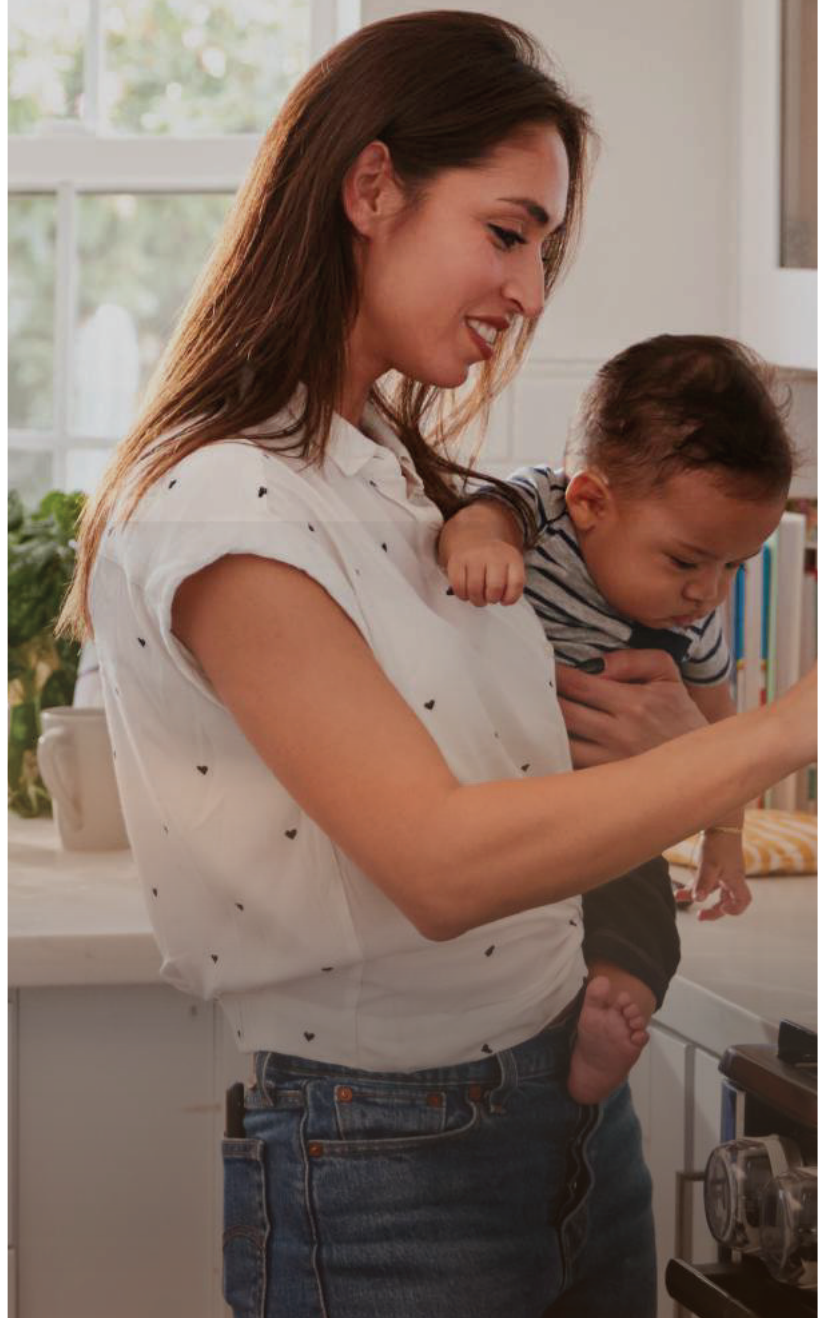


U.S. Mobile Data Consumption & the Myth of Unlimited Plans

🔍 Necessity or Ruse?



The research suggests that for many mobile consumers in the U.S., data consumption doesn't align with unlimited plan value propositions.

A simple analysis of their data usage could yield substantial month-over-month savings, but consumers operate under the belief that everyone "needs" an unlimited plan. Unsurprisingly, carriers focus their marketing efforts on the highest margin offers, which is far and away the unlimited plan.

The purpose of this research is to spread awareness of the disparity between mobile data perception and usage, and illuminate the opportunities U.S. consumers have to spend less and still have sufficient mobile data at their disposal.

-Mung Chiang

Roscoe H. George Distinguished Professor of Electrical and Computer Engineering, Purdue University
Previously Founding Director of EDGE Lab, Princeton University



This concept of unlimited plans for everyone is founded on perception, not fact. Most Americans think they need a ton of data because they don't know how much they actually use. The usage statistics simply don't substantiate that perception, and many consumers waste thousands of dollars per year paying for plans they don't need. We started Reach Mobile with the belief that consumers deserve transparency from mobile service providers.

We're on the brink of further market consolidation into three major carriers, and consumers are at risk. Instead of playing the same marketing games, we've committed to doing what we'd want done to ourselves.

-Harjot Saluja

CEO, Reach Mobile



U.S. Mobile Data Consumption and the Myth of Unlimited Plans: Necessity or Ruse?

Mung Chiang
Harjot Saluja



A 2019 Wall Street Journal articleⁱ exposed the reality of high-speed internet – you don't get what you pay for. The researchers compared multiple quality metrics across different tiers of internet speeds and the assumption was that faster (and more expensive) internet packages would yield improved viewing experiencing. Yet the results revealed nearly imperceptible differences. That sparked a question – what other technology mainstays command an unnecessary premium? Our team turned to the mobile industry's golden child – the “unlimited data” plan – to determine whether the premium offering is a justified expense or merely marketing hype. As mobile data consumption continues to rise globally, American consumers are still confused about their own mobile data usage – and they're paying a hefty price for the uncertainty.

Mobile connectivity numbers are staggering: more than **96%** of all Americans today own a cellphone, and approximately 1 in 5 Americans use a smartphone as their primary means of online access.ⁱⁱ Unsurprisingly, Americans also have some of the highest utilization of mobile data among developed nations – usage that nearly quadrupled between 2014 and 2017.ⁱⁱⁱ

Unfortunately for U.S. consumers, they are also paying some of the highest rates for mobile data with **average cell phone bills topping \$80 per month**. In fact, studies show that the cost of mobile connectivity in the U.S. is roughly four times more expensive than many European Union countries with a similarly competitive mobile market, and sixteen times more expensive than large, four-competitor European markets.^{iv}

But do U.S. consumers really need what they're paying for?

The Re-Introduction of 'Unlimited' Data Plans

The growing assortment of unlimited data plans was born out of disruption from one of the smaller U.S. mobile network operators (MNOs), prompting the largest three to follow suit.

Through intense marketing battles, MNOs have fought to retain customers and win over new ones by offering seemingly endless data at surprisingly low rates. With consumers looking at their phone on average 52 times every day,^v marketing unlimited connectivity has proven to be a smart tactic for carriers. **In 2018, 37% of U.S. mobile consumers were on unlimited plans – a 48% increase over 2017.**^{vi}

So, what's the catch?

The dictionary defines unlimited as "not limited or restricted in terms of number, quantity, or extent." In the context of unlimited mobile data, though, the same does not always hold true. **Most unlimited plans actually have a limit of 20–24 GB of data.** While connectivity doesn't necessarily cease when the limit is reached, data speeds are typically slowed or throttled by the carrier. In fact, some unlimited plans are subject to de-prioritization, which is when a user may experience throttled speeds due to network congestion rather than usage.

While the typical consumer may not dig into the fine print details of their plan and therefore be unaware of its limitations, most may simply never hit the throttling threshold. **Despite leading the developed world in data consumption, studies show that the average monthly U.S. mobile data usage is only clocking in at 5.1 GB of data per connected device.**^{vii} A 2018 study went as far as to measure usage for subscribers of unlimited plans, specifically, and it found that the average usage per person per month only increased to 6 GB for unlimited users. This means, **on average, U.S. consumers are actually only utilizing around 25–30% of the data allotment of an unlimited plan.**^{viii} This is good news for the carriers' bottom lines, as customers are purchasing more expensive data plans that they're not actually using, thereby increasing the profit per user.

The High Cost of 'Unlimited' Data

According to the Consumer Price Index at the U.S. Bureau of Labor Statistics, **cell plan costs rose 0.3% in June of 2018 over the year prior.**^{ix} Furthermore, the primary method for U.S. telecom price increases is upping the cost of unlimited data plans. When the unlimited plan marketing battle ensued, carriers attempted to one-up each other by offering the lowest priced offer. What many consumers did not realize, though, is that the pricing would be an introductory offer that would increase over time. In fact, as of 2018, some MNOs had raised the pricing of grandfathered unlimited data plans for the third time in a decade.

Raising current customer rates is fairly low risk for carriers. **On average, consumers stay with their cellular provider for seven years regardless of changes to their plans**^x. In other words, consumers continue to pay more for a product they underutilize. Exacerbating the confusion is that not all unlimited plans are created equal, with significant differences in cost and user experience inherent in each.

An **\$80** unlimited plan may have a **75GB** throttling threshold (i.e. use up to 75GB before experiencing slower speeds), whereas a \$30 unlimited plan may always be subject to de-prioritization (i.e. regardless of how much data you've used, your line may experience slower speeds during times of network congestion). Naturally, carriers lead with the lowest cost per line, which often requires four lines or more, a new device purchase, or other stipulations.

As more unlimited plans are introduced at different tiers of data allowance and speeds, consumers would be wise to look beyond price to ensure they are comparing apples to apples.

How Connectivity Works: What you don't know *can* hurt you

Few cellular users go beyond basic phone knowledge, but understanding data usage in particular could lead to substantial savings. Cellular data provides a phone, tablet, or other connected device with internet connectivity via a cell tower signal.

Users need to subscribe to a cell phone plan that includes cellular data; but, that connectivity can then cover a wide geographic range allowing mobile phone users to do almost anything from almost anywhere with their device. Wi-Fi allows those same devices to access Internet connectivity via a router, albeit in a much more limited geographic scope provided via a local area network (LAN). Interestingly, the US dominates the world in available Wi-Fi networks with more than 50 million available – from homes, to offices, schools, local coffee shops, and even cars – many of which are free to use.

Smartphones and other connected devices are able to toggle between cellular and Wi-Fi connectivity, meaning users can avoid draining data allotments on a cellular plan by using Wi-Fi connectivity even on a mobile cellular device. It's easy to understand how a consumer could be confused by their data connectivity source given multiple options for the same devices – or indifferent to the technical details altogether.

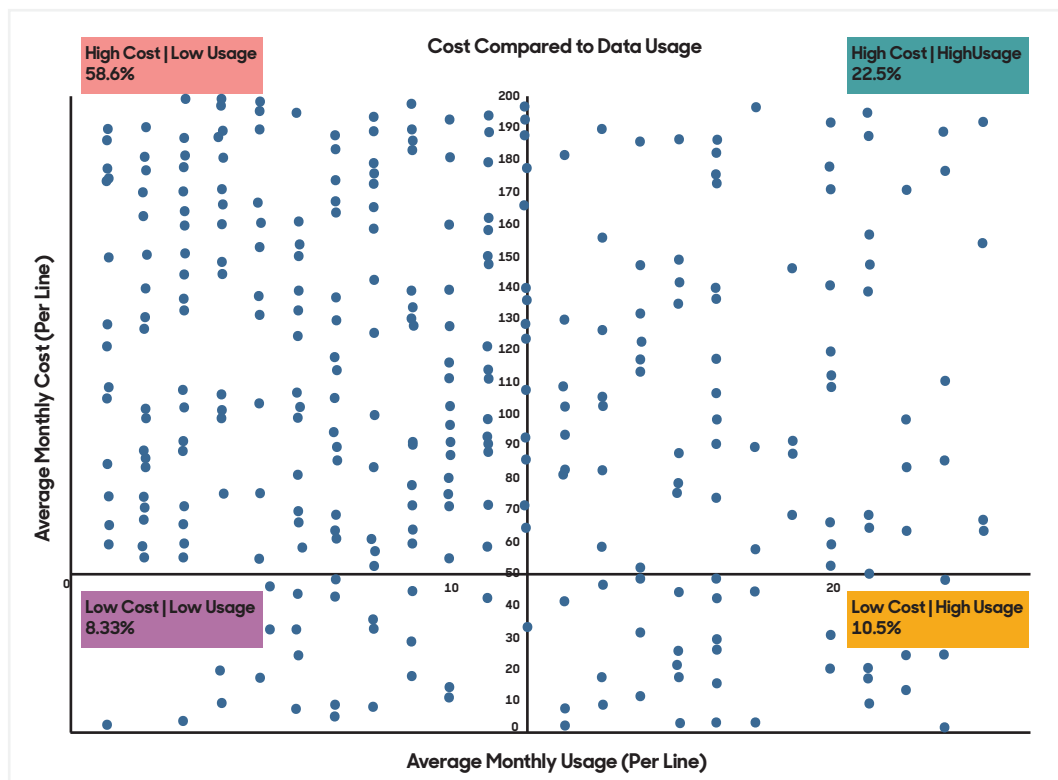
In addition to the confusion surrounding the source of their connection, consumers are also seemingly unaware of how much data is needed by their various actions. Data consumption is not all created equal. While streaming video and downloading large files uses large amounts of data, the actual amount varies tremendously based on video quality. For example, standard definition video uses 0.7GB while ultra-high definition 4k video consumes a whopping **7.2GB** per hour. Conversely, audio streaming, uploading photos, and sending emails all use significantly less data. To help users better manage their data usage, many apps and phones offer settings to monitor and control data usage.

In Real Life: Just how much are Americans overpaying?

We set out to uncover just how much data consumers are using, as a litmus test for whether unlimited plans hold their purported value. We surveyed 400 consumers on major carrier unlimited plans and captured insights into their purchasing decisions, usage statistics, and overall customer satisfaction.

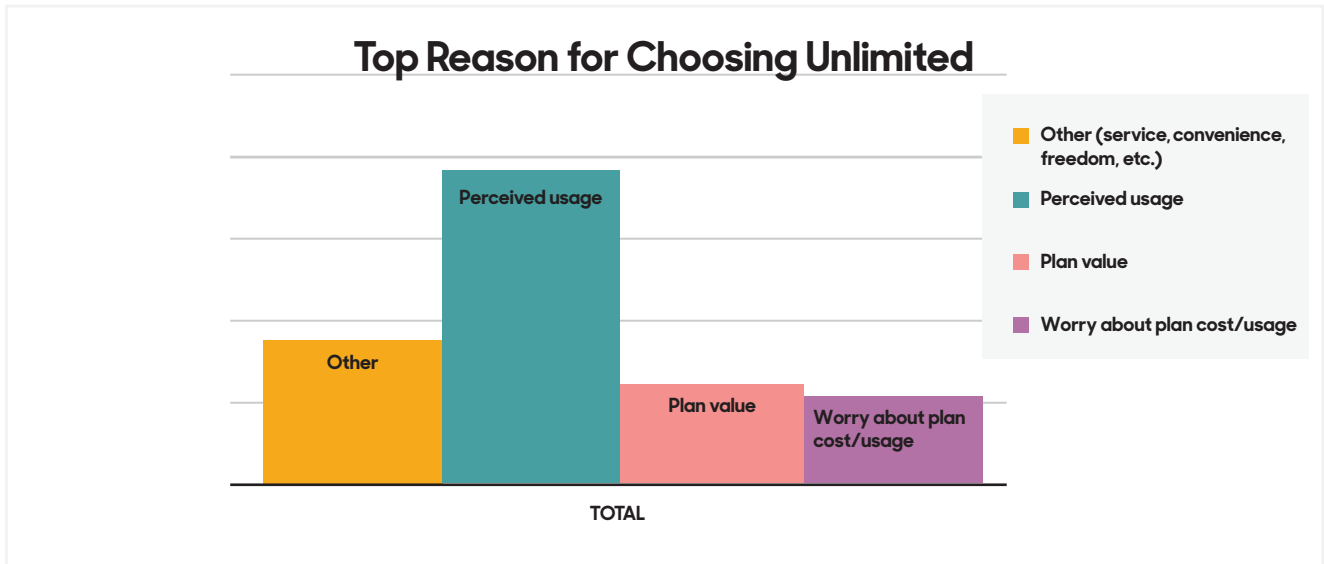
Key Findings

- 1 in 3 respondents use less than 5 GB per month, and 85% use less than 10 GB. Yet, over 90% pay more than \$60/month for their unlimited plans, presenting significant savings opportunities for this tier of data users.
- When comparing Cost Per Line to Data Usage Per Line, more than half (58.6%) fall into the High Cost / Low Usage category. These are lines that cost more than \$50/month and use less than 12 GB of data on average. Fewer than 1 in 4 respondents (22.5%) represent a High Cost / High Usage tier.
- Interestingly, only 1 in 10 respondents (10.5%) have a Low Cost / High Usage plan. And even those that do, may be experiencing throttling or de-prioritization.



Methodology:

- High Cost Per Line - \$50 or more
- High Usage Per Line - More than 12GB
- Low Cost Per Line - Less than \$50
- Low Usage Per Line - Less than 12GB



Nearly 50% of respondents cited their high data usage as the top reason for choosing an unlimited plan, followed by those who felt it was the best value, those worried about overage fees or running out of data, and a sizable “other” category citing reasons such as service provider, the number of lines needed, convenience, and a sense of freedom. These purchasing factors align with the value propositions marketed to consumers, while actual data usage trends in the other direction.

The conclusion we can draw, not surprisingly, is that unlimited plans offer more value with more lines, as the cost per line decreases as you add people. Conversely, the less data used across fewer (or higher cost) lines suggests the consumer is overpaying. In such cases, consumers may benefit from analyzing their actual data usage and switching over to a fixed/shared data plan. For multiple lines using lots of data, unlimited plans are designed to offer good value. Consumers would be wise not to assume they have high data usage, however, as low data usage diminishes the opportunity for value.

Our theory is that in an attempt to get a coveted unlimited plan at a price point they can manage, many consumers are opting into lower quality “unlimited” plans and sacrificing in ways they may not completely understand. In actuality, they could choose a fixed data plan for the same or lower price without compromising on speeds and reliability. **Consumers are effectively trading the right amount of fast/highest quality mobile data for an “unlimited” amount of potentially slower/lower quality data** and should not assume that an unlimited plan offers a guaranteed upside.

Mobile service is sticky, but loyalty is weak. Of the 400 respondents, average length of time with a carrier was 7 years. Despite the longevity, sentiments towards the carriers are lukewarm at best. Of the mobile consumers we surveyed, only a third would recommend their current mobile service to a family member or friend. The remaining thirds were either passive or detractors. (We’re referencing an average Net Promoter Score of 4.) {{In other terms: 40% say they love their mobile carrier, 47% are indifferent, and the remaining 13% actively dislike their service providers.}}

This indicates the stickiness factor may be out of necessity and convenience, rather than enthusiasm. **In fact, 65% of respondents report having a device loan**, where the cost of a new phone is paid in monthly installments. As the cost of smartphones has risen over the years (the price of a new Samsung Galaxy S has risen 34% in three years), carriers have used devices to hook customers and create barriers to switching. Locked devices are phones that will only work on a particular network until they are paid in full, with the carrier who sold the phone responsible for unlocking it upon request.

Consumers are open to fixed/shared data plans if it saves them money – 38% would definitely switch their plan if it saved them at least \$15 per month and an additional 31% would consider doing so. Modest monthly savings add up to real money over the course of a year that the majority of respondents felt would justify or potentially merit a change.

More than half of respondents rated plan value, customer service, and company honesty as "okay", while the majority feel their network reliability is "awesome". Clearly, consumers are willing to compromise in other areas to get their desired network quality.

There is nothing wrong with carriers selling consumers more than what they need. After all, the point of any business is to make money. The larger issue is that consumers are being easily swayed to purchase more data than they need and trading hundreds, and even thousands, of dollars every year as a result.

The following examples are real consumers on unlimited plans:

Example 1

Helen A. has been a customer with one of the largest U.S. carriers for more than a decade, as a carryover customer from a legacy carrier circa the early 2000s.

Monthly bill: \$190/month

Lines: 2

Device loan: Yes, \$25 monthly iPhone installment

Average monthly data usage: 4–6 GB

If she switched: Based on their average usage, they could get a \$70/month plan + \$25 device payment = \$95/month + taxes and fees

Estimated conservative savings: \$80/month * 12 months = \$960/year

Over the last 8 years alone, Helen would have saved \$7,680 on a smaller data plan – enough for 3 roundtrip flights to Hawaii for herself and a friend.

Despite acknowledging she doesn't need the unlimited plan, attempts to switch have been met with enough hassle to thwart any changes:

- Carrier explained the plan is grandfathered into the current pricing, suggesting that a better deal was not available
- Carrier explained the risk of data overage costs i.e. switching to a different plan could end up costing more
- Switching carriers would require the device to be paid in full
- And to her own admission, nostalgia played a role; the plan had been with the family since her grown children got their first cellphones

Example 2:

Jonathan S. was a customer of a major carrier and had set his mobile bill on the back burner of his brain. For many years, Jonathan paid a hefty sum for unlimited lines, lines for iPads (he was unaware that the device could be tethered to his phone), fees for devices no longer in use, and other costly oversights. While Jonathan was "blissfully ignorant" to the details within his bill, he'd simply become accustomed to paying it. The stress and time required to call his mobile carrier paralyzed him from making a change.

Previous bill: \$450/month

Lines: 5+ (including some iPads and unused devices)

Device loan: Yes

Average usage: 0.5-2 GB per line

New plan: \$80/month, plus he continues to pay for 1 line on previous carrier due to a device contract

Savings: 80% savings from previous plan, includes removal of unused devices; further savings will result once the other line transitions to the new carrier. Jonathan will save more than \$2,500 this year alone with the switch.

In Conclusion

Mobile data consumption continues to rise, and with it, the popularity of unlimited plans. However, carriers have entered murky waters in using a looser and arguably more misleading definition of “unlimited”. Existing customers and low-data users will continue to subsidize the less profitable new customers under the guise that there is an unlimited plan for everyone.

To avoid overpaying for mobile service, consumers need to pay closer attention to their actual data usage

to ensure they have picked a plan that fits their needs. Individuals that actually consume enough data to warrant an unlimited plan are outliers. For everyone else, there are a few easy steps to avoid unnecessarily costly data plans.

1. Know how much data you use month over month: Most devices track this for you, but it can also be tracked by reviewing monthly invoices from your provider.

2. Be informed (and opportunistic) about data usage: Be aware of your access to Wi-Fi and opportunities to reduce data usage. For example, you don’t necessarily need to know how much data every app is consuming, but it would be helpful to review the settings of your most used apps in case there are minor tweaks you can make to help save data usage. A new Apple feature enables users to go into “low data mode” to turn off background data.

3. Compare data plans to find a better fit: Equipped with a better understanding of your actual needs, compare unlimited and shared data plans to find one that fits you best. Consider buying 50% more data than you typically use in the form of a fixed data plan, and don’t be surprised if even a generous buffer produces savings compared to your unlimited plan.

4. Read the fine print: Given the broad usage of the term “unlimited plan”, the onus falls to the consumer to understand exactly what is included in their plan, including throttling thresholds, mobile hotspot restrictions, de-prioritization, and other conditions such as number of lines required, device contracts, and payment terms. Consider the trade-offs of unlimited data subject to slower speeds, or a fixed amount of data at consistently high speeds.

5. Make yourself a free agent: Buy unlocked or SIM-free phones so you aren’t tied to a specific carrier. While U.S. consumers are still largely unaware of this option, it’s the norm in other parts of the world. Unlocked devices can still be purchased with financing options if needed, whereas “free” device offers typically require a mobile service contract that may cost you for years. The long-term flexibility that comes with an unlocked device far exceeds any immediate savings you might find with a carrier-locked device.

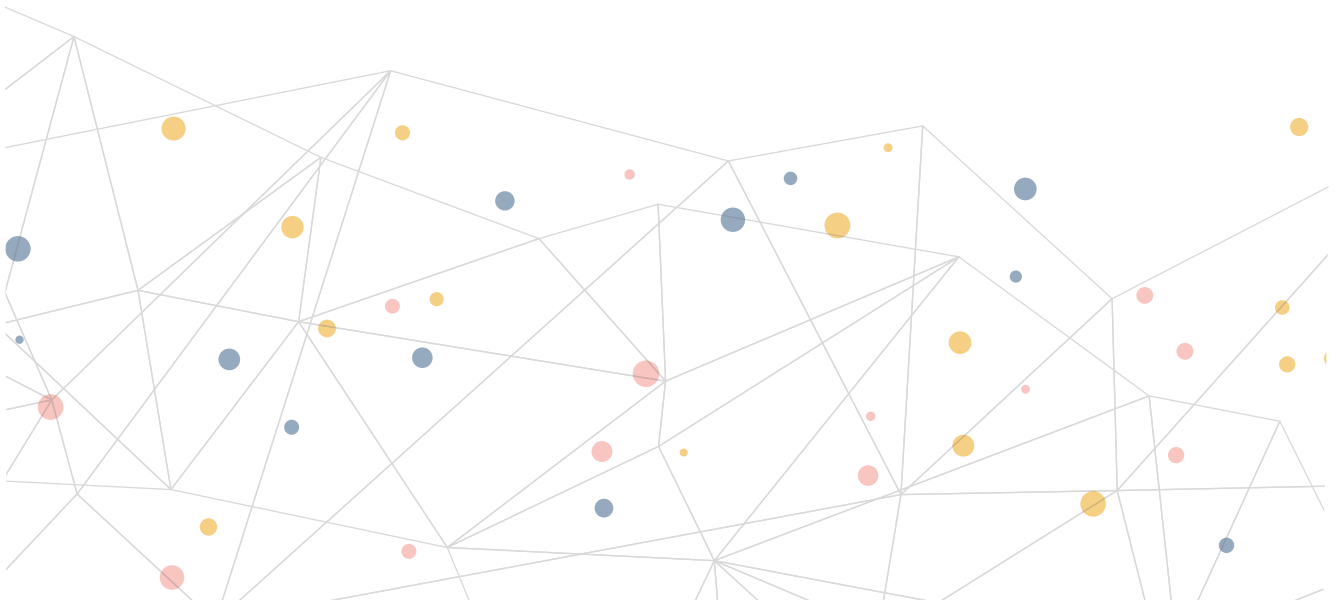
While the small percentage of Americans needing unlimited plans will find more options and better prices, the vast majority who use more modest amounts of data have more choice than they think. Based on our sample set alone, **one consumer could be saving close to \$1,000 annually by opting for a limited shared data plan.** Extrapolated over the average 7 year stint with a carrier, and that's a steep price to pay for the so-called peace of mind unlimited plans offer. As witnessed with cable companies and streaming services: consumers want to pay for what they actually need and use, and given a better alternative, they may leave and never look back. If the same fate comes to mobile service, the allure of unlimited plans could be quickly rendered as little more than a myth.

Methodology: In October 2019, we surveyed **400** U.S.-based customers of the four largest mobile carriers (Verizon, ATT, T-Mobile, and Sprint) and MVNOs such as Cricket, Boost Mobile, Metro PCS. Respondents identified as both male and female, in ages ranging from 24-55+, geographically dispersed across the country, and representing multiple income brackets. Respondents were required to be currently on an unlimited plan and the responsible party for their mobile service bill. Results were collected and aggregated by Pollfish, and analyzed by the authors and Reach Mobile team to form this paper.

Disclosure: The authors of this paper are co-founders of TUBE Inc. (DBA "Datami"), the parent company of Reach Mobile.

Resources :

- i www.wsj.com/graphics/faster-internet-not-worth-it/?mod=article_inline
- ii www.pewinternet.org/fact-sheet/mobile/
- iii www.ctia.org/the-wireless-industry/infographics-library
- iv www.vice.com/en_us/article/j5zpw7/us-wireless-data-prices-are-among-the-most-expensive-on-earth
- v variety.com/2018/digital/news/smartphone-addiction-study-check-phones-52-times-daily-1203028454/
- vi www2.deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-global-mobile-consumer-survey-extended-deck-2018.pdf
- vii www.marketwatch.com/press-release/new-live-2019-mobile-data-consumption-trends-market-size-by-global-trends-share-growth-witness-to-grow-remarkable-cagr-2027-2019-07-03
- viii www.androidcentral.com/do-you-need-unlimited-plan
- ix www.theverge.com/2018/7/20/17595822/cellphone-plans-att-verizon-price-increase-cost
- x www.theverge.com/2018/6/7/17437824/att-unlimited-data-plans-price-raise





Connect with us

 @Reach Mobile  @reach4good  @reach4good

reachmobile.com