United Telephone - Midwest	LEC	FCC	Delta	Flag
GENERAL				
GNPPI	0.03310			
X for CL, TS and SP	0.04300			
X for IX	0.0400			
EXOGENOUS CHANGES in thousands				
SPF	($1,105)			
DEM	($611)			
LTS/TRS	$4,923			
ISW	($855)			
RDA	$0			
EDT	($19)			
ITC	$320			
SHARING/LOW END ADJ	($3,132)			
OTHER	$0			
TOTAL OF INDIVIDUALS	($479)			
TOTAL EXOGENOUS	($440)			
COMMON LINE				
Term Prem CCL Rate	0.02470	0.02470	-0.00000	*
Orig Prem CCL Rate	0.01000	0.01000	0.00000	*
g	0.14131			
Proposed PCI	93.80	93.80	0.000	*
TRAFFIC SENSITIVE				
Local Switching				
Proposed SBI	100.79	100.79	0.000	*
SBI: Upper Limit	102.68	102.68	-0.000	*
SBI: Lower Limit	92.90	92.90	-0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Local Transport				
Proposed SBI	85.48	85.48	-0.000	*
SBI: Upper Limit	94.48	94.48	-0.000	*
SBI: Lower Limit	85.48	85.48	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Information				
Proposed SBI	93.47	93.47	0.000	*
SBI: Upper Limit	98.13	98.13	-0.000	*
SBI: Lower Limit	88.79	88.79	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Traffic Sensitive				
TS API	94.71	94.71	-0.000	*
TS PCI	94.71	94.71	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

United Telephone - Midwest	LEC	FCC	Delta	Flag
SPECIAL				
VG, MT, TG				
Proposed SBI	94.25	94.25	-0.000	*
SBI: Upper Limit	101.98	101.98	-0.000	*
SBI: Lower Limit	92.27	92.27	-0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Audio & Video				
Proposed SBI	99.55	99.55	-0.000	*
SBI: Upper Limit	104.25	104.25	-0.000	*
SBI: Lower Limit	94.32	94.32	-0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
HiCap				
DS1				
Prop Sub-Index	109.44	109.44	0.000	*
Sub-Index Up Lim	109.44	109.44	-0.000	*
Sub-Index Low Lim	99.02	99.02	-0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
DS3				
Prop Sub-Index	0.00	NONE	0.000	*
Sub-Index Up Lim	0.00	NONE	0.000	*
Sub-Index Low Lim	0.00	NONE	0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
Total HiCap				
Proposed SBI	109.04	109.04	-0.000	*
SBI: Upper Limit	109.43	109.43	0.000	*
SBI: Lower Limit	99.01	99.01	-0.000	*
LEC SBI Out?				*
FCC SBI Out?				*
Wideband				
Proposed SBI	0.00	NONE	0.000	*
SBI: Upper Limit	0.00	NONE	0.000	*
SBI: Lower Limit	0.00	NONE	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Special Access				
Special API	99.27	99.27	-0.000	*
Special PCI	99.27	99.27	-0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*
INTEREXCH				
Interexchange API	0.00	NONE	0.000	*
Interexchange PCI	0.00	NONE	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

Carolina Telephone	LEC	FCC	Delta	Flag
GENERAL				
GNPPI	0.03310			
X for CL, TS and SP	0.03300			
X for IX	0.0300			
EXOGENOUS CHANGES in thousands				
SPF	$141			
DEM	($826)			
LTS/TRS	$511			
ISW	$0			
RDA	$0			
EDT	$69			
ITC	$554			
SHARING/LOW END ADJ	$0			
OTHER	$0			
TOTAL OF INDIVIDUALS	$448			
TOTAL EXOGENOUS	$448			
COMMON LINE				
Term Prem CCL Rate	0.01207	0.01207	-0.00000	*
Orig Prem CCL Rate	0.01000	0.01000	0.00000	*
g	0.07835			
Proposed PCI	96.66	96.66	-0.000	*
TRAFFIC SENSITIVE				
Local Switching				
Proposed SBI	102.61	102.61	0.000	*
SBI: Upper Limit	103.20	103.20	0.000	*
SBI: Lower Limit	93.37	93.37	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Local Transport				
Proposed SBI	88.58	88.58	-0.000	*
SBI: Upper Limit	97.18	97.18	0.000	*
SBI: Lower Limit	87.93	87.93	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Information				
Proposed SBI	94.65	94.65	-0.000	*
SBI: Upper Limit	99.38	99.38	-0.000	*
SBI: Lower Limit	89.92	89.92	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Traffic Sensitive				
TS API	95.25	95.25	-0.000	*
TS PCI	95.25	95.25	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

Carolina Telephone	LEC	FCC	Delta	Flag
SPECIAL				
VG, MT, TG				
Proposed SBI	94.16	94.16	-0.000	*
SBI: Upper Limit	104.02	104.02	0.000	*
SBI: Lower Limit	94.11	94.11	-0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Audio & Video				
Proposed SBI	100.51	100.51	0.000	*
SBI: Upper Limit	105.54	105.54	-0.000	*
SBI: Lower Limit	95.49	95.49	-0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
HiCap				
DS1				
Prop Sub-Index	105.98	105.98	-0.000	*
Sub-Index Up Lim	108.11	108.11	-0.000	*
Sub-Index Low Lim	97.82	97.82	-0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
DS3				
Prop Sub-Index	0.00	NONE	0.000	*
Sub-Index Up Lim	0.00	NONE	0.000	*
Sub-Index Low Lim	0.00	NONE	0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
Total HiCap				
Proposed SBI	105.75	105.75	-0.000	*
SBI: Upper Limit	108.06	108.06	-0.000	*
SBI: Lower Limit	97.77	97.77	-0.000	*
LEC SBI Out?				*
FCC SBI Out?				*
Wideband				
Proposed SBI	0.00	NONE	0.000	*
SBI: Upper Limit	0.00	NONE	0.000	*
SBI: Lower Limit	0.00	NONE	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Special Access				
Special API	101.32	101.32	-0.000	*
Special PCI	101.32	101.32	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*
INTEREXCH				
Interexchange API	0.00	NONE	0.000	*
Interexchange PCI	0.00	NONE	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

United Telephone - Northwest	LEC	FCC	Delta	Flag
GENERAL				
GNPPI	0.03310			
X for CL, TS and SP	0.04300			
X for IX	0.0400			
EXOGENOUS CHANGES in thousands				
SPF	($761)			
DEM	($309)			
LTS/TRS	$1,012			
ISW	$0			
RDA	$0			
EDT	($14)			
ITC	$79			
SHARING/LOW END ADJ	($1,954)			
OTHER	$0			
TOTAL OF INDIVIDUALS	($1,947)			
TOTAL EXOGENOUS	($1,947)			
COMMON LINE				
Term Prem CCL Rate	0.01935	0.01935	-0.00000	*
Orig Prem CCL Rate	0.01000	0.01000	0.00000	*
g	0.08089			
Proposed PCI	88.01	88.01	-0.000	*
TRAFFIC SENSITIVE				
Local Switching				
Proposed SBI	81.04	81.04	-0.000	*
SBI: Upper Limit	81.04	81.04	0.000	*
SBI: Lower Limit	73.32	73.32	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Local Transport				
Proposed SBI	81.05	81.05	-0.000	*
SBI: Upper Limit	81.05	81.05	0.000	*
SBI: Lower Limit	73.33	73.33	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Information				
Proposed SBI	80.90	80.90	-0.000	*
SBI: Upper Limit	81.03	81.03	-0.000	*
SBI: Lower Limit	73.31	73.31	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Traffic Sensitive				
TS API	81.04	81.04	0.000	*
TS PCI	81.24	81.24	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

United Telephone - Northwes	LEC	FCC	Delta	Flag
SPECIAL				
VG, MT, TG				
Proposed SBI	92.06	92.06	-0.000	*
SBI: Upper Limit	92.25	92.25	0.000	*
SBI: Lower Limit	83.46	83.46	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Audio & Video				
Proposed SBI	90.92	90.92	-0.000	*
SBI: Upper Limit	92.11	92.11	0.000	*
SBI: Lower Limit	83.33	83.33	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
HiCap				
DS1				
Prop Sub-Index	83.60	83.60	-0.000	*
Sub-Index Up Lim	92.11	92.11	-0.000	*
Sub-Index Low Lim	83.34	83.34	-0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
DS3				
Prop Sub-Index	0.00	NONE	0.000	*
Sub-Index Up Lim	0.00	NONE	0.000	*
Sub-Index Low Lim	0.00	NONE	0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
Total HiCap				
Proposed SBI	86.88	86.88	-0.000	*
SBI: Upper Limit	92.13	92.13	0.000	*
SBI: Lower Limit	83.35	83.35	0.000	*
LEC SBI Out?				*
FCC SBI Out?				*
Wideband				
Proposed SBI	0.00	NONE	0.000	*
SBI: Upper Limit	0.00	NONE	0.000	*
SBI: Lower Limit	0.00	NONE	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Special Access				
Special API	89.83	89.83	-0.000	*
Special PCI	92.33	92.33	0.000	*
LEC API Above PCI?				LOW
FCC API Above PCI?				LOW
INTEREXCH				
Interexchange API	0.00	NONE	0.000	*
Interexchange PCI	0.00	NONE	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

United Telephone - Ohio	LEC	FCC	Delta	Flag
GENERAL				
GNPPI	0.03310			
X for CL, TS and SP	0.03300			
X for IX	0.0300			
EXOGENOUS CHANGES in thousands				
SPF	$537			
DEM	($456)			
LTS/TRS	$290			
ISW	$0			
RDA	$0			
EDT	$312			
ITC	$215			
SHARING/LOW END ADJ	($670)			
OTHER	$0			
TOTAL OF INDIVIDUALS	$228			
TOTAL EXOGENOUS	$228			
COMMON LINE				
Term Prem CCL Rate	0.01748	0.01748	0.00000	*
Orig Prem CCL Rate	0.01000	0.01000	0.00000	*
g	0.05607			
Proposed PCI	96.55	96.55	0.000	*
TRAFFIC SENSITIVE				
Local Switching				
Proposed SBI	101.84	101.84	-0.000	*
SBI: Upper Limit	101.84	101.84	-0.000	*
SBI: Lower Limit	92.15	92.15	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Local Transport				
Proposed SBI	90.66	90.66	-0.000	*
SBI: Upper Limit	99.97	99.97	0.000	*
SBI: Lower Limit	90.45	90.45	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Information				
Proposed SBI	95.05	95.05	-0.000	*
SBI: Upper Limit	100.54	100.54	-0.000	*
SBI: Lower Limit	90.97	90.97	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Traffic Sensitive				
TS API	96.05	96.05	-0.000	*
TS PCI	96.05	96.05	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

United Telephone - Ohio	LEC	FCC	Delta	Flag
SPECIAL				
VG, MT, TG				
Proposed SBI	94.58	94.58	0.000	*
SBI: Upper Limit	100.92	100.92	-0.000	*
SBI: Lower Limit	91.31	91.31	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Audio & Video				
Proposed SBI	96.02	96.02	-0.000	*
SBI: Upper Limit	100.90	100.90	-0.000	*
SBI: Lower Limit	91.29	91.29	-0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
HiCap				
DS1				
Prop Sub-Index	106.52	106.52	0.000	*
Sub-Index Up Lim	110.88	110.88	0.000	*
Sub-Index Low Lim	100.32	100.32	0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
DS3				
Prop Sub-Index	0.00	NONE	0.000	*
Sub-Index Up Lim	0.00	NONE	0.000	*
Sub-Index Low Lim	0.00	NONE	0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
Total HiCap				
Proposed SBI	106.15	106.15	0.000	*
SBI: Upper Limit	110.40	110.40	0.000	*
SBI: Lower Limit	99.89	99.89	0.000	*
LEC SBI Out?				*
FCC SBI Out?				*
Wideband				
Proposed SBI	0.00	NONE	0.000	*
SBI: Upper Limit	0.00	NONE	0.000	*
SBI: Lower Limit	0.00	NONE	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Special Access				
Special API	101.16	101.16	-0.000	*
Special PCI	101.16	101.16	-0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*
INTEREXCH				
Interexchange API	0.00	NONE	0.000	*
Interexchange PCI	0.00	NONE	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

United Telephone - Southeast	LEC	FCC	Delta	Flag
GENERAL				
GNPPI	0.03310			
X for CL, TS and SP	0.03300			
X for IX	0.0300			
EXOGENOUS CHANGES in thousands				
SPF	$164			
DEM	($325)			
LTS/TRS	$211			
ISW	($86)			
RDA	$2			
EDT	$77			
ITC	$362			
SHARING/LOW END ADJ	($1,049)			
OTHER	$0			
TOTAL OF INDIVIDUALS	($645)			
TOTAL EXOGENOUS	($646)			
COMMON LINE				
Term Prem CCL Rate	0.01182	0.01182	0.00000	*
Orig Prem CCL Rate	0.01000	0.01000	0.00000	*
g	0.03552			
Proposed PCI	98.51	98.51	-0.000	*
TRAFFIC SENSITIVE				
Local Switching				
Proposed SBI	106.17	106.17	-0	*
SBI: Upper Limit	106.71	106.71	0.000	*
SBI: Lower Limit	96.55	96.55	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Local Transport				
Proposed SBI	87.63	87.63	0.000	*
SBI: Upper Limit	96.82	96.82	0.000	*
SBI: Lower Limit	87.60	87.60	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Information				
Proposed SBI	96.56	96.56	-0.000	*
SBI: Upper Limit	101.35	101.35	0.000	*
SBI: Lower Limit	91.69	91.69	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Traffic Sensitive				
TS API	96.78	96.78	-0.000	*
TS PCI	96.78	96.78	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*

United Telephone - Southeas	LEC	FCC	Delta	Flag
SPECIAL				
VG, MT, TG				
Proposed SBI	99.45	99.45	-0.000	*
SBI: Upper Limit	103.51	103.51	0.000	*
SBI: Lower Limit	93.65	93.65	-0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Audio & Video				
Proposed SBI	101.91	101.91	0.000	*
SBI: Upper Limit	107.15	107.15	0.000	*
SBI: Lower Limit	96.95	96.95	-0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
HiCap				
DS1				
Prop Sub-Index	106.17	106.17	0.000	*
Sub-Index Up Lim	112.69	112.69	0.000	*
Sub-Index Low Lim	101.95	101.95	-0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
DS3				
Prop Sub-Index	0.00	NONE	0.000	*
Sub-Index Up Lim	0.00	NONE	0.000	*
Sub-Index Low Lim	0.00	NONE	0.000	*
LEC Sub-Ind Out?				*
FCC Sub-Ind Out?				*
Total HiCap				
Proposed SBI	106.44	106.44	0.000	*
SBI: Upper Limit	112.68	112.68	0.000	*
SBI: Lower Limit	101.95	101.95	-0.000	*
LEC SBI Out?				*
FCC SBI Out?				*
Wideband				
Proposed SBI	0.00	NONE	0.000	*
SBI: Upper Limit	0.00	NONE	0.000	*
SBI: Lower Limit	0.00	NONE	0.000	*
LEC SBI Out Bounds?				*
FCC SBI Out Bounds?				*
Total Special Access				
Special API	102.18	102.18	-0.000	*
Special PCI	102.20	102.20	0.000	*
LEC API Above PCI?				*
FCC API Above PCI?				*
INTEREXCH				
Interexchange API	84.50	84.50	0.000	*
Interexchange PCI	84.52	84.52	-0.001	*
LEC API Above PCI?				*
FCC API Above PCI?				*

Appendix C

COST CHARTS: REPORT CARDS AND TREND ANALYSIS
Telephone Plant in Service (TPIS)
Expense Less Depreciaton (ELD)

Telephone Plant in Service (TPIS)

Total Plant in Service
Trend-Line Analysis

Trend-line forecasts of Total Plant in Service (TPIS) are shown in Chart ADJTPIS. The following equation was used to calculate the trend:

$$TPIS_{i,t} = a_i + (b_{1,i}*t) + e_{i,t}$$

where

$TPIS_i$ = TPIS for COSA i, from 1st Quarter 1988 through 4th Quarter 1991, except for COSAs CEIL and CEVA for which data begins in 4th Quarter 1988 (TRP data is not available earlier),

t = a time trend, t = 1, 2, 3,..., n-1, n (equals 1 in 1st Quarter 1988 and n in 2nd Quarter 1993),

a_i = a constant estimated by linear regression analysis,

$b_{1,i}$ = coefficients estimated by linear regression analysis,

$e_{i,t}$ = a random error.

A Durbin-Watson Test was calculated for autocorrelation. The results were either insignificant or inconclusive in all cases where an adjustment was made to a forecast.

The forecast of trend-line growth in the test year equaled:

$$Forecast_i = 4*a_i + (b_{1,i}*82).$$

The model variance used to calculate confidence intervals in most cases equaled:

$$Var = (4^2*var(a)) + (82^2*var(b_1)) + (2*4*82*cov(a,b_1)) + 4*e^2.$$

The formula was adjusted for COSAs CEIL and CEVA to account for the later starting point for the trend. Confidence intervals were based on a 2-tail test at a probability level of 0.05.

Chart RPTTPIS

Three–Year Report Card of Forecast Accuracy
Total Plant in Service
(Thousands of Dollars)

COSA	07/90 – 06/91			Annualized 04/89 – 12/89			Calendar Year 1988			Report Card Test	
	TRP Forecast	Actual	Percent Error	TRP Forecast	Actual	Percent Error	TRP Forecast	Actual	Percent Error	Weighted Error of Forecasts	Pass ?
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
CBTC	1,178,354	1,183,715	–0.5%	1,130,600	1,073,674	5.3%	1,126,135	1,086,097	3.7%	2.2%	no
CEFL	494,129	485,156	1.8%	453,818	449,713	0.9%	417,421	416,489	0.2%	1.3%	no
CEIL	288,552	282,977	2.0%	257,943	267,937	–3.7%	259,112	251,797	2.9%	0.2%	yes
CENV	555,793	546,378	1.7%	500,230	492,929	1.5%	469,623	466,886	0.6%	1.5%	no
CEVA	438,239	424,497	3.2%	411,633	399,079	3.1%	375,773	372,281	0.9%	2.8%	no
LTNE	392,638	389,020	0.9%	366,470	364,958	0.4%	365,002	362,270	0.8%	0.7%	yes

Sources and Notes:

Column (A) – COS–4, Column F, Line 540 in the 1992 TRP.
Column (B) – COS–4, Column F, Line 440 in the 1992 TRP.
Column (C) – [Column (A) / Column (B)] – 1.
Column (A) – COS–4, Column F, Line 740 in the 1992 TRP.
Column (B) – COS–4, Column F, Line 640 in the 1992 TRP.
Column (F) – [Column (D) / Column (E)] – 1.
Column (G) – COS–4, Column F, Line 740 in the 1991 TRP.
Column (H) – COS–4, Column F, Line 640 in the 1991 TRP.
Column (I) – [Column (G) / Column (H)] – 1.
Column (J) – [(Column (C) * 3) + (Column (F) * 2) + (Column I * 1)] / 6.
Column (K) – Equals yes unless Column (J) is greater than 1.0%.

Chart ADJTPIS

Adjustments to Unseparated Costs
Total Plant in Service
(Thousands of Dollars)

COSA	Forecasts		Upper Confidence Intervals Around Trend Line		Adjustment to Column (A) and Rate Adjustment Factor		
	TRP Forecast	Trend Line	95% Interval	One Standard Deviation	Tentative Adjustment	Final Adjustment	Percent of Column (A)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
CBTC	1,327,476	1,376,437	1,451,535	1,411,448	0	0	0.000%
CEFL	542,875	560,058	576,474	567,711	0	0	0.000%
CEIL	325,351	311,618	326,462	318,362	0	0	0.000%
CENV	665,118	645,952	730,495	685,366	0	0	0.000%
CEVA	469,485	475,348	491,162	482,533	0	0	0.000%
LTNE	416,169	419,012	455,001	435,790	0	0	0.000%

Sources and Notes:

Column (A) – COS–2, Column N, Line 370 in the 1992 TRP.

Columns (B–D) – Results of regression analysis of data from COS–2, Columns A–L, Row 370, in the 1992 TRP and previous TRPs.

Column (E) – If Column (A) is less than the relevant confidence interval, then Column (E) equals 0. If Column (A) is greater than the relevant confidence interval, then Column (E) equals the amount that Column (A) exceeds the confidence interval. The relevant confidence interval is one standard deviation if the report card is failed, and the 95% confidence interval if the report card is passed. See Chart RPTTPIS for report cards.

Column (F) – Column (E) after review.

Column (G) – Column (F) as a percent of Column (A).

Expense Less Depreciaton (ELD)

Expense Less Depreciation
Trend-Line Analysis

Trend-line forecasts of Expense Less Depreciation (ELD) are shown in Chart ADJELD1. The following equation was used to calculate the trend:

$$ELD_{i,t} = a_i + (b_{1,i}*t) + e_{i,t}$$

where

ELD_i = ELD for COSA i, from 1st Quarter 1988 through 2nd Quarter 1991, except for COSAs CEIL and CEVA for which data begins in 4th Quarter 1988 (TRP data was not available earlier),

t = a time trend, t = 1, 2, 3,..., n-1, n (equals 1 in 1st Quarter 1988 and n in 2nd 1993),

a_i = a constant estimated by linear regression analysis,

$b_{1,i}$ = coefficients estimated by linear regression analysis,

$e_{i,t}$ = a random error.

A Durbin-Watson Test was calculated for autocorrelation. The results were either insignificant or inconclusive in all cases where an adjustment was made to a forecast.

The forecast of trend-line growth in the test year equaled:

$$Forecast_i = 4*a_i + (b_{1,i}*82).$$

The model variance used to calculate confidence intervals in most cases equaled:

$$Var = (4^2*var(a)) + (82^2*var(b_1)) + (2*4*82*cov(a,b_1)) + 4*e^2.$$

The formula was adjusted for COSAs CEIL and CEVA to account for the later starting point for the trend. Confidence intervals were based on a 2-tail test at a probability level of 0.05.

Chart RPTELD

Three–Year Report Card of Forecast Accuracy
Expense Less Depreciation
(Thousands of Dollars)

COSA	07/90 – 06/91			Annualized 04/89 – 12/89			Calendar Year 1988			Report Card Test	
	TRP Forecast	Actual	Percent Error	TRP Forecast	Actual	Percent Error	TRP Forecast	Actual	Percent Error	Weighted Error of Forecasts	Pass ?
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
CBTC	267,786	277,126	–3.4%	241,597	249,571	–3.2%	221,018	216,992	1.9%	–2.4%	yes
CEFL	87,302	95,309	–8.4%	76,160	83,141	–8.4%	72,122	65,413	10.3%	–5.3%	yes
CEIL	76,240	78,644	–3.1%	62,894	71,762	–12.4%	---	---	---	–6.8%	yes
CENV	114,545	115,894	–1.2%	96,306	106,958	–10.0%	96,051	93,498	2.7%	–3.4%	yes
CEVA	77,728	79,329	–2.0%	66,805	72,317	–7.6%	---	---	---	–4.3%	yes
LTNE	65,094	64,270	1.3%	58,888	58,400	0.8%	61,883	57,965	6.8%	2.0%	no

Sources and Notes:

Column (A) – COS–4, Column F, Line 405 in the 1992 TRP.
Column (B) – COS–4, Column F, Line 505 in the 1992 TRP.
Column (C) – [Column (A) / Column (B)] – 1.
Column (A) – COS–4, Column F, Line 605 in the 1992 TRP.
Column (B) – COS–4, Column F, Line 705 in the 1992 TRP.
Column (F) – [Column (D) / Column (E)] – 1.
Column (G) – COS–4, Column F, Line 605 in the 1991 TRP.
This forecast is not applicable for CEIL and CEVA.
Column (H) – COS–4, Column F, Line 705 in the 1991 TRP.
Column (I) – [Column (G) / Column (H)] – 1.
Column (J) – [(Column (C) * 3) + (Column (F) * 2) + (Column I * 1)] / 6.
If COSA equals CEIL and CEVA, then Column (J) equals
[(Column (C) * 3) + (Column (F) * 2) / 5.
Column (K) – Equals yes is Column (J) is less than 1.0%.

Chart ADJELD1

Adjustments to Unseparated Costs
Expense Less Depreciation
(Thousands of Dollars)

COSA	Forecasts		Upper Confidence Intervals Around Trend Line		Adjustment to Column (A) and Rate Adjustment Factor			
	TRP Forecast	Trend Line	95% Interval	One Standard Deviation	Tentative Adjustment	Final Adjustment	Percent of Column (A)	Rate Adjustment Factor
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
CBTC	287,147	310,568	332,885	320,972	0	0	0.000%	1.000
CEFL	112,611	109,423	115,086	112,063	0	0	0.000%	1.000
CEIL	91,109	79,388	87,599	83,119	3,510	3,510	3.853%	0.961
CENV	133,187	133,702	144,861	138,904	0	0	0.000%	1.000
CEVA	92,925	87,340	95,243	90,931	0	0	0.000%	1.000
LTNE	70,323	67,226	71,405	69,174	1,149	1,149	1.634%	0.984

Sources and Notes:

Column (A) – COS–2, Column N, Row 310 in the 1992 TRP.

Columns (B–D) – Results of regression analysis of data from COS–2, Columns A–L, Row 310, in the 1992 TRP and previous TRPs.

Column (E) – If Column (A) is less than the relevant confidence interval, then Column (E) equals 0. If Column (A) is greater than the relevant confidence interval, then Column (E) equals the amount that Column (A) exceeds the confidence interval. The relevant confidence interval is one standard deviation if the report card is failed, and the 95% confidence interval is the report card is passed. See Chart RPTELD for report cards.

Column (F) – Column (E) after review.

Column (G) – Column (F) as a percent of Column (A),

Column (H) – Equals 1 – Column (G).

Chart SEPELD

Access Costs as a Percent of Unseparated Costs
Expense Less Depreciation
(Thousands of Dollars)

COSA	Costs				Percent of Unseparated Costs		
	Unseparated	Common Line	Traffic Sensitive	Special Access	Common Line	Traffic Sensitive	Special Access
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
CBTC	$282,741	$22,907	$19,410	$10,091	8.10%	6.86%	3.57%
CEFL	$112,168	$11,148	$8,453	$3,714	9.94%	7.54%	3.31%
CEIL	$90,447	$8,038	$5,979	$3,540	8.89%	6.61%	3.91%
CENV	$131,765	$12,149	$12,453	$3,510	9.22%	9.45%	2.66%
CEVA	$91,867	$10,608	$3,552	$1,835	11.55%	3.87%	2.00%
LTNE	$69,560	$4,158	$7,182	$1,244	5.98%	10.32%	1.79%

Source:
Columns A–D – COS–1(P) in the 1992 TRP, Line 1190 minus 1180, Columns F, M, R, and S, respectively.
Columns E–G – Columns B, C, and D, respectively, multiplied by Column (A).

ADJELD2

Adjustments by Access Category
Expense Less Depreciation
(Thousands of Dollars)

COSA	Costs			
	Common Line	Traffic Sensitive	Special Access	Total Access
	(A)	(B)	(C)	(D)
CBTC	$0	$0	$0	$0
CEFL	$0	$0	$0	$0
CEIL	$312	$232	$137	$681
CENV	$0	$0	$0	$0
CEVA	$0	$0	$0	$0
LTNE	$69	$119	$21	$208

Sources and Notes:

Columns A, B, C – Chart ADJELD1, Column (F) multiplied by Chart SEPELD, Columns E, F, and G, respectively.

Column D – The sum of Columns A, B, plus C. The sum may not add due to rounding.

Appendix D

DEMAND CHARTS: REPORT CARDS AND TREND ANALYSIS
Carrier Common Line (CCL)
Traffic Sensitive (TS)

Carrier Common Line (CCL)

Common Carrier Line Minutes of Use
Trend-Line Analysis

Trend-line forecasts of Common Carrier Line (CCL) minutes of use are presented in Chart ADJCCL. The following equation was used to calculate the trend:

$$CCL_{i,t} = a_i + (b_{1,i}*t) + (b_{2,i}*t^2) + e_{i,t}$$

where

CCL_i = CCL minutes of use for COSA i, from January 1987 through December 1991,

t = a time trend, t = 1, 2, 3,..., n-1, n (equals 1 in January 1987 and n in December 1993),

a_i = a constant estimated by linear regression analysis,

$b_{1-2,i}$ = coefficients estimated by linear regression analysis,

$e_{i,t}$ = a random error.

The results of Durbin-Watson Tests for autocorrelation were either insignificant or inconclusive. Therefore, no corrections were made for autocorrelation.

The forecast of trend-line growth in the test year equaled:

$$Forecast_i = 12*a_i + (b_{1,i}*870) + (b_{2,i}*63,218).$$

The model variance used to calculate confidence intervals equaled:

$$Var = 12^2*var(a) + 870^2*var(b_1) + 63,218^2*var(b_2) + 2*12*870*cov(a,b_1) + 2*12*63,218*cov(a,b_2) + 2*870*63,218*cov(b_1,b_2) + 12*e^2.$$

Confidence intervals were based on a 2-tail test at a probability level of 0.05.

Chart RPTCCL

Three–Year Report Card of Forecast Accuracy
Carrier Common Line Demand
(Thousands of Minutes of Use)

COSA	07/90 – 06/91			Annualized 04/89 – 12/89			Calendar Year 1988			Report Card Test	
	TRP Forecast	Actual	Percent Error	TRP Forecast	Actual	Percent Error	TRP Forecast	Actual	Percent Error	Weighted Error of Forecasts	Pass ?
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
CBTC	1,772,690	1,767,220	0.3%	1,481,879	1,576,009	–6.0%	1,236,000	1,358,450	–9.0%	–3.3%	yes
CEFL	674,393	690,381	–2.3%	550,042	591,419	–7.0%	487,030	492,136	–1.0%	–3.7%	yes
CEIL	381,171	432,847	–11.9%	310,997	342,702	–9.3%	272,750	329,073	–17.1%	–11.9%	no
CENV	1,515,287	1,660,582	–8.7%	1,295,538	1,013,831	27.8%	1,168,500	1,160,378	0.7%	5.0%	yes
CEVA	515,218	504,220	2.2%	395,458	407,759	–3.0%	326,673	346,240	–5.7%	–0.9%	yes
LTNE	467,583	465,356	0.5%	377,816	405,012	–6.7%	298,588	342,686	–12.9%	–4.1%	yes

Sources and Notes:

Column (A) – DMD–3, Column A, Line 140 in the 1992 TRP.
Column (B) – DMD–3, Column A, Line 130 in the 1992 TRP.
Column (C) – [Column (A) / Column (B)] – 1.
Column (D) – DMD–3, Column A, Line 160 in the 1992 TRP.
Column (E) – DMD–3, Column A, Line 150 in the 1992 TRP.
Column (F) – [Column (D) / Column (E)] – 1.
Column (G) – Column A, Line 160 in the 1991 TRP.
Column (H) – Column A, Line 150 in the 1991 TRP.
Column (I) – [Column (G) / Column (H)] – 1.
Column (J) – [(Column (C) * 3) + (Column (F) * 2) + (Column I * 1)] / 6.
Column (K) – Equals Yes unless Column (J) is greater than –5.0%.

Chart ADJCCL

Adjustments to Carrier Common Line Demand
(Thousands of Minutes of Use)

COSA	Forecasts		Lower Confidence Intervals Around Trend Line		Adjustment to Column (A)		
	TRP Forecast	Trend Line	95% Interval	One Standard Deviation	Tentative Adjustment	Final Adjustment	Percent Adjustment
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
CBTC	1,944,127	1,993,863	1,873,020	1,933,976	0	0	0.000%
CEFL	750,754	848,643	767,389	808,376	16,635	16,635	2.216%
CEIL	448,764	484,907	441,356	463,324	14,560	14,560	3.244%
CENV	1,924,285	2,009,769	1,907,987	1,959,328	0	0	0.000%
CEVA	529,961	615,948	551,341	583,960	21,380	21,380	4.034%
LTNE	508,506	535,447	511,168	523,415	2,662	2,662	0.523%

Sources and Notes:

Column (A) – DMD–1, Column I, Line 295 in the 1992 TRP.

Columns (B–D) – Results of regression analysis of data from DMD–1, Column I, Lines 100 – 275, in the 1992 TRP and previous TRPs.

Column (E) – If Column (A) is greater than the relevant confidence interval, then Column (E) equals 0. If Column (A) is less than the relevant confidence interval, then Column (E) equals the amount that the confidence interval exceeds Column (A). The relevant confidence interval is one standard deviation if the report card is failed and the 95% interval if the report card is passed. See Chart RPTCCL for report cards.

Column (F) – Column (E) after review.

Column (G) – Column (F) as a percent of Column (A).

Traffic Sensitive (TS)

Traffic Sensitive Minutes of Use
Trend-Line Analysis

Trend-line forecasts of Traffic Sensitive (TS) minutes of use are shown in Chart ADJTS. The following equation was used to calculate the trend:

$$TS_{i,t} = a_i + (b_{1,i}*t) + (b_{2,i}*t^2) + e_{i,t}$$

where

TS_i = TS minutes of use for COSA i, from the 1987 first quarter through the 1991 fourth quarter,

t = a time trend, t = 1, 2, 3,..., n-1, n (equals 1 in 1987 first quarter and n in 1993 2nd quarter),

a_i = a constant estimated by linear regression analysis,

$b_{1-2,i}$ = coefficients estimated by linear regression analysis,

$e_{i,t}$ = random error.

The results of Durbin-Watson Tests for autocorrelation were either insignificant or inconclusive. Therefore, no corrections were made for autocorrelation.

The forecast of trend-line growth in the test year equaled:

$$Forecast_i = 4*a_i + (b_{1,i}*98) + (b_{2,i}*2406).$$

The model variance used to calculate confidence intervals equaled:

$$Var = 4^2*var(a) + 98^2*var(b_1) + 2406^2*var(b_2) + 2*4*98*cov(a,b_1) + 2*4*2406*cov(a,b_2) + 2*98*2406*cov(b_1,b_2) + 4*e^2.$$

Confidence intervals were based on a 2-tail test at a probability level of 0.05.

Chart RPTTS

Three–Year Report Card of Forecast Accuracy
Traffic Sensitive Demand
(Thousands of Minutes of Use)

COSA	07/90 – 06/91			Annualized 04/89 – 12/89			Calendar Year 1988			Report Card Test	
	TRP Forecast	Actual	Percent Error	TRP Forecast	Actual	Percent Error	TRP Forecast	Actual	Percent Error	Weighted Error of Forecasts	Pass ?
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
CBTC	1,861,218	1,811,181	2.8%	1,640,985	1,693,721	–3.1%	1,474,983	1,527,686	–3.4%	–0.2%	yes
CEFL	688,296	707,177	–2.7%	567,592	598,794	–5.2%	501,371	512,516	–2.2%	–3.4%	yes
CEIL	437,625	455,553	–3.9%	374,692	398,221	–5.9%	352,041	394,993	–10.9%	–5.7%	no
CENV	1,571,988	1,687,274	–6.8%	1,391,449	1,053,406	32.1%	1,210,714	1,208,524	0.2%	7.3%	yes
CEVA	525,187	507,617	3.5%	405,261	459,501	–11.8%	404,241	407,900	–0.9%	–2.4%	yes
LTNE	481,032	474,445	1.4%	400,983	424,011	–5.4%	326,083	372,381	–12.4%	–3.2%	yes

Sources and Notes:

Column (A) – DMD–3, Column B, Line 140 in the 1992 TRP.
Column (B) – DMD–3, Column B, Line 130 in the 1992 TRP.
Column (C) – [Column (A) / Column (B)] – 1.
Column (D) – DMD–3, Column B, Line 160 in the 1992 TRP.
Column (E) – DMD–3, Column B, Line 150 in the 1992 TRP.
Column (F) – [Column (D) / Column (E)] – 1.
Column (G) – Column B, Line 160 in the 1991 TRP.
Column (H) – Column B, Line 150 in the 1991 TRP.
Column (I) – [Column (G) / Column (H)] – 1.
Column (J) – [(Column (C) * 3) + (Column (F) * 2) + (Column I * 1)] / 6.
Column (K) – Equals Yes unless Column (J) is greater than –5.0%.

Chart ADJTS

Adjustments to Traffic Sensitive Demand
(Thousands of Minutes of Use)

COSA	Forecasts		Lower Confidence Intervals Around Trend Line		Adjustment to Column (A)		
	TRP Forecast	Trend Line	95% Interval	1 Standard Deviation	Tentative Adjustment	Final Adjustment	Percent of Column (A)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
CBTC	1,963,000	1,975,392	1,837,107	1,909,854	0	0	0.000%
CEFL	767,830	810,948	747,334	780,799	0	0	0.000%
CEIL	468,326	470,502	425,988	449,405	0	0	0.000%
CENV	1,946,788	2,073,551	1,920,354	2,000,946	0	0	0.000%
CEVA	532,624	577,653	512,845	546,938	0	0	0.000%
LTNE	512,430	529,818	507,102	519,052	0	0	0.000%

Sources and Notes:

Column (A) – DMD–1, Column B, Line 450 in the 1992 TRP.

Columns (B–D) – Results of regression analysis of data from DMD–1, lines 360–415 in the 1992 TRP and previous TRPs.

Column (E) – If Column (A) is greater than the relevant confidence interval, then Column (E) equals 0. If Column (A) is less than the relevant confidence interval, then Column (E) equals the amount that the confidence interval exceeds Column (A). The relevant confidence interval is one standard deviation if the report card is failed and the 95% interval if the report card is passed. See Chart RPTCCL for report cards.

Column (F) – Column (E) after review.

Column (G) – Column (F) as a percent of Column (A).