

1 **4. *Joint Costs***

2

3 **Q. Let's turn to the fourth section of your testimony. You have indicated that**
4 **modifications to the KUSF should be cost-based. Are you suggesting that**
5 **KUSF support should be provided whenever rates for basic local service are**
6 **insufficient to recover the entire cost of the facilities used in providing that**
7 **service?**

8 A. No, I am not. Local service is produced in conjunction with other services, which
9 share many of the same facilities, including the loop and port. Loop and port costs can
10 properly be classified as "joint" or "common" costs (also referred to as "shared" costs).
11 There are many different sources of revenue which help recover these costs, besides
12 local rates. Hence, one wouldn't expect any single service to provide enough revenue
13 to recover the entirety of these shared costs.

14 However, there may be specific groups of customers, or geographic markets
15 (e.g., rural communities) where the revenue generated from all the services provided
16 using a typical loop and port is insufficient to recover the cost of that loop and port. In
17 those specific markets, where total revenues aren't sufficient to cover the shared costs,
18 KUSF support may be justified. However, in determining whether and to what extent
19 support is warranted, one needs to be very careful to deal appropriately with the joint
20 and common costs. If revenues are not correctly matched with costs, an inappropriate
21 impression may be created concerning whether, or to what extent, high cost support is
22 needed.

23 It is sometimes argued that residential basic local service is priced so low it is
24 being subsidized by other services. However, this argument is typically based upon
25 falacious reasoning, which incorrectly includes all, or nearly all, of the joint and

1 common costs, yet it includes just a fraction of the relevant revenues which are derived
2 from the joint and common production function. No one service can be expected to
3 recover the entirety of the shared costs which are incurred in providing multiple
4 services. It is clearly unreasonable to expect 100% of the shared costs to be recovered
5 from just one service out of the half-dozen or so services that benefit from, and have
6 historically helped support, a carrier's shared costs. For instance, the list of revenue
7 sources which rely upon, or directly relate to, the bop and port include intraLATA toll,
8 intrastate switched access, interstate switched access, call waiting call forwarding and
9 caller ID, as well as various unregulated services, including billing and collection
10 services, directory publishing, inside wire maintenance, and more).

11
12 **Q. Given the problems with shared costs, is it even possible to compare costs with**
13 **revenues in a meaningful manner?**

14 A. Yes it is. While shared costs can be confusing they do not pose an intractable
15 problem. There are at least three ways in which revenues and costs can appropriately
16 be matched in a context where shared costs are large:

17 First, a pure incremental cost approach can be used: the direct cost of a
18 particular service (or group of services) is compared to the revenues from that service
19 or group. Costs that are shared with other services are excluded from the analysis. A
20 calculation is then performed to determine the magnitude of the contribution generated
21 by that service (or family of services). This contribution is available to help cover the
22 joint and common costs (which were excluded from the analysis). The resulting
23 contribution can be evaluated, to see how large it is, relative to the contribution
24 provided by other services. In other words, the magnitude of the contribution from
25 each service (in absolute or percentage terms) can be evaluated, to judge its relative

1 profitability, but one would not expect any single service, or limited group of services,
2 to recover the entire amount of shared costs.

3 Second, an allocated share of the shared costs can be added to the direct costs
4 of the service (or group of services) in question, to arrive at a reasonable cost amount
5 for comparison with the revenues from the service (or family of services) in question.
6 This method differs from the first approach because it includes an allocated share of
7 shared costs in the analysis.

8 Third, all of the shared costs can be included in the analysis, along with all of
9 the relevant costs and revenues associated with all of the services involved with these
10 shared costs. For instance, the analyst could look at the entire family of services that
11 benefit from the loop and port. By expanding the analysis to include revenues
12 associated with this entire family of services, it becomes legitimate to include all of the
13 loop and port costs, since these are matched with all of the associated revenue streams.

14
15 **Q. Would you please elaborate on the second method, particularly with regard to**
16 **the allocation of loop and port costs?**

17 A. Certainly. There is no universally accepted method for allocating these costs, and the
18 differences in method can result in very significant differences in the cost study results.
19 One of the difficulties with the second method is that the results are highly dependent
20 upon the particular allocation approach that is selected, and there is no consensus
21 concerning the “right” way to allocate loop and port costs. A category which is shown
22 to have a very low return in one study can show a very high return in another study,
23 depending upon the allocation approach that is used.

24 Perhaps the simplest and most stable approach is for the Commission to select
25 one or more uniform percentage allocation factors. This is the approach currently used

1 by the FCC in allocating loop costs between the federal and state jurisdiction—the
2 interstate share is a uniform 25%, regardless of the specific circumstances applying to a
3 particular carrier. Other options include revenue-based methods and usage-based
4 methods. Revenue-based allocations assign shares of joint costs based upon the
5 services' percentages of total revenues. For example, if basic local service accounts for
6 35 percent of total revenues, it might be allocated 35% percent of loop costs. Usage-
7 based allocations assign shares of joint costs by relative minutes of use, perhaps
8 weighted in some way to distinguish toll from local and/or peak from off-peak, etc.

9
10 **Q. Have other jurisdictions recently addressed this allocation issue?**

11 A. Yes. For instance, the Indiana Utility Regulatory Commission recently addressed this
12 issue in an ongoing generic universal service proceeding. [Cause No. 40785]. As part
13 of that proceeding, the Indiana Commission was concerned with the proper
14 interpretation of paragraph 254(k) of the 1996 Federal Act, which provides in part:

15
16 The Commission, with respect to interstate services, and the States,
17 with respect to intrastate services, shall establish any necessary cost
18 allocation rules, accounting safeguards, and guidelines to ensure that
19 services included in the definition of universal service bear no more than
20 a reasonable share of the joint and common costs of facilities used to
21 provide those services.
22

23 In its discussion of joint and common costs, the Indiana Commission rejected the
24 principle of “cost causation”, stating that

25
26 It seems reasonable that if two or more services require the presence of
27 a particular facility in order to for each of the services to function, then
28 this particular facility would be common or joint to each of the services.

1 Even if it were true that one of the services may have initially caused the
2 cost, it does not alter the fact that each of the services requires the
3 availability and use of that facility and therefore each service benefits
4 from the existence of the facility. [Id., October 28, 1998 Order, p. 36].
5

6 The Indiana Commission further held that loop costs are properly included in the
7 definition of joint and common costs. [Id., p. 39].
8

9 **Q. Did the Indiana Commission consider a uniform percentage allocation**
10 **approach?**

11 A. Yes, it did. The Indiana Commission noted that under the federal Part 36 separations
12 procedures, 25 percent of loop costs are allocated to the interstate jurisdiction. [Id., p.
13 38]. With regard to allocation of the remaining 75 percent, the Indiana Commission
14 began by identifying three groups of intrastate services: those included in the definition
15 of universal service, those not included in the definition of universal service, and those
16 not subject to its jurisdiction. [Id., p. 42]. The Indiana Commission discussed using
17 fixed allocators and moving allocators, and concluded that if a fixed allocator were
18 used, an appropriate approach would be to allocate one third of the intrastate joint and
19 common costs to each group of services. [Id., p. 44]. This approach would result in
20 the allocation of 25% of total joint and common costs to the services included in the
21 definition of universal service, 25% to other services subject to intrastate regulation,
22 25% to services within the FCC jurisdiction, and 25% to unregulated services.
23 Another approach it considered would have allocated 37.5% of total joint and common
24 costs to the services included in the definition of universal service, 18.75% to other
25 services subject to intrastate regulation, 25% to services within the FCC jurisdiction,
26 and 18.75% to unregulated services.

1 Thus, the Indiana Commission considered use of a uniform percentage
2 allocation factor for basic universal service of ranging from 25% to 37.5%. However, it
3 was reluctant to settle upon a uniform fixed percentage, since it recognized that “if the
4 services in a particular category were to be dramatically reduced at some future time,
5 such a fixed allocator might not continue to be a fair and reasonable method of
6 allocating common and joint costs” [Id.]. Accordingly, the Indiana Commission
7 indicated a preference for a moving allocator, which could vary over time, as
8 circumstances changed. It discussed the possibility of using several different moving
9 allocators, including revenues, minutes of use, number of users, and investment, but it
10 found flaws with each of these approaches, and thus decided to let the parties present
11 evidence on an appropriate moving allocator in a later phase of the Indiana proceeding
12 [Id., p. 47].

13
14 **Q. What are the pros and cons related to revenue-based allocation methods?**

15 A. One advantage is that revenues are a common denominator which applies to every
16 service. In contrast, a usage-based approach cannot readily be applied to custom
17 calling, Caller ID and similar services which generate revenues, but do not have
18 associated minutes of use. Also, revenues tend to reflect the status quo regarding the
19 manner in which shared costs are currently being recovered (services generating large
20 revenues tend to contribute more to the shared costs than services generating low
21 revenues).

22 One disadvantage is that revenues are essentially a function of pricing, and
23 pricing may change, depending upon the outcome of the cost analysis, and the resulting
24 pricing decisions. The allocations reflect existing prices. To the extent prices change,
25 the allocations will also change, and thus a problem of circular reasoning may arise.

1 (Prices are increased, which increases the revenue-based allocation of costs, which
2 creates the appearance that prices must increase even further) Given this potential
3 problem with circularity, I prefer to use a uniform flat percentage approach, although
4 some consideration of revenue relationships may be useful in establishing the uniform
5 percentage factors.
6

7 **Q. What are the major usage-based allocation methods?**

8 A. The two most familiar are use of a Subscriber Line Usage (SLU) factor and use of a
9 Subscriber Plant Factor (SPF). Both SLU and SPF reflect differences in usage;
10 however, there is a very significant difference in the two allocation approaches, which
11 will substantially influence the resulting costs for the toll and local categories.
12

13 **Q. What is the difference between SLU and SPF?**

14 A. SPF has long been used to allocate non-traffic sensitive costs (including the costs of the
15 loop and port) for jurisdictional and cost recovery purposes. SPF is mathematically
16 derived from SLU, which are simply traffic factors that reflect the relative minutes of
17 use for the various services. For instance, an intrastate toll SLU factor would be
18 calculated by dividing the intrastate toll minutes of use (originating and terminating) by
19 total minutes of use (interstate toll, intrastate toll and local exchange) for the service
20 area in question. The SPF is more complex because it introduces weighting into the
21 computations, the effect of which is to put greater emphasis on toll usage than on local
22 usage.

23 The weighting is designed to reflect certain demand factors, such as distance,
24 and the deterrent effect of attaching a price tag to toll minutes. Specifically, the SPF
25 formula is: $SPF = (.85 SLU) + (2 SLU * CSR)$. For the interstate SPF, the Composite

1 Station Ratio (CSR) is calculated as the nationwide average interstate 3-minute toll
2 charge applicable to the average length of haul for interstate calls in the study area,
3 divided by the nationwide average 3-minute toll charge applicable to the average length
4 of haul for all toll traffic for the total industry. This component of the formula gives more
5 weight to the toll usage ratio in areas where the price of toll calls is higher than the
6 average. In the interstate environment where SPF and SLU were originally developed,
7 the effect of this formula is to reflect differences in the average length of haul, and the
8 associated differences in toll prices. The philosophy is straightforward: the higher value
9 and price tag associated with the call, the greater the appropriate allocation of cost.

10 If one assumes that the CSR is equal to 1 (toll calls in the study area have a
11 price that is equal to the overall average), the SPF for toll will be 2.85 times SLU.
12 Similarly, if one assumes that the calls in question have a zero price, and thus the CSR is
13 equal to zero, then SPF will be equal to .85 SLU.

14 While the formula is somewhat complex, the intention is clear: a greater portion
15 of the costs should be allocated to a category in which the usage has a higher value per
16 minute of use, and a greater portion of costs should be allocated to a category in which
17 usage volumes have been suppressed due to high prices. When comparing toll and
18 local, it is readily apparent that the average toll minute has a higher value than the
19 average local minute (due to the differences in distance). It is also apparent that toll
20 traffic volumes are reduced due to the fact that most toll service is not flat rated. SPF
21 partially neutralizes the deterrent effect of a toll rate structure which imposes a charge
22 for individual calls, unlike local service, which is typically flat rated.

23 In contrast, SLU ignores these fundamental differences in the characteristics of
24 toll and local usage. Bear in mind that the costs which are being allocated are not traffic
25 sensitive. Thus, there is no particular reason why the costs should be allocated in strict

1 proportion to usage. While usage is obviously relevant, there are other factors which
2 are also relevant, such as the relative value of a minute of toll usage in comparison with
3 a minute of local usage. In fact, the SPF approach is superior in this context, because it
4 reflects differences in value, differences in benefit, and differences in the strength of
5 demand for local and toll service. These differences are not adequately reflected by
6 raw usage statistics, but they should be considered in an appropriate allocation process.
7 When allocating joint and common costs it is appropriate to simulate to some degree
8 the pattern in competitive markets, where the recovery of shared costs reflects
9 differences in demand characteristics. This is accomplished much more effectively by
10 SPF than by SLU.

11
12 **Q. What are the pros and cons related to usage-based allocation methods?**

13 A. Usage-based methods potentially avoid the circular reasoning problem, and they are
14 based upon readily available statistics. However, there is no single measure of “usage”
15 which appropriately encompasses all of the many services supporting the access line.
16 The use of custom calling service, for instance, cannot easily be measured in minutes of
17 use. If someone has their phone programmed to forward calls to another number all
18 day, should use of this service be measured for the entire time it is engaged? Or, just
19 during the few seconds while a call is received and forwarded to the other number?
20 Surely, the first alternative overstates the usage and benefits associated with Call
21 Forwarding while the latter measure understates the benefits. Thus, usage based
22 allocation factors cannot readily deal with the myriad of different services that recover
23 loop and port costs.

24

1 **Q. How does this discussion of allocation methods relate to the KUSF?**

2 A. In converting the KUSF to a cost-based approach, the Commission can either include
3 a complete array of services in the revenue benchmark, matching the complete cost of
4 the loop and port against the complete set of revenues received by local exchange
5 carriers, or use a narrower revenue benchmark, in which case it will be necessary to
6 apply an appropriate allocation factor to the joint and common costs. The latter
7 approach simplifies development of the revenue benchmark, but it forces the
8 Commission to reach a judgment concerning the appropriate allocation factor(s) to use
9 in dealing with joint and common costs.