switching revenue requirement.[149] SWBT claims NTS local switch costs could be recovered through a flat charge of $0.35 a month per line.[150] Sprint, in contrast, estimates that one-third of local switching costs are NTS, and that recovering those costs directly from end users would add $0.80 per month to end user bills.[151] Cable & Wireless reports that, based on data submitted by NYNEX, at least 49 percent of the local switching costs are NTS for modern switches.[152]

37. Cable & Wireless and other commenters state that many components of the local switch, such as the central processing portion of the switch, switch fabric, and the trunk-side ports that are not associated with dedicated transport, are shared. These commenters assert that these shared facilities should be priced on a usage-sensitive basis.[153] BellSouth, however, states that in addition to the costs of line cards and the main distribution frame, many other switching costs, *e.g.*, the cost of the switching matrix, depend substantially on the number of lines rather than usage.[154] The Texas Commission disagrees, noting that while growth in the number of dedicated lines or trunks attached to the switch does cause the central processing unit to grow in size, it is usage of these lines or trunks that cause costs.[155] The Rural Tel. Coalition states that, because small carriers lack economies of scale and scope, rural switching costs are higher per minute or per line than urban switching costs.[156]

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[149] ALLTEL Comments at 12.

[150] SWBT Comments at 8.

[151] Sprint Comments at 18. In developing this estimate, Sprint used a TELRIC cost study of its New Jersey operations and assumed that the resulting data were representative of price cap LECs as a whole. Sprint estimates that, if end users were charged directly $0.80 monthly for local switching, this change would save IXCs $1.365 billion annually.

[152] Cable & Wireless Comments at 12-13.

[153] Cable & Wireless Comments at 12-13; Citizens Utilities Comments at 30; GSA/DOD Comments at 4.

[154] BellSouth Comments, Attachment 2 at 14 (Haring and Rohlfs, "Economic Perspectives on Access Charge Reform").

[155] Texas Commission Comments at 11-12; *see also* USTA Comments, Attachment 2 at 31 (notes that the determination of which switch to install is clearly a traffic-sensitive decision).

[156] Rural Tel. Coalition Comments at 10.

2. Traffic Sensitive Charges

38. Many IXCs, consumer groups, ESPs, and LECs oppose the establishment of a mandatory call setup charge.[157] Collectively, they raise two primary concerns: (1) the costs of call setup are *de minimis* or difficult to separate from other TS costs;[158] (2) the costs of measuring, tracking and billing for call setup would outweigh the costs of the call setup itself.[159]

39. AT&T argues that a such a mandatory charge would be inconsistent with the rate structure the Commission mandated for the local switching unbundled network element (UNE) because no call setup charge has been established as part of the unbundled local switching rate structure at either the state or federal level.[160] In addition, AT&T argues that a separate rate element is unnecessary because many of the costs of call setup are now allocated to signalling, and the signalling rate structure proposed in the NPRM includes signalling message charges for all calls.[161]

40. Cable & Wireless asserts that per-call setup costs are too small relative to the other TS costs of local switching to justify a new and separate rate element; therefore, any economic inefficiency resulting from collection on a per-minute basis is *de minimis* and would be offset by increased complexity in the rate structure.[162] LCI states that the current per-minute recovery mechanism has not been controversial in the past, and that imposing a call setup charge on call attempts would result in charges being assessed on a caller who has not received any service.[163] LCI states that, in addition to the LEC's setup costs, the IXC also

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[157] *E.g.*, Cable & Wireless Comments at 13-15; Sprint Comments at 19; Bankers Clearing House Comments at 3-4; CompuServe/Prodigy Comments at 25-29, Reply at 11-12; USTA Comments, Attachment 1 at 8, Comments at 57, Reply at 35.

[158] *E.g.*, Cable & Wireless Comments at 13-15; Teleport Comments at 22.

[159] *E.g.*, Cable & Wireless Comments 14; Sprint Comments at 19; Teleport Comments at 22; Bankers Clearing House Comments at 3-4.

[160] AT&T Comments at 56, Reply at 30.

[161] AT&T Reply at 29. Although Ameritech favors the creation of a call setup charge, it asserts that over 95% of its calls are set up using SS7 technology.

[162] Cable & Wireless Comments at 13. *See also* Bankers Clearing House Reply at 3 (Call setup costs associated with call attempts are trivial, because out-of-band signalling permits the likelihood of call completion to be evaluated before a transmission path is established).

[163] LCI Comments at 25-26.

incurs transport costs associated with call attempts that are not recovered explicitly from the calling party.[164]

41. MCI opposes a separate call setup charge, asserting that it is unclear at best which part of the TS portion of local switching costs are sensitive to call attempts and which part is sensitive to minutes of use. In addition to signalling, MCI hypothesizes that some part of the cost of the central processor may be sensitive to call attempts. Any attempt to separate TS costs into per-message and per-minute categories could involve arbitrary assumptions and, therefore, MCI argues that TS costs of local switching should be left as per-minute charges.[165] MCI states, however, that any call setup charge the Commission does adopt should be assessed only on completed calls because, otherwise, the incumbent LEC will be able to charge for calls blocked by its own switch and will have reduced incentives to ensure quality service on its network.[166]

42. Several large corporate consumers of telecommunications services oppose the imposition of a call setup charge because they assert that the charge would cause churn and would be disruptive to consumers, especially banks with automatic teller machines and businesses that accept credit cards.[167] In addition, Bankers Clearing House argues that neither IXCs nor other third parties have the capability to track or audit call attempts, so assessment of setup charges based on call attempts raises the potential for unauditable billing errors.[168]

43. Several state commissions, incumbent LECs, and others favor the creation of a separate call setup charge. The costs of call setup, these parties argue, do not vary with the length of a call, so a per call charge, rather than the current per-minute recovery of these costs, would be more consistent with cost-causation principles.[169] In addition, under the current, per-minute recovery mechanism, long hold-time calls subsidize short calls and

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[164] *Id.*

[165] MCI Comments at 82.

[166] MCI Comments at 83; *see also* Bankers Clearing House Reply at 4.

[167] CompuServe/Prodigy Comments at 25-29, Reply at 11-12; Bankers Clearing House Comments at 7-8; Ad Hoc Comments at 19-20, Reply at 3-4.

[168] Bankers Clearing House Comments at 3-4.

[169] *E.g.*, Excel Comments at 12; TRA Comments at 37; Ameritech Comments at 15; PacTel Comments at 69; Citizens Utilities Comments at 30; Frederick & Warinner Comments at 6-7; Minnesota Independent Coalition Comments at 15; Alabama Commission Comments at 8; California Commission at 2-3; Texas Commission at 14; TCI Comments at 12.

uncompleted calls.[170] Two years ago, the California Commission established mandatory call setup charges intrastate switched access, imposing charges on originating attempts that are handed off to the IXC's POP, and on terminating completions.[171] The California Commission states that this structure is appropriate because, at the point the call is handed off to the IXC's POP, the LEC switch has performed its function and the LEC has incurred the setup cost.[172] In addition, the California Commission reports that, under this structure, it has not encountered problems with LEC duplicity in generating deliberate incompletions.[173]

44. Several parties advocate recovery of call setup costs through a separate signalling rate element. Frederick & Warinner argues that, by performing call setup prior to dedicating a trunk to the call, LECs require fewer transport trunks; this efficiency should be passed along to IXCs in the form of lower access charges. Frederick & Warinner, therefore, suggests that we refer this issue to the Joint Board on Separations so that call setup expenses currently assigned to Central Office Equipment (COE) Category 3 and Interexchange Circuit Equipment Category 4.23 can be reassigned to a separate COE category designed to identify and recover all SS7 call setup charges.[174]

45. A number of the parties that favor the principle of a separate call setup charge assert that the Commission should permit, but not require, such a charge.[175] They argue that flexibility will allow incumbent LECs to establish rate structures that are responsive to market conditions.[176] Competition Policy Institute argues that separate call setup charges may be appropriate in light of the increasingly "bursty" use of the network.[177] The Georgia Commission argues that the multiplicity of opinions on this issue points to a need for

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[170] PacTel Comments at 68, Reply at 23.

[171] California Commission Comments at 6, Reply at 2-3; PacTel Comments at 68.

[172] California Commission Reply at 2.

[173] California Commission Reply at 2-3.

[174] Frederick & Warinner Comments at 6 (these equipment categories are defined at 47 C.F.R. §§ 36.125, 36.126(b)(2)(iii)). *See also* TCI Comments 12-13, Reply at 9.

[175] *E.g.*, USTA Comments, Attachment 1 at 8, Comments at 57, Reply at 35; BA/NYNEX Comments at 39; BellSouth Comments at 71; PacTel Reply at 23 (PacTel does "not insist" that a call setup charge be mandatory); U S West Comments at 58; Competition Policy Institute Comments at 19; Georgia Commission Reply at 21-22; Illinois Commission Comments at 11-12.

[176] *E.g.*, BA/NYNEX Comments at 39; USTA Comments at 57.

[177] Competition Policy Institute Comments at 19.

flexibility,[178] while the Illinois Commission suggests that flexibility will allow incumbent LECs to evaluate whether, and to what extent, such revision to the rate structure would be more efficient than the structure currently in place.[179] U S West supports the establishment of a call setup charge as a permissive rate structure, but cautions that the charge would require billing system changes, would affect different IXCs differently, and may be too small to merit a separate rate element.[180]

46. There is general agreement that LECs incur call setup costs for both completed calls and call attempts. Among commenters favoring a permissive or mandatory call setup charge, however, opinion is split as to whether the charge should be imposed on call attempts. Those parties favoring charges only for completed calls generally argue that this structure would (1) avoid the administrative burden and customer confusion associated with developing a tracking, metering and billing system for call attempts;[181] and (2) deny incumbent LECs the incentive to increase revenues by blocking calls at their own switch.[182] Those parties favoring charges for all call attempts generally argue that this structure would most closely reflect cost-causation principles.[183]

a. Peak and Off-Peak Pricing

47. Many commenters, including most IXCs, oppose the creation of either a permissive or a mandatory peak-rate structure, because the complexity of creating and implementing such a structure outweighs any benefits to be gained.[184] These commenters generally argue that: (1) it is impossible to determine peak and off-peak hours with any degree of certainty because peak hours vary with region of the country, type of service, type of user, rate zone, technological advances, and other factors;[185] (2) peak pricing structures would not send efficient market signals, would disadvantage competitors, and would have a *de*

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[178] Georgia Commission at 21-22.

[179] Illinois Commission at 11-12.

[180] U S West Reply at 29.

[181] *E.g.*, Alabama Commission Comments at 8; Texas Commission Comments at 14.

[182] *E.g.*, MCI Comments at 83.

[183] *E.g.*, Ameritech Comments at 15; CompuServe/Prodigy Comments at 29; Citizens Utilities Comments at 30.

[184] *See, e.g.*, AT&T Comments at 56-57.

[185] *See, e.g.*, CompTel Comments at 31; Cable & Wireless Comments at 14; LCI Comments at 27; MCI Comments at 83; ALTS Comments at 24; ACC Long Distance Comments at 14; Sprint Comments at 19-20.

minimis impact on usage patterns and incumbent LEC network design because less than 15% of RBOC traffic is interstate access;[186] (3) no state commissions have established a peak pricing rate structure;[187] (4) peak hours may continue to shift over time as competitors enter the market and as the use of telecommuting, the Internet, and other data services increase;[188] and (5) necessary changes to carrier metering and billing systems may outweigh any benefits to be gained.[189]

48. Other commenters, including most incumbent LECs, support a rate structure under which LECs would be permitted, but not required, to price local switching on a peak rate basis. These commenters acknowledge the difficulties cited above, among others, but generally agree that, in principle, economic welfare benefits could be obtained from a peak rate structure by diverting traffic, and associated TS costs, from peak to non-peak hours.[190] Accordingly, these commenters advocate a permissive approach under which incumbent LECs would have the ability to develop peak and off-peak pricing structures on an optional basis in response to local conditions and subject to the limitations of their billing systems.[191] At least one commenter argues that such an approach would be consistent with our recent interconnection decisions.[192]

49. Only Excel supports establishment of a mandatory peak rate structure, arguing that such a structure would more accurately apportion costs among users and would more accurately reflect the incremental costs of additional network capacity during peak hours.[193]

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[186] AT&T Reply at 30; CompTel Comments at 31; ACC Long Distance Comments at 14.

[187] CompTel Comments at 31.

[188] Cable & Wireless Comments at 14; LCI Comments at 27.

[189] Bankers Clearing House Reply at 5-6; Citizens Utilities Comments at 30. *But see* Excel Comments at 12 (necessary changes to CABS are justified by the public policy benefits of a rate structure change).

[190] *E.g.*, GTE Reply, Appendix D at 15; USTA Comments, Attachment 1 at 8; TCI Comments at 13.

[191] USTA Comments at 57-58, Reply at 35; Ameritech Comments at 16-17; BA/NYNEX Comments at 40; BellSouth Comments at 71; U S West Comments at 58-59, Reply at 29-30; Citizens Utilities Comments at 30; Frederick & Warinner Comments at 7; Minnesota Independent Coalition Comments at 16; TDS Comments at 24; Competition Policy Institute Comments at 20; Georgia Commission Reply at 21-22; Illinois Commission Comments at 11-12; TCI Comments at 13, Reply at 10; Time Warner Comments at 11-12.

[192] Frederick & Warinner Comments at 7 (*citing Local Competition Order*, ¶¶ 756-757).

[193] Excel Comments at 12.

C. Transport

1. Entrance Facilities and Direct-Trunked Transport

50. The majority of commenters supported our tentative conclusion that flat-rate charges are appropriate for entrance facilities and direct-trunked transport service.[194] Those commenters addressing this subject agree that the costs of dedicated direct-trunked transport and entrance facilities are incurred on a flat-rate basis. Both PacTel and the California Commission note that, in California's Open Access Network Architecture and Development Proceeding, the parties reached consensus that costs of entrance facilities and direct-trunked transport should be recovered through flat-rate charges.[195] Several commenters assert that the costs of direct-trunked transport and entrance facilities vary with distance traversed and that rates for these facilities should be distance sensitive.[196] TCI supports distance sensitive flat-rate charges for direct-trunked transport, although it argues in favor of flat rate charges for entrance facilities, apparently without a distance-sensitive component.[197]

51. Some parties advocate certain adjustments in the rate structure for direct-trunked transport and entrance facilities. U S West and Sprint both suggest that, as carriers expand their use of fiber-optic ring architecture, the current distance-sensitive charges for direct-trunked transport should be replaced with "per-ring" rates because ring architecture makes transport costs less distance sensitive in densely populated areas.[198] U S West argues, therefore, that incumbent LECs should have the flexibility to restructure their rates to reflect

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[194] *See. e.g.*, AT&T Comments at 59; Excel Comments at 13; MCI Comments at 84; Ameritech Comments at 18; BA/NYNEX Comments at 41; BellSouth Comments at 71; PacTel Comments at 69; U S West Reply at 30; Citizens Utilities Comments at 30; NECA Comments at 3-4; Alabama Commission Comments at 9; California Commission Comments at 6; Illinois Commission Comments at 12; Sprint Comments at 21; TCI Comments at 14, Reply at 11.

[195] PacTel Comments at 69; California Commission Comments at 6. *See Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework of Network Architecture Development of Dominant Carrier Networks; and Investigation on the Commission's Own Motion into Open Access and Network Architecture Development of Dominant Carrier Networks*, CPUC Docket No. R.93-04-003/I.93-04-002, Consensus Costing Principles/Basic Network Functions; OANAD Cost Methodology Workshops, Filed Aug. 23, 1995 by California Telecommunications Coalition. Texas, also, has adopted flat-rates for these facilities. Texas Commission Comments at 15.

[196] *See, e.g.*, AT&T Comments at 60; MCI Comments at 84; Ameritech Reply at 29; U S West Reply at 30; Texas Commission Comments at 15.

[197] TCI Comments at 14, Reply at 11.

[198] Sprint Comments at 21; U S West Reply at 30.

this change.[199] Ameritech agrees that the current rates for entrance facilities and direct-trunked transport are properly structured, but argues that carriers should have the flexibility to offer switched access customers new technologies, such as SONET, without obtaining a Part 69 waiver or passing a public interest test.[200] SWBT asserts that tariff and rate structure distinctions between special access, direct-trunked transport, and entrance facilities should be eliminated because these distinctions cannot survive in a competitive environment and cause complex billing arrangements for shared use facilities.[201] USTA proposes more sweeping change, arguing that the Commission forbear from regulating collocated direct-trunked transport because this service meets the requirements of Section 10 of the Communications Act.[202]

52. There is considerable division among commenters as to whether incumbent LECs should be permitted to offer transport services differentiated by whether the LEC or the IXC is responsible for channel facility assignments (CFAs). MCI opposes such a differentiation for two reasons. Initially, MCI notes that, while the incumbent LECs claim they can achieve network savings by retaining control of CFAs, IXC provision of CFAs should save the LEC the costs of performing this function. Therefore, it is unclear whether costs should be greater or lower when the IXC performs the CFA. Secondly, MCI argues that, once the LEC enters the interexchange market, it could impute to itself a lower transport charge by providing the CFA to its interexchange subsidiary.[203] SWBT offers two additional reasons why CFA control should not be the basis for rate differentiation: (1) CFA control responsibilities may vary among LECs; and (2) rate differentiation based on CFA control may become untenable with respect to newer technologies, such as SONET architecture and ATM, which rely less heavily on particular dedicated channels. Currently, SWBT states that CFA control may indicate whether a facility is dedicated or shared.[204] ACTA also opposes pricing differentiation, arguing that the purchase of an incumbent LEC circuit is a simple business transaction and the purchasing IXC should be able to select where the purchased circuit resides.[205]

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[199] U S West Reply at 30.

[200] Ameritech Comments at 17-18.

[201] SWBT Comments at 14-15. *See also* Ameritech Comments at 18 (arguing that pricing flexibility applicable to special access should be extended to functionally equivalent switched transport services).

[202] USTA Comments at 35-48.

[203] MCI Comments at 84-85.

[204] SWBT Comments at 62.

[205] ACTA Comments at 10.

53. TCI and the Washington Commission support giving the incumbent LECs the flexibility to differentiate direct-trunked transport rates based on whether the customer or the LEC performs CFA functions, as long as the LEC supports the differential with forward-looking cost data and, in the case of the Washington Commission, as long as it does not needlessly complicate the access tariff.[206]

2. Tandem-Switched Transport

a. Rate Structure

54. Except for AT&T, IXC commenters addressing the issue generally support the unitary rate structure and argue that the Commission should retain this pricing option.[207] These commenters argue that the unitary rate structure should remain available because: (1) access transport, as a service, has traditionally been offered on an end-to-end basis;[208] (2) the unitary rate structure promotes full and fair interexchange competition by allowing IXCs time to prepare their networks for fully cost-based pricing;[209] (3) the partitioned rate structure, if required, (a) could provide incentives for incumbent LECs to engage in inefficient network reconfiguration, because access customers have no control over incumbent LEC decisions on the location of tandems, but would be required to pay for access based on these decisions;[210] and (b) would necessitate new rules regulating incumbent LEC tandem deployment decisions;[211] (4) AT&T, by virtue of divestiture, inherited POPs in close proximity to a significant number of tandem switches and would therefore enjoy a significant legacy advantage over competitors;[212] (5) "common" and "dedicated" circuits often travel on the same facilities and along the same transmission routes, making disparate rate structures inappropriate;[213] (6) elimination of the unitary structure would raise the price of tandem-switched transport in relation to direct-trunked transport and would therefore discriminate

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[206] TCI Comments at 14, Reply at 11-12; Washington Commission Comments at 6..

[207] *E.g.*, Cable & Wireless Comments at 15-17; CompTel Comments at 24-26, Reply at 11-13; MCI Comments at 85-86; TRA Comments at 37.

[208] Cable & Wireless Comments at 16.

[209] Cable & Wireless Comments at 15-16.

[210] Cable & Wireless Comments at 16; *see also* Texas Commission Comments at 17.

[211] Cable & Wireless Comments at 16-17.

[212] Cable & Wireless Comments at 17.

[213] CompTel Comments at 25, Reply at 11.

against smaller IXCs;[214] and (7) the unitary rate structure is the only structure consistent with the TSLRIC methodology of estimating costs.[215]

55. TRA additionally argues that the current rate structure, which allows IXCs to choose between the three-part and the unitary rate structure, is most consistent with the principles that costs should be recovered in the way that they are incurred, and from the cost causer.[216] Telco Communications Group requests that we explicitly allocate some common transport costs to dedicated transport rates because common transport facilities are sized to handle peak overflow loads from large carriers that use direct-trunked transport for most traffic.[217]

56. Sprint states that the Commission should retain the unitary rate structure because the three-part rate structure would give incumbent LECs the incentive to route traffic inefficiently by placing tandems far from IXC POPs.[218] Sprint argues that the term "direct trunking" is a misnomer because modern "hub and spoke" or "ring" network architecture often causes direct trunked circuits to travel along the same transmission routes and facilities as tandem switched transport circuits.[219] It would therefore be unfair to require users of tandem-switched transport to pay for the route through the tandem, while allowing direct-trunked transport users to pay based on airline miles between the EO and SWC.[220] According to Sprint, the three-part rate structure would skew interexchange competition in favor of AT&T, which has sufficient traffic to justify direct trunking to individual EOs, and in favor of the BOCs, which could take advantage of their own direct trunking to many of their end offices.[221] Sprint suggests that the Commission address the problem of underutilized circuits on the tandem-to-SWC route by allowing incumbent LECs to size trunk bundles between the two points to achieve a reasonable utilization factor.[222]

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[214] CompTel Comments at 26, Reply at 13.

[215] CompTel Reply at 12-13; TRA Comments at 37.

[216] TRA Comments at 37.

[217] Telco Communications Group Comments at 6-7.

[218] Sprint Comments at 22-23, Reply at 15-16.

[219] Sprint Comments at 23, Reply at 14-15.

[220] *Id.*

[221] Sprint Comments at 22-23, Reply at 16.

[222] Sprint Reply at 15.

57. WorldCom states that the Commission should not revisit any of the transport rate structure issues, other than those remanded by the Court.[223] WorldCom offers the following principles, however, if we do decide to reexamine these issues: First, the rate structure should treat dedicated and common transport consistently because both services use the same network facilities. Traffic on dedicated circuits and common circuits travels physically on the same large multiplexed transmission pipe. Routing, most frequently, is identical. Therefore, WorldCom states that it would be unreasonably discriminatory for the Commission to make detailed changes to the rate structure or pricing of tandem-switched transport without making parallel changes to the pricing of dedicated transport.[224] Second, rate structure decisions should be based on the current forward-looking view of the interoffice network. Large capacity fiber optic facilities, including SONET rings, have made transmission costs less distance sensitive. Therefore, WorldCom states that the triangular, "pyramid" diagram the Commission included in the notice is outdated. Because routing is within the sole control of the incumbent LEC and may vary based on momentary traffic loads, the transport customer should pay for transport based on airline miles between the two end points. Pricing of a service on an other than end-to-end basis could penalize users of that service for decisions outside of their control.[225] Third, the Commission should use forward-looking cost methodologies in setting rates. Tandem switching rates based on fully allocated, embedded costs are in conflict with the *Local Competition Order* and with the price cap structure. Therefore, the Commission should reinitialize rates based either on a forward-looking cost study or on the proxy prices adopted in the *Local Competition Order*.[226] In light of these three principles, WorldCom states that it favors retaining the unitary rate structure, and disagrees with arguments that tandem-switched transport is currently underpriced.[227]

58. Most incumbent LECs, AT&T, and some state commissions advocate elimination of the unitary rate structure for tandem-switched transport.[228] These commenters generally argue that: (1) flat rates for the dedicated SWC-to-tandem link accurately reflect the manner

[223] WorldCom Reply at 26.

[224] WorldCom Reply at 27-28.

[225] WorldCom Reply at 29-32.

[226] WorldCom Reply at 33-34.

[227] WorldCom Reply at 26.

[228] AT&T Comments at 59-60, Reply at 32-33; USTA Comments at 60; Ameritech Comments at 19-20, Reply at 29; BA/NYNEX Comments at 41, Reply at 36-38; BellSouth Comments at 73; PacTel Comments at 70; SWBT Comments at 13-14; U S West Comments at 59-60; Citizens Utilities Comments at 31; GTE Reply at 24; SNET Reply at 29-31; NECA Comments at 3, Reply at 2-3, Puerto Rico Tel. Comments at 15-16; Florida Commission Comments at 3.

in which the LEC incurs costs for this facility;[229] (2) per-minute rates for the shared tandem-to-EO link correspond to the manner in which the LEC incurs the costs of that facility;[230] (3) mileage charges based on the length of each specific link ordered by a transport customer will encourage carriers to order facilities that minimize routing distances;[231] (5) the three-part rate structure will increase IXC incentives to order efficiently sized transport facilities, thereby increasing network efficiency, conserving trunk and switch capacity, and reducing the current level of underutilized facilities;[232] (6) the unitary rate structure is not competitively neutral, but was designed to avoid significant changes in the costs of transport for small LECs vis-a-vis large ones;[233] (7) the unitary rate structure prices tandem-switched transport below cost, thereby (a) creating a subsidy paid by large IXCs that use direct-trunked transport to small IXCs that use tandem-switched transport;[234] and (b) disadvantaging competitive access providers (CAPs) because they cannot compete with the incumbent LEC's artificially low tandem-switched transport rates;[235] and (8) the unitary rate structure hurts incumbent LECs because the unrecovered costs of the excess mileage are contained in the TIC, making the incumbent LEC's usage-based switched access charges less competitive.[236] AT&T additionally argues that rate shock will not be a problem if prices are set to TELRIC.[237]

59. In addition, SNET argues that AT&T's purported competitive advantage based on the locations of its inherited POPs has been mitigated substantially by the widespread availability of collocation and the presence of many alternative transport providers.[238] Ameritech and U S West state that, even if the Commission mandates the three-part rate structure, it would be too costly to relocate tandems inefficiently to increase transport revenue. Instead, tandems are located to maximize overall network efficiency, generally by placing

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[229] AT&T Comments at 59-60; Ameritech Reply at 29; BellSouth Comments at 73; SWBT Comments at 14, 64; U S West Comments at 59-60; Florida Commission Comments at 3.

[230] AT&T Comments at 59-60; U S West Comments at 59-60.

[231] AT&T Reply at 33.

[232] BA/NYNEX Comments at 41; Ameritech Reply at 31; SWBT Reply at 15.

[233] BA/NYNEX Reply at 36-37.

[234] U S West Reply at 30-31.

[235] BA/NYNEX Reply at 36-37; *see also* ALTS Comments at 22; Teleport Comments at 14, Reply at 11-12.

[236] BA/NYNEX Reply at 37.

[237] AT&T Reply at 32.

[238] SNET Reply at 29-31.

them near high concentrations of end users and carriers.[239] Inefficient tandem placement would also affect the incumbent LEC's own routing of intraLATA toll and local traffic.[240]

60. CAPs and CLECs generally support the three-part rate structure, arguing that (1) distance-sensitive charges should be based on actual miles, rather than airline miles, reflecting actual LEC network efficiencies or inefficiencies;[241] (2) the unitary rate structure is not cost-based and inhibits competition;[242] and (3) the unitary rate structure discriminates against direct-trunked transport users by allowing tandem-switched transport users to purchase dedicated transport facilities in connection with tandem-switched transport at prices unavailable to others.[243] In addition, Teleport states that, unlike direct-trunked transport, tandem-switched transport is not a single service and does not use a single transmission pathway. Users of tandem-switched transport pay two switching charges and should therefore pay the cost of reaching each switch.[244]

61. Some commenters state that, because tandem-switched transport facilities are sized to handle peak-load overflow traffic from large IXCs that otherwise use direct-trunked transport facilities, some costs of tandem-switched transport should properly be imposed on direct-trunked transport customers.[245] SWBT opposes this argument, noting that, such a service-specific charge would drive users of direct-trunked transport to alternate providers, driving up the rates for small IXCs that remain.[246] SWBT supports recovery of some tandem-switching costs from a competitively neutral public policy element.[247]

62. TCI supports a rate structure that unbundles the components of tandem-switched transport and permits purchase of needed components from the lowest-cost supplier.[248] TCI

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[239] Ameritech Reply at 29-30; U S West Reply at 30-31.

[240] Ameritech Reply at 29-30.

[241] ALTS Reply at 22.

[242] ALTS Reply at 22; Teleport Comments at 13-14.

[243] Teleport Comments at 13.

[244] Teleport Reply at 8.

[245] ACC Long Distance Comments at 14-15; Telco Communications Group Comments at 6-7.

[246] SWBT Comments at 63, Reply at 15.

[247] SWBT Comments at 63.

[248] TCI Comments at 15, Reply at 12.

states that the costs of the dedicated SWC-to-tandem link are NTS, and should be recovered on a flat-rated basis.[249] TCI states, however, that the costs of the common transport EO-to-tandem link vary, not with minutes of use, but with the trunk capacity attached to the tandem, sized as necessary to carry peak traffic levels.[250] Therefore, the costs of this common transport should also be recovered as a flat rate, capacity-based charge tied to the proportion of dedicated transport the IXC has provisioned on the SWC-to-tandem link.[251] TCI explains that this structure: (1) would be administratively more simple and efficient than the current structure; and (2) would reflect, more accurately than the current system, the costs of providing tandem-switched transport by automatically allocating to overflow users the costs of the peak capacity made necessary by the overflow traffic.[252] TCI would base these charges on airline mileage between the EO and the SWC as a check on the incumbent LEC's ability to choose routing that either increases IXC costs, or discriminates between its own IXC affiliate and unaffiliated IXCs.[253]

63. With respect to the tandem switch itself, MCI supports establishment of a combination of flat-rated and usage sensitive charges, stating that the tandem switch and the local switch are not substantially different and therefore should have the same rate structure. Many commenters state that the dedicated trunk port on the SWC side of the tandem should be priced on a flat-rate basis and charged to the user of the dedicated trunk because these costs are incurred in an NTS manner.[254] BellSouth disagrees with this position, however, stating that there are minimal NTS costs associated with tandem switching and arguing against mandatory disaggregation of tandem switching costs into NTS and TS components. BellSouth, instead, argues in favor of LEC flexibility to disaggregate as they wish.[255]

64. For many of the same reasons as those opposing a peak and off-peak rate structure for the local switch, several commenters state that they oppose a mandatory peak

[249] TCI Reply at 13.

[250] TCI Comments at 16, Reply at 13.

[251] TCI Comments at 16, Reply at 13-14.

[252] TCI Comments at 16, Reply at 13-14.

[253] TCI Comments at 17, Reply at 14-15.

[254] AT&T Comments at 60, Reply at 33; Ameritech Comments at 20; SWBT Comments at 13-14; Teleport Comments at 19-20, Reply at 11-12.

[255] BellSouth Comments at 73.

rate structure for tandem-switched transport.[256] These commenters primarily state that: (1) peak rate pricing would have a *de minimis* impact on the usage patterns and incumbent LEC network design decisions because less than 15% of the BOC interstate traffic is access;[257] and (2) it would be impossible to determine peak and off-peak hours with any degree of certainty or consistency because peak hours vary with the region of the country, type of service, type of user, rate zone, and other factors.[258]

65. Several commenters suggest that LECs should have the flexibility to implement a peak rate structure on a permissive basis.[259] The Texas Commission states that peak and off-peak pricing would allow the LEC to recover a portion of the larger tandem switching capacity necessitated by overflow traffic from large IXCs.[260] The Georgia Commission indicates that the peak rate structure should be optional for both LECs and their customers, and that LECs should not be permitted to offer peak and off-peak pricing until after the proposals have received regulatory review and approval.[261] Excel states that tandem switching services, like local switching, should be subject to peak and off-peak pricing.[262]

66. Teleport states that the Commission could achieve the economic efficiency benefits of a peak rate structure without resorting to time-of-day pricing by establishing a flat-rate pricing structure for the tandem switch, without disaggregating the costs into TS and NTS components. Teleport supports the establishment of flat-rated port charges as reflective of the way LECs incur the costs of dedicated tandem trunk ports. According to Teleport, however, the Commission should carefully examine the portion of tandem switching cost that is arguably TS to determine whether the costs of separate measurement and billing merit the development of separate rate elements for those costs. According to Teleport, tandem switch ports are purchased to provide the purchaser with the ability to place a certain amount of traffic on the switch at its peak period; a flat-rate tandem-switching charge tied to port

[256] MCI Comments at 85-86; AT&T Comments at 60, Reply at 33; Cable & Wireless Comments at 17; CompTel Comments at 28; SWBT Comments at 63; U S West Comments at 60.

[257] CompTel Comments at 28.

[258] CompTel Comments at 28; SWBT Comments at 63.

[259] *E.g.*, Ameritech Comments at 19; BellSouth Comments at 73; Georgia Commission Reply at 27; Texas Commission Comments at 16-17.

[260] Texas Commission Comments at 16-17.

[261] Georgia Commission Reply at 27.

[262] Excel Comments at 13.

capacity would therefore reflect the costs of the tandem switch, which is sized to handle peak load traffic.[263]

67. Several commenters request that we update our tandem switched transport rate structure to include the cost of appropriate multiplexing equipment used providing tandem-switched transport.[264]

b. Rate Levels

68. *Allocation of 80 percent of the tandem switching revenue requirement to the TIC.* Both incumbent LECs and CAPs support reallocation from the TIC to tandem switching rates the 80% of tandem switching costs currently recovered through the TIC.[265] Ameritech states that the Commission should accomplish this reallocation by increasing the price cap indices for tandem-switched transport to reflect the full amount of the tandem costs. Ameritech states that this action would be consistent with the Court's remand of the *CompTel* case.[266] Sprint, on the other hand, opposes allocating TIC costs to transport rates, but instead favors setting all rates for transport facilities at TELRIC-based prices within five years.[267]

69. *SS7 signalling costs.* BellSouth states that tandem rates should be revised downward to reflect removal of the 20% of the CCS/SS7 charge that was assigned to the tandem and, at the same time, all CCS/SS7 costs should be assigned to new, signalling rate elements.[268]

70. *Overhead loadings on the tandem-switch.* Cable & Wireless states that, in this proceeding, the Commission should equalize the overhead loading factors for all transport options by directing that the difference in transport rates is equal to the difference in the LRIC of each option (DS3, DS1, and TST). In doing so, the Commission would (1) ensure that all access customers pay the same dollar amount of overhead per unit of traffic; and (2)

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[263] Teleport Comments at 19-20, Reply at 11-12.

[264] USTA Comments at 60; GTE Reply at 24.

[265] Ameritech Comments at 18-19; BellSouth Comments at 74; U S West Comments at 65; ALTS Reply at 22; Teleport Comments at 18.

[266] Ameritech Comments at 19.

[267] Sprint Comments at 26.

[268] BellSouth Comments at 74.

increase the competitive neutrality of the rate structure.[269] The Commission, in contrast, should not provide for an equal percentage of overhead per unit cost of transport because doing so would place small IXCs, which use proportionately more TST, at a disadvantage.[270]

71. WorldCom also supports LEC cost studies that would be used to justify reinitialization of tandem switching rates.[271] WorldCom states that we should use the "lowest of the low" methodology in order to ensure that the incumbent LECs do not discriminate unreasonably in the allocation of overheads (or, for TSLRIC/TELRIC studies, the allocation of forward-looking common costs). Under this methodology, the Commission would require the incumbent LECs to demonstrate that the allocation of overhead loadings or common costs to the tandem switching rate is no greater than the allocation of overhead loadings or common costs to the comparable transport service to which the lowest amount of overhead or common costs have been allocated.[272] The Commission, in enforcing this requirement, could examine the allocation of overheads or common costs to both tandem switching an other specific transport services.[273]

72. CompTel argues that the Commission should prescribe TSLRIC rates for all access services.[274] Recognizing that a "flash-cut" to TSLRIC rates may be infeasible for all access charges, CompTel states that the Commission should establish priorities, prescribing TSLRIC rates first for those access elements that are least subject to the market discipline of competition. In allocating common costs, CompTel argues that the Commission should adopt a "reverse Ramsey" pricing method. Under this method, CompTel argues that we should allocate a relatively small portion of common costs to those access elements that are least subject to competitive market forces, while maintaining access rate elements that may be subject to competitive pressures at current levels for the present.[275]

73. *Use of weighted average DS3/DS1 rates and 9000 minutes of use per month assumption.* AT&T and other commenters state that the Commission should set rates for

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[269] Cable & Wireless Comments at 19.

[270] *Id.*

[271] WorldCom Comments at 55.

[272] WorldCom Comments at 55-56.

[273] WorldCom Comments at 56.

[274] CompTel Comments at 16; *see also* American Communications Services, Inc. Reply at 20-21 (advocating reinitialization of tandem switching rates based on the *Local Competition Order* proxy of $0.0015 per minute).

[275] CompTel Comments at 17.

tandem switching and tandem-switched transport transmission facilities at TELRIC levels established by state commissions in accordance with the *Local Competition Order*.[276] These commenters state that use of TELRIC rate levels will make the benchmark DS3 to DS1 benchmark ratios unnecessary.[277]

74. Many commenters state that the Commission should no longer require carriers to assume 9000 minutes of use per month when setting per-minute rates for shared transport circuits.[278] Some of these commenters favor the use of actual minutes of use.[279] ALLTEL, for example, states that it estimates the usage of tandem-switched trunks at approximately 4000 MOU per month.[280] U S West favors retaining the 9000 minute of use assumption, but permitting LECs to develop its own unique conversion factor if it so chooses.[281] Sprint, in contrast, states that the 9000 MOU assumption is reasonably attainable because the use of tandem-to-EO circuits is largely within the LEC's control.[282] If the LEC chooses to provision these facilities so as to obtain a lower utilization, the LEC's access customers should not bear the costs of this decision.[283] Similarly, if the IXC wishes to order additional facilities, it should be permitted to do so at an additional cost.[284]

75. *Relationship with market based/prescriptive approach.* Sprint opposes any premature relaxation of the Commission's rate structure rules, arguing instead that the market-based approach gives incumbent LECs too much pricing flexibility too soon.[285] Sprint notes, however, that the Commission should permit density-based deaveraging of direct-trunked transport rates immediately.[286] According to Sprint, because there is a much greater demand

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[276] AT&T Comments at 59; CompTel Reply at 3;

[277] AT&T Comments at 59.

[278] U S West Reply at 32; ALLTEL Comments at 12-13; GVNW Comments at 7, Reply at 7-8; Harris, Skrivan & Associates Comments at 6; Minnesota Independent Coalition Comments at 16.

[279] *E.g.*, GVNW Reply at 7-8; Harris, Skrivan & Associates Comments at 6.

[280] ALLTEL Comments at 12-13.

[281] U S West Reply at 32.

[282] Sprint Comments at 27.

[283] Sprint Comments at 27.

[284] Sprint Comments at 27.

[285] Sprint Comments at 27.

[286] Sprint Comments at 28-29.

for special access in high-density areas than there is in low-density areas, direct-trunked transport rates, which are based on special access rates, understate the true cost of direct-trunked transport in less dense areas.[287] Geographic deaveraging of these rates would allow LECs to establish cost-based rates in each density zone.[288]

D. Transport Interconnection Charge (TIC)

76. The issues presented by the existence of the TIC generated substantial comment from all segments of the telecommunications industry. The comments are organized below into three broad groups: (1) causes and possible reassignment of sums in the TIC; (2) approaches that rely on market forces to address any amounts remaining in the TIC after some amounts are reallocated; and (3) approaches that would eliminate or phase out some or all of the TIC.

1. Causes and possible reassignment of amounts in the TIC

77. *General.* USTA and incumbent LECs assert that, to the extent TIC costs can be identified and attributed to specific services, those costs should be recovered from those services.[289] Minnesota Independent Coalition, however, argues that costs that may be easily identifiable and correctable for large LECs may not be for small LECs.[290]

78. Time Warner argues that the TIC was explicitly designed to make all IXCs pay for tandem-switched transport even though some IXCs only use the tandem switch for overflow traffic. According to Time Warner, the TIC distorts competition for switched transport service, and it should not be a surprise that little competition has developed there.[291] Time Warner argues that the Commission must require that the costs associated with the TIC are paid by cost causers and recovered in the manner in which they are incurred, which will require substantial revision to the TIC. Accordingly, Time Warner argues that those costs that can be reasonably attributed to other elements must be so assigned, and that this approach is

[287] Sprint Comments at 28-29.

[288] Sprint Comments at 28-29.

[289] *See, e.g.,* USTA Comments, Attachment 10 at 9; PacTel Comments at 6; BA/NYNEX Comments at 36-37; Aliant Comments at 2; SNET Reply at 27-28; Frontier Comments at 9; ALLTEL Reply at 8; TCA Comments at 4; Minnesota Independent Coalition Comments at 17; Alaska Telephone Association Comments at 9; Harris, Skrivan & Associates Comments at 6.

[290] Minnesota Independent Coalition Comments at 17.

[291] Time Warner Comments at 12-13.

most consistent with *CompTel v. FCC*.[292] TRA also supports the identification of cost misallocations and other practices that cause costs to be assigned to the TIC and reassigning such costs to various access services and other nonregulated activities, as appropriate.[293]

79. ALTS and ACSI contend that the Commission should quantify and eliminate all readily correctable cost misallocations in its current access tandem switching regime.[294] Teleport also favors an approach in which obvious misallocated costs are reallocated. Teleport, however, would require incumbent LECs to produce for public review a complete report of the costs currently included in switched access and the proportion and type of costs assigned to the TIC. Until this report is analyzed, it will not be possible to identify whether the TIC contains truly "lost" costs, or, rather, costs that have "conveniently" been placed in the only switched access rate element immune from competition.[295]

80. Some consumer groups and consumer advocates recommend identifying misallocated costs and moving them to the appropriate cost element.[296] State Consumer Advocates believe that all remaining costs represent a portion of joint and common costs and should be recovered by increasing all of the transport rate elements.[297]

81. Several state commissions also agree that costs should be reallocated. The Washington Commission is in favor of eliminating the TIC and reassigning costs according to causation. The Washington Commission states that it has eliminated the state equivalent of the TIC, finding that there was no need for it once the company's other transport and switching rates were set to provide appropriate revenue levels.[298] In a similar manner, the Illinois Commission argues that embedded costs currently recovered by the TIC should be reassigned to other rate elements to the extent cost causation can be established, and the incumbent LECs should be given any additional flexibility needed to raise prices within the price cap framework for those rate elements to which costs have been reassigned. The Illinois

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[292] Time Warner Comments at 12-13.

[293] TRA Comments at 36.

[294] ALTS Comments at 26; ACSI Reply at 21.

[295] Teleport Comments at 30-32.

[296] *See, e.g.,* AARP, *et al.*, Comments at 17; Texas Public Utility Counsel Comments at 16; State Consumer Advocates Comments at 36.

[297] State Consumer Advocates Comments at 34-37.

[298] Washington Commission Comments at 7.

Commission believes that the entire TIC can be reallocated in this manner.[299] The Georgia Commission states that the FCC must (1) verify the costs that have been loaded onto the TIC; (2) verify the amount of those costs that should be recoverable on a going-forward basis and ensure that the unrecovered amounts resulted purely from regulatory restriction, not competitive pressures; and (3) conduct any restructuring in order to establish cost-based rates that avoid anticompetitive pricing.[300] The Ohio Commission argues that only after incumbent LECs have demonstrated the cost amounts currently in the TIC should any costs be reallocated to tandem switching. In addition, the Ohio Commission states that it is up to state commission to decide how the intrastate portions of TIC-related charges should be recovered.[301]

82. On the other hand, several parties argue that not all costs should be reallocated. Sprint, for example, argues that revenue requirements other than the TELRIC of tandem switching that are assigned to the TIC under current rules should be left in the TIC and phased out.[302] WorldCom asserts that incumbent LEC allegations as to the "costs" of common transport recovered through the TIC are incorrect. WorldCom states that to truly reset transport rates based on costs would require a forward-looking cost study to reinitialize rates for both common and dedicated transport and that mere shifting of TIC costs to other rate elements is inadequate.[303] WorldCom also argues that rates based on forward-looking costs will not be revenue neutral, and incumbent LECs should not be guaranteed recovery of all residual costs.[304]

83. Several parties address the possible relationship of the TIC to universal service. WITA argues that the TIC is an implicit support mechanism for rate-of-return LECs that should be included in the federal universal service support mechanism for rate-of-return LECs.[305] The Texas Public Utility Counsel argues that increased levels of universal service support should be used to offset the amount of the TIC that is earmarked for phase-out.[306] Time Warner, on the other hand, argues that the Commission should not attempt to transfer

[299] Illinois Commission Comments at 12-13.

[300] Georgia Commission Comments at 32.

[301] Ohio Commission Reply at 5-6.

[302] Sprint Reply at 18.

[303] WorldCom Reply at 34.

[304] WorldCom Reply at 38.

[305] WITA Comments at 8.

[306] Texas Public Utility Counsel Comments at 21.

costs currently recovered through the TIC to universal service because there is no evidence supporting such a decision. Such a decision would be inconsistent with the Joint Board's recommendation that universal service funding should be determined on a forward-looking cost basis.[307]

84. Several parties address the need to adjust PCIs and SBIs if reallocation of TIC costs are permitted or required. BellSouth and BA/NYNEX, for example, state that if the Commission authorizes reassignment of TIC costs, it must permit incumbent LECs to adjust the TIC SBI and other relevant SBIs to ensure they have an opportunity to recover the reassigned costs.[308] In a similar vein, Aliant advocates exogenous cost increases for specific service categories in the trunking basket so that incumbent LECs can recover TIC costs to the extent the market permits.[309]

85. *Tandem Switching Costs.* USTA and the majority of the incumbent LECs assert that the tandem switching revenue requirement being recovered through the TIC should be reassigned and recovered through tandem switching rates.[310] USTA estimates this component of the TIC to be $400 million, or 12.93% of total industry TIC revenues.[311] Ameritech contends that this reassignment would be consistent with *CompTel v. FCC* and would allow incumbent LECs to increase their tandem switching rates to economically rational levels given available market substitutes.[312] NECA states that the tandem-switching costs currently assigned to the TIC can be identified and could be assigned to the tandem-switching rate element, thereby reducing the TIC and increasing tandem-switching revenue for NECA traffic-sensitive pool members by $15.1 million.[313]

86. Cable & Wireless contends that 80 percent of the interstate tandem switching *revenue requirement* was allocated to the TIC, as distinguished from interstate tandem switching *costs*. Cable & Wireless asserts that state commissions have found that the incumbent LEC's LRIC of tandem switching is far below even the 20 percent rate that the

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[307] Time Warner Comments at 15; Time Warner Reply at 21-22.

[308] BellSouth Comments at 81 n.141; BA/NYNEX Comments at 37.

[309] Aliant Comments at 3.

[310] *See, e.g.,* USTA Comments at 61; BellSouth Comments at 75; GTE Comments at 36; PacTel Comments at 71; SWBT Comments at 9-10; Citizens Utilities Comments at 31; ALLTEL Comments at 13; Puerto Rico Tel. Comments at 17; Roseville Tel. Comments at 11-12; Sprint Comments at 28.

[311] USTA Comments, Attachment 11.

[312] Ameritech Comments at 18-19.

[313] NECA Comments at 5 n.15.

Commission set and that it is therefore doubtful that any of the TIC should be allocated to tandem switching on a forward-looking cost basis.[314] Cable & Wireless alleges that the tandem-switching revenue requirement consists, in large part, of overhead and subsidies placed on tandem switching during the "equal charge" era. Cable & Wireless asserts that the Commission should not ignore actual cost data showing tandem-switching costs to be far less than the revenue requirement indicates.[315]

87. Sprint urges that the Commission not reassign the balance of the tandem switching revenue requirement from the TIC to the tandem switching rate element. It contends that a tandem switching rate that recouped the entire revenue requirement might reduce tandem switching revenues for incumbent LECs because these rates would be so high that the use of tandem switching would be uneconomic for IXCs. In addition, Sprint asserts that the existing tandem switching rates reflect a much higher than reasonable allocation of overhead costs. The tandem switching rate should, according to Sprint, be based on TELRIC costs and should be similar to today's tandem switching charges.[316]

88. *SS7 costs.* USTA and incumbent LECs contend that the Commission should identify the portion of the tandem revenue requirement that recovers the costs of SS7 signal transfer points ("STPs") and the costs of the links between service switching points ("SSPs") and STPs. These costs are associated with providing FGD service and are currently recovered as part of the TIC. USTA asserts that they should be recovered through existing SS7 rate elements.[317] USTA estimates this component of the TIC to be $58.7 million, or 1.89 percent of total industry TIC revenues.[318] BellSouth asserts that the FCC should remove from the TIC the portion of common channel signaling costs that are booked to Category 2 tandem switching and that these costs should be recovered through new rate elements.[319] U S West argues that the costs associated with SS7 signalling should be recovered through transport charges.[320]

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[314] Cable & Wireless Comments at 20.

[315] Cable & Wireless Comments at 21.

[316] Sprint Reply at 18.

[317] *See, e.g.*, USTA Comments at 61; GTE Comments at 36; SWBT Comments at 9-10; Citizens Utilities Comments at 31; NECA Comments at 7-8.

[318] USTA Comments, Attachment 11.

[319] BellSouth Comments at 75-76.

[320] U S West Comments at 65.

89. *Tandem-Switched Transport Transmission Rate Setting.* Most incumbent LECs support a modified tandem-switched transport transmission rate structure that includes: (1) assessment of the SWC-to-access tandem portion as dedicated transport (which includes the cost of DS3/DS1 multiplexing at the tandem office) measured from the SWC to the access tandem; (2) assessment of the access tandem-to-end office portion as tandem-switched transport measured from the access tandem to end office; and (3) the assessment of a multiplexer charge between the access tandem and end office. Incumbent LECs generally assert that the TIC includes the costs of the Commission having adopted a less efficient interim transport rate structure. USTA and incumbent LECs argue that the rates for tandem-switched transport transmission must be increased to reflect the costs of this revised rate structure, thereby shifting costs from the TIC.[321] According to USTA, these changes will result in rates that more accurately capture a LEC's actual costs of providing tandem-switched transport service.[322]

90. Many incumbent LECs also argue that the 9000 MOU assumption should be eliminated in favor of actual MOU levels, contending that actual usage is far less than 9000 MOUs. Among the estimates of actual usage are: U S West, 5700;[323] NECA, approximately 4500;[324] GTE, 5300;[325] and ALLTEL, approximately 4000.[326] NECA states that it would develop a MOU figure that more closely corresponds to the actual rural, low-usage characteristics of its traffic-sensitive pool members, and base its tariff rates on that figure.[327] Minnesota Independent Coalition asserts that the assumed monthly usage of 9000 MOU per transport circuit is unrealistic for low volume, rural routes.[328]

91. WorldCom asserts that actual fill factors, in MOUs per month, on a given transmission facility, are irrelevant; rather, the fill factors that would represent efficient network deployment are far more relevant.[329]

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[321] *See, e.g.,* USTA Comments at 60; BellSouth Comments at 77; Citizens Utilities Comments at 31-32.

[322] USTA Comments at 60.

[323] U S West Comments at 66-67.

[324] NECA Comments at 8 n.22.

[325] GTE Comments at 38.

[326] ALLTEL Comments at 12-13.

[327] NECA Comments at 8 n.22.

[328] Minnesota Independent Coalition Comments at 16.

[329] WorldCom Reply at 35.

92. *Host-Remote Trunking Rate.* USTA and incumbent LECs state that for service to a remote switch, the tandem-switched transport transmission fixed and per mile/per MOU charge applies for transport between the host and remote switch, but that only a portion of the host/remote revenue requirement is recovered through these rates. They state that the difference is included in the TIC. USTA argues that the costs specific to host/remote transport that are in the TIC should be included in the tandem-switched transport rates because those rate elements are currently applied to host/remote connections.[330] USTA estimates this component of the TIC at $160.5 million, or 5.17 percent of total TIC revenues.[331]

93. NECA submits that incumbent LECs install host-remote facilities because these facilities are cheaper than installing a separate end office switch at the remote location. Because the host-remote transport facilities are not dedicated to any particular user, NECA contends that the costs should be removed from the TIC and assigned to the local switching element.[332] NECA states that assigning these revenues, instead, to the costs of tandem-switched transport would disproportionately raise tandem switched transport rates.[333]

94. *DS1/voice-grade multiplexer costs.* USTA and incumbent LECs state that analog switches do not have direct DS1 interfaces and, as such, require a combination of trunk unit ports and a DS1/voice grade multiplexing function to take the traffic to the DS0 level to be switched. Incumbent LECs state that in the analog switching environment, the costs of multiplexing from the DS1 to DS0 level have been assigned primarily to transport, while in the digital switching environment, this function is incorporated in the switch and is assigned to local switching. They assert that the costs of these analog multiplexers were not included in the special access formulas used to derive switched transport rates and are thus included in the TIC. USTA contends that these analog multiplexer costs should be associated with the switching function and assigned to the Local Switching category.[334] NECA states that assigning analog multiplexing costs to the local switching rate element would make the assignment of analog multiplexing costs consistent with the assignment of costs associated

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[330] *See, e.g.,* USTA Comments at 61-62, Attachment 10 at 4; BellSouth Comments at 77; U S West Comments at 65-66; Citizens Utilities Comments at 32; GTE Comments at 37; Minnesota Independent Coalition Comments at 16.

[331] USTA Comments, Attachment 11.

[332] NECA Comments at 6.

[333] NECA Comments at 6 n.18.

[334] *See, e.g.,* USTA Comments at 62; BellSouth Comments at 77-78; PacTel Comments at 71; U S West Comments at 66; GTE Comments at 36.