

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC

In the Matter of)	
)	
Ensuring Customer Premises Equipment)	PS Docket No. 14-174
Backup Power for Continuity of)	
Communications)	
)	
Technology Transitions)	GN Docket No. 13-5
)	
Policies and Rules Governing Retirement Of)	RM-11358
Copper Loops by Incumbent Local Exchange)	
Carriers)	
)	
Special Access for Price Cap Local Exchange)	WC Docket No. 05-25
Carriers)	
)	
AT&T Corporation Petition for Rulemaking)	RM-10593
to Reform Regulation of Incumbent Local)	
Exchange Carrier Rates for Interstate Special)	
Access Services)	
)	

**REPLY COMMENTS OF FIBER TO THE HOME COUNCIL AMERICAS ON THE
TECHNOLOGY TRANSITIONS NPRM**

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TABLE OF CONTENTS

	Page
I. INTRODUCTION AND SUMMARY	2
II. NEW CONSUMER RESEARCH DEMONSTRATES THAT THERE IS NO PROBLEM WARRANTING NEW BATTERY BACKUP REGULATIONS.....	5
III. OPPONENTS OF THE COMMISSION’S BATTERY BACKUP PROPOSAL SUBMITTED SUBSTANTIAL EVIDENCE SUPPORTING THE CONCLUSION THAT NO NEW BATTERY BACKUP REGULATIONS ARE NEEDED; THE COMMISSION SHOULD REJECT PROPOSALS FROM OTHERS TO IMPOSE BATTERY BACKUP RULES.....	9
A. Opponents of the Commission’s Proposed Battery Backup Power Rules Submitted Ample Evidence Demonstrating that No New Rules Are Warranted.....	10
B. Proponents’ Arguments in Favor of the Commission’s Proposed Battery Backup Rules Ignore Market Realities and Suggest Additional Rules That Would Impose Costs With No Redeeming Benefit	13
IV. NUMEROUS COMMENTERS SUPPORTED THE CONCLUSION THAT MANDATING COPPER RETIREMENT NOTIFICATIONS FOR RETAIL CUSTOMERS IS UNWARRANTED; THE COMMISSION SHOULD REJECT PROPOSALS FROM OTHERS TO ADOPT COPPER RETIREMENT NOTIFICATION RULES FOR RETAIL CUSTOMERS.....	18
A. Opponents of the Proposed Copper Retirement Notification Rules Submitted Relevant Evidence to Support the Council’s Conclusion That Mandating Copper Retirement Notifications for Retail Customers Is Unwarranted.....	19
B. Proponents’ Arguments in Favor of Retail Customer Copper Retirement Notification Rules Are Unsupported and Unpersuasive.....	21
V. CONCLUSION.....	25

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The Fiber to the Home Council Americas (“FTTH Council” or the “Council”)¹ respectfully submits these reply comments in response to the Federal Communications Commission’s (“FCC’s” or “Commission’s”) Notice of Proposed Rulemaking (“NPRM”) in the

¹ The FTTH Council’s mission is to accelerate deployment of all-fiber access networks (including fiber to the home (“FTTH”)) by demonstrating how fiber-enabled applications and solutions create value for service providers and their customers, promote economic development, and enhance quality of life. The FTTH Council’s members represent all areas of the broadband access industry, including telecommunications, computing, networking, system integration, engineering, and content-provider companies, as well as traditional service providers, utilities, and municipalities. The FTTH Council has more than 300 entities as members. A complete list of FTTH Council members can be found on the organization’s website: <http://www.ftthcouncil.org>.

above-captioned proceedings.² In these comments, the FTTH Council provides additional evidence to demonstrate that rules mandating battery backup power for customer premises equipment (“CPE”) and retail customer notification for planned copper retirement are unwarranted, and responds to other comments filed in response to the Commission’s NPRM.

I. INTRODUCTION AND SUMMARY

In its initial comments, the Council responded to two issues raised in the Commission’s NPRM: (1) the proposed rules mandating eight hours of standby CPE battery backup power and other requirements for fixed voice-over-Internet-Protocol (“VoIP”) service; and (2) the proposed rules mandating retail customer notification and an opportunity to comment in advance of copper retirement.³ In both cases, the Council opposed the new rules.

With respect to the Commission’s proposed battery backup rules, the Council argued that new regulations are not necessary for three reasons:

- First, the market for voice communications has evolved. Today, less than 28% of voice services are accessed via line-powered copper, almost 50% of households have “cut the cord,” and almost all Americans have access to a wireless device,

² See *In the Matter of Ensuring Customer Premises Equipment Backup Power for Continuity of Communications*, PS Docket No. 14-174, *Technology Transitions*, GN Docket No. 13-5, *Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers*, RM-11358, *Special Access for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, *AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, RM-10593, Notice of Proposed Rulemaking and Declaratory Ruling, FCC 14-185 (rel. Nov. 25, 2014) (“Technology Transitions NPRM”).

³ See *In the Matter of Ensuring Customer Premises Equipment Backup Power for Continuity of Communications*, PS Docket No. 14-174, *Technology Transitions*, GN Docket No. 13-5, *Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers*, RM-11358, *Special Access for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, *AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, RM-10593, Comments of the Fiber to the Home Council Americas (Feb. 5, 2015) (“FTTH Council Comments”). Unless otherwise noted, all comments cited in these reply comments were filed in the above-captioned dockets in conjunction with the initial filing round of this comment cycle.

with mobile phone penetration rates exceeding 100% of the U.S. population.⁴ Moreover, this trend away from line-powered copper will continue. Based on this market reality, consumers either have grown accustomed to the need for battery backup power in an emergency or the need to obtain their own Uninterruptible Power Supply (“UPS”) device, and they often rely on mobile phones to provide a communications lifeline during an outage.

- Second, all-fiber network providers have acted responsibly to ensure residential subscribers can access emergency communications, including during power outages.⁵ The Council submitted declarations from FTTH providers and vendors demonstrating that providers (1) give subscribers reasonable notice about the need for backup power for CPE; (2) provision or provide information about backup power options to consumers; and (3) monitor and replace—or allow consumers to monitor and replace—backup power for their FTTH service.⁶ To date, the Council has not found a single instance in which customers have complained about or objected to a FTTH provider’s backup power practices.⁷
- Third, the Commission’s proposed battery backup regulations will impose a substantial cost on providers without any attendant benefit.⁸ One FTTH provider noted that the new rules will increase costs to providers or consumers by hundreds of dollars per premises.⁹ Another explained that the regulations “will only delay” efforts to deploy FTTH networks, particularly in rural areas.¹⁰ Additionally, the new rules will only accelerate the trend toward wireless only services.¹¹

Therefore, rather than impose battery backup regulations, the Council argued that the Commission should continue to promote the development of industry best practices, such as

⁴ See *id.* at 10.

⁵ See *id.* at 18-19.

⁶ See FTTH Council Comments, Declaration of Alan Jones, C Spire (Jan. 28, 2015); Declaration of George O’Neal, GVTC Communications (Feb. 2, 2015); Declaration of Ben Lovins, Jackson Energy Authority (Feb. 2, 2015); Declaration of David Russell, Calix (Jan. 30, 2015). See also FTTH Council Comments at 17-27.

⁷ See *id.* at 19.

⁸ See *id.* at 20.

⁹ See *id.*

¹⁰ See *id.*

¹¹ See *id.*

those recommended by Communications Security, Reliability, and Interoperability Council (“CSRIC”) Working Groups 10A and 10B.¹²

With respect to the proposed retail customer copper retirement notification rules, the Council argued that no new regulations are needed for three reasons:

- First, service providers have acted responsibly to notify customers before upgrading their networks from copper to fiber.¹³ The Council has found no instance in which subscribers have objected to or complained about providers’ copper retirement practices.¹⁴
- Second, consumers recognize the superiority of all-fiber networks over copper in terms of both performance and reliability, and have been clamoring for an upgrade.¹⁵ Indeed, the Commission has recognized the enormous benefits of all-fiber networks, and has made the deployment of all-fiber networks a priority.¹⁶ As stated in a white paper attached to the Council’s initial comments, not only is fiber superior to copper in terms of speed and latency, FTTH networks are more resilient during emergencies.¹⁷ For this reason, “consumers do not see line-powered copper service as having much, if any, value, even during power outages.”¹⁸ As a consequence, consumers are migrating rapidly from copper networks to all-fiber networks.¹⁹
- Third, the Commission’s proposed copper retirement notifications, which include detailed form, content, and delivery requirements, would impose substantial costs on providers without any attendant benefits to consumers.²⁰ As stated above, the Council has not uncovered any situation where consumers have complained about providers’ copper retirement procedures, and as a matter of sound business practice and practical necessity, providers already notify consumers before replacing copper plant with all-fiber connectivity.²¹ Moreover, by imposing new

¹² See *id.* at 20-21.

¹³ See *id.* at 22-23.

¹⁴ See *id.* at 23.

¹⁵ See *id.* at 23-24.

¹⁶ See *id.* at 12-14.

¹⁷ See *id.* at 6-9 (citing *The Superior Performance and Technical Characteristics of Fiber to the Home Networks*, FTTH Council (Jan. 29, 2015), available at <http://www.ftthcouncil.org>).

¹⁸ See *id.* at 23.

¹⁹ See *id.* at 10.

²⁰ See *id.* at 22-27.

²¹ See *id.* at 22-23.

costs on wireline providers, the Commission will hasten the “cord cutting” trend, to the detriment of wireline providers and the Commission’s own goals.²²

For these reasons, the Council argued that the Commission should not adopt its proposed copper retirement notification requirements for retail customers.

These reply comments proceed in three parts. First, the Council presents evidence from a just-completed survey of consumers, which supports the Council’s conclusion that the Commission’s proposals are unnecessary given evolving consumer behavior with respect to emergency communications. Second, the Council reviews evidence submitted from providers and vendors, including members of the FTTH Council, which further demonstrates that no new regulations are needed with respect to battery backup power, and rebuts arguments from proponents of the Commission’s proposals. Third, the Council highlights additional evidence supporting the argument that rules requiring retail customer notice and consent in advance of copper retirement are unwarranted, and counters arguments from proponents of the Commission’s proposals.

II. NEW CONSUMER RESEARCH DEMONSTRATES THAT THERE IS NO PROBLEM WARRANTING NEW BATTERY BACKUP REGULATIONS

In the NPRM, the Commission’s proposed battery backup rules rest on an assumption that most consumers continue to use and rely upon line-powered copper for their emergency communications needs. A just-completed study from RVA, LLC of consumer behaviors and attitudes with respect to voice services and emergency communications demonstrates that the Commission’s assumption is unfounded.²³ First, the survey supports the conclusion that only a

²² See *id.* at 26.

²³ See RVA, LLC, Survey of Consumers Regarding Telephone Use and Emergency Calling Issues (February 2015), attached as **Exhibit A** (“RVA Survey”). Between February 16 and 24, 2015, RVA interviewed 2,000 consumers—including 1,735 random samples and

small and shrinking minority of consumers continue to use copper for emergency purposes. Second, of those who retain copper, almost half only have cordless phones, which do not work in an outage without an independent power supply. Third, the vast majority of consumers have access to mobile phones, which they prefer to use over landline phones during an emergency. Consequently, there is no problem warranting the Commission’s proposed battery backup power regulations.

First, the survey reveals that only a small number consumers continue to rely on line-powered copper for their voice service. Specifically, the survey found that only 22% of homes continue to maintain a line-powered landline telephone, and only 5% of homes rely on a line-powered landline telephone and do not have access to a mobile phone.²⁴ Further, when compared to FTTH or cable landline voice subscribers, twisted pair copper network subscribers had the smallest percentage of subscribers reporting that they were “very satisfied” with their service.²⁵ In fact, of those consumers who do have a landline phone at home (including fiber, cable, and twisted pair copper), 18% are “very likely” or “somewhat likely” to drop or discontinue their landline service within the next year.²⁶

Second, while 22% of consumers currently subscribe to line-powered copper landline service, an even smaller number of consumers rely on line-powered copper during emergencies. Specifically, nearly 50% of consumers with line-powered copper at home have only cordless phones, which requires an independent power supply to function during a power outage.²⁷ In

265 of oversampled FTTH—with a demographic breakdown very similar to the general U.S. population. *See id.* at 4, 7.

²⁴ *See id.* at 10.

²⁵ *See id.* at 18.

²⁶ *See id.* at 13.

²⁷ *See id.* at 22 (47% of homes with line-powered copper service only have a cordless phone in the home).

fact, the survey found that “[t]he setup all telephone consumers once had – only traditional line powered landline service with only corded telephones – now represents less than 1% of the households in the U.S.”²⁸ Further, consumers who retain line-powered copper tend to do so for reasons of familiarity or as a luxury,²⁹ and not because the line will continue to work during a power outage.³⁰

Third, the survey reveals that most consumers already have a readily available alternative for emergency communications in the form of mobile devices. 89% of homes have at least one mobile telephone.³¹ Indeed, more households have a mobile phone at home (89%) than a landline phone (59%).³² Further, the average household has between 1.4 and 2.8 mobile devices in the house at any given time, and of these devices, at least one of them is reasonably charged—i.e., 65% or more—82% of the time.³³ Moreover, even in the case of a power outage, nearly three-quarters of mobile device owners can charge their device from an automobile while at home.³⁴

The survey also demonstrates that consumers overwhelmingly view mobile phones, not landline phones, as their primary means of emergency communication during power outages. In

²⁸ *See id.* at 23. The survey revealed that 0.6% of consumers have only a line-powered landline and only a corded phone in the home. *See id.*

²⁹ *See id.* at 19. Those of older age and higher income are generally more likely to have landline telephones at home. *See id.* at 15. With respect to higher income consumers, this fact further supports Corning’s suggestion that landline phones are increasingly viewed as a luxury item rather than as a necessity. *See* Comments of Corning Incorporated, 5 (Feb. 5, 2015) (“Corning Comments”).

³⁰ *See* RVA Survey at 19. In fact, less than a quarter of survey respondents indicated that usability during power outages was the sole reason for keeping the service. *See id.*

³¹ *See id.* at 26. This number is income adjusted.

³² *See id.* at 9, 26. Moreover, the RVA survey did not reveal a single age or income bracket in which fewer than 80% of consumers had a mobile phone, with a number of groups exceeding 90% penetration. *See id.* at 27.

³³ *See id.* at 28-29.

³⁴ *See id.* at 30.

fact, 75% of consumers view a cellular or mobile device as their first resort for emergency communications (not specifically 911) during an outage, with only 21% viewing a landline phone as their primary means of communicating during an outage.³⁵ In fact, more consumers would first send a text message from their cell phone in an emergency (24%) than make an emergency voice call with their landline phone (21%).³⁶ This preference for mobile emergency communications holds true even for calls to 911.³⁷ Finally, among consumer concerns about making an emergency or 911 call during a home power outage, only 2% specifically mentioned the battery life of CPE.³⁸ Indeed, consumers were more concerned about downed telephone lines—which on-premises battery backup would not solve—than the availability of CPE backup power.³⁹

Lastly, the survey reveals that extended outages are exceedingly rare, and only a slim minority of consumers face outages longer than the Commission’s proposed eight-hour standard. Specifically, only one fifth of consumers have experienced an outage greater than eight hours in the last year.⁴⁰ On average, then, households would experience long outages only every 4.5 years.⁴¹ Further, the need for consumers to contact emergency services in an outage is vanishingly small, with only 6.6% of consumers having ever contacted or attempted to contact

³⁵ *See id.* at 33.

³⁶ *See id.* at 32-33. We expect the percentage of consumers who first turn to the text message function on their cell phone for emergency communications to rise as PSAPs continue to adopt text-to-911 and NG911 solutions, and as consumers continue to “cut the cord” at home.

³⁷ *See id.* at 34. The survey found that 70% of consumers would first use a mobile phone to make a 911 call, compared with 27% who would use a landline. *See id.* Among those consumers who have access to both a landline and a mobile phone, consumers still favor mobile phones to landline by twelve percentage points (55% to 43%). *See id.*

³⁸ *See id.* at 35.

³⁹ *See id.*

⁴⁰ *See id.* at 37.

⁴¹ *See id.*

911 in an emergency.⁴² Moreover, the survey found that 3.1% of consumers with only a non-line-powered landline service and a corded phone were ever unable to complete a 911 contact during a power outage,⁴³ and for those consumers with non-line-powered landline service and a mobile phone (the majority of consumers), that number shrank to 1.6%.

Altogether, these survey results demonstrate that very few consumers continue to rely upon line-powered copper for their emergency needs. Further, as consumers willingly migrate toward non-line-powered voice communications, they are rapidly adopting wireless voice service as their primary communications method during emergencies. Moreover, problems related to battery backup are virtually nonexistent, and therefore do not rise to a level that would justify new regulation. For these reasons, the Commission should decline to adopt its proposed rules regarding battery backup power.

III. OPPONENTS OF THE COMMISSION'S BATTERY BACKUP PROPOSAL SUBMITTED SUBSTANTIAL EVIDENCE SUPPORTING THE CONCLUSION THAT NO NEW BATTERY BACKUP REGULATIONS ARE NEEDED; THE COMMISSION SHOULD REJECT PROPOSALS FROM OTHERS TO IMPOSE BATTERY BACKUP RULES

In the initial round of comments, a number of service providers, vendors, and their trade associations submitted ample evidence to support the Council's conclusion that the industry is acting responsibly to meet consumers' needs and expectations with respect to battery backup power, and that the proposed regulations would serve to impose enormous costs without any offsetting benefit for consumers. At the same time, a several commenters filed in support of the Commission's proposed battery backup rules. However, these proponents of the Commission's proposals ignore the well-documented, consumer-driven developments in the marketplace for voice services over the last 15 years. Moreover, even if these proponents were correct in their

⁴² See *id.* at 38.

⁴³ See *id.* at 40.

market assumptions, the Commission’s battery backup proposals—and commenters’ proposed modifications—should be rejected because they would impose significant costs on providers and consumers without any redeeming benefit.

A. Opponents of the Commission’s Proposed Battery Backup Power Rules Submitted Ample Evidence Demonstrating that No New Rules Are Warranted

Many commenters shared the FTTH Council’s view that the market has evolved, and consumers already have adequate access to emergency communications services during an outage. AT&T explained that “[i]n today’s marketplace,” as millions of consumers have opted to switch to non-line-powered voice service, “consumers are accustomed to obtaining and maintaining self-provisioned CPE power.”⁴⁴ Further, Verizon noted that “[n]otwithstanding the availability of backup batteries, many customers today choose not to obtain a battery, given the growing reliance on wireless or the customers’ use of handsets or other devices that themselves require commercial power to operate.”⁴⁵ Other commenters, such as the National Cable & Telecommunications Association (“NCTA”) and ITTA, agreed.⁴⁶ Similarly, Cincinnati Bell noted that consumers have not found value in the line-powered nature of copper networks, even in the face of catastrophic weather events and outages.⁴⁷ Finally, vendors such as ADTRAN and

⁴⁴ See Comments of AT&T Services, Inc., 7 (Feb. 5, 2015) (“AT&T Comments”).

⁴⁵ See Comments of Verizon, 17 (Feb. 5, 2015) (“Verizon Comments”).

⁴⁶ See Comments of NCTA, 2-3 (Feb. 5, 2015) (“NCTA Comments”) (citing Stephen J. Blumberg and Julian V. Luke, Division of Health Interview Statistics, National Center for Health Statistics, WIRELESS SUBSTITUTION: EARLY RELEASE OF ESTIMATES FROM THE NATIONAL HEALTH INTERVIEW SURVEY, JANUARY–JUNE 2014, at 5 (Dec. 2014)) (finding that “almost half of all households in the U.S. are wireless only,” and “[t]he overwhelming majority of wireline customers also have mobile services, which provide a strong measure of redundancy during an emergency situation.”); Comments of ITTA, 6-8 (Feb. 5, 2015) (“ITTA Comments”).

⁴⁷ See Comments of Cincinnati Bell Telephone Company LLC, 7 (Feb. 5, 2015) (“Cincinnati Bell Comments”) (“[T]he majority of consumers do not value the independent power supply that accompanied traditional copper-based voice services. This became abundantly clear to CBT during the extended power outage that affected a

Corning—both FTTH Council members—recognized that consumers, including minorities and low-income populations, are continuing to migrate toward non-line-powered all-fiber and wireless networks, even if that means giving up CPE power fed from the central office.⁴⁸

Moreover, commenters submitted evidence to support the Council’s view that IP-based fixed voice providers are acting responsibly to provide battery backup options for consumers. ITTA noted that “[t]he industry has responded to marketplace demand and consumer needs by voluntarily deploying devices that are capable of maintaining standby backup power, typically for up to eight hours.”⁴⁹ For example, when CenturyLink entered the Omaha market with FTTH service, it “created a brochure” for customers, “supplemented it with information on the company’s website,” and “provided customers with backup power units and supplied information about the units and the ongoing need for backup power support.”⁵⁰ Cincinnati Bell also offers a battery backup option for its service.⁵¹ Further, other major providers of fixed VoIP service—including AT&T, Charter, Comcast, Cox, Cablevision, and Verizon—generally make battery backup power available to consumers, even when they don’t provision the backup power

large portion of CBT’s service area in the aftermath of Hurricane Ike in 2008. More than 1.9 million Ohioans lost commercial power during that windstorm After the storm, CBT, which had been steadily losing market share to cable and VoIP providers, promoted the advantage of its landline service during a power outage, expecting that the campaign would entice customers to switch back. The company saw little to no uptick as a result and landline lo[s]ses continued at a steady pace despite the lack of backup power with alternative services.”).

⁴⁸ See Comments of ADTRAN, Inc., 17-18 (Feb. 5, 2015) (“ADTRAN Comments”); Corning Comments at 4-5 (“Today, more than 90 percent of American adults have a cell phone. By contrast, fewer than 60 percent of American households have a landline, and more than a third of the households that do report that they seldom or never use it. The move away from landlines is even more pronounced among minorities and the poor.”) (internal citations omitted).

⁴⁹ See ITTA Comments at 20.

⁵⁰ See Comments of CenturyLink, 48-49 (Feb. 5, 2015) (“CenturyLink Comments”).

⁵¹ See Cincinnati Bell Comments at 8.

themselves.⁵² In addition, battery backup solutions are widely available from commercial retailers such as Best Buy and Amazon.⁵³

Lastly, commenters agreed that the Commission's proposed regulations will impose a substantial cost on providers without any attendant benefit.⁵⁴ For example, ADTRAN states that the proposal would create an "impossible burden" for providers, who often do not have control of or knowledge of the customer's particular CPE.⁵⁵ And yet, providers have found that very few customers express a desire for battery backup power in the first place.⁵⁶ NCTA, for instance, has found that "[e]ven when companies offer batteries for sale, customers overwhelmingly choose not to purchase them," often because they have an adequate or superior emergency communications alternative in their mobile service.⁵⁷

Taking these comments together, it is clear that consumers and providers have evolved beyond the old world of line-powered copper. Consumers today have a variety of options for backup power, including wireless service and CPE backup power, and providers are acting responsibly to address consumer needs for backup power. Establishing battery backup power requirements would impose unnecessary costs on providers and consumers alike, without any attendant benefit. Therefore, the Commission should not impose its proposed battery backup

⁵² See AT&T Comments at 7-8 & n.13.

⁵³ See NCTA Comments at 7-8.

⁵⁴ See, e.g., NCTA Comments at 8-9; Cincinnati Bell Comments at 8-9 (explaining that mandating battery backup power would impose significant administrative, environmental, and long-term opportunity costs to the company). Cincinnati Bell states that mandating battery backup "would require providers to install battery back-up capacity for all existing subscribers," which "would be a huge undertaking for providers and a burden on consumers who do not want or care about battery back-up for their service." See Cincinnati Bell Comments at 8-9. Moreover, it would "divert service installers from new deployments, thus slowing the expansion of broadband services to customers," and likely would result in a many batteries being improperly disposed. See *id.*

⁵⁵ See ADTRAN Comments at 20.

⁵⁶ See Cincinnati Bell Comments at 8.

⁵⁷ See NCTA Comments at 8.

rules. Instead, as many commenters agreed, the Commission should encourage the development and adoption of best practices, such as those recommended by CSRIC Working Group 10.⁵⁸

B. Proponents' Arguments in Favor of the Commission's Proposed Battery Backup Rules Ignore Market Realities and Suggest Additional Rules That Would Impose Costs With No Redeeming Benefit

Several commenters supported the Commission's proposal to impose battery backup requirements on providers of fixed VoIP services.⁵⁹ For example, Public Interest Commenters argue that battery backup rules are appropriate because "Americans have come to expect the indefinite reliability of the basic telephone network, particularly during outages caused by natural disasters and other emergencies."⁶⁰ However, this view of the market ignores the sea change that has occurred in consumer preferences for voice communications over the past 15 years, and therefore should be rejected.

As the Council and other commenters explained, the majority of consumers have willingly adopted non-line powered fixed and wireless networks for their voice communications needs.⁶¹ These consumers understand that fixed VoIP service requires battery backup to

⁵⁸ See, e.g., Comments of the American Cable Association, 7 (Feb. 5, 2015) ("ACA Comments"); CenturyLink Comments at 46; Comments of the United States Telecom Association, 6-7 (Feb. 5, 2015) ("USTelecom Comments").

⁵⁹ See Comments of Public Knowledge, Appalshop, Benton Foundation, Center for Media Justice, Center for Rural Strategies, Common Cause, the Greenlining Institute, Media Action Center, Media Literacy Project, National Consumer Law Center, on Behalf of Its Low-Income Clients, New America's Open Technology Institute, Rural Broadband Policy Group, and TURN (the Utility Reform Network), 24 (Feb. 5, 2015) ("Public Interest Commenters Comments"); see also Comments of the Ad Hoc Telecommunications Users Committee, 6 (Feb. 5, 2015) ("AHTUC Comments"); Comments of the National Association of State 911 Administrators, 2 (Feb 6, 2015) ("NASNA Comments"); Comments of the National Association of State Utility Consumer Advocates, 10 (Feb. 5, 2015) ("NASUCA Comments").

⁶⁰ See Public Interest Commenters Comments at 24.

⁶¹ See Cincinnati Bell Comments at 7; FTTH Council Comments at 10; RVA Survey at 16, 26; Verizon Comments at 17.

function.⁶² Indeed, by Commission rule, providers of fixed VoIP service are required to provide a notice about limitations in their service, such as the need for battery backup power.⁶³ Even for the minority of consumers who retain line-powered copper voice service, the prevalence of cordless phones—which themselves require backup power to function in an outage—undermines the argument that consumers expect their phones to work “indefinitely” in an outage without some form of battery backup.⁶⁴ Moreover, most consumers have multiple options for emergency communications, including cell phones and backup power for their fixed VoIP service.⁶⁵

In short, over the last fifteen years, consumers have willingly adopted non-line-powered wired and wireless service to meet their communications needs. These consumers understand that these services require battery backup power to function during an outage, and have accepted that trade-off knowing that the market already provides sufficient backup power options to enable them to communicate in an emergency.

Even if proponents’ view of the market was correct, the proposed battery backup rules should be rejected. In their comments, proponents of the Commission’s battery backup rules would require providers to offer a minimum duration of backup power, anywhere from eight hours (as the Commission originally proposed) to a full week (as proposed by the Public Interest

⁶² See AT&T Comments at 7.

⁶³ See 47 C.F.R. § 9.5.

⁶⁴ See ADTRAN Comments at 18 (“Consumers are selecting cordless phones in a significant number of households that still have landline service, as reflected by the fact that for the most recent year where data is available, sales of cordless telephones were just about double the sales of corded telephones – 7.3 million cordless phones versus 3.7 million corded phones”) (citations omitted); *see also* RVA Survey at 22 (47% of consumers with line-powered voice service do not have a corded phone at home).

⁶⁵ See FTTH Council Comments at 19; NCTA Comments at 5; ACA Comments at 11; RVA Survey at 9 (finding that 88% of homes have a mobile phone, while nearly half of homes have both a landline and a wireless phone).

Commenters).⁶⁶ Other proponents would have the Commission impose vague standards for “minimally essential communications.”⁶⁷ The Commission should reject these proposals.

First, establishing a minimum duration for backup power—including the Commission’s eight-hour proposal—is unnecessary because providers of non-line-powered fixed VoIP services have acted responsibly to provision or provide information about battery backup power. As ITTA explains, the free market already provides sufficient incentives to promote the deployment of backup power solutions, with providers typically offering customers a UPS with eight hours of standby power.⁶⁸ Even where the provider does not provision battery backup, consumers are aware of the need for backup power, and can purchase a commercially available UPS that meets their needs.⁶⁹ Further, as battery backup technology improves, the market will be able to offer backup power for even longer durations.⁷⁰ Therefore, the Commission should decline to impose regulations mandating that providers meet a minimum standard for battery backup power.

Second, if the Commission ultimately decides to require battery backup, there is simply no meaningful evidence in the record that would justify a minimum backup period exceeding

⁶⁶ For example, while AARP would require 12 hours of backup power, *see* Comments of AARP, 3 (Feb. 5, 2015) (“AARP Comments”), AHTUC, NASUCA, and NASNA suggest 24 hours is appropriate. *See* AHTUC Comments at 6; NASNA Comments at 2; NASUCA Comments at 10. Public Interest Commenters, at the far extreme, would have fixed VoIP providers guarantee seven days of battery backup power. *See* Public Interest Commenters Comments at 25-26.

⁶⁷ *See* Public Interest Commenters Comments at 21-23.

⁶⁸ *See* Comments of ITTA at 20 (“The industry has responded to marketplace demand and consumer needs by voluntarily deploying devices that are capable of maintaining standby backup power, typically for up to eight hours. . . . There is every indication that marketplace pressures are sufficient to guide the industry’s response to any concerns regarding backup power of CPE during power outages without the need for regulatory intervention.”).

⁶⁹ *See* NCTA Comments at 7-8.

⁷⁰ *See* Comments of the Pennsylvania PUC, 8 (Feb. 5, 2015) (“Pa PUC Comments”) (“The Pa PUC recognizes that th[e] provision of backup power to customer premises equipment is changing rapidly so that more reliable and longer battery backup can be maintained at a customer’s premises.”).

eight hours. AT&T, in its comments, notes that “most power outages last less than two hours,” and a study of central offices in California revealed that “more than 50 percent of outages lasted only seconds.”⁷¹ Indeed, the California Public Utilities Commission and Pennsylvania Public Utilities Commission view eight hours of standby battery backup power as adequate, and recognize that providers are already meeting that need.⁷² The New York Public Service Commission (“NY PSC”) agrees that “sufficient commercial backup power solutions are available to consumers.”⁷³ Moreover, there is no evidence in the record to support claims that “[p]ower outages *routinely* exceed eight hours in ice or wind storms,” that “[p]ower outages . . . *often* occur at night,” or that “consumers in the midst of a power outage . . . *likely* have urgent communications needs that may take time to accomplish.”⁷⁴ As a result, the Commission should refrain from using these claims to justify a longer-than-necessary battery backup period.

Third, requiring providers to meet the Commission’s or proponents’ backup power requirements would impose significant and unnecessary costs on providers and their consumers. For example, Public Interest Commenters’ proposal appears to call for seven days of talk time.⁷⁵ Under this metric, the expense of provisioning a week’s worth of battery backup power could

⁷¹ See AT&T Comments at 20 & n.47.

⁷² See Comments of the California Public Utilities Commission, 3 (Feb. 26, 2015); Pa PUC Comments at 9 (“The Pa. PUC suggests that backup power that is capable of powering CPE for a minimum of at least eight hours during a commercial power outage is consistent with the Commission’s enunciated proposal. The Pa. PUC notes that eight hours appear to be consistent with certain VoIP deployment models already in practice, such as Verizon’s FiOS service.”).

⁷³ See Comments of the New York Public Service Commission, 3 (Feb. 5, 2015) (“NY PSC Comments”).

⁷⁴ See AHTUC Comments at 6 (emphasis added); NASNA Comments at 2 (emphasis added).

⁷⁵ See Public Interest Commenters Comments at 26.

reach \$3,200 per customer.⁷⁶ Spread across a customer base of thousands or millions, this cost becomes astronomical. This is especially egregious given the fact that consumers need access to a week’s worth of backup power only in exceedingly rare cases.⁷⁷ Moreover, there is no reason to mandate, as the Public Interest Commenters request, that providers bear the cost of providing backup power for such an extreme duration,⁷⁸ particularly because so few consumers elect to purchase battery backup power when given the option. Ultimately, this proposal would require providers to pay for a service that the majority of their subscribers neither want nor need, and to delay future deployment of additional all-fiber networks that the majority of Americans so greatly desire.

Finally, requiring providers to allow consumers to access a pre-determined set of “minimally essential” services during an emergency is both unworkable and unwise. Public Interest Commenters would define “minimally essential” as including the ability to make calls to 911, medical alert systems, and family,” as well as the ability to “send text, video, or data to 911.”⁷⁹ Notwithstanding the fact that this proceeding focused on fixed voice communications, as ITTA explains, “it is misguided to think that backup power can reliably be prioritized or conserved for a limited subset of services. It would be technically difficult, if not impossible in some cases, for providers to distinguish among certain types of calls or functions in a way that would allow them to rapidly load-shed non-essential communications to conserve backup power

⁷⁶ *See id.* Public Interest Commenters claim that provisioning battery backup power for a single customer for one week would cost Verizon \$800. However, it also recognizes that such figures are based on standby time, not talk time, which is generally around two hours. As such, the cost of provisioning battery backup time for a week could be four times Public Interest Commenters’ estimate, or up to \$3,200 for a week’s worth of talk time.

⁷⁷ *See* RVA Survey at 37; AT&T Comments at 20 & n.47.

⁷⁸ *See* Public Interest Commenters Comments at 26.

⁷⁹ *See id.* at 22.

for minimally essential communications.”⁸⁰ For these reasons, the Commission should avoid drawing lines between “minimally essential” and other services, which would be costly to implement and would have minimal, if any, benefit.

In sum, proponents offer a series of suggestions that do not reflect the modern communications landscape and seek to impose staggering costs that would have limited benefit, especially given the fact that most consumers have access to both a backup means of emergency communications (their landline or wireless phone) and a backup power source in the event of an outage (their car). For these reasons, the Commission should reject claims from proponents of new rules to impose or expand the Commission’s battery backup proposals.

IV. NUMEROUS COMMENTERS SUPPORTED THE CONCLUSION THAT MANDATING COPPER RETIREMENT NOTIFICATIONS FOR RETAIL CUSTOMERS IS UNWARRANTED; THE COMMISSION SHOULD REJECT PROPOSALS FROM OTHERS TO ADOPT COPPER RETIREMENT NOTIFICATION RULES FOR RETAIL CUSTOMERS

A number of commenters submitted evidence demonstrating that the Commission’s proposed rules that would mandate that providers give retail customers notice of and an opportunity to comment on planned copper retirement are unwarranted. Many commenters, including ILECs with experience interfacing with customers about copper retirement procedures, supported the Council’s conclusion that providers already provide adequate notice to customers and obtain their consent before entering their premises to perform an upgrade, and that there is no evidence of a problem warranting Commission action. At the same time, those commenters who supported the Commission’s proposals, or who would further expand the proposals, fail to provide compelling evidence that would justify the imposition of retail customer copper retirement notification requirements.

⁸⁰ See ITTA Comments at 20-21.

A. Opponents of the Proposed Copper Retirement Notification Rules Submitted Relevant Evidence to Support the Council’s Conclusion That Mandating Copper Retirement Notifications for Retail Customers Is Unwarranted

With respect to copper retirement notices, commenters demonstrated that providers are acting responsibly to notify their retail customers and obtain consent before replacing line-powered copper networks with IP-based networks. For example, CenturyLink “informs retail customers that their service is going to be moved to an upgraded facility, if that transition will directly affect them.”⁸¹ Similarly, Cincinnati Bell explains that, “[b]y the very nature of the changes” involved in upgrading a facility from copper to FTTH networks, the carrier must notify the consumer and schedule an on-site appointment, “otherwise their customer’s service cannot be installed and will not work.”⁸² USTelecom agrees, stating that “[m]any providers already have to (and do) notify customers when making facilities changes because they need access to their customers’ premises to effectuate certain network changes.”⁸³ This is consistent with the experience of FTTH Council members, such as GVTC.⁸⁴

Further, the small number of consumers who continue to rely on line-powered copper networks overwhelmingly support an upgrade to IP-based networks, and few, if any, have complained about the transition process. CenturyLink’s process has resulted in “virtually universal positive feedback from retail customers, who are typically elated by the prospect of

⁸¹ See CenturyLink Comments at 28 (“There is no easier way to lose a retail customer, for example, [than] to dig up their rose garden (to bury a fiber optic cable) or temporarily disconnect their service (to install enhanced electronics at their home), without giving them advance notice. CenturyLink has a strong interest in avoiding such negative customer experiences, particularly in today’s competitive marketplace, where two-thirds of households in its service area have already left its network. CenturyLink also has an obvious interest in notifying its existing and prospective customers of the new and enhanced services that will be made available to them through upgraded facilities.”).

⁸² See Cincinnati Bell Comments at 14.

⁸³ See USTelecom Comments at 10.

⁸⁴ See FTTH Council Comments at 22-23.

faster broadband speeds and a meaningful alternative to cable competitors.”⁸⁵ Similarly, Verizon states that, “throughout [its] latest copper retirement or network modification processes, it has not received a single such documented objection” from consumers.⁸⁶

Finally, many commenters agree that the Commission’s proposed copper retirement notifications for retail customers would be unduly burdensome and costly. Corning correctly points out that the new rules “contemplate[] extensive electronic and traditional mailings with content dictated by the government.”⁸⁷ AT&T further notes that retail customer notification likely would lead to a “default” notification to all customers, and would cause ILECs “to incur the additional costs of identifying the retail customers potentially implicated by every proposed copper retirement . . . and providing a direct notice to each such customer.”⁸⁸ Further, providers likely would incur additional administrative expenses, including burdens on call centers and customer service representatives, who would have to field calls from confused customers who receive the notice.⁸⁹

These comments only further support the Council’s argument that providers are already providing adequate notice to retail consumers in advance of copper retirement. Moreover, there is no evidence that consumers have opposed provider’s practices or desire more notifications. Therefore, no Commission intervention is warranted with respect to retail customer notification of copper retirement.

⁸⁵ See CenturyLink Comments at 28-29, 31-33 (describing in detail CenturyLink’s copper retirement notification process for retail customers).

⁸⁶ See Verizon Comments at 16.

⁸⁷ See Corning Comments at 9-10.

⁸⁸ See AT&T Comments at 40.

⁸⁹ See *id.*

B. Proponents' Arguments in Favor of Retail Customer Copper Retirement Notification Rules Are Unsupported and Unpersuasive

Several commenters support the Commission's proposal to require providers to notify retail customers before upgrading copper networks to all-fiber networks.⁹⁰ Among other suggestions, commenters propose that the Commission should (1) expand the proposed notification requirements to include those potentially affected by copper retirement in a given area⁹¹; (2) require carriers to provide even more detailed disclosures in the notice, including information about specialty services such as alarm systems⁹²; (3) mandate that providers notify consumers repeatedly and through multiple means (e.g., U.S. Mail, e-mail, and by phone)⁹³; and (4) require providers to submit copies of consumer notices to the Commission to demonstrate compliance with the rules.⁹⁴ Others request that the Commission expand the right for consumers to comment on proposed copper retirements.⁹⁵ As explained below, the Commission should reject each of these proposals.

⁹⁰ See, e.g., AHTUC Comments at 10-12; Public Interest Commenters Comments at 29-31; Comments of ADT, 8-9 (Feb. 5, 2015) ("ADT Comments").

⁹¹ See Public Interest Commenters Comments at 32; NASUCA Comments at 18.

⁹² See ADT Comments at 8-9, 15 (ADT, a supplier of home security systems, similarly requests that the Commission require ILECs to notify consumers that "the technology transition does not require the consumers to change their alarm service provider"); Public Interest Commenters Comments at 32 (asking the Commission to require ILECs to deliver copper retirement notices to all customers in an affected area, and that such notices include a description of the types of CPE or third-party services that may not be supported after the network change).

⁹³ See NASNA Comments at 3 (proposing that providers send consumers multiple notices of copper retirement both by email and by U.S. Mail, and in the event that a technician requires access to the customer's premises, to require the technician to contact the customer by phone to set up an appointment).

⁹⁴ See Public Interest Commenters Comments at 34 (proposing that ILECs should certify compliance with the Commission's notification rules, "including submitting copies of the consumer notices.").

⁹⁵ See NASUCA Comments at 20.

First, expanding the number of customers who providers must notify—including to “all customers in an affected area”⁹⁶—is not necessary. Providers already provide direct and sufficient notice to affected subscribers about the consequences of and reasons for fiber upgrades.⁹⁷ Indeed, as many commenters mentioned, as a practical matter, providers must notify customers and obtain consent to enter the customer’s property before performing the upgrade.⁹⁸ To date, Council members have not received any customer complaints about notification and upgrade this process.⁹⁹ In fact, consumers are generally elated at the prospect of an upgraded service, and welcome carriers providing them with faster, more reliable service. To expand this rule to cover individuals not directly affected by copper retirement would add further costs and customer confusion without providing consumers with any meaningful benefit.¹⁰⁰ Proponents of the Commission’s rule provide no material evidence to the contrary. Accordingly, the Commission should reject these proposals.

Second, expanding the content requirements of copper retirement notices to include potentially affected third-party services, as ADT and the Public Interest Commenters suggest, is unwarranted and would be unduly burdensome.¹⁰¹ As Public Interest Commenters themselves acknowledge, network providers in most cases do not have any idea of the types of products that a consumer has connected in his or her home.¹⁰² In effect, then, providers would be required to

⁹⁶ See Public Interest Commenters Comments at 32.

⁹⁷ See Comments of CenturyLink at 28; FTTH Council Comments at 16; CenturyLink Comments at 28; Cincinnati Bell Comments at 14; USTelecom Comments at 10.

⁹⁸ See FTTH Council Comments at 22-23; CenturyLink Comments at 28; Cincinnati Bell Comments at 14.

⁹⁹ See FTTH Council Comments at 23.

¹⁰⁰ See AT&T Comments at 39-40.

¹⁰¹ See ADT Comments at 8-9; Public Interest Commenters Comments at 32.

¹⁰² See *id.* (“ILECs by their own admission do not necessarily know what CPE or third-party services each customer uses.”) (citations omitted).

include all potentially affected services in its notification, even if the consumer does not own or subscribe to such service. Requiring providers to make disclosures about all potentially affected services—many of which consumers likely will not own—would only serve to confuse consumers and add needless complexity and cost to the notification process.¹⁰³ For that reason, any responsibility to notify consumers about the need for copper service is better reserved for the provider of those products, rather than the underlying network provider.

Third, requiring providers to notify consumers about the services that may be affected by a copper retirement plan—while prohibiting a carrier from explaining the benefits of fiber and fiber-enabled services—may create the illusion that consumers would be worse off with fiber.¹⁰⁴ This is particularly troublesome given the tremendous benefits that consumers will gain from an upgrade to fiber service, including better performance, increased resiliency, and access to a host of services that copper cannot support.¹⁰⁵ Indeed, many if not most of the services for which consumers rely on copper have an equivalent service that does not require copper services. For these reasons, the proposal to provide notice and comment, and the proposal to prohibit upselling, should not be adopted.

Fourth, proposals that would require providers to send repeated notices through multiple means—including U.S. Mail, e-mail, and by phone—as well as requirements that would have providers submit these notifications to the Commission for compliance purposes, would dramatically increase costs without providing any consumer benefit. Indeed, as Corning notes, “[a]ll the proposed [copper retirement notification] rule would do is add to the number of

¹⁰³ See Corning Comments at 8-10.

¹⁰⁴ See NPRM, ¶¶ 71-76; ADT Comments at 7-8 (opposing upselling); AARP Comments at 6-9.

¹⁰⁵ See FTTH Council Comments at 26 & n.110; Corning Comments at 18.

unwanted messages that consumers receive on a daily basis.”¹⁰⁶ Further, to the extent that the Commission requires carriers to submit additional paperwork to demonstrate compliance, the only practical outcome would be to increase costs for providers and hinder deployment of all-fiber services to the vast majority of consumers who demand it.

Fifth, the Council agrees with the NY PSC that, where a provider is replacing a twisted-pair copper network with an all-fiber service, there is no need for the provider to give its consumers an opportunity to comment on the proposed change.¹⁰⁷ Specifically, the NY PSC argues that “where a copper network is replaced with an FTTP or other equivalent network such as hybrid coaxial cable and fiber, . . . no comment period should be required as customers should be able to continue to be able to access basic tariffed services on the new network.”¹⁰⁸ Indeed, allowing consumers to comment would create the false impression that the comments will be taken into consideration by the Commission and may affect the outcome.¹⁰⁹

In conclusion, providers already give their retail customers adequate notice about copper retirement, and in the vast majority of cases consumers welcome and are excited for an upgrade to faster, more reliable fiber service. Neither the NPRM nor the proponents of the new rules assert any evidence that adding another layer of costs and regulatory burden through

¹⁰⁶ See Corning Comments at 8-9.

¹⁰⁷ See NY PSC Comments at 8-9.

¹⁰⁸ See *id.* at 9. The NY PSC explains: “We caution that this opportunity to comments may give the impression that the affected customers have a role in the decision making process and may lead to dissatisfied consumers when they discover that their input has no impact on the ultimate outcome of the planned retirement. A discussion of what timeframe should be given to allow consumers to provide comments (*e.g.*, 90 days versus 180 days) is moot if the comments have no bearing on the planned retirement. The NYPSC recommends in the first instance that the right to comment be limited to only those retirements where a like-for-like network is not replacing the copper network.” See *id.*

¹⁰⁹ See *id.* To be sure, the NY PSC recommends that carriers provide notice to customers. FTTH Council members and others provide such notice. However, the Council questions the value of the Commission’s proposed extensive notice and comment process if consumers will not have a say in the ultimate outcome.

certifications, document submissions, and comment procedures would have any material benefit for consumers. As such, the proposals from commenters that would adopt or expand the Commission's proposed retail customer copper retirement notification rules should be rejected.

V. CONCLUSION

Service providers and their vendors have acted responsibly to notify consumers and provide choice with respect to the availability of battery backup power and the transition from copper to all-fiber networks. Proponents of the Commission's new rules have failed to provide evidence that there is a problem warranting a regulatory solution, which would impose immense costs without redeeming benefit. Therefore, the Commission should not adopt the new regulations proposed in the NPRM or proposed by commenters and discussed herein.

Respectfully submitted,



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March 9, 2015

EXHIBIT A

**Survey Of Consumers
Regarding Telephone Use and Emergency
Calling Issues**



prepared for:



by



February, 2015

TABLE OF CONTENTS

METHODOLOGY 3 - 4

REVIEW OF FINDINGS (With Graphic Highlights) .. 5 - 40

Methodology

Fielded Feb 16 – Feb 24, 2015



2000 Online Interviews
1735 Random, 265 Oversampled FTTH

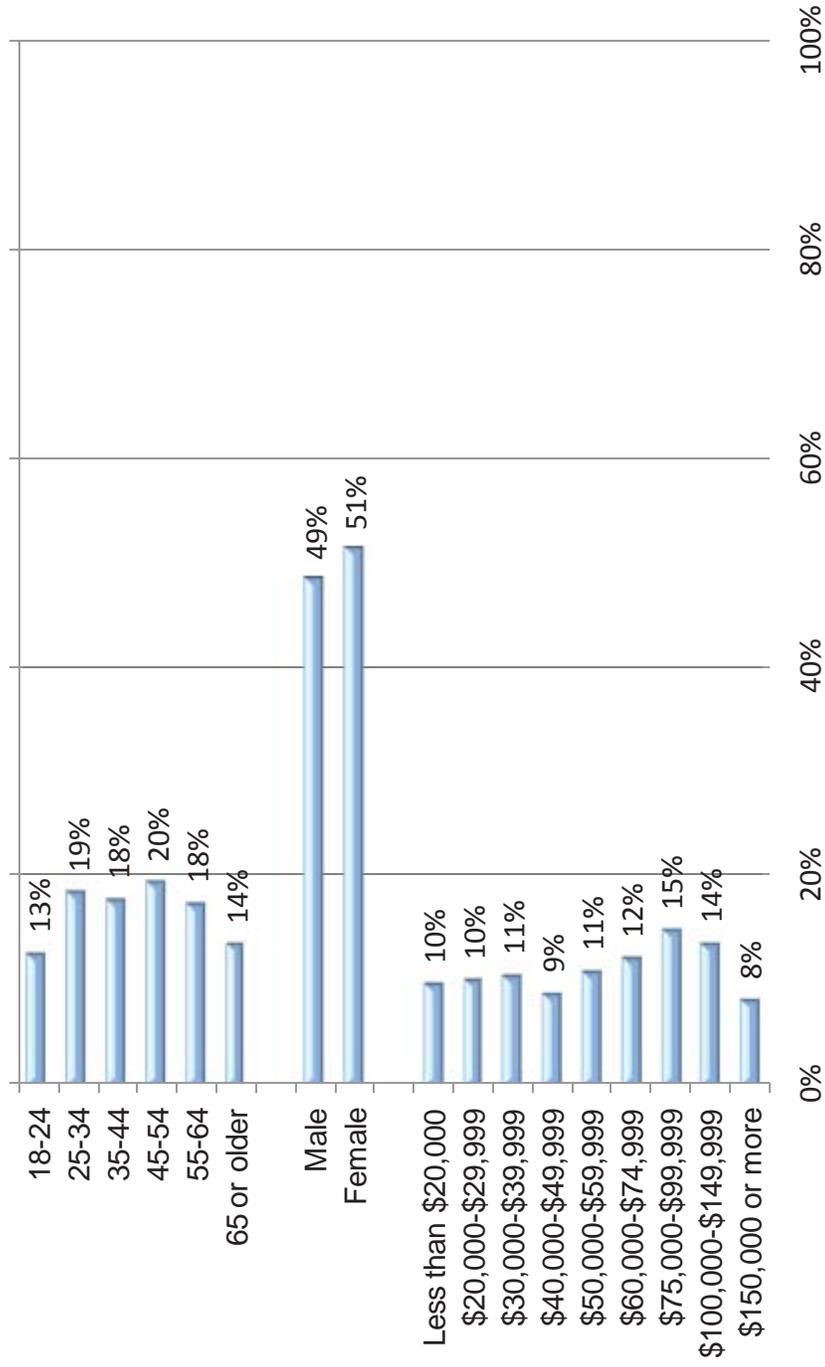
... +/- 2.2% for entire sample at 95% confidence

Review Of Findings

Demographics

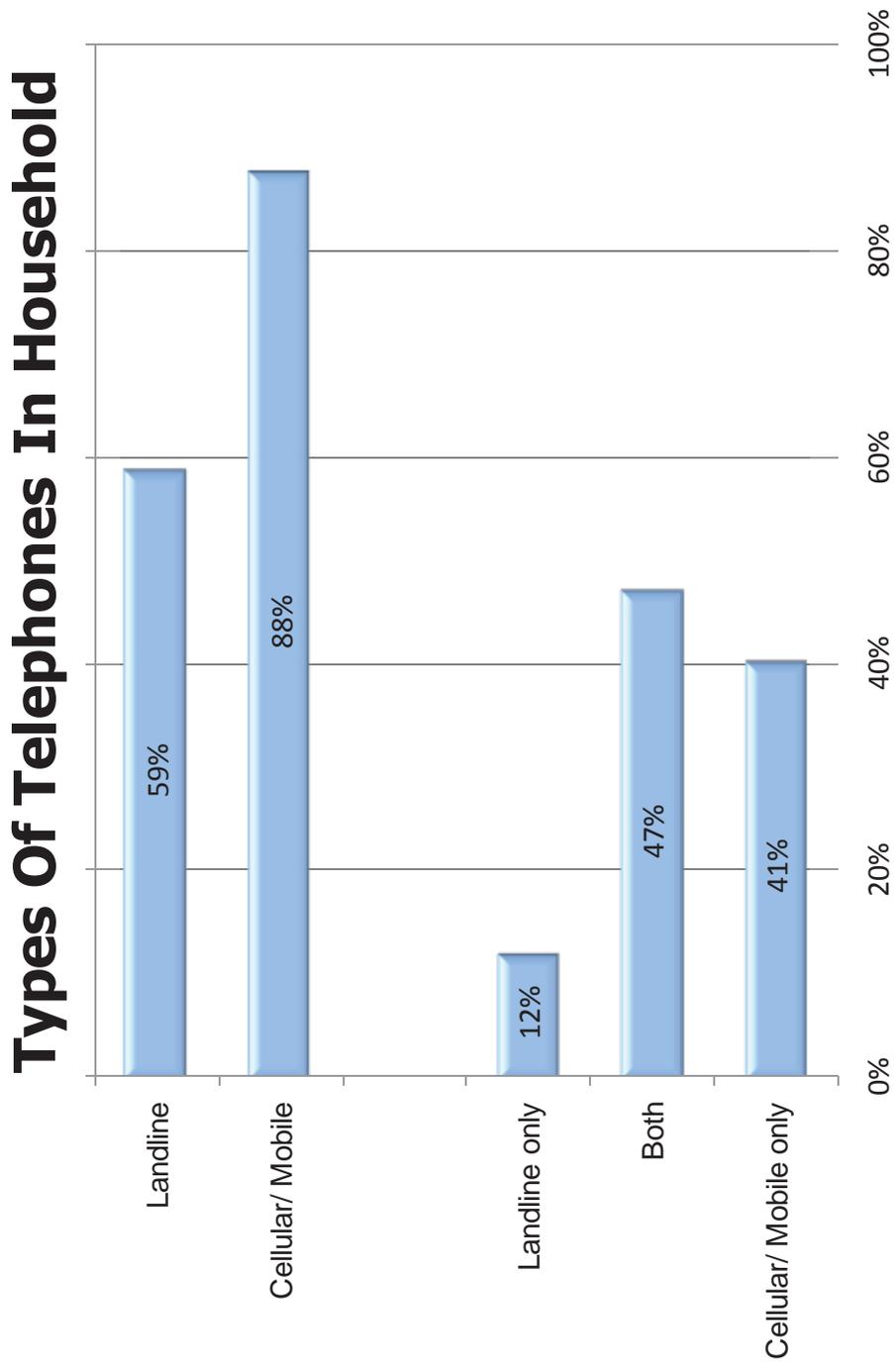
Demographics are very similar to national demographics based on U.S. Census data. Income is slightly higher perhaps because of the online population. (Median income of the sample is about \$59,000 versus \$51,000 for the actual population.)

General Demographics Of Sample



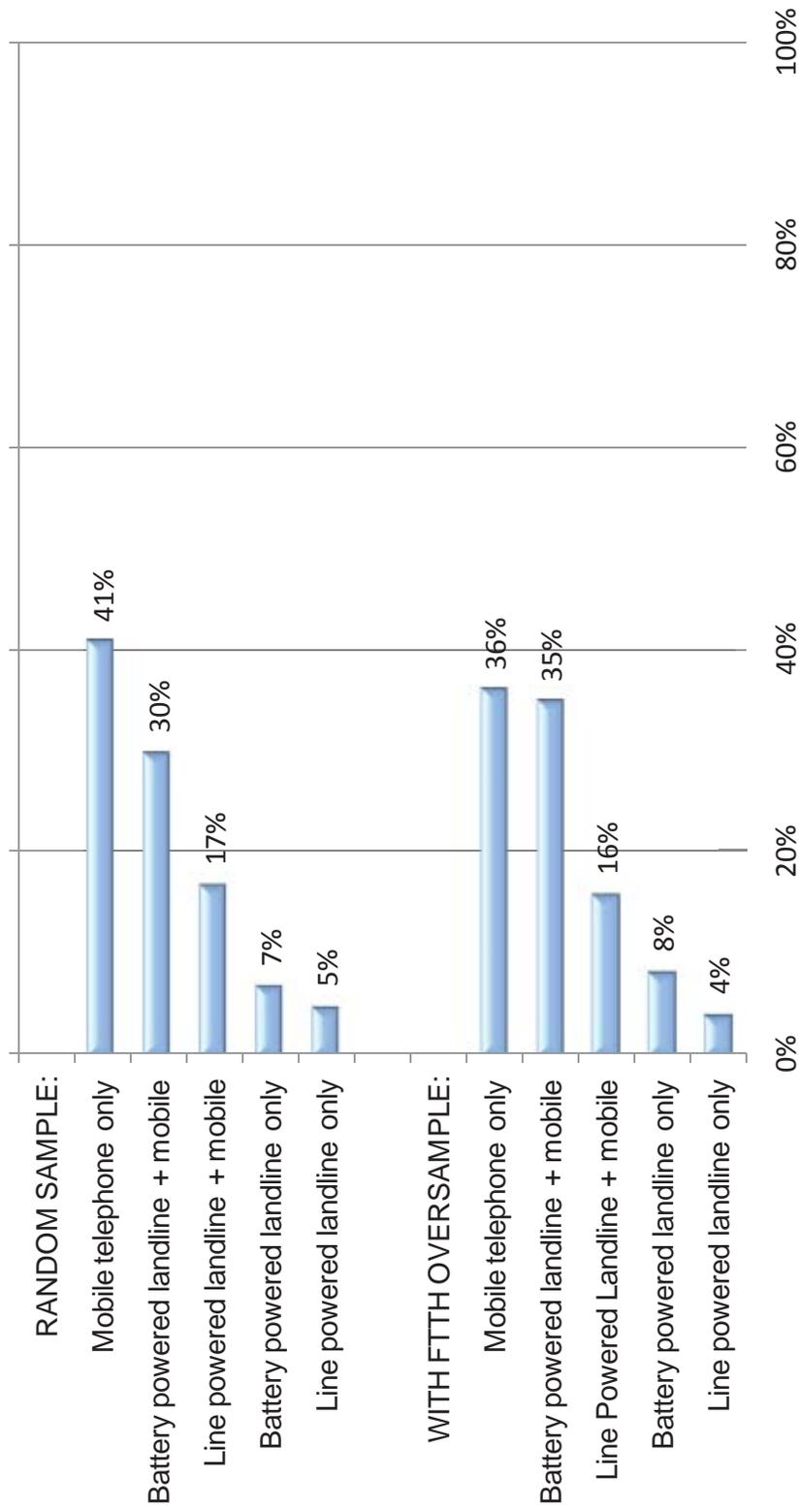
Types Of Telephones Used

More households have mobile telephones than landline. Only 12% of homes have a landline telephone only. Nearly half have both a landline and a mobile telephone.



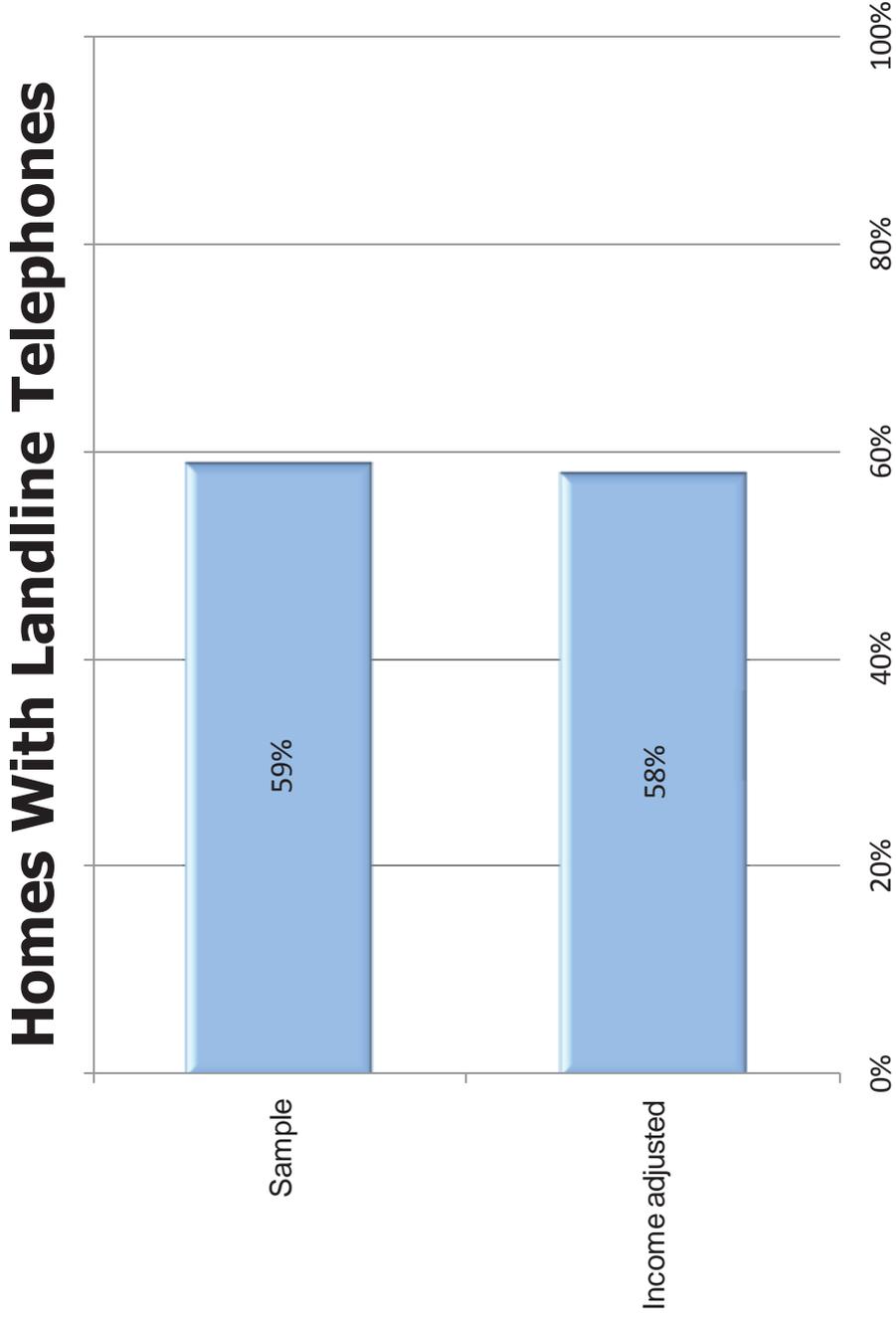
Recapping the types of devices in the home including their type of power, homes with only line powered landline represent only 5% of the sample. Homes with only battery powered landline represent only 7%.

Detailed Recap Of Devices In Home



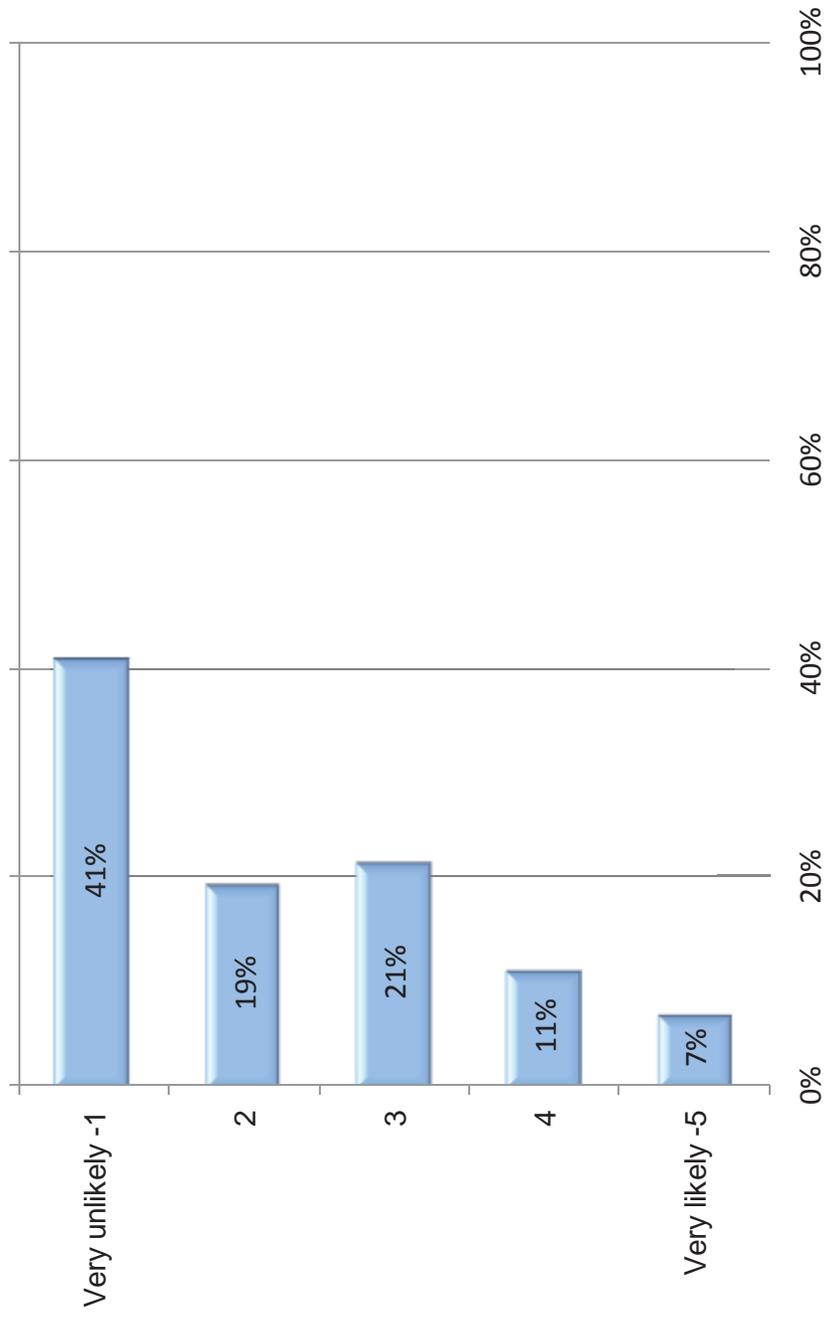
Landlines / Emergency Readiness

The overall random sample shows homes with landline telephones at 59%. Weighting the sample more to lower income in order to match U.S. Census figures reduces the percentage to 58%. This estimate is comparable to other recent studies. (A CDC / Pew Research Study in late 2013 showed 59%, and National Health Interview Survey in 2014 showed 56%.)



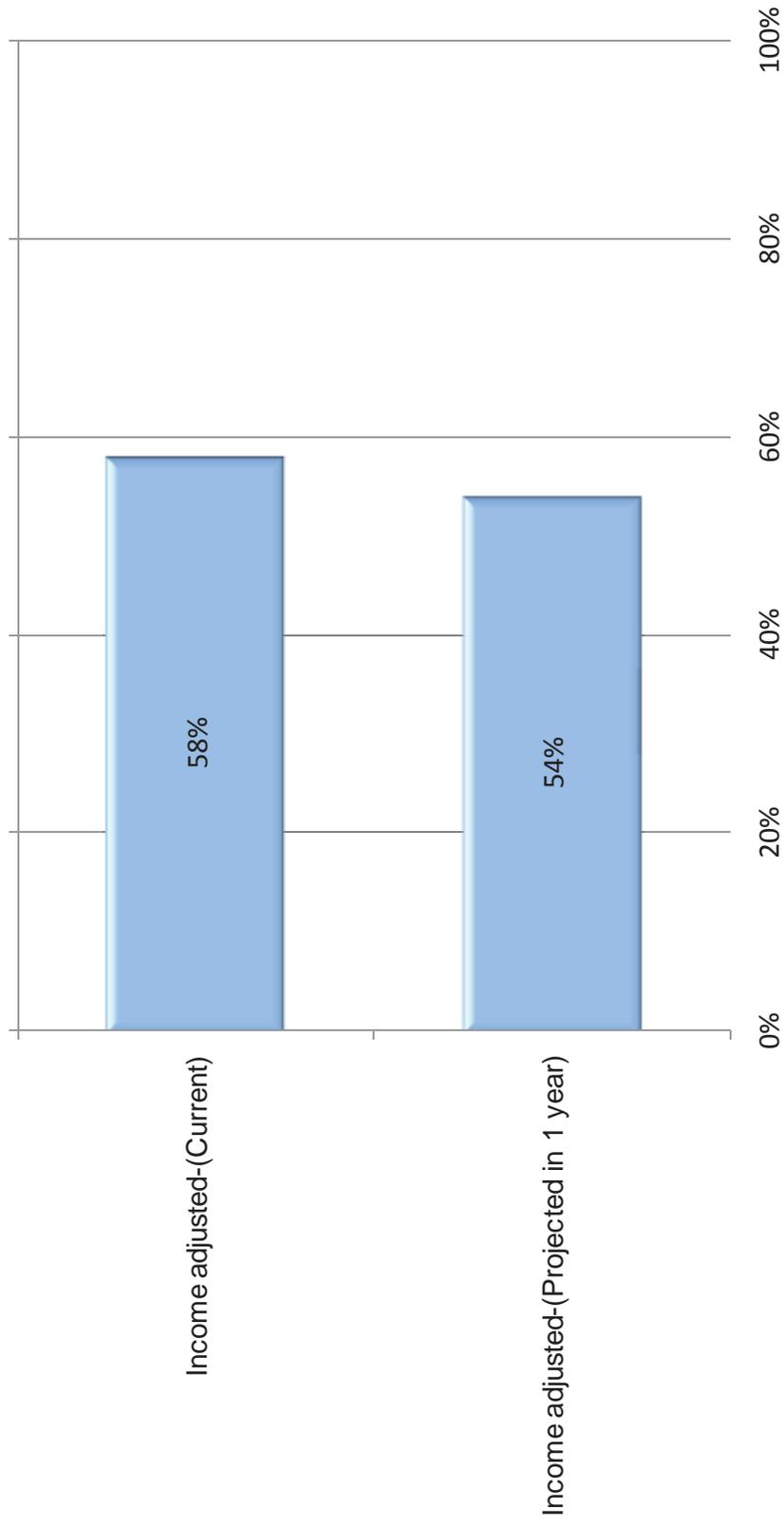
A total of 7% of current landline users say they are very likely to drop landline service in the next year. “Very likely” is often a good proxy for actual action.

Likely To Drop/ Discontinue Landline In Next 12 Months



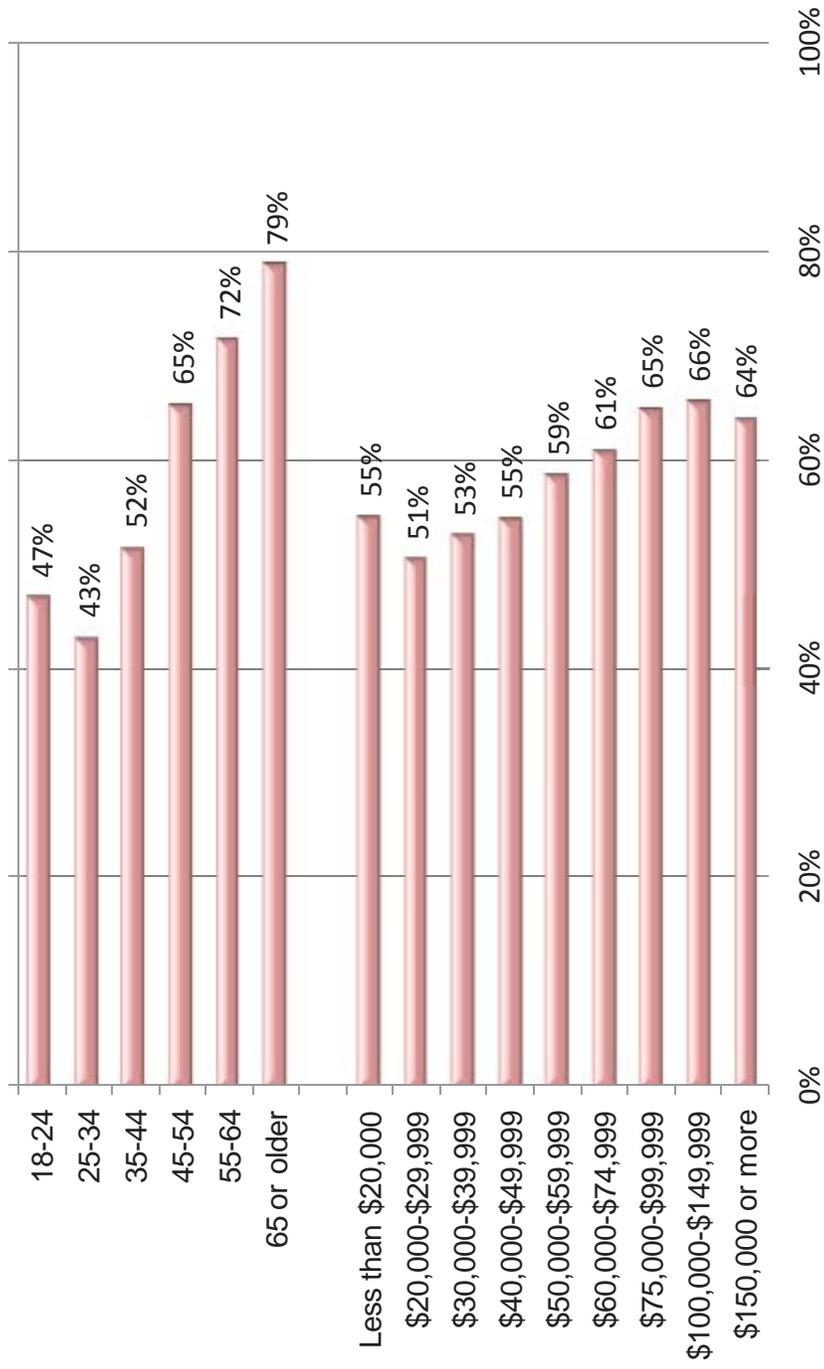
Assuming a 7% decline, landline telephone use will continue to fall to 54% in one year.

Homes With Landline Telephones Current Versus Projected



Cross tabulating by subgroups, those of older age and higher income are generally more likely to have landline telephones at home.

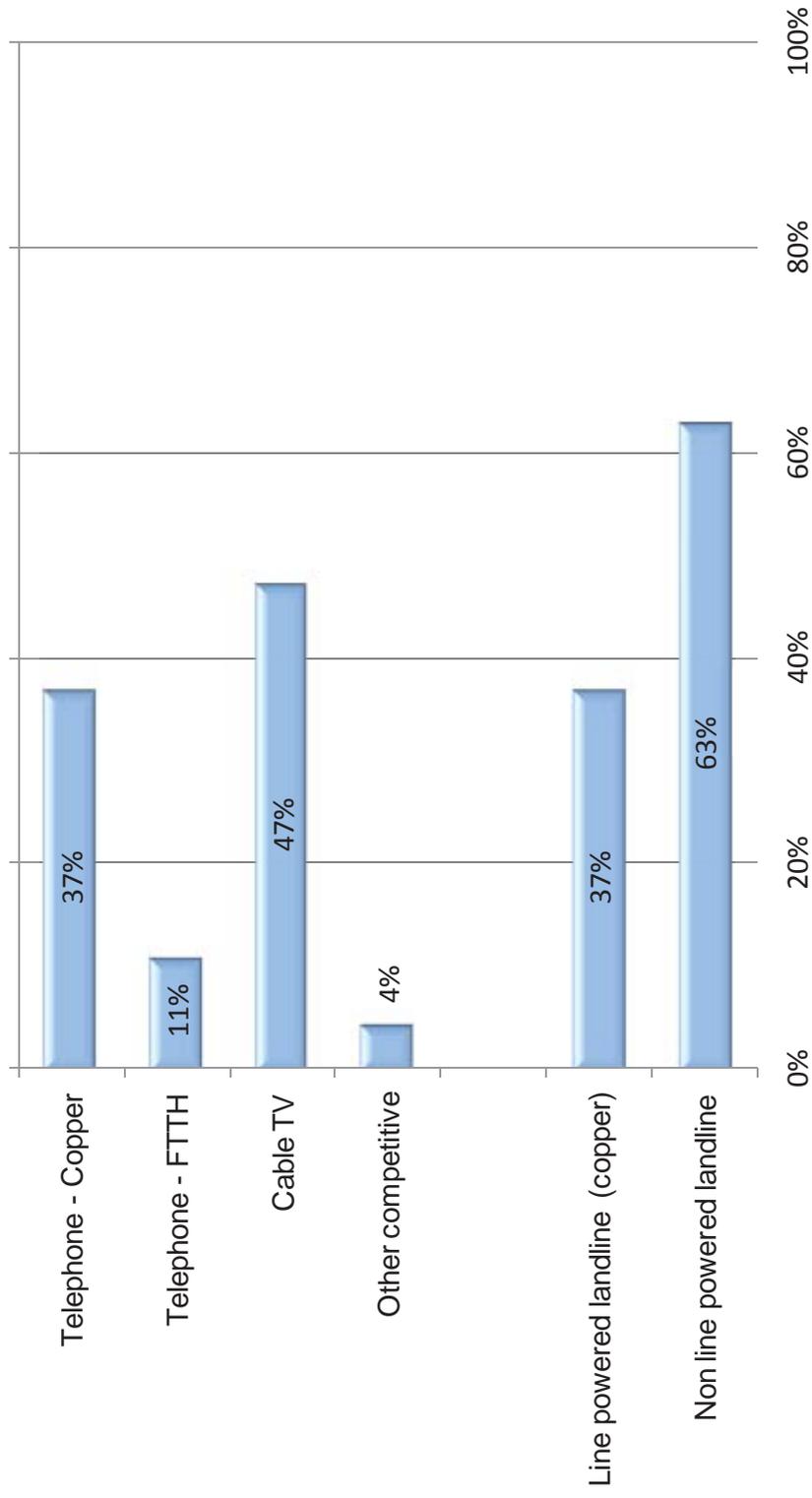
Homes With Landline Telephones By Subgroups



Crosstabulations – Percent using landlines by individual subgroup

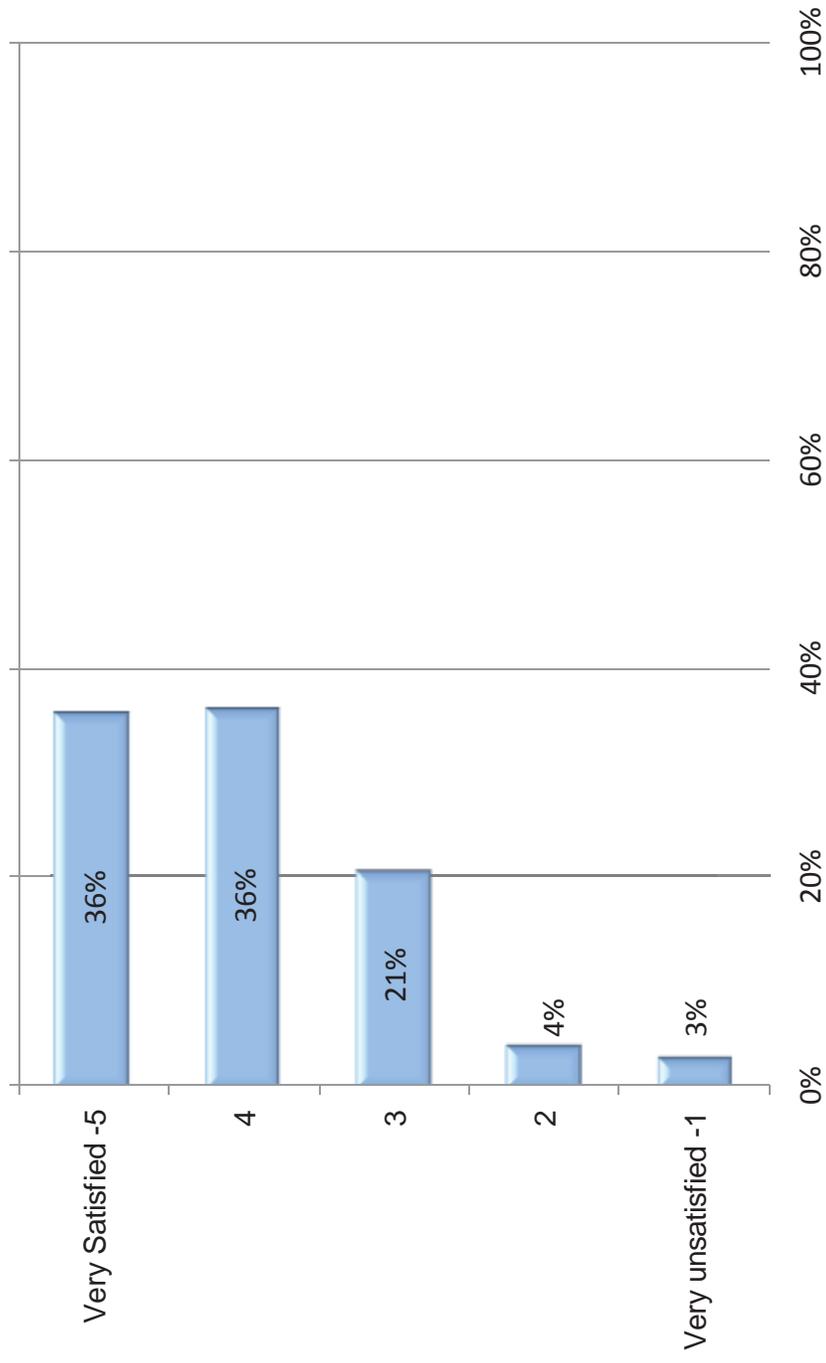
Respondents report 37% of landlines are delivered by provider telephone companies not utilizing FTTH. Thus, it is estimated that 37% of landlines are currently line powered.

Landline Service Provider



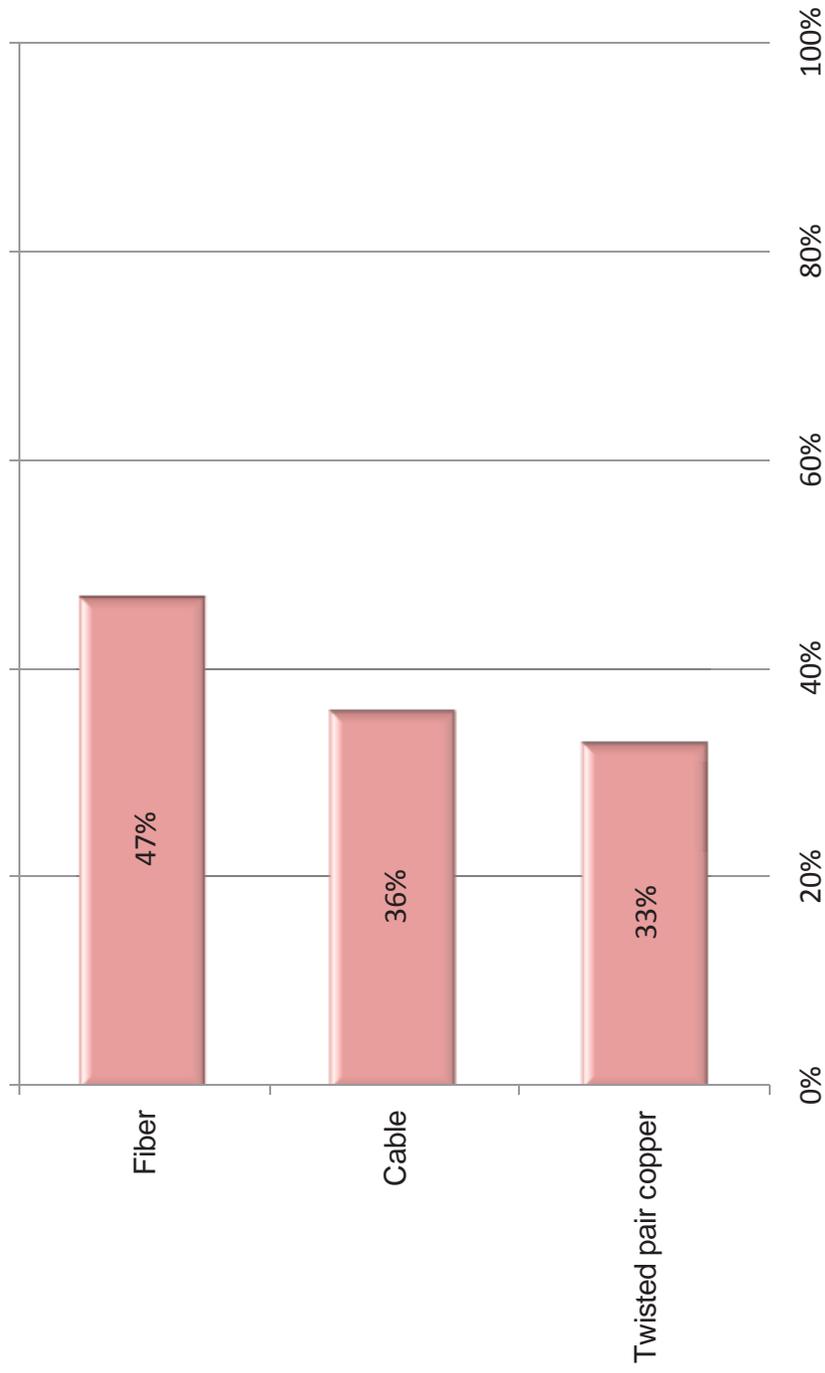
A total of 72% of current landline users say they satisfied with their landline service, compared to 7% unsatisfied.

Satisfaction With Landline Telephone Service



Those receiving landline service via fiber are most satisfied at present.

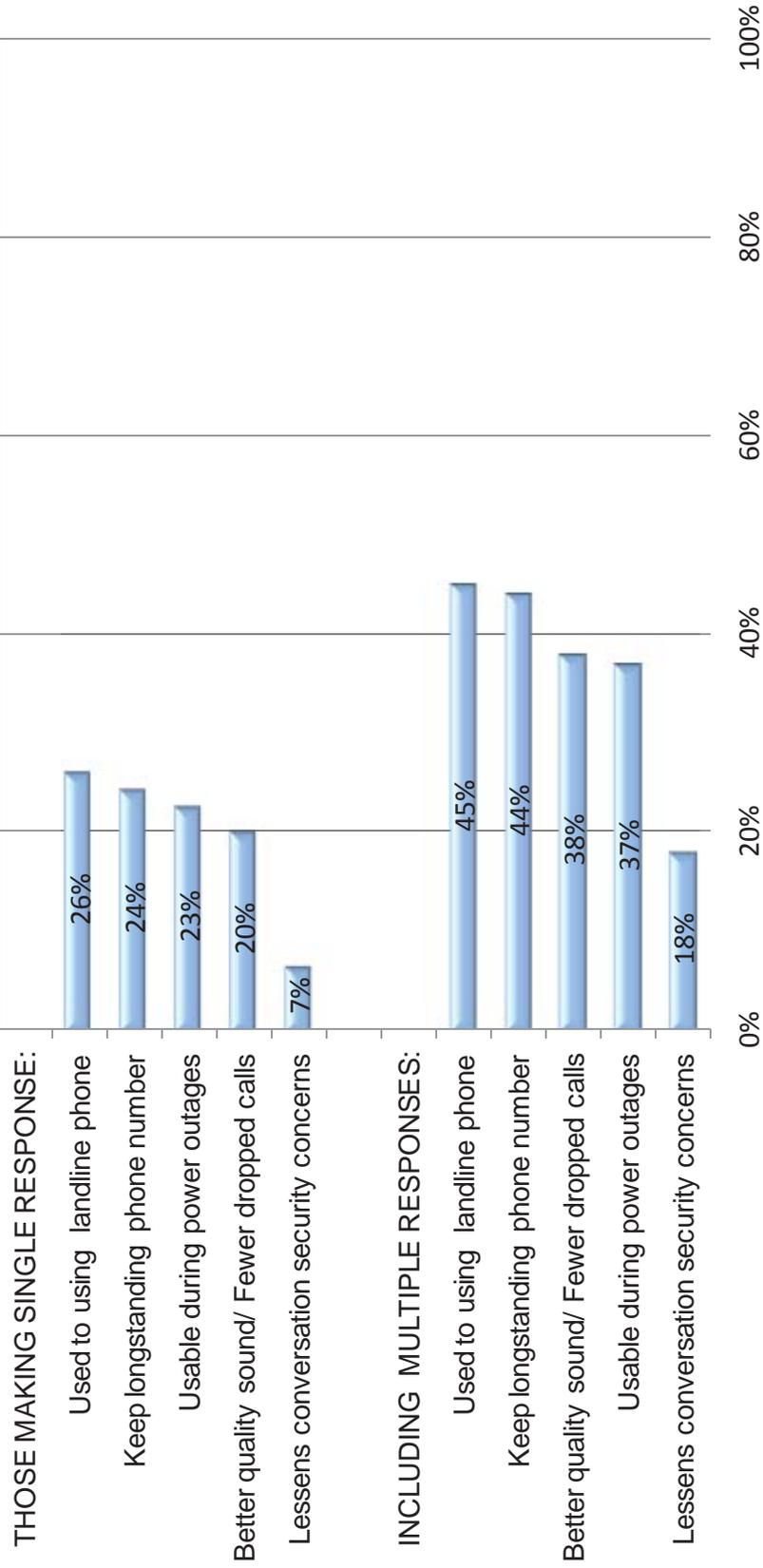
Those Very Satisfied With Landline Telephone Service By Provider Type



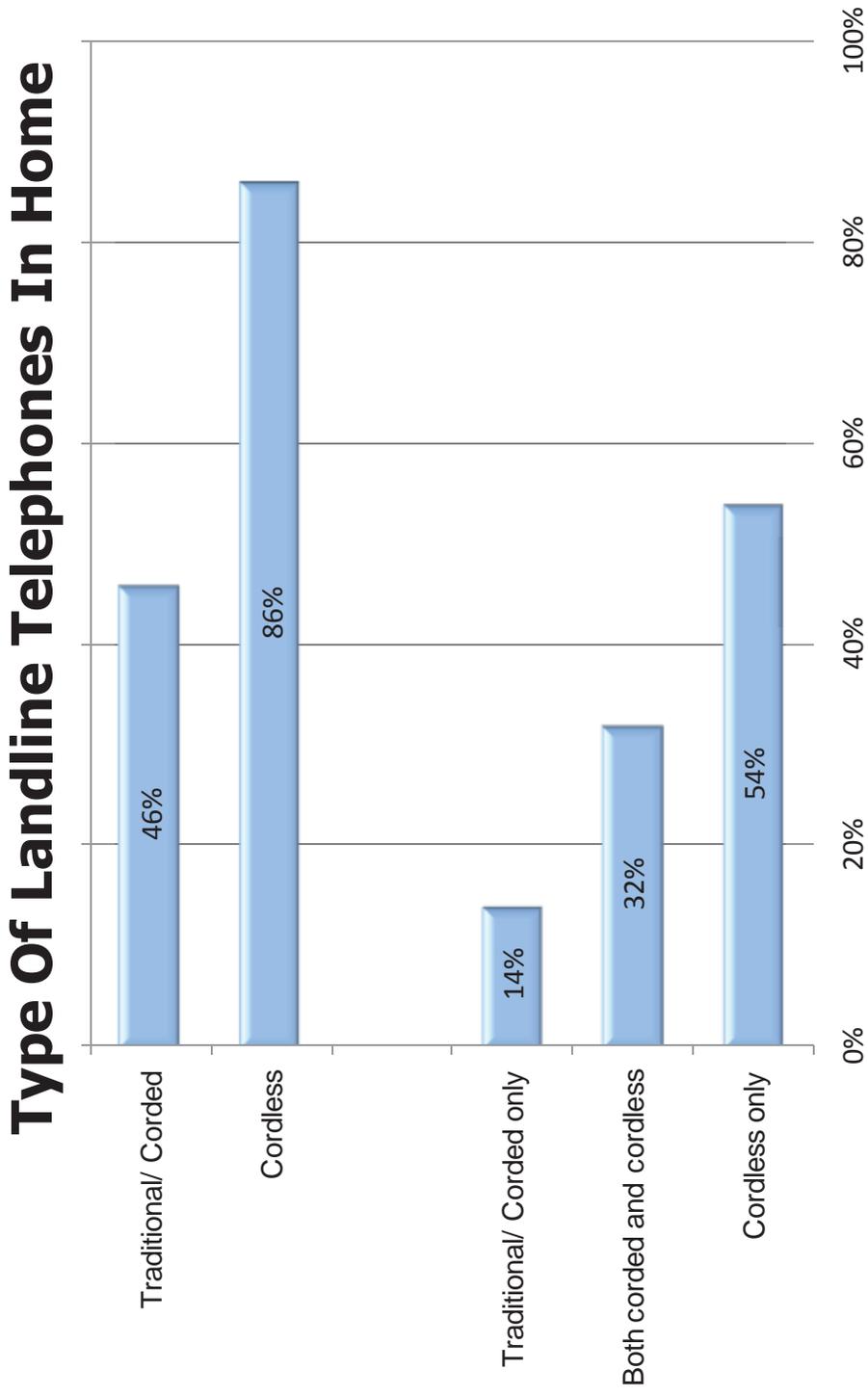
Crosstabulations – Percent very satisfied by provider type

The most frequently reported reason for maintaining landline telephone service relates to familiarity and keeping numbers.

Reasons For Maintaining Landline Telephone Service

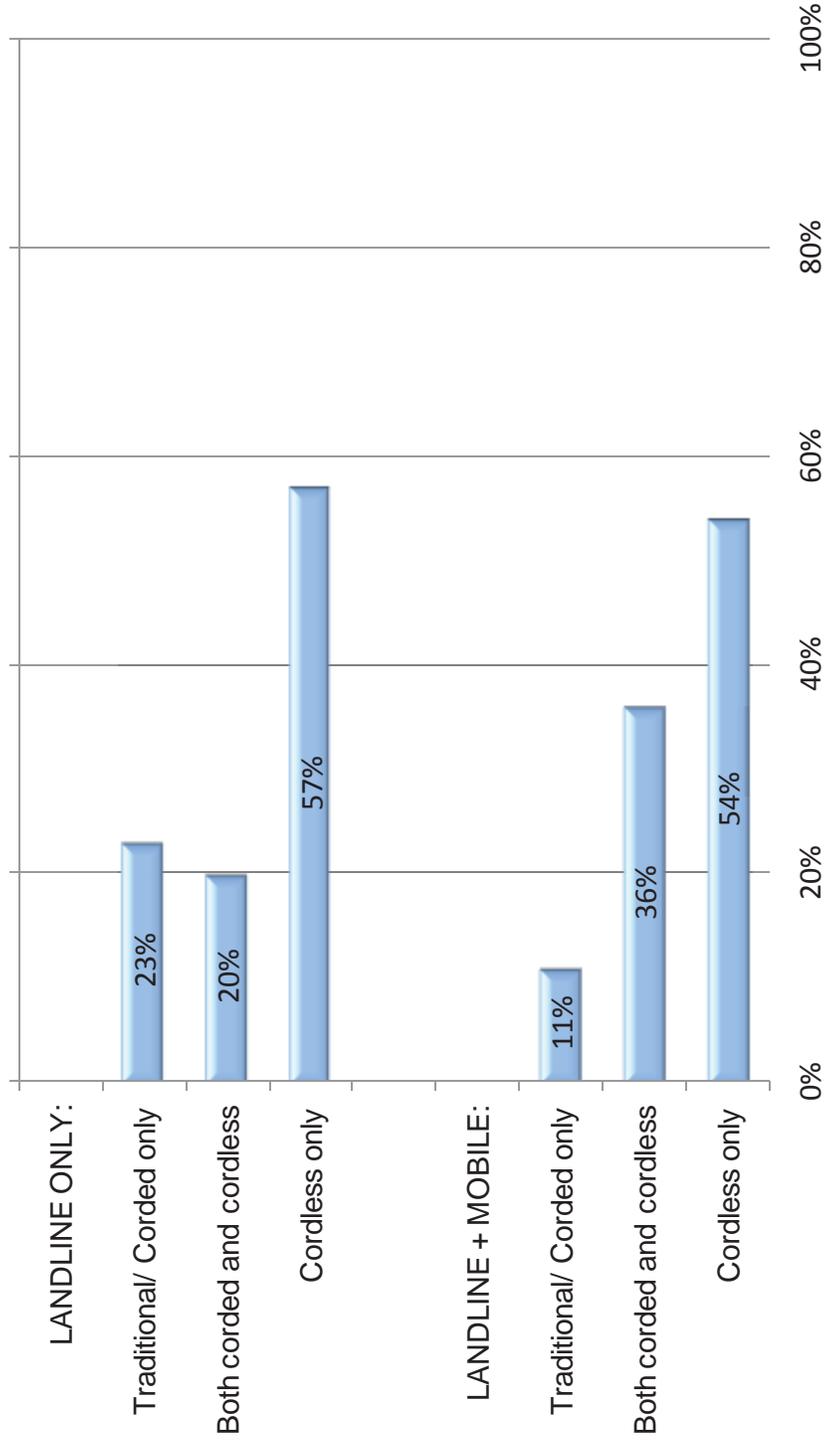


Over half of the respondents with landlines report having only a cordless telephone in the home (not usable during power outages.)



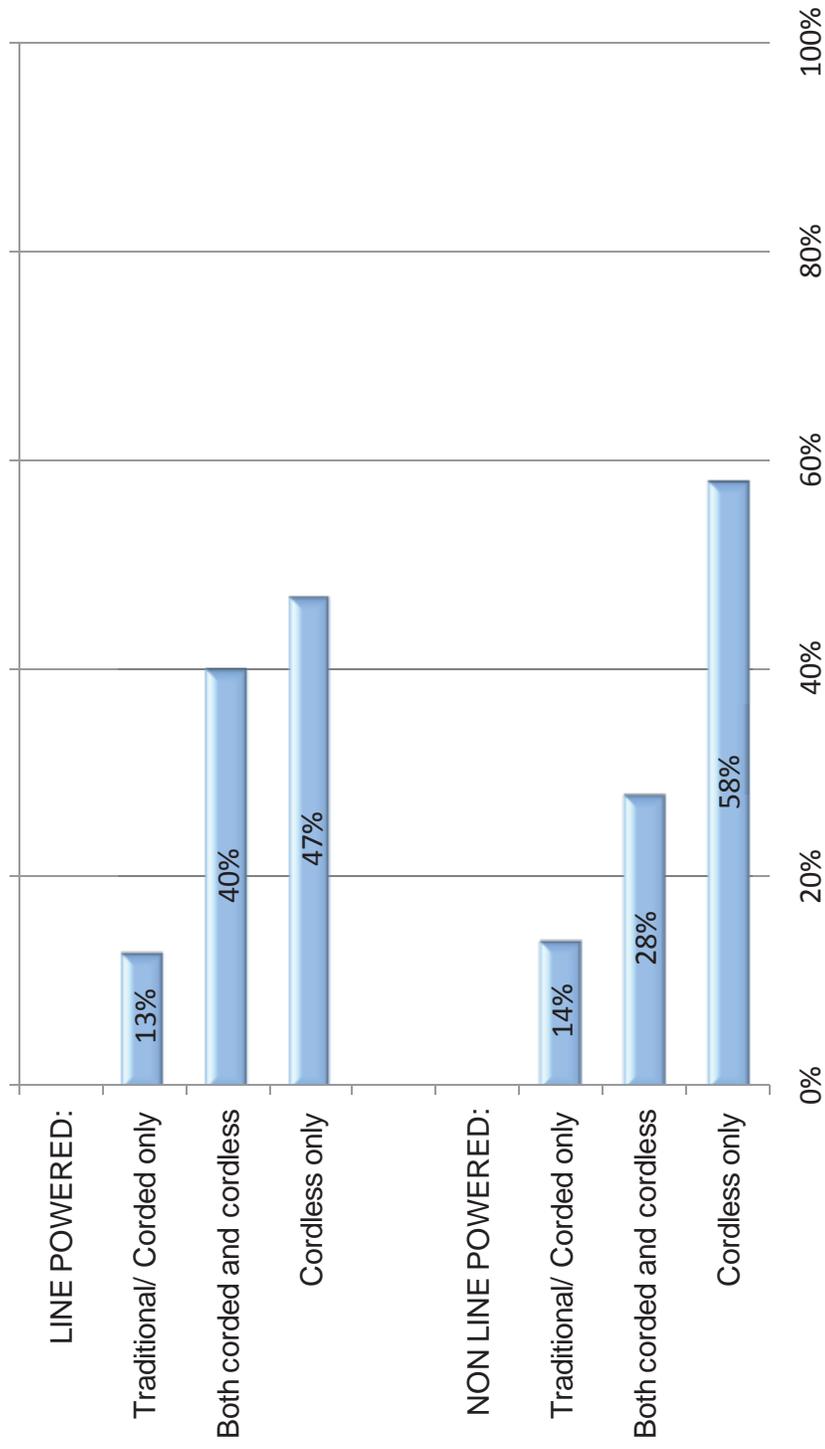
A total of 57% of homes with landlines and 54% of those with both landline and mobile have only cordless telephones.

Type Of Landline Telephones In Home By Type Of Telephone Service



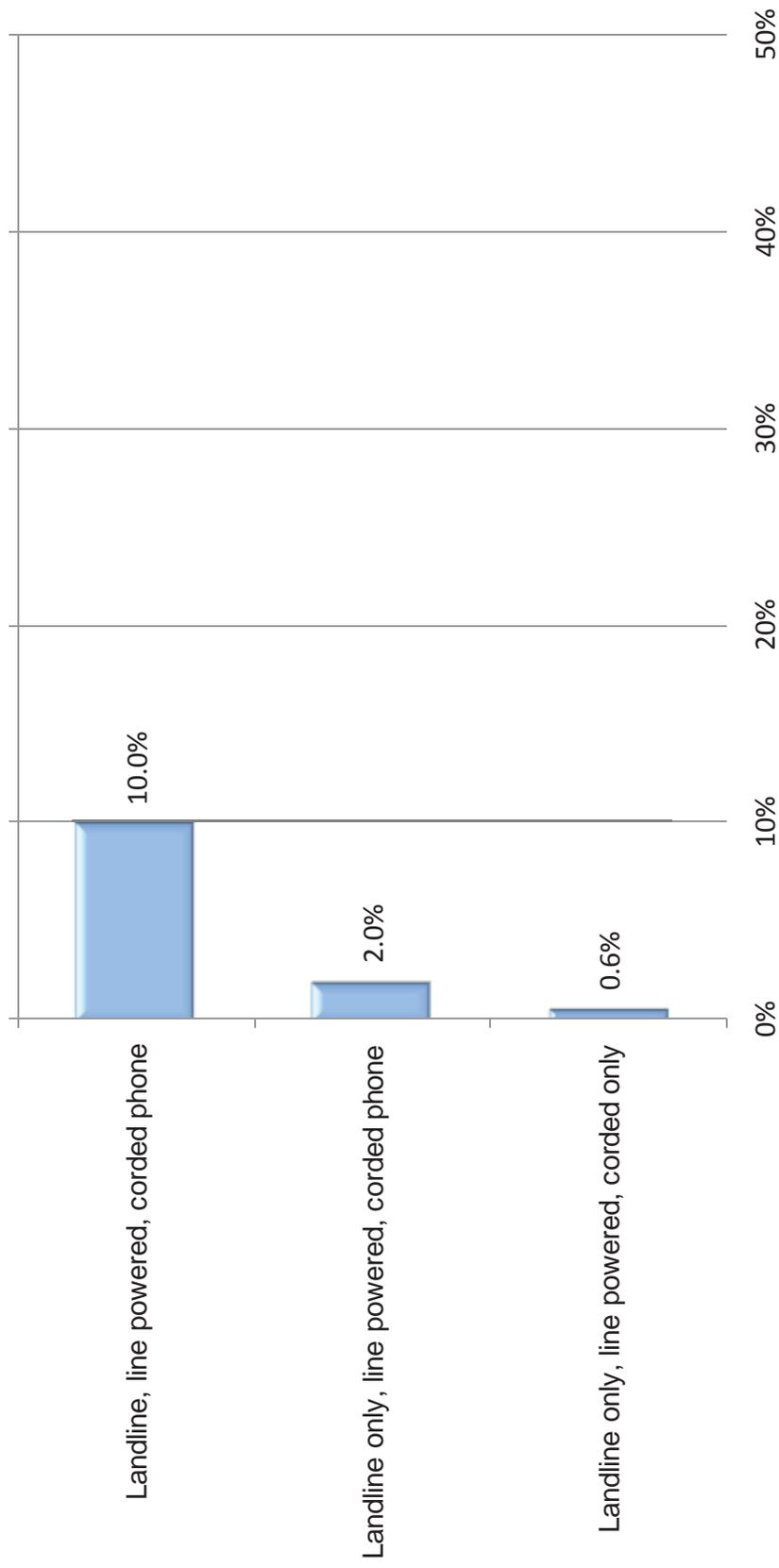
Among those with landline service, a total of 47% of homes with line power and 58% with no line power have only cordless telephones.

Type Of Landline Telephones In Home By Type Of Landline Service



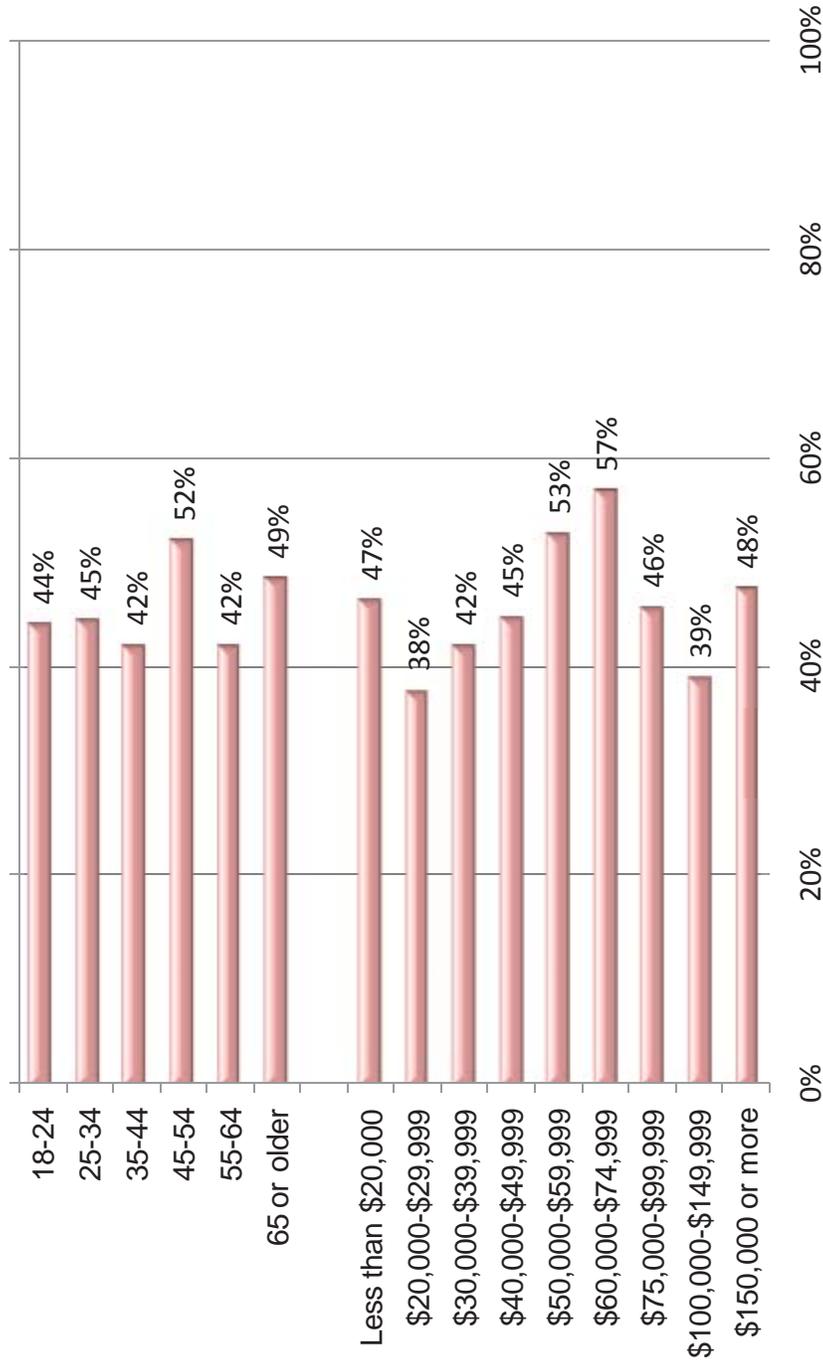
The profile of telephone service has changed very dramatically in the last 40 years or so. The setup all telephone consumers once had – only traditional line powered landline service with only corded telephones - now represents less than 1% of the households in the U.S.

Traditional Landline Service In Home As Percent Of Total Population



There are no clear patterns of corded telephone ownership by subgroup.

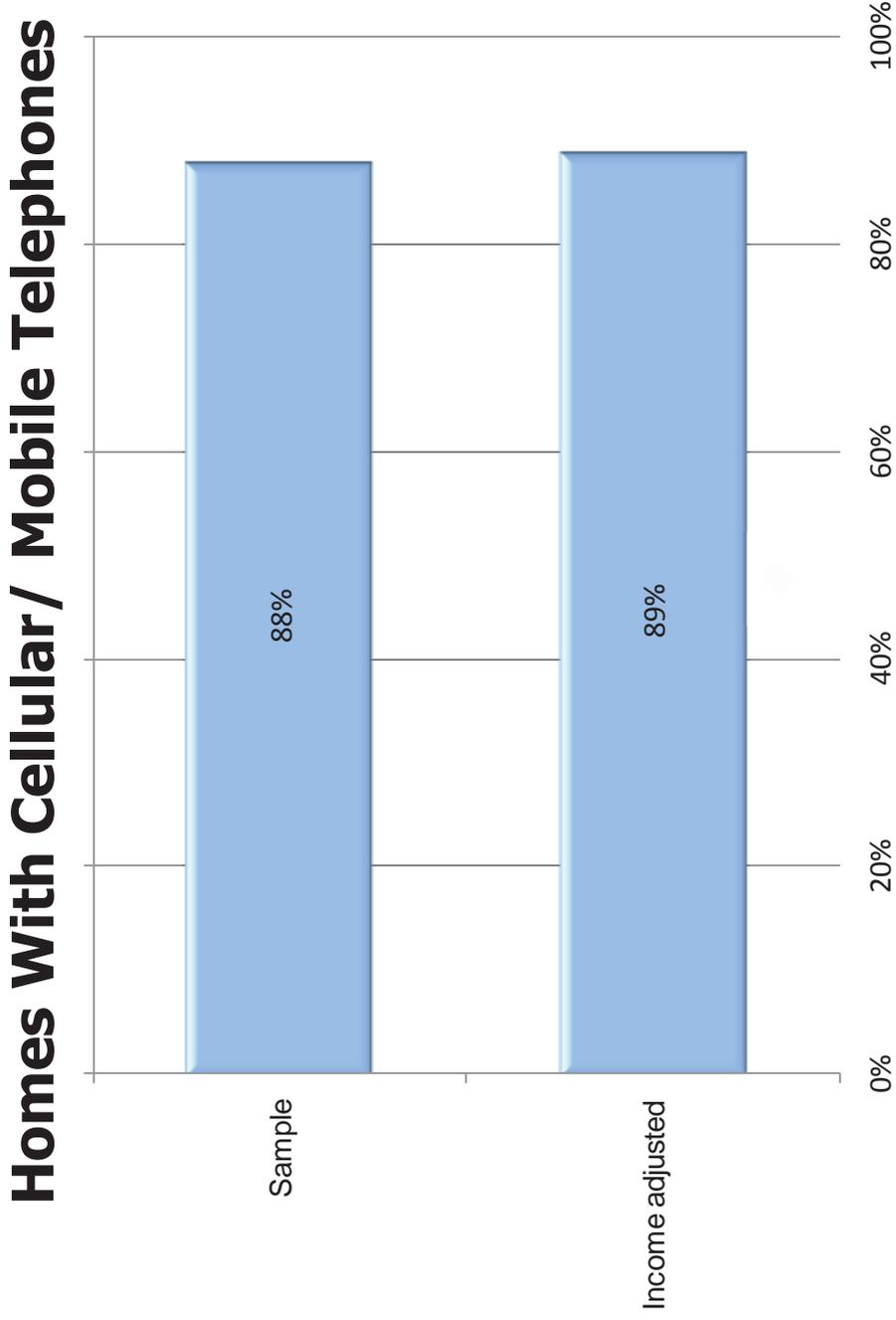
Traditional/Corded Ownership By Subgroups Among Those With Landline Service



Crosstabulations – Percent using landlines by individual subgroup

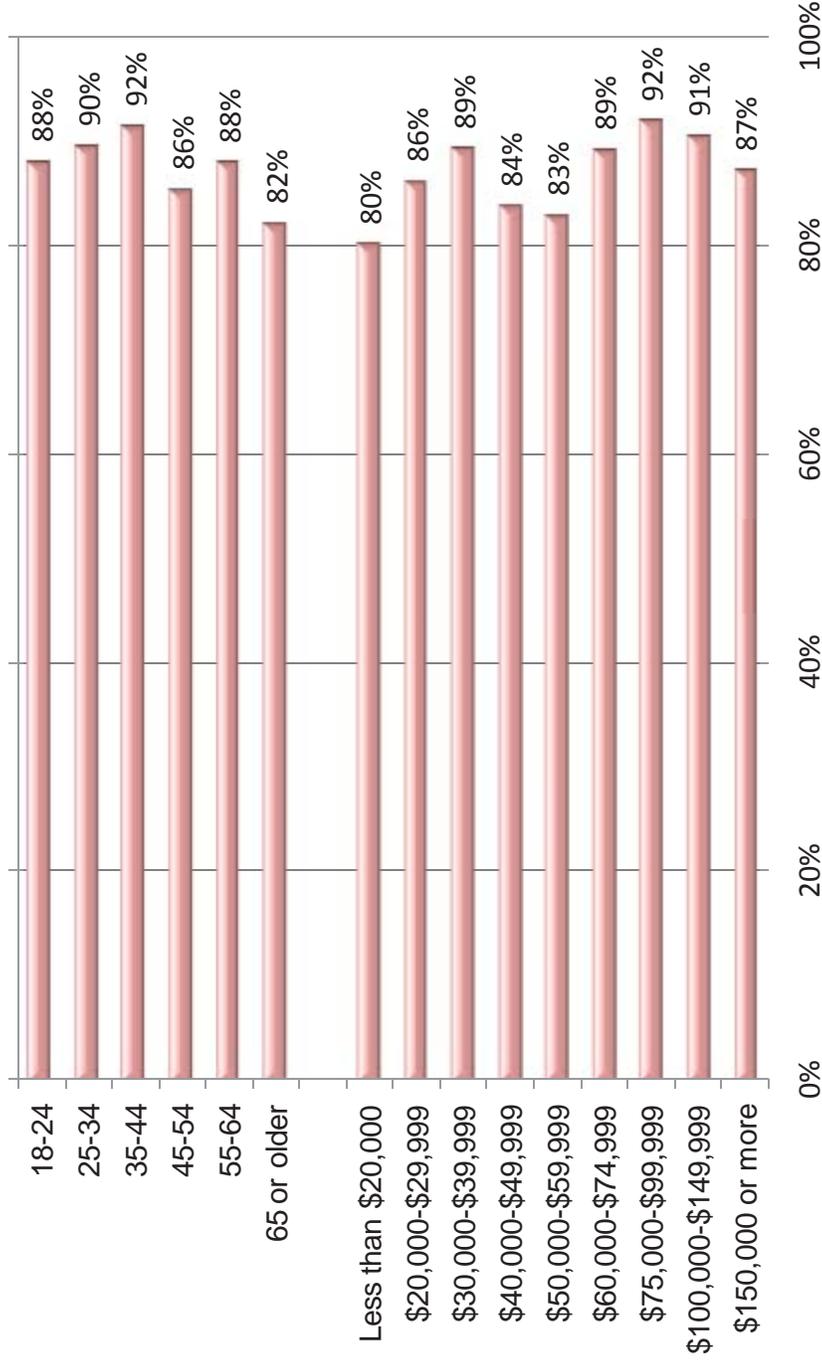
Mobile Telephones / Emergency Readiness

The sample shows homes with mobile telephones at 88%. Weighting the sample more to lower income in order to match U.S. Census figures increases the percentage to 89%.



Ownership of mobile telephones is much more consistent among subgroups than is ownership of landline telephones.

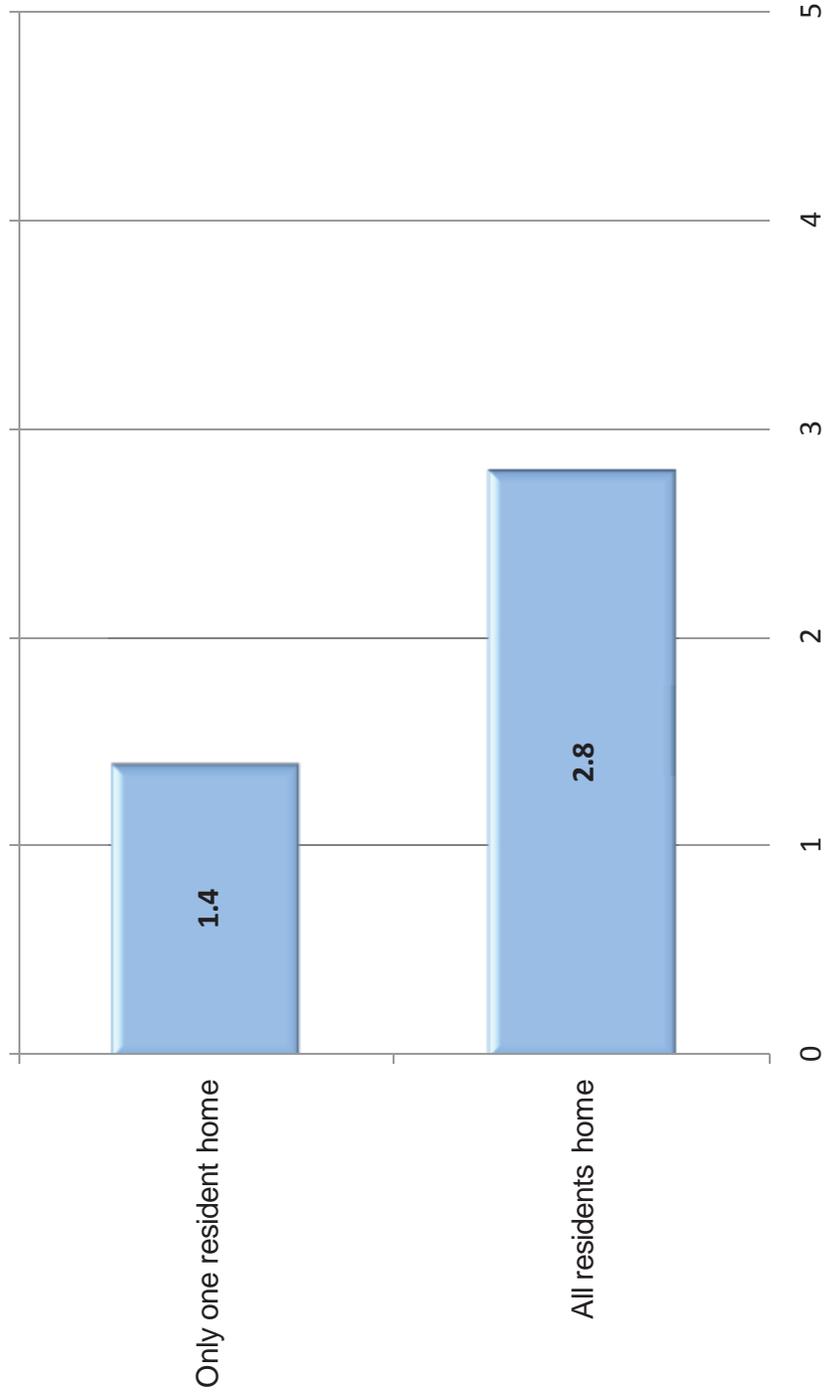
Homes With Mobile Telephones By Subgroups



Crosstabulations – Percent using mobile telephones by individual subgroup

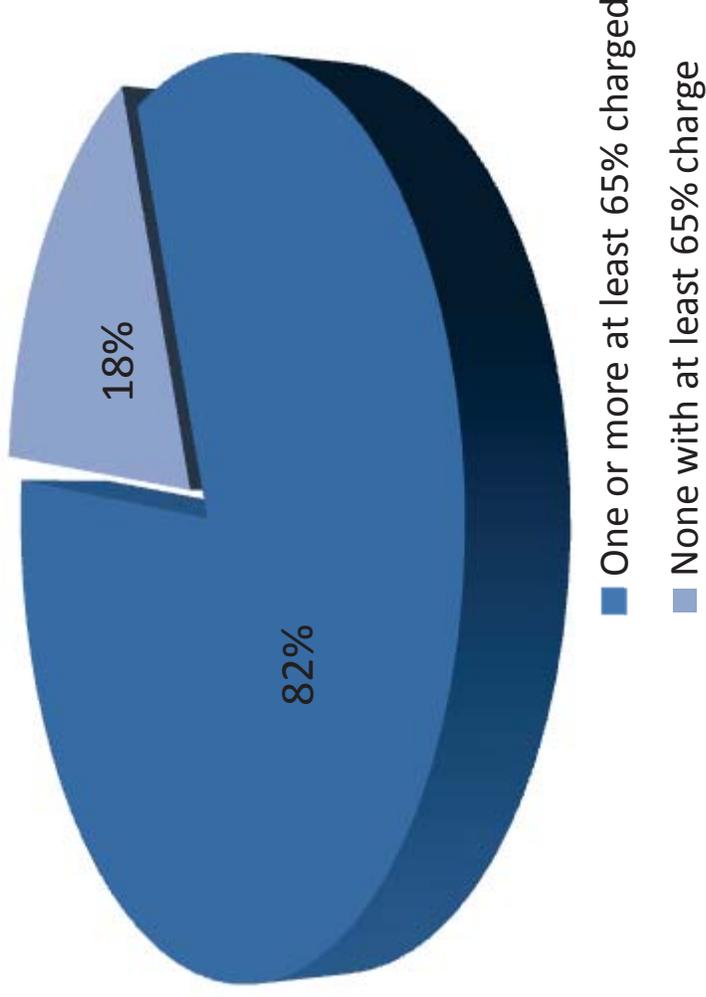
On average, there are 1.4 to 2.8 mobile devices in the home at any given time.

Number Of Cellular / Mobile Devices In Home



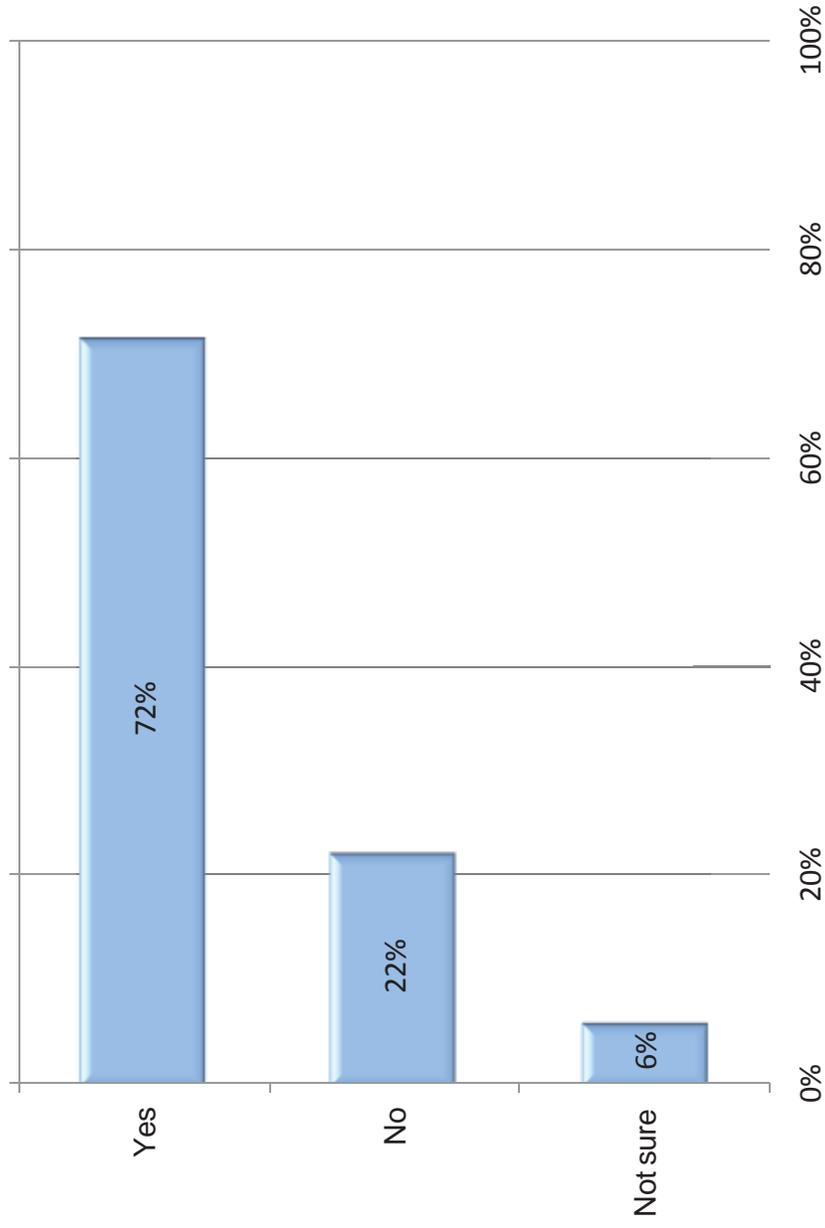
Respondents estimate they have at least one reasonably charged mobile device in the home 82% of the time.

Percent Of Time At Least One Home Mobile Device Has 65%+ Charge



Nearly three quarters of mobile owners can charge their device from an automobile source while at home.

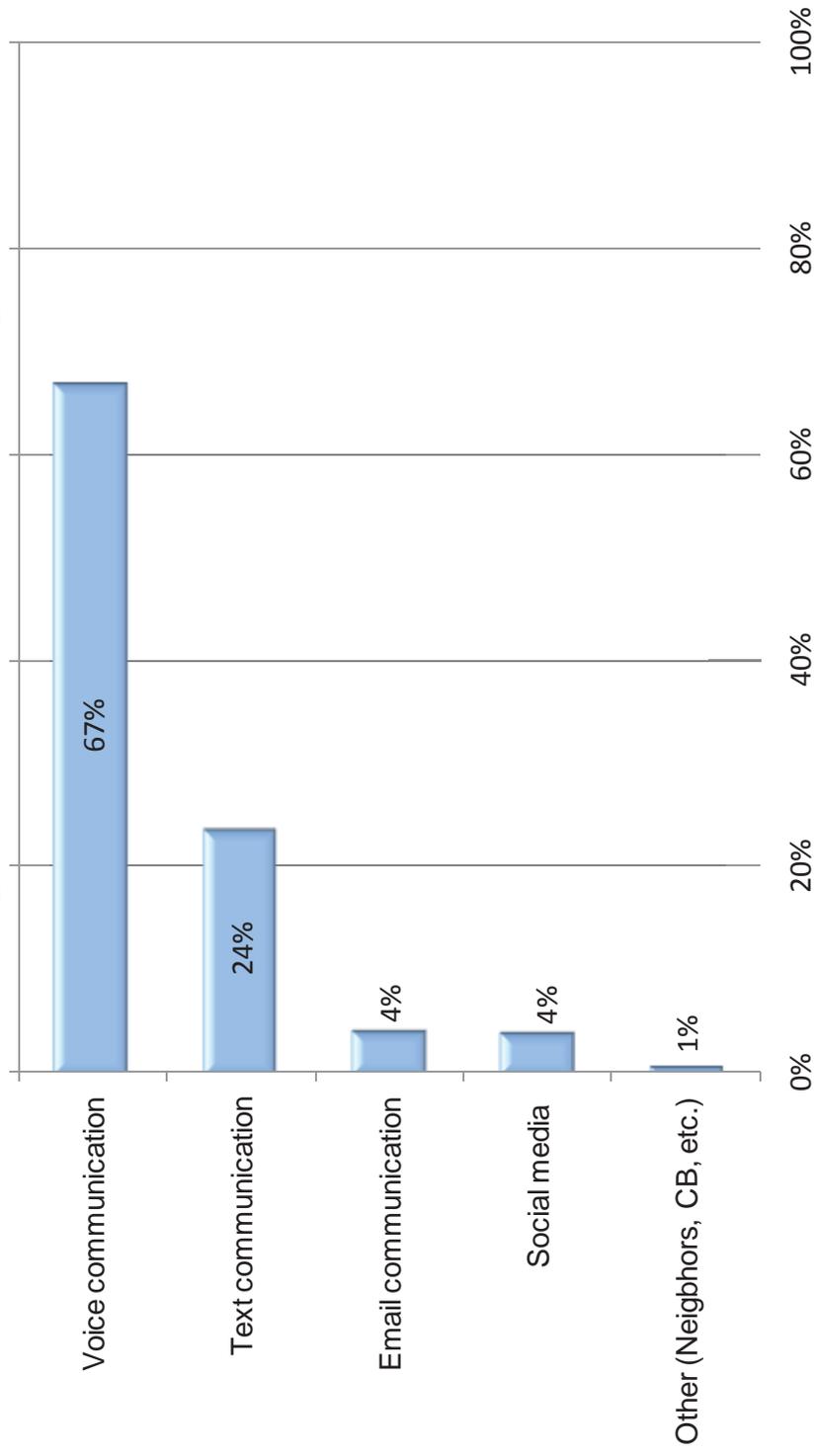
Option For Charge From Automobile Power Source At Home Among Mobile Device Owners



Attitudes To Emergency Calling

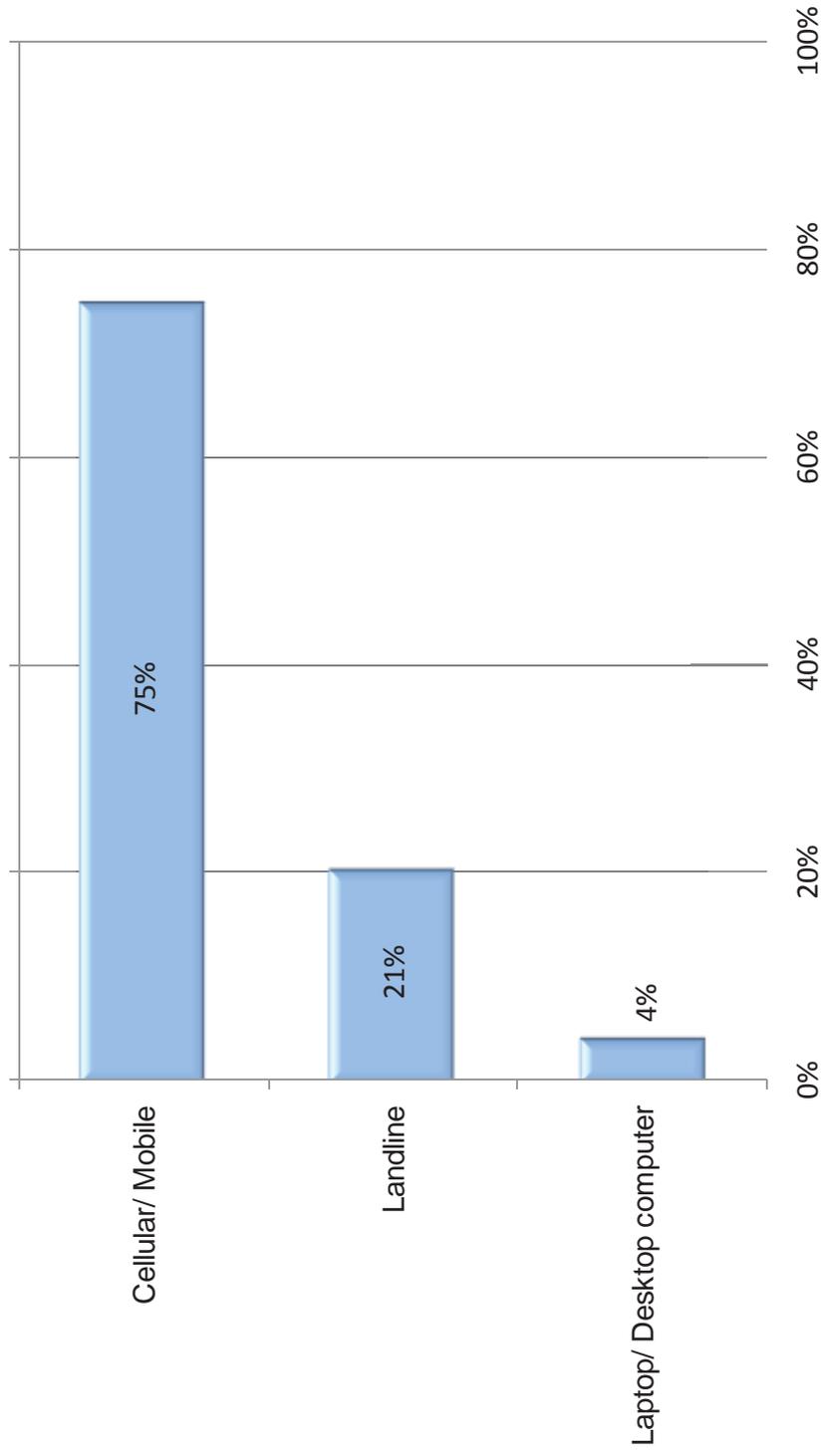
For emergency communication in a power outage (not specifically 911), voice communication is an overwhelming first choice, but text communication was chosen first by nearly a quarter of the sample.

Communication Type Perceived To Use First In Emergency During Home Power Outage



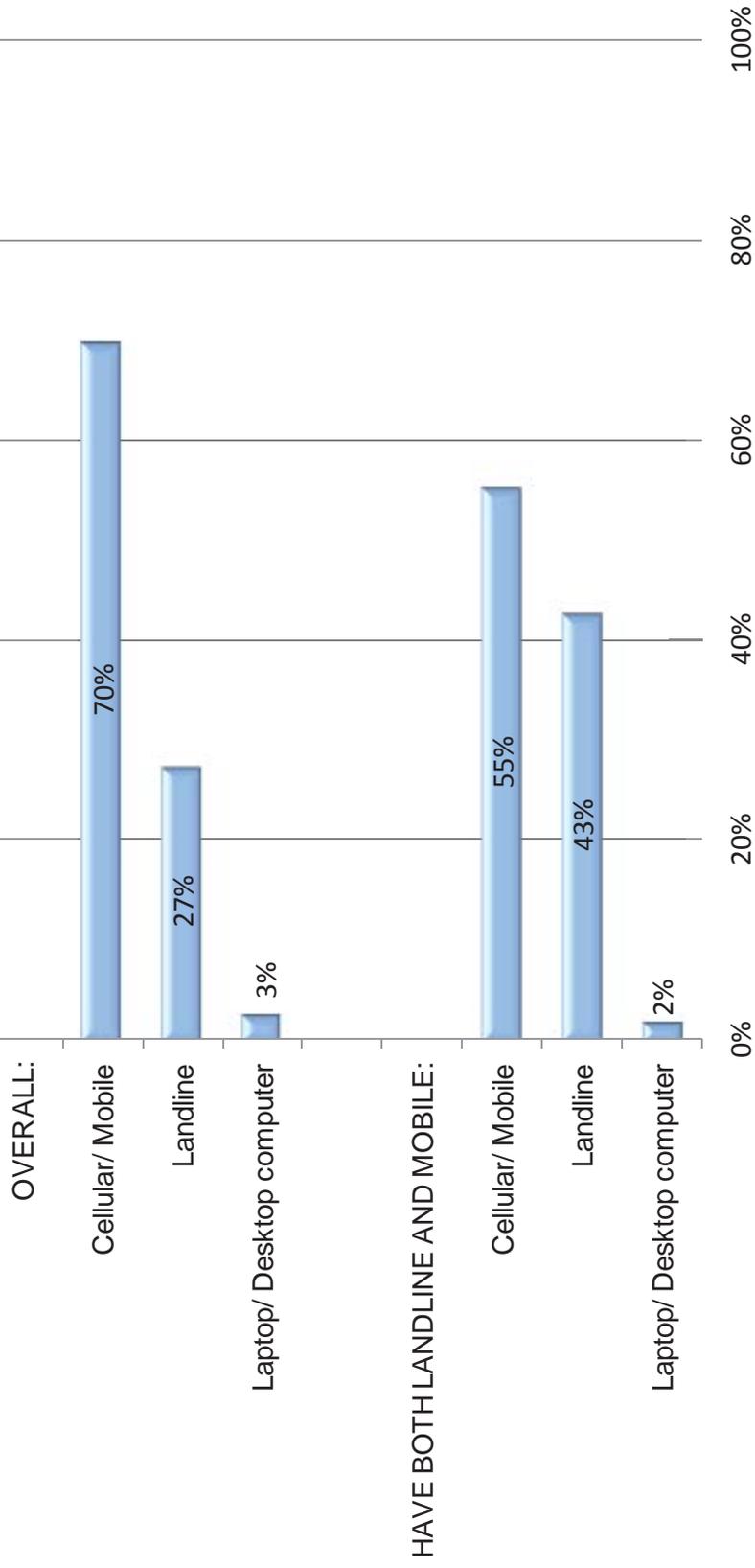
For emergency communication in a power outage (not specifically 911), cellular/mobile devices would be used first, followed by 21% saying landline would be first choice method.

Device Perceived To Use First In Emergency During Home Power Outage



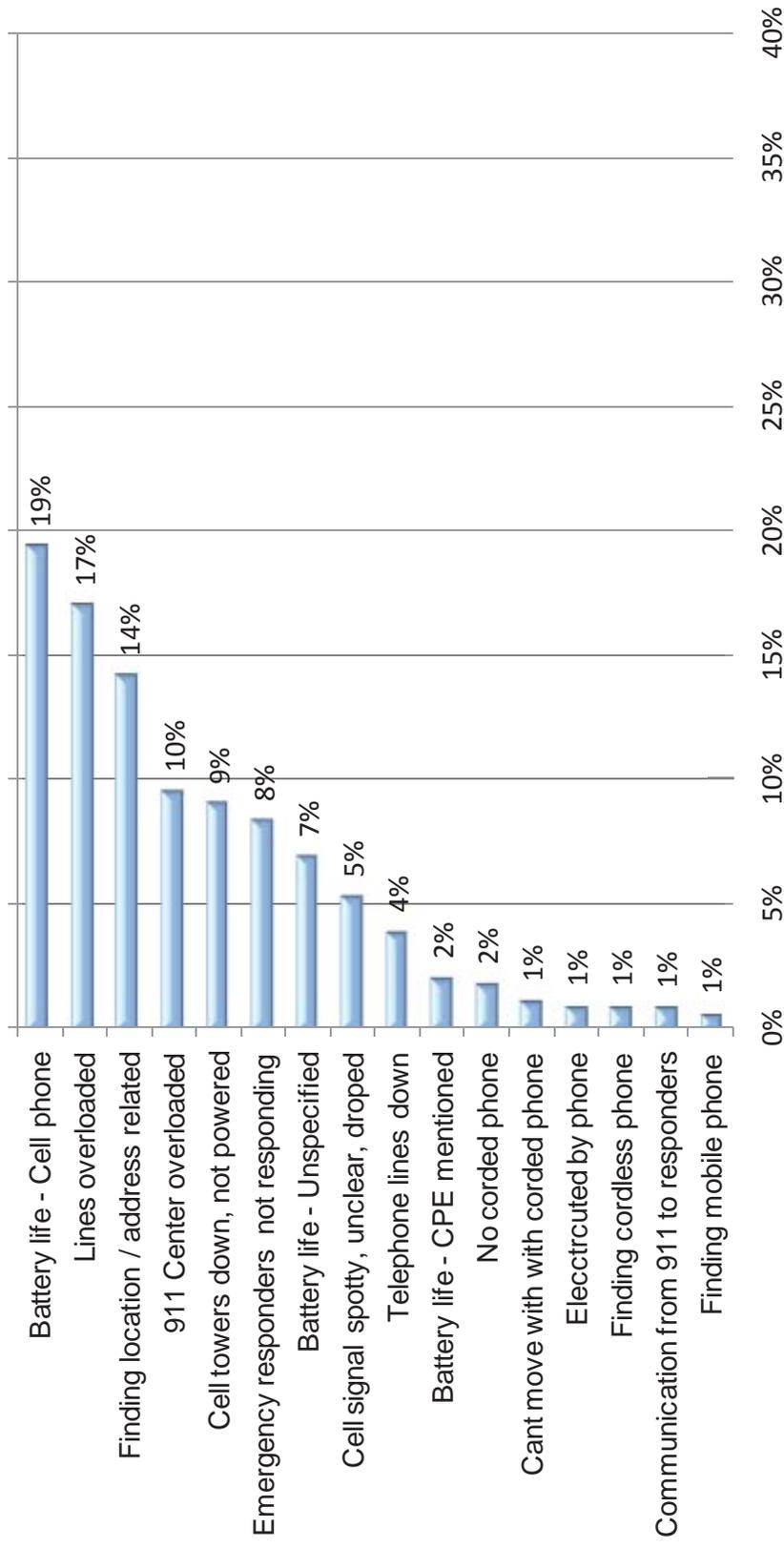
For emergency 911 communication in a power outage, cellular/mobile devices would also be used first.

Device Perceived To Use First For Emergency 911 Communication During Home Power Outage



Concerns about making emergency /911 calls are wide ranging.

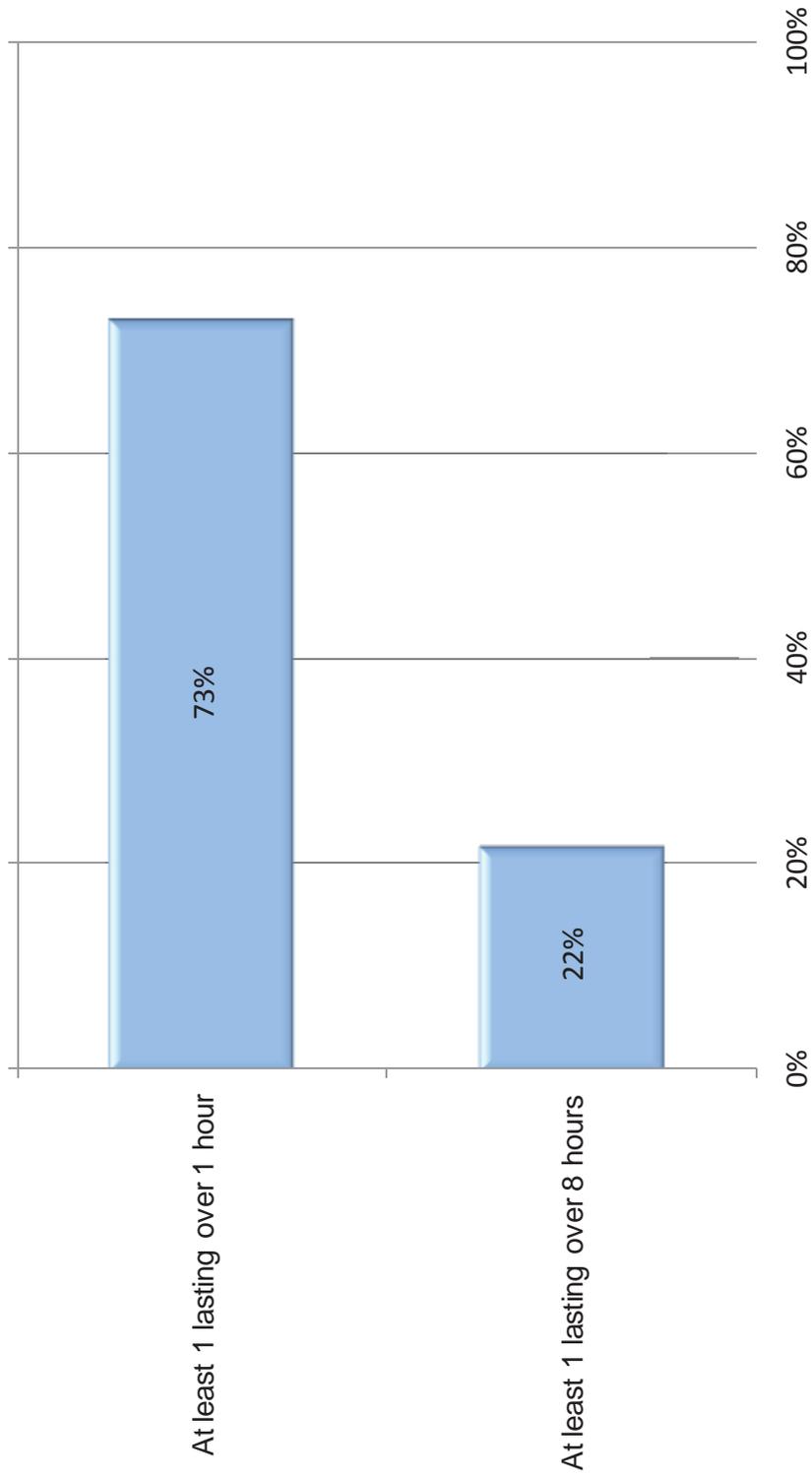
Concerns About Making Emergency/ 911 Contacts During Home Power Outage



Experience With 911 Calling In Emergencies

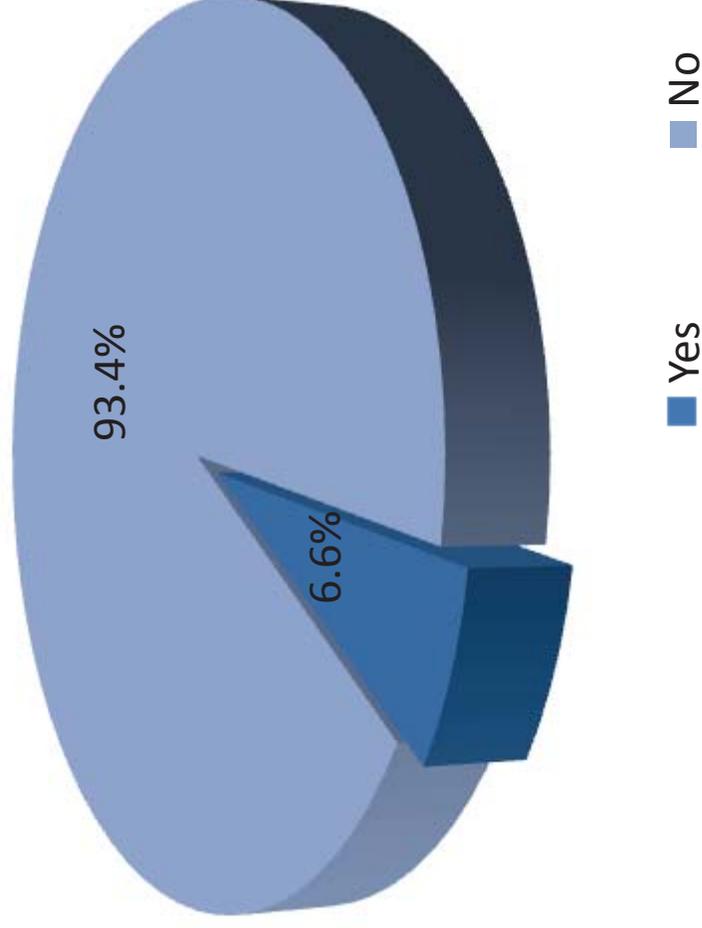
About one fifth of consumers have experienced at least one power outage exceeding eight hours in the past year. This would mean that, on average, households would experience long outages every 4.5 years. (Different risk factors would likely result in some areas with higher frequency and some lower.)

Experience With Power Outages In Past Year



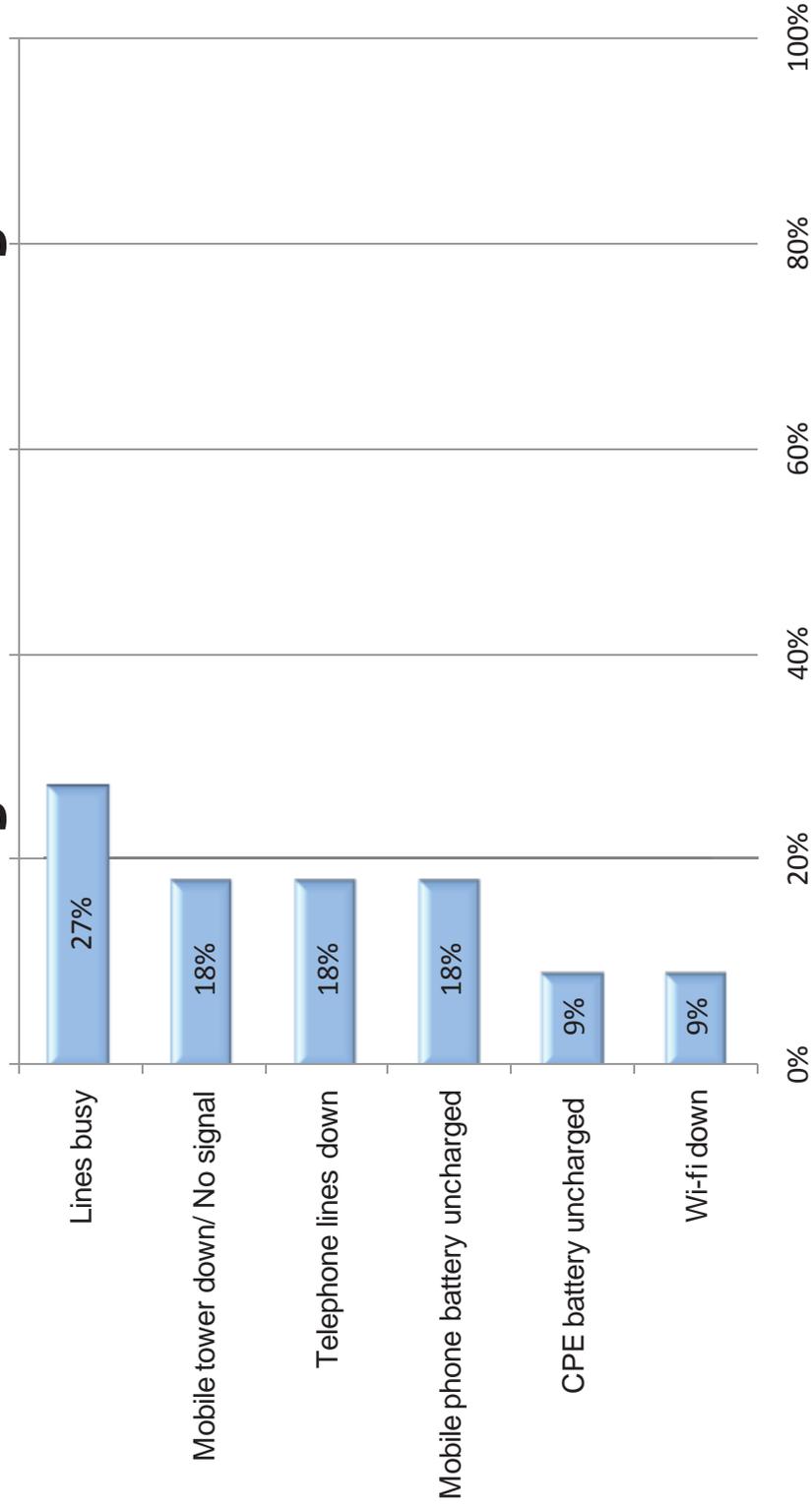
A fairly small percent of respondents recall ever making / attempting to make a 911 contact during a power outage.

Ever Contacted/ Attempted 911 Contact During Home Power Outage



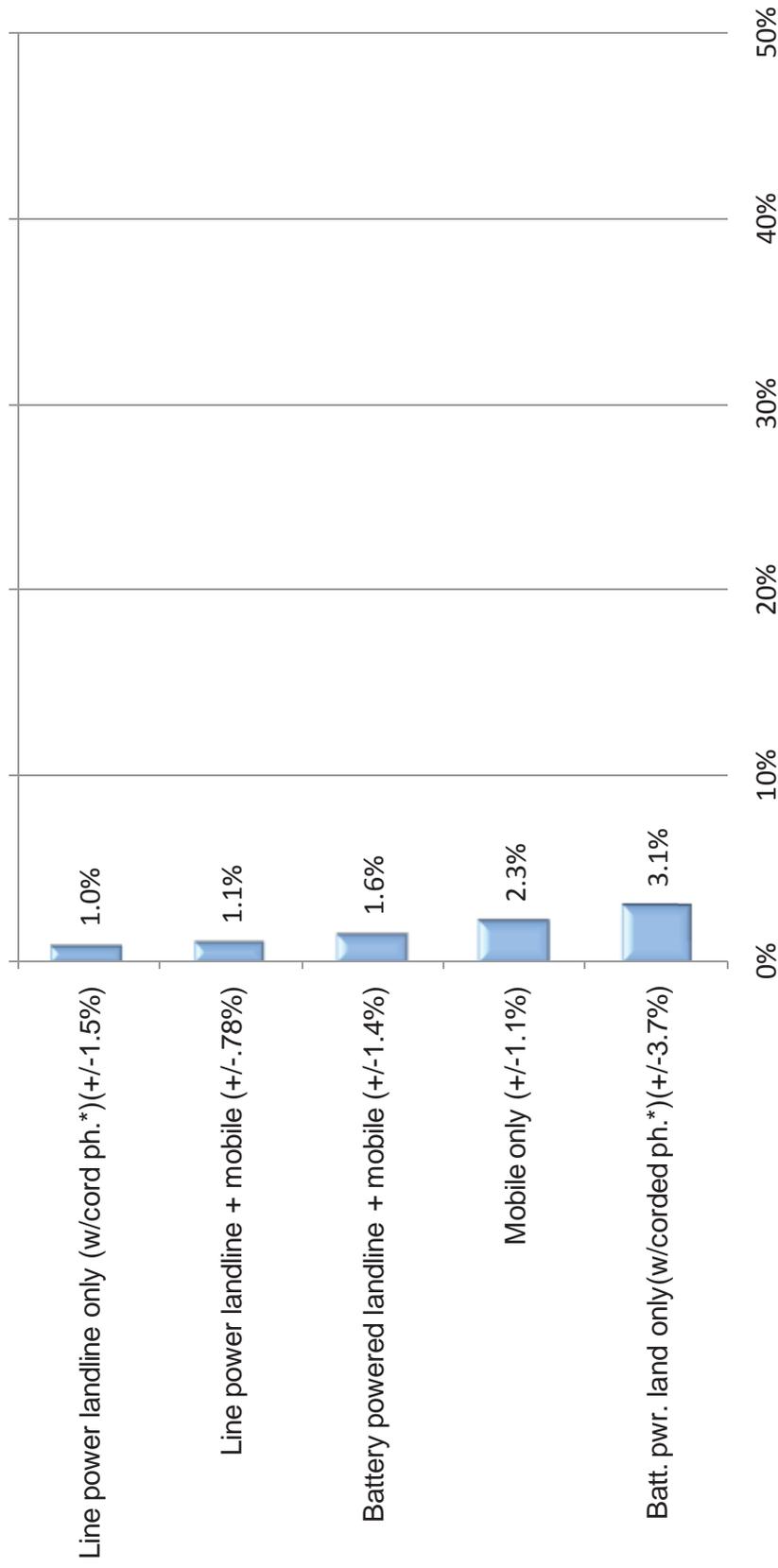
A total of 2.3% of the total sample tried to complete a 911 call and were not able to. When asked what caused the incomplete 911 contact, many did not know the reason. Reasons vary widely for those providing. (Caution very small sample – of 44 respondents in the enhanced sample that recalled having a problem, 11 gave a specific reason.)

Reason Unable To Complete 911 Contact During Home Power Outage



Consumer experience with 911 contact incompletes varies by type of devices in the home, but problem experience is fairly rare for all categories. (This review excludes landline only homes with only cordless telephones.) It should be noted that because of sample sizes, the rates of sampling error at (95% confidence) are higher for some categories.

Ever Unable To Complete 911 Contact During Power Outage By Devices In Home



* Percent for those with corded telephones imputed from sample including cordless phones.

**Survey Of Consumers
Regarding Telephone Use and Emergency
Calling Issues**



prepared for:



by



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