

Residential Revenues

In evaluating whether competitors will find it profitable to serve residential customers in New Jersey, whether expanded competition can benefit residence customers through even lower rates, or whether rates will first need to be increased in order to attract competitors into this market, it is necessary to consider both costs and revenues.¹

The basic monthly rate in New Jersey ranges from \$6.75 in towns like Salem to \$8.19 in the Newark metropolitan area. While this is the most prominent rate element, it is not the only revenue source to consider.

The typical residence will find numerous other charges on their monthly telephone bill in addition to the basic rate. These fees and charges may not be widely recognized or understood, but from an economic perspective they are just as important as the basic monthly rate. It is the cumulative total of all the relevant fees and charges which determine how profitable it is for Bell Atlantic to serve residential customers, and how profitable it would be for a competitive carrier to enter the New Jersey residential market.

Some of these fees are essentially unavoidable, and can most accurately be thought of as additional portions of the basic local exchange rate.² For example, virtually all customers pay a \$1.00 per month fee for “touch tone.” While theoretically this fee is optional, in practice nearly everyone pays it. Because rotary dialing is so irritatingly slow, most customers consider touch tone to be a necessary part of basic telephone service. In fact, in many states touch tone charges have been eliminated, or rolled into the basic monthly rate.

These rate elements are not the only revenue sources which need to be considered in evaluating the prospects for residential telephone competition. For example, when a long distance call is completed by AT&T, MCIWorldcom or another carrier, Bell Atlantic profits from “switched access charges” which it receives as compensation for originating and/or terminating the call. Switched access and long distance toll revenues are important aspects of the profit picture for any provider of local telephone service.³

Because these revenues vary with calling volume, competitive carriers will find it more profitable to target heavy users of toll service. That does not suggest, however, that competitive carriers will focus exclusively on these customers. To the contrary, most residences place and receive multiple long distance calls each month, and these generate switched access and toll revenues for their local carrier. Furthermore, even carriers that target high volume toll users won't refuse to serve other customers. Once a carrier has made the necessary investments to serve high volume residential toll users, it will generally find it profitable to serve as many residential customers as possible, including both low volume toll users.

To illustrate the potential variation in revenue levels, consider three typical residential customers. The first customer places and receives relatively few long distance calls, generating toll and access revenues of just \$4.49 per month for Bell Atlantic. The second customer generates a more normal volume of toll and access revenues of \$8.98 per month. The third customer enjoys talking to family and friends all over the state and country, generating toll and access revenues of \$17.96 per month for Bell Atlantic.

As shown on Table 1, while all three of these illustrative customers generate substantially more revenues than the basic rate alone, the amount Bell Atlantic receives varies widely, depending upon their long distance usage.

Table 1
Residential Intrastate Revenues

Revenue Source	Revenues from Low Toll User	Revenues from Mid Toll User	Revenues from High Toll User
Basic Rate	\$ 8.19	\$ 8.19	\$ 8.19
Touch-Tone Fee	1.00	1.00	1.00
Switched Access and Toll	4.49	8.98	17.96
Total (Excluding Features)	\$ 13.68	\$ 18.17	\$ 27.15

This is not the end of the story, however. Many customers enhance their local telephone service with

one or more optional features, including call waiting, call forwarding, and Caller ID. The popularity of these types of features has been growing in recent years, creating an ever increasing stream of revenues for local exchange carriers. Today, the typical residential customer pays for at least one such feature and many pay for two or more.

Call waiting is generally the most popular custom calling feature, despite the fact that it adds \$4.59 to the customer's monthly bill. Less popular features like call forwarding, three-way calling and speed dialing each add another \$2.30 per month to many customers' bills. An increasingly important source of revenues for local telephone carriers is Caller ID, which tells the customer who is calling before they answer the phone. Bell Atlantic charges its residential customers an additional \$6.00 per month for this popular feature.

Since the revenues generated by custom calling and other premium features vary widely, we will consider five examples. Our first example is a household that purchases none of the available enhancements. Our second and third examples are customers that pay for either Call Waiting or Caller ID, respectively. Our fourth example is a customer that purchases both of these popular features. Our fifth example is a customer that opts for both of these, as well as another feature, such as call forwarding, speed dialing, or three-way calling. The effect of these feature revenues in combination with the other revenue sources is illustrated in Table 2.

Table 2
Residential Intrastate Revenues Including Features

Feature Revenues	Revenues from Low Toll User	Revenues from Mid Toll User	Revenues from High Toll User
Example 1: \$ 0.00	\$ 13.68	\$ 18.17	\$ 27.15
Example 2: \$ 4.59	\$ 18.27	\$ 22.76	\$ 31.74
Example 3: \$ 6.00	\$ 19.68	\$ 24.17	\$ 33.15
Example 4: \$10.59	\$ 24.27	\$ 28.76	\$ 37.74
Example 5: \$12.89	\$ 26.57	\$ 31.06	\$ 40.04

Clearly, the nominal rate for basic local service alone does not begin to describe how much consumers actually contribute to Bell Atlantic'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 all of these revenue sources in order to meaningfully evaluate the prospects for competition in New Jersey residential markets. Bell Atlantic doesn't rely exclusively on its basic monthly rate to recover its costs, nor will its potential competitors.

This pattern of diverse revenue sources is typical of many industries. Grocery chains may entice customers into their stores with low prices for milk, eggs and deeply discounted specials, but they don't rely upon the prominently advertised specials to achieve their profits. Instead, they rely on the fact that very few customers will walk out of the store without purchasing a variety of other items in addition to the "loss leaders." In the same fashion, telephone carriers rely upon the fact that their customers pay much more than the basic rate each month.

The Cost of Providing Residential Telephone Service

Since competitors will only be attracted into the market if they can anticipate generating revenues in excess of costs, it is necessary to consider existing rate levels relative to the cost a competitor will incur providing telephone service to New Jersey residents.

Telephone network costs tend to be lowest where customers are located close to each other, since this allows them to be networked together using relatively small quantities of cable. Because New Jersey is one of the most densely populated states in the nation, carriers operating in this state can anticipate experiencing some of the lowest costs in the nation.

Under the 1996 Telecom Act, competitive carriers have the option of renting elements of Bell Atlantic's network, installing their own network facilities, or relying upon a combination of their own and Bell Atlantic's facilities. Consequently, in evaluating the cost of serving residential customers in New Jersey, a logical starting point is Bell Atlantic's rate schedule for rental of unbundled network elements ("UNEs").

If a competitive carrier were to rely exclusively on Bell Atlantic's network elements, it would incur intrastate loop costs of \$8.96 and intrastate end office switching costs of approximately \$5.41 (including port and usage charges) in serving a typical Newark residential customer.⁴

Because New Jersey has high UNE switching rates, most carriers will not find it cost-effective to rely exclusively on Bell Atlantic to perform this function. A carrier will probably be forced to purchase its own switching equipment if it wants to enter the New Jersey market. While the cost of this equipment varies with traffic patterns and other variables, it will generally be much less costly than relying exclusively on Bell Atlantic's switching UNEs. A new digital switch can be installed for less than \$150 per line (a 10,000 line switch would cost less than \$1.4 million). This investment provides the competitive carrier with all of the equipment and software needed to handle local, access and toll traffic, as well as custom calling, Caller ID and other enhanced services. The intrastate portion of the depreciation, maintenance, return on investment, periodic software upgrades and other costs associated with this investment would equate to less than \$2.75 per month.⁵

In addition to loop and end office switching costs, competitive carriers will incur various other costs for transport, marketing, billing, corporate overhead and other functions. Table 3 provides an estimate of the intrastate costs a competitor would incur serving Newark residential customers if it relies upon Bell Atlantic's unbundled loops and the carrier's own switch, including all of these miscellaneous costs.

Table 3
Residential Intrastate Costs

Feature Usage	Low Toll User	Mid Toll User	High Toll User
Example 1: \$ 0.00	\$ 13.96	\$ 15.23	\$ 17.80
Example 2: \$ 4.59	\$ 14.44	\$ 15.71	\$ 18.29
Example 3: \$ 6.00	\$ 14.58	\$ 15.85	\$ 18.43
Example 4: \$10.59	\$ 15.06	\$ 16.34	\$ 18.91
Example 5: \$12.89	\$ 15.31	\$ 16.60	\$ 19.17

Profit Margins on Residential Telephone Service

While the gap between revenues and costs varies depending upon toll usage and other factors, if a competitor were to charge as much as Bell Atlantic it would generate substantial profits in serving

the vast majority of residential customers.

Consider a Newark residence that uses moderate amounts of long distance and purchases just one enhanced feature—Caller ID. As shown in the third row of Table 2 above, at Bell Atlantic’s rates, this customer generates an average of \$24.17 in intrastate revenues per month.⁶ In comparison, the economic cost of serving this residence is just \$15.85 per month, including corporate overhead costs and a normal return on investment.⁷ Since this rate level generates revenues well in excess of cost, the potential exists for competitors to reduce rates below this level and still generate ample profits.

Admittedly, some residential customers are not as profitable to serve, but by the same token, some customers pay rates that are even farther in excess of the cost of serving them. Since revenues exceed cost for most types of residential customers, the opportunity exists for competitors to undercut Bell Atlantic’s existing rates while maintaining reasonable profit margins.

As shown in Table 3, only the small minority of low toll users who also purchase no enhanced features contribute revenues that are less than the average cost of serving them. For every other type of customer depicted in Tables 2 and 3, their monthly bill exceeds the average cost of service, generating profits that range from a few dollars per month to many dollars per month.

Table 4
Residential Intrastate Profit Margins⁸

Feature Revenues	Profit from Low Toll User	Profit from Mid Toll User	Profit from High Toll User
Example 1: \$ 0.00	\$ (0.29)	\$ 2.94	\$ 9.34
Example 2: \$ 4.59	\$ 3.82	\$ 7.04	\$ 13.45
Example 3: \$ 6.00	\$ 5.09	\$ 8.31	\$ 14.72
Example 4: \$10.59	\$ 9.20	\$ 12.42	\$ 18.82
Example 5: \$12.89	\$ 11.25	\$ 14.46	\$ 20.86

Although costs are higher in the less urbanized exchanges like Salem, the rates are generally the same (and basic rates are lower). Consequently, profit margins are lower in the lower density exchanges, and thus one can anticipate that competition will be slower to emerge in these smaller

markets. Nevertheless, the same general conclusion applies to these markets as to the larger markets like Newark and Jersey City: the revenues generated by many residential customers exceed the cost of serving them, and thus competition could potentially drive rates below their current levels. Even if rates do not decline much, customers in these smaller markets would benefit from competition, because they will enjoy the freedom to choose their supplier, they will benefit from more rapid deployment of advanced technologies, and they will enjoy the benefits of greater marketing and service innovation.

1. Throughout this report we present the intrastate portion of the costs and revenues associated with serving customers. Removal of the interstate costs and revenues does not affect our final conclusions.
2. Bell Atlantic also imposes a federally authorized end user common line charge of \$3.50 per month on all residential phone bills. It is stated separately from the \$6.75 to \$8.19 basic rate because it is authorized by the Federal Communications Commission (FCC), rather than the New Jersey Board of Public Utilities. However, revenues from both the intrastate basic rate and the interstate end user are received by Bell Atlantic as compensation for the cost of providing local telephone service. Carriers competing with Bell Atlantic can impose both of these rates, or they can blend them into a single rate.
3. A portion of these revenues are associated with the intrastate jurisdiction, and a portion are associated with the interstate jurisdiction. Although both sources of revenue are important to carriers, for clarity we have focused on the intrastate portion of these revenues in the main body of this report.
4. Including the interstate jurisdictional portion, the total bop cost is \$11.95 and the total switching cost is \$7.01.
5. Including the interstate jurisdictional portion, the total would be less than \$4.00 per line, per month. The amount attributable to each customer would vary slightly depending upon their usage patterns and other characteristics.
6. An additional \$7.05 of interstate revenues (including the end user common line charge and switched access charges) would also be associated with this line.
7. Including the interstate portion, the total cost of serving this residence is \$20.48.
8. Including interstate revenues and costs, the profit margins are as follows:

Residential Total Profit Margins (Including Interstate and Intrastate Services)

Feature Revenues	Profit from Low Toll User	Profit from Mid Toll User	Profit from High Toll User
Example 1: \$ 0.00	\$ 0.45	\$ 5.37	\$ 15.20
Example 2: \$ 4.59	\$ 4.56	\$ 9.47	\$ 19.30

Example 3: \$ 6.00	\$ 5.83	\$ 10.74	\$ 20.57
Example 4: \$10.59	\$ 9.93	\$ 14.85	\$ 24.67
Example 5: \$12.89	\$ 11.91	\$ 16.89	\$ 26.72