MCI Telecommunications Corporation

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Washington, DC 20006

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

December 18, 1997

Magalie Roman Salas, Secretary
Federal Communications Commission
1919 M Street, N.W., Foom 222
Washington, D.C. 20554

Re: Ex Parte Submission
Federal-State Joint Board on Universal Service; CC Docket No. 96-45
Forward-Looking Mechanism for High Cost Support for Non-Rural LECs; CC Docket No. 97-160

Dear Ms. Salas:

At their request, we provided the attached comparison of the inputs of the Hatfield Model and Bencmark Cost Proxy Model to the Universal Service Branch staff. Please associate it with the above-captioned docket.

Respectfully submitted,

Chris Frentrup

Chris Frentrup
Senior Regulatory Analyst
MCI Telecommunications Corp.
1801 Pennsylvania Ave., NW
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CC: Chuck Keller, Bob Loube

Distribution Input	Default Hatfield Value	BCPM Value	Source in BCPM
Distribution Cable Fill - 0	0.50	0.75	Loop Percent Table
Distribution Cable Fill - 5	0.55	0.80	Loop Percent Table
Distribution Cable Fill - 100	0.55	0.80	Loop Percent Table
Distribution Cable Fill - 200	0.60	0.85	Loop Percent Table
Distribution Cable Fill - 650	0.65	0.85	Loop Percent Table
Distribution Cable Fill - 850	0.70	0.85	Loop Percent Table
Distribution Cable Fill - 2550	0.75	0.85	Loop Percent Table
Distribution Cable Fill - 5000	0.75	0.85	Loop Percent Table
Distribution Cable Fill - 10000	0.75	0.85	Loop Percent Table
Buried Fraction - 0	0.75	0.60	Loop Percent Table; hard rock value is different
Buried Fraction - 5	0.75	0.61	Loop Percent Table; hard rock value is different
Buried Fraction - 100	0.75	0.62	Loop Percent Table; hard rock value is different
Buried Fraction - 200	0.70	0.62	Loop Percent Table; hard rock value is different
Buried Fraction - 650	0.70	0.65	Loop Percent Table; hard rock value is different
Buried Fraction - 850	0.70	0.65	Loop Percent Table; hard rock value is different
Buried Fraction - 2550	0.65	0.55	Loop Percent Table; hard rock value is different
Buried Fraction - 5000	0.35	0.35	Loop Percent Table; hard rock value is different
Buried Fraction - 10000	0.05	0.10	Loop Percent Table; hard rock value is different
Aerial Cable Fraction - 0	0.25	0.40	Loop Percent Table; hard rock value is different
Aerial Cable Fraction - 5	0.25	0.37	Loop Percent Table; hard rock value is different
Aerial Cable Fraction - 100	0.25	0.33	Loop Percent Table; hard rock value is different
Aerial Cable Fraction - 200	0.30	0.30	Loop Percent Table; hard rock value is different

	Default Hatfield Value	BCPM Value	Source in BCPM
)	0.30	0.20	Loop Percent Table; hard rock value is different
)	0.30	0.10	Loop Percent Table; hard rock value is different
50	0.30	0.05	Loop Percent Table; hard rock value is different
)0	0.60	0.05	Loop Percent Table; hard rock value is different
)00	0.85	-	Loop Percent Table; hard rock value is different
	250	250	Spacing Table
	250	250	Spacing Table
	200	250	Spacing Table
	200	250	Spacing Table
	175	150	Spacing Table
	175	150	Spacing Table
	150	150	Spacing Table
	150	150	Spacing Table
	150	150	Spacing Table
	150		Computed
	150		Computed
	100		Computed
	100		Computed
	50		Computed
	50		Computed
	50		Computed
	50		Computed
0	50		Computed
al) - 0	23.33		$0.77/ft is material and installation: see below
al) - 5	23.33		"
al) - 100	17.50		"
al) - 200	17.50		"
al) - 650	11.67		"
al) - 850	11.67		"

Distribution Input	Default Hatfield Value	BCPM Value	Source in BCPM
Aerial Drop Placement (total) - 2550	11.67		"
Aerial Drop Placement (total) - 5000	11.67		"
Aerial Drop Placement (total) - 10000	11.67		"
Buried Drop Placement (total) - 0	0.60	0.77	material & install
Buried Drop Placement (total) - 5	0.60	0.77	material & install
Buried Drop Placement (total) - 100	0.60	0.77	material & install
Buried Drop Placement (total) - 200	0.60	0.77	material & install
Buried Drop Placement (total) - 650	0.60	0.77	material & install
Buried Drop Placement (total) - 850	0.60	0.77	material & install
Buried Drop Placement (total) - 2550	0.75	0.77	material & install
Buried Drop Placement (total) - 5000	1.50	0.77	material & install
Buried Drop Placement (total) - 10000	5.00	0.77	material & install
Buried Drop Sharing Fraction - 0	0.50		no sharing used in BCPM
Buried Drop Sharing Fraction - 5	0.50		"
Buried Drop Sharing Fraction - 100	0.50		"
Buried Drop Sharing Fraction - 200	0.50		"
Buried Drop Sharing Fraction - 650	0.50		"
Buried Drop Sharing Fraction - 850	0.50		"
Buried Drop Sharing Fraction - 2550	0.50		"
Buried Drop Sharing Fraction - 5000	0.50		"
Buried Drop Sharing Fraction - 10000	0.50		"
Buried Drop Fraction - 0	0.75		same as Distribution; varies by soil type
Buried Drop Fraction - 5	0.75		"
Buried Drop Fraction - 100	0.75		"
Buried Drop Fraction - 200	0.70		"
Buried Drop Fraction - 650	0.70		"
Buried Drop Fraction - 850	0.70		"
Buried Drop Fraction - 2550	0.70		"
Buried Drop Fraction - 5000	0.40		"
Buried Drop Fraction - 10000	0.15		"
Pole Investment	201.00	436.17	Structure Inputs

Distribution Input	Default Hatfield Value	BCPM Value	Source in BCPM
Pole Labor	216.00		Structure Inputs; varies by soil type
Buried Cable Jacketing Multiplier	1.04		no equivalent; included in cable price
Conduit Investment per foot	0.60	0.83	manhole inputs
Spare Tubes per route	1.00	1.00	no input; assumed
Regional Labor Adjustment Factor	1.00		none
Residential NID case, no protector	10.00	30.73	Loop Cost-Case + Protector; incl labor
Residential NID basic labor	15.00		see above
Maximum lines per NID	6.00		
Residential Protection Block, per pair	4.00		see above
Business NID case, no protector	25.00	30.73	Loop Cost-Case + Protector; incl labor
Business NID basic labor	15.00		see above
Business Protection Block, per pair	4.00		see above
Average Lines per business location	4.00		
Terminal and Splice per line, buried	42.50		Loop Cost
Terminal and Splice per line, aerial	32.00		Loop Cost
Drop cable investment per foot buried	0.14		Loop Cost
Drop cable buried pairs	3.00		same, but not an input?
Drop cable investment per foot aerial	0.095		Loop Cost
Drop cable aerial pairs	2.00		same, but not an input?
DS-0 fraction	1.00		
DS-1 fraction	-		
DS-0 pair equivalent	1.00		
DS-1 pair equivalent	2.00		
DS-3 pair equivalent	56.00		
Indoor NID case	5.00		included in the above price
Buried fraction available for shift - 0	0.75		no equivalent in BCPM
Buried fraction available for shift - 5	0.75		"
Buried fraction available for shift - 100	0.75		"
Buried fraction available for shift - 200	0.75		"
Buried fraction available for shift - 650	0.75		"
Buried fraction available for shift - 850	0.75		"

Distribution Input	Default Hatfield Value	BCPM Value	Source in BCPM
Buried fraction available for shift - 2550	0.75		"
Buried fraction available for shift - 5000	-		"
Buried fraction available for shift - 10000	-		"
Wireless Investment Cap Enabled	FALSE		$20,000 per line
Wireless Point to Point Inv cap - distribution, per line	7,500.00		"
Wireless Common inv, broadcast	112,500.00		"
Wireless per line inv, broadcast	500.00		"
Maximum broadcast lines for common inv	30.00		"
TR-303 DLC Site and Power	3,000.00		Structure in the two models different; still investigating
TR-303 DLC Maximum Lines/Increment	672.00		"
TR-303 DLC RT Fill Factor	0.90		"
TR-303 DLC Basic Common Eqpt Invest + initial lines	66,000.00		"
TR-303 DLC POTS Channel Unit Investment	310.00		"
TR-303 DLC POTS Lines per CU	4.00		"
TR-303 DLC Coin Channel Unit Investment	250.00		"
TR-303 DLC Coin Lines per CU	2.00		"
TR-303 DLC 303/LD crossover, lines	480.00		"
TR-303 DLC Fibers per RT	4.00		"
TR-303 DLC Optical Patch Panel	1,000.00		"
TR-303 DLC Copper Feeder Max Distance, ft	9,000.00		"
TR-303 DLC Common Eqpt Invest per additional 672 lines	18,500.00		"
TR-303 DLC Maximum Number of additional line modules/RT	2.00		"
Low Density DLC Site and Power	1,300		"
Low Density DLC Maximum Lines/Increment	120.00		"
Low Density DLC RT Fill Factor	0.90		"
Low Density DLC Basic Common Eqpt Invest + initial lines	16,000.00		"
Low Density DLC POTS Channel Unit Investment	600.00		"
Low Density DLC POTS Lines per CU	6.00		"
Low Density DLC Coin Channel Unit Investment	600.00		"
Low Density DLC Coin Lines per CU	6.00		"
Low Density DLC Fibers per RT	4.00		"
Low Density DLC Optical Patch Panel	1,000.00		"

Distribution Input	Default Hatfield Value	BCPM Value	Source In BCPM
Low Density DLC Common Eqpt Invest per additional 96 lines	9,400.00		"
Low Density DLC Maximum Number of additional line modules/RT	1.00		"
Distribution Cable Size 1	2,400.00		Cable Tables: BCPM also has 3000, 3600, and 4200 size
Distribution Cable Size 2	1,800.00		Cable Tables
Distribution Cable Size 3	1,200.00		"
Distribution Cable Size 4	900.00		"
Distribution Cable Size 5	600.00		"
Distribution Cable Size 6	400.00		also has a 300 pair size
Distribution Cable Size 7	200.00		Cable Tables
Distribution Cable Size 8	100.00		"
Distribution Cable Size 9	50.00		"
Distribution Cable Size 10	25.00		"
Distribution Cable Size 11	12.00		"
Distribution Cable Size 12	6.00		BCPM has nothing smaller than 12 pair
Distribution Cable Investment per foot 1	20.00		Loop Cost; varies by UG/Buried/Aerial
Distribution Cable Investment per foot 2	16.00		"
Distribution Cable Investment per foot 3	12.00		"
Distribution Cable Investment per foot 4	10.00		"
Distribution Cable Investment per foot 5	7.75		"
Distribution Cable Investment per foot 6	6.00		"
Distribution Cable Investment per foot 7	4.25		"
Distribution Cable Investment per foot 8	2.50		"
Distribution Cable Investment per foot 9	1.63		"
Distribution Cable Investment per foot 10	1.19		"
Distribution Cable Investment per foot 11	0.76		"
Distribution Cable Investment per foot 12	0.63		"
Distribution Riser Cable Size 1	2,400.00		See Distribution Cable Size above
Distribution Riser Cable Size 2	1,800.00		"
Distribution Riser Cable Size 3	1,200.00		"

Distribution Input	Default Hatfield Value	BCPM Value	Source in BCPM
Distribution Riser Cable Size 4	900.00		"
Distribution Riser Cable Size 5	600.00		"
Distribution Riser Cable Size 6	400.00		"
Distribution Riser Cable Size 7	200.00		"
Distribution Riser Cable Size 8	100.00		"
Distribution Riser Cable Size 9	50.00		"
Distribution Riser Cable Size 10	25.00		"
Distribution Riser Cable Size 11	12.00		"
Distribution Riser Cable Size 12	6.00		"
Distribution Riser Cable Investment per foot 1	25.00		no equivalent
Distribution Riser Cable Investment per foot 2	20.00		"
Distribution Riser Cable Investment per foot 3	15.00		"
Distribution Riser Cable Investment per foot 4	12.50		"
Distribution Riser Cable Investment per foot 5	10.00		"
Distribution Riser Cable Investment per foot 6	7.50		"
Distribution Riser Cable Investment per foot 7	5.30		"
Distribution Riser Cable Investment per foot 8	3.15		"
Distribution Riser Cable Investment per foot 9	2.05		"
Distribution Riser Cable Investment per foot 10	1.50		"
Distribution Riser Cable Investment per foot 11	0.95		"
Distribution Riser Cable Investment per foot 12	0.80		"
Distance Multiplier for difficult terrain	1.00		
Rock Depth Threshold, inches	24.00		24 copper/36 fiber
Hard Rock Placement Multiplier	3.50		uses specific tables, not mulitplier
Soft Rock Placement Multiplier	2.00		"
Sidewalk/Street Fraction	0.20		
Local RT - Maximum Total Distance	18,000.00	12,000.00	
SAI Cable Size 1	7,200.00		Loop Cost
SAI Cable Size 2	5,400.00		"
SAI Cable Size 3	3,600.00		"
SAI Cable Size 4	2,400.00		"
SAI Cable Size 5	1,800		"
SAI Cable Size 6	1,200		"

Distribution Input	Default Hatfield Value	BCPM Value	Source in BCPM
SAI Cable Size 7	900		"
SAI Cable Size 8	600		"
SAI Cable Size 9	400		"
SAI Cable Size 10	200		"
SAI Cable Size 11	100		"
SAI Cable Size 12	50		"
SAI Indoor Investment 1	9,656		"
SAI Indoor Investment 2	7,392		"
SAI Indoor Investment 3	4,928		"
SAI Indoor Investment 4	3,352		"
SAI Indoor Investment 5	2,464.00		"
SAI Indoor Investment 6	1,776.00		"
SAI Indoor Investment 7	1,232.00		"
SAI Indoor Investment 8	888.00		"
SAI Indoor Investment 9	592.00		"
SAI Indoor Investment 10	296.00		"
SAI Indoor Investment 11	148.00		"
SAI Indoor Investment 12	98.00		"
SAI Outdoor Investment 1	10,000.00		"
SAI Outdoor Investment 2	8,200.00		"
SAI Outdoor Investment 3	6,000.00		"
SAI Outdoor Investment 4	4,300.00		"
SAI Outdoor Investment 5	3,400.00		"
SAI Outdoor Investment 6	2,400.00		"
SAI Outdoor Investment 7	1,900.00		"
SAI Outdoor Investment 8	1,400.00		"
SAI Outdoor Investment 9	1,000.00		"
SAI Outdoor Investment 10	600.00		"
SAI Outdoor Investment 11	350.00		"
SAI Outdoor Investment 12	250.00		"
Repeater Investment, installed	527.00		No equivalent; no copper T-1s
Integrated COT, installed	420.00		"
Remote Multiplexer Common Equip Inv, installed	8,200.00		"
Channel Unit Investment, per subscriber	125.00		"

Distribution Input	Default Hatfield Value	BCPM Value	Source in BCPM
COT investment per RT, installed	1,170.00		"
Remote Terminal fill factor	0.90		"
Maximum T1s per cable	8.00		"
T1 repeater spacing, dB	32.00		"
Aerial T1 attenuation, dB/kft	6.30		"
Buried T1 attenuation, dB/kft	5.00		"
Feeder steering enable	FALSE		Not optional in BCPM
Main feeder route/air multiplier	1		No equivalent

Feeder Input	Default Hatfield Value	BCPM Value	Source in BCPM
Copper Feeder Fill - 0	0.65	0.85	Loop Percent Table
Copper Feeder Fill - 5	0.75	0.85	"
Copper Feeder Fill - 100	0.80	0.85	"
Copper Feeder Fill - 200	0.80	0.85	"
Copper Feeder Fill - 650	0.80	0.85	"
Copper Feeder Fill - 850	0.80	0.85	"
Copper Feeder Fill - 2550	0.80	0.85	"
Copper Feeder Fill - 5000	0.80	0.85	"
Copper Feeder Fill - 10000	0.80	0.85	"
Fiber Feeder Strand Fill - 0	1.00	1.00	Same for both models
Fiber Feeder Strand Fill - 5	1.00	1.00	"
Fiber Feeder Strand Fill - 100	1.00	1.00	"
Fiber Feeder Strand Fill - 200	1.00	1.00	"
Fiber Feeder Strand Fill - 650	1.00	1.00	"
Fiber Feeder Strand Fill - 850	1.00	1.00	"
Fiber Feeder Strand Fill - 2550	1.00	1.00	"
Fiber Feeder Strand Fill - 5000	1.00	1.00	"
Fiber Feeder Strand Fill - 10000	1.00	1.00	"
Copper Aerial Fraction - 0	0.50		same as for Distribution
Copper Aerial Fraction - 5	0.50		"
Copper Aerial Fraction - 100	0.50		"
Copper Aerial Fraction - 200	0.40		"

Feeder Input	Default Hatfield Value	BCPM Value	Source in BCPM
Copper Aerial Fraction - 650	0.30		"
Copper Aerial Fraction - 850	0.20		"
Copper Aerial Fraction - 2550	0.15		"
Copper Aerial Fraction - 5000	0.10		"
Copper Aerial Fraction - 10000	0.05		"
Copper Buried Fraction - 0	0.45		"
Copper Buried Fraction - 5	0.45		"
Copper Buried Fraction - 100	0.45		"
Copper Buried Fraction - 200	0.40		"
Copper Buried Fraction - 650	0.30		"
Copper Buried Fraction - 850	0.20		"
Copper Buried Fraction - 2550	0.10		"
Copper Buried Fraction - 5000	0.05		"
Copper Buried Fraction - 10000	0.05		"
Copper Manhole Spacing, feet - 0	800	725	Spacing Inputs
Copper Manhole Spacing, feet - 5	800	725	Spacing Inputs
Copper Manhole Spacing, feet - 100	800	725	Spacing Inputs
Copper Manhole Spacing, feet - 200	800	725	Spacing Inputs
Copper Manhole Spacing, feet - 650	600	550	Spacing Inputs
Copper Manhole Spacing, feet - 850	600	550	Spacing Inputs
Copper Manhole Spacing, feet - 2550	600	550	Spacing Inputs
Copper Manhole Spacing, feet - 5000	400	550	Spacing Inputs
Copper Manhole Spacing, feet - 10000	400	550	Spacing Inputs
Fiber Aerial Fraction - 0	0.35		Loop Percent Table; varies by terrain
Fiber Aerial Fraction - 5	0.35		"
Fiber Aerial Fraction - 100	0.35		"
Fiber Aerial Fraction - 200	0.30		"
Fiber Aerial Fraction - 650	0.30		"
Fiber Aerial Fraction - 850	0.20		"

Feeder Input	Default Hatfield Value	BCPM Value	Source in BCPM
Fiber Aerial Fraction - 2550	0.15		"
Fiber Aerial Fraction - 5000	0.10		"
Fiber Aerial Fraction - 10000	0.05		"
Fiber Buried Fraction - 0	0.60		"
Fiber Buried Fraction - 5	0.60		"
Fiber Buried Fraction - 100	0.60		"
Fiber Buried Fraction - 200	0.60		"
Fiber Buried Fraction - 650	0.30		"
Fiber Buried Fraction - 850	0.20		"
Fiber Buried Fraction - 2550	0.10		"
Fiber Buried Fraction - 5000	0.05		"
Fiber Buried Fraction - 10000	0.05		"
Fiber Pullbox Spacing. feet - 0	2,000.00		same as Copper Manhole Spacing
Fiber Pullbox Spacing. feet - 5	2,000.00		"
Fiber Pullbox Spacing. feet - 100	2,000.00		"
Fiber Pullbox Spacing. feet - 200	2,000.00		"
Fiber Pullbox Spacing. feet - 650	2,000.00		"
Fiber Pullbox Spacing. feet - 850	2,000.00		"
Fiber Pullbox Spacing. feet - 2550	2,000.00		"
Fiber Pullbox Spacing. feet - 5000	2,000.00		"
Fiber Pullbox Spacing. feet - 10000	2,000.00		"
Fiber Feeder Investment per foot - 216	13.10		Loop Costs:price differs by aer/bur/ug; largest size is 288, not 216
Fiber Feeder Investment per foot - 144	9.50		"
Fiber Feeder Investment per foot - 96	7.10		"
Fiber Feeder Investment per foot - 72	5.90		"
Fiber Feeder Investment per foot - 60	5.30		"
Fiber Feeder Investment per foot - 48	4.70		"
Fiber Feeder Investment per foot - 36	4.10		"
Fiber Feeder Investment per foot - 24	3.50		"
Fiber Feeder Investment per foot - 18	3.20		"
Fiber Feeder Investment per foot - 12	2.90		"

Feeder Input	Default Hatfield Value	BCPM Value	Source in BCPM
Copper Feeder Investment per foot - 4200	29.00		Loop Costs: cable sizes same as for Distribution
Copper Feeder Investment per foot - 3600	26.00		"
Copper Feeder Investment per foot - 3000	23.00		"
Copper Feeder Investment per foot - 2400	20.00		"
Copper Feeder Investment per foot - 1800	16.00		"
Copper Feeder Investment per foot - 1200	12.00		"
Copper Feeder Investment per foot - 900	10.00		"
Copper Feeder Investment per foot - 600	7.75		"
Copper Feeder Investment per foot - 400	6.00		"
Copper Feeder Investment per foot - 200	4.25		"
Copper Feeder Investment per foot - 100	2.50		"
Buried Copper Cable Sheath Multiplier	1.04		included in cable cost
Buried Fiber Sheath Addition per foot	0.20		included in cable cost
Pole Materials	201.00		see Distribution
Pole Labor	216.00		"
Conduit Material Investment per foot	0.60		"
Inner Duct Investment per foot	0.30		not a separate input
Spare Tubes per section	1.00		see Distribution
Regional Labor Multiplier	1.00		see Distribution
Pole Spacing, feet - 0	250.00		see Distribution
Pole Spacing, feet - 5	250.00		"
Pole Spacing, feet - 100	200.00		"
Pole Spacing, feet - 200	200.00		"
Pole Spacing, feet - 650	175.00		"
Pole Spacing, feet - 850	175.00		"
Pole Spacing, feet - 2550	150.00		"
Pole Spacing, feet - 5000	150.00		"
Pole Spacing, feet - 10000	150.00		"
Buried fraction available for shift - 0	0.75		not used in BCPM
Buried fraction available for shift - 5	0.75		"
Buried fraction available for shift - 100	0.75		"

Feeder Input	Default Hatfield Value	BCPM Value	Source in BCPM
Buried fraction available for shift - 200	0.75		"
Buried fraction available for shift - 650	0.75		"
Buried fraction available for shift - 850	0.75		"
Buried fraction available for shift - 2550	0.75		"
Buried fraction available for shift - 5000	0.75		"
Buried fraction available for shift - 10000	0.75		"
Fiber investment/strand - foot	0.10		
Copper investment/pair - foot	0.01		
Copper Manhole Materials - 0	1,865.00		Manhole inputs; varies by size, density, and terrain
Copper Manhole Materials - 5	1,865.00		"
Copper Manhole Materials - 100	1,865.00		"
Copper Manhole Materials - 200	1,865.00		"
Copper Manhole Materials - 650	1,865.00		"
Copper Manhole Materials - 850	1,865.00		"
Copper Manhole Materials - 2550	1,865.00		"
Copper Manhole Materials - 5000	1,865.00		"
Copper Manhole Materials - 10000	1,865.00		"
Copper Manhole Frame and Cover - 0	350.00		included in Materials price above
Copper Manhole Frame and Cover - 5	350.00		"
Copper Manhole Frame and Cover - 100	350.00		"
Copper Manhole Frame and Cover - 200	350.00		"
Copper Manhole Frame and Cover - 650	350.00		"
Copper Manhole Frame and Cover - 850	350.00		"
Copper Manhole Frame and Cover - 2550	350.00		"
Copper Manhole Frame and Cover - 5000	350.00		"
Copper Manhole Frame and Cover - 10000	350.00		"
Copper Manhole Site Delivery - 0	125.00		"
Copper Manhole Site Delivery - 5	125.00		"
Copper Manhole Site Delivery - 100	125.00		"
Copper Manhole Site Delivery - 200	125.00		"
Copper Manhole Site Delivery - 650	125.00		"
Copper Manhole Site Delivery - 850	125.00		"

Feeder Input	Default Hatfield Value	BCPM Value	Source in BCPM
Copper Manhole Site Delivery - 2550	125.00		"
Copper Manhole Site Delivery - 5000	125.00		"
Copper Manhole Site Delivery - 10000	125.00		"
Copper Manhole Excavate and Backfill - 0	2,800		"
Copper Manhole Excavate and Backfill - 5	2,800		"
Copper Manhole Excavate and Backfill - 100	2,800		"
Copper Manhole Excavate and Backfill - 200	2,800		"
Copper Manhole Excavate and Backfill - 650	3,200		"
Copper Manhole Excavate and Backfill - 850	3,500		"
Copper Manhole Excavate and Backfill - 2550	3,500		"
Copper Manhole Excavate and Backfill - 5000	5,000		"
Copper Manhole Excavate and Backfill - 10000	5,000		"
Fiber Pullbox Materials - 0	280.00		Manhole Inputs; varies by size, density, and terrain
Fiber Pullbox Materials - 5	280.00		"
Fiber Pullbox Materials - 100	280.00		"
Fiber Pullbox Materials - 200	280.00		"
Fiber Pullbox Materials - 650	280.00		"
Fiber Pullbox Materials - 850	280.00		"
Fiber Pullbox Materials - 2550	280.00		"
Fiber Pullbox Materials - 5000	280.00		"
Fiber Pullbox Materials - 10000	280.00		"
Fiber Pullbox Installation - 0	220.00		included in Materials price above
Fiber Pullbox Installation - 5	220.00		"
Fiber Pullbox Installation - 100	220.00		"
Fiber Pullbox Installation - 200	220.00		"
Fiber Pullbox Installation - 650	220.00		"
Fiber Pullbox Installation - 850	220.00		"
Fiber Pullbox Installation - 2550	220.00		"
Fiber Pullbox Installation - 5000	220.00		"

Feeder Input	Default Hatfield Value	BCPM Value	Source in BCPM
Fiber Pullbox Installation - 10000	220.00		"
Dewatering factor manhole excavation (additive)	0.20		not used in BCPM
Water table depth for dewatering, ft	5.00		"

Expense Input	Default Hatfield Value	BCPM Value	Source in BCPM
Cost of Debt	0.077	0.078	Miscellaneous Inputs
Debt Fraction	0.450	0.328	"
Cost of Equity	0.119	0.131	"
Average Trunk Utilization	0.300		
Tax Rate	0.393	0.384	Miscellaneous Inputs
Corporate Overhead Factor	0.104		Not used
Other Taxes Factor	0.050	0.046	Miscellaneous Inputs
Billing/Bill Inquiry per line per month	1.220		Not used
Directory Listing per line per month	-		"
Forward-looking Network Operations Factor	0.500		"
Alternative CO Switching Factor	0.027		"
Alternative Circuit Equipment Factor	0.015		"
EO Traffic Sensitive Fraction	0.700		"
Monthly LNP cost, per line	0.250		"
Carrier to Carrier Customer Service, per line per year	1.69		"
NID Expense per line per year	1.00		"
DS-0/DS-1 Terminal Factor	12.4		Not an implicit input
DS-1/DS-3 Terminal Factor	9.9		"
Average Lines per Business Location	4	10	Miscellaneous Inputs
Distribution Aerial Shring Fraction - 0	0.50		Structure Inputs:
Distribution Aerial Shring Fraction - 5	0.33		shown separately for
Distribution Aerial Shring Fraction - 100	0.25		Poles (50%) and Anchors & Guys (100%)

Expense Input	Default Hatfield Value	BCPM Value	Source in BCPM
Distribution Aerial Shring Fraction - 200	0.25		"
Distribution Aerial Shring Fraction - 650	0.25		"
Distribution Aerial Shring Fraction - 850	0.25		"
Distribution Aerial Shring Fraction - 2550	0.25		"
Distribution Aerial Shring Fraction - 5000	0.25		"
Distribution Aerial Shring Fraction - 10000	0.25		"
Distribution Buried Shring Fraction - 0	0.33		Structure Inputs
Distribution Buried Shring Fraction - 5	0.33		"
Distribution Buried Shring Fraction - 100	0.33		"
Distribution Buried Shring Fraction - 200	0.33		"
Distribution Buried Shring Fraction - 650	0.33		"
Distribution Buried Shring Fraction - 850	0.33		"
Distribution Buried Shring Fraction - 2550	0.33		"
Distribution Buried Shring Fraction - 5000	0.33		"
Distribution Buried Shring Fraction - 10000	0.33		"
Distribution Underground Shring Fraction - 0	1.00		"
Distribution Underground Shring Fraction - 5	0.50		"
Distribution Underground Shring Fraction - 100	0.50		"
Distribution Underground Shring Fraction - 200	0.50		"
Distribution Underground Shring Fraction - 650	0.40		"
Distribution Underground Shring Fraction - 850	0.33		"
Distribution Underground Shring Fraction - 2550	0.33		"
Distribution Underground Shring Fraction - 5000	0.33		"
Distribution Underground Shring Fraction - 10000	0.33		"
Feeder Aerial Shring Fraction - 0	0.50		Same as for Distribution
Feeder Aerial Shring Fraction - 5	0.33		"
Feeder Aerial Shring Fraction - 100	0.25		"
Feeder Aerial Shring Fraction - 200	0.25		"
Feeder Aerial Shring Fraction - 650	0.25		"

Expense Input	Default Hatfield Value	BCPM Value	Source in BCPM
Feeder Aerial Shring Fraction - 850	0.25		"
Feeder Aerial Shring Fraction - 2550	0.25		"
Feeder Aerial Shring Fraction - 5000	0.25		"
Feeder Aerial Shring Fraction - 10000	0.25		"
Feeder Underground Shring Fraction - 0	0.50		Structure Inputs
Feeder Underground Shring Fraction - 5	0.50		"
Feeder Underground Shring Fraction - 100	0.40		"
Feeder Underground Shring Fraction - 200	0.33		"
Feeder Underground Shring Fraction - 650	0.33		"
Feeder Underground Shring Fraction - 850	0.33		"
Feeder Underground Shring Fraction - 2550	0.33		"
Feeder Underground Shring Fraction - 5000	0.33		"
Feeder Underground Shring Fraction - 10000	0.33		"
Feeder Buried Shring Fraction - 0	0.40		"
Feeder Buried Shring Fraction - 5	0.40		"
Feeder Buried Shring Fraction - 100	0.40		"
Feeder Buried Shring Fraction - 200	0.40		"
Feeder Buried Shring Fraction - 650	0.40		"
Feeder Buried Shring Fraction - 850	0.40		"
Feeder Buried Shring Fraction - 2550	0.40		"
Feeder Buried Shring Fraction - 5000	0.40		"
Feeder Buried Shring Fraction - 10000	0.40		"
Motor Vehicles - Economic Life	8.24		Capital Cost Inputs
Garage Work Equipment - Economic Life	12.22		"
Other Work Equipment - Economic Life	13.04		"
Buildings - Economic Life	46.93		"
Furniture - Economic Life	15.92		"
Office Support Equipment - Economic Life	10.78		"
Company Comm. Equipment - Economic Life	7.40		no equivalent
General Purpose Computer - Economic Life	6.12		Capital Cost Inputs
Digital Electronic Switching - Economic Life	16.17		"

Expense Input	Default Hatfield Value	BCPM Value	Source in BCPM
Operator Systems - Economic Life	9.41		"
Digital Circuit Equipment - Economic Life	10.24		"
Public Telephone Terminal Equipment - Economic Life	7.60		"
Poles - Economic Life	30.25		"
Aerial Cable - metallic - Economic Life	20.61		"
Aerial Cable - non metallic - Economic Life	26.14		"
Underground Cable - metallic - Economic Life	25.00		"
Underground Cable - non metallic - Economic Life	26.45		"
Buried - metallic - Economic Life	21.57		"
Buried - non metallic - Economic Life	25.91		"
Intrabuilding Cable - metallic - Economic Life	18.18		no equivalent
Intrabuilding Cable - non metallic - Economic Life	26.11		"
Conduit Systems - Economic Life	56.19		Capital Cost Inputs
Motor Vehicles - Net Salvage %	0.1121		"
Garage Work Equipment - Net Salvage %	-0.1071		"
Other Work Equipment - Net Salvage %	0.0321		"
Buildings - Net Salvage %	0.0187		"
Furniture - Net Salvage %	0.0688		"
Office Support Equipment - Net Salvage %	0.0691		"
Company Comm. Equipment - Net Salvage %	0.0376		no equivalent
General Purpose Computer - Net Salvage %	0.0373		Capital Cost Inputs
Digital Electronic Switching - Net Salvage %	0.0297		"
Operator Systems - Net Salvage %	-0.0082		"
Digital Circuit Equipment - Net Salvage %	-0.0169		"
Public Telephone Terminal Equipment - Net Salvage %	0.0797		"
Poles - Net Salvage %	-0.8998		"
Aerial Cable - metallic - Net Salvage %	-0.2303		"
Aerial Cable - non metallic - Net Salvage %	-0.1753		"
Underground Cable - metallic - Net Salvage %	-0.1826		"
Underground Cable - non metallic - Net Salvage %	-0.1458		"
Buried - metallic - Net Salvage %	-0.0839		"

Expense Input	Default Hatfield Value	BCPM Value	Source in BCPM
Buried - non metallic - Net Salvage %	-0.0858		"
Intrabuilding Cable - metallic - Net Salvage %	-0.1574		no equivalent
Intrabuilding Cable - non metallic - Net Salvage %	-0.1052		"
Conduit Systems - Net Salvage %	-0.1034		Capital Cost Inputs
Furniture - Capital Costs - % assigned per line	0.0000		not specifiable by user
Furniture - Expenses - % assigned per line	0.0000		"
Office Equipment - Capital Costs - % assigned per line	0.0000		"
Office Equipment - Expenses - % assigned per line	0.0000		"
General Purpose Computer - Capital Costs - % assigned per line	0.0000		"
General Purpose Computer - Expenses - % assigned per line	0.0000		"
Motor Vehicles - Capital Costs - % assigned per line	0.0000		"
Motor Vehicles - Expenses - % assigned per line	0.0000		"
Buildings - Capital Costs - % assigned per line	0.0000		"
Buildings - Expenses - % assigned per line	0.0000		"
Garage Work Eqpt. - Capital Costs - % assigned per line	0.0000		"
Garage Work Eqpt. - Expenses - % assigned per line	0.0000		"
Other Work Eqpt. - Capital Costs - % assigned per line	0.0000		"
Other Work Eqpt. - Expenses - % assigned per line	0.0000		"
Network Operations - % assigned per line	0.0000		"
Other Taxes - % assigned per line	0.0000		"
Variable Overhead - % assigned per line	0.0000		"

Underground Excavation/Restoration	Default Hatfield Value	BCPM Value	Source in BCPM
Trench Per Ft - 0	1.90		Structure Inputs; can vary by DZ and terrain
Trench Per Ft - 5	1.90		"
Trench Per Ft - 100	1.90		"
Trench Per Ft - 200	1.90		"
Trench Per Ft - 650	1.95		"
Trench Per Ft - 850	2.15		"
Trench Per Ft - 2550	2.15		"
Trench Per Ft - 5000	6.00		"
Trench Per Ft -10000	6.00		"
Backhoe Trench Fraction - 0	0.45		"
Backhoe Trench Fraction - 5	0.45		"
Backhoe Trench Fraction - 100	0.45		"
Backhoe Trench Fraction - 200	0.45		"
Backhoe Trench Fraction - 650	0.45		"
Backhoe Trench Fraction - 850	0.45		"
Backhoe Trench Fraction - 2550	0.55		"
Backhoe Trench Fraction - 5000	0.67		"
Backhoe Trench Fraction -10000	0.72		"
Backhoe Trench Per Ft - 0	3.00		"
Backhoe Trench Per Ft - 5	3.00		"
Backhoe Trench Per Ft - 100	3.00		"
Backhoe Trench Per Ft - 200	3.00		"

Underground Excavation/Restoration	Default Hatfield Value	BCPM Value	Source in BCPM
Backhoe Trench Per Ft - 650	3.00		"
Backhoe Trench Per Ft - 850	3.00		"
Backhoe Trench Per Ft - 2550	3.00		"
Backhoe Trench Per Ft - 5000	20.00		"
Backhoe Trench Per Ft -10000	30.00		"
Hand Trench Fraction - 0	0.01		"
Hand Trench Fraction - 5	0.01		"
Hand Trench Fraction - 100	0.01		"
Hand Trench Fraction - 200	0.03		"
Hand Trench Fraction - 650	0.03		"
Hand Trench Fraction - 850	0.05		"
Hand Trench Fraction - 2550	0.10		"
Hand Trench Fraction - 5000	0.10		"
Hand Trench Fraction -10000	0.12		"
Hand Trench Per Ft - 0	5.00		"
Hand Trench Per Ft - 5	5.00		"
Hand Trench Per Ft - 100	5.00		"
Hand Trench Per Ft - 200	5.00		"
Hand Trench Per Ft - 650	5.00		"
Hand Trench Per Ft - 850	5.00		"
Hand Trench Per Ft - 2550	5.00		"
Hand Trench Per Ft - 5000	10.00		"
Hand Trench Per Ft -10000	18.00		"
Cut/Restore Asphalt Fraction - 0	0.55		"
Cut/Restore Asphalt Fraction - 5	0.55		"
Cut/Restore Asphalt Fraction - 100	0.55		"
Cut/Restore Asphalt Fraction - 200	0.65		"
Cut/Restore Asphalt Fraction - 650	0.70		"
Cut/Restore Asphalt Fraction - 850	0.75		"

Underground Excavation/Restoration	Default Hatfield Value	BCPM Value	Source in BCPM
Cut/Restore Asphalt Fraction - 2550	0.75		"
Cut/Restore Asphalt Fraction - 5000	0.80		"
Cut/Restore Asphalt Fraction -10000	0.82		"
Cut/Restore Asphalt Per Ft - 0	6.00		"
Cut/Restore Asphalt Per Ft - 5	6.00		"
Cut/Restore Asphalt Per Ft - 100	6.00		"
Cut/Restore Asphalt Per Ft - 200	6.00		"
Cut/Restore Asphalt Per Ft - 650	6.00		"
Cut/Restore Asphalt Per Ft - 850	6.00		"
Cut/Restore Asphalt Per Ft - 2550	6.00		"
Cut/Restore Asphalt Per Ft - 5000	18.00		"
Cut/Restore Asphalt Per Ft -10000	30.00		"
Cut/Restore Concrete Fraction - 0	0.10		"
Cut/Restore Concrete Fraction - 5	0.10		"
Cut/Restore Concrete Fraction - 100	0.10		"
Cut/Restore Concrete Fraction - 200	0.10		"
Cut/Restore Concrete Fraction - 650	0.10		"
Cut/Restore Concrete Fraction - 850	0.10		"
Cut/Restore Concrete Fraction - 2550	0.15		"
Cut/Restore Concrete Fraction - 5000	0.15		"
Cut/Restore Concrete Fraction -10000	0.16		"
Cut/Restore Concrete Per Ft - 0	9.00		"
Cut/Restore Concrete Per Ft - 5	9.00		"
Cut/Restore Concrete Per Ft - 100	9.00		"
Cut/Restore Concrete Per Ft - 200	9.00		"
Cut/Restore Concrete Per Ft - 650	9.00		"
Cut/Restore Concrete Per Ft - 850	9.00		"
Cut/Restore Concrete Per Ft - 2550	9.00		"
Cut/Restore Concrete Per Ft - 5000	21.00		"
Cut/Restore Concrete Per Ft -10000	36.00		"
Cut/Restore Sod Fraction - 0	0.01		"