



US Mobile Subscribers and Penetration Rates

By Major Trading Area and Basic Trading Area
2003-2004



Including mobile subscribers and penetration rates for:

*Total United States for 2003-2008
48 MTAs and 487 BTAs for 2003-2004
Top 30 BTAs by Subscribers*

US Mobile Subscribers and Penetration Rates (by MTA and BTA)

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The Telecompetition forecast methodology used in this report represents a powerful and consistent approach to developing a bounded forecast. Country-level forecasts are based on known or published demographic, firmographic, technological, economic and other factors built into the *ATIVA Research Tool*[®] model

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1 Introduction and Methodology

Telecompetition, Inc. combines expertise in broadband, Internet and wireless to study markets on a worldwide and local basis. In this report, this expertise was combined with industry interviews and our proprietary forecasting tools.

1.1 Telecompetition® ATIVA Research Tools®

In-depth Telecompetition® research combined with patented technology produces refinable, bounded forecasts with consistent sub-geographic detail.

The Telecompetition adaptive forecasting technology is called *ATIVA Research Tools®*. This technology performs thousands of computations on both demand and supply-side inputs to produce historic and forecasted revenues and other market size information at the regional, country, metro, state and other sub-geographic levels. *ATIVA Research Tools®* produces data that is based on externally validated high-level forecasts and an exhaustive array of product-specific coefficients, weighting factors, propensity-to-buy profiles for both consumer and business markets.

The rate of change in technology, market demand, and product/service delivery has increased dramatically in many industries. Accurate and timely forecasting is a critical element in the success of business in a competitive environment. While a variety of sophisticated techniques can be used to analyze and forecast markets, most rely on trending of historic data or predicting future demand by applying adoption curves. These techniques, while useful, do not address local market characteristics or unexpected shifts in demand caused by competition. Often times, these techniques represent snapshots in time and are difficult to apply in a rapidly changing environment.

A technique that can accommodate a bounded high-level forecast as well as a strong reliance on local knowledge, especially consumer and business demographics, has value. Telecompetition forecasts are developed through a combination of expert opinion and industry interviews, primary market research, and some mathematical modelling. With *ATIVA Research Tools®*, local market characteristics such as demographics and competitive activities are factored into the high-level forecast to produce country-level projections useful for technology or market planning. The end result is a forecast that takes into consideration all the important market dynamics while maintaining consistency with externally validated data points. Most importantly, the end result is a body of knowledge about a product and its markets that can be quickly adjusted and refined as time and circumstances change.

The Telecompetition TRAFFICast service provides standard and customized route-level forecasts for traffic-sensitive services. This includes asymmetric traffic forecasting.

1.2 Penetration Rates, Subscribers, and Subscriptions

The increased adoption of mobile terminals, services and applications requires some clarification in the traditional understanding of the terms penetration rates, subscribers

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and subscriptions. Historically, most mobile subscribers used only one mobile terminal and estimates of voice subscribers have been synonymous with numbers of active SIM cards. Thus a Mobile *subscriber* had only one Mobile Voice *subscription*. This is still the case for some US metro areas and also for developing countries with low mobile penetration rates— there is generally a one-to-one relationship between the number of subscribers and the number of terminals in use.

In contrast, some US metro areas and other countries in the developed world are approaching maximum penetration rates. These countries are already seeing some *subscribers* owning multiple terminals. For example, *subscribers* may have different terminals to accommodate different spectrum bands, to avoid unfavorable roaming rates while traveling, or separate devices for home and work. In these cases, there is **not** a one-to-one relationship between *subscribers* and terminals.

This trend will increase in the future. Some *subscribers* will have multiple mobile terminals for different situations. For example, a separate telematics terminal could be included in the purchase of a car; or a *subscriber* can own a different mobile terminal for work and for personal use. Many mobile data subscribers will have multiple subscriptions for mobile Internet access, messaging, and entertainment services. Thus it will become increasingly common for a mobile *subscriber* to have multiple *subscriptions*, resulting in higher penetration rates than previously thought possible.

This difference in the relationship between *subscribers* and *subscriptions* poses a problem when presenting penetration numbers. Traditional penetration analysis would exclude at least 5-10% of the population from the addressable market for any mobile service. In theory, no area would ever reach or exceed 100% penetration.

This report addresses this issue by taking a consistent approach for all areas forecast. In this report, all mobile penetration rates are calculated by dividing *voice subscriptions* by the area total residential population. Thus, it is possible for some areas to show 100% or more penetration rates, even though in practice some of the population uses no mobile devices, and a significant portion of the mobile subscribers use multiple mobile terminals and services. In the US, metro areas that show a greater than 80% penetration most likely have some subscribers with multiple voice subscriptions. Most metro areas in the US do not yet fall into this category.

1.3 Key Assumptions

Mobile Service Market Trends

Subscriber estimates are calculated from total US demand, allocated to the metro areas and states based upon known population demographics of each area. Factors considered include propensity to buy PCS, Cellular, and SMR services by age, income, occupation, and industry.

By end-of-year 2003, 54% of the US population subscribed to mobile services. By

2004, Telecompetition forecasts the market to achieve 60% penetration of the U.S. population for mobile services. After 2004, subscriber growth is expected to slow. The maximum penetration possible in the US is estimated at 70-75%, excluding 25-30% the population that will likely never subscribe to a mobile service such as the very young, the very old, the lowest income levels, or those who just choose not to use the service.

Geographic Areas

BTA (Basic Trading Area) – A service area designed by Rand McNally. Built from county boundaries, BTAs generally cover a city and its surrounding environs. BTAs are component parts of Major Trading Areas (MTAs). There are 493 BTAs in the United States.

MTA (Major Trading Area) – A service area designed by Rand McNally. Built from Basic Trading Areas (BTAs), MTAs are centered on a major city and generally cover an area the size of a state. There are 51 MTAs in the United States.

Note: This report does not cover the US Territories of America Samoa, Puerto Rico and Guam

List of Major Trading Areas (MTAs)

Alaska
Atlanta
Birmingham
Boston-Providence
Buffalo-Rochester
Charlotte-Greensboro-Greenville-Raleigh
Chicago
Cincinnati-Dayton
Cleveland
Columbus
Dallas-Fort Worth
Denver
Des Moines-Quad Cities
Detroit
El Paso-Albuquerque
Honolulu
Houston
Indianapolis
Jacksonville
Kansas City
Knoxville
Little Rock
Los Angeles-San Diego
Louisville-Lexington-Evansville
Memphis-Jackson
Miami-Fort Lauderdale
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Portland

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Seattle (Excluding Alaska)
Spokane-Billings
St. Louis
Tampa-St. Petersburg-Orlando
Tulsa
Washington-Baltimore
Wichita

List of Basic Trading Areas (BTAs)

Aberdeen, SD
Aberdeen, WA
Abilene, TX
Ada, OK
Adrian, MI
Albany-Schenectady, NY
Albany-Tifton, GA
Albuquerque, NM
Alexandria, LA
Allentown-Bethlehem-Easton, PA
Alpena, MI
Altoona, PA
Amarillo, TX
Anchorage, AK
Anderson, IN
Anderson, SC
Anniston, AL
Appleton-Oshkosh, WI
Ardmore, OK
Asheville-Hendersonville, NC
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