	Unit of Measure	Operating Expense
ACCT	LINE	0.00427021
ADV_MKT	LINE	0
BILLING	LINE	0.21717087

⇨ The Operating Expenses are Adjusted Based on "ARMIS" Ratios

Company	*Lines*		*Op. Exp. (less Depr.)*	*Ratio*
CALAVERAS	2,446	$	1,205.90	3.9624
CITIZENS	79,229	$	433.96	1.4259
CONTEL	356,464	$	467.98	1.5377
DUCOR	770	$	1,763.51	5.7947
EVANS	8,736	$	787.10	2.5863
GTE-C	3,567,036	$	369.72	1.2148
PACIFIC	16,943,623	$	285.75	0.9389
VOLCANO	8,878	$	851.76	2.7988
WINTERHAVEN	1,398	$	757.88	2.4903

⇨ To Approximate the Values for a Specific Company

Company	*Element*	*Expense*
Contel	Billing	0.334

Cost Proxy Model
Reports

- The Handouts Contain Sample Reports from the California Model
  - Detail Reports
    - State Total
  - Summary Reports
    - Company
    - Density Type
    - Terrain Type
    - CLLI

SAMPLE CPM DETAIL REPORT: STATEWIDE AVERAGE

COST PROXY MODEL (CPM)
STATEWIDE AVERAGE

STATEWIDE AVERAGE LINES : 12794983
MISSING LINES : 0

FAMILY	ELEMENT	NON-CABLE QUANTITY	CABLE LENGTH (FT)	INVESTMENT ($)	REVENUE ($/MO)	OPERATING EXPENSE ($/MO)	CAPITAL COST ($/MO)
DST	AER_CU		342	19.04	$0.00	$0.00	$0.30
	BUR_CU		1,623	153.12	$0.00	$0.00	$2.16
	COND_CU	538(FT)		23.49	$0.00	$0.00	$0.24
	DROP	1.00		51.98	$0.00	$0.00	$0.73
	POLE_CU	342(FT)		18.17	$0.00	$0.00	$0.20
	TERMINAL	1.00		53.38	$0.00	$0.00	$0.77
	UGD_CU		538	19.88	$0.00	$0.00	$0.29
DST	XXX		2,503	339.07	$0.00	$0.00	$4.69
FDR	AER_CU		214	4.70	$0.00	$0.00	$0.07
	AER_FO		839	6.28	$0.00	$0.00	$0.08
	BUR_CU		51	2.25	$0.00	$0.00	$0.03
	BUR_FO		221	3.12	$0.00	$0.00	$0.04
	COND_CU	2,655(FT)		25.24	$0.00	$0.00	$0.26
	COND_FO	3,852(FT)		8.39	$0.00	$0.00	$0.08
	COND_FO9	2,523(FT)		6.90	$0.00	$0.00	$0.07
	PAIR_GN	0.43		141.88	$0.00	$0.00	$2.45
	POLE_CU	214(FT)		3.20	$0.00	$0.00	$0.04
	POLE_FO	839(FT)		10.55	$0.00	$0.00	$0.12
	SAI	1.00		22.96	$0.00	$0.00	$0.33
	UGD_CU		2,655	39.43	$0.00	$0.00	$0.57
	UGD_FO		6,374	11.35	$0.00	$0.00	$0.14
FDR	XXX		10,355	286.27	$0.00	$0.00	$4.27
REVENU	REVENU_T	0.00		0.00	$15.60	$0.00	$0.00
STDSVC	ACCT	1.00		0.00	$0.00	$0.00	$0.00
	ADV_MKT	1.00		0.00	$0.00	$0.00	$0.00
	BILLING	1.00		0.00	$0.00	$0.22	$0.00
	COMMON	1.00		0.00	$0.00	$2.98	$0.00
	DA	1.00		0.00	$0.00	$1.02	$0.00
	EMPSUPT	1.00		0.00	$0.00	$0.09	$0.00
	ENG_MV	1.00		0.00	$0.00	$0.00	$0.00
	GPC_IS	1.00		0.00	$0.00	$0.13	$0.00
	MISC	1.00		0.00	$0.00	$0.16	$0.00
	NREC	1.00		0.00	$0.00	$0.37	$0.00
	NVS_EXP	1.00		0.00	$0.00	$0.04	$0.00
	NVS_INV	1.00		0.00	$0.00	$0.00	$0.00
	OCS	1.00		0.00	$0.00	$0.07	$0.00
	O_MINUS	1.00		0.00	$0.00	$0.12	$0.00
	PMO_DIFF	1.00		0.00	$0.00	$0.00	$0.00
	REPR_MTC	1.00		0.00	$0.00	$3.61	$0.00
	SALES	1.00		0.00	$0.00	$0.05	$0.00
	SEC_INV	1.00		0.00	$0.00	$0.00	$1.11
	SHARED	1.00		0.00	$0.00	$4.01	$0.00
	TESTING	1.00		0.00	$0.00	$0.00	$0.00
	WP_LIST	1.00		0.00	$0.00	$0.34	$0.00
STDSVC	XXX			0.00	$0.00	$13.23	$1.12
SW/IO	SW_LT	1.00		112.88	$0.00	$0.00	$1.65
	SW_MSG_F	119.22		117.88	$0.00	$0.00	$1.73
	SW_SHR	8.36		8.36	$0.00	$0.00	$0.12
SW/IO	XXX			239.13	$0.00	$0.00	$3.50
XXX	XXX		12,858	864.46	$15.60	$13.23	$13.58

SUBSIDY PER LINE: $11.20 TOTAL COMPANY SUBSIDY:$143,347,588

SAMPLE CPM SUMMARY REPORT: DENSITY ZONES

Cost Proxy Model:Universal Service Edition
STATE AVERAGE
DENSITY TYPE SPECIFIC DATA - ALL COMPANIES

DENSITY TYPE	CABLE LENGTH (ft)	INVESTMENT ($/line)	REVENUE ($/line/mo)	OPERATING EXPENSE ($/line/mo)	CAPITAL COST ($/line/mo)	SUBSIDY ($/line/mo)	LINES
Z1	47,557.15	$7,482.82	$16.55	$16.47	$100.82	$100.74	77,082
Z2	35,548.46	$2,604.67	$16.20	$16.26	$37.56	$37.63	268,128
Z3	24,257.52	$2,013.53	$15.98	$15.04	$29.37	$28.43	348,418
Z4	18,103.45	$1,112.19	$16.03	$14.31	$17.42	$15.69	768,422
Z5	13,385.93	$866.70	$15.90	$13.40	$13.81	$11.31	3,260,958
Z6	11,421.61	$725.18	$15.52	$12.93	$11.67	$9.08	5,820,827
Z7	8,379.08	$526.72	$15.08	$12.63	$8.58	$6.12	2,251,089

SAMPLE CPM SUMMARY REPORT: TERRAIN TYPE

Cost Proxy Model:Universal Service Edition
STATE AVERAGE
TERRAIN TYPE SPECIFIC DATA - ALL COMPANIES

TERRAIN TYPE	CABLE LENGTH (ft)	INVESTMENT ($/line)	REVENUE ($/line/mo)	OPERATING EXPENSE ($/line/mo)	CAPITAL COST ($/line/mo)	SUBSIDY ($/line/mo)	LINES
H	17,187.07	$1,307.79	$15.34	$13.01	$19.57	$17.24	470,916
M	16,517.20	$1,133.23	$15.63	$13.68	$17.36	$15.42	1,562,440
N	12,141.80	$809.73	$15.59	$13.15	$12.80	$10.36	10,648,540
W	12,060.86	$988.29	$17.60	$15.30	$15.29	$12.99	113,027

SAMPLE CPM SUMMARY REPORT: COMPANIES

Cost Proxy Model:Universal Service Edition
STATE AVERAGE
COMPANY SPECIFIC DATA - ALL COMPANIES

COMPANY	CABLE LENGTH (ft)	INVESTMENT ($/line)	REVENUE ($/line/mo)	OPERATING EXPENSE ($/line/mo)	CAPITAL COST ($/line/mo)	SUBSIDY ($/line/mo)	LINES
	.	.	.	.	.	.	.
CALAVERAS	22,986.66	$3,545.27	$20.08	$50.85	$52.90	$83.66	1,838
CALIF-OREGON	16,431.02	$1,815.81	$23.85	$42.33	$28.70	$47.18	1,681
CITIZENS	18,915.78	$1,490.87	$21.35	$18.30	$22.34	$19.28	59,926
CITIZENS TUOLOMNE	28,793.69	$2,035.58	$15.70	$39.06	$31.56	$54.92	5,325
CONTEL	15,769.83	$1,293.13	$20.35	$19.73	$19.84	$19.22	278,198
CP NATIONAL	8,850.33	$1,094.70	$20.35	$38.68	$18.53	$36.86	9,762
DUCOR	15,909.55	$2,312.05	$20.35	$74.36	$38.25	$92.26	598
EVANS	11,074.86	$1,262.11	$20.35	$33.19	$20.29	$33.13	10,190
FORESTHILL	25,564.35	$1,986.98	$14.15	$27.08	$30.20	$43.13	2,143
GTE-C	13,407.73	$833.03	$20.75	$15.59	$13.35	$8.19	2,685,264
HAPPY VALLEY	24,387.34	$2,469.07	$20.35	$36.93	$37.05	$53.63	2,640
HORNITOS	32,946.79	$5,954.28	$14.75	$62.40	$85.65	$133.31	409
KERMAN	14,385.17	$1,411.04	$22.90	$26.47	$22.07	$25.63	5,485
PACIFIC	12,490.32	$848.09	$13.97	$12.05	$13.26	$11.34	9,620,458
PINNACLES	18,524.79	$4,689.92	$20.35	$83.81	$72.64	$136.11	15
PONDEROSA	30,389.63	$2,728.59	$21.35	$60.51	$42.68	$81.84	5,346
ROSEVILLE	15,131.80	$890.98	$14.30	$18.05	$14.58	$18.33	68,421
SIERRA	36,084.98	$2,552.20	$20.35	$43.32	$38.79	$61.76	14,034
SISKIYOU	25,110.82	$2,133.03	$18.70	$49.70	$33.50	$64.50	3,108
VOLCANO	21,220.38	$1,939.67	$20.35	$35.91	$30.24	$45.81	4,407
WEST COAST	22,180.74	$1,472.59	$14.60	$64.47	$25.85	$75.72	13,810
WINTERHAVEN	22,705.53	$1,869.49	$20.35	$31.96	$28.79	$40.39	1,865

SAMPLE CPM SUMMARY REPORT: CBGs

Cost Proxy Model:Universal Service Edition
STATE AVERAGE
CENSUS BLOCK GROUP SPECIFIC DATA

CENSUS BLOCK GROUP	CABLE LENGTH (ft)	INVESTMENT ($/line)	REVENUE ($/line/mo)	OPERATING EXPENSE ($/line/mo)	CAPITAL COST ($/line/mo)	SUBSIDY ($/line/mo)	LINES
60014511002	53,429.72	$8,324.75	$20.35	$33.19	$112.15	$124.99	57
60470001002	53,105.91	$4,122.76	$20.35	$33.19	$58.13	$70.97	4
60470002001	35,545.30	$2,734.15	$20.35	$33.19	$40.52	$53.36	123
60470002002	13,471.06	$1,429.22	$20.35	$33.19	$22.56	$35.40	92
60470002006	12,015.71	$1,352.38	$20.35	$33.19	$21.38	$34.22	12
60470003011	5,956.07	$770.76	$20.35	$33.19	$13.55	$26.38	377
60470003012	4,604.18	$582.73	$20.35	$33.19	$10.93	$23.77	394
60470003013	13,391.98	$1,469.31	$20.35	$33.19	$23.61	$36.44	230
60470003021	27,437.57	$2,425.62	$20.35	$33.19	$36.89	$49.73	355
60470003022	10,805.52	$1,168.68	$20.35	$33.19	$19.19	$32.02	905
60470003023	637.85	$364.21	$20.35	$33.19	$8.04	$20.88	422
60470003024	3,915.07	$545.90	$20.35	$33.19	$10.44	$23.28	323
60470003025	5,603.57	$750.61	$20.35	$33.19	$13.28	$26.11	157
60470003026	6,680.99	$692.44	$20.35	$33.19	$12.37	$25.21	172
60470004005	34,032.45	$2,373.59	$20.35	$33.19	$35.74	$48.57	4
60470005013	21,887.45	$2,159.96	$20.35	$33.19	$33.63	$46.47	16
60470005014	22,452.77	$2,040.94	$20.35	$33.19	$31.89	$44.73	24
60470005015	28,075.15	$2,306.90	$20.35	$33.19	$35.19	$48.03	184
60470005022	35,161.02	$2,364.15	$20.35	$33.19	$35.52	$48.35	40
60470005023	30,001.52	$2,304.40	$20.35	$33.19	$35.04	$47.88	134
60470009001	47,265.67	$3,538.87	$20.35	$33.19	$50.64	$63.47	59
60470301003	18,748.65	$2,069.53	$20.35	$33.19	$32.58	$45.41	12
60855127982	38,093.49	$6,691.97	$20.35	$33.19	$92.52	$105.35	27
60855135963	33,915.67	$5,901.16	$20.35	$33.19	$83.06	$95.90	1
60855135973	38,350.92	$6,409.14	$20.35	$33.19	$89.29	$102.12	0
60855135983	43,372.23	$6,984.26	$20.35	$33.19	$96.34	$109.17	1
60990032001	5,525.25	$631.43	$20.35	$33.19	$11.57	$24.41	954
60990032002	2,823.53	$484.97	$20.35	$33.19	$9.64	$22.47	925
60990032003	6,465.07	$679.72	$20.35	$33.19	$12.20	$25.04	481
60990032004	3,203.24	$465.58	$20.35	$33.19	$9.32	$22.16	750
60990032005	7,140.45	$733.72	$20.35	$33.19	$12.93	$25.77	356
60990032007	4,470.91	$614.98	$20.35	$33.19	$11.39	$24.23	698
60990033981	15,741.49	$1,835.04	$20.35	$33.19	$28.37	$41.20	369
60990033982	11,530.48	$1,478.43	$20.35	$33.19	$23.71	$36.55	234
60990033983	53,385.84	$4,743.18	$20.35	$33.19	$67.11	$79.94	34
60990033984	16,359.45	$2,297.12	$20.35	$33.19	$35.09	$47.93	90
60990033985	15,712.35	$1,657.58	$20.35	$33.19	$26.32	$39.16	484
60990033986	19,769.98	$2,002.50	$20.35	$33.19	$31.15	$43.99	307
60990033987	12,232.60	$1,457.25	$20.35	$33.19	$22.84	$35.67	15
60990034981	30,300.51	$2,519.14	$20.35	$33.19	$37.96	$50.79	54
60990034982	20,742.88	$2,395.66	$20.35	$33.19	$36.77	$49.61	7
60990041972	38,350.92	$6,409.14	$20.35	$33.19	$89.29	$102.12	0

SAMPLE CPM SUMMARY REPORT: CENTRAL OFFICE

Cost Proxy Model:Universal Service Edition
STATE AVERAGE
CLLI SPECIFIC DATA - ALL COMPANIES

CLLI	CABLE LENGTH (ft)	INVESTMENT ($/line)	REVENUE ($/line/mo)	OPERATING EXPENSE ($/line/mo)	CAPITAL COST ($/line/mo)	SUBSIDY ($/line/mo)	LINES
ABRYCAXF	37,269.10	$2,801.43	$21.35	$60.51	$43.70	$82.86	2,672
ACTNCA11	17,396.98	$1,960.19	$13.97	$12.05	$28.63	$26.71	2,072
ADINCAXF	7,628.03	$1,286.03	$21.35	$18.30	$19.66	$16.61	154
ADLNCAXF	11,991.70	$1,225.39	$20.35	$19.73	$18.87	$18.25	6,396
AGDLCA11	22,855.24	$2,180.23	$13.97	$12.05	$31.52	$29.60	1,146
AGORCA11	15,477.39	$1,105.86	$13.97	$12.05	$17.10	$15.18	21,474
ALBYCA11	8,258.29	$607.32	$13.97	$12.05	$9.67	$7.75	31,773
ALGHCA11	18,442.28	$2,081.46	$13.97	$12.05	$30.03	$28.11	29
ALHBCA01	9,337.44	$619.30	$13.97	$12.05	$9.92	$8.00	42,418
ALMDCA11	9,802.15	$651.31	$13.97	$12.05	$10.42	$8.50	33,902
ALPGCAXF	5,156.17	$961.41	$20.35	$19.73	$15.21	$14.59	342
ALPICA12	20,671.44	$1,743.65	$13.97	$12.05	$25.26	$23.34	7,292
ALPNCAXF	15,324.46	$3,263.25	$20.35	$19.73	$47.33	$46.71	80
ALTRCAXF	27,695.47	$1,863.20	$21.35	$18.30	$27.09	$24.04	1,911
ANCMCA01	14,830.64	$1,607.79	$13.97	$12.05	$23.51	$21.59	2,207
ANGWCA11	13,908.45	$1,750.99	$13.97	$12.05	$25.22	$23.30	1,464
ANHMCA01	13,513.97	$827.07	$13.97	$12.05	$13.25	$11.33	61,845
ANHMCA11	11,354.65	$718.98	$13.97	$12.05	$11.53	$9.61	55,951
ANHMCA12	6,319.21	$534.58	$13.97	$12.05	$8.54	$6.62	6,667
ANNPCA11	13,903.41	$2,742.57	$13.97	$12.05	$39.58	$37.66	129
ANTCCA11	11,212.81	$782.23	$13.97	$12.05	$12.39	$10.47	28,079
ANZACAXF	58,821.12	$3,569.78	$20.75	$15.59	$49.57	$44.41	3,359
APTSCA12	11,132.49	$897.96	$13.97	$12.05	$13.92	$11.99	10,671
APVYCAXF	16,013.77	$1,001.98	$20.35	$19.73	$16.30	$15.69	15,821
ARBCCAXF	12,495.08	$1,377.56	$20.35	$38.68	$22.53	$40.87	1,218
ARCDCA11	10,631.33	$783.34	$13.97	$12.05	$12.60	$10.68	21,042
ARCTCA11	10,736.66	$878.68	$13.97	$12.05	$13.53	$11.61	8,921
ARGRCA12	13,560.73	$1,019.06	$13.97	$12.05	$15.70	$13.78	17,961
ARHDCAXF	10,983.53	$1,176.20	$20.75	$15.59	$17.88	$12.72	2,250
ARMSCA11	13,400.28	$1,686.98	$13.97	$12.05	$25.01	$23.09	892
ARNLCA11	14,596.48	$1,444.73	$13.97	$12.05	$21.20	$19.28	2,840
ARSNCA11	13,757.92	$1,263.03	$13.97	$12.05	$18.83	$16.90	8,352
ARTNCA11	15,009.36	$932.13	$13.97	$12.05	$14.73	$12.81	47,288
ARTSCAXF	10,992.53	$711.71	$20.75	$15.59	$11.69	$6.53	32,814
ARVNCA11	7,044.68	$876.85	$13.97	$12.05	$13.25	$11.33	3,655
ASMTCA11	28,429.33	$4,611.51	$13.97	$12.05	$62.85	$60.93	133
ATSCCA11	12,523.55	$962.77	$13.97	$12.05	$14.87	$12.95	11,309
ATWRCA12	11,615.93	$871.50	$13.97	$12.05	$13.60	$11.68	14,858
AUBNCA01	19,789.79	$1,245.76	$13.97	$12.05	$19.05	$17.13	17,537
AUBNCA11	13,419.13	$1,384.08	$13.97	$12.05	$20.62	$18.70	4,228
AVBHCA11	11,020.16	$1,555.96	$13.97	$12.05	$22.77	$20.85	830
AVLNCA11	5,979.25	$738.69	$13.97	$12.05	$11.26	$9.34	1,685
AVNLCA12	14,062.60	$1,004.28	$13.97	$12.05	$14.63	$12.71	2,574
AZUBCAXF	14,693.83	$826.97	$20.75	$15.59	$13.46	$8.30	25,263
BAKRCA11	42,085.77	$8,098.01	$13.97	$12.05	$107.96	$106.04	6
BALBCA01	9,558.51	$662.19	$13.97	$12.05	$10.27	$8.35	5,555
BBCYCAXF	12,303.28	$1,252.51	$20.35	$19.73	$19.27	$18.65	2,809
BBLNCAXF	15,986.56	$1,425.14	$20.35	$19.73	$21.87	$21.25	5,176
BCNYCA11	9,035.44	$864.40	$13.97	$12.05	$13.36	$11.44	2,462
BDBACA11	13,548.96	$1,586.87	$13.97	$12.05	$23.36	$21.43	693
BDGRCAXF	10,928.01	$2,568.43	$20.75	$15.59	$36.88	$31.72	141
BEALCA11	30,658.47	$2,257.37	$13.97	$12.05	$32.54	$30.62	1,530
BELLCA11	6,686.92	$499.79	$13.97	$12.05	$8.08	$6.16	26,255
BELRCAXF	10,955.64	$788.65	$20.75	$15.59	$12.69	$7.53	9,936
BGCKCAXF	9,790.62	$1,328.37	$21.35	$60.51	$23.56	$62.71	47
BGGSCA11	9,953.53	$1,258.07	$13.97	$12.05	$18.81	$16.89	1,182
BGPICAXF	5,174.66	$736.87	$20.35	$19.73	$11.96	$11.35	733
BGSRCA11	54,312.55	$3,356.95	$13.97	$12.05	$46.15	$44.23	364
BGVLCA11	26,688.25	$4,866.56	$13.97	$12.05	$67.69	$65.77	126

THE COST PROXY MODEL©

What is it

The CPM is a database driven predictor of a least cost, forward looking local telecommunications network. It is based upon data collected from a small geographic unit which can be roled up into an geographic area, including CBG, WC, CATV, or according to other factors such as ethnicity, income, age, etc..

Distinguishing characteristic

A SAS™ based, menu driven software system making it easy to use and run what if scenarios, contrasted to Excel™ spreadsheets based models.

Other advantages

Finer input geography - grid
Delinks cash operating expenses from investments
Includes all network elements
All inputs are changeable
Accurate assignment of of CBGs
Recognizes individual provider uniqueness
Flexible
Works with both proprietary and commercial inputs

CPM Development Criteria

1. Accommodate <u>any</u> geography

2. Operate with or without proprietary data

3. Reflect realistic cost drivers

1. Accommodate <u>Any</u> Geography

- Individual premises
- Grid cells (any size)
- Census block groups
- Cities and towns
- Wire centers
- CATV areas
- Entire state
- Arbitrary polygons

2. Operate With or Without Proprietary Data

- Customer addresses
- Actual network
- Company costs
- Actual equipment
- Actual network topology

- Grid cells/other polygons
- Simulated network
- Average costs
- Assumed equipment
- Modeled network topology