

Oregon Universal Service Fund

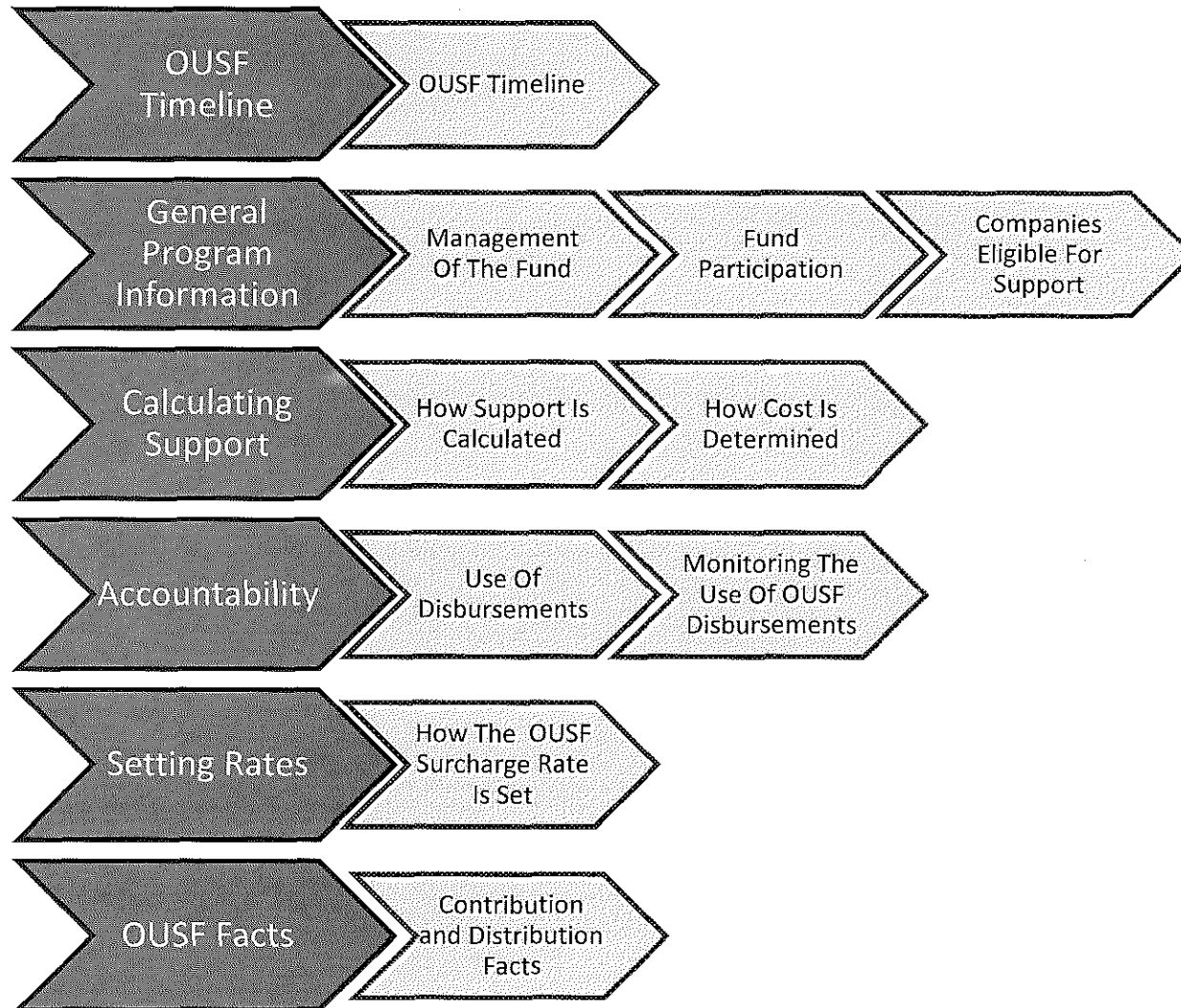
How the OUSF Currently Functions

Workshop

May 22, 2015

Roger White

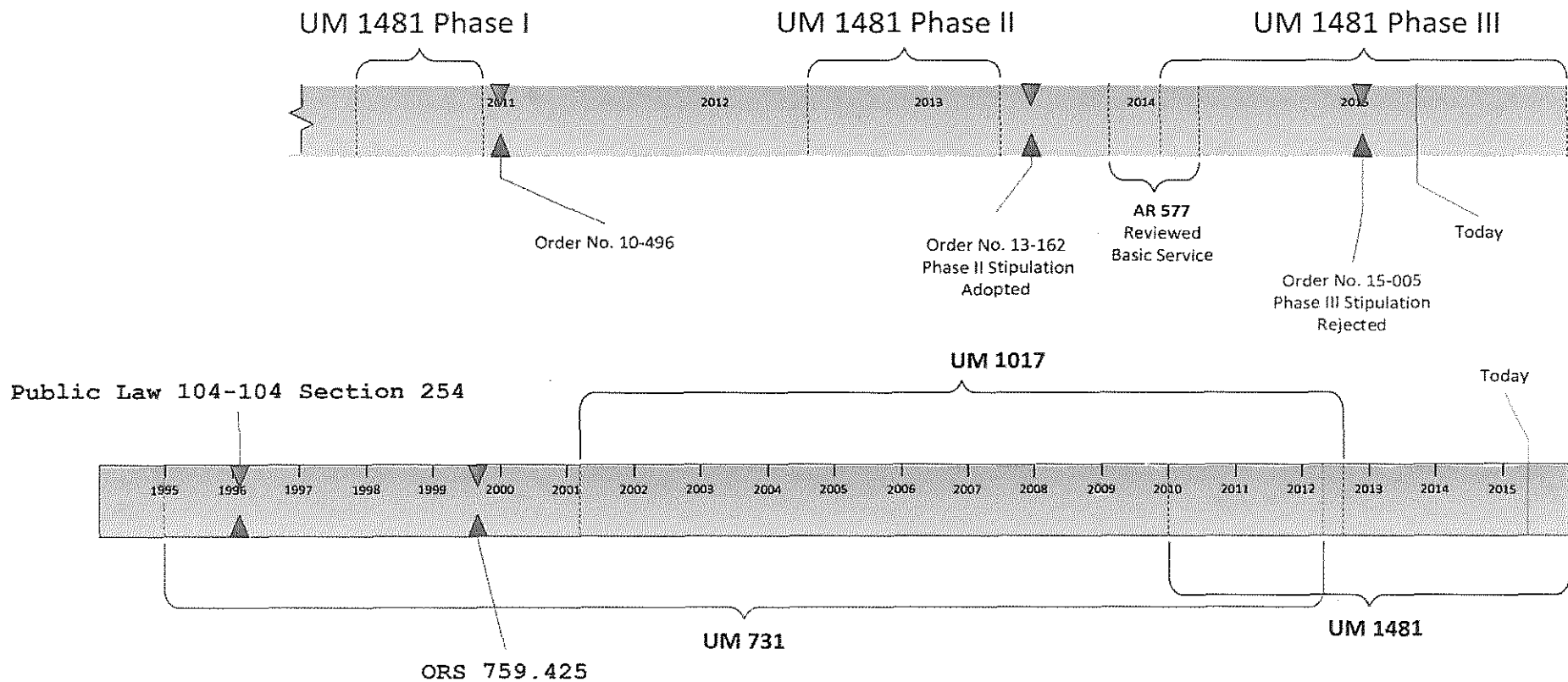
Subjects To Be Covered



OUSF Timeline

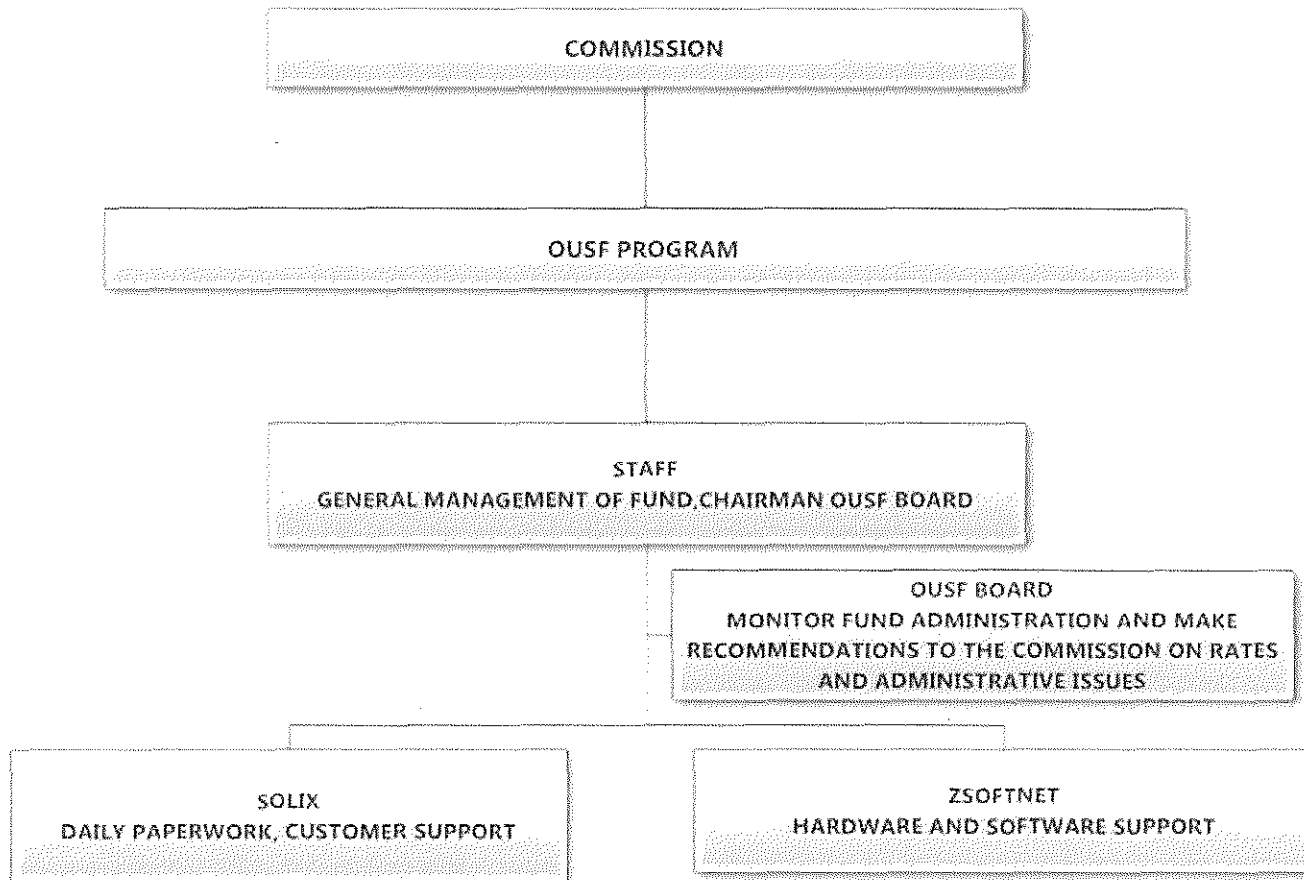
KEY EVENTS

- 1995 - UM 731 Development/Implementation of OUSF
- 1996 – Public Law 104-104 Section 254 establishes Universal Service
- 1999 - ORS 759.425 codifies OUSF
- 2001 - First payment to Non-rural ILECs
- 2003 - First payment to Rural ILECs
- 2010 - UM 1481 Opened to conduct a full investigation of the OUSF
- 2011 - Cumulative disbursement exceed \$0.5B



GENERAL PROGRAM INFORMATION

Management of Fund



Fund Participation

Companies Required to Participate

- Certified, traditional, wireline companies must participate.
- 383 companies participating:
 - 31 ILECs
 - 352 CLECs & IXCs
- 243 companies paying into the fund

Exempt Companies

- Wireless companies may participate, by statute.
- Some VoIP local service providers, such as cable companies, have been contributing voluntarily.
- Comcast is the second largest fund contributor.

Companies Eligible for Support

Must be Eligible Telecommunications Carriers:

- Meet federal requirement to provide Universal Service Support for Low-Income Consumers .
- Advertise the availability and price of such services.
- Comply with RSPF Administrative Rules.

Have a Certificate of Authority

Wireline Companies

- Are paying into the fund

Wireless Companies

- Have paid into the OUSF for a year

CALCULATING SUPPORT

How Support Is Calculated By Statute

ORS
759.425(3)(a)
directs
calculation
method:

- Support equals:
 - Cost of providing basic telephone service
 - Less: the benchmark
 - Less: compensation from federal sources specifically targeted to recovery of the local loop cost
 - Less: explicit support received by the carrier from a universal service program

Implementation
of the Statute:

- FCC Model (Non-rural) and allocated book cost (Rural)
- \$21 Benchmark from FCC model
- Federal high cost programs

How Support is Calculated

Comparison of Non-Rural and Rural Cost Modeling

Non-Rural Companies

- FCC HCPM/HAI Model.
- Forward-looking network constructed from ground up.
- Cost are computed at wire center level.

Rural Companies

- Allocated book cost.
- Actual company network.
- Company level costs.

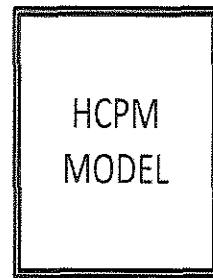
CALCULATING SUPPORT NON-RURAL COMPANIES

FORWARD LOOKING ENGINEERING

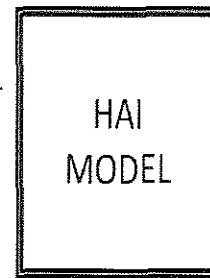
CALCULATING SUPPORT

Non-rural Companies

Wire center Boundaries
Switch Locations
Customer Locations
Roads
Soil Conditions
Topographical Features
List of Materials & Cost
Installation costs
Engineering Rules



LOOP
INVESTMENT



MONTHLY
CHARGES

Loop
End Office Switching
SS7 Signaling
Transport

MATERIAL & COST:

Switching
SS7 Signaling
Interoffice
Expense & Investment for ACF
Engineering rules

CALCULATING SUPPORT

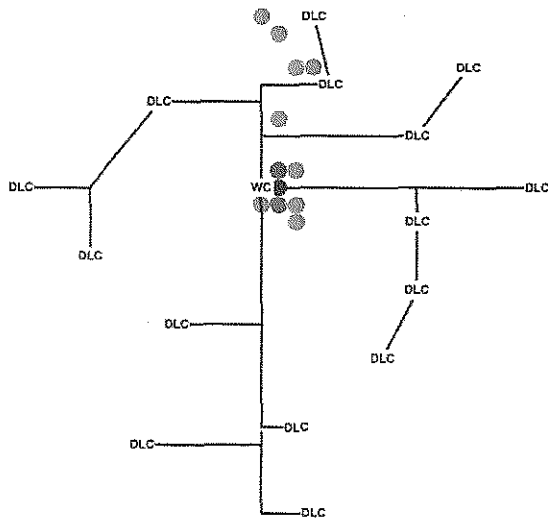
Sample Output from HAI Model

Adair Wire Center		
INVESTMENT	Loop Investment	\$2,801,348
MONTHLY CHARGES	Loop	\$33.64
	Line Port	\$2.22
	End Office Usage	\$3.43
	SS7 Signaling	\$0.07
	Transport	\$1.40
	Monthly Charge per line	\$40.76
MONTHLY SUPPORT	Monthly Charge per line (from monthly charges)	\$40.76
	Less: Benchmark	(\$21.00)
	Less: Federal Support	(\$5.98)
	Support per line	\$13.78

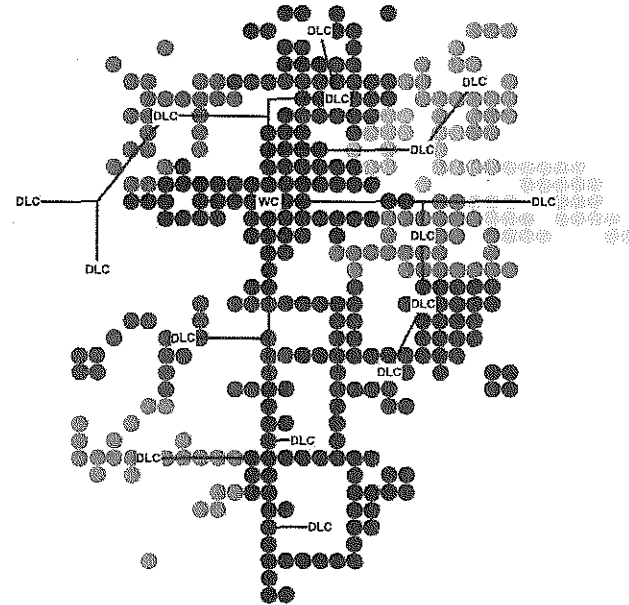
CALCULATING SUPPORT

Clustering customers and building feeder networks

Distribution of Customers



Clustering of Customers



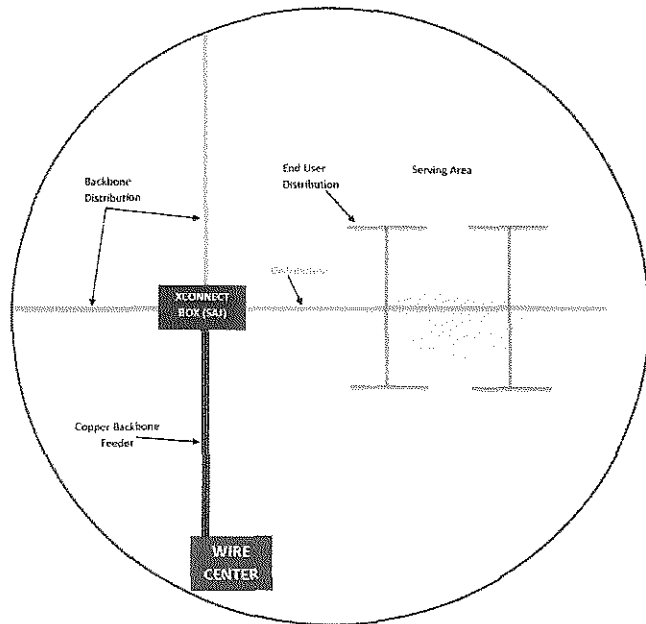
DLC = DIGITAL LOOP CARRIER

WC = WIRE CENTER

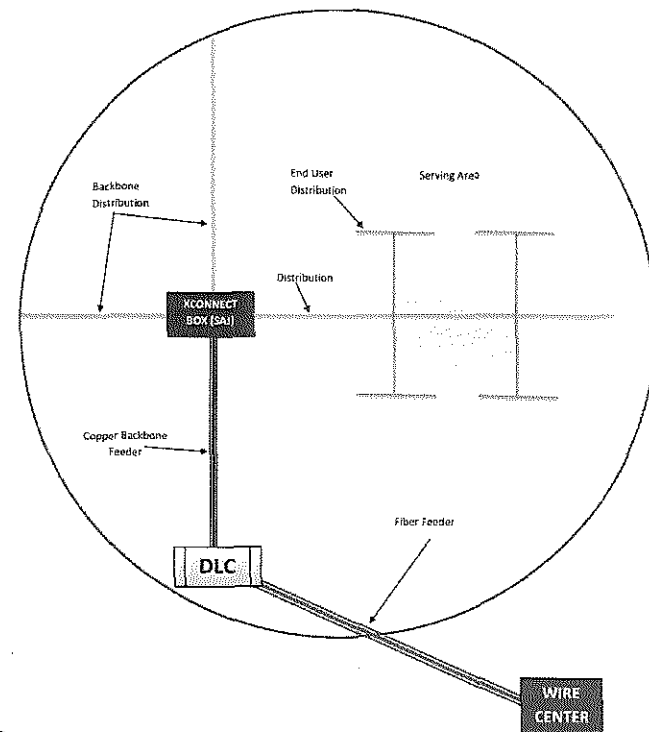
CALCULATING SUPPORT

The Network Inside a Cluster

Wire Center Cluster



Remote Cluster



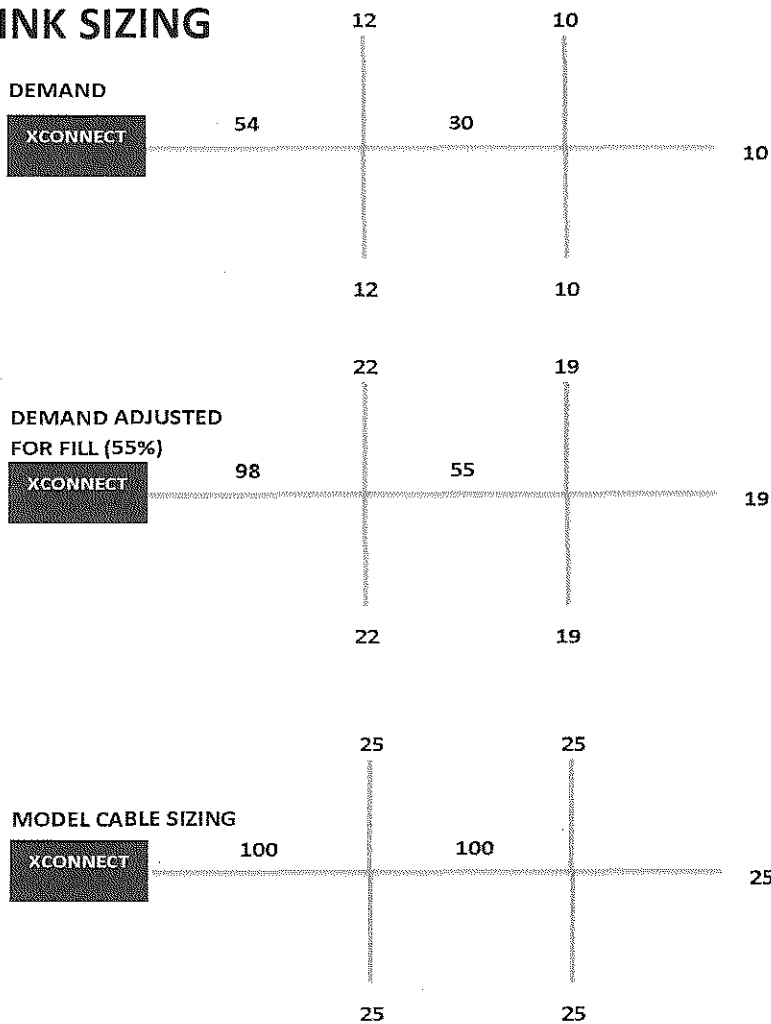
DLC = DIGITAL LOOP CARRIER

WC = WIRE CENTER

CALCULATING SUPPORT

Sizing the distribution network links

LINK SIZING



Tables used to develop Investment

Fill Factor			26 Gauge Copper Distribution Cable						
Density	Feeder	Distr.	SIZE	UG	Buried	Aerial			
0	70.0%	50.0%	4200	\$ 30.07	\$ 31.81	\$ 28.48			
5	77.5%	55.0%	3600	\$ 26.37	\$ 27.37	\$ 24.63			
100	80.0%	55.0%	3000	\$ 22.67	\$ 22.93	\$ 20.78			
200	82.5%	60.0%	2400	\$ 18.97	\$ 18.49	\$ 16.94			
650	82.5%	70.0%	2100	\$ 17.12	\$ 16.27	\$ 15.01			
850	82.5%	75.0%	1800	\$ 15.27	\$ 14.05	\$ 13.09			
2550	82.5%	75.0%	1200	\$ 11.60	\$ 9.61	\$ 9.23			
5000	82.5%	75.0%	900	\$ 9.78	\$ 7.39	\$ 7.31			
10000	82.5%	75.0%	600	\$ 7.98	\$ 5.17	\$ 5.38			
Distribution Plant Mix			Normal Structural Placement Cost (per foot)						
Density	UG	Buried (%)	Aerial (%)	Underground		Buried		Aerial	
0	0.00%	60.00%	40.00%	Feeder	Distr.	Feeder	Distr.	Feeder	Distr.
5	1.00%	62.00%	37.00%	\$ 1.86	\$ 1.86	\$ 0.77	\$ 0.77	\$ 1.51	\$ 1.51
100	2.00%	68.00%	30.00%	\$ 7.63	\$ 7.59	\$ 3.24	\$ 3.14	\$ 1.98	\$ 1.98
200	4.00%	66.00%	30.00%	\$ 8.16	\$ 8.38	\$ 4.26	\$ 4.45	\$ 1.98	\$ 1.98
650	8.00%	62.00%	30.00%	\$ 8.90	\$ 9.25	\$ 5.20	\$ 5.52	\$ 2.27	\$ 2.27
850	20.00%	50.00%	30.00%	\$ 10.23	\$ 10.53	\$ 5.51	\$ 5.82	\$ 2.27	\$ 2.27
2550	40.00%	30.00%	30.00%	\$ 14.15	\$ 14.23	\$ 7.34	\$ 7.42	\$ 2.64	\$ 2.64
5000	60.00%	10.00%	30.00%	\$ 27.79	\$ 27.78	\$ 9.02	\$ 9.00	\$ 2.72	\$ 2.72
10000	90.00%	0.00%	10.00%	\$ 42.59	\$ 42.57	\$ 11.93	\$ 11.91	\$ 2.72	\$ 2.72

CALCULATING SUPPORT

Loop investments inputs to HAI from HCPM

Adair loop material investments:

FEEDER	INVESTMENT	DISTRIBUTION	INVESTMENT
COPPER CABLE UNDERGROUND	\$ 535	CABLE UNDERGROUND	\$ 28,444
COPPER CABLE BURIED	\$ 2,589	CABLE BURIED	\$ 211,071
COPPER CABLE AERIAL	\$ 8,363	CABLE AERIAL	\$ 793,992
FIBER CABLE UNDERGROUND	\$ 4,926	CONDUIT	\$ 1,647
FIBER CABLE BURIED	\$ 15,774	CONDUIT PLACEMENT	\$ 14,822
FIBER CABLE AERIAL	\$ 69,486	BURIED PLACEMENT	\$ 415,968
CONDUIT	\$ 544	POLES	\$ 405,951
MANHOLES	\$ 2,302	SERVING AREA INTERFACE	\$ 9,217
COPPER UNDERGROUND PLACEMENT	\$ 2,421	TERMINALS	\$ 86,382
FIBER UNDERGROUND PLACEMENT	\$ 2,420	DROP CABLE	\$ 160,963
COPPER BURIED PLACEMENT	\$ 12,415	NETWORK INTERFACE DEVICES	\$ 59,961
FIBER BURIED PLACEMENT	\$ 2,053		
POLES	\$ 23,958		
DIGITAL LOOP CARRIERS WITH SITE PREPARATION	\$ 455,144		

CALCULATING SUPPORT

Converting investment to monthly direct expense

Purpose:

Converts investment to direct expense stream

Composition:

Composite factor made up of expense ratio & capital recovery factor

Application:

Multiplied by the investment

Annual Charge Factor (ACF)

$$\text{MonthlyDirect Expense}_{Acct\ x} = \left(\frac{1}{12} \right) * \frac{\text{Investment}_{Acct\ x}}{\text{Loops}} * \left[\underbrace{\left(\frac{\text{Expense}_{Acct\ x}}{\text{Investment}_{Acct\ x}} \right)}_{\text{Expense Factor}} + \underbrace{(\text{Depr Rate} + \text{ROR})}_{\text{Capital Recovery Factor}} \right]$$

Account x	Name	Expense Factors	Capital Recovery factor	ACF
2232	CIRCUIT EQUIPMENT	0.0200	0.1828	0.2028
2411	POLES	0.0219	0.1586	0.1805
2421	AERIAL CABLE COPPER	0.0669	0.1556	0.2225
2422	UNDERGROUND CABLE COPPER	0.0210	0.1395	0.1605
2423	BURIED CABLE COPPER	0.0446	0.1424	0.1870
2421	AERIAL CABLE FIBER	0.1374	0.1435	0.2809
2422	UNDERGROUND CABLE FIBER	0.1357	0.1424	0.2781
2423	BURIED CABLE FIBER	0.1318	0.1404	0.2722
2441	CONDUIT SYSTEMS	0.1165	0.1165	0.2330

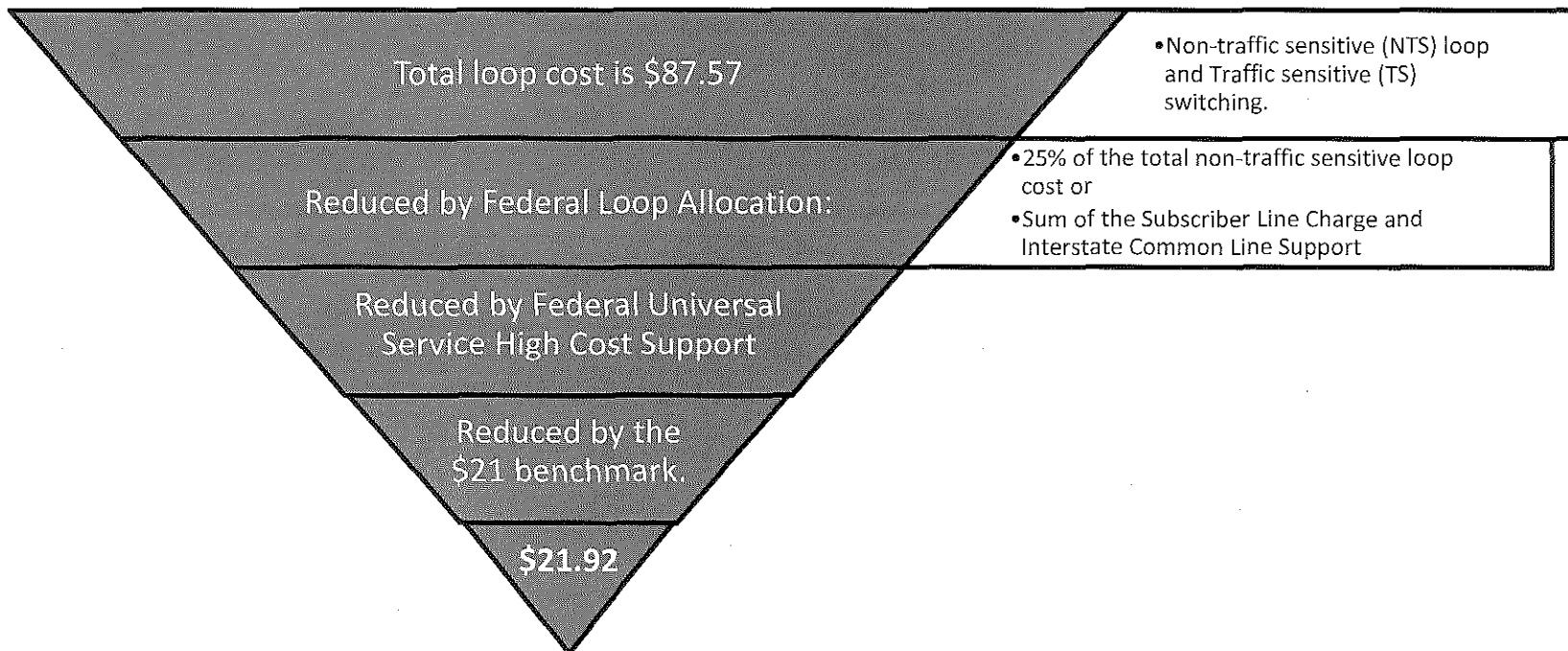
CALCULATING SUPPORT RURAL COMPANIES

REVENUE REQUIREMENT BASED

CALCULATING SUPPORT

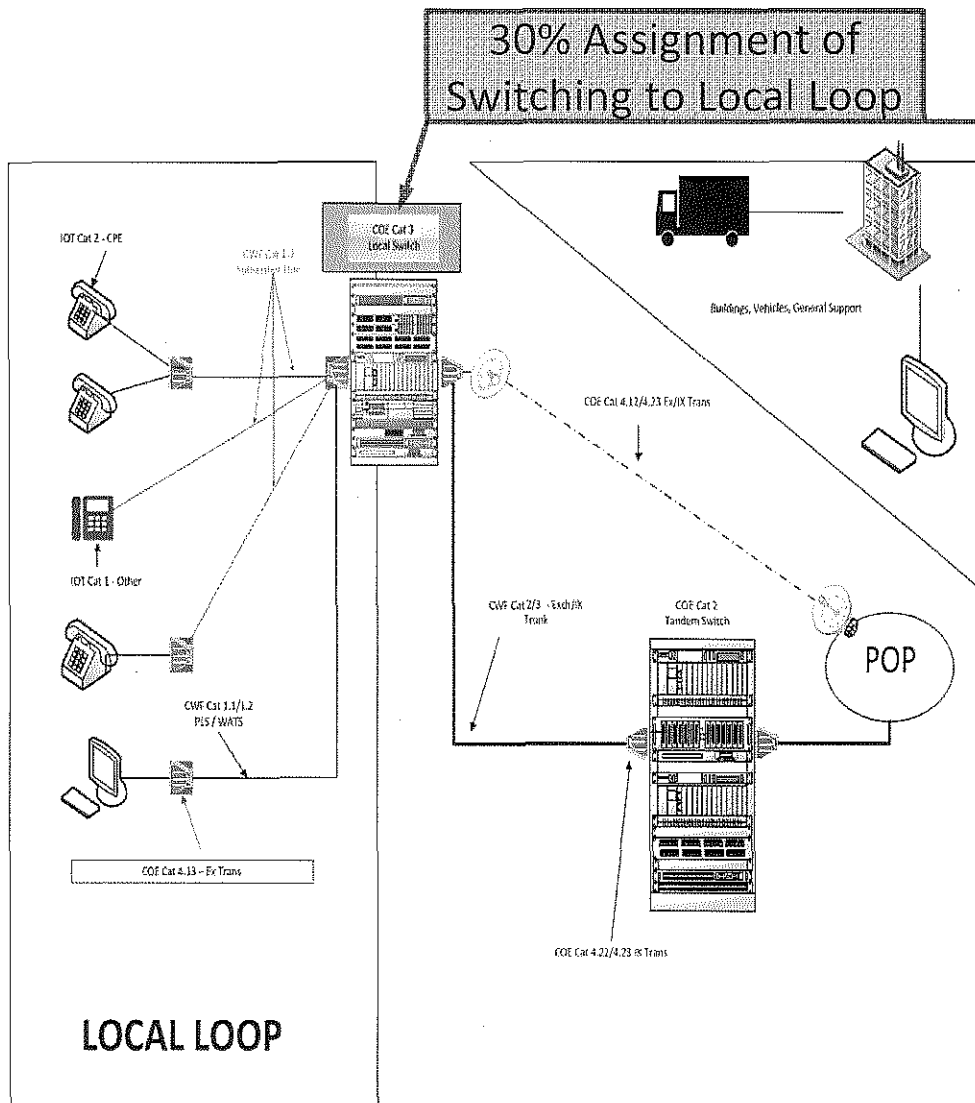
Sample model output for a Rural company

RESULTS							
Proposed OUS Support		(+)	(-)	(-)		(-)	
ABC Telephone Company	Loop Count	Basic Local Exchange Cost/Loop	Federal Loop Allocation	Federal USF/Loop	Cost Before Benchmark	Benchmark	OUSF Support Per Line
Total NTS loop cost	-	\$82.45	-\$28.73	-\$10.58	-	-	-
Local TS switching & other cost	-	\$5.12		-\$5.34	-	-	-
Total	5,957	\$87.57	-\$28.73	-\$15.92	\$42.92	-\$21.00	\$21.92



CALCULATING SUPPORT - Rural Companies

Sample Plant Mapping



Rate Base--Plant In Service	Total (Form I)	Loop (NTS)	Local (TS)
21XX General Support Facilities	6,413,201	4,449,378	281,470
22XX Central Office Equipment:			
CAT 1-Operator Systems	0		0
CAT 2-Tandem Switching (Alloc.)	557,182		0
CAT 2-Tandem Switching (Assign.)	0		
CAT 3-Local Switching	5,849,415	1,754,825	1,446,980
CAT 4.12-Exch. Trunk (Joint Use)	384,790		0
CAT 4.12-Exch. Trunk (Ded. Use)	0		
CAT 4.13-Subscr. Line (Joint Use)	3,799,701	3,799,701	
CAT 4.13-Subscr. Line (Ded. Use)	87,555		
CAT 4.23-IX Trunk (Joint Use)	524,732		0
CAT 4.23-IX Trunk Ckt. (Ded. Use)	29,910		
CAT 4.3-Host/Remote Trunk Ckt.	0		0
Other COE - Wideband	2,844,688		
24XX Cable & Wire Facilities:			
CAT 1.3-Subscriber Line (Common)	17,422,306	17,422,306	
CAT 1.1,2-Subscriber Line (Ded.)	401,454		
CAT 2-Exch. Trunk (Joint Use)	98,823		0
CAT 2-Exch. Trunk (Ded. Use)	0		
CAT 3-IX Trunk (Joint Use)	146,752		0
CAT 3-IX Trunk (Ded. Use)	13,191		
CAT 4-Host/Remote Trunk	35,062		0
Other C&WF - Wideband	922,563		

Loop:

- 100% Cat 1.3 Subscriber Line (Loop)
- 100% Cat 4.13 Subscriber Line (Circuit)
- 30% Cat 3.0 Local Switching (Switch path)
- General Support allocated based on percent of total plant

Switch:

- Cat 3.0 allocation of remaining 70% based on fraction of minutes (DEM) that are for local calls.

CALCULATING SUPPORT--Rural Companies

Mapping Accumulated Depreciation and Rate Base

$$4,449,378 \div 6,413,201 = 69.3\% \times 3,105,220 = \underline{1,989,817}$$

PLANT ACCOUNTS

Rate Base-- Plant In Service	Total (Form I)	Loop (NTS)	Local (TS)
21XX General Support Facilities	6,413,201	4,449,378	281,470
22XX Central Office Equipment:			
CAT 1-Operator Systems	0		0
CAT 2-Tandem Switching (Alloc.)	557,182		0
CAT 2-Tandem Switching (Assign.)	0		
CAT 3-Local Switching	5,849,415	1,754,825	1,446,980
CAT 4.12-Exch. Trunk (Joint Use)	384,790		0
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CAT 4.23-IX Trunk Ckt. (Ded. Use)	29,910		
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Other COE - Wideband	2,844,688		
24XX Cable & Wire Facilities:			
CAT 1.3-Subscriber Line (Common)	17,422,306	17,422,306	
CAT 1.1;2-Subscriber Line (Ded.)	401,454		
CAT 2-Exch. Trunk (Joint Use)	98,823		0
CAT 2-Exch. Trunk (Ded. Use)	0		
CAT 3-IX Trunk (Joint Use)	146,752		0
CAT 3-IX Trunk (Ded. Use)	13,191		
CAT 4-Host/Remote Trunk	35,062		0
Other C&WF - Wideband	922,563		
 CWF Total	19,040,151		

$$\frac{17,422,306}{19,040,151} = 91.5\%$$

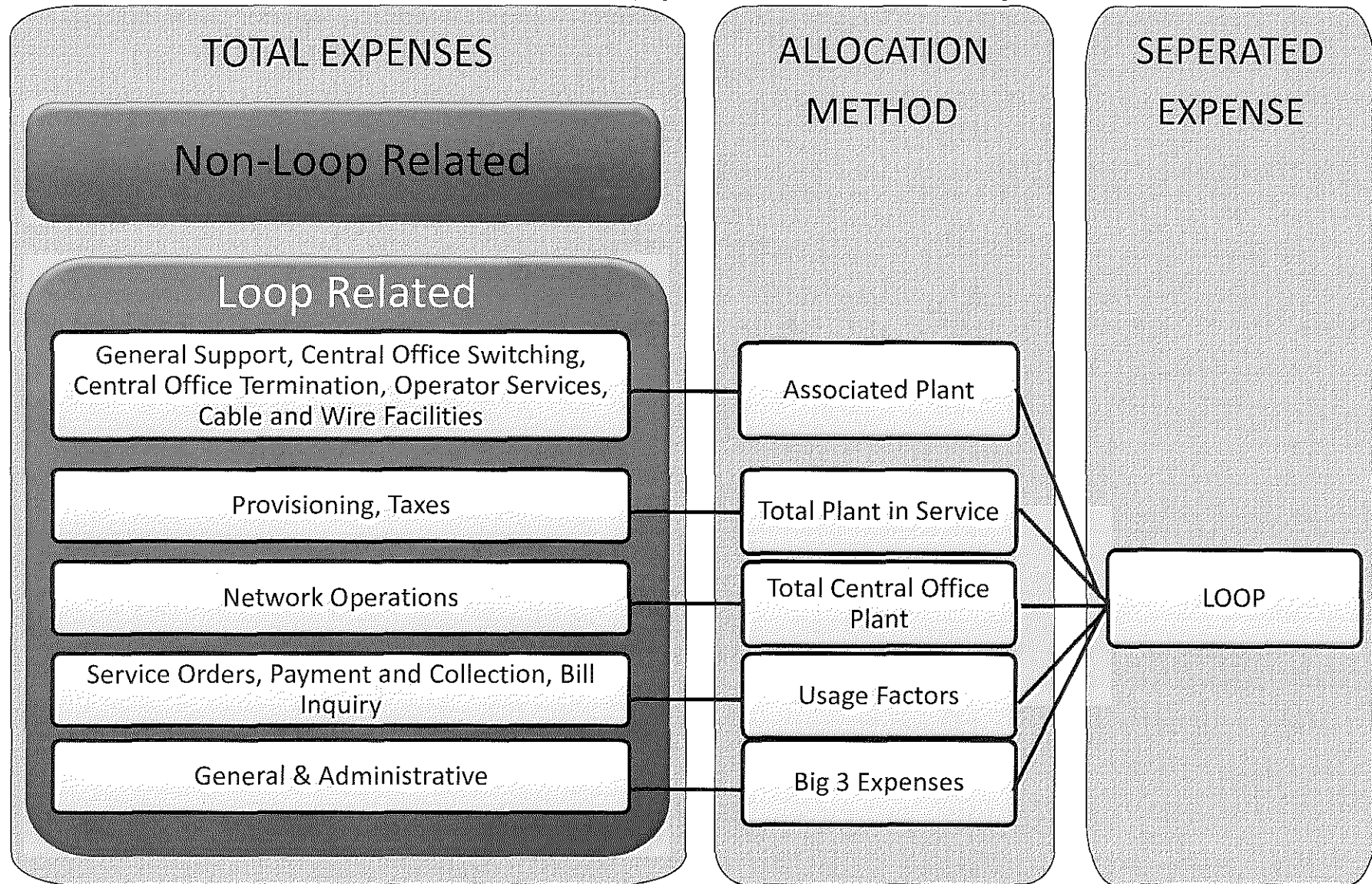
Depreciation Accounts

Accumulated Depreciation & Amortization	Total (Form I)	Loop (NTS)	Local (TS)
311X General Support Facilities	(3,105,220)	(1,989,817)	(194,430)
312X Central Office Switching	(5,724,750)	(1,717,425)	(1,416,141)
312X Operator Systems	0	0	0
312X Central Office Transmission	(3,695,916)	(1,830,620)	0
313X Information Orig./Term. Equip.	0	0	0
314X Cable & Wire Facilities	(7,762,060)	(7,102,516)	0
3410 Capital Leases	0	0	0
3420 Leasehold Improvements	0	0	0
3500 Intangibles	0	0	0
3600 Acquisition Adjustment	0	0	0
Total Accum. Depr. & Amortz.	(20,287,946)	(12,640,378)	(1,610,571)
Other Rate Base:			
4100-4340 Accum. Deferred Tax	0	0	0
1220 Materials and Supplies	777,874	711,778	267
2005 Plant Acquisition Adjustment	0	0	0
--- Other Rate Base	0	0	0
Total Other Rate Base	777,874	711,778	267
Total Rate Base	20,021,253	15,120,394	431,271

$$7,762,060 \times 91.5\% = \underline{7,102,516}$$

CALCULATING SUPPORT -- Rural Companies

Expense Mapped to the Loop



ACCOUNTABILITY

Use of Disbursements

Rural and Non-rural companies

Non-rural

- Companies were required to make revenue neutral reduction in rates

Rural

- Companies were required to reduce their Carrier Common Line Charge (CCLC)

Monitoring accountability of OUSF Disbursements

Non-rural Companies

- Monitor reduced rates.
- Since 2010 companies provide annual reports showing investment and expenses in the high cost areas.
- Currently not required to apply the Oregon Universal Services funds received to high cost areas.

Rural Companies

- From 2003 to 2012 the annual access pool filing detailed how the OUSF money was used.
- As a result of FCC 11-161 the access pool was dissolved and the reporting requirements stopped.
- In 2012, the rural companies filed a separate report showing how they used the OUSF support and have filed a similar report this year.

Use of Disbursements

Non-rural companies; original revenue neutral filing

Frontier Northwest

VERIZON NORTHWEST 2001	REDUCTIONS (millions)
Business One Party	\$6.1
Business Trunk Service	\$3.1
EAS Portland Metro	\$3.0
Misc. Business Services	\$0.8
Carrier Common Line Charge	\$4.2
Contract Business Services	\$0.3
Total Reduction	\$17.5

CenturyLink QC

QWEST COMMUNICATIONS 2001	REDUCTIONS (millions)
Business Basic Access	\$15.1
Business PAL	\$0.3
DID Terminations	\$2.4
Centrex Service	\$5.0
ISDN-PRI	\$0.9
Digital Switched Services	\$2.6
Uniform Access Solution Connections	\$0.5
Total Reduction	\$26.8

Monitoring the use of OUSF Disbursements

Sample annual report by Frontier Northwest

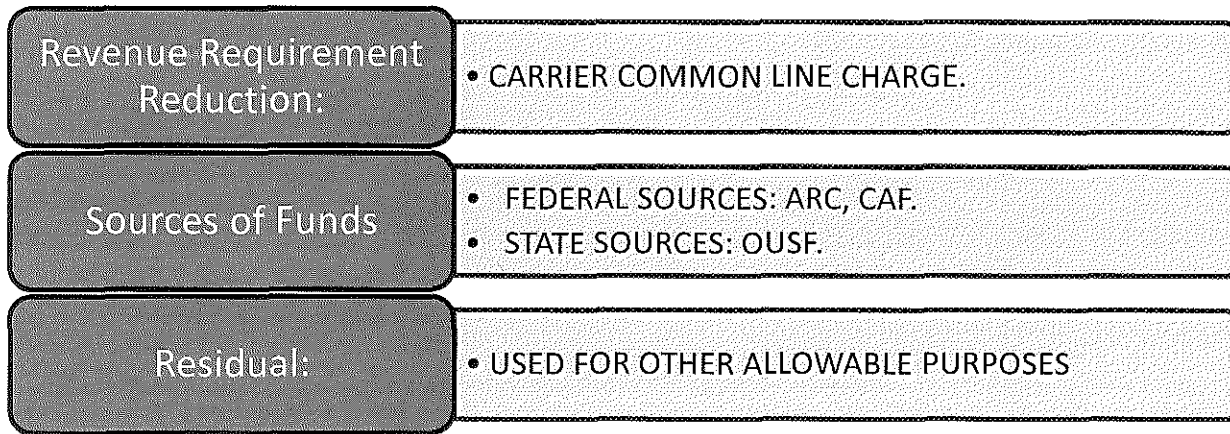
FRONTIER HIGH COST WIRE CENTERS			2013 Investment			
ID/Name	Wire Center	CLLI Code	Switch Investment	Interoffice	Local Loop	Direct Expenses
1	Amity	AMTY	-	-	28,275.55	187,656.46
2	Aumsville	AMVL	7,678.05	-	23,083.40	225,129.20
3	Bandon	BNDN	88,383.43	-	409.48	521,983.58
4	Banks	BNKS	-	-	-	310,321.14
5	Brookings	BKNG	41,405.81	-	86,920.38	953,505.62
6	Clatskanie	CLTS	-	-	24,876.41	359,504.11
7	Coos Bay	CSBY	153,072.73	-	92,979.68	1,219,913.39
8	Coquille	CQLL	9,170.10	-	-	456,699.04
9	Cove	COVE	-	-	-	95,145.63
10	Dayton	DYTN	22,652.74	-	31,177.26	243,280.06
11	Detroit	DTRT	29,318.62	-	12,349.53	70,846.90
12	Elgin	ELGN	-	-	5,432.30	183,850.64
13	Enterprise	ENTR	2,817.40	-	76,179.03	273,726.67
14	Gaston	GSTN	59,963.81	-	28,931.29	190,584.02
15	Gold Beach	GLBH	110,953.42	585.45	126,717.34	499,148.63
16	Grand Island	GDIS	-	-	-	92,510.83
17	Hoodland	HDLD	26,343.89	-	37,275.78	466,359.98
18	Imbler	IMBL	-	-	2,582.22	94,560.12
19	Imnaha	IMNH	-	-	-	38,058.25
20	Joseph	JSPH	-	-	56,391.72	274,312.18
21	Lakeside	LKSD	-	-	-	149,890.97
22	Langlois	LNGL	-	-	-	83,142.65
23	Lostine	LOST	-	-	465.43	45,084.39
24	Mill City	MLCY	15,633.92	-	20,199.36	186,778.20
25	Murphy	MRPH	-	-	-	144,328.61
26	Myrtle Point	MYPN	-	-	36,383.28	315,005.23
27	Orient	ORNT	-	-	15,853.37	487,731.15
28	Port Orford	PTOR	14,596.28	-	-	197,024.65
29	Powers	PWRS	30,765.72	-	9,675.03	80,215.09
30	Provoit	PRVT	3,433.28	-	24,411.04	375,020.17
31	Reedsport	RDPT	7,254.19	-	2,649.05	360,382.38
32	Sandy	SNDY	19,847.55	-	95,367.36	1,122,132.95
33	Scholls	SCHL	-	-	31,586.34	395,513.08
34	Silverton	SLTN	198,814.97	-	24,343.25	1,112,764.77
35	Turner	TRNR	-	-	18,571.62	213,711.73
36	Union	UNIN	-	-	-	139,351.76
37	Vernonia	VRNN	6,530.56	-	57,571.71	290,706.50
38	Wallowa	WLLW	-	-	-	107,148.62
39	Yamhill	YMHL	8,666.02	-	9,234.20	252,355.49
	Total		857,302.49	585.45	979,892.41	12,815,384.84

Rural Companies use of disbursements

2012 Annual Access Charge Summary

REVENUE REQUIREMENT TO BE REDUCED	SOURCE OF FUNDS		RESIDUAL
CARRIER COMMON LINE CHARGE (CCLC)	ARC/CAF OFFSET TO CCLC	OUSF SUPPORT	TO BE USED FOR OTHER ALLOWED PURPOSES
\$6,721,852	\$3,463,966	\$7,371,773	\$4,113,887


NOTE: DOES NOT INCLUDE CENTURYTEL, UNITED, OR CITIZENS



ARC - ACCESS RECOVERY CHARGE
 CAF – CONNECT AMERICA FUND

Monitoring the use of OUSF Disbursements

Sample 2012 OUSF usage report filed by the rural companies



GWNW CONSULTING, INC.
 1000 SW WASHINGTON SPRINGS STREET
 SUITE 200
 P.O. BOX 2140
 SALEM, OR 97308
 TEL: 503.612.4400
 FAX: 503.612.4401
 www.gwnw.com

August 21, 2012

Mr. Roger White, Program Manager
 Oregon Public Utility Commission
 550 Capitol St NE, Suite 215
 Salem, OR 97308-2148

Re: Response to August 6, 2012 Staff Request

Dear Roger:


On behalf of Gervais Telephone Company, attached is a summary of how the Company is applying its residual OUSF distribution.

The application of the residual follows Commission Order 12-204 adopting Staff's recommendation in part with amendments. As stated in section C of the Memorandum of Understanding:

"Consistent with the provisions of the Stipulation adopted in Order No. 03-082, distributions received under the OUSF shall first be applied by a rural ILEC to reduce its carrier common line charge to the extent not reduced by actions required to be taken by the rural ILEC pursuant to the Federal Communications Commission's ("FCC") Order No. 11-161 ("FCC 11-161"). OUSF support is to be viewed as complementary to support that the rural ILEC may receive from federal universal service funds under the implementation of FCC 11-161, not a substitute of such support or duplication of such support. After reducing the carrier common line charge, a rural ILEC may apply OUSF distributions for the purpose of keeping local service rates lower than they might otherwise be required to be in light of the rural ILECs' local service revenue requirement. This includes, but is not limited to, recovery of amounts lost under the FCC's intercarrier compensation reform rules that are not replace with federal support under the FCC's rules adopted in FCC 11-161."

Please let me know if you have any further questions.

Sincerely,



James Renard

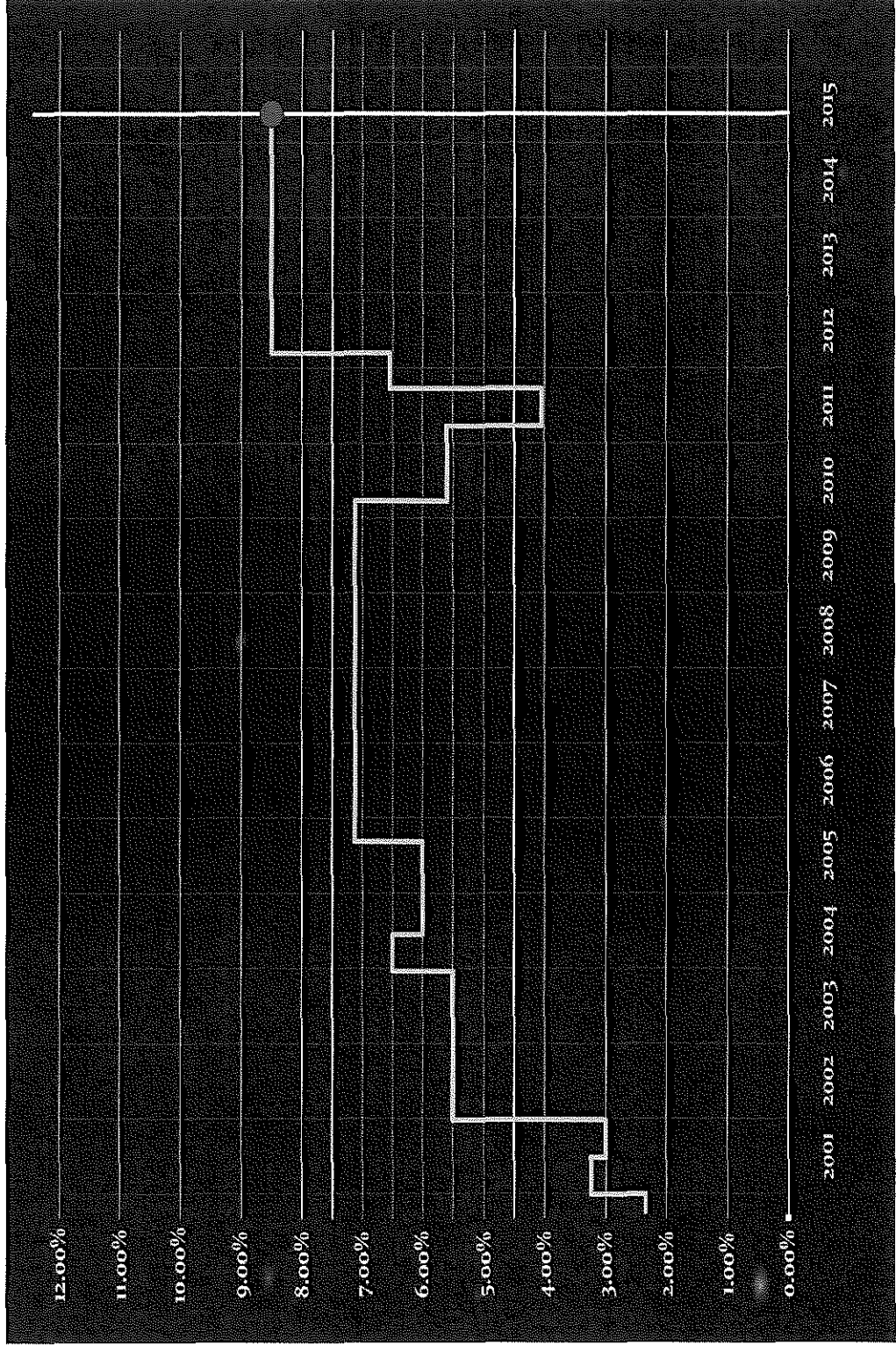
Cc: Kay Barnes
 Jason Jones

Gervais	
OUSF	104,153
Access Offset	<u>(2,806)</u>
Subtotal	101,347
FCC 11-161 Impact - Note 1	<u>(10,910)</u>
Remaining OUSF	90,437
Local Rate Offset - Note 2	(76,984)
Local Rate Offset Per Line	\$ 9.16
Note 1 - NECA Estimated USF Impacts of FCC USF/ICC Reform Orders.	
Note 2	
2011 Cost Study @ 11.1%	
Local RRQ	479,044
EAS RRQ	<u>120,904</u>
Total	<u>599,948</u>
2011 Revenues - Form O, Line #	
1	300,452
12	4,860
14	217,131
17	<u>521</u>
Total	<u>522,964</u>
Local Difference - Subtotal	(76,984)
Local Rate Offset	<u>76,984</u>
Remaining Local Difference	-
Access Lines	700
Note 3 - To the extent the Company has residual OUSF distribution after the Local Rate Offset, it elects to forego the balance of OUSF funds in 2012 and will review the status in 2013.	

SETTING SURCHARGE RATES

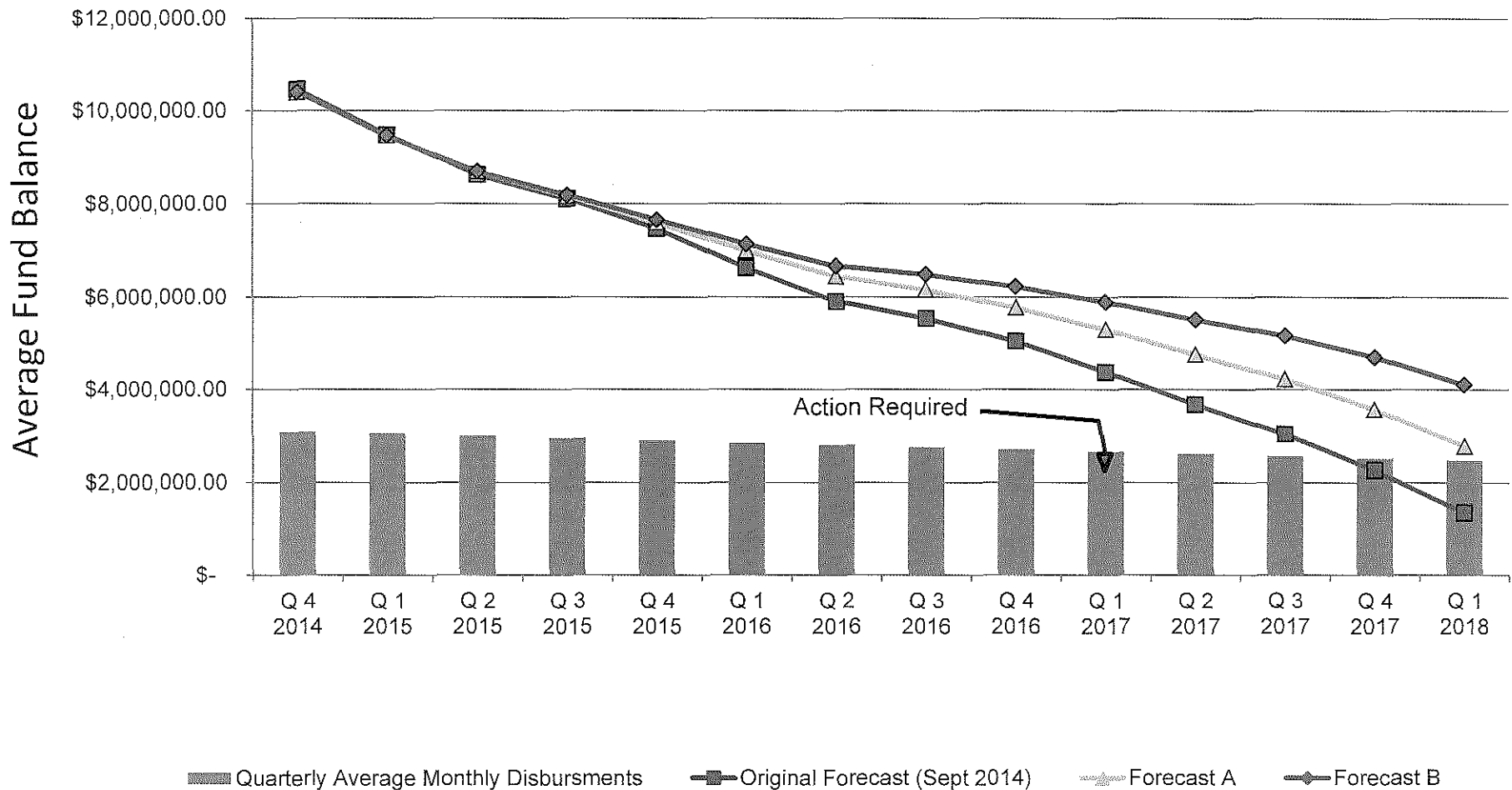
How The OUSF Surcharge Rate Is Set

Historical Surcharge Rates



How The OUSF Surcharge Rate Is Set

Average Quarterly Balances



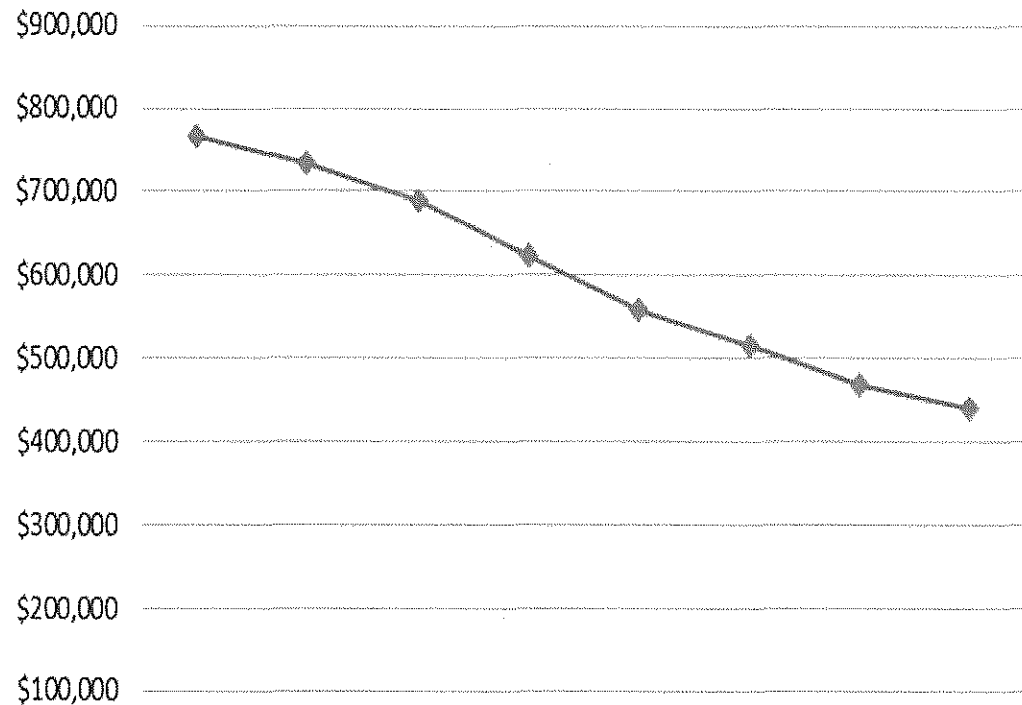
How The OUSF Surcharge Rate Is Set

Revenue Base Erosion

Revenue Contribution Base (\$000)

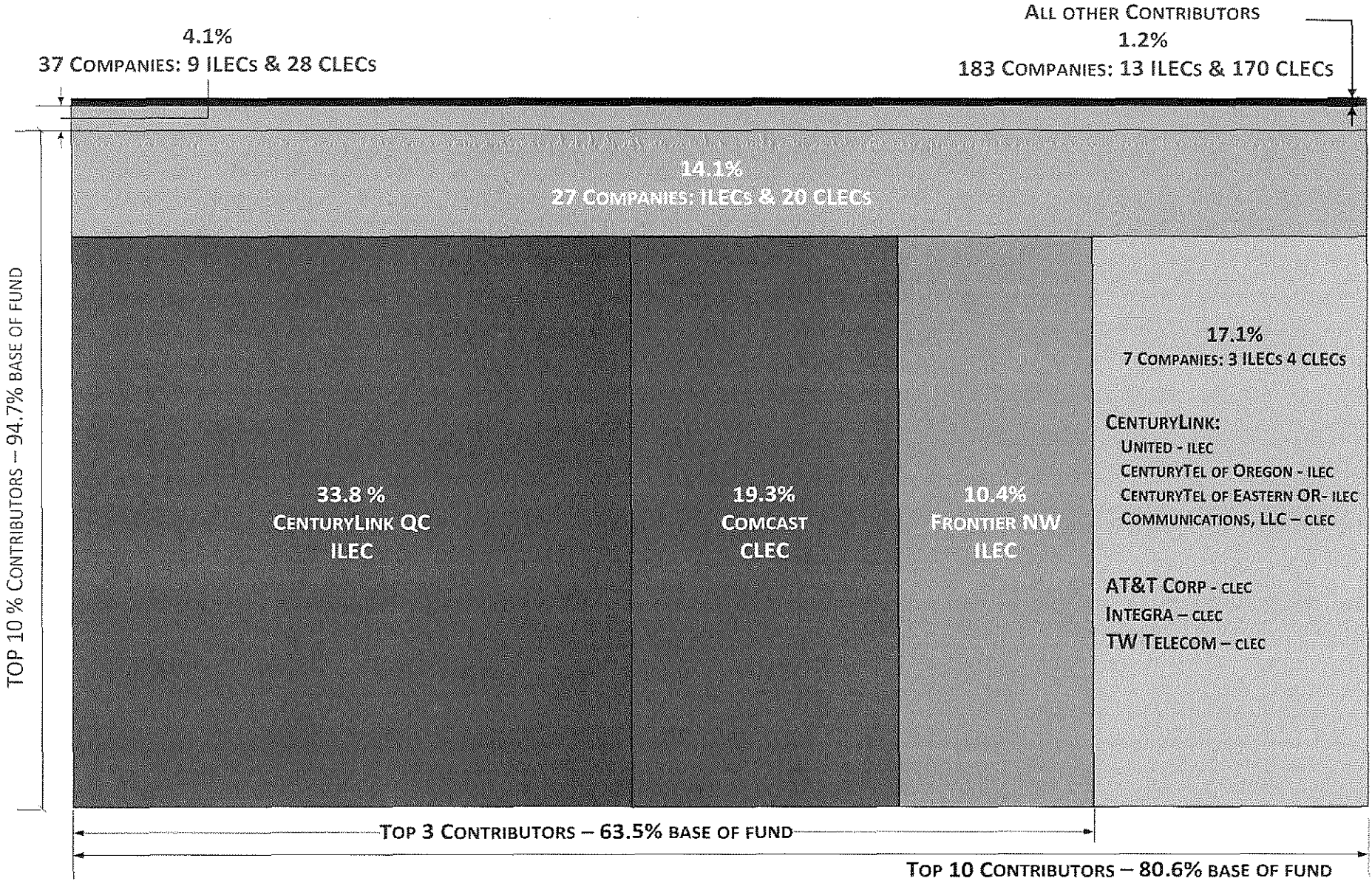
REASONS FOR REVENUE DROP:

- In 2014, 38% of Oregon households were wireless only.
- Loss of customers to companies providing VoIP services.



OUSF FACTS

OUSF CONTRIBUTION



Who is Receiving Support

