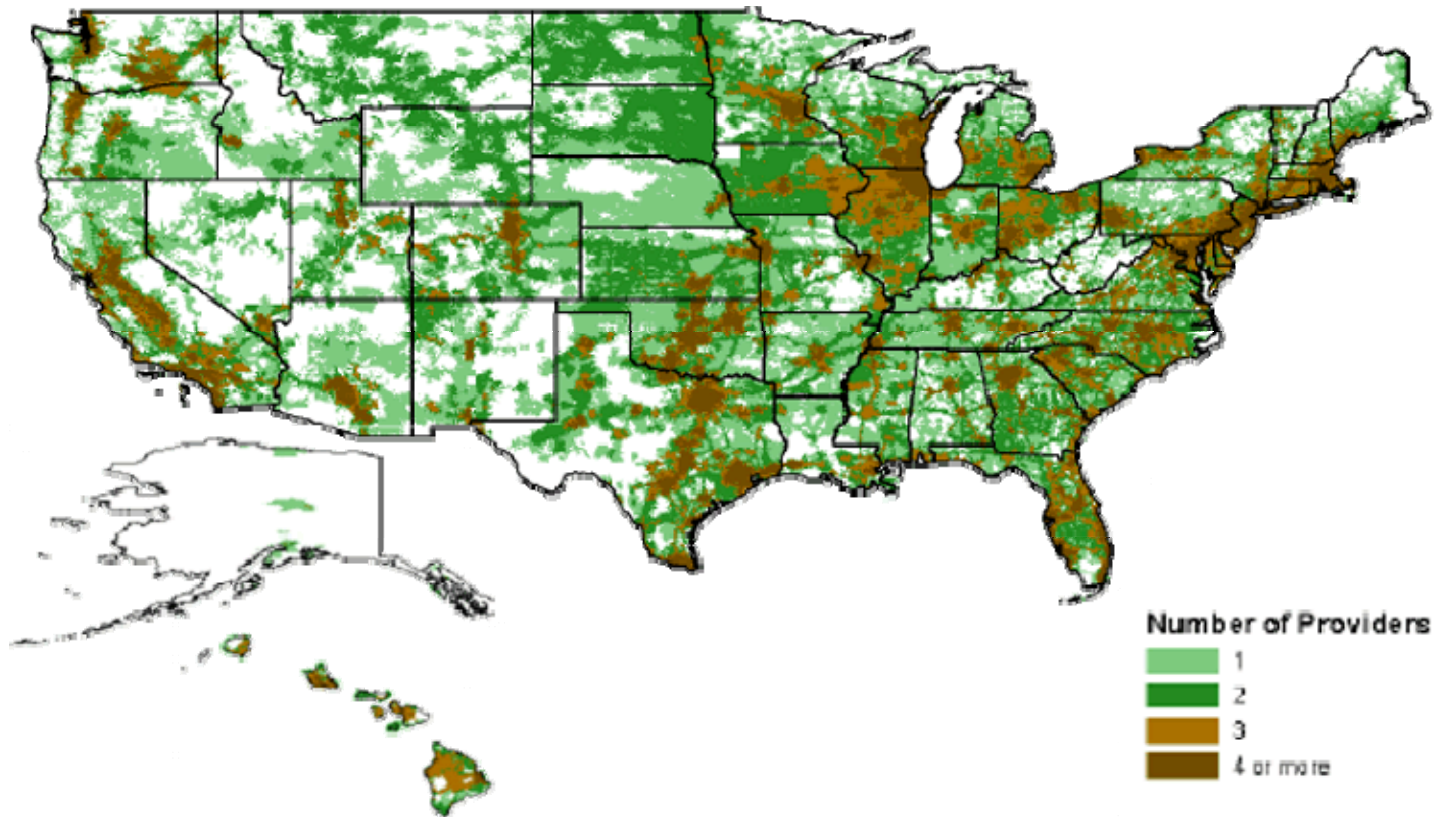
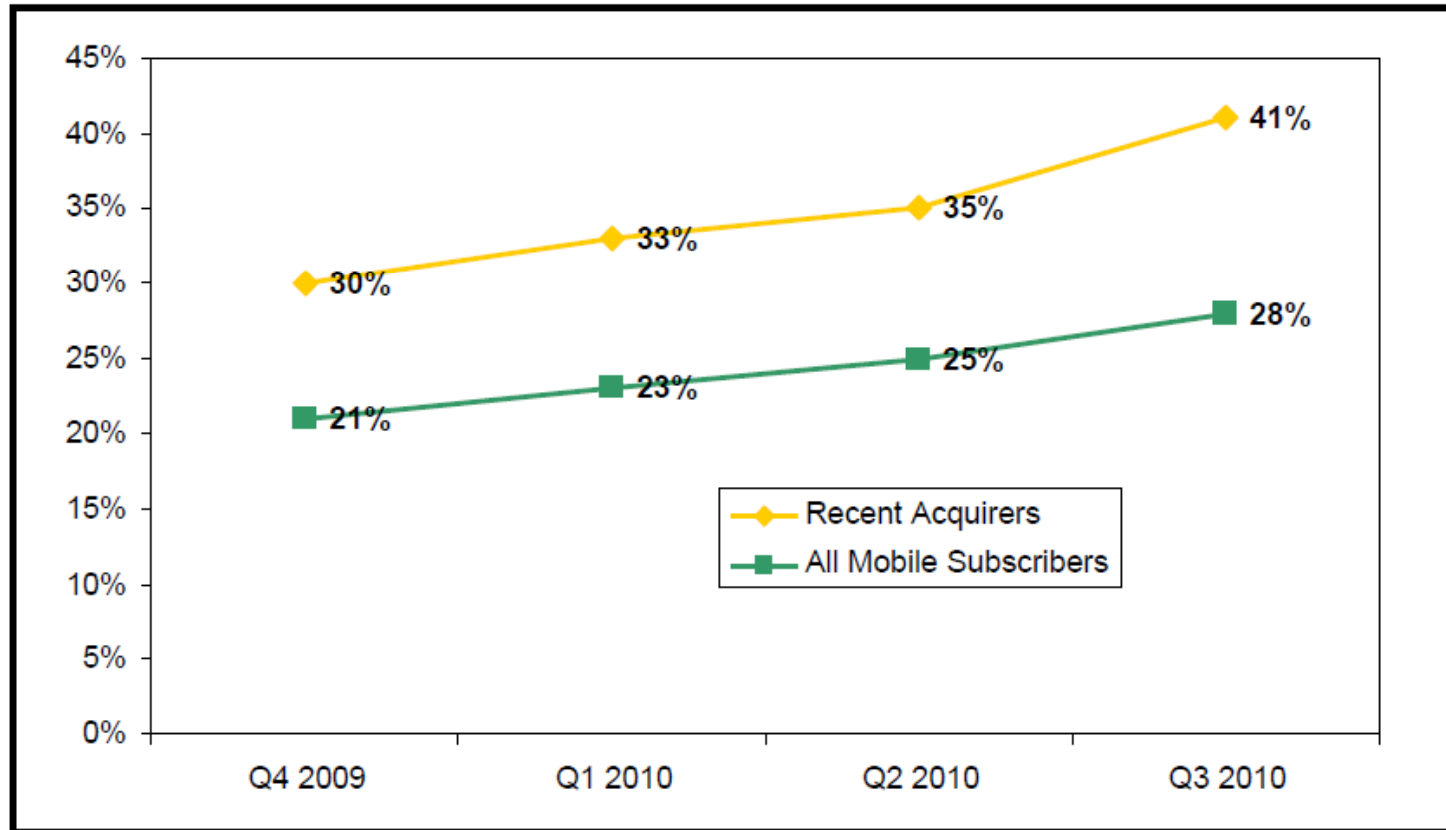


# FCC Wireless Competition Report—2011

## *Summary Charts*





## Smartphones now 40% of recent sales

Smartphone penetration is strong and growing. Overall, smartphones are now used by 28% of all subscribers, and account for 41% of recent purchases. In 4Q10, more than 75% of Verizon Wireless Net Adds were smartphones.

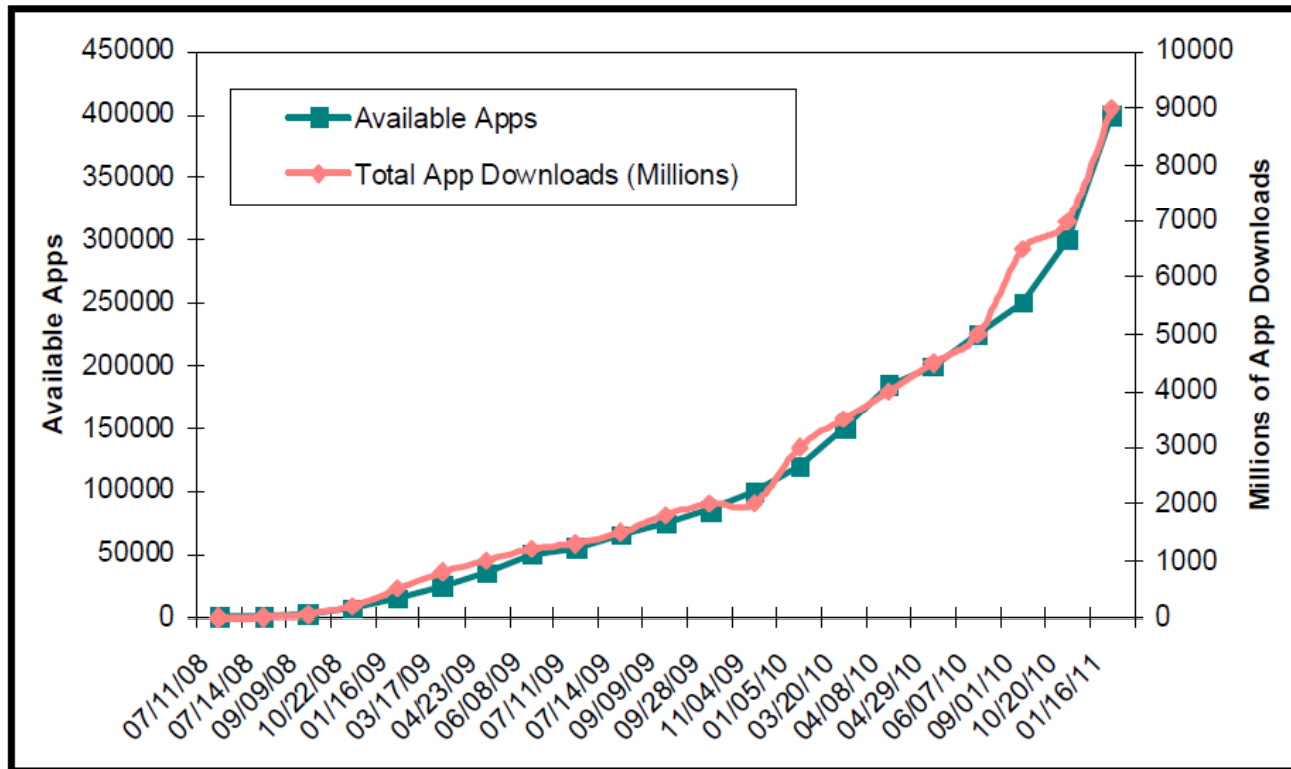
## Share of Smartphones in Use by Operating System (U.S.)

Operating System	Share of Smartphones in Use	
	December 2009	August 2010
RIM	41.6%	37.6%
Apple	25.3%	24.2%
Google	5.2%	19.6%
Microsoft	18.0%	10.8%
Palm	6.1%	4.6%
All Others	3.8%	3.2%

### Android is Advancing Rapidly

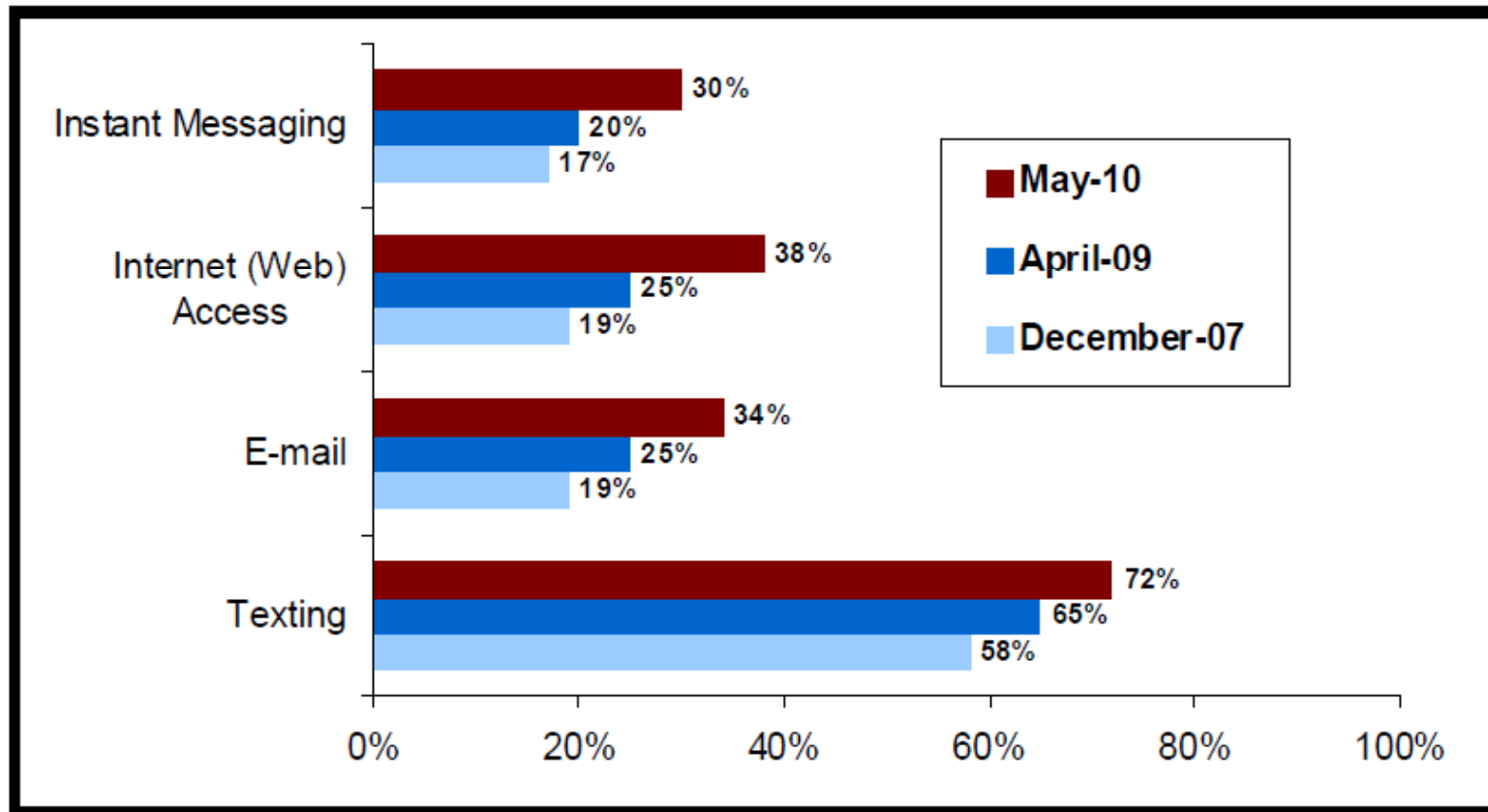
While RIM still leads in overall penetration, Google's Android penetration has grown from 5% to almost 20% in just one year. Apple's i-Phone has almost 25%. Microsoft has been in decline due to the delays in introducing Windows Phone 7.

Apple App Store – Available Apps and App Downloads



## App Growth is Exploding

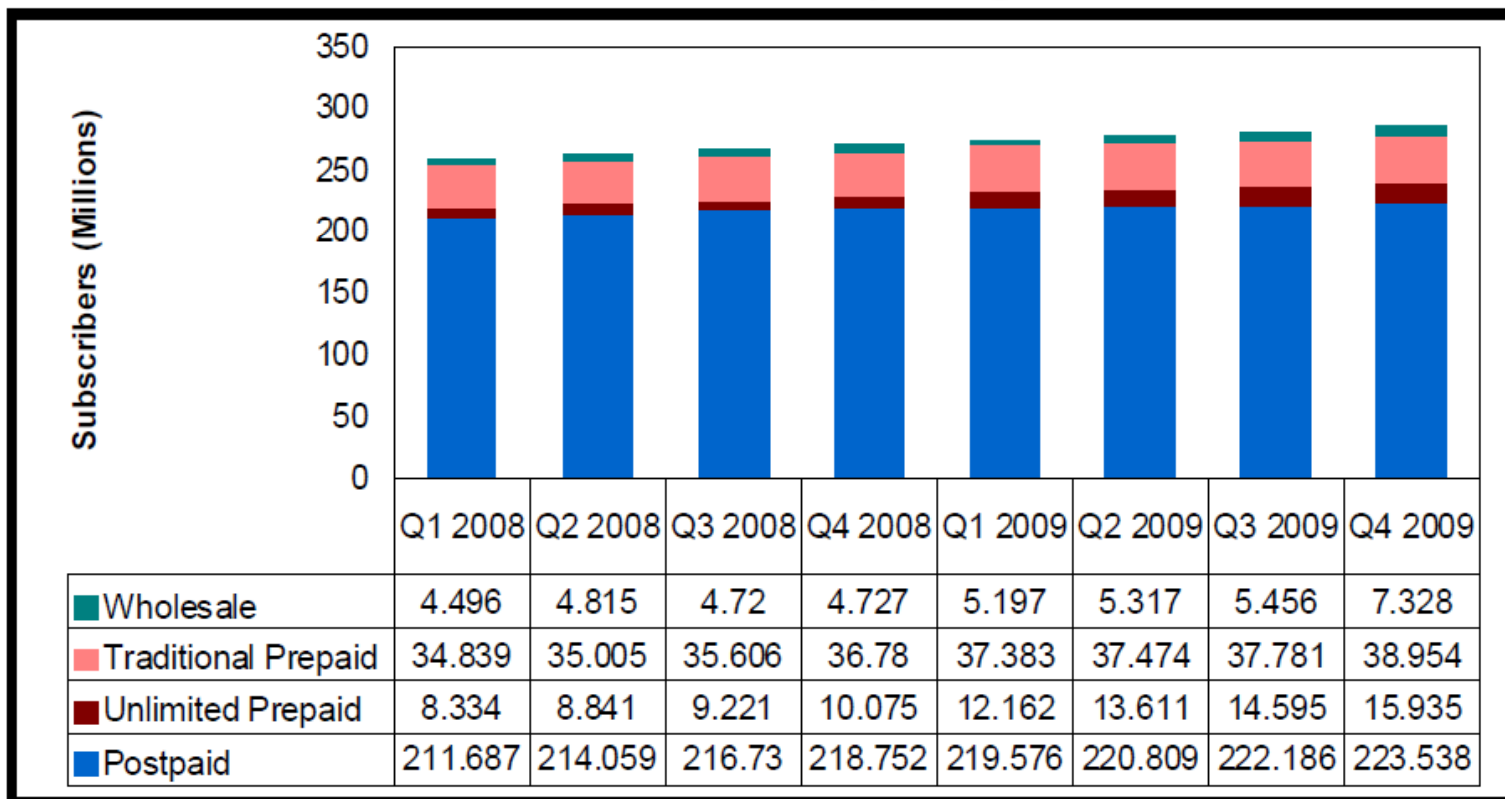
As of September 2010, Apple's App store offered 250,000 Apps, twice the amount offered the prior year. Downloaded Apps grew from 100,000 in 2008, to 2 billion in 2009 and **6.5 billion** as of September 2010.



## Mobile Data Service Adoption Rates

Among cell phone users, data services are exploding.

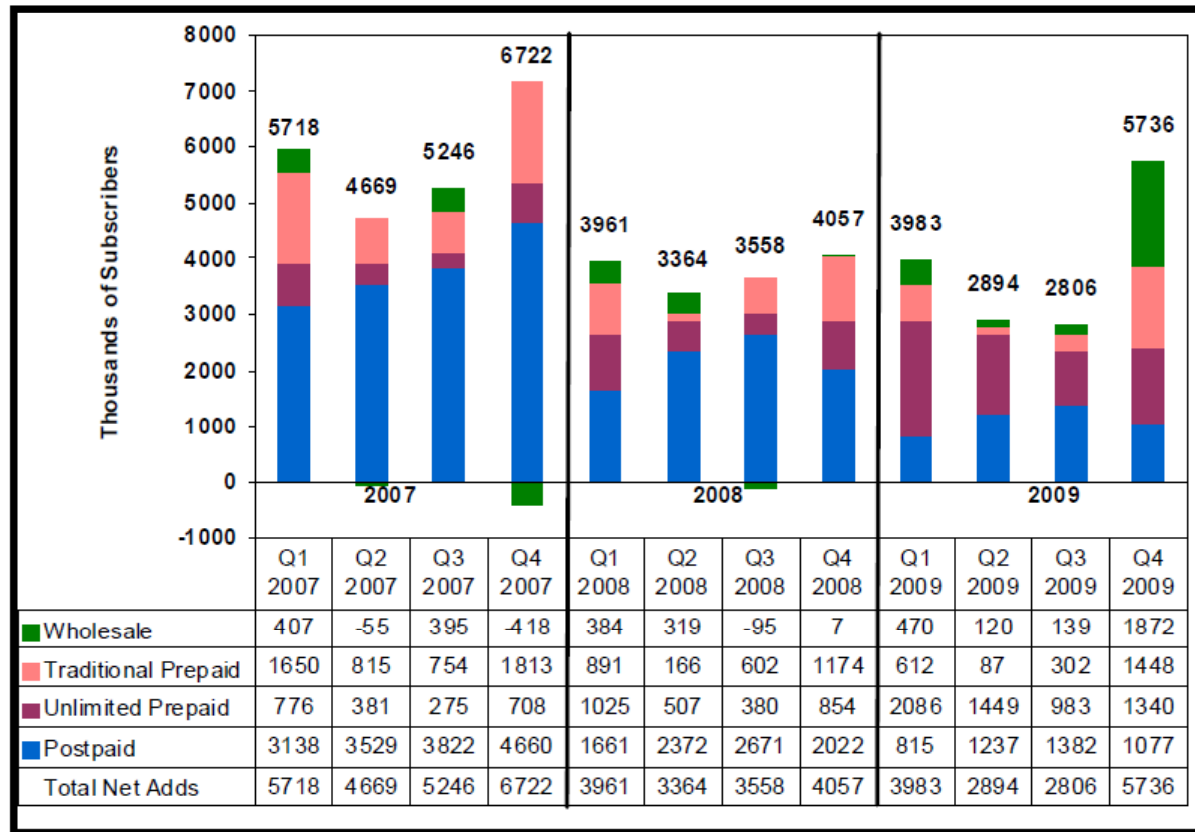
## Mobile Wireless Subscribers by Pricing Plan



## Postpaid Plans Account for Most Subscribers

But the growth is taking place among wholesale and prepay.

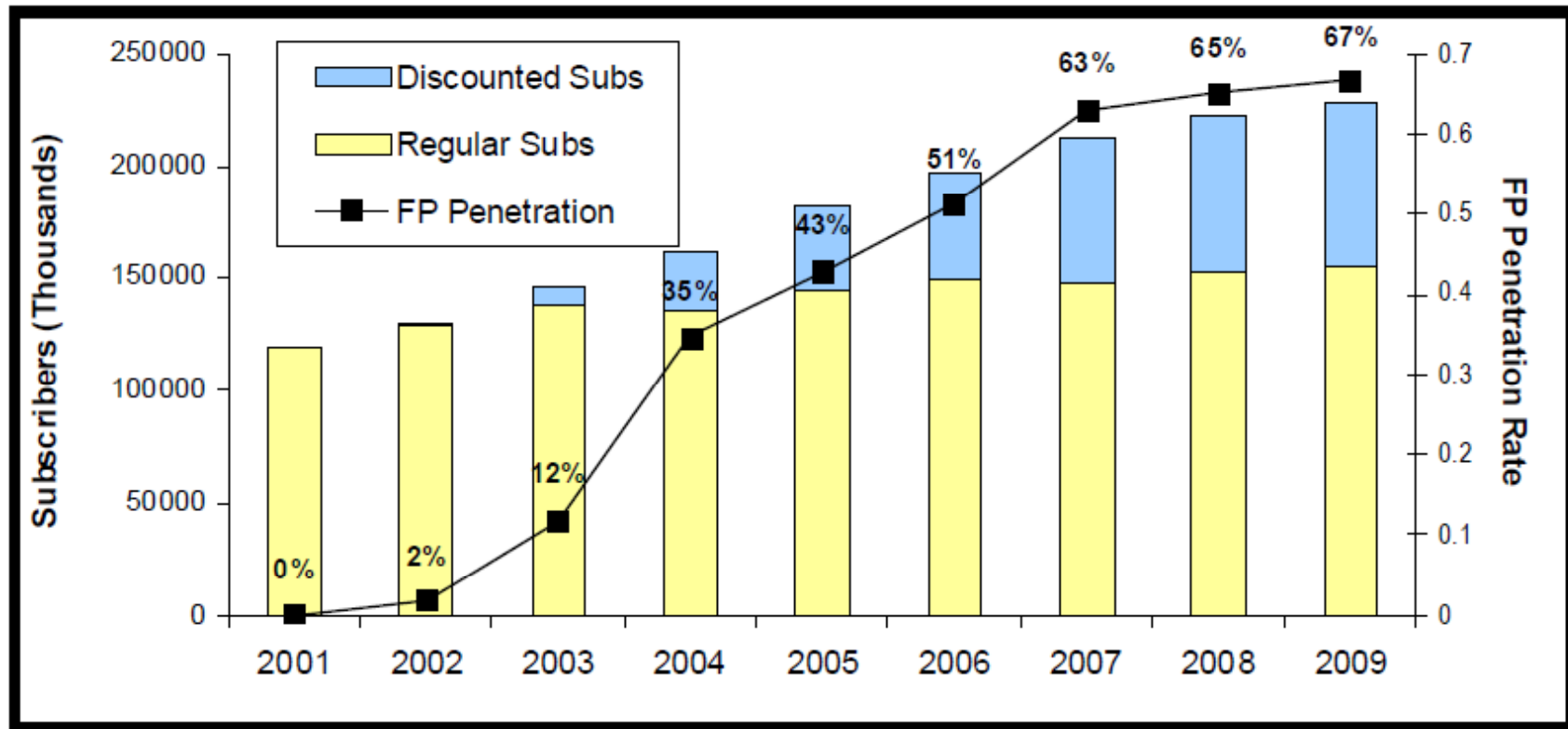
### Quarterly Net Adds by Pricing Plan: 2007-2009



## Prepay & Wholesale Account for Most Net Adds

The shift away from traditional postpay service began with the recession in 2008.

### Family Plan Subscribers and Penetration of Postpaid Base

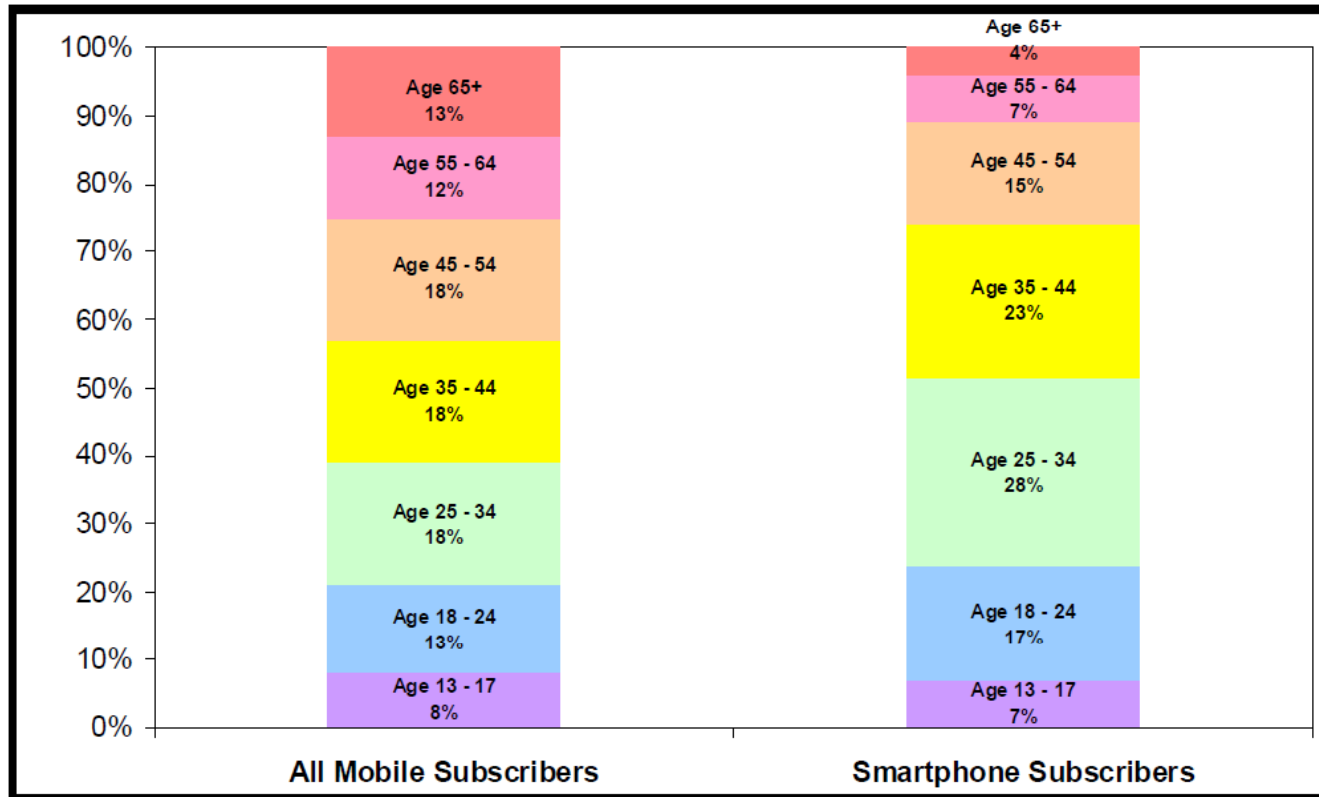


## 67% of Postpays Subscribe to Family Plans

Adoption of these plans appears to be leveling off.



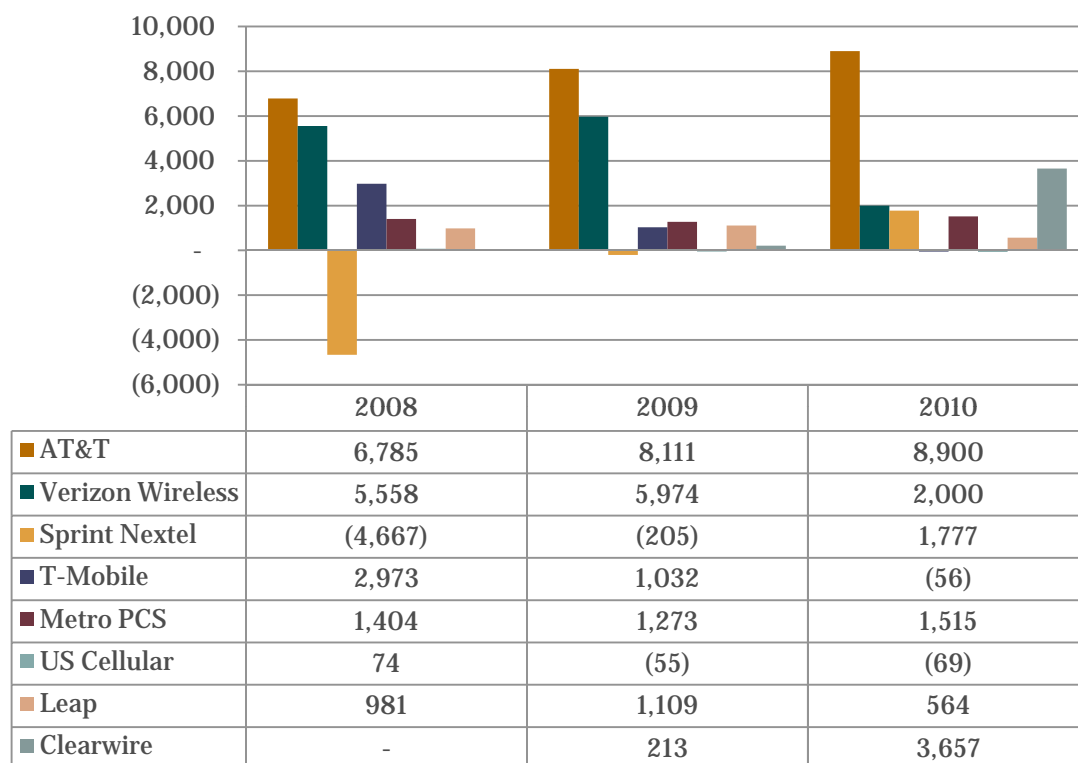
Age Breakdown of Mobile Wireless Subscribers



## Smartphone Adoption Skews Younger

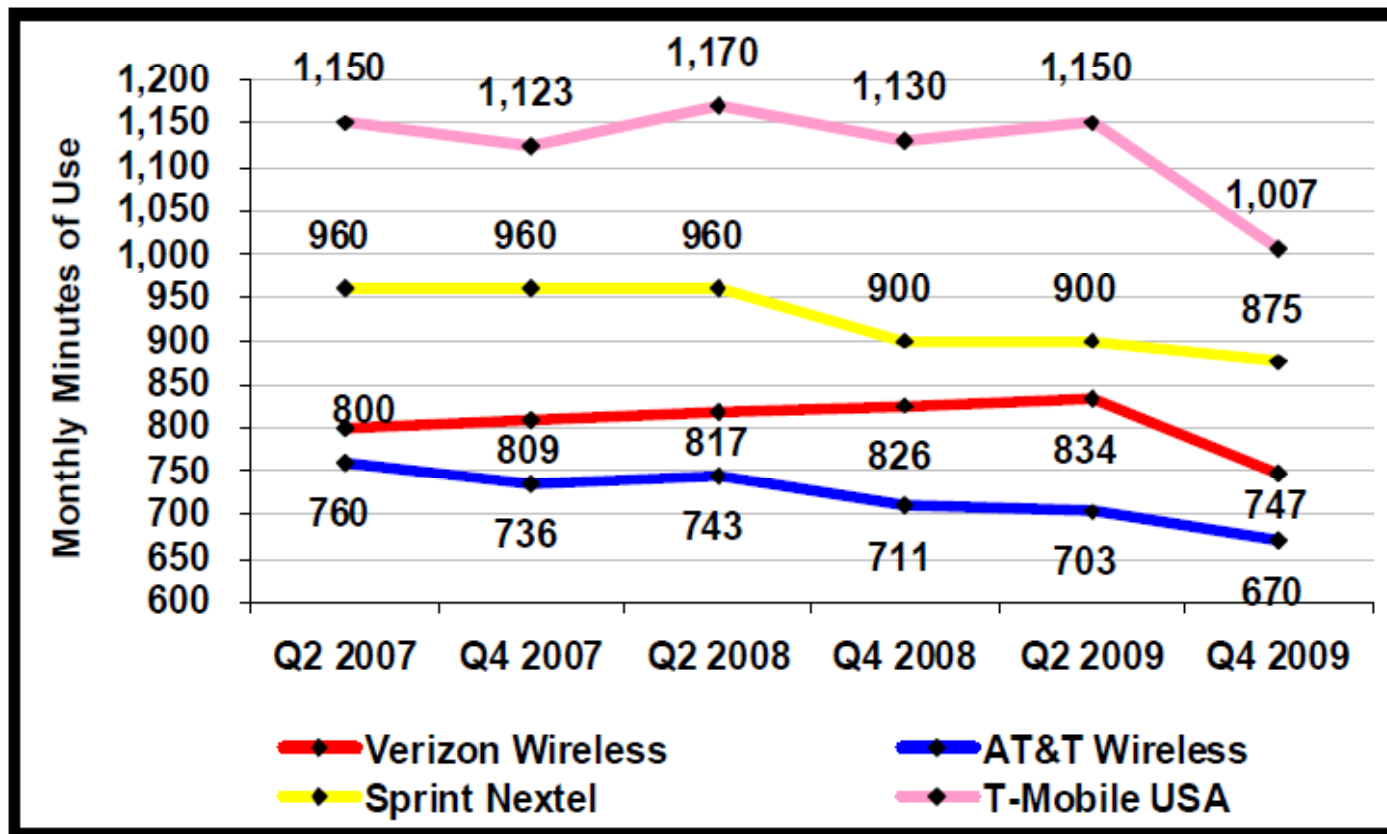
While overall cell phone adoption is high across all ages groups (between a low of 89% for those 65+ and 96% for those 18-24), smartphones appeal to younger consumers.

## Net Additions by Service Provider



## AT&T Enjoys Largest Net Add Growth

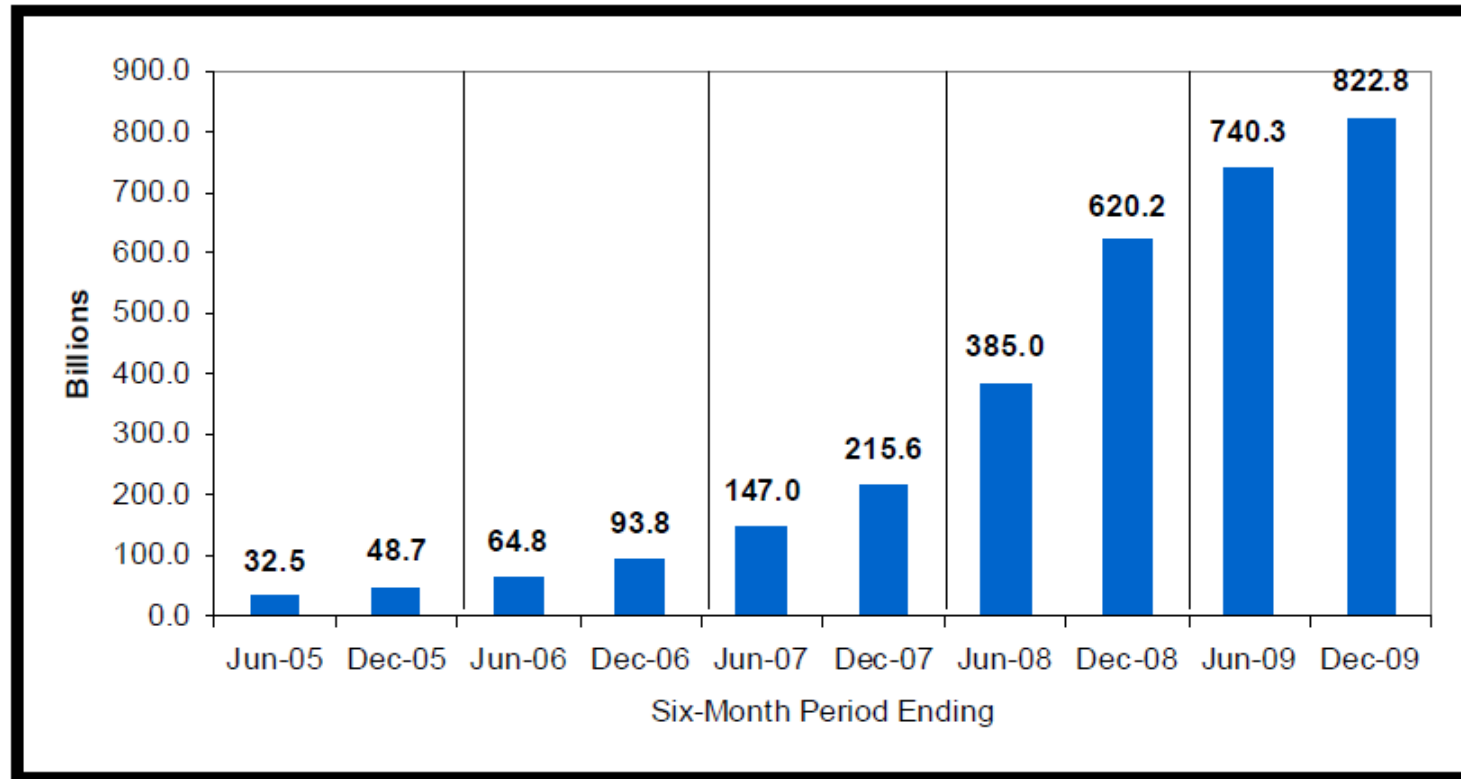
Propelled by the popularity of Apple's i-Phone. Sprint posted its best net add results in years.



## MOU/Subscriber for the Top Four

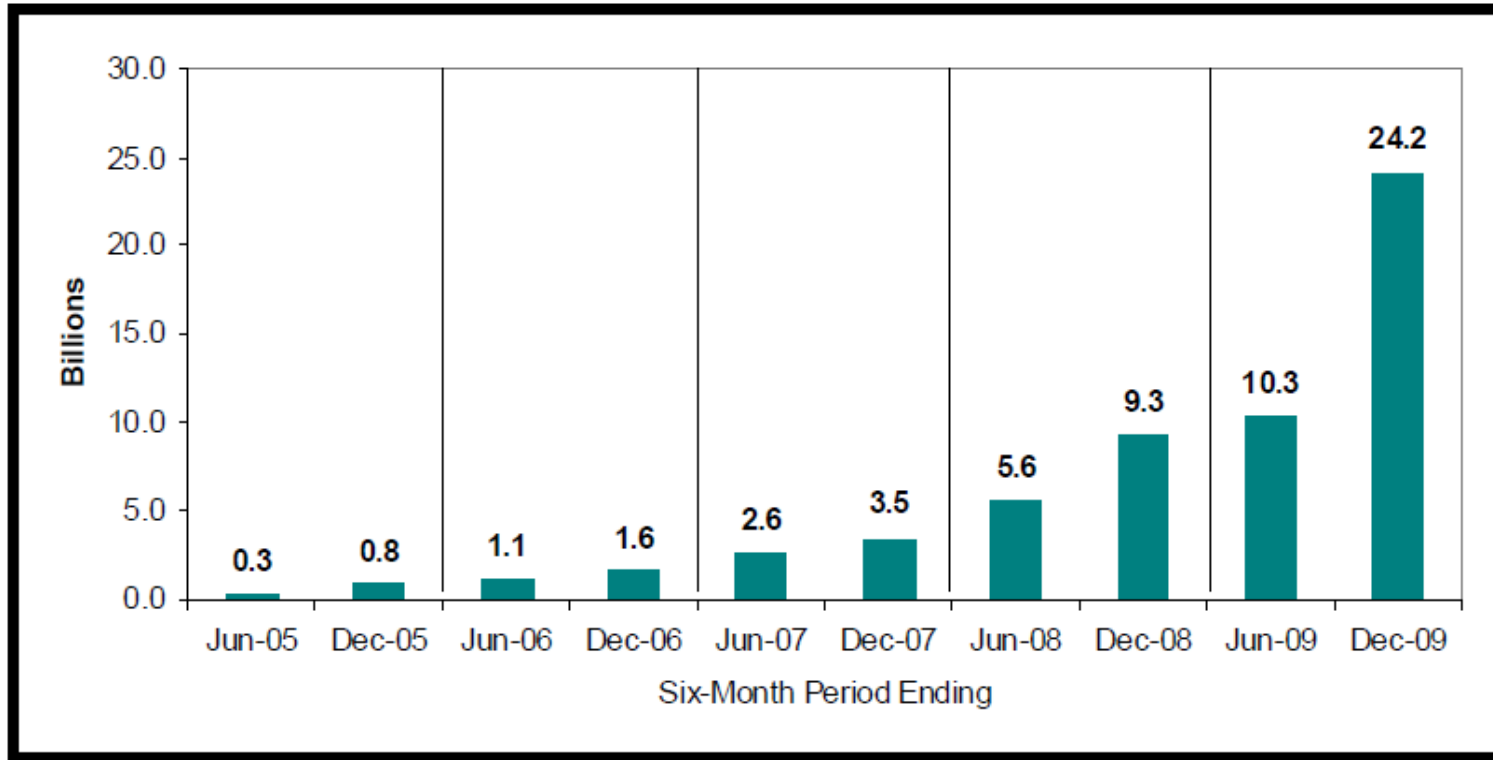
Voice MOUs, generally declining, vary significantly among the top four carriers.

### Six-Month Text Messaging Traffic Volumes



## Texting Traffic Growth

### Six-Month MMS Traffic Volumes



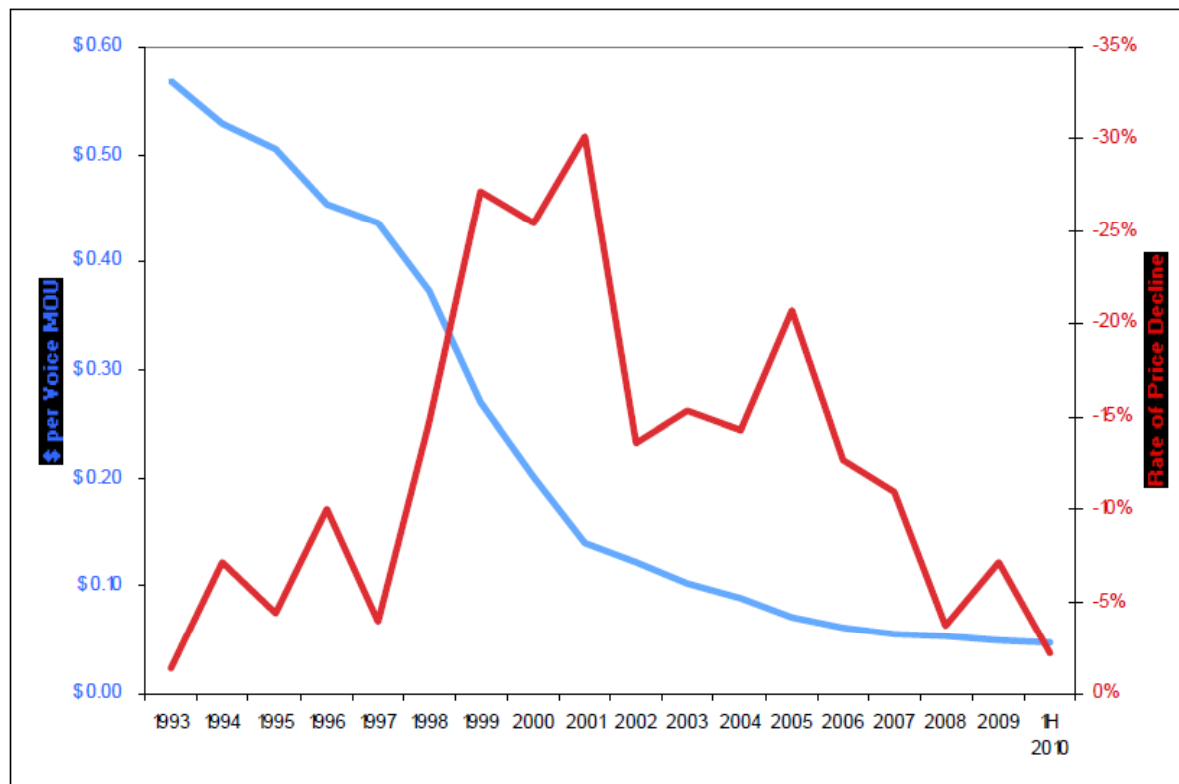
### MMS Traffic Growth

### **Average Text and MMS Messages Per Subscriber Per Month**

<b>Six-Month Period Ending</b>	<b>Average Text Messages Per User Per Month</b>	<b>Average MMS Messages Per User Per Month</b>
Jun-05	29	0.3
Dec-05	40	0.7
Jun-06	51	0.9
Dec-06	69	1.2
Jun-07	103	1.8
Dec-07	144	2.3
Jun-08	248	3.6
Dec-08	388	5.8
Jun-09	451	6.3
Dec-09	488	14.4

### **Texting and MMS Per User Growth**

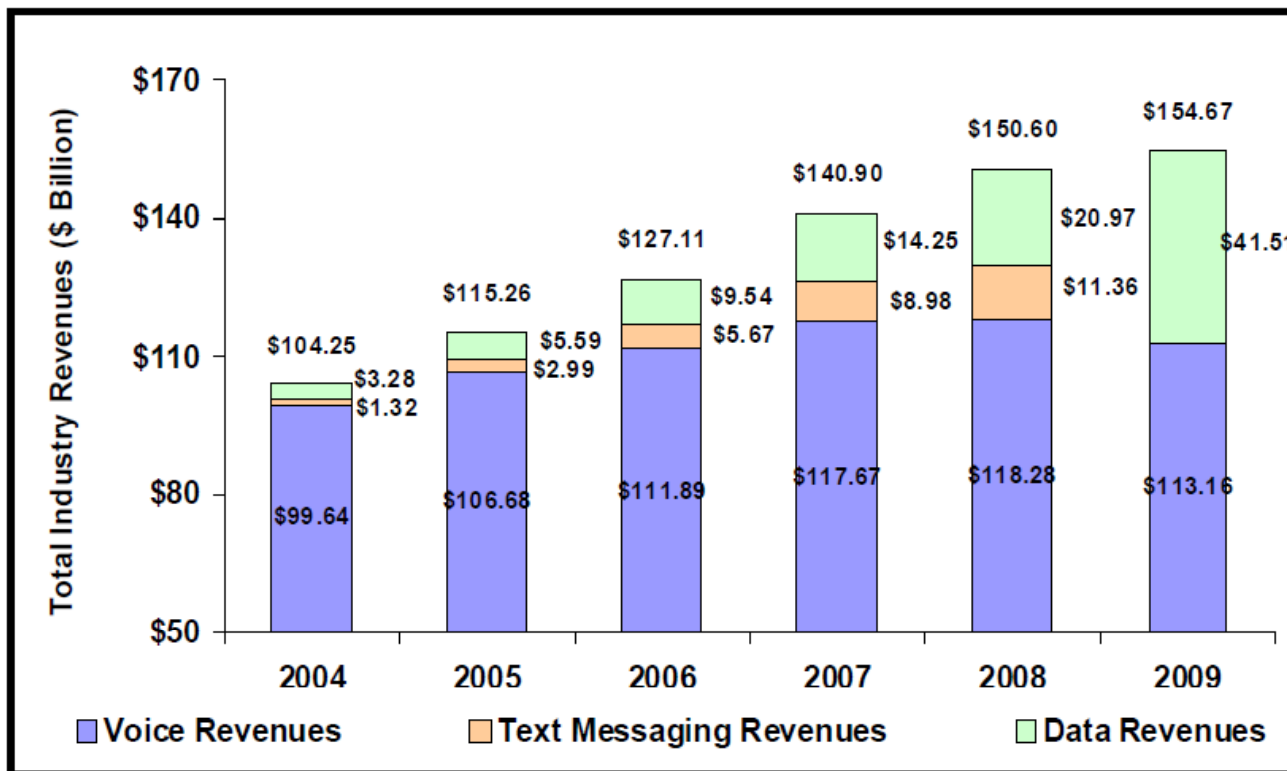
Mobile Wireless Voice Revenue per Minute: 1993-2010



## Voice Revenue/Minute Declines are Slowing

While voice revenue per minute has declined dramatically over the past 17 years, the rate of decline has decreased in recent years.

### Total Mobile Wireless Industry Revenues

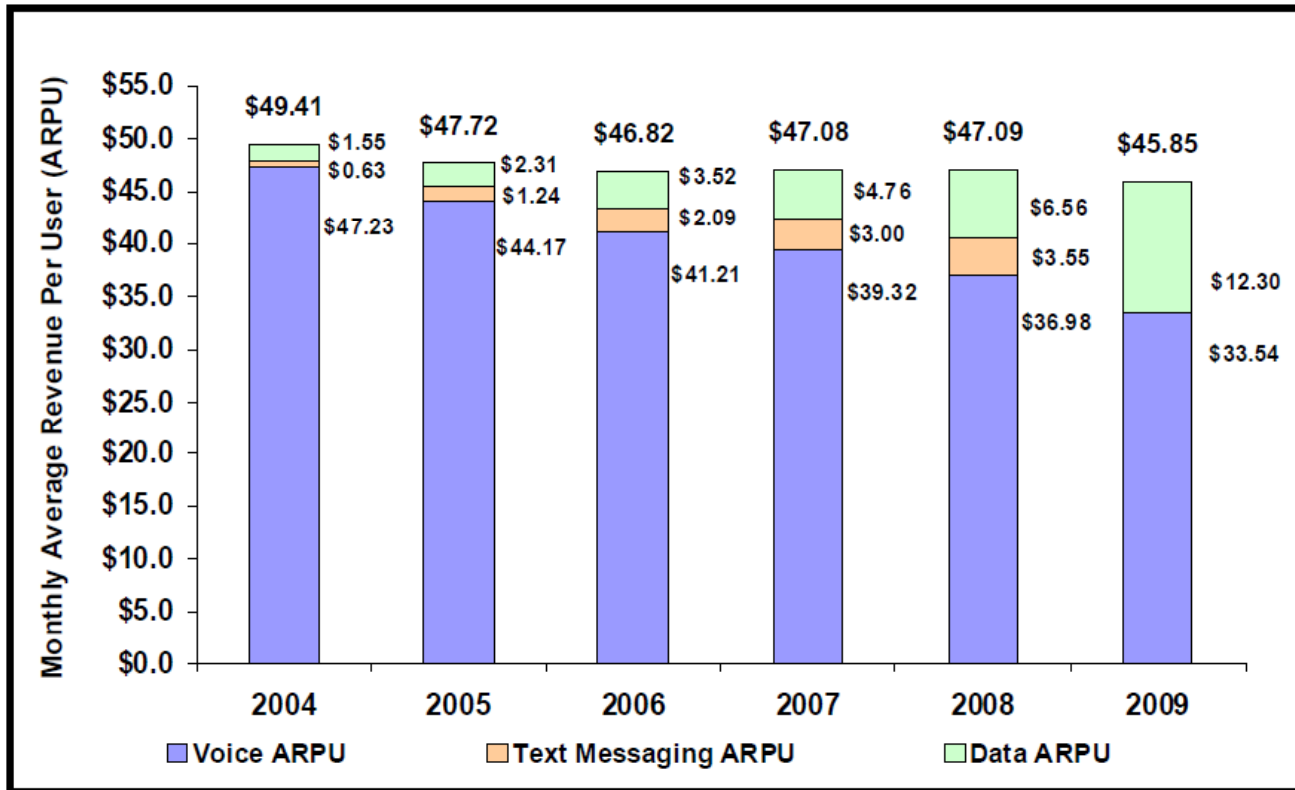


## Data Revenues Growing, Voice Declining

Annual voice revenues declined for the first time in 2009, by approximately four percent, from \$118 billion to \$113 billion. At the same time, data revenue increased 28 percent from \$32 billion to \$42 billion.



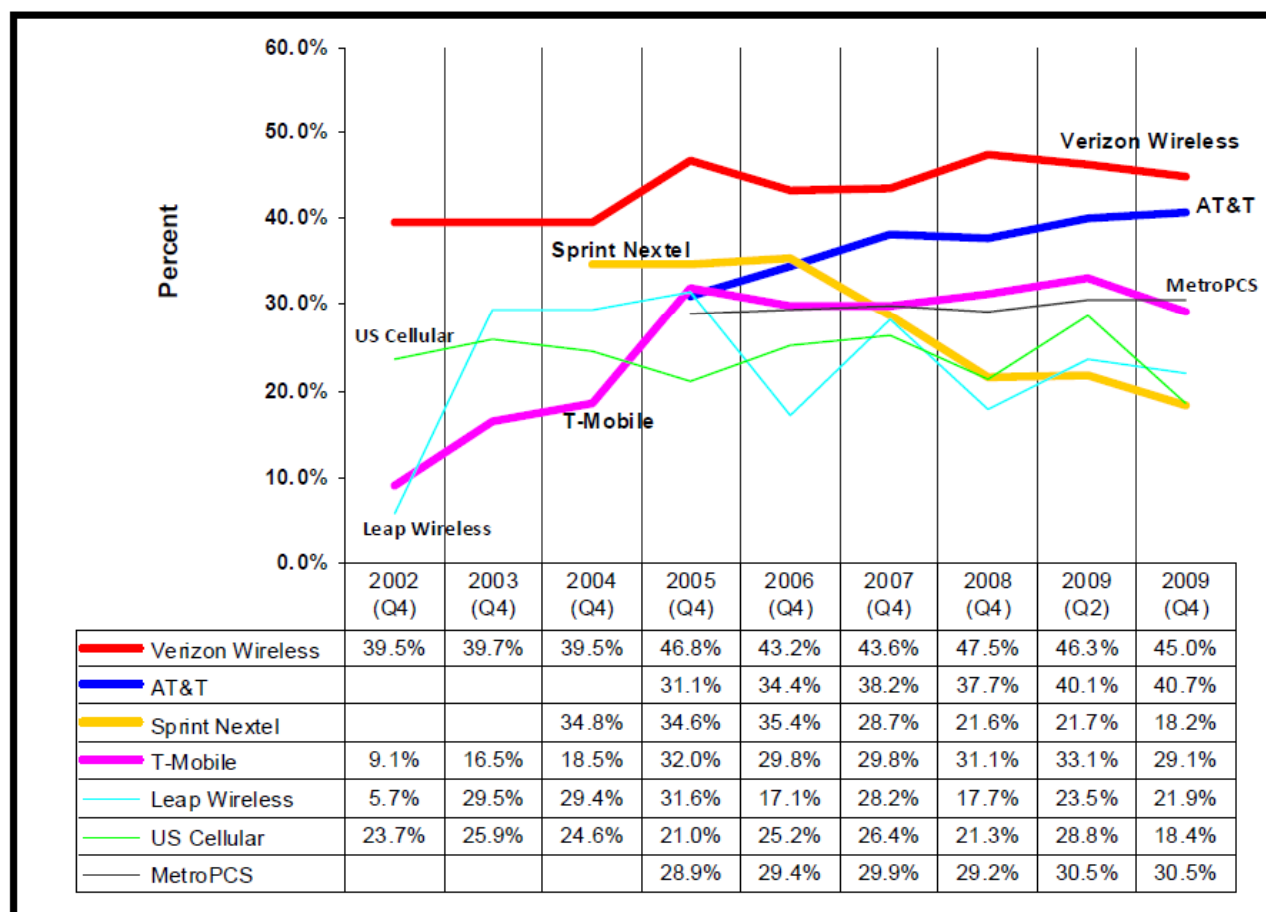
Monthly ARPU by Type of Service



## Data Service ARPU Grows 22%

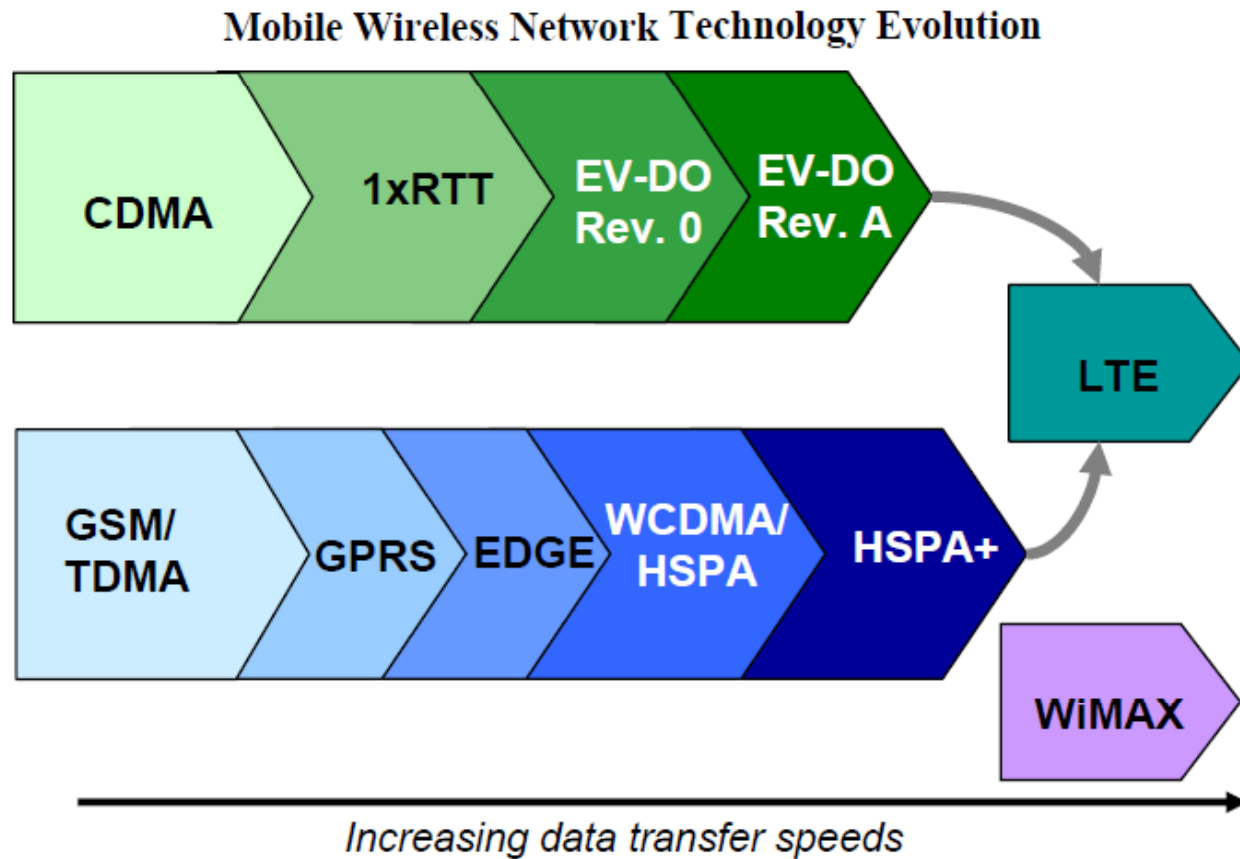
However, total ARPU declined 3%; Voice ARPU declined by 9%.  
The FCC did not capture “messaging ARPU” in 2009.

Reported EBITDA Margins: 2002 – 2009 (Selected Providers)



## Size Matters: VZW Outperforms on EBITDA

Verizon has consistently beaten the field with respect to operating margins. AT&T is catching up.



## **All Paths Lead to LTE, Except...**

Clearwire (and Sprint, through its investment in Clearwire) which has opted to offer broadband via WiMax.

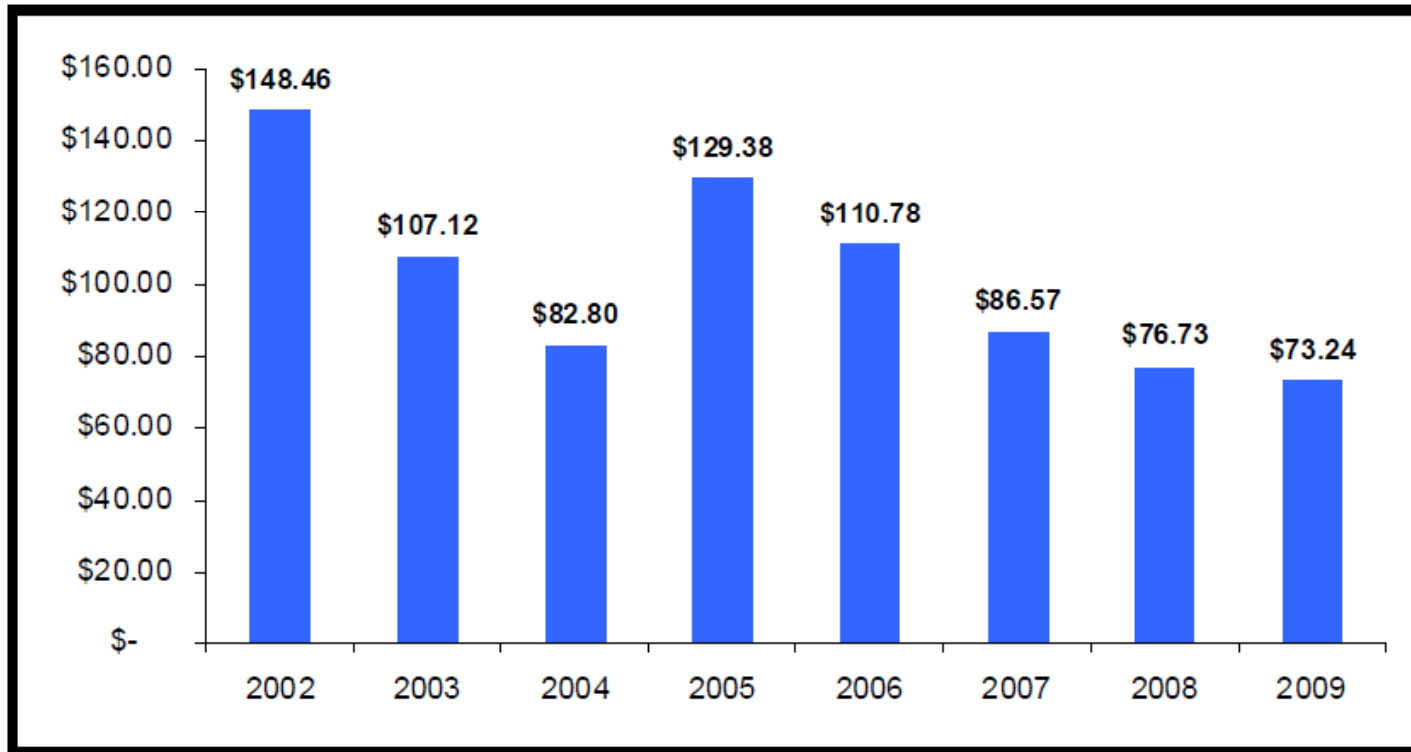
### 3G/4G Deployment by Selected Mobile Wireless Service Providers

Service Provider	HSPA and EV-DO Deployment	LTE and WiMAX Deployment
Verizon Wireless	As of September 2010, EV-DO Rev. A network covered 289 million POPs.	In December 2010, launched LTE in 38 cities covering 110 million people. Plans to expand LTE to its entire EV-DO footprint (289 million people) by the end of 2013.
AT&T Wireless	As of early 2010, HSPA covered 230 million POPs. As of January 2011, entire HSPA network had been upgraded with HSPA+ (14.4 Mbps).	Plans to launch LTE in areas covering around 75 million people by mid-2011 and to complete its LTE buildout by year-end 2013.
Sprint Nextel	As of August 2010, EV-DO Rev. A network was available in census blocks covering 239 million POPs.	Resells Clearwire's WiMAX service.
Clearwire		As of year-end 2010, WiMAX network covered approximately 120 million people.
T-Mobile	HSPA network covered 212 million POPs as of mid-2010 and HSPA+ (21 Mbps) network covered 200 million POPs in 100 cities as of year-end 2010.	No U.S.-specific plans.
MetroPCS		As of January 2011, launched LTE in 13 cities.

## 3G vs. 4G Deployment Status

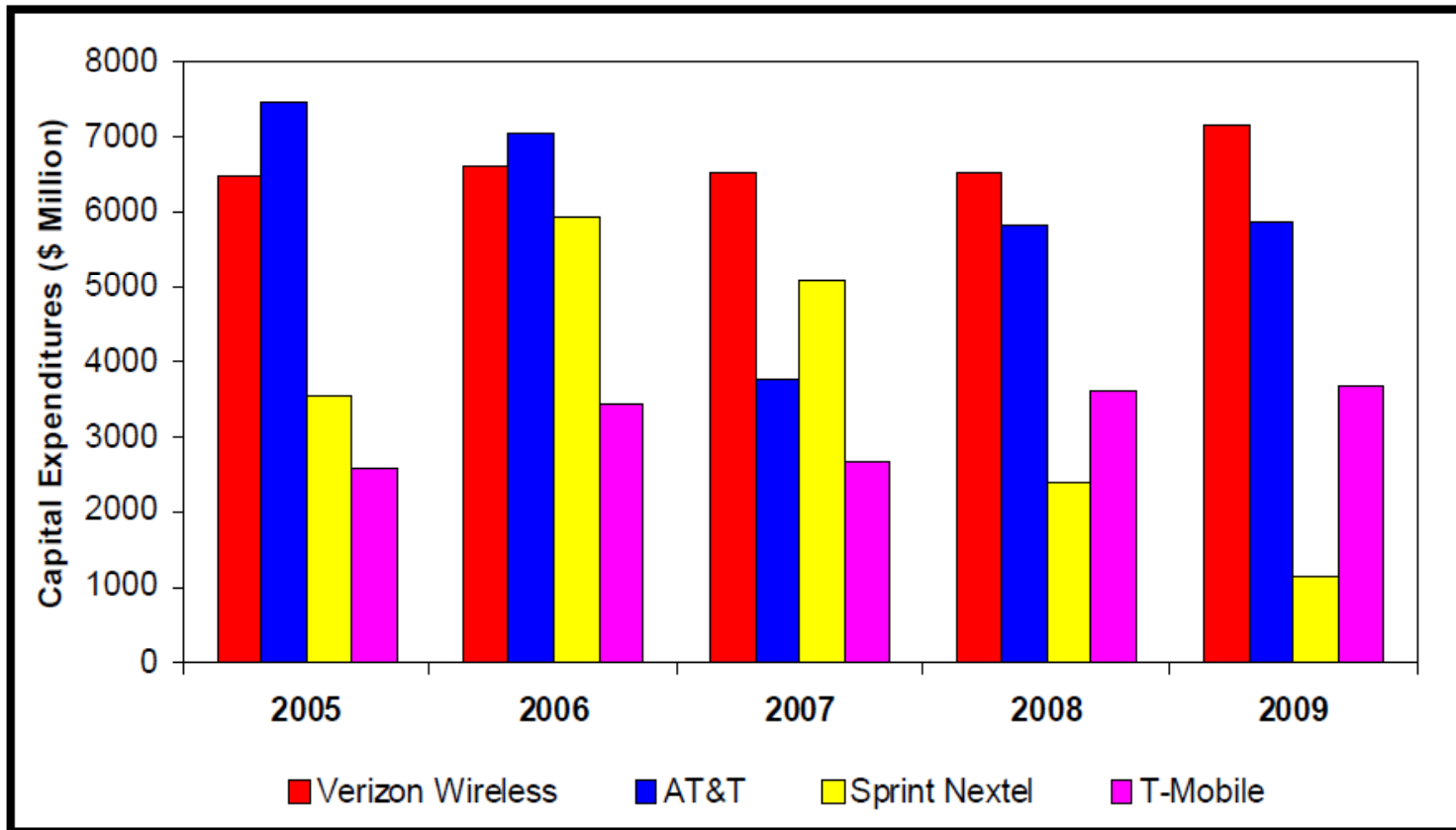
Both Verizon and AT&T are aggressively expanding their 4G networks.

### Annual Incremental Capital Investment per Subscriber<sup>a</sup>



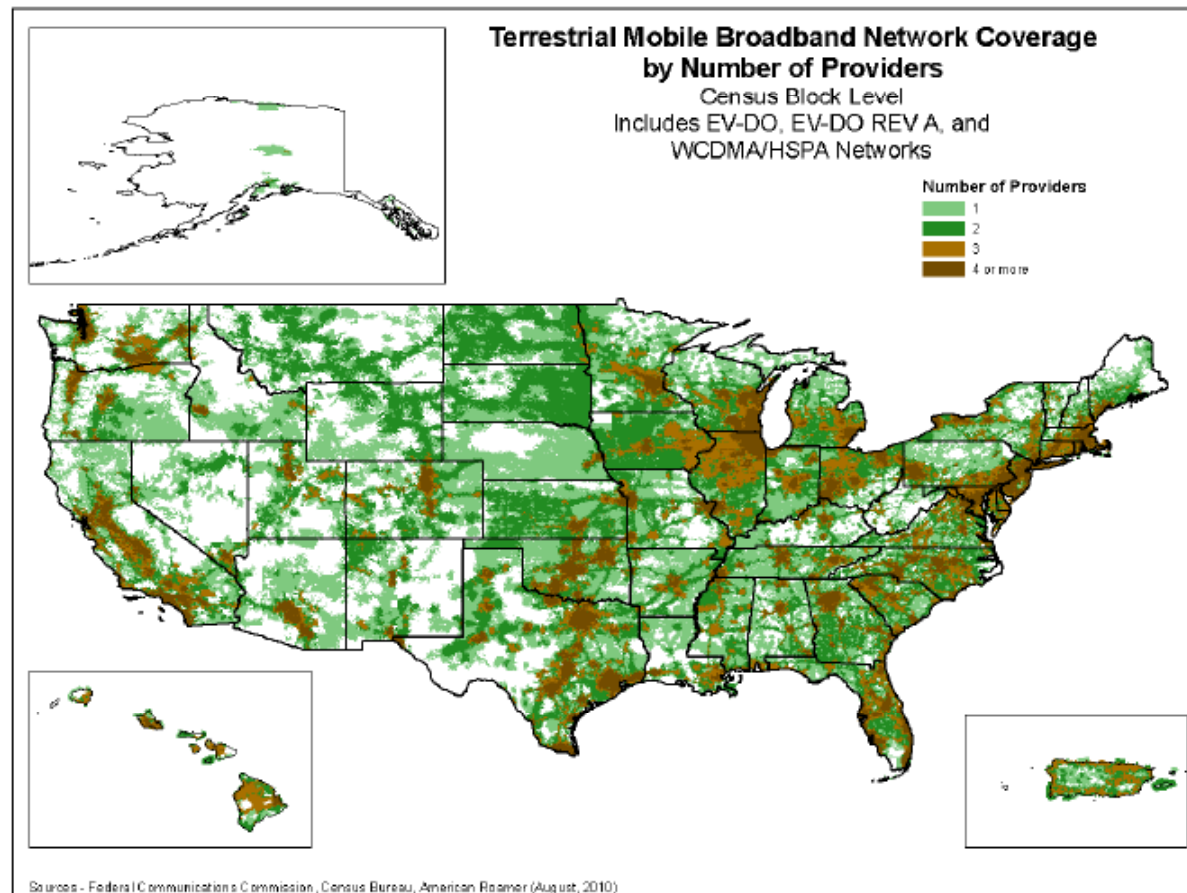
### Annual CapEx/Sub Declines

As penetration increases, carriers grow more efficient.



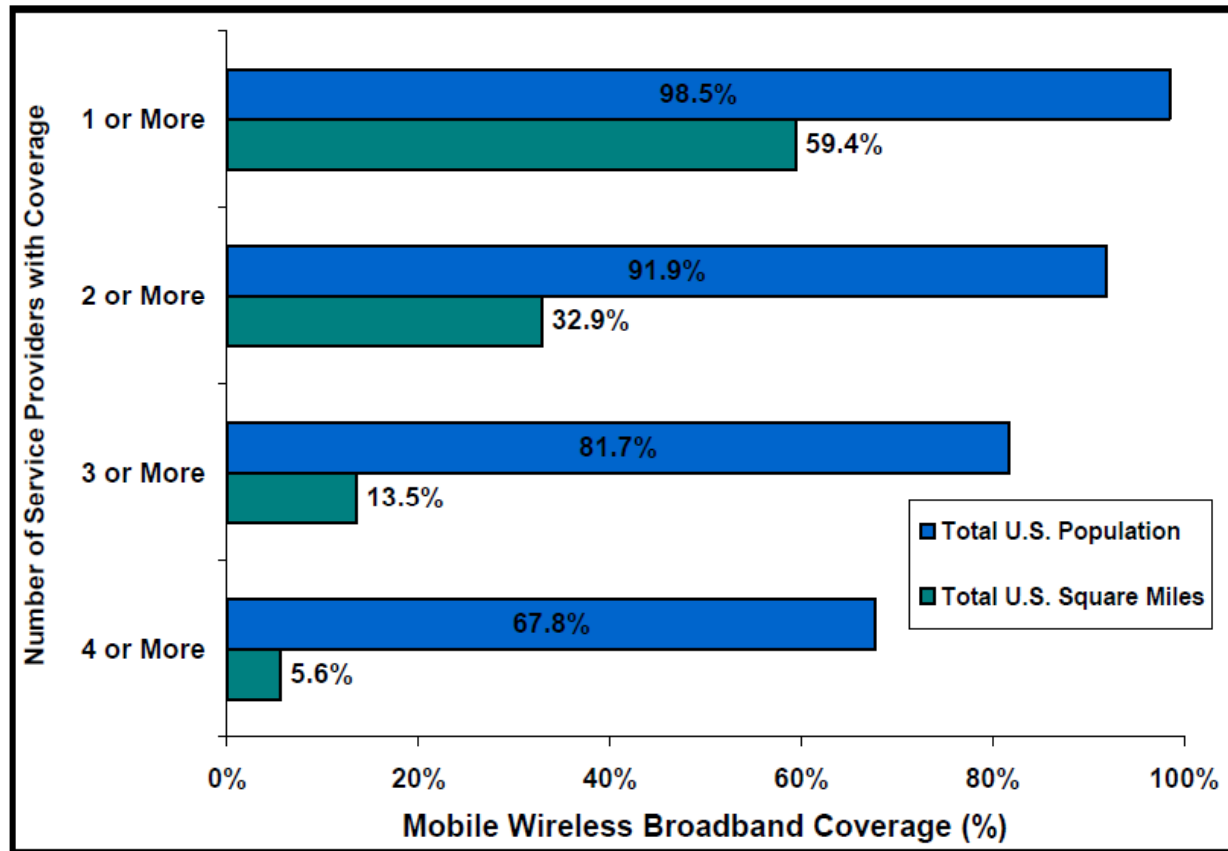
## Verizon Continues to Invest Most Heavily in its Network

AT&T investment is substantial as well. Sprint's investment has been declining.



## Mobile Wireless Broadband Coverage

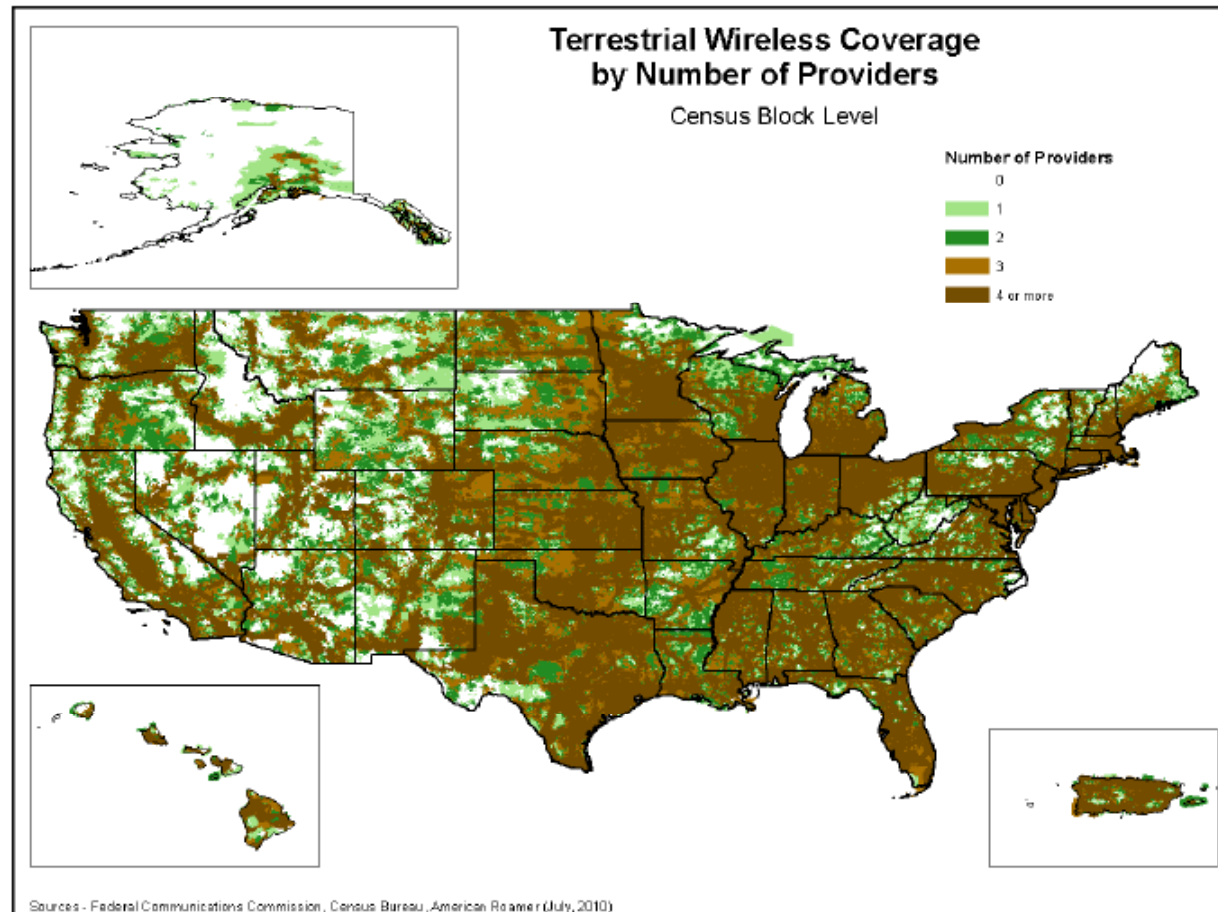
Wireless broadband availability and providers continues to grow.



## Mobile Wireless Broadband Coverage by Census Block, 2010

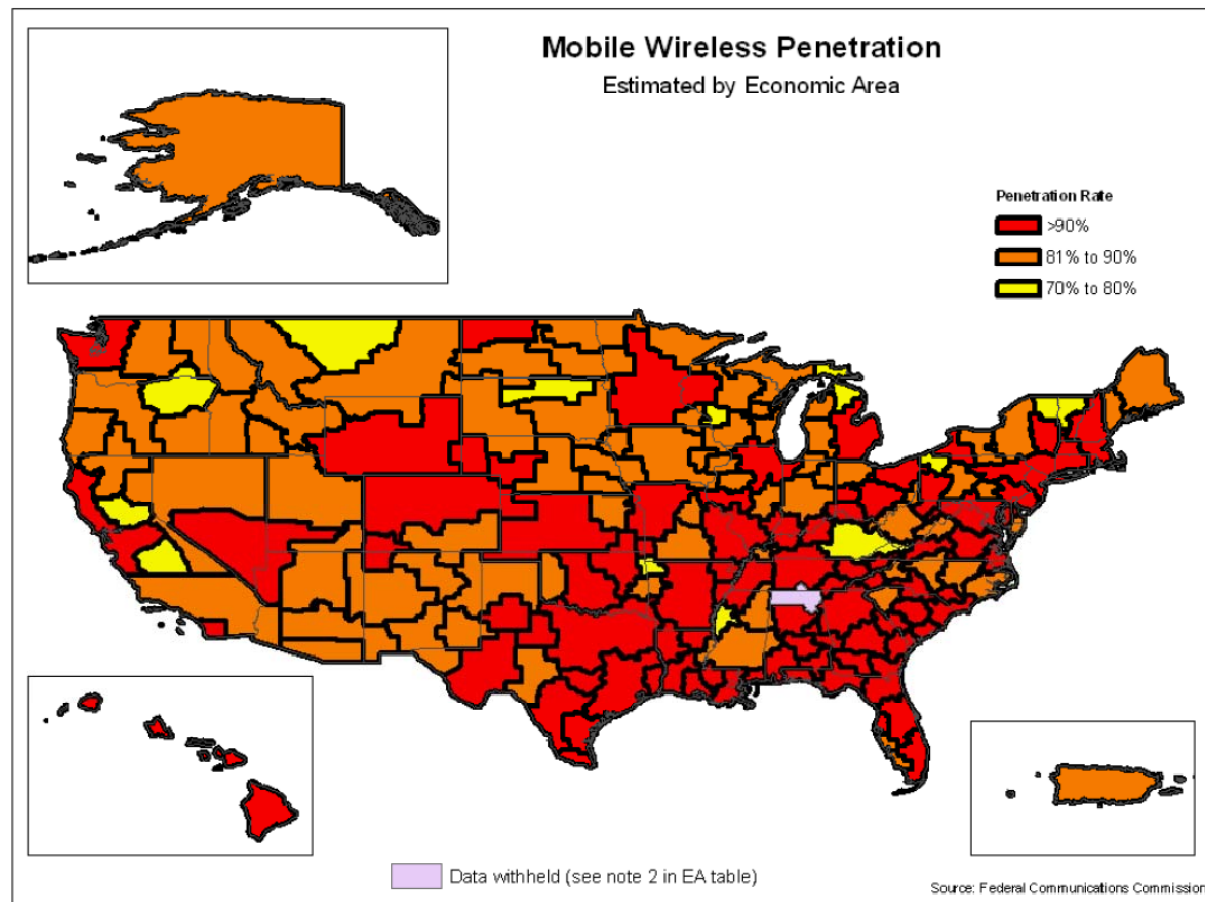
While almost 60% of the US land mass has mobile wireless broadband from at least 1 provider, only 33% has coverage from 2 or more providers.





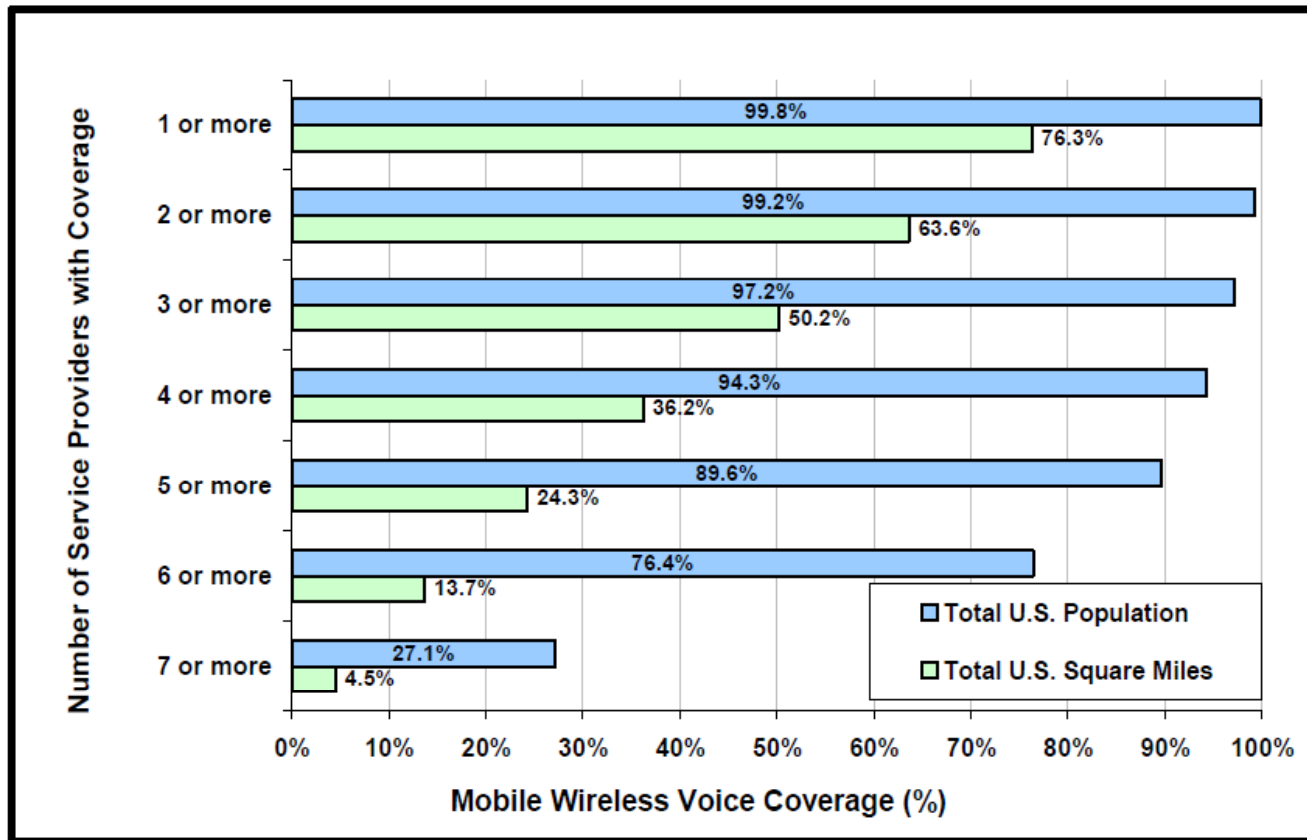
## Mobile Wireless Coverage is Robust

Overall wireless availability is detailed by number of providers.



## Rural Penetration lags

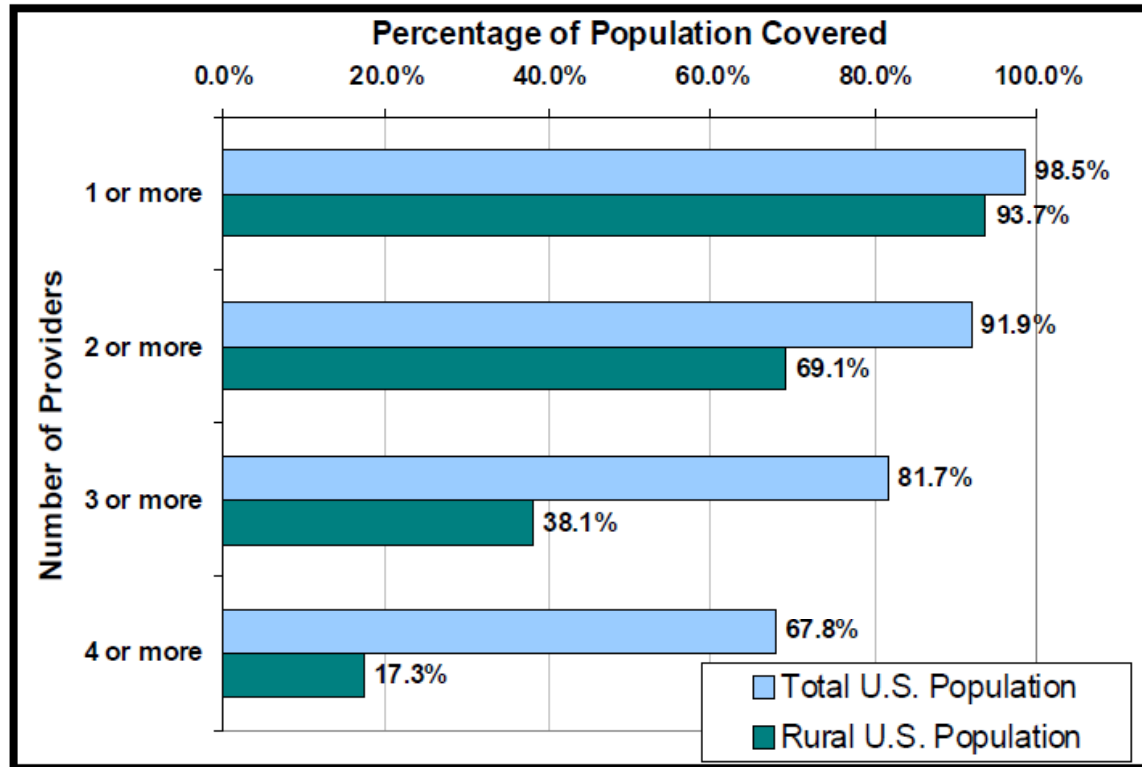
Wireless penetration in rural areas lags more populated EAs.



## Mobile Wireless Voice Coverage by Census Block, 2010

This chart details how competitive choices drop off rapidly as geographic area increases. Only 50% of the US is covered by 3 or more providers.

### Mobile Broadband Coverage in Rural Areas



## Rural Wireless Broadband Coverage Lags as Well

There is far less competition in rural America. Fewer providers cover fewer POPs than the overall US .

# Contact Info

Albert Bodamer

770.649.6756

[albert@bodamer.com](mailto:albert@bodamer.com)

Eileen Bodamer

770.645.6545

[eileen@bodamer.com](mailto:eileen@bodamer.com)

[www.bodamer.com](http://www.bodamer.com)

Linked   [www.facebook.com/BodamerConsulting](http://www.facebook.com/BodamerConsulting)  
<http://www.linkedin.com/company/bodamer-consulting-llc>