

VOICE COMPETITORS EXCEED HALF OF HOUSEHOLD SHARE IN ALL STATES

By Patrick Brogan, Vice President of Industry Analysis

USTelecom analysis of state-by-state data show competition for voice service remains substantial and growing across all of the states. By 2012, there was not a single state in which landline telephone service from a traditional voice provider was used by more than half the households — the range was 22 percent to 45 percent and these shares have continued to fall. This research updates previous USTelecom analyses¹ quantifying the portion of households, by state, who chose either to disconnect landline service altogether and go wireless-only, or to use alternative landline services, especially cable telephony and “interconnected Voice over Internet Protocol (VoIP).”² It complements USTelecom analysis of [national voice competition](#) with more granular state detail and shows that voice competition is widespread, not driven by a handful of competitive areas. The analysis provides ongoing support for USTelecom’s October 2014 [petition for regulatory modernization](#), expeditious resolution of Internet Protocol (IP) transition issues, and USTelecom’s previous [petition to the FCC](#) to find that traditional switched voice providers, known as incumbent local exchange carriers (ILECs), are no longer dominant providers of voice communications.

This state-level analysis covers the period from year-end 2008 to year-end 2012, based on the most current available [wireless data](#) from the Centers for Disease Control (CDC) and corresponding [wireline competition data](#) from the Federal Communications Commission (FCC).³ Nationwide, USTelecom estimated that 60 percent of U.S. telephone households received their primary voice connection via ILEC switched service at year-end 2008, falling to 33 percent at year-end 2012. USTelecom further estimated that the national share had fallen to 27 percent by year-end 2013 and would fall further to 22 percent by the end of 2014.⁴ While the most current state data are available only through 2012, it is very likely that state-level trends are, in varying degree, in line with the national trend of declining ILEC switched shares. Table 1 shows

¹ USTelecom previously published analyses of state-level data in [May 2011](#), [May 2013](#), and [December 2013](#). The May 2011 and May 2013 analyses are not directly comparable to subsequent analysis due to methodological upgrades made to maximize the consistency between the current state and national analyses. The differences are discussed in detail in Appendix B.

² “Interconnected VoIP” is a term defined by the FCC to include VoIP services that can send and receive calls to and from the public switched telephone network. It includes Internet phone services such as Vonage and most cable telephony, but excludes computer to computer IP telephony services such as Skype or FaceTime. Throughout the remainder of this Research Brief, “VoIP” means interconnected VoIP.

³ CDC provides data through mid-year 2012. Estimates to year-end 2012 are straight-line. The FCC has provided actual data for year-end 2012.

⁴ These figures exclude ILEC VoIP. This is consistent with the high-level national ILEC shares cited, which are for switched services only. Below, starting on page 5, there is a detailed analysis of ILEC Switched and VoIP services on a combined basis. See also Appendix B - Technical Notes for a discussion of ILEC VoIP.

competitive voice shares as a percent of U.S. households, by state from 2008 to 2012. The data underscore that a large portion of households in all states had already shifted to alternatives to ILEC switched services by the end of 2012, with competition likely gaining share in most or all states in recent years.

For 2008 and 2012, Table 1 shows the estimated portion of telephone households in four categories based on whether they receive telephone service via: ILEC switched landlines; landlines other than ILEC switched; or wireless-only. The three categories sum to 100 percent of telephone households.⁵ The table also shows the combined total of wireless-only and landlines other than ILEC switched. The last set of columns shows the change in percentage points for each of these categories during the four year period from 2008 to 2012. Within the table, the states are ranked by the combined share of wireless-only and landlines other than ILEC switched in 2012, from highest to lowest. The range statistics at the bottom of the table are arranged from low-to-high. Selective range data are shown graphically in Chart 1. Detailed data by state are available in Appendix A - State Details.

Among the states, the portion of households using ILEC switched service ranged from 22 percent at the low end to 45 percent at the high end at the end of 2012.⁶ In other words, in every state by the end of 2012, the ILEC switched share was less than half. The median ILEC switched portion was 32 percent. Four-fifths of states had ILEC switched household shares of 38 percent or less in 2012. The figures reported here for 2012 have likely declined further in the last two years, in line with national trends. As noted above, ILEC switched share at the national level has been projected to fall from 33 percent at the end of 2012 to 22 percent by the end 2014.

Contrast the 2012 state figures with 2008, just four years earlier, when ILEC switched services were being used by 44 percent to 71 percent of telephone households; the median ILEC switched share was 58 percent; and 39 of the 47 states examined had ILEC switched shares greater than 50 percent.⁷ From 2008 to 2012, the median state saw the share of households using ILEC switched service decline by 26 percentage points, an average of more than six percentage points per year. Four-fifths of states saw a decline of at least 21 percentage points. With continuing losses in recent years, it is clear that in the ILEC switched service has gone from a majority to a small and shrinking minority of households across the country.

⁵ These categories correspond to USTelecom's November 25, 2014 [national voice competition analysis](#). Percentages are given as a share of telephone households. At the national level approximately 98 percent of households are telephone households and 2 percent have no telephone.

⁶ The analysis includes 47 "states"—technically, 46 states and the District of Columbia. It excludes four states because data were not available from either the FCC (Alaska missing in both 2008 and 2012) or CDC (Montana, South Dakota, and Wyoming missing in 2012). See Appendix B - Technical Notes for additional details.

⁷ CDC did not report statistically significant data for three states in 2012 CDC: Montana, South Dakota, and Wyoming. CDC did report statistically significant data for these three states in 2008. The three states had estimated ILEC switched shares greater than 50 percent in 2008. For 2012, CDC did report less statistically significant data, for these three states, i.e., estimates with greater margins of error. Due to statistical significance issues, USTelecom does not make projections to year-end for these states. Nonetheless, Montana, South Dakota, and Wyoming had less than 50 percent ILEC switched share in mid-2012. So, taking these figures into consideration, 42 of 50 states and DC had ILEC switched shares greater than 50 percent as of year-end 2008 and none had ILEC switched shares greater than 50 percent as of year-end 2012.

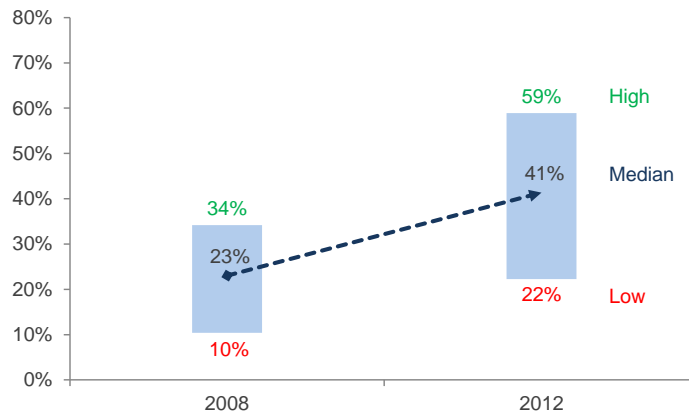
Table 1: State Voice Shares for ILEC Switched Services and Alternatives
 (Estimated Percent of U.S. Telephone Households, Year-End 2008 – Year-End 2012)

States Ranked by ILEC Switched Share	2008				2012				Change 08-12			
	Landline Other		All Other		Landline Other		All Other		Landline Other		All Other	
	ILEC Switched	Than ILEC Switched	Wireless Only	Than ILEC Switched	ILEC Switched	Than ILEC Switched	Wireless Only	Than ILEC Switched	ILEC Switched	Than ILEC Switched	Wireless Only	Than ILEC Switched
RI	44%	45%	10%	56%	22%	46%	32%	78%	-22%	1%	22%	22%
MI	48%	26%	26%	52%	24%	32%	44%	76%	-24%	6%	18%	24%
FL	56%	18%	25%	44%	25%	30%	45%	75%	-32%	12%	20%	32%
MA	54%	32%	15%	46%	25%	48%	27%	75%	-28%	16%	12%	28%
NJ	57%	32%	11%	43%	25%	53%	22%	75%	-32%	20%	12%	32%
UT	60%	18%	22%	40%	26%	19%	54%	74%	-34%	2%	32%	34%
NY	50%	34%	15%	50%	27%	46%	27%	73%	-23%	11%	12%	23%
AZ	44%	29%	27%	56%	27%	27%	46%	73%	-17%	-2%	19%	17%
DC	58%	17%	25%	42%	27%	22%	51%	73%	-31%	5%	26%	31%
NH	56%	29%	14%	44%	28%	42%	30%	72%	-28%	13%	15%	28%
WA	56%	21%	23%	44%	29%	28%	44%	71%	-27%	7%	21%	27%
KS	49%	24%	27%	51%	29%	24%	47%	71%	-20%	0%	21%	20%
MD	63%	21%	16%	37%	29%	38%	33%	71%	-34%	17%	17%	34%
IL	58%	19%	23%	42%	29%	28%	43%	71%	-29%	9%	21%	29%
DE	60%	25%	15%	40%	29%	46%	25%	71%	-31%	21%	10%	31%
TX	56%	13%	30%	44%	29%	21%	49%	71%	-27%	8%	19%	27%
MS	57%	9%	34%	43%	30%	14%	57%	70%	-27%	4%	23%	27%
NV	57%	22%	20%	43%	30%	26%	44%	70%	-27%	3%	24%	27%
CO	53%	17%	30%	47%	30%	24%	46%	70%	-23%	7%	16%	23%
ID	61%	9%	30%	39%	30%	11%	59%	70%	-30%	2%	29%	30%
CT	60%	29%	11%	40%	31%	46%	23%	69%	-29%	17%	13%	29%
OK	49%	23%	28%	51%	31%	26%	43%	69%	-18%	3%	15%	18%
WI	58%	20%	22%	42%	31%	23%	45%	69%	-26%	3%	24%	26%
AR	57%	9%	34%	43%	32%	12%	56%	68%	-25%	3%	22%	25%
GA	59%	17%	24%	41%	33%	25%	43%	67%	-26%	8%	18%	26%
TN	59%	14%	27%	41%	33%	25%	42%	67%	-26%	11%	15%	26%
VA	57%	21%	22%	43%	33%	31%	36%	67%	-24%	10%	14%	24%
IN	62%	14%	24%	38%	34%	24%	42%	66%	-28%	10%	18%	28%
OR	56%	17%	27%	44%	34%	27%	39%	66%	-22%	10%	12%	22%
OH	56%	21%	23%	44%	34%	25%	41%	66%	-22%	4%	18%	22%
NE	46%	23%	31%	54%	35%	25%	40%	65%	-11%	2%	9%	11%
LA	60%	17%	23%	40%	35%	24%	41%	65%	-25%	7%	18%	25%
MO	69%	12%	20%	31%	35%	17%	48%	65%	-33%	5%	28%	33%
SC	61%	15%	24%	39%	35%	21%	44%	65%	-26%	6%	20%	26%
CA	66%	18%	16%	34%	35%	28%	37%	65%	-31%	10%	21%	31%
PA	66%	18%	15%	34%	37%	34%	29%	63%	-29%	15%	14%	29%
AL	64%	13%	23%	36%	37%	22%	41%	63%	-26%	8%	18%	26%
NC	59%	17%	24%	41%	38%	25%	37%	62%	-21%	8%	13%	21%
IA	57%	14%	28%	43%	38%	14%	47%	62%	-19%	0%	19%	19%
ME	60%	18%	23%	40%	39%	22%	39%	61%	-21%	5%	17%	21%
MN	58%	17%	25%	42%	39%	22%	39%	61%	-19%	5%	15%	19%
KY	50%	19%	32%	50%	39%	20%	41%	61%	-11%	1%	10%	11%
ND	47%	22%	30%	53%	41%	16%	43%	59%	-6%	-6%	13%	6%
WV	71%	11%	18%	29%	43%	21%	35%	57%	-28%	11%	17%	28%
VT	68%	13%	19%	32%	43%	24%	33%	57%	-25%	11%	14%	25%
HI	66%	16%	17%	34%	44%	20%	36%	56%	-22%	3%	19%	22%
NM	66%	7%	27%	34%	45%	14%	41%	55%	-21%	7%	14%	21%
<i>Ranges and Averages</i>												
Low	44%	7%	10%	29%	22%	11%	22%	55%	-34%	-6%	9%	6%
20th Percentile	53%	14%	17%	38%	28%	20%	33%	62%	-29%	3%	13%	21%
Median	58%	18%	23%	42%	32%	25%	41%	68%	-26%	7%	18%	26%
80th Percentile	62%	24%	28%	47%	38%	32%	46%	72%	-21%	11%	21%	29%
High	71%	45%	34%	56%	45%	53%	59%	78%	-6%	21%	32%	34%

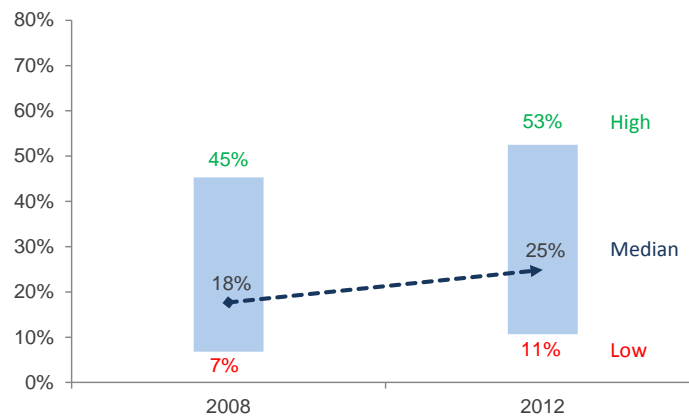
Sources: CDC, FCC, Census, USTelecom analysis. AK, MT, SD, and WY excluded due to data limitations.

Chart 1: State Ranges 2008-2012 Based on ILEC Switched Service

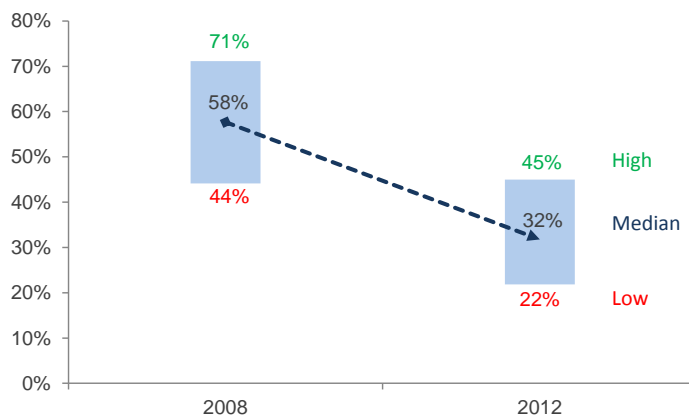
State Ranges: Wireless-Only Share of Households



State Ranges: Alternative Landline Share of Households



State Ranges: ILEC Switched Share of Households



Source: FCC, CDC, Census, USTelecom analysis. Excludes AK, MT, SD, and WY. ILEC VoIP is included in the Alternative Landline category.

Since ILECs have gained at least some VoIP customers as they have lost switched customers—slightly more than one VoIP customer gained for every four switched customers lost at the national level — Table 2 below provides estimated shares for all ILEC services, switched and VoIP. The general observations do not change when ILEC VoIP is included with ILEC switched service. At the national level the share of households using either ILEC switched or ILEC VoIP was 37 percent at year-end 2012, falling 33 percent by year-end 2013. As with switched service, state-level trends for all ILEC landline service — switched and VoIP — are in line with the national trend of declining ILEC shares.

Table 2 shows the estimated portion of telephone households in four categories based on whether they receive telephone service via: ILEC landlines; Non-ILEC landlines; or wireless-only. The three categories sum to 100 percent of telephone households.⁸ The table also shows the combined total of wireless-only and non-ILEC landlines. The last set of columns shows the change in percentage points for each of these categories during the four-year period from 2008 to 2012. Within the table, the states are ranked by the combined share for wireless-only and non-ILEC landlines in 2012, from highest to lowest. The range statistics at the bottom of the table are arranged from low-to-high. Selected range data are shown graphically in Chart 2.

Among the states, the portion of households using ILEC service ranged from 26 percent at the low end to 45 percent at the high end at the end of 2012. In every state, by the end of 2012, even after accounting for VoIP, the ILEC share remained less than half. The median ILEC portion was 37 percent. Four-fifths of states had ILEC household shares of 41 percent or less in 2012 and the figures have likely declined further in the last two years, in line with national trends. ILEC share at the national level was approximately 37 percent at the end of 2012 and has been projected to decline to 29 percent by the end 2014. The comparison to 2008 is similar to ILEC switched service: ILEC services overall were being used by 44 percent to 71 percent of telephone households; the median ILEC share was 58 percent; and 39 of the 47 states examined had ILEC shares greater than 50 percent. From 2008 to 2012, the median state saw the share of households using ILEC service decline by 22 percentage points, an average of more than five percentage points per year. Four-fifths of states saw a decline of at least 22 percentage points. Thus, even when accounting for the small portion of voice customers ILECs have won back or converted to VoIP service, it is clear that ILEC voice service overall has gone from a majority to a shrinking minority of households in all states.

⁸ These categories correspond to the “ILEC Wired” line item in USTelecom’s November 25, 2014 [national voice competition analysis](#). See in Appendix A of the national analysis.

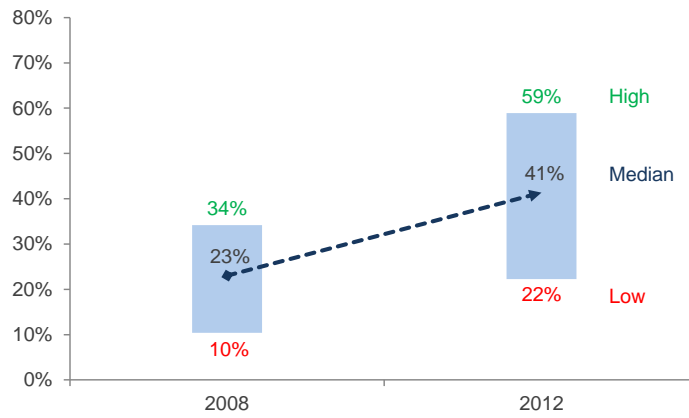
Table 2: State Voice Shares for All ILEC Services - Switched and VoIP - and Alternatives
(Estimated Percent of U.S. Telephone Households, Year-End 2008 – Year-End 2012)

States Ranked by ILEC Switched Share	2008				2012				Change 08-12			
	ILEC	Non-ILEC	Wireless Only	Wireless Only Plus Non-ILEC	ILEC	Non-ILEC	Wireless Only	Wireless Only Plus Non-ILEC	ILEC	Non-ILEC	Wireless Only	Wireless Only Plus Non-ILEC
UT	60%	18%	22%	40%	26%	19%	54%	74%	-34%	2%	32%	34%
AZ	44%	29%	27%	56%	27%	27%	46%	73%	-17%	-2%	19%	17%
MI	49%	25%	26%	51%	28%	28%	44%	72%	-21%	3%	18%	21%
NH	56%	29%	14%	44%	28%	42%	30%	72%	-28%	13%	15%	28%
WA	56%	21%	23%	44%	29%	27%	44%	71%	-27%	7%	21%	27%
FL	56%	18%	25%	44%	30%	25%	45%	70%	-26%	6%	20%	26%
CO	53%	17%	30%	47%	30%	24%	46%	70%	-23%	7%	16%	23%
ID	61%	9%	30%	39%	30%	11%	59%	70%	-30%	2%	29%	30%
DC	58%	17%	25%	42%	31%	18%	51%	69%	-28%	1%	26%	28%
NV	58%	22%	20%	42%	31%	25%	44%	69%	-26%	2%	24%	26%
KS	50%	24%	27%	50%	32%	21%	47%	68%	-18%	-3%	21%	18%
MS	57%	9%	34%	43%	32%	11%	57%	68%	-25%	2%	23%	25%
OK	49%	22%	28%	51%	33%	24%	43%	67%	-16%	1%	15%	16%
IL	59%	19%	23%	41%	34%	23%	43%	66%	-25%	4%	21%	25%
AR	57%	9%	34%	43%	34%	10%	56%	66%	-23%	2%	22%	23%
OR	56%	17%	27%	44%	34%	27%	39%	66%	-22%	10%	12%	22%
MA	54%	32%	15%	46%	34%	38%	27%	66%	-19%	7%	12%	19%
WI	58%	20%	22%	42%	35%	20%	45%	65%	-24%	0%	24%	24%
NE	46%	23%	31%	54%	35%	25%	40%	65%	-11%	2%	9%	11%
RI	44%	45%	10%	56%	35%	33%	32%	65%	-9%	-12%	22%	9%
NY	50%	34%	15%	50%	35%	38%	27%	65%	-15%	3%	12%	15%
TX	57%	13%	30%	43%	35%	15%	49%	65%	-21%	2%	19%	21%
TN	59%	14%	27%	41%	36%	22%	42%	64%	-23%	8%	15%	23%
GA	59%	17%	24%	41%	37%	21%	43%	63%	-22%	3%	18%	22%
NJ	57%	32%	11%	43%	37%	41%	22%	63%	-20%	8%	12%	20%
OH	57%	20%	23%	43%	37%	22%	41%	63%	-19%	2%	18%	19%
IN	63%	13%	24%	37%	38%	20%	42%	62%	-25%	7%	18%	25%
SC	61%	15%	24%	39%	38%	18%	44%	62%	-23%	3%	20%	23%
IA	57%	14%	28%	43%	38%	14%	47%	62%	-19%	0%	19%	19%
LA	60%	17%	23%	40%	38%	21%	41%	62%	-22%	4%	18%	22%
CT	62%	28%	11%	38%	38%	38%	23%	62%	-23%	11%	13%	23%
ME	60%	17%	23%	40%	39%	22%	39%	61%	-22%	5%	17%	22%
MN	58%	17%	25%	42%	39%	22%	39%	61%	-19%	5%	15%	19%
NC	59%	17%	24%	41%	40%	23%	37%	60%	-20%	6%	13%	20%
MO	69%	12%	20%	31%	40%	12%	48%	60%	-29%	1%	28%	29%
KY	50%	19%	32%	50%	40%	18%	41%	60%	-10%	0%	10%	10%
AL	64%	13%	23%	36%	41%	19%	41%	59%	-23%	5%	18%	23%
CA	66%	17%	16%	34%	41%	22%	37%	59%	-25%	5%	21%	25%
ND	47%	22%	30%	53%	41%	16%	43%	59%	-6%	-6%	13%	6%
VA	57%	21%	22%	43%	42%	21%	36%	58%	-14%	0%	14%	14%
DE	60%	25%	15%	40%	43%	33%	25%	57%	-18%	8%	10%	18%
WV	71%	11%	18%	29%	43%	21%	35%	57%	-28%	11%	17%	28%
VT	68%	13%	19%	32%	43%	24%	33%	57%	-25%	11%	14%	25%
MD	63%	21%	16%	37%	43%	24%	33%	57%	-20%	3%	17%	20%
PA	66%	18%	15%	34%	44%	27%	29%	56%	-22%	8%	14%	22%
HI	66%	16%	17%	34%	44%	20%	36%	56%	-22%	3%	19%	22%
NM	66%	7%	27%	34%	45%	14%	41%	55%	-21%	7%	14%	21%
<i>Ranges and Averages</i>												
Low	44%	7%	10%	29%	26%	10%	22%	55%	-34%	-12%	9%	6%
20th Percentile	53%	14%	17%	37%	31%	18%	33%	59%	-25%	1%	13%	18%
Median	58%	18%	23%	42%	37%	22%	41%	63%	-22%	3%	18%	22%
80th Percentile	63%	24%	28%	47%	41%	27%	46%	69%	-18%	7%	21%	25%
High	71%	45%	34%	56%	45%	42%	59%	74%	-6%	13%	32%	34%

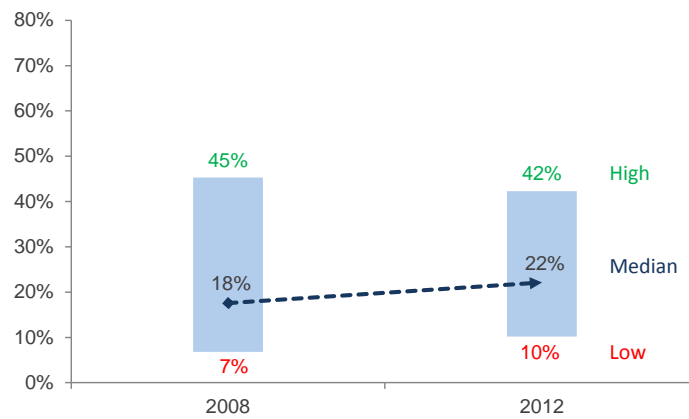
Sources: CDC, FCC, Census, USTelecom analysis. AK, MT, SD, and WY excluded due to data limitations.

Chart 2: State Ranges 2008-2012 Based on All ILEC Voice Services

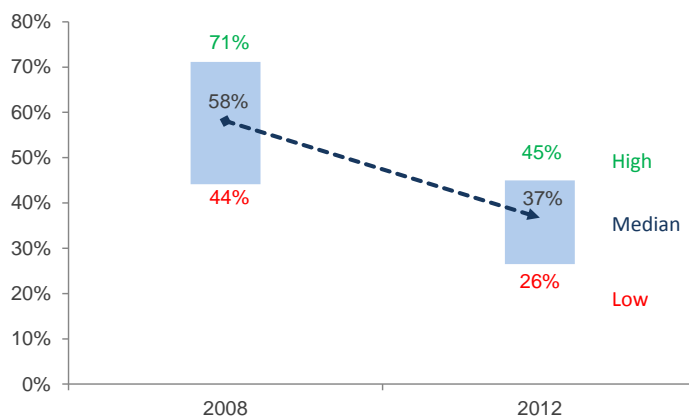
State Ranges: Wireless-Only Share of Households



State Ranges: Non-ILEC Share of Households



State Ranges: ILEC Share of Households



Source: FCC, CDC, Census, USTelecom analysis. Excludes AK, MT, SD, and WY. ILEC VoIP is included in the ILEC category.

These data emphasize that one must assess ILEC switched share losses holistically, looking at the combined impact of wireline and wireless alternatives. For example, as of 2012, among the states, anywhere from 11 percent (Idaho) to 53 percent (New Jersey) of telephone households had chosen a landline alternative to ILEC switched service, with a median of 25 percent. Wireless-only households ranged from 22 percent (New Jersey) to 59 percent (Idaho), with a median of 41 percent. The dynamic and the relative significance of wireline and wireless competition vary across the states. Yet, in no state was the combined share of wireless and landline alternatives to ILEC service less than 55 percent of telephone households.

Regardless of *relative rankings*, even the lowest ranked states appear to have significant levels of competitive share on an *absolute* basis. Moreover, this household share analysis is a conservative method of assessing competitiveness for several reasons. First, with the focus on “wireless-only” households, the analysis treats any household with a landline as being fully in the landline category, ignoring dual wireline and wireless usage, especially “wireless-mostly” usage.⁹ Second, this voice share analysis ignores communications alternatives other than interconnected voice, such as email, text messaging, computer to computer IP telephony, video chat, and social networking. USTelecom has [documented](#) the extent of adoption of these alternatives in 2011; however, measuring and analyzing the competitive impacts of non-voice alternatives is very difficult at the national, let alone state level. Therefore, this analysis is limited to more easily-measured landline and wireless voice calling options.

To summarize, at the end of 2012 the maximum household share for ILEC switched service in any state was 45 percent, the median was 32 percent, and four-fifths of all states had an ILEC switched share of no more than 38 percent. Even when netting in VoIP customers gained, the results are similar. At the end of 2012 the maximum household share for any ILEC voice service, switched or VoIP, in any state was also 45 percent; the median was 37 percent; and four-fifths of all states had an ILEC voice share of no more than 41 percent. From 2008 to 2012, households using ILEC telephone service have gone from a majority of homes to a small and shrinking minority. Since 2012, ILECs have continued to lose household share at a rapid pace. These figures reflect a conservative approach since they count only those households that have fully cut the cord and gone wireless-only. When taking into consideration the additional households that had both ILEC service — switched or VoIP — and wireless phones, but mostly used wireless phones, the share of households that used ILEC service exclusively or mostly in 2012 ranged from 19 percent to 37 percent, with a median of 27 percent. Considering this state-level voice competition data, continuing trends in landline and wireless competition, as well as the growing prevalence and popularity of non-voice communications options, it is increasingly clear that ILECs are no longer dominant in the provision of voice communications services.

⁹ “Wireless-mostly households are those CDC identifies as having both landlines and wireless telephones but receiving all or most calls via wireless. For example, [at the national level](#), USTelecom estimated that by year-end 2013 about 43 percent of telephone households were wireless-only, another 57 percent will have landlines, of which between 45 percent and 50 percent will also have wireless phones, and more than 15 percent will be “wireless-mostly.” Allocating wireless-mostly households in proportion to share of landlines, ILEC wireless-mostly would represent about 9 percent of households (59 percent of 2013 landlines times 15 percent) and an estimated 24 percent households in 2013 would be ILEC using wireline mostly. The corresponding national figure for year-end 2012 was about 28 percent. Among the states, in 2012, this figure ranged from 19 percent to 37 percent with a median of 27 percent. See Appendix A - State Details, Table A1.

Appendix A - State Details

This Appendix contains three tables showing state-by-state voice household shares. Data are included for year-end 2012 (Table A1), mid-year 2012 (Table A2), and year-end 2008 (Table A3). Mid-year 2012 data are included because CDC provides actual estimates that reflect mid-year 2012 and the year-end 2012 estimates for wireless-only households are based on straight-line projections. Actual FCC data were available for year-end 2012, but since the estimates are derived from both FCC and CDC data sets, the mid-2012 data reflect actual data from both without any projections. So, while the data in Table A2 are older by six months, there is less estimation involved.

Each table shows nine columns of data for each state. All data are given as a percentage of telephone households. At the national level, approximately 98 percent of households have telephones and 2 percent do not. At the state level, no-telephone households range from 1 percent to 4 percent with a median of 2 percent. In each table below, the first two columns show wireless-only and landline households, which sum to 100 percent. The next two columns show landline households broken down into ILEC switched and landlines other than ILEC switched. The next two columns break landlines into Non-ILEC and ILEC lines, including ILEC VoIP and Switched lines.¹⁰ The next set of columns contains wireless-mostly households and ILEC shares — either switched or combined switched and VoIP — less their proportionate allocations of wireless-mostly landline households.¹¹ In other words, the last two columns show estimates of ILEC households that used ILEC service either *exclusively or mostly*.¹²

At the bottom of each table are statistics showing ranges and averages for each column: the high, low, median, 20th percentile, and 80th percentile. The median is a type of average, technically the figure — here percentage of households — at which half of states are above and half below. High and low scores are self-explanatory. Percentiles are interpreted as follows: within each column, the 80th percentile means four-fifths of states have percentage household shares at or below that percentage, down to the lowest percentage; the 20th percentile means one-fifth of states have percentage household shares at or below that percentage, down to the lowest percentage.

¹⁰ Most non-ILEC lines are VoIP, largely cable telephone customers. There are some states where switched landlines represent a large portion of landline competition. These include states like Arizona, Arkansas, Nebraska, North Dakota, and Rhode Island. Some cable companies, such as Cox, still use switches deployed before VoIP became widely available.

¹¹ “Wireless-mostly” is a CDC term defined as households that have both wireline and wireless phones but receive most or all calls on their wireless phones. The household share reported by CDC is adjusted to reflect share of telephone households.

¹² Wireless-mostly households include both ILEC switched and other than ILEC switched households. Therefore, when adding wireless-mostly households to other measures of competitive share, it is necessary to add only the portion attributable to the ILEC. Otherwise, it would double count the portion that is attributable to alternatives, which are already included in the competitive share measure. The best approach is to allocate wireless-mostly households in proportion to ILEC share of landline households in each state.

For the wireless-only and other than ILEC switched or non-ILEC columns, the 20th percentile can be especially insightful if it represents a significant share of households. This would indicate that most states — the four-fifths above that level — have seen significant shifts to competitive alternatives. For example, in Table A1 the 20th percentile for wireless-only is 34 percent, which indicates that the bottom one-fifth of households had 34 percent or fewer wireless-only homes, down to the low of 22 percent. But, the other four-fifths of households had 34 percent or more households that were wireless-only, up to the high of 59 percent. On the other hand, for the ILEC columns, if the 80th percentile is a low percentage, it would indicate that four-fifths of states have lower ILEC shares. Thus, in 2012, fourth-fifths of states had ILEC switched household shares of 38 percent or less, down to the low of 22 percent. When including ILEC VoIP, four-fifths of states had ILEC voice household shares of 41 percent or less, down to the low of 26 percent; and when considering wireless-mostly households, four-fifths of states had 31 percent or less of households using ILEC voice service exclusively or mostly, down to a low of 19 percent. The ILEC figures have all likely declined since 2012 while the wireless only and landline alternatives have all likely increased.

Table A1: Estimated State Voice Shares
(Percent of U.S. Telephone Households, Year-End 2012)

State	Wireless Only	Landline	Landline Other Than		Non-ILEC Landline	ILEC Switched and VoIP	Wireless-Mostly	ILEC Switched	ILEC Switched and VoIP
			ILEC Switched	ILEC Switched				Allocated	Allocated
AL	41%	59%	37%	22%	19%	41%	14%	28%	31%
AK	35%	65%	n/a	n/a	n/a	n/a	16%	n/a	n/a
AZ	46%	54%	27%	27%	27%	27%	15%	20%	20%
AR	56%	44%	32%	12%	10%	34%	14%	22%	23%
CA	37%	63%	35%	28%	22%	41%	19%	25%	28%
CO	46%	54%	30%	24%	24%	30%	15%	22%	22%
CT	23%	77%	31%	46%	38%	38%	17%	24%	30%
DE	25%	75%	29%	46%	33%	43%	20%	21%	31%
DC	51%	49%	27%	22%	18%	31%	17%	18%	20%
FL	45%	55%	25%	30%	25%	30%	16%	18%	22%
GA	43%	57%	33%	25%	21%	37%	21%	23%	24%
HI	36%	64%	44%	20%	20%	44%	18%	32%	32%
ID	59%	41%	30%	11%	11%	30%	9%	23%	23%
IL	43%	57%	29%	28%	23%	34%	16%	21%	24%
IN	42%	58%	34%	24%	20%	38%	14%	26%	29%
IA	47%	53%	38%	14%	14%	38%	17%	26%	26%
KS	47%	53%	29%	24%	21%	32%	12%	22%	24%
KY	41%	59%	39%	20%	18%	40%	14%	30%	31%
LA	41%	59%	35%	24%	21%	38%	15%	26%	29%
ME	39%	61%	39%	22%	22%	39%	12%	31%	31%
MD	33%	67%	29%	38%	24%	43%	16%	22%	33%
MA	27%	73%	25%	48%	38%	34%	15%	20%	27%
MI	44%	56%	24%	32%	28%	28%	13%	18%	21%
MN	39%	61%	39%	22%	22%	39%	16%	29%	29%
MS	57%	43%	30%	14%	11%	32%	11%	22%	24%
MO	48%	52%	35%	17%	12%	40%	14%	26%	29%
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NE	40%	60%	35%	25%	25%	35%	14%	27%	27%
NV	44%	56%	30%	26%	25%	31%	19%	20%	21%
NH	30%	70%	28%	42%	42%	28%	16%	22%	22%
NJ	22%	78%	25%	53%	41%	37%	23%	18%	26%
NM	41%	59%	45%	14%	14%	45%	12%	36%	36%
NY	27%	73%	27%	46%	38%	35%	16%	21%	28%
NC	37%	63%	38%	25%	23%	40%	11%	31%	33%
ND	43%	57%	41%	16%	16%	41%	10%	34%	34%
OH	41%	59%	34%	25%	22%	37%	14%	26%	28%
OK	43%	57%	31%	26%	24%	33%	17%	21%	23%
OR	39%	61%	34%	27%	27%	34%	14%	26%	26%
PA	29%	71%	37%	34%	27%	44%	17%	28%	34%
RI	32%	68%	22%	46%	33%	35%	20%	15%	25%
SC	44%	56%	35%	21%	18%	38%	15%	26%	28%
SD	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TN	42%	58%	33%	25%	22%	36%	15%	24%	27%
TX	49%	51%	29%	21%	15%	35%	17%	20%	24%
UT	54%	46%	26%	19%	19%	26%	14%	19%	19%
VT	33%	67%	43%	24%	24%	43%	10%	37%	37%
VA	36%	64%	33%	31%	21%	42%	20%	23%	29%
WA	44%	56%	29%	28%	27%	29%	16%	21%	21%
WV	35%	65%	43%	21%	21%	43%	10%	36%	36%
WI	45%	55%	31%	23%	20%	35%	10%	26%	28%
WY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ranges and Averages									
High	59%	78%	45%	53%	42%	45%	23%	37%	37%
80th Percentile	46%	66%	38%	32%	27%	41%	17%	28%	31%
Median	41%	59%	32%	25%	22%	37%	15%	23%	27%
20th Percentile	34%	54%	28%	20%	18%	31%	12%	20%	23%
Low	22%	41%	22%	11%	10%	26%	9%	15%	19%

Source: FCC, CDC, Census and USTelecom Analysis. Percentages Rounded. Year-end 2012 is straight-line projection from mid-year 2012.

Table A2: Estimated State Voice Shares
(Percent of U.S. Telephone Households, Mid-Year 2012)

State	Wireless Only	Landline	Landline Other Than		Non-ILEC Landline	ILEC Switched and VoIP	Wireless Mostly	ILEC Switched Less Allocated	ILEC Switched and VoIP Less Allocated
			ILEC Switched	ILEC				Wireless Mostly	Wireless Mostly
AL	39%	61%	40%	21%	18%	43%	15%	31%	33%
AK	34%	66%	n/a	n/a	n/a	n/a	16%	n/a	n/a
AZ	44%	56%	28%	27%	27%	28%	15%	21%	21%
AR	53%	47%	35%	12%	10%	37%	14%	25%	26%
CA	35%	65%	39%	27%	22%	43%	20%	27%	30%
CO	45%	55%	33%	23%	23%	33%	15%	24%	24%
CT	22%	78%	34%	44%	38%	40%	17%	26%	32%
DE	25%	75%	33%	43%	32%	43%	20%	24%	32%
DC	50%	50%	30%	21%	18%	32%	17%	20%	21%
FL	43%	57%	28%	29%	24%	33%	16%	20%	24%
GA	40%	60%	36%	24%	20%	40%	21%	23%	26%
HI	34%	66%	47%	19%	19%	47%	18%	34%	34%
ID	57%	43%	33%	11%	11%	33%	10%	25%	25%
IL	41%	59%	32%	27%	23%	36%	16%	24%	27%
IN	39%	61%	37%	24%	20%	41%	14%	29%	31%
IA	45%	55%	40%	15%	15%	40%	17%	27%	27%
KS	45%	55%	30%	24%	22%	33%	12%	24%	26%
KY	40%	60%	40%	20%	19%	41%	14%	31%	31%
LA	39%	61%	36%	25%	23%	38%	15%	27%	29%
ME	37%	63%	41%	22%	22%	41%	12%	33%	33%
MD	31%	69%	34%	35%	22%	46%	16%	26%	35%
MA	26%	74%	28%	46%	38%	37%	15%	23%	29%
MI	42%	58%	26%	31%	28%	30%	13%	20%	23%
MN	38%	62%	40%	21%	21%	40%	16%	30%	30%
MS	53%	47%	33%	14%	12%	35%	12%	25%	26%
MO	44%	56%	39%	17%	12%	43%	14%	28%	32%
MT	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
NE	40%	60%	35%	25%	25%	35%	14%	27%	27%
NV	42%	58%	32%	26%	25%	34%	19%	22%	22%
NH	28%	72%	31%	41%	41%	31%	16%	24%	24%
NJ	21%	79%	29%	51%	41%	39%	23%	20%	27%
NM	40%	60%	47%	13%	13%	47%	12%	37%	37%
NY	25%	75%	30%	45%	38%	37%	16%	24%	29%
NC	37%	63%	39%	24%	22%	40%	12%	32%	33%
ND	43%	57%	42%	15%	15%	42%	10%	34%	34%
OH	40%	60%	36%	24%	22%	39%	15%	27%	29%
OK	42%	58%	32%	26%	25%	34%	17%	22%	24%
OR	39%	61%	35%	25%	25%	35%	15%	27%	27%
PA	28%	72%	40%	32%	26%	46%	17%	31%	35%
RI	27%	73%	26%	47%	36%	37%	20%	19%	27%
SC	42%	58%	38%	20%	18%	40%	15%	28%	30%
SD	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TN	41%	59%	36%	24%	21%	38%	15%	26%	28%
TX	48%	52%	32%	20%	15%	37%	17%	22%	25%
UT	50%	50%	30%	20%	20%	30%	14%	22%	22%
VT	32%	68%	45%	23%	23%	45%	10%	38%	38%
VA	34%	66%	36%	29%	21%	44%	20%	25%	31%
WA	42%	58%	31%	27%	27%	31%	16%	22%	22%
WV	33%	67%	47%	20%	20%	47%	10%	40%	40%
WI	42%	58%	35%	23%	21%	38%	10%	29%	31%
WY	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ranges and Averages									
High	57%	79%	47%	51%	41%	47%	23%	40%	40%
80th Percentile	44%	68%	40%	31%	27%	43%	17%	30%	32%
Median	40%	60%	35%	24%	22%	38%	15%	26%	29%
20th Percentile	32%	56%	31%	20%	18%	33%	13%	22%	24%
Low	21%	43%	26%	11%	10%	28%	10%	19%	21%

Source: FCC, CDC, Census and USTelecom Analysis. Percentages Rounded.

Table A3: Estimated State Voice Shares
(Percent of U.S. Telephone Households, Year-End 2008)

State	Wireless Only	Landline	Landline Other Than		Non-ILEC Landline	ILEC Switched and VolP	Wireless Mostly	ILEC Switched	ILEC Switched
			Less Allocated	Less Allocated					
			ILEC Switched	ILEC Switched			Wireless Mostly	Wireless Mostly	
AL	23%	77%	64%	13%	13%	64%	17%	49%	49%
AK	20%	80%	n/a	n/a	n/a	n/a	19%	n/a	n/a
AZ	27%	73%	44%	29%	29%	44%	18%	33%	33%
AR	34%	66%	57%	9%	9%	57%	15%	44%	44%
CA	16%	84%	66%	18%	17%	66%	20%	50%	51%
CO	30%	70%	53%	17%	17%	53%	15%	42%	42%
CT	11%	89%	60%	29%	28%	62%	14%	51%	52%
DE	15%	85%	60%	25%	25%	60%	17%	48%	49%
DC	25%	75%	58%	17%	17%	58%	16%	46%	46%
FL	25%	75%	56%	18%	18%	56%	16%	45%	45%
GA	24%	76%	59%	17%	17%	59%	18%	45%	45%
HI	17%	83%	66%	16%	16%	66%	17%	53%	53%
ID	30%	70%	61%	9%	9%	61%	14%	49%	49%
IL	23%	77%	58%	19%	19%	59%	17%	46%	46%
IN	24%	76%	62%	14%	13%	63%	14%	51%	51%
IA	28%	72%	57%	14%	14%	57%	15%	45%	45%
KS	27%	73%	49%	24%	24%	50%	12%	41%	42%
KY	32%	68%	50%	19%	19%	50%	13%	40%	40%
LA	23%	77%	60%	17%	17%	60%	15%	48%	48%
ME	23%	77%	60%	18%	17%	60%	11%	52%	52%
MD	16%	84%	63%	21%	21%	63%	20%	48%	48%
MA	15%	85%	54%	32%	32%	54%	14%	45%	45%
MI	26%	74%	48%	26%	25%	49%	14%	38%	39%
MN	25%	75%	58%	17%	17%	58%	15%	47%	47%
MS	34%	66%	57%	9%	9%	57%	14%	45%	45%
MO	20%	80%	69%	12%	12%	69%	15%	56%	56%
MT	19%	81%	64%	17%	17%	64%	13%	54%	54%
NE	31%	69%	46%	23%	23%	46%	16%	36%	36%
NV	20%	80%	57%	22%	22%	58%	14%	48%	48%
NH	14%	86%	56%	29%	29%	56%	13%	48%	48%
NJ	11%	89%	57%	32%	32%	57%	21%	44%	44%
NM	27%	73%	66%	7%	7%	66%	11%	56%	56%
NY	15%	85%	50%	34%	34%	50%	13%	43%	43%
NC	24%	76%	59%	17%	17%	59%	15%	47%	47%
ND	30%	70%	47%	22%	22%	47%	9%	41%	41%
OH	23%	77%	56%	21%	20%	57%	16%	45%	45%
OK	28%	72%	49%	23%	22%	49%	16%	38%	38%
OR	27%	73%	56%	17%	17%	56%	14%	45%	45%
PA	15%	85%	66%	18%	18%	66%	15%	54%	54%
RI	10%	90%	44%	45%	45%	44%	16%	37%	37%
SC	24%	76%	61%	15%	15%	61%	18%	47%	47%
SD	14%	86%	53%	33%	33%	53%	9%	48%	48%
TN	27%	73%	59%	14%	14%	59%	16%	46%	46%
TX	30%	70%	56%	13%	13%	57%	19%	41%	41%
UT	22%	78%	60%	18%	18%	60%	13%	50%	50%
VT	19%	81%	68%	13%	13%	68%	14%	56%	56%
VA	22%	78%	57%	21%	21%	57%	17%	45%	45%
WA	23%	77%	56%	21%	21%	56%	16%	44%	44%
WV	18%	82%	71%	11%	11%	71%	13%	60%	60%
WI	22%	78%	58%	20%	20%	58%	10%	51%	51%
WY	22%	78%	57%	21%	21%	57%	12%	48%	48%
Ranges and Averages									
High	34%	90%	71%	45%	45%	71%	21%	60%	60%
80th Percentile	27%	84%	63%	24%	24%	63%	17%	51%	51%
Median	23%	77%	58%	18%	18%	58%	15%	46%	46%
20th Percentile	16%	73%	53%	14%	14%	53%	13%	42%	42%
Low	10%	66%	44%	7%	7%	44%	9%	33%	33%

Source: FCC, CDC, Census and USTelecom Analysis. Percentages Rounded.

Appendix B - Technical Notes

Comparison and Consistency with Previous Analyses

USTelecom has issued a series of national voice competition analyses, [the most recent](#) was released simultaneously with this state voice competition analysis, and previously in a [November 22, 2013 Research Brief](#), which updated an [April 3, 2013 Research Brief](#). USTelecom also issued a state voice competition analysis in a [December 17, 2013](#) and a [May 30, 2013 Research Brief](#). This updated state analysis is intended to achieve maximum methodological consistency with the most recent national analysis and to minimize skews arising from the use of several data sources. It is also updated to include historical data for 2008 to show the trend through 2011. See the November 22, 2013 Research Brief for a full discussion of the national methodology.

This analysis, like the December 16, 2013 analysis, contains methodological adjustments from prior state analyses in order to fine tune the results and minimize distortions arising from the use of several data sources. In particular, the analysis relies upon household data from Census, share of households from CDC for no-phone, wireless-only, and landline households, and line count data from FCC for allocating landlines among ILECs and Non-ILECs, and switched, and VoIP service. All of these data sets are subject to certain margins of error, which make inconsistencies inevitable.

The May 30, 2013 and previous state analyses started by taking the share of households that were either wireless-only or used a landline from CDC. It then took actual FCC line counts for “landlines other than ILEC switched,” including non-ILEC switched, non-ILEC VoIP, and ILEC VoIP, and after backing out second lines, divided by the number of Census households to calculate the percentage of households. The remaining percentage of households was then assumed to reflect ILEC switched primary line households.

This approach, referred to herein as the “residual” method, lent itself to minor distortions in a handful of cases in which using the literal reported FCC lines – adjusted for second lines – would result in telephone households greater than or less than 100 percent of telephone households reported by Census, given the share allocated to wireless-only by CDC. The methodology effectively addressed the inconsistency by assuming that ILEC switched lines were the residual. This meant that when actual FCC line counts implied greater than 100 percent of households, the ILEC switched share was truncated to bring the total down to 100 percent; and when actual FCC line counts implied less than 100 percent of households, ILEC switched share was effectively augmented to bring the total up to 100 percent. In the former case, ILEC switched share is skewed down; in the latter case, ILEC switched share is skewed up, relative to its proportionate state share within the FCC data. In both cases, landlines other than ILEC switched were taken as given by the FCC, and the skew in terms of share was the inverse of the skew for ILEC switched.

In order to correct for the potential distortions described above, the state analyses since December 16, 2013 employ what a “proportionate” method. The key adjustments are described below.

- The starting point remains the CDC for wireless-only and landline households; however, the new analysis allocates landline households among ILECs and non-ILECs in proportion to the FCC data for each state. In this way, to the extent actual FCC line counts do not align perfectly with Census and CDC household data, the difference is more evenly spread among ILECs and non-ILECs, minimizing the distortion of household share. The December 16, 2013 state analysis contained a detailed discussion of state-by-state impacts of this methodological change. The impacts were minimal for the vast majority of states.
- In addition, prior to the December 16, 2013 state analysis, second lines were backed out using the same assumptions used in the previous (April 3, 2013) national analysis: approximately 10 percent for ILECs and 6 percent non-ILECs. In the recent national analyses (since November 22, 2013), USTelecom used a different approach, allocating second lines in proportion to ILEC and non-ILEC landline shares. Since the December 2013 state analysis, we have effectively done the same by allocating remaining landline households in proportion to ILEC and non-ILEC state shares. This approach effectively allows for more variation among states in second line adoption, rather than applying a rigid national assumption.

One minor difference between the state and national analyses is the state analysis cannot distinguish between non-ILEC switched telephony provided by cable and non-cable providers, due to data limitations. In the national analysis non-ILEC, non-cable switched telephony providers are assumed to resell ILEC wholesale services and are included in the ILEC switched category. Unfortunately, this skews estimates of competitive share up slightly. Such providers, however, accounted for only approximately 1 percent of national telephone households at the end of 2012, and declining. Therefore, the impact on the results is likely very small. Of course, resellers are competitors, just not facilities-based competitors, which has been the focus of the USTelecom voice competition analyses.

On the other hand, the CDC state data are reported somewhat differently than the CDC national data, and may understate competitive share. The CDC state data report the percentage of adults living in wireless-only households, which is slightly different than the percent of households that are wireless-only. In the CDC national data, they report both: wireless-only households during the second half of 2012 were 38.2 percent and the percent of adults living in those households was 36.5 percent. Thus, there is a fair chance that this state analysis understates wireless-only share of telephone households since the only available state data from CDC are based on percentage of adults, not percentage of households. At the national level, the difference is a little over 1.5 percent. This understatement is roughly on par with the overstatement for non-cable non-ILEC switched share of telephone households, though there is no guarantee that the two factors would balance in all states, if data were available.

Periods Covered by Analysis, Normalization of Data to Period Ends, and No Projections

The analysis covers only the years 2008 to 2012 due to certain data limitations. In particular, CDC provides a time series of state-level data reflecting mid-year 2007 to mid-year

2012 for wireless-only households.¹³ The FCC has published actual data through year-end 2013. The FCC provides state-level local telephone competition data going back to the late 1990s through year-end 2012; however, before year-end 2008, the FCC data do not contain the breakdowns necessary for this analysis. Therefore it is necessary to limit the analysis to the period from 2008 to 2012.

The state analysis attempts to normalize all data to year-end 2008 and year-end 2012. Actual FCC data are available for year-end 2008 and year-end 2013. The Census data are based on a March survey; year-end 2013 data are derived by straight-line quarterly estimates from March 2012 to March 2013. CDC state-level data reflect overlapping 12-month periods, from January to December, and July to June. The July 2008 to June 2009 data are assumed to reflect year-end 2008. The most recent data for January to December 2012 are assumed to reflect mid-year 2012; year-end figures for 2012 are derived using straight-line growth from the prior period. This method generated year-end estimates that are consistent with CDC's national data, which are released semi-annually. The CDC semi-annual national data are assumed to reflect a mid-point for each half of the year and therefore require adjustments to year-end.

USTelecom's national household voice share analysis includes projections, based on straight-line methods, for year-end 2014 and year-end 2015. This state-level analysis does not contain state-by-state ILEC share projections, due to the complexity of the exercise and the greater potential for error in making more granular projections. Nonetheless, given the available state data, which show increasing levels of competition, it is very likely that all or most states are following the national trend of declining ILEC shares. For example, in the latest CDC data, there was an increase in the share of wireless-only households in every state for which data are available, except one (Oregon, -0.4 percent). Using FCC data from year-end 2012 to year-end 2013, ILECs lost lines in all states. This is true even if ILEC VoIP gains are netted against switched line losses.

Mid-Year 2012 Data for Wireless Mostly and No-Phone Households

As noted above, the CDC data are based on overlapping twelve-month periods, which presumably reflect the midpoint of each period. For wireless-only households, it is possible to estimate year-end figures using straight-line methods with the existing data. There is no time series data reported for wireless-mostly households and no-phone households. Therefore, the data for those two categories is based on mid-year 2012. Applying these shares in the year-end 2012 analysis is a crude estimation, but not likely problematic. Unlike wireless-only households, at the national level the share of households that are wireless-mostly has not shown consistent upward or downward trends recently.

¹³ For other figures, such as "wireless-mostly" and no-telephone households, data are available only for the most recent period covered in the CDC releases. As a result, data reflecting wireless-mostly and no-telephone households for mid-year 2012 and year-end 2009 were used as proxies for year-end 2012 and year-end 2008, respectively. There is not much volatility in wireless-mostly and no-telephone households over time, so the results will not be skewed.

Impact of ILEC VoIP Categorization

The analysis above states that inclusion of ILEC VoIP as an alternative to ILEC switched service does not affect the broad observation that ILECs are no longer dominant in the provision of voice communications. At the national level, ILEC VoIP accounted for approximately five percent of telephone households at the end of 2012, although its share relative to ILEC switched service is expected to grow over time and will account for an increasing share. At the state level, ILEC VoIP shares fall in a larger range, from zero to 14 percentage points at the end of 2012. Therefore, it is appropriate to determine whether inclusion of ILEC VoIP affects the conclusion in states where it commands the largest shares.

An analysis of year-end 2012 estimates (not published herein) indicates that the categorization of ILEC VoIP does not have a material impact on the overall conclusion. First, the 80 percentile for ILEC VoIP share of households was 5.8 percent, meaning 80 percent of states with data available showed ILEC VoIP share less than 5.8 percent. Second, for the ten states—CT, DE, MD, MA, MO, NJ, NY, RI, TX, and VA—where ILEC VoIP share was greater than 5.8 percent, other competitive alternatives to ILECs also had very high shares, such that total ILEC share *including ILEC VoIP* remained less than 45 percent ranging from 26 percent to 45 percent. Only three states had combined switched and VoIP ILEC share greater than 40 percent: DE and MD with 43 percent, VA with 42 percent, and PA with 44 percent. Again, this is an estimate for year-end 2012 and ILEC shares have declined since then. Not surprisingly, high-ILEC-VoIP states were states where non-ILEC landline competition was strong, with all but two of the ten states (TX and VA) also being ranked better than average (median) in non-ILEC switched and VoIP competition. Somewhat more surprising, most of these states were not strong in wireless-only shares, with only TX greater than average for wireless-only households. But these states that were ranked lower in wireless-only households are dense Eastern states where, as the CDC has noted, wireless cord-cutting has not been historically as great as the rest of the country. Meanwhile wireless-mostly rankings in these states are typically greater than average.

States Excluded Due to Data Issues

This new state analysis excludes four states because data were not available from either the FCC (Alaska) or CDC (Montana, South Dakota, and Wyoming). These states collectively represent only 1.0 percent of U.S. households. Therefore excluding them from the analysis is not likely to significantly skew the results. However, since they likely represent a larger share of rural households, it is worth exploring how these states measure up to the rest of the states. For the states missing in the CDC data, CDC does provide estimates, however, the standard errors are large, so it is inappropriate to include in the analysis with the other states. Table B1 below presents the CDC estimates for these states, which are available only for the period January to December 2012, presumably reflecting mid-year 2012.

Table B1: Estimated Voice Shares for CDC Missing States
 (Percent of Telephone Households, Mid-Year 2012)

State	Wireless- Only	Landline	ILEC Switched	Landline Other Than ILEC Switched	Non-ILEC (Switched and VoIP)	ILEC VoIP	Wireless- Mostly	Wireless- Only Standard Error	Wireless- Mostly Standard Error
MT	40%	60%	39%	21%	21%	~0%	17%	6.1%	3.8%
SD	39%	61%	19%	42%	42%	~0%	15%	5.9%	3.6%
WY	39%	61%	36%	25%	24%	0.4%	16%	6.1%	3.7%

Source: FCC, CDC, Census and USTelecom Analysis. Percentages Rounded.

The data and estimates in Table B1 reflect mid-year 2012. Therefore comparisons with year-end data in Tables 1 and 2 and Table A1 above are likely to be complicated since the dates are out of sync. Table A2 above provides a better comparison since it shows the same analysis as Table 1, but for mid-year 2012. Assuming the CDC estimates for these states are accurate, the table shows that these states are within the range of the other states analyzed. With the exception of South Dakota, which ranks very highly in ILEC line losses, they would be nearer the lower end of the range.