



# NORTH AMERICA

ERICSSON MOBILITY REPORT APPENDIX

NOVEMBER 2014

# MARKET OVERVIEW

## Key figures: North America

	2014	2020	CAGR 2014–2020
Mobile subscriptions (million)	385	490	4%
Smartphone subscriptions (million)	255	340	5%
Total mobile traffic (PB/month)	650	3,400	30%

Internet connectivity has reached its 25<sup>th</sup> year. Mobile devices are now affordable and in ample supply, while mobile networks are keeping pace with the latest networking technologies. Connectivity anytime, anywhere is the expected norm.

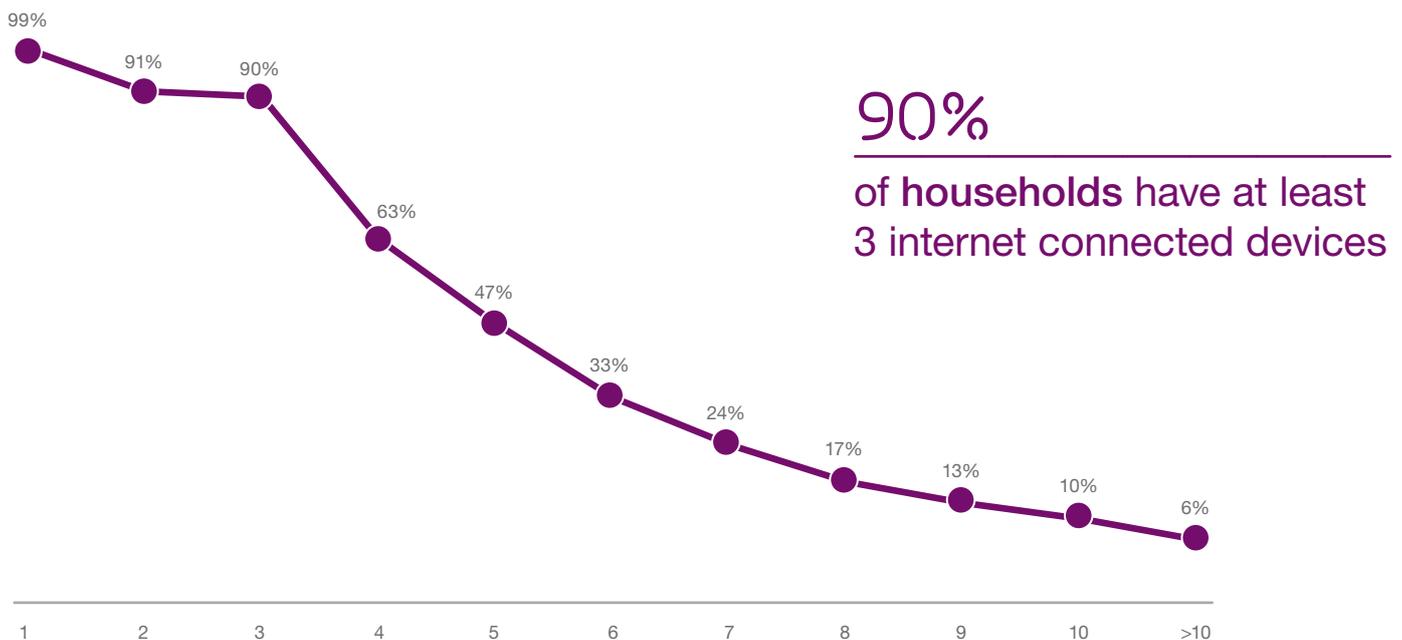
The U.S. and Canada, alongside other developed markets, have passed the introductory phase of the Networked Society. The pervasive connectivity of

people and devices is transforming our lives, including our homes, jobs, health, relationships and more.

In 1990, the internet had existed as a public resource for less than a decade, and almost 80 percent of the world's internet users resided in the U.S. or Canada. Now, 99 percent of households in the U.S. have at least 1 device connected to the internet and nearly 50 percent have 5 devices or more.<sup>1</sup>

	U.S.	CANADA	TOTAL
2013 population (million)	316	35	351
2013 households (million)	121	13	134
Land mass (millions of square miles)	3.7	3.9	7.6

## Number of internet-connected devices per household in the U.S. in 2014



Source: Ericsson ConsumerLab (2014)

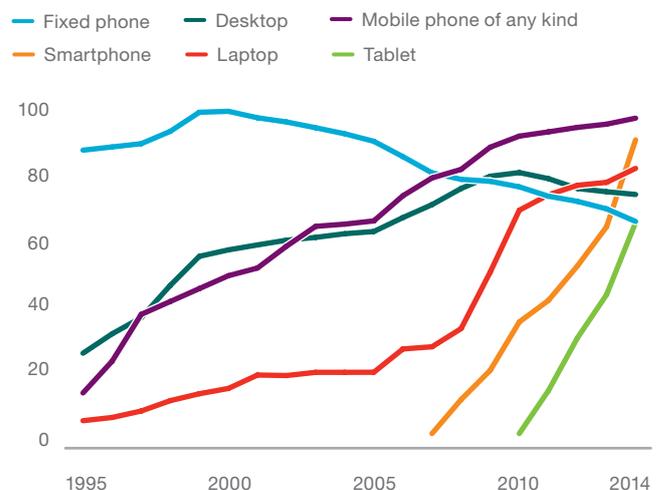
<sup>1</sup> Among U.S. respondents, ages 15–69, surveyed during Ericsson's ConsumerLab 2014 InfoCom consumer research



North Americans in the U.S. and Canada quickly adopted smartphones, tablets and laptops as necessary devices. In these markets in 2014, there are 2 smartphones for every household. The majority of consumers in the U.S. (90 percent) say they need a mobile phone, and 64 percent say they use the internet everywhere – indoors, outdoors and in vehicles.<sup>1</sup>

**97%**  
of U.S. households  
have a mobile phone

Connected device adoption in the U.S. (per household)

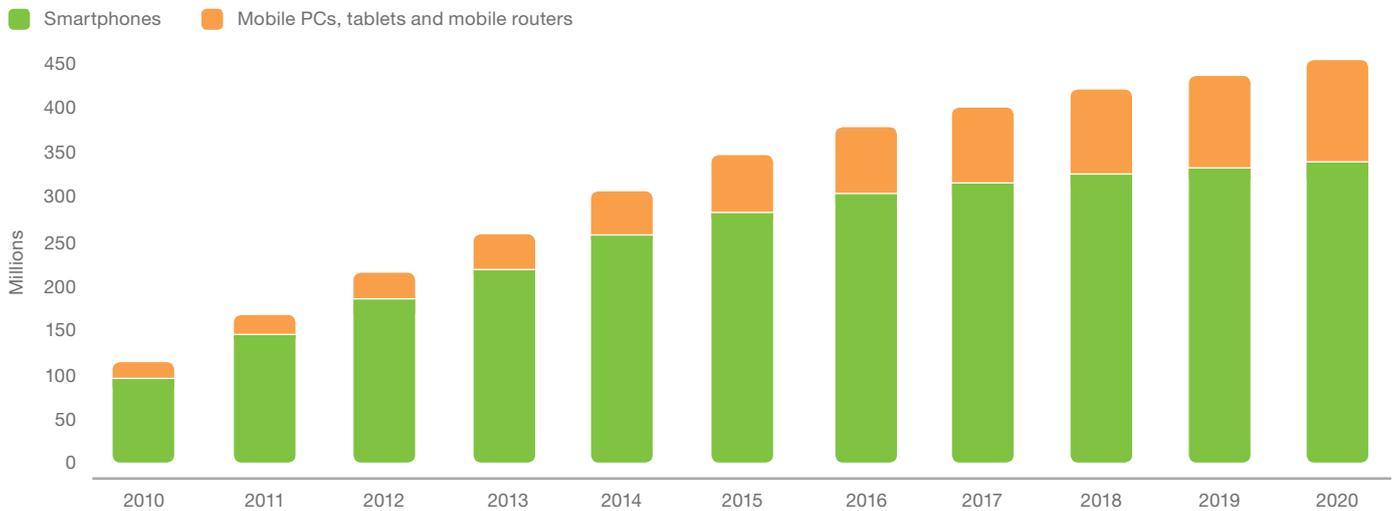


Source: Ericsson ConsumerLab (1995–2014)  
Base: Population ages 15–69 years old, U.S.

<sup>1</sup> Among U.S. respondents, ages 15–69, surveyed during Ericsson’s ConsumerLab 2014 InfoCom consumer research

# MOBILE SUBSCRIPTIONS

Mobile subscriptions, U.S. and Canada (million)



In 2013, the U.S. and Canada were home to almost 260 million mobile subscriptions for smartphones, mobile PCs, tablets, and mobile routers. In 2014, that number will see a 20 percent increase, totaling 300 million subscriptions. By 2020, this figure will grow to about 450 million, or a population penetration rate of almost 125 percent.

## LTE subscriptions

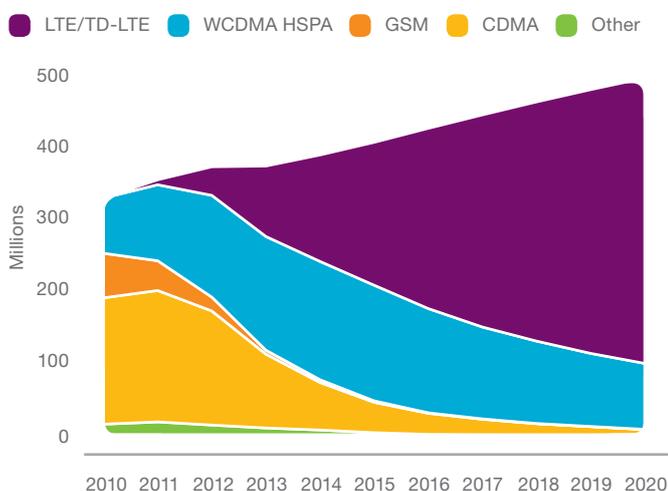
Over 25 percent of all mobile subscriptions in 2013 were LTE, a figure set to jump to around 40 percent in 2014. Over the next six years, mobile service providers will continue to transition customers away from 3G networks, refarming the spectrum for new services like VoLTE and

enabling LTE Advanced features. By 2020, approximately 80 percent of subscriptions will be LTE.

Much of this subscription growth will come from an increased number of connected devices per user, rather than the addition of individual new users. In 2014, the average number of connected devices per household in the U.S. in 2014 is 5.2, and consumer intention to acquire more devices indicates that growth will continue.

In addition, 5G will begin to be deployed during the forecast period, with 5G subscriptions becoming commercially available in 2020. 5G usage will be driven to a large extent by new use cases, especially machine-type communications.

Mobile subscriptions, U.S. and Canada (million)

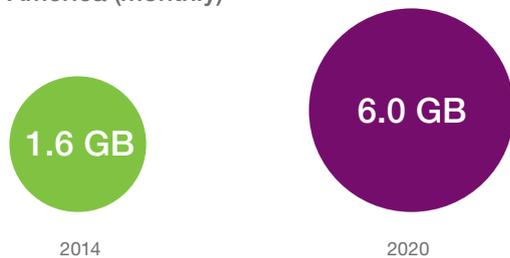


# MOBILE TRAFFIC

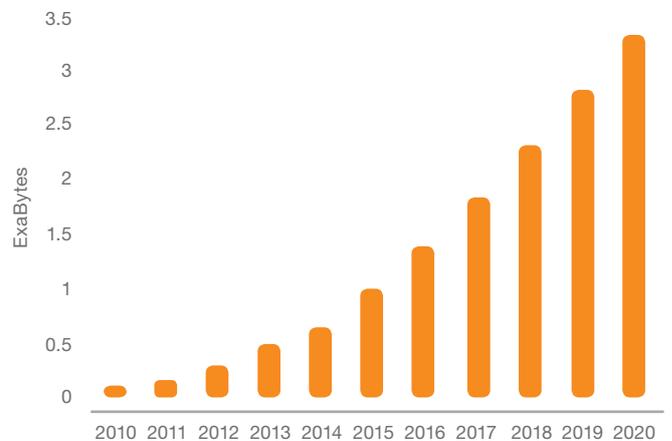
By the end of 2020, mobile data traffic in the U.S. and Canada will exceed 3 ExaBytes (EB) per month – or 5 times the traffic of 2014. Three EB is equivalent to about one billion downloads of the movie “Toy Story”.

Aggregate mobile voice traffic will increase slightly over the next six years. Mobile data traffic is forecast to increase at a CAGR of more than 30 percent from 2014 to 2020. In 2020, mobile networks in the U.S. and Canada will carry more mobile data than the cumulative totals predicted for the 5-year period from 2010 to 2015.

## Total mobile traffic per smartphone, North America (monthly)



## Total mobile traffic, U.S. and Canada (monthly ExaByte)



Smartphones account for two-thirds of the data traffic in 2014, but as the sale of tablets increases, that percentage will decline as we move closer to 2020. Data usage per smartphone will continue to increase, nearly quadrupling, between 2014 and 2020.

## Application coverage and network performance

The relative importance of network performance to user satisfaction is higher in the U.S. than the global average, driving 24 percent of overall mobile user satisfaction compared to 19 percent globally.<sup>2</sup>

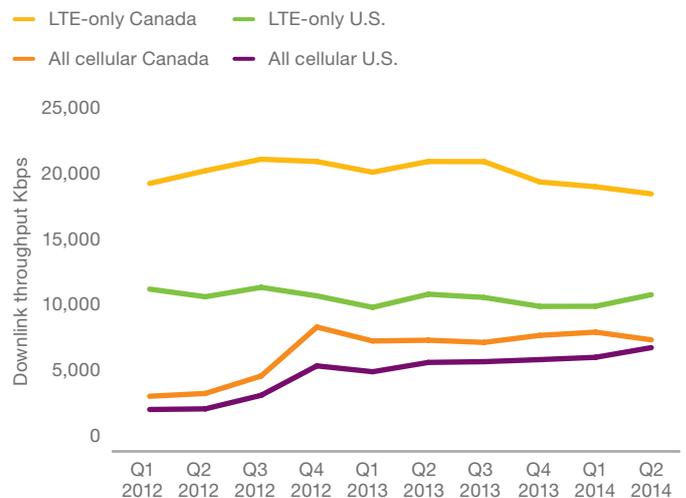
With the increased use of mobile applications, Ericsson proposed a new approach to network performance, or app coverage. Essentially, every application has its own coverage map, driven by a number of factors.

To illustrate, Ericsson analyzed network performance measurements from Speedtest.net to calculate median and cell edge downlink data throughput rates. A good streaming video experience requires a throughput rate of 5 to 10 Mbps. In the U.S. and Canada, a user has a 50 percent probability of receiving 7 to 8 Mbps downlink throughput. Measuring results only on LTE networks, the median throughput is one-and-a-half times faster in the U.S. and four times faster in Canada.

The benefit of LTE is even more dramatic at the 90 percent probability threshold (a proxy for cell-edge performance), where throughput is 4 times faster in the U.S. and 6 times faster in Canada, when compared to throughput measurements across cellular technologies. However, with greater demand on LTE networks,

LTE network cell edge performance declined slightly between Q2 2013 and Q2 2014 in both markets. Densification, appropriate network dimensioning and adequate spectrum allocations are required to continue to ensure good application coverage for all users in the entire cell, even after LTE is deployed.

## Median throughput measurements

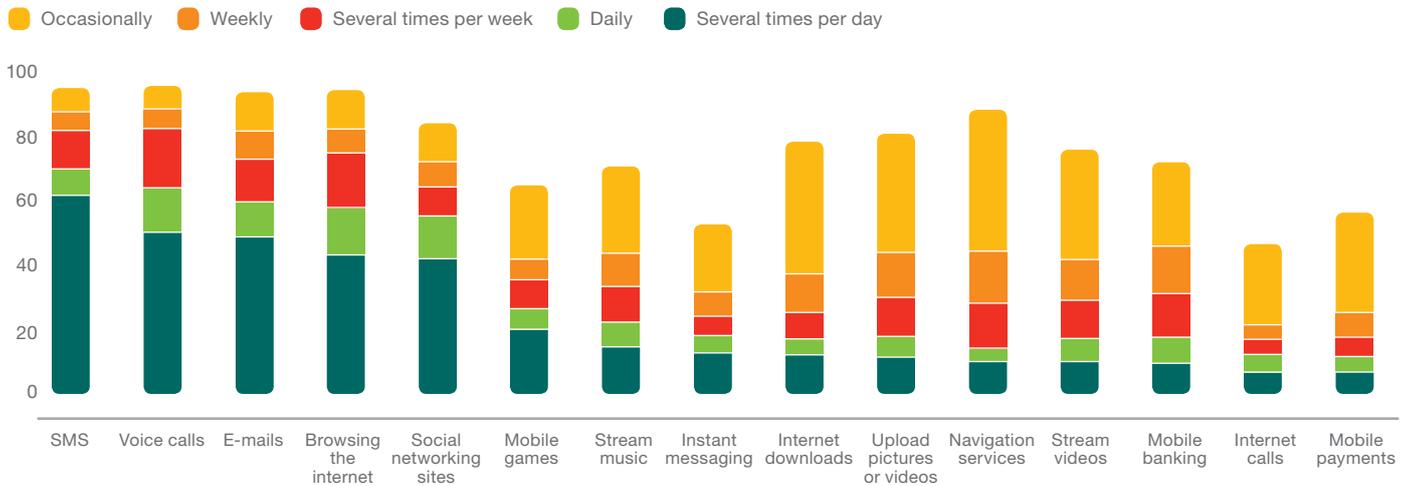


Source: Analysis performed by Ericsson, based on Ookla's NetMetrics data from Speedtest.net, 2014

<sup>2</sup> Source: Ericsson ConsumerLab, Network Performance Study, 2013

# SEGMENTS OF ONE

## Frequency of application use, U.S. smartphone users



Source: Ericsson ConsumerLab, 2013  
Base: Smartphone users, ages 15–69, U.S.

There is no ‘typical’ mobile user in the U.S. and Canada. The burgeoning number of activities performed over mobile networks and devices has resulted in increasingly personal mobile user profiles.

Some applications are frequently used by nearly all mobile users, such as SMS and voice calling. Others, such as mobile gaming and music streaming, are used frequently by a smaller number of consumers. Overall, consumers increasingly pick and mix the applications that best meet their unique needs.

U.S. and Canadian consumers also have a growing number of choices when it comes to mobile devices. Among smartphone users, the household penetration of tablets is higher than 50 percent, and a number of less-traditional connected devices are rising in mainstream popularity.

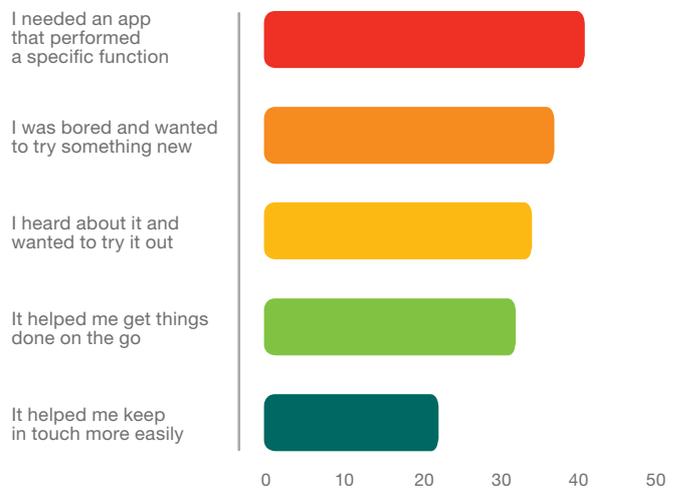
Whether consumers prefer their news to be delivered through a smartphone, a tablet or a smart watch, any combination of device, location and time of day is possible. It’s ultimately the consumer’s choice, and this ability to choose is the underlying reason why U.S. and Canada market segments are increasingly composed of individuals. With each user creating their unique mobile experience, they become their own distinct segment of the market.

As mobile usage diversifies to include dozens of tasks over dozens of devices, consumer mobile-experience needs change as well.

Traditional mobile-experience needs, such as productivity and staying in touch, are joined by the consumer desire to be entertained, to try new things and to have fun. When asked why they downloaded an app to their smartphone, U.S. respondents cited the need for a specific function as their motivation nearly as often as they cited boredom.

As the pervasiveness of connectivity continues to grow, the use of mobile devices and their associated applications becomes increasingly embedded in the daily habits of consumers.

## Smartphone users’ reasons for app downloads, U.S.



Source: Ericsson ConsumerLab (2013)  
Base: Smartphone users, ages 15–69, U.S.



Habitual and widespread behaviors offer actionable opportunities for providers of those experiences to increase innovation and differentiation. For example, the common experience of grocery shopping has transformed from traditional general stores to wholesale clubs, specialty shops, neighborhood markets, epicurean boutiques and more.

Consumers in the U.S. and Canada love choice – the ability to pick the experience that best suits a particular need at a particular time.

## 37% of smartphone users download an app to try something new

Mobile networks and systems will transform into smarter, more scalable solution engines, and mobile service providers will increasingly become experience architects. This will lead to an abundance of choices for leading a connected life.

### Smartphone use throughout the day



Source: Ericsson ConsumerLab (2014)  
Base: Smartphone users, ages 15–69, U.S.

Ericsson is the driving force behind the Networked Society – a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, businesses and societies to fulfill their potential and create a more sustainable future.

Our services, software and infrastructure – especially in mobility, broadband and the cloud – are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities.

With more than 110,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world's mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions – and our customers – stay in front.

Founded in 1876, Ericsson has its headquarters in Stockholm, Sweden. Net sales in 2013 were SEK 227.4 billion (USD 34.9 billion). Ericsson is listed on NASDAQ OMX stock exchange in Stockholm and the NASDAQ in New York.

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