

1 **Q. Have you provided any cost estimates which include the local loop and port?**

2 A. Yes. To assist the Commission in evaluating the cost of basic local exchange service, and in
3 understanding the significance of this joint cost issue, I have run three separate sets of
4 schedules. The first set, examining the direct cost of basic local exchange service, excludes all
5 joint costs, including those associated with the loop and port. This is my preferred approach,
6 for the reasons I have outlined above. The other two sets of schedules reflect alternative
7 approaches to the treatment of joint costs. One alternative allocates 50% of the joint costs to
8 basic local service; the other includes 100% of loop costs in the context of an analysis of the
9 entire family of services which benefit from the joint costs.

10

11 **Q. Does US West's practice of billing customers according to their geographic location**
12 **affect your analysis?**

13 A. No. I have simply applied each of the three study approaches separately to each the
14 Company's customer zones (inside base rate area, zone 1, and zone2).

15

16 **Q. Can the Company's cost estimates be used to develop comparisons of revenues and**
17 **cost which reflect a more appropriate treatment of shared costs?**

18 A. Yes. The problems with the Company's treatment of shared costs can be readily overcome.
19 To assist the Commission in evaluating the Company's proposed increases in basic local
20 exchange rates, and to provide a clearer explanation of the shared cost issue, I have prepared
21 three separate sets of revenue/cost comparisons. The first set of comparisons examines the
22 direct cost of basic local exchange service and excludes shared costs. This can be referred to
23 as a "pure" TSLRIC approach. This is my preferred approach, since it provides the most
24 accurate picture of whether the rates for basic local exchange service exceed the incremental
25 cost of providing this service, and indicates whether or not this service is "subsidized" by other
26 services.

27 The second set of comparisons is similar to the "pure" TSLRIC approach except that it

1 includes an allocation of joint and common costs. The third set of comparisons includes 100%
2 of the joint costs in an analysis which is economically consistent with inclusion of these costs,
3 because it includes the entire family of services which relies upon the loop and port.

4 In order to provide additional insight into the Company's existing and proposed rates
5 for customers inside and outside of the base rate area, I have prepared three schedules using
6 each of these three approaches. More specifically, I have analyzed the rates that apply inside
7 the base rate area, the rates that apply in zone 1 and the rates that apply in zone 2.

8
9 **Q. Before discussing the details of these analyses, please provide the Commission with**
10 **the "bottom line." Are the existing rates sufficient to cover the relevant costs of**
11 **providing service to most residential customers?**

12 A. Yes. The existing basic local exchange rate and the FCC's subscriber line charge collectively
13 cover the cost of providing this service. In fact, existing rates generate a substantial surplus of
14 revenues in excess of TSLRIC, contradicting the notion that residential local exchange service is
15 "subsidized" by other services at current rates.

16
17 **Q. Can you be more specific in explaining the analyses you have performed?**

18 A. Yes. In order to provide the Commission with detailed information concerning the revenue to
19 cost relationships, and the related question of whether and to what extent subsidies exist under
20 the current rate structure, I have prepared a series of different analyses comparing costs with
21 revenues for the three rate zones. I studied each zone using three different approaches to joint
22 costs. As indicated above, the approaches differ primarily in terms of how joint and common
23 costs are treated:

24
25 1. A "pure" TSLRIC approach: This analysis excludes joint costs. To the extent direct
26 revenues exceed direct costs, this analysis measures the surplus that is available as a
27 contribution to joint and common costs.

- 1 2. An "allocation" approach: This analysis includes an allocated share of joint costs (using
2 an allocation factor of 50%).
- 3 3. A "multiple service" approach: This analysis includes 100% of the joint costs, together
4 with the revenues and direct costs of the entire family of switched services, as well as
5 certain other closely related services.

6

7 These comparisons were prepared for both residential and business customers.

8

9 **Q. Would you please summarize the results of your revenue to cost comparisons using a**
10 **"pure" TSLRIC analysis?**

11 A. Yes. Schedule 2 shows my preferred approach, in which the revenues are derived entirely from
12 the components of basic local exchange service. No revenues from ancillary services are
13 considered. Set against these revenues are the direct costs of providing basic local exchange
14 service, including an allowance for common costs as developed in the Company's studies. As
15 shown, the revenues from basic local service consistently exceed the direct cost of providing this
16 service, leaving a substantial margin of contribution towards the remaining joint and common costs
17 which aren't reflected in the study. This is true for both business and residence customers,
18 regardless of the zone. However, the contribution margin is larger for business customers than for
19 residential customers, because the business local exchange rates are much higher. For customers
20 inside the Base Rate Area, the average contribution is ****Proprietary****
21 ****Proprietary**** for residence customers and ****Proprietary**** ******
22 **Proprietary**** for business customers, as shown on Schedule 2.

23 For easy reference, I have summarized the revenue, cost and contribution estimates for the
24 pure TSLRIC approach in Table 2 below. As shown, all categories of local exchange customers
25 pay rates which substantially exceed the corresponding direct costs, and generate a substantial
26 contribution towards loop and port costs, as well as other shared costs. Because the direct costs
27 don't vary as widely as the corresponding rates, the magnitude of these contributions varies

1 A. Yes. It has been my experience that some regulatory commissions are not comfortable relying
2 exclusively upon a "pure" TSLRIC approach, or they want to also have the opportunity to look
3 at studies in which a reasonable share of the loop costs are allocated to basic local exchange
4 service, similar to the manner in which costs are allocated for jurisdictional purposes.

5 I am providing an example of an approach which allocates a reasonable share of joint
6 and common costs to local exchange service, to provide further insight into the significance of
7 these costs. Under an allocation approach, the pivotal question becomes one of the appropriate
8 share of shared costs to be allocated to the service in question. The results I am presenting use
9 a flat percentage allocator of 50% of the loop and port costs to basic service. This approach is
10 consistent with the historic practice of allocating 25% of these costs to the federal jurisdiction; it
11 allocates another 25% to intraLATA toll, intrastate interLATA switched access, custom calling
12 and ancillary services.

13
14 **Q. Would you please provide a further explanation of your use of a 50% allocation**
15 **factor?**

16 A. Yes. Although loop and port costs are required for the provision of local exchange, custom
17 calling, switched access, and toll service, there is no universally accepted method of allocating
18 these costs. Differences in the allocation percentage or method can result in very significant
19 differences in the cost study results. That is one reason why I prefer a "pure" TSLRIC
20 approach, which doesn't allocate shared costs to individual services. To the extent the
21 Commission wants to review a basic local exchange cost study that includes a share of joint
22 costs, I believe the Commission will best be served by relying upon a relatively simple allocation
23 approach that is reasonably stable. A uniform 50% factor meets both criteria.

24 This 50% factor is reasonably similar to the percentage allocation that would be
25 assigned to basic local service under some other, more sophisticated allocation approaches,
26 such as revenue-based methods, usage-based methods, and direct cost-based methods. For
27 example, the Washington Commission in Docket No. U-85-23 assigned loop costs 25% to

1 interstate toll, 16.95% to intrastate toll, and 58.05% to local services (including custom calling
2 and other optional services). [See reference in WUTC Order in Docket No. UT-950200, p.
3 79.]

4 Revenue-based allocations assign shares of joint costs based upon the services'
5 percentages of total revenues. For example, if basic service accounts for 45% of total
6 revenues, it might be allocated 45% of the joint costs. Usage-based allocations assign shares of
7 joint costs by relative minutes of use, perhaps weighted in some way to distinguish toll from
8 local and/or peak from offpeak, etc. Finally, the joint costs of switched services could be
9 allocated in proportion to the direct costs of these services.

10
11 **Q. Why do you prefer a flat 50% allocation, rather than a revenue-based allocation**
12 **method?**

13 A. Revenues are relevant, since they reflect relative strength of demand, and the manner in which
14 the cost of service has historically been recovered. However, in a regulated industry a problem
15 arises, because revenues are essentially a function of pricing and pricing may change,
16 depending upon the outcome of the cost analysis, and the resulting pricing decisions. Where
17 revenue based allocations are used, the cost study will reflect the existing pricing philosophy. To
18 the extent the pricing approach changes, the allocations will also change, and thus a problem of
19 circular reasoning may arise. (Prices may be increased, which increases the revenue-based
20 allocation of costs, which creates the appearance that prices must increase even further) Given
21 this potential problem with circularity, I prefer to use a uniform flat percentage approach--in this
22 case, 50%.

23
24 **Q. You also refer to usage-based allocation methods. What are they?**

25 A. The two most familiar are the use of a Subscriber Line Usage (SLU) factor and the use of a
26 Subscriber Plant Factor (SPF). Both SLU and SPF reflect differences in usage; however, SLU
27 factors simply reflect the relative minutes of use for the various services (for instance, an

1 intrastate toll SLU factor is calculated by dividing the intrastate toll minutes of use, originating
2 and terminating, by total minutes of use for the service area in question). On the other hand, the
3 SPF is more complex. It relies on SLU data, but it introduces weighting into the computations,
4 the effect of which is to put greater emphasis on toll usage than on local usage, in order to
5 reflect certain demand factors, such as distance, and the repression effect from attaching a price
6 tag to toll minutes.

7
8 **Q. Why have you not used a usage-based allocation in apportioning loop costs?**

9 A. To precisely apply the SPF methodology to US West's cost data would require the assemblage
10 of a great deal of data and the introduction of considerable complexity into the analysis, without
11 producing any significant advantage over the flat 50% allocation that I have chosen. In my
12 experience, when a SPF approach has been used for both interstate and intrastate, the resulting
13 allocation to basic local exchange was typically somewhere in the vicinity of 40% to 60%.

14
15 **Q. Would you please explain the calculations that show the cost/revenue relationships
16 when 50% of joint costs are allocated to basic local exchange?**

17 A. In this analysis, shown on Schedule 3, the revenues are derived entirely from the components of
18 basic local service--the same as those reflected in the pure TSLRIC approach. Set against
19 these revenues (column a) are the direct costs of providing this level of service (column b), 50%
20 of the joint costs, including the local loop (column c), and an allowance for common costs equal
21 to 5.4% of the aforementioned direct and joint costs (column d).

22 A customer inside the base rate area will provide US West with \$16.90 in basic local
23 service revenues per month. From this amount, direct costs of ****Proprietary****
24 ****Proprietary**** are subtracted, along with joint costs of ****Proprietary****
25 ****Proprietary**** and common costs of ****Proprietary**** **** Proprietary**** This
26 leaves a surplus of ****Proprietary**** ****Proprietary**** Stated another way, for the
27 typical customer in the base rate area, the direct, joint and common costs, total

1 ****Proprietary**** ****Proprietary**** per month. This total is below the current rate
2 paid by most residential customers in this rate group, which is \$16.90 (including the FCC
3 charge). Thus, instead of being "subsidized" as sometimes alleged, the typical residential basic
4 local exchange customer within the base rate area provides a revenue surplus of about
5 ****Proprietary**** . ****Proprietary**** Although these customers aren't
6 subsidized, they don't provide as substantial a contribution as business customers. Business
7 customers inside the base rate area generate revenues of \$40.44, while their costs are relatively
8 similar: direct costs of ****Proprietary**** **** Proprietary**** joint costs of
9 ****Proprietary**** ****Proprietary**** and common costs of ****Proprietary****
10 ****Proprietary**** This leaves a surplus of **** Proprietary****
11 ****Proprietary****

12
13 **Q. You have now discussed both the "pure" TSLRIC approach and the cost allocation**
14 **approach. Could you now explain your third approach, in which you consider 100% of**
15 **the loop and port costs?**

16 A. Yes. Since shared costs are such a substantial fraction of a local exchange carrier's overall
17 costs, it is useful to analyze these costs from a variety of different perspectives. One approach is
18 to look at an incremental group of customers, and ask the question: What incremental revenues
19 will the firm generate if it serves this group of customers? These incremental revenues would
20 then be matched with the incremental costs that are required to serve that group of customers.

21 For any one customer, the incremental revenue level may vary widely. If the customer
22 never places or receives a long distance call, and never uses any of the optional services that
23 are offered by the firm, the incremental revenues may amount to little more than the revenues
24 from basic local exchange service and the FCC's subscriber line charge. Even in this extreme
25 case, however, some other incremental revenues will arise.

26 For example, consider directory publishing revenues. The incumbent local exchange
27 carriers earn very substantial revenues (and profits) from yellow page advertising. These rates

1 vary directly with the number of subscribers included in (and receiving) the directory. As
2 additional customers are added to the network, directory publishing revenues and profits will
3 expand. These incremental revenues can appropriately be considered in evaluating the extent to
4 which US West can profitably serve customers at current rates.

5 The situation is analogous to that of many publications. A magazine evaluating its
6 subscription efforts should consider not just the direct revenues generated by new subscriptions,
7 but also all the incremental revenues associated with those subscriptions. New revenues will
8 come from the additional ads sold as the circulation base expands, from the higher advertising
9 rates chargeable as the number of subscribers increases, and from the sale to new subscribers
10 of books, videos, or other ancillary products. In the same way, a local exchange carrier can
11 anticipate ancillary revenue from the sale of directory advertising and boldfaced white page
12 listings, which tend to increase as the number of customers on the network increases and the
13 directory becomes longer, even if the customers in question don't choose to purchase any
14 optional services.

15 Similarly, the volume of switched access minutes sold to interexchange carriers will
16 increase with the number of subscribers, since incremental customers place more outgoing toll
17 calls, and they also receive long distance calls which generates terminating access revenues for
18 the Company.

19 Moreover, many customers, having decided to purchase basic telephone service, will
20 also opt to purchase discretionary services. Call waiting service is perhaps the most popular
21 example, but there are numerous optional services that generate revenues for US West as a
22 result of the fact that it provides basic local exchange service. Increases or decreases in the
23 number of basic service customers bring a corresponding increase or decrease in these ancillary
24 revenues. Hence, an evaluation of how profitable it is for US West to serve residence
25 customers at current rates should appropriately give consideration to these ancillary revenue
26 sources.

27 I have not attempted to analyze all of these ancillary revenue streams in complete detail,

1 nor have I analyzed them on a zone-specific basis. The expected revenue stream may vary
2 somewhat, depending upon the demographic and other characteristics of each geographic area,
3 and the group of customers being studied. While I recognize this diversity exists, the data
4 needed to analyze these patterns in detail were not readily available, nor would I expect the
5 results to differ greatly from the simplified approach I have followed. I estimated a conservative
6 level of revenues (and corresponding contribution to joint and common costs) that can
7 reasonably be anticipated when typical customers are added to the network.

8
9 **Q. Not all customers generate the same level of ancillary revenues. Have you developed**
10 **an analysis using this third approach which allows the Commission to see the impact of**
11 **variations in the level of ancillary revenues?**

12 A. Yes. I developed multiple examples of this approach, thereby considering variations in the
13 revenues and costs US West encounters in serving different types of consumers. For instance,
14 US West does not gain the same amount of revenues nor incur the same level of costs in
15 serving a customer who uses very little toll and does not subscribe to any custom calling
16 features as it experiences when serving a customer who uses a considerable amount of toll and
17 many custom calling features. The matrix-based approach that I have used adds considerable
18 detail to the contribution calculations, providing a more comprehensive view of the overall
19 situation.

20 When a long distance call is completed by AT&T, MCI WorldCom or another carrier,
21 US West profits from "switched access charges" which it receives as compensation for
22 originating and/or terminating the call. Switched access and long distance toll revenues are
23 important aspects of the profit picture for any provider of local telephone service, but they vary
24 depending upon usage levels. Accordingly, I consider the revenues that US West gains from
25 three types of toll customer—one who uses very little toll, one who uses a moderate amount, and
26 one who place toll calls quite frequently.

27 Many customers also enhance their local telephone service with one or more optional

1 features, including call waiting, call forwarding and Caller ID. The popularity of these types of
2 features has been growing in recent years, creating an ever increasing stream of revenues for
3 local exchange carriers. Today, the typical residential customer pays for at least one such
4 feature and many pay for two or more. Since the revenues generated by custom calling and
5 other premium features vary widely, we will consider five examples. Our first example is a
6 household that purchases none of the available enhancements. Our second and third examples
7 are customers that pay for either Call Waiting or Caller ID, respectively. Our fourth example is
8 a customer that purchases both of these popular features. Our fifth example is a customer that
9 opts for both of these, as well as another feature, such as call forwarding, speed dialing or
10 three-way calling. The effect of these feature revenues in combination with the other revenue
11 sources is illustrated for a customer inside the base rate area in Table 3.

12
13 **Table 3**
14 **Residential Revenues Including Features**

15

16 Feature Revenues	17 Revenues from Low Toll User	18 Revenues from Mid Toll User	19 Revenues from High Toll User
20 Example 1: \$ 0.00	\$ 21.80	\$ 24.71	\$ 30.51
21 Example 2: \$ 5.00	\$ 26.80	\$ 29.71	\$ 35.51
22 Example 3: \$ 5.95	\$ 27.75	\$ 30.66	\$ 36.46
23 Example 4: \$10.95	\$ 32.75	\$ 35.66	\$ 41.46
24 Example 5: \$13.90	\$ 35.60	\$ 38.61	\$ 44.41

25 Clearly, the rate for basic local service alone does not begin to describe how much consumers
26 actually contribute to US West's revenues each month, nor does it provide any indication of the
revenue levels which a competitive carrier can potentially capture. It is necessary to consider

1 all of these revenue sources in order to meaningfully evaluate the extent to which residential
2 customers are currently profitable to serve, or the prospects for competition in Arizona
3 residential markets. US West doesn't rely exclusively on its basic monthly rate to recover its
4 costs, nor would any of its competitors, which is one reason why the third approach is helpful in
5 evaluating the issues in this proceeding.

6
7 **Q. Would you please describe how costs and revenues are analyzed in this third**
8 **approach?**

9 A. Yes. The key difference between this approach and the others is that it looks at the entire set of
10 revenues which a carrier generates when serving a residential customer. For clarity, I have
11 included the ancillary revenue sources in a separate column labeled "Other Direct Revenues."
12 An estimate of the direct costs of providing these ancillary services, is included in the column
13 labeled "Other Direct Costs." These costs vary according to the amount of toll and access
14 service that customers use each month as well as the number of custom calling and other
15 optional services they subscribe to. As shown on page 1 of Schedule 4, in serving residential
16 customers that use a small amount of toll and only subscribe to one custom calling feature (Call
17 Waiting), I have estimated US West would incur "other direct" costs of approximately \$1.75.
18 As shown on page 3 of Schedule 4, the analogous costs incurred in providing service to
19 residential customer who uses a large amount of toll and subscribes to two ancillary services
20 (Call Waiting and Caller ID) is \$6.02 per month.

21 By including these ancillary revenues and costs, along with the costs and revenues
22 associated with basic local service, this third approach provides a fairly comprehensive picture
23 of the various revenues and costs that a carrier can anticipate as it expands its network to
24 include various groups of customers.

25 The column labeled "Contribution or Subsidy" shows the extent to which these
26 residential customers can be expected to generate incremental revenues sufficient to cover their
27 incremental costs, including all of the joint costs of the loops that connect them to the network,

1 and an allowance of 5.4% towards common costs. To the extent a positive figure is shown in
2 the final column, the customer is generating an additional contribution towards the firm's other
3 common costs. I have followed the same approach in developing revenue/cost comparisons for
4 residential customers in zone 1 and zone 2 on each page of Schedule 4.

5 While the gap between revenues and costs varies depending upon toll usage and other
6 factors, US West generates revenues well in excess of its costs when serving many residential
7 customers—contrary to the impression given by the Company in its testimony. Consider a
8 residence inside the base rate area that uses moderate amounts of long distance and purchases
9 just one enhanced feature—Caller ID. As shown on page 2 of Schedule 4, at US West's current
10 rates, this customer generates an average of \$36.46 in revenues per month. In comparison, the
11 economic cost of serving this residence is just \$30.18 per month. This includes direct and
12 shared costs of local exchange and all of the ancillary services. Since the current rates generate
13 revenues well in excess of cost, there is no indication that the typical residential customer is
14 unprofitable to serve, nor is there any indication that the typical residential customer is
15 “subsidized” by any other category of customers.

16 To the contrary, the evidence suggests that most residence customers yield revenues in
17 excess of the costs of serving them (including the joint loop costs) as shown below in Table 4.
18 Of course, there are some exceptions amongst those customer that have relatively low toll
19 usage and/or don't use any of the optional services that are offered to them. However, in
20 today's telecommunications market, the number of customers who do not subscribe to any
21 optional features is declining, and thus the size of this group of relatively unprofitable customers
22 is probably diminishing over time. Increasingly, customers perceive features like call waiting and
23 Caller ID to be near-necessities. While there are still exceptions, the average or “typical”
24 Arizona customer subscribes to one or more ancillary services. For these residential
25 customers, US West recovers all of its costs, and generates a substantial profit.
26

Table 4

Matrix of Revenue/Cost Comparisons for Residential Mid-Toll Users

Feature Revenues	Total Revenue	Total Costs	Contribution (Subsidy)
Example 1: \$ 0.00	\$ 24.70	\$ 27.12	\$ (2.41)
Example 2: \$ 5.00	29.70	27.33	2.38
Example 3: \$ 5.95	30.65	27.33	3.33
Example 4: \$10.95	32.65	27.54	8.12
Example 5: \$13.90	38.60	27.75	10.86

Q. What are your conclusions regarding the relationship between US West's costs of providing basic local exchange services and the associated revenues?

A. I conclude that US West's revenues associated with basic local service are sufficient not only to defray all direct costs of providing such service but also to provide a substantial contribution to joint and common costs.

Under the "pure" TSLRIC approach, as shown on Schedule 2, revenues from residential basic local exchange service exceed direct costs by **** Proprietary Proprietary****

Under the second approach, allocating 50% of the loop and port costs to the local service category (Schedule 3), a similar conclusion is reached for the typical residential customer within the base rate area. Current rates cover the direct costs, plus an allocated share of joint and common costs, and provide an additional contribution as well. However, the revenues provided by customers in zones 1 and 2 are not sufficient to cover the corresponding allocation of shared costs. I will discuss this shortfall in detail later in my testimony, in the context of my analysis of the Company's zone rate proposals.

Under the third approach, 100% of the joint costs are included in the analysis, along with ancillary revenues and costs (Schedule 4). This analysis shows that the typical residential customer inside the base rate area generates revenues in excess of costs, but a shortfall occurs in zones 1 and

1 2. Again, I will discuss this shortfall later in my testimony.

2 In summary, this analysis indicates that for the vast majority of residence customers (those
3 within the base rate area), the existing rates are more than sufficient to cover the corresponding
4 costs of providing them with service, regardless of which approach is taken. While the current
5 residential local exchange rates aren't as high as the business rates, they are high enough to recover
6 the relevant direct costs, and to provide a substantial contribution towards joint and common costs.
7 Overall, any claim that residential customers are subsidized by other customers is not supported
8 by the data. The comparisons presented in my schedules make clear that far from receiving any
9 "subsidy," the current rates paid by most residential customers are well above cost.