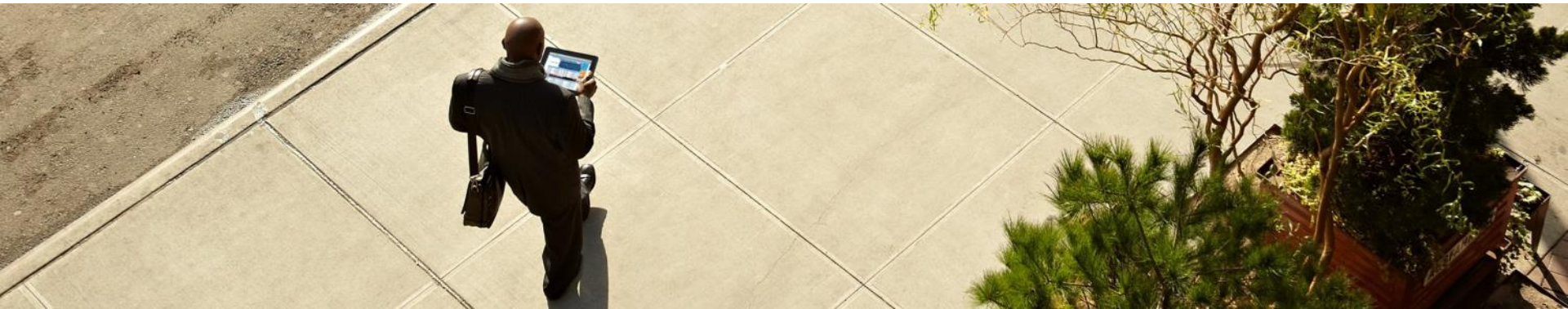
Cisco Visual Networking Index (VNI) Mobile Data Forecast

U.S. Highlights 2013-2018

Robert Pepper, VP Global Technology Policy
Doug Webster, VP Service Provider Marketing

February 2014



Cisco Visual Networking Index (VNI)

Expanding the Scope of Cisco's IP Thought Leadership

Cisco® VNI Forecast research is an ongoing initiative to predict global traffic growth. This study focuses on consumer and business mobile data traffic and its key drivers.

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

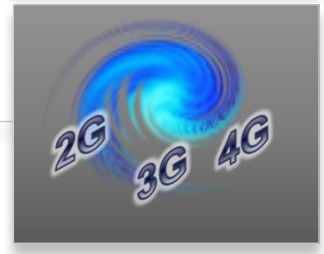
Global Mobile Data Traffic Drivers

By 2018...

More Mobile Connections

2013
7.0 Billion
2018
10.2 Billion

Faster Mobile Speeds



2013
1.4 Mbps
2018
2.5 Mbps

More Mobile Users

2013
4.1 Billion
2018
4.9 Billion

More Mobile Video

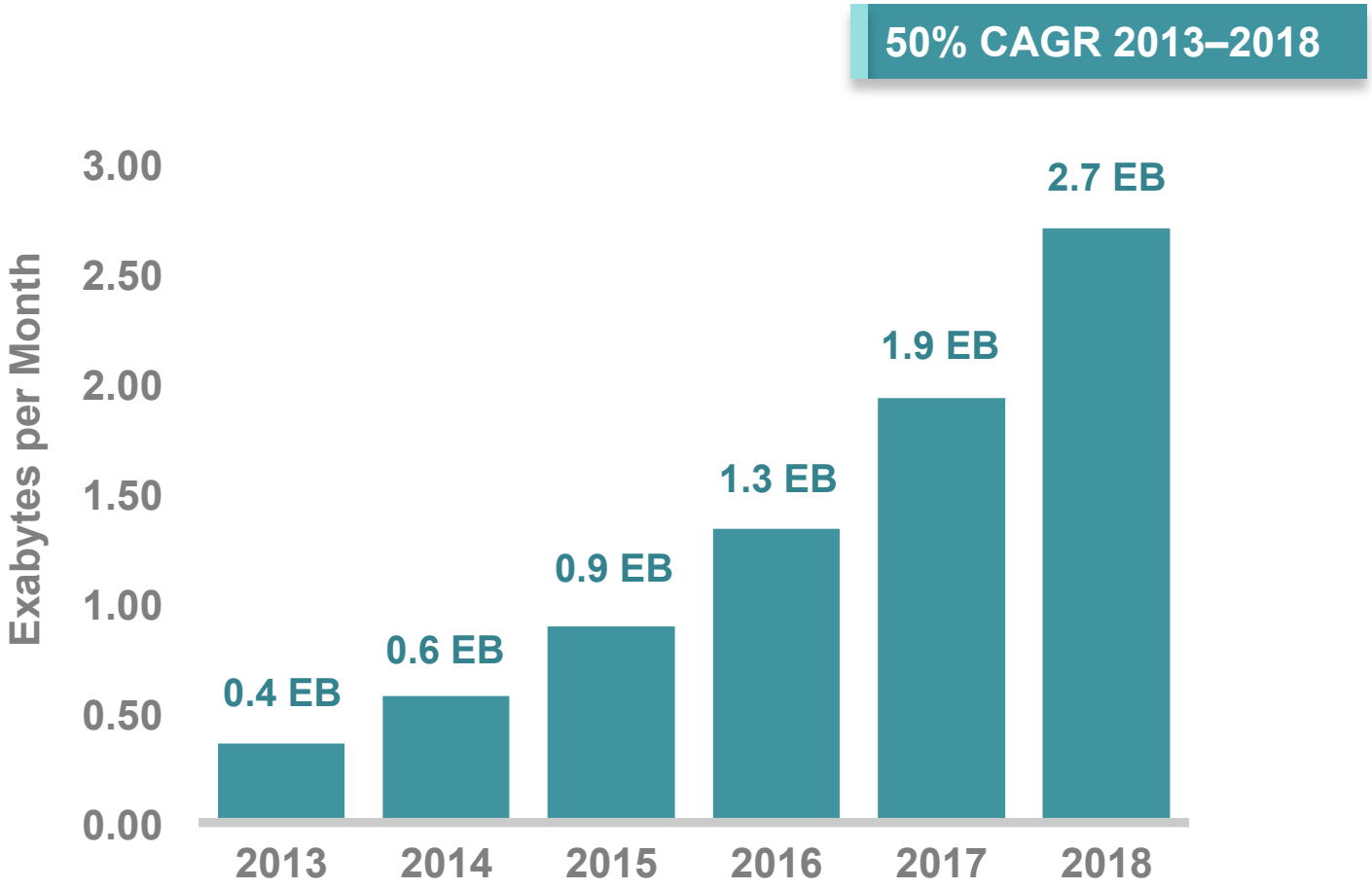
2013
53% of Traffic
2018
69% of Traffic

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Top Trends

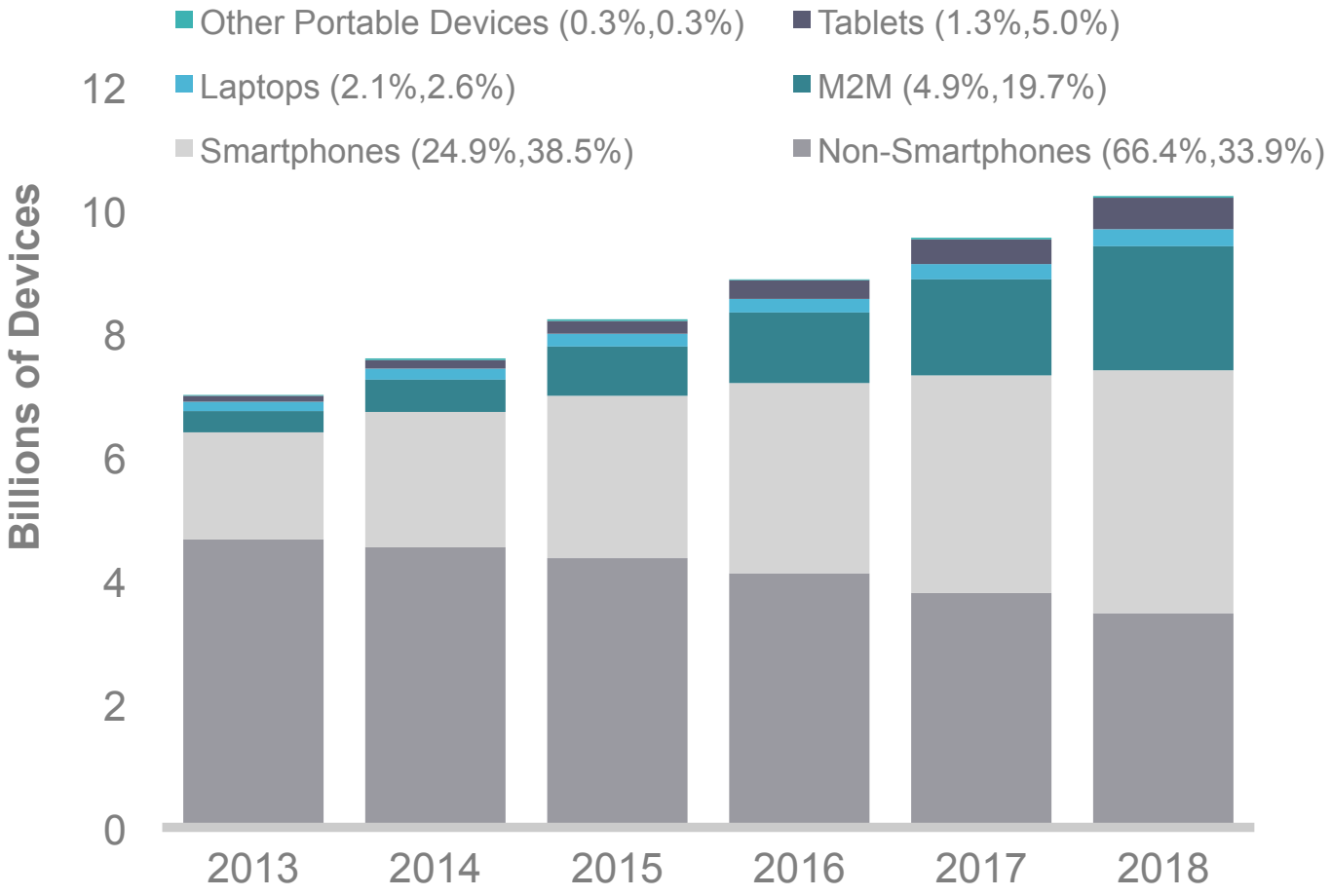
US Mobile Data Traffic Growth / Top-Line

US Mobile Data Traffic will Increase Nearly 8-Fold from 2013–2018



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Global Mobile Device Growth by Type

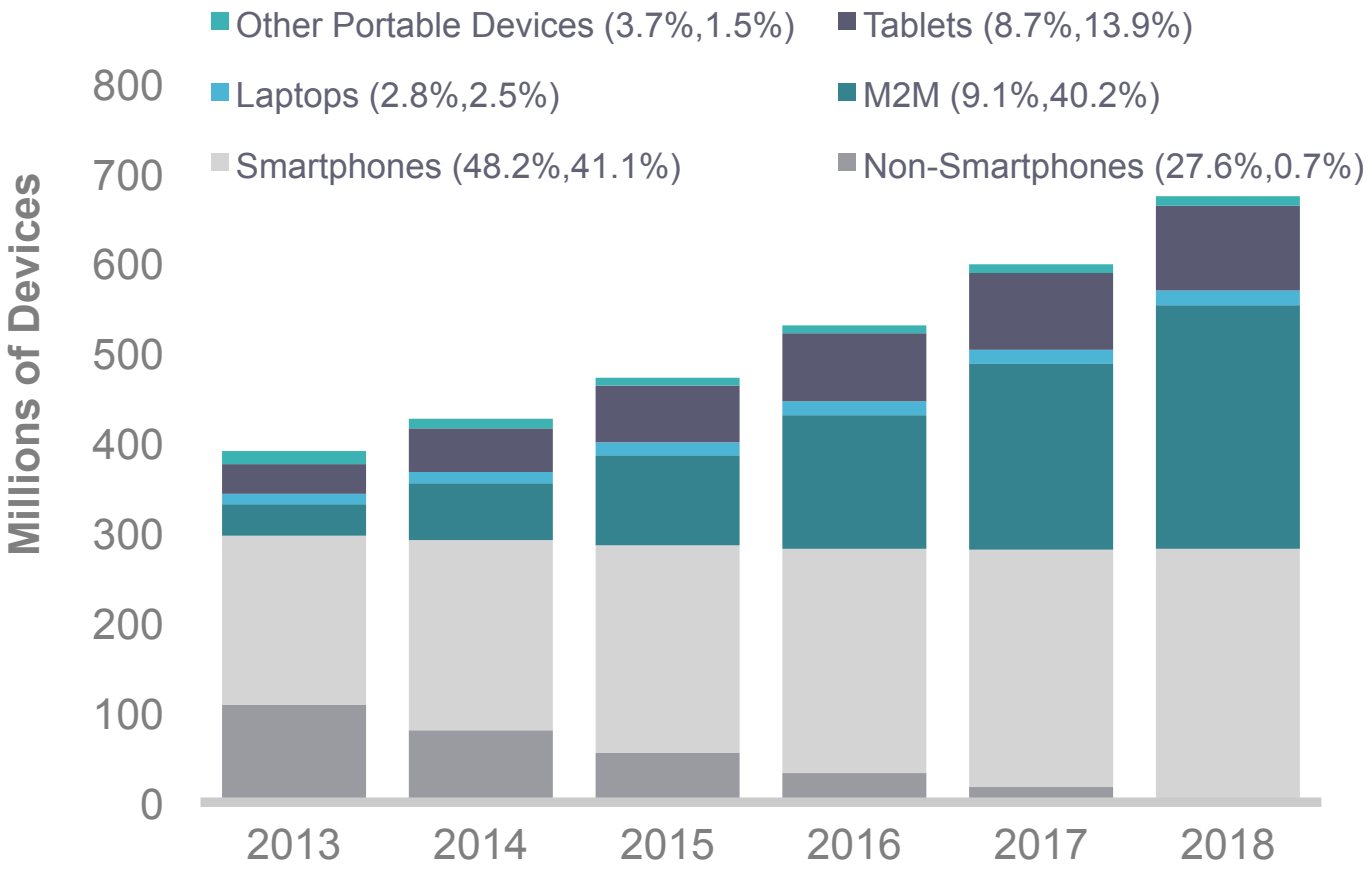


* Figures (n) refer to 2013, 2018 device share

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

United States Mobile Device Growth by Type

By 2018, Smartphones Have 41% Share; Non-Smartphones Decline Rapidly M2M and Tablets Gain Share



* Figures (n) refer to 2013, 2018 device share

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Smart Devices & Connections Share

Percent of Total Mobile Devices & Connections

	2013	2018
Global	21%	54%
BY REGION		
North America	65%	93%
Western Europe	45%	83%
Central & Eastern Europe	15%	61%
Latin America	14%	55%
Asia-Pacific	17%	47%
Middle East & Africa	10%	36%

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

U.S. Leads Smart Devices & Connections Traffic Share

Percent of Total Mobile Devices & Connections Traffic

	2013	2018
Global	88%	96%
BY REGION		
North America	98%	100%
Western Europe	95%	100%
Central & Eastern Europe	75%	95%
Latin America	81%	96%
Asia-Pacific	85%	95%
Middle East & Africa	76%	90%

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Average Traffic Per Mobile Device Type

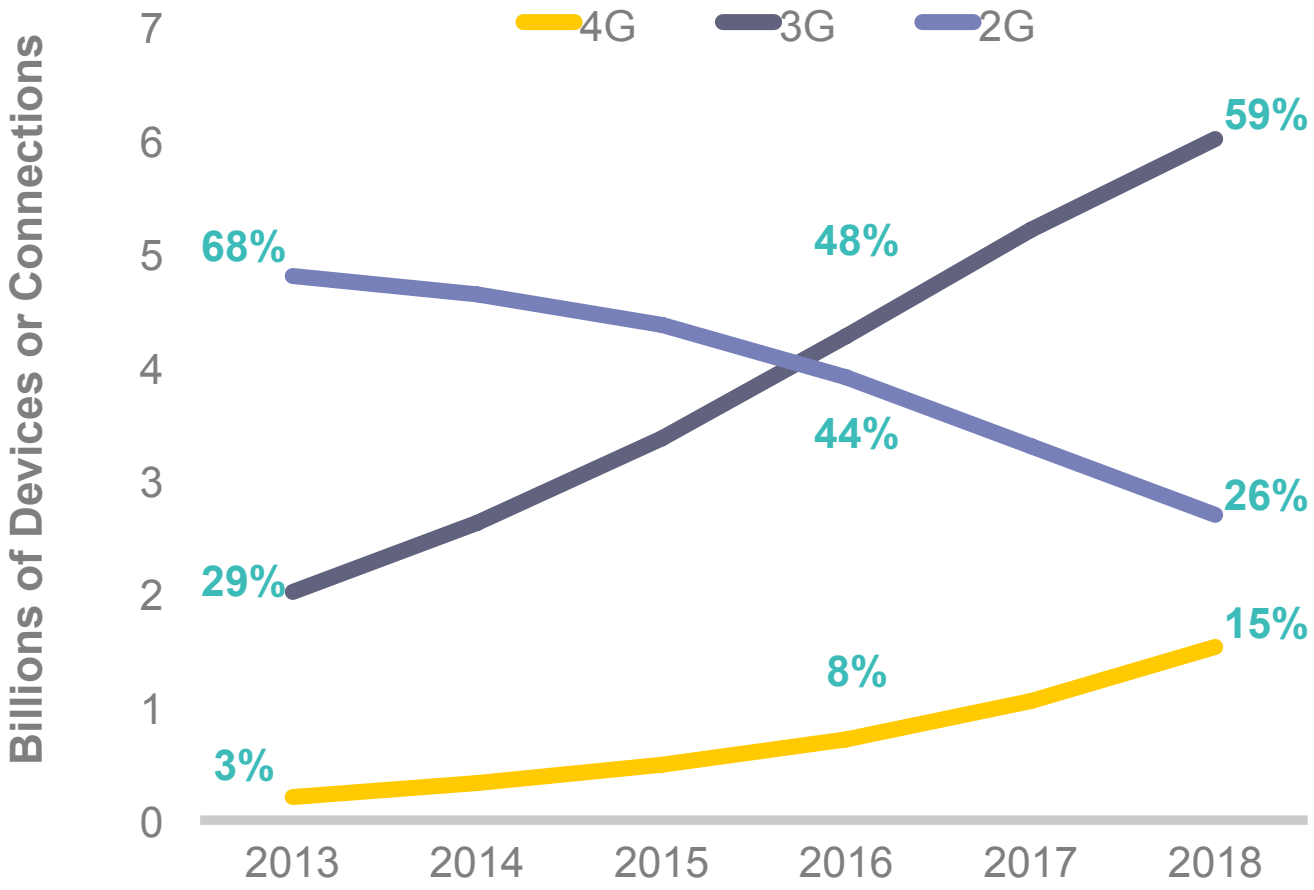
	2013 MBs per Month	2018 MBs per Month
 Non-Smartphone	10.8	45
 M2M	61	451
 Wearable	78	345
 Smartphone	529	2,672
 Tablet	1,374	5,609
 Laptop	2,455	5,095

Note: In 2013, 4G Smartphones generated 2 GBs/month and 4G Tablets generated 2.4 GBs/month

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Global Connections by Network Type

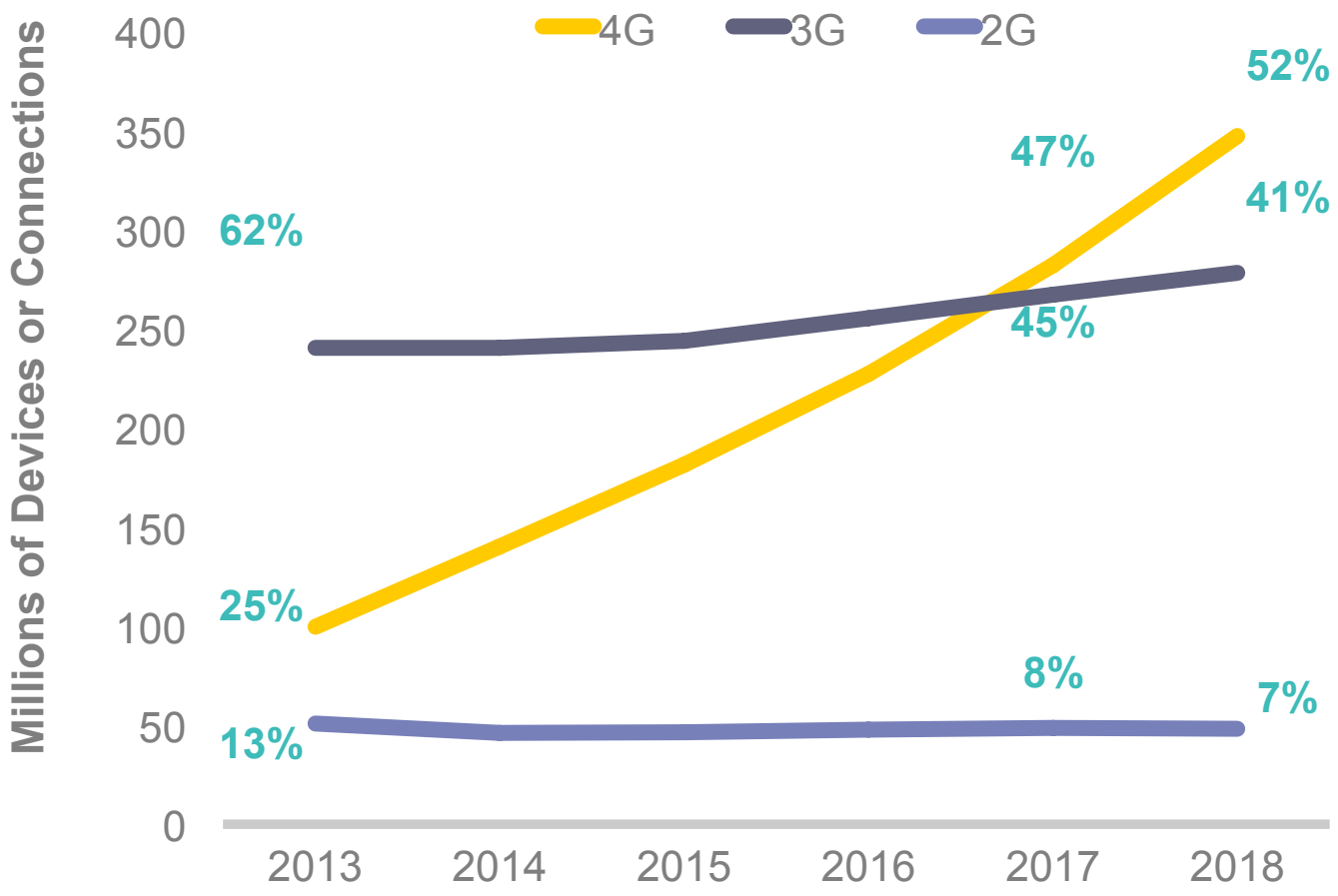
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

United States Connections by Network Type

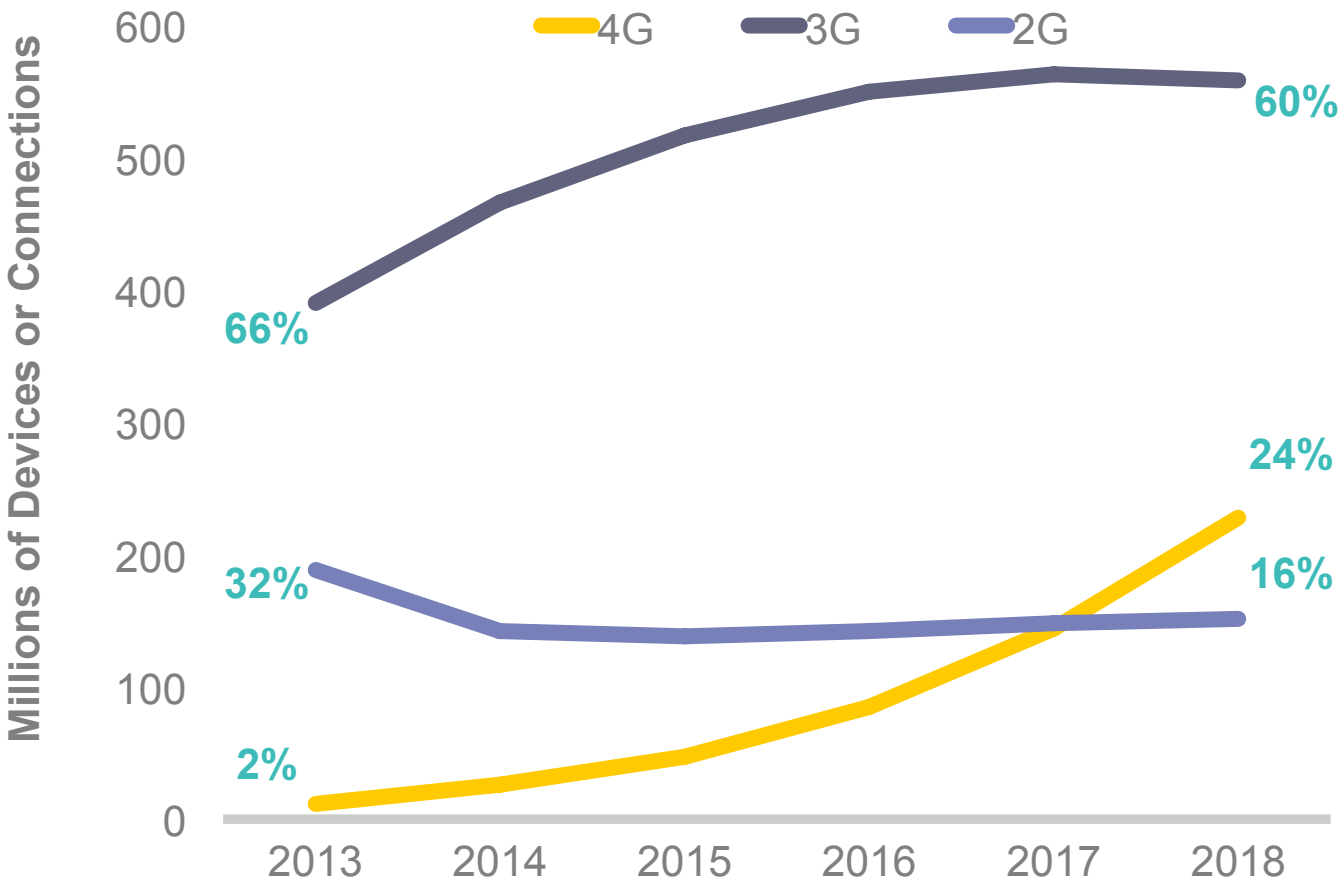
2G, 3G, and 4G Technology Connection Share—U.S. Leads 4G Migration



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Western Europe Connections by Network Type

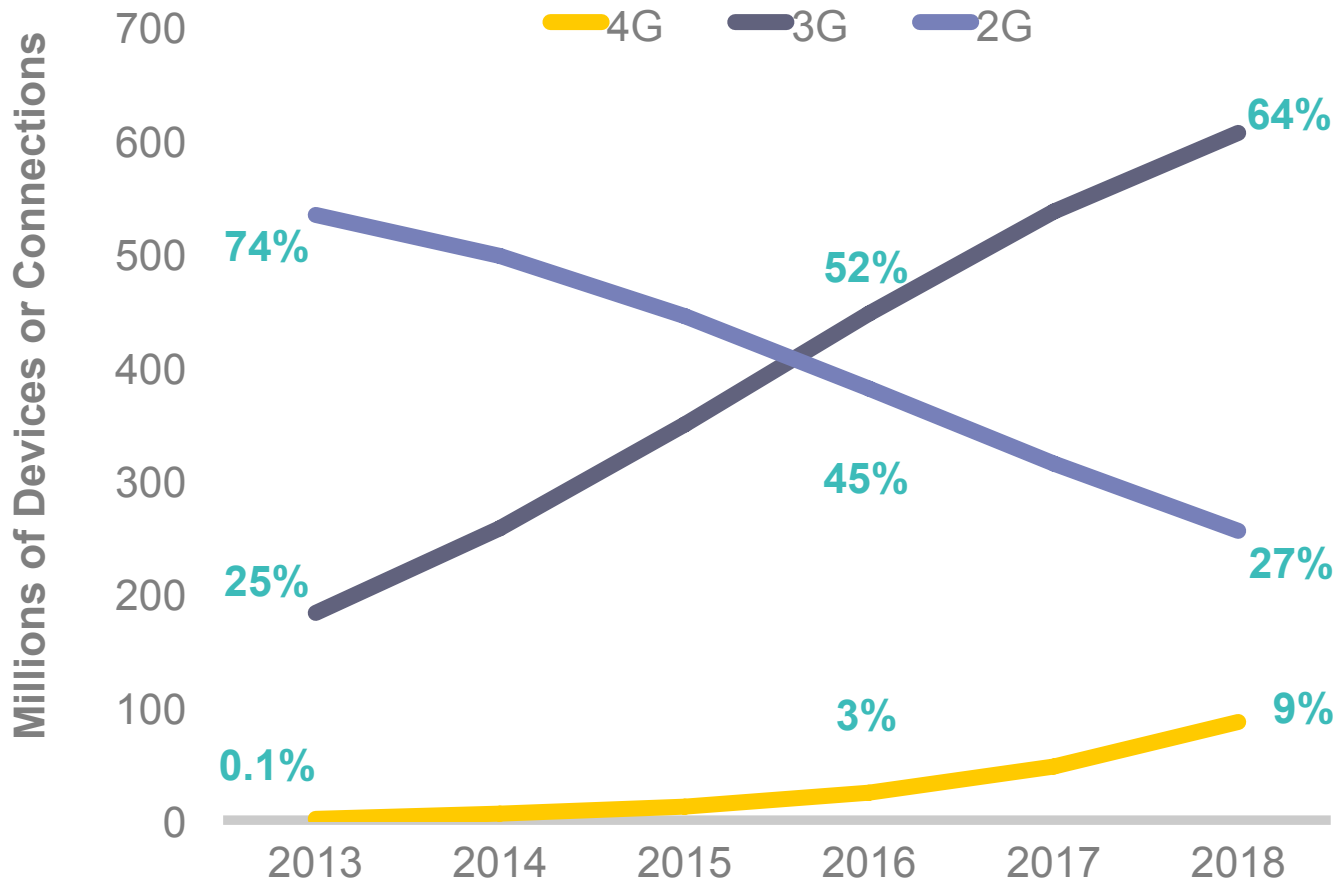
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Latin America Connections by Network Type

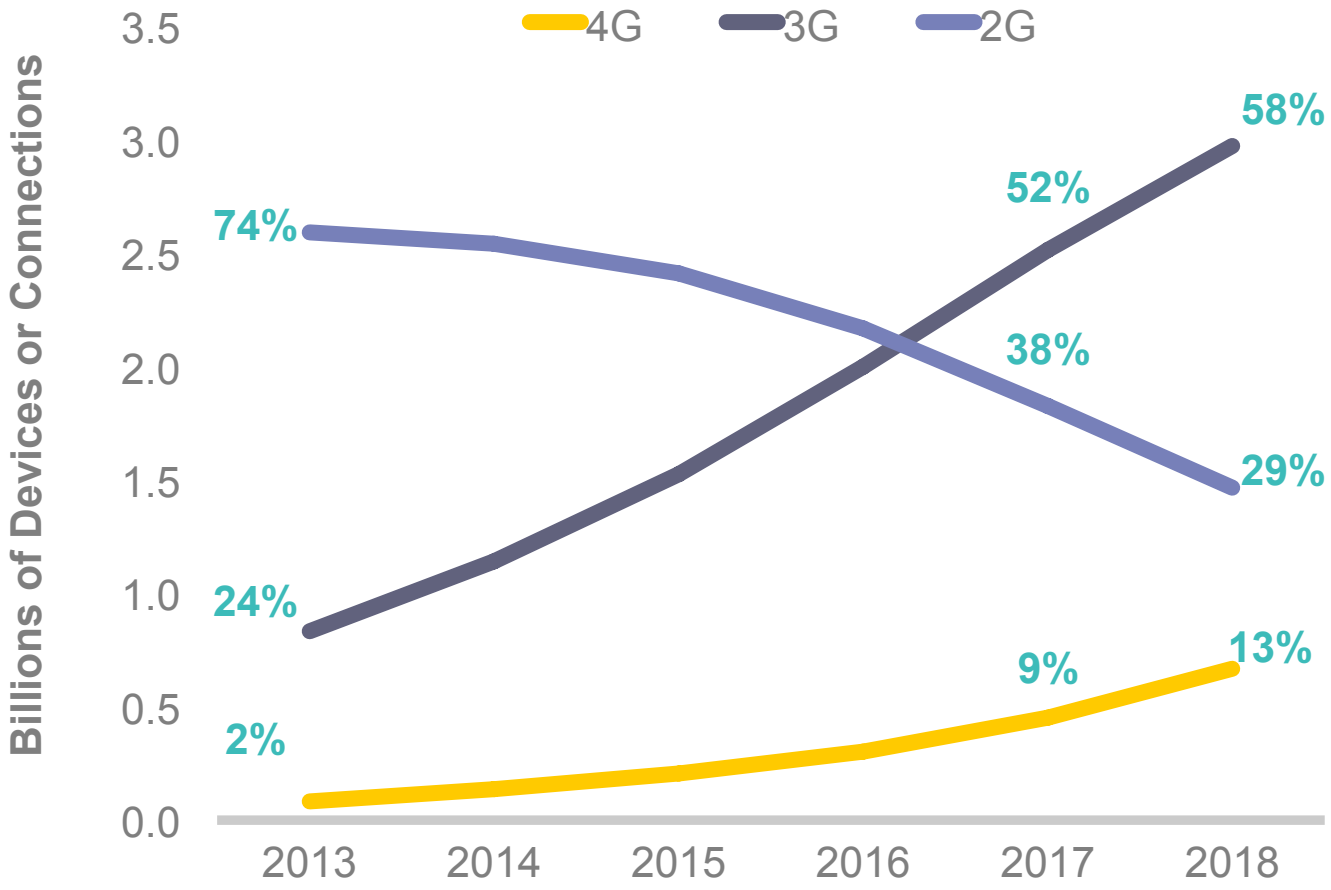
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Asia Pacific Connections by Network Type

2G, 3G, and 4G Technology Connection Share



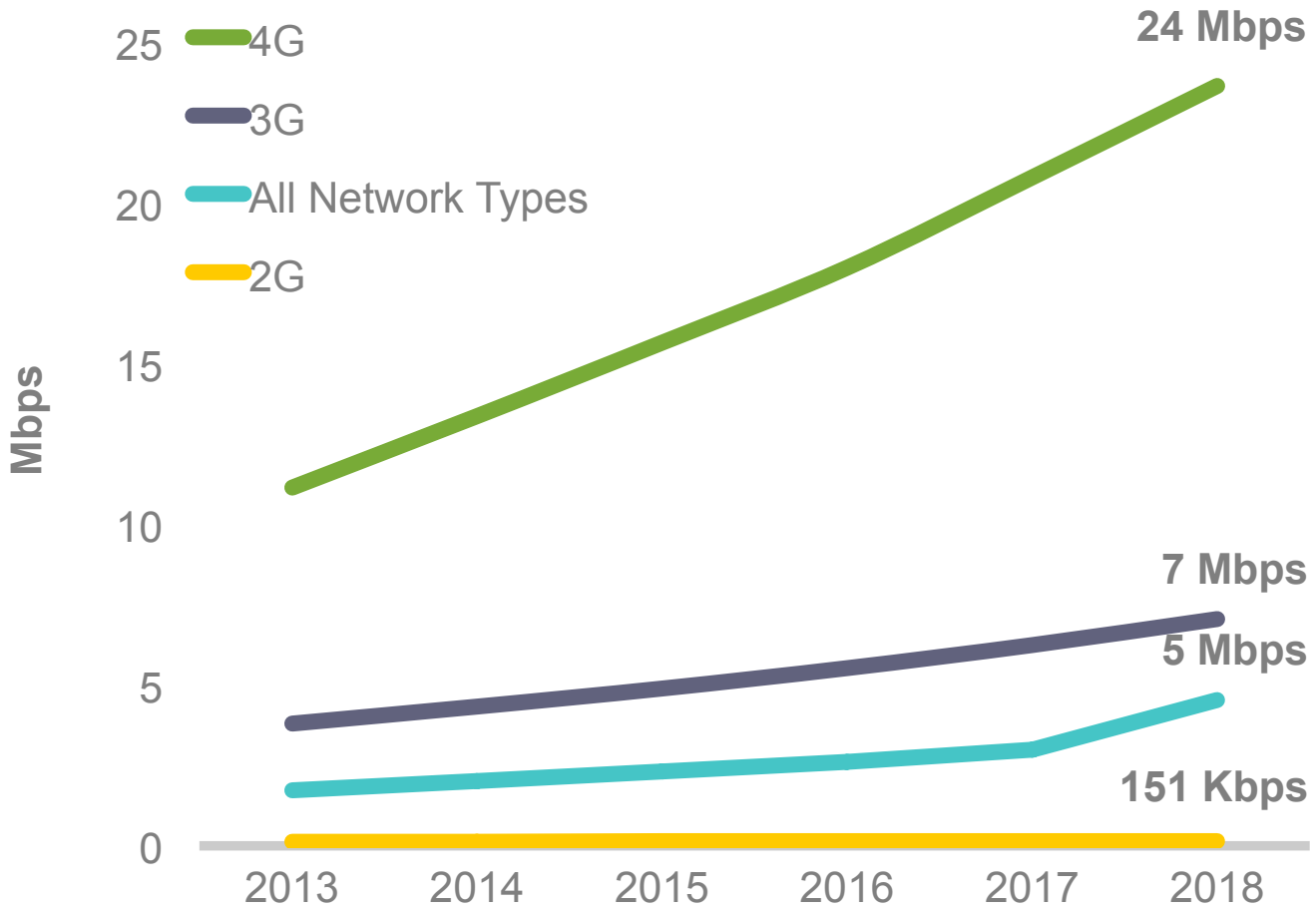
Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

In 2013, a 4G connection generated 2.0 GB/mo, 3.7X higher than the 551 MB/mo for non-4G (mostly 3G) connections in North America.

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

North America Mobile Speeds by Network Type

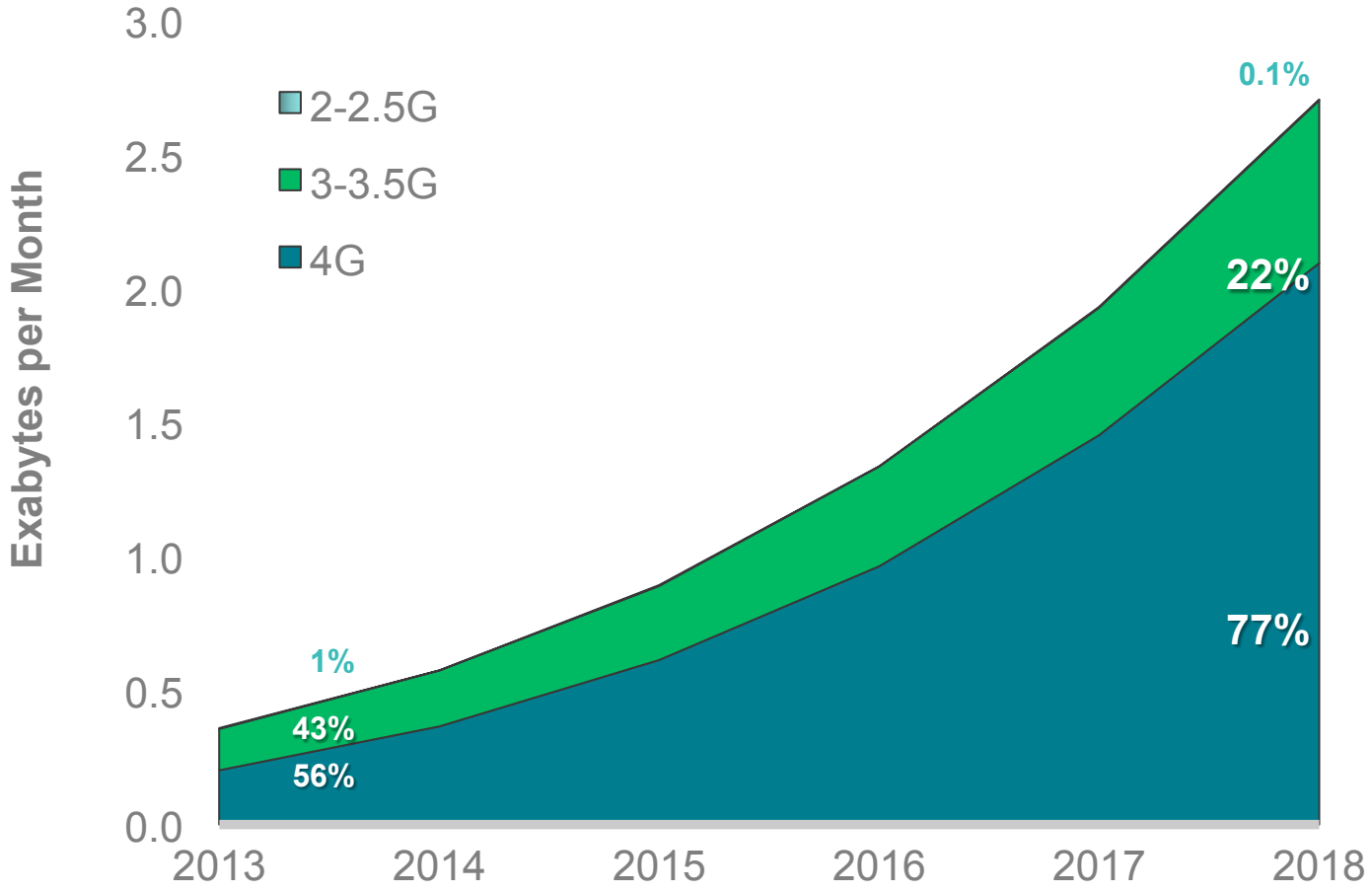
4G Speeds will be 5X Higher than Average by 2018
3-3.5G Speeds will be 2X Higher than Average by 2018



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

United States Mobile Data Traffic Growth: 4G

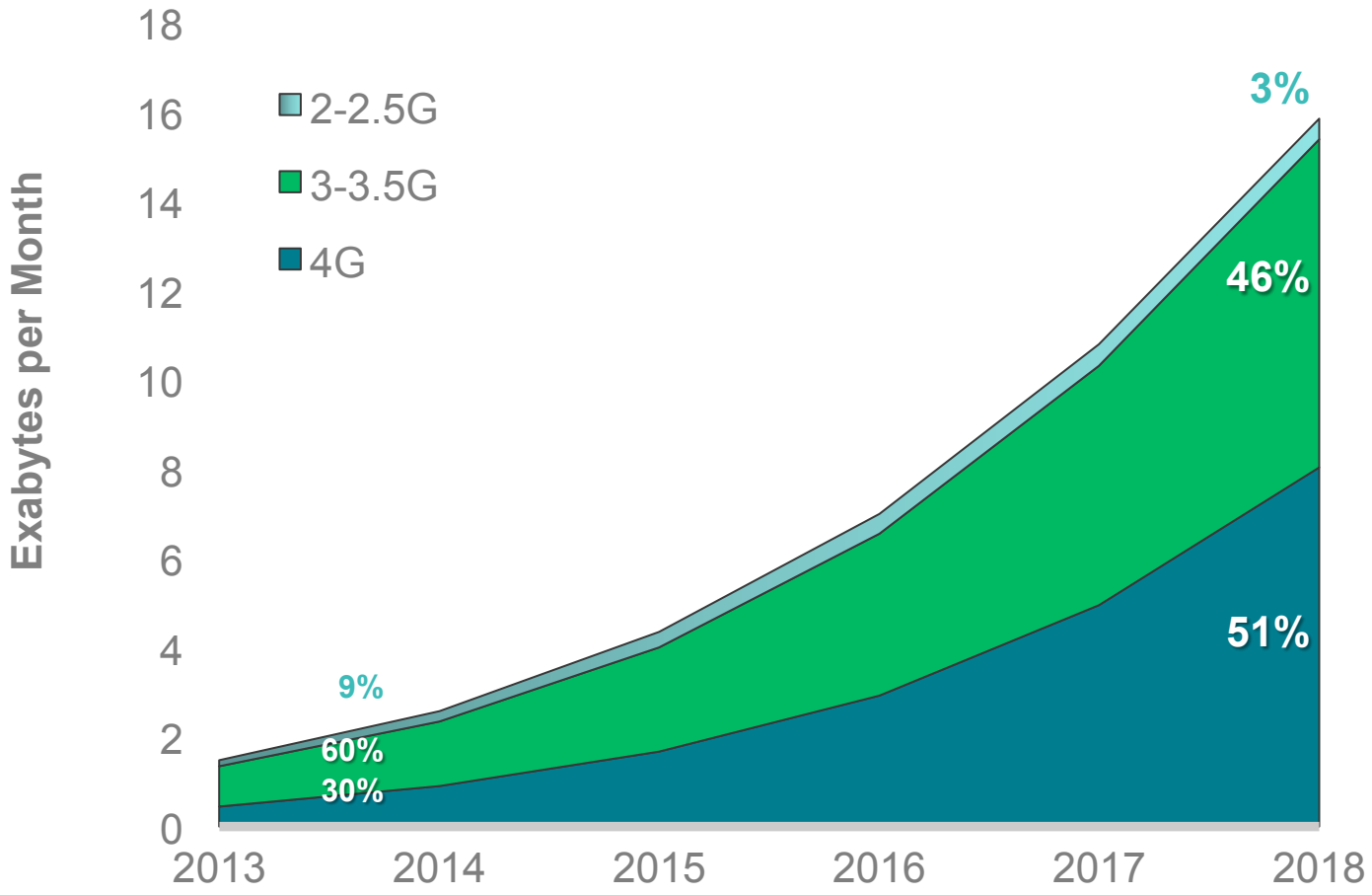
In The US, 4G Will Be Over Three-Fourths of Mobile Traffic by 2018



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Global Mobile Data Traffic Growth: 4G

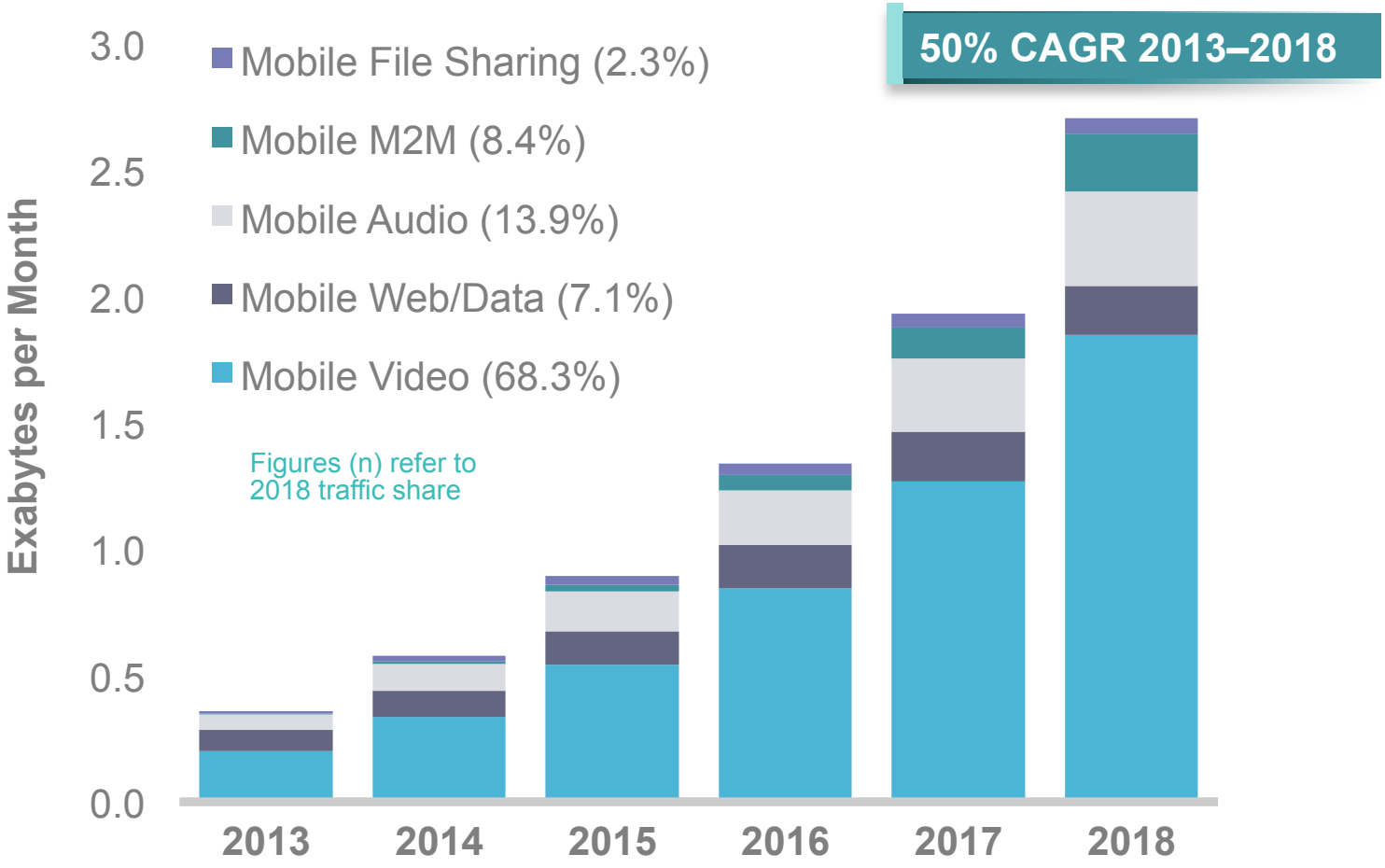
Globally, 4G Will Be 51% of Mobile Traffic by 2018



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

United States Mobile Data Traffic Growth / Apps

Video to Exceed 68 Percent of Mobile Data Traffic by 2018



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Top Global Traffic Generating Apps

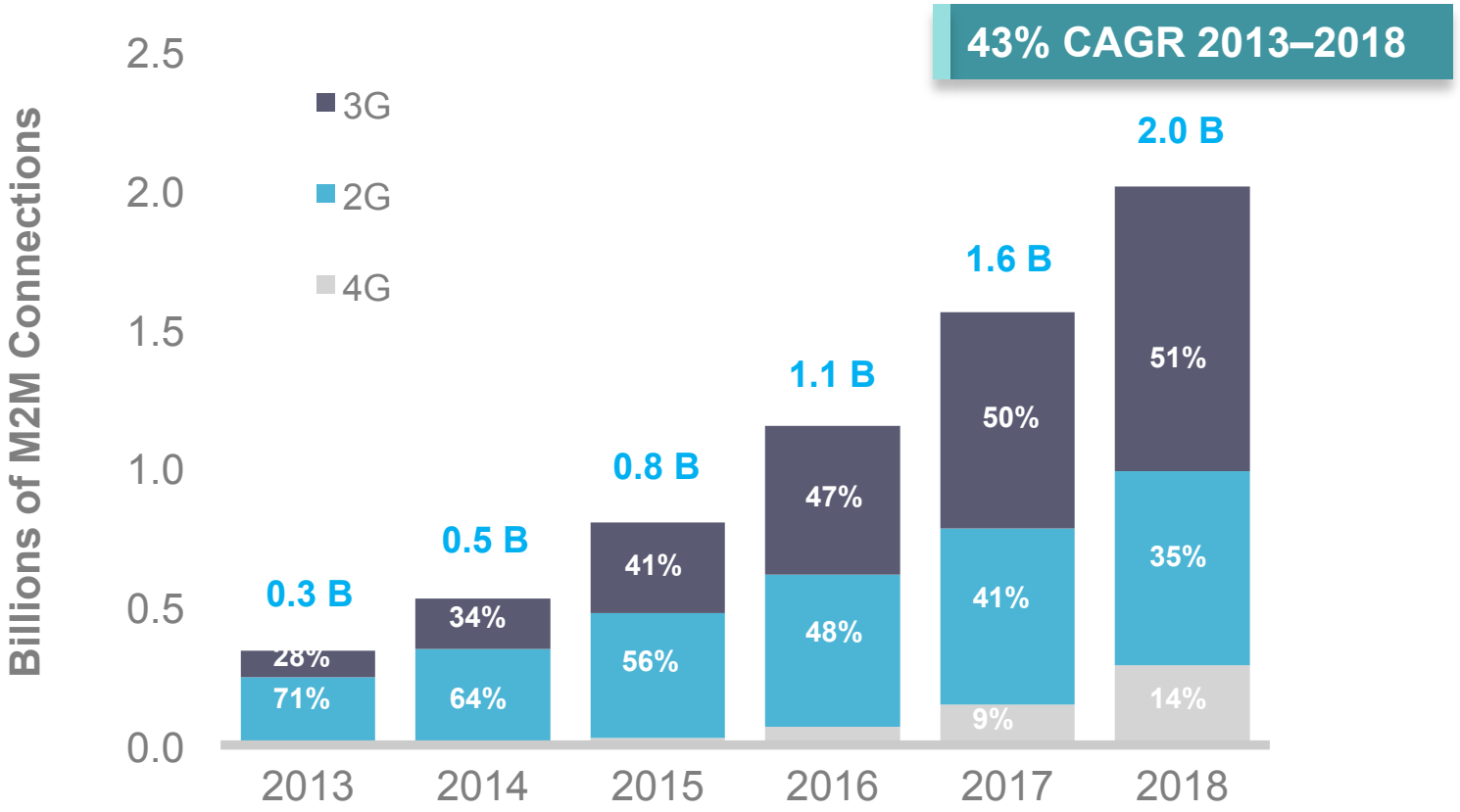
Top Traffic-Generating Mobile Apps (Android)	
Facebook	Social Media
YouTube	Video Streaming
Netflix	Video Streaming
TubeMate	Video Downloading
Instagram	Image Sharing
TuneIn	Audio Streaming
SoundCloud	Audio Streaming
Flipboard	News
Skype	Communications
Twitter	Communications
Dropbox	File Sharing
Spotify	Audio Streaming
Pandora	Audio Streaming

Top Traffic-Generating WiFi Apps (Android)	
Netflix	Video Streaming
Instagram	Image Sharing
Dropbox	File Sharing
Facebook	Social Media
YouTube	Video Streaming
Flipboard	News
TuneIn	Audio Streaming
VLC Media Player	Video Streaming
BSPlayer	Video Streaming
Spotify	Audio Streaming
NYTimes	News
Hulu	Video Streaming
TubeMate	Video Streaming

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Global M2M Connection Growth

Global M2M Connections will Grow 6-Fold from 2013-2018; By 2018, More Than Half of Global M2M Connections Will be on 3G

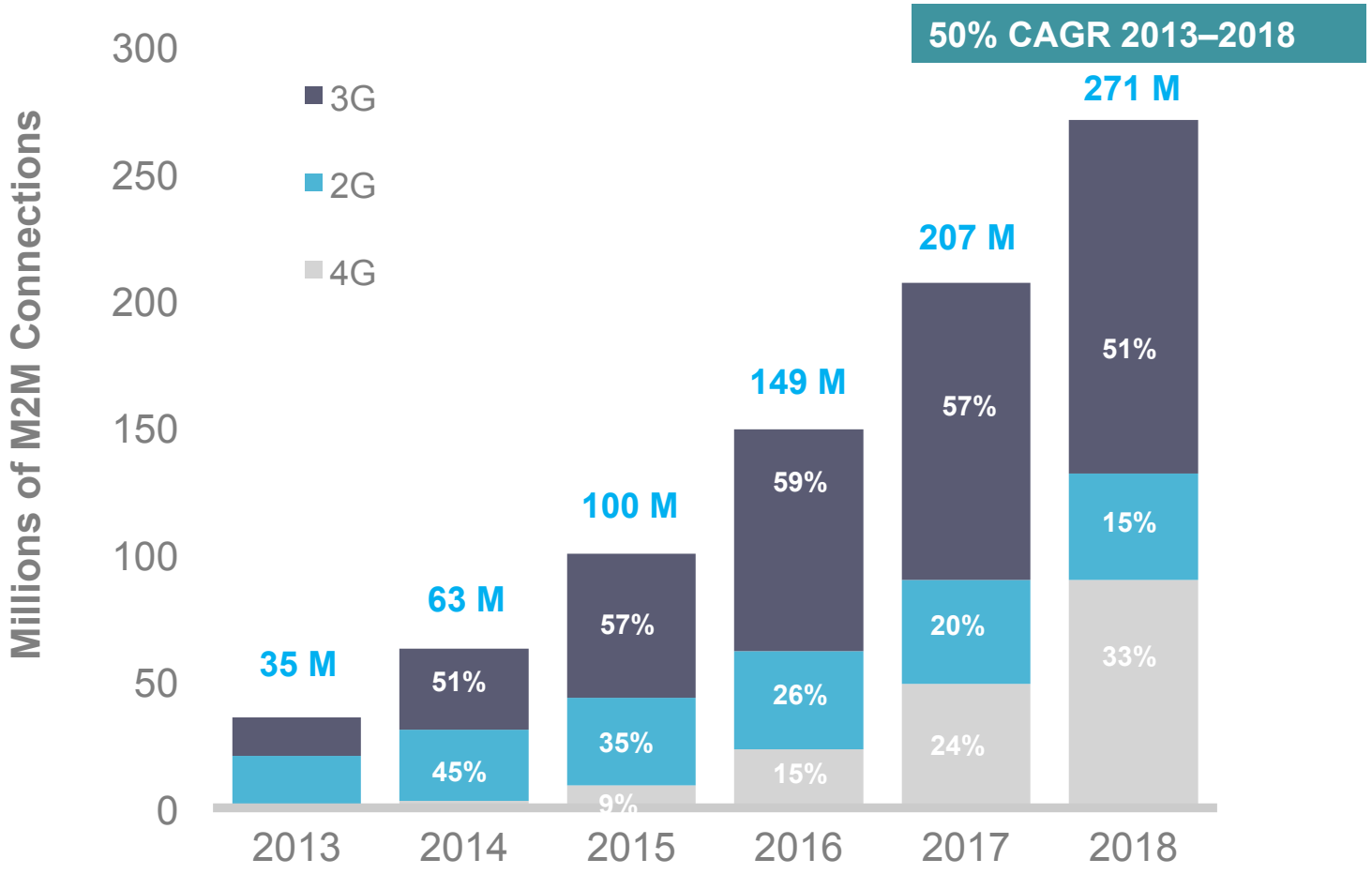


*** In 2013, 4G accounts for 0.43% of global mobile M2M connections.**
In 2014 ,1.5% connections, in 2015 , 3% connections and in 2016 ,5.6% connections are 4G.

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

United States M2M Connection Growth

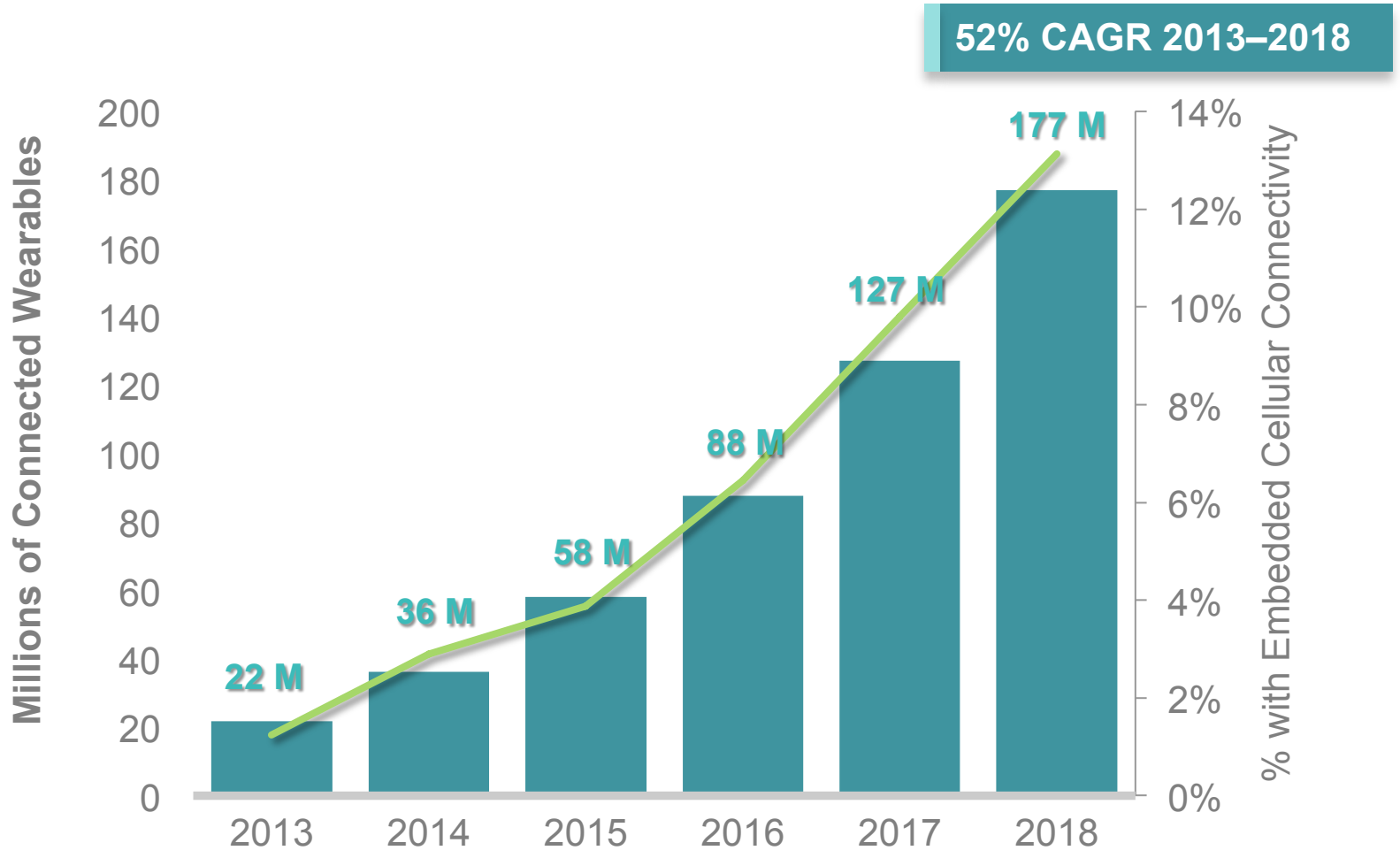
US M2M Connections will Grow 8-Fold from 2013-2018; By 2018, Nearly a Third M2M Connections Will be On 4G



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Global Connected Wearable Devices

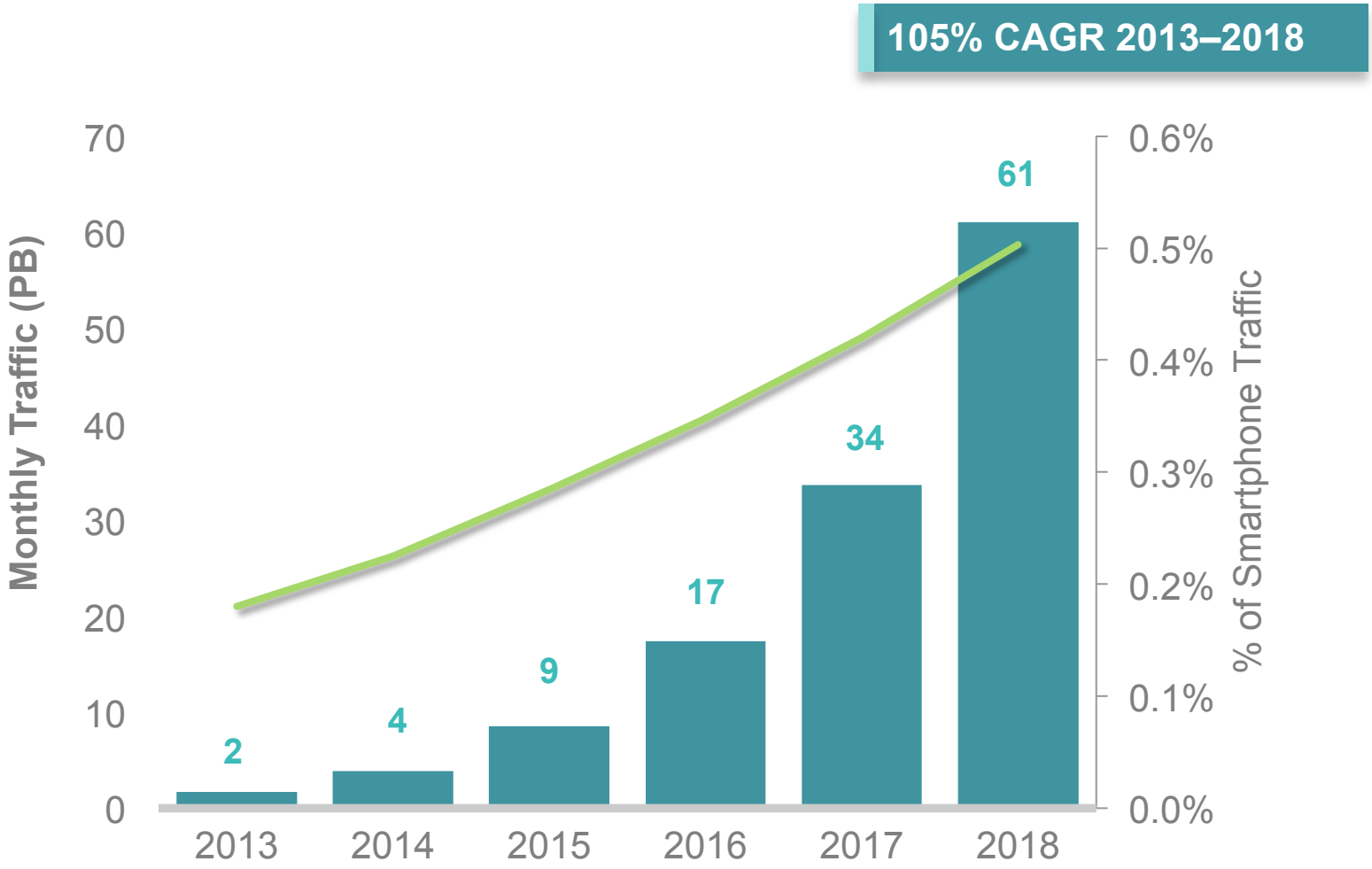
Global Connected Wearables will Grow 8-Fold from 2013-2018; By 2018, 13 Percent will Have Embedded Cellular Connectivity



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Global Connected Wearable Devices Traffic

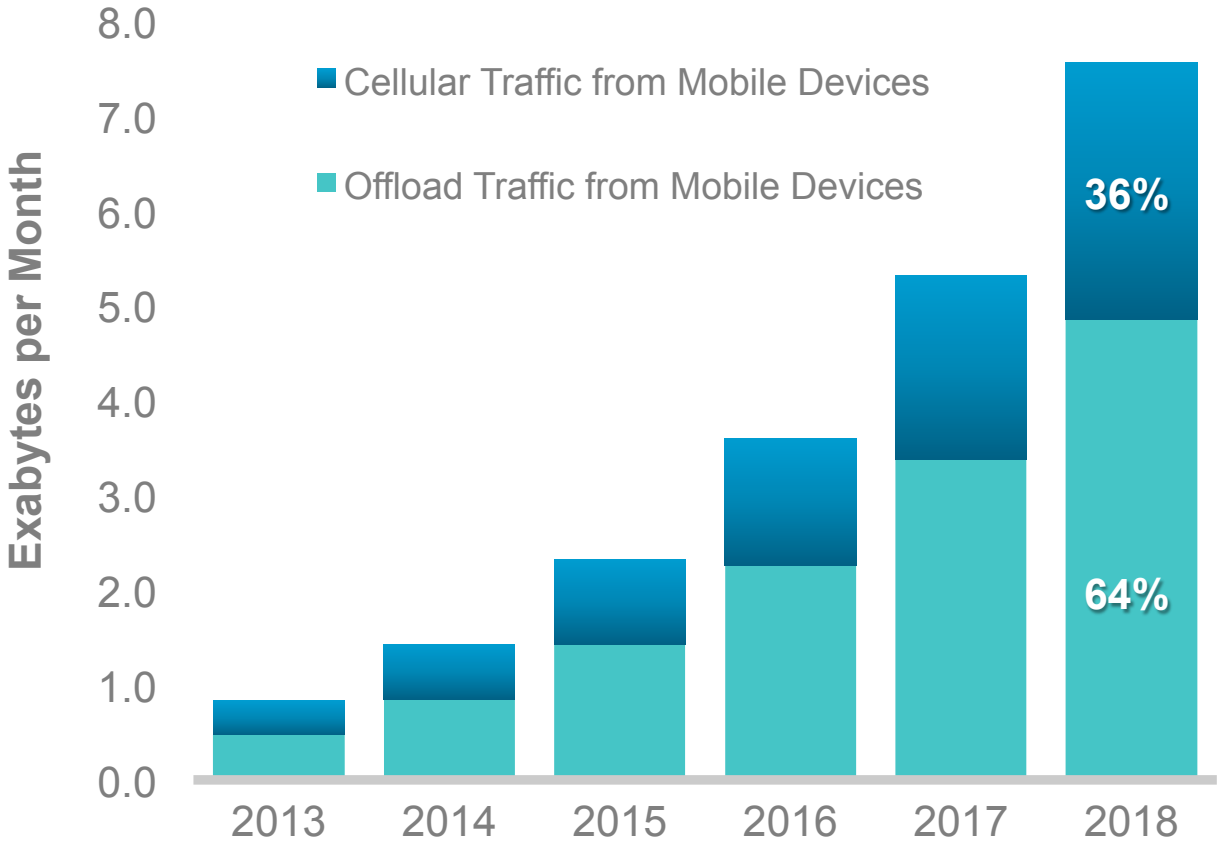
Global Connected Wearables Traffic will Grow 36-Fold from 2013-2018



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

United States Mobile Data Traffic Offload*

64% of Mobile Traffic to be Offloaded by 2018
57% of Mobile Traffic Offloaded in 2013

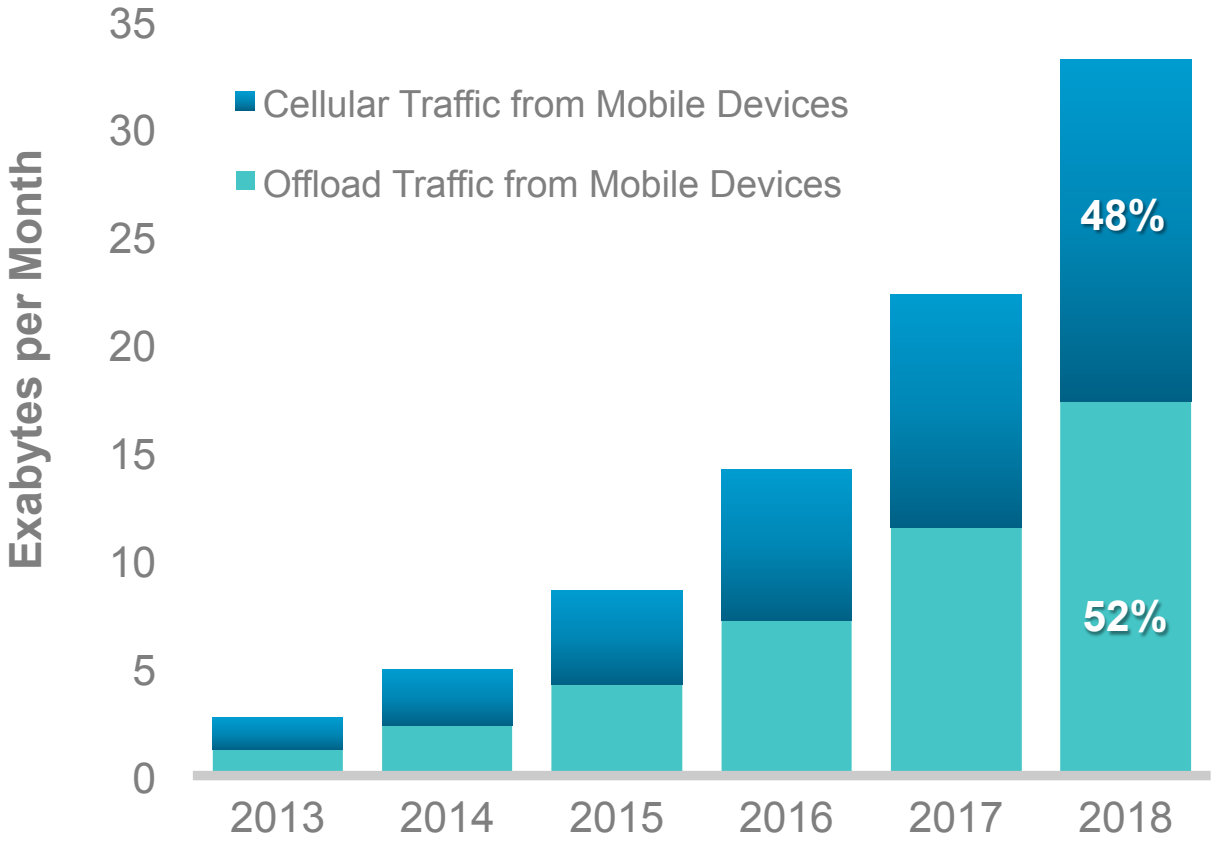


*Offload pertains to traffic from dual mode devices (i.e., supports cell & wi-fi; exc. laptops) over wi-fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Global Mobile Data Traffic Offload*

52% of Mobile Traffic to be Offloaded by 2018
45% of Mobile Traffic Offloaded in 2013

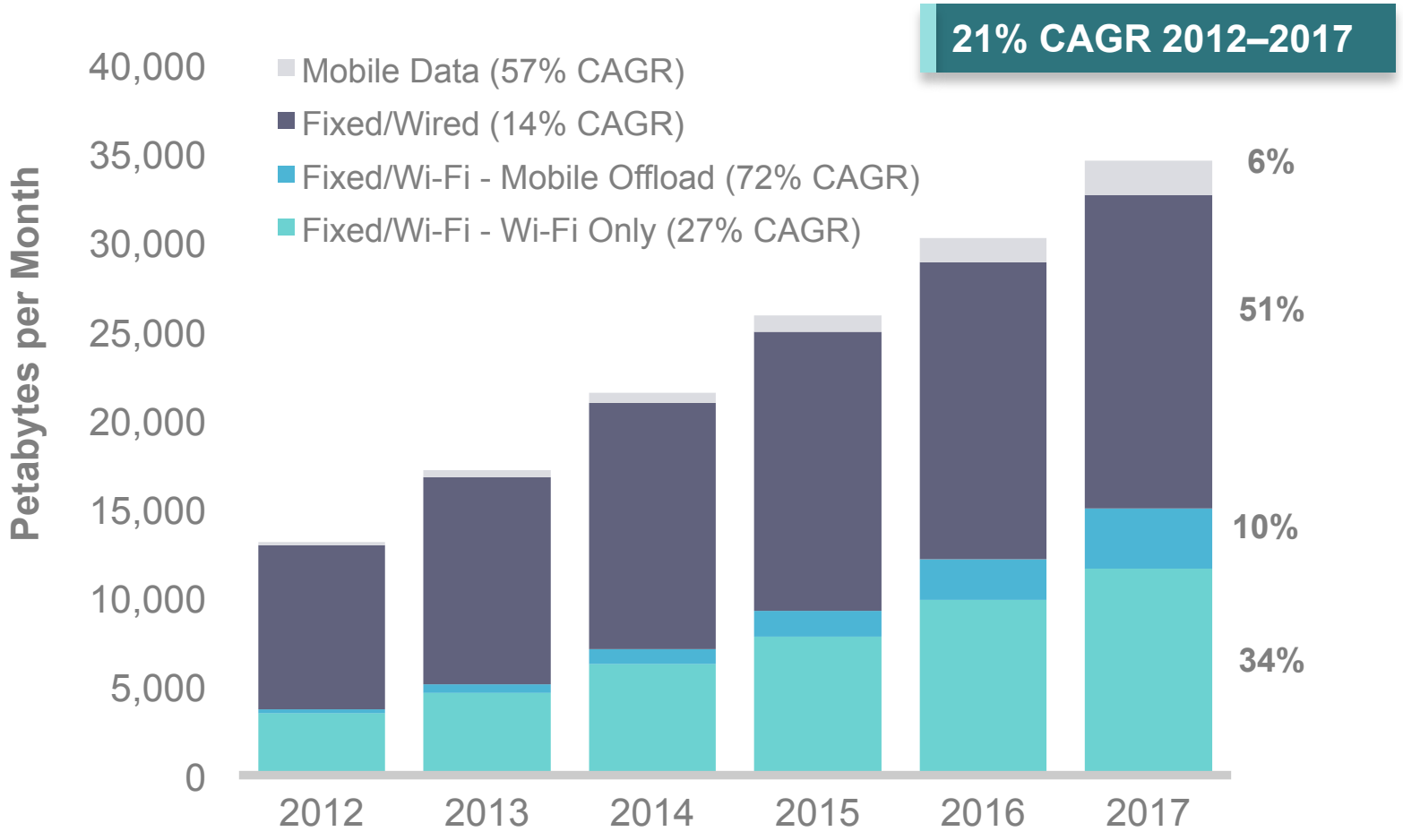


*Offload pertains to traffic from dual mode devices (i.e., supports cell & wi-fi; exc. laptops) over wi-fi/small cell networks

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

United States IP Traffic by Local Access Technology

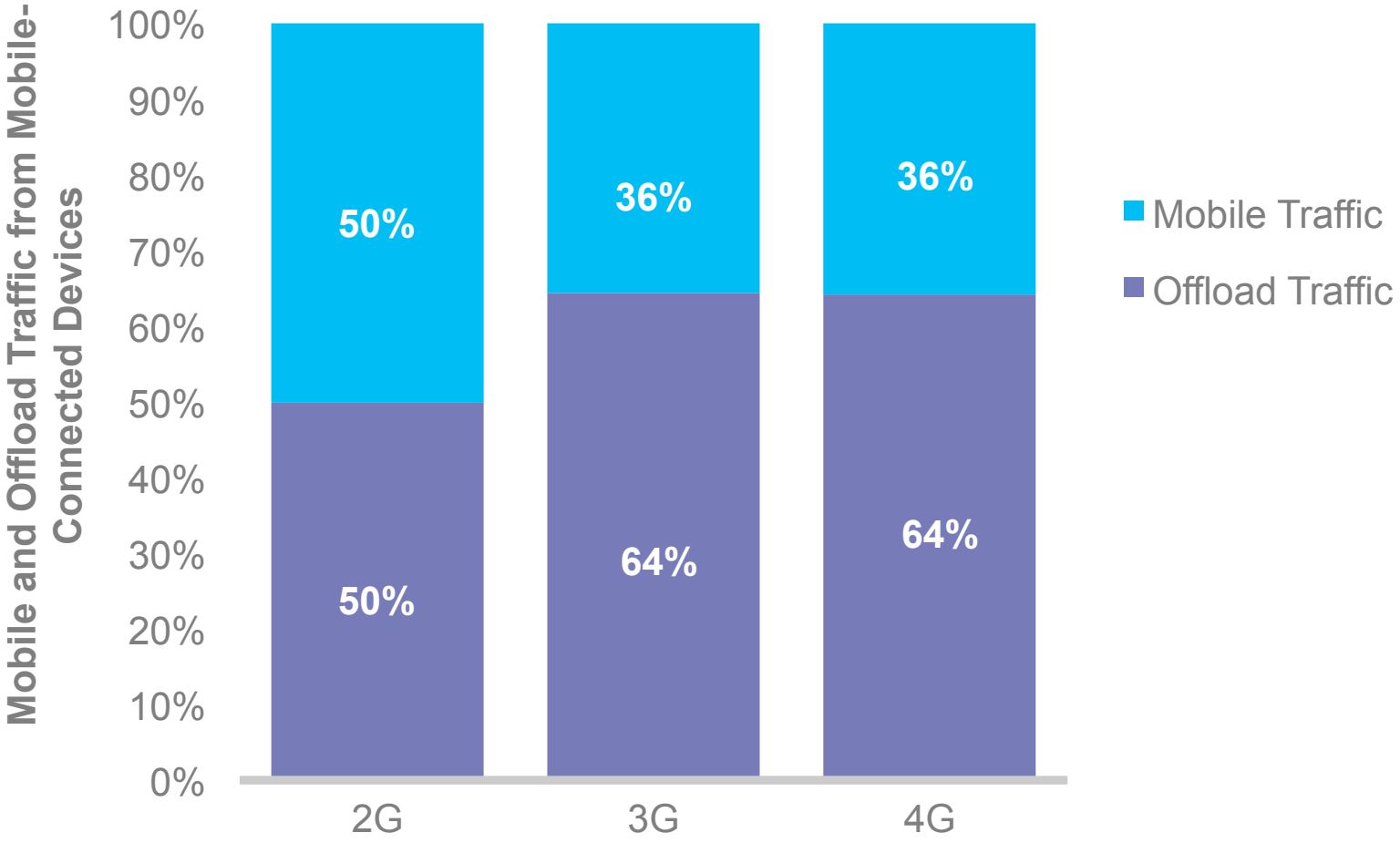
Wi-Fi From Mobile Offload Growing Fastest



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

US Mobile Data Traffic and Offload Traffic, 2018

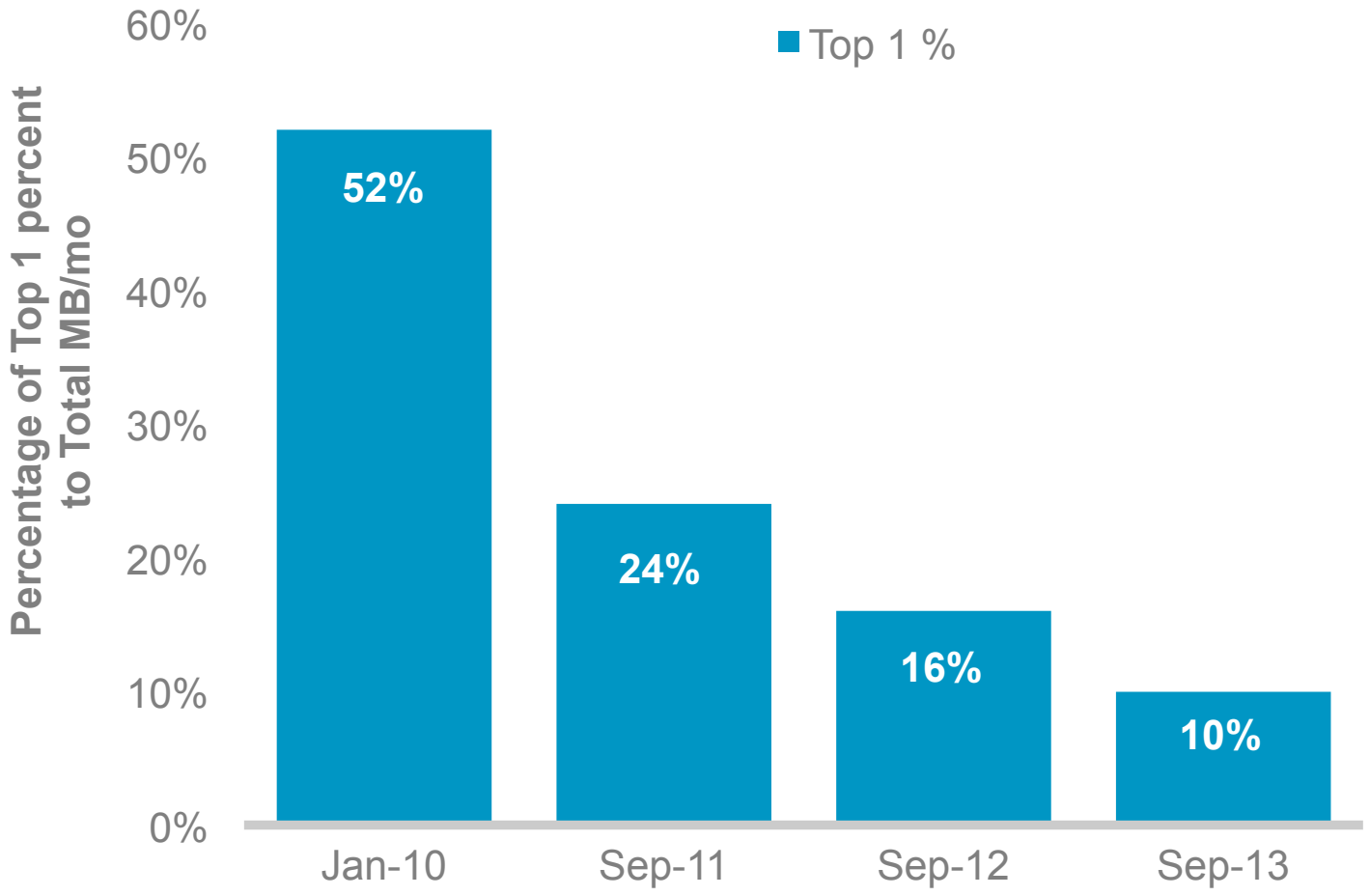
4G Devices Offloads As Much Traffic As 3G and More Than 2G



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Top Mobile User Profiles: 2010–2013

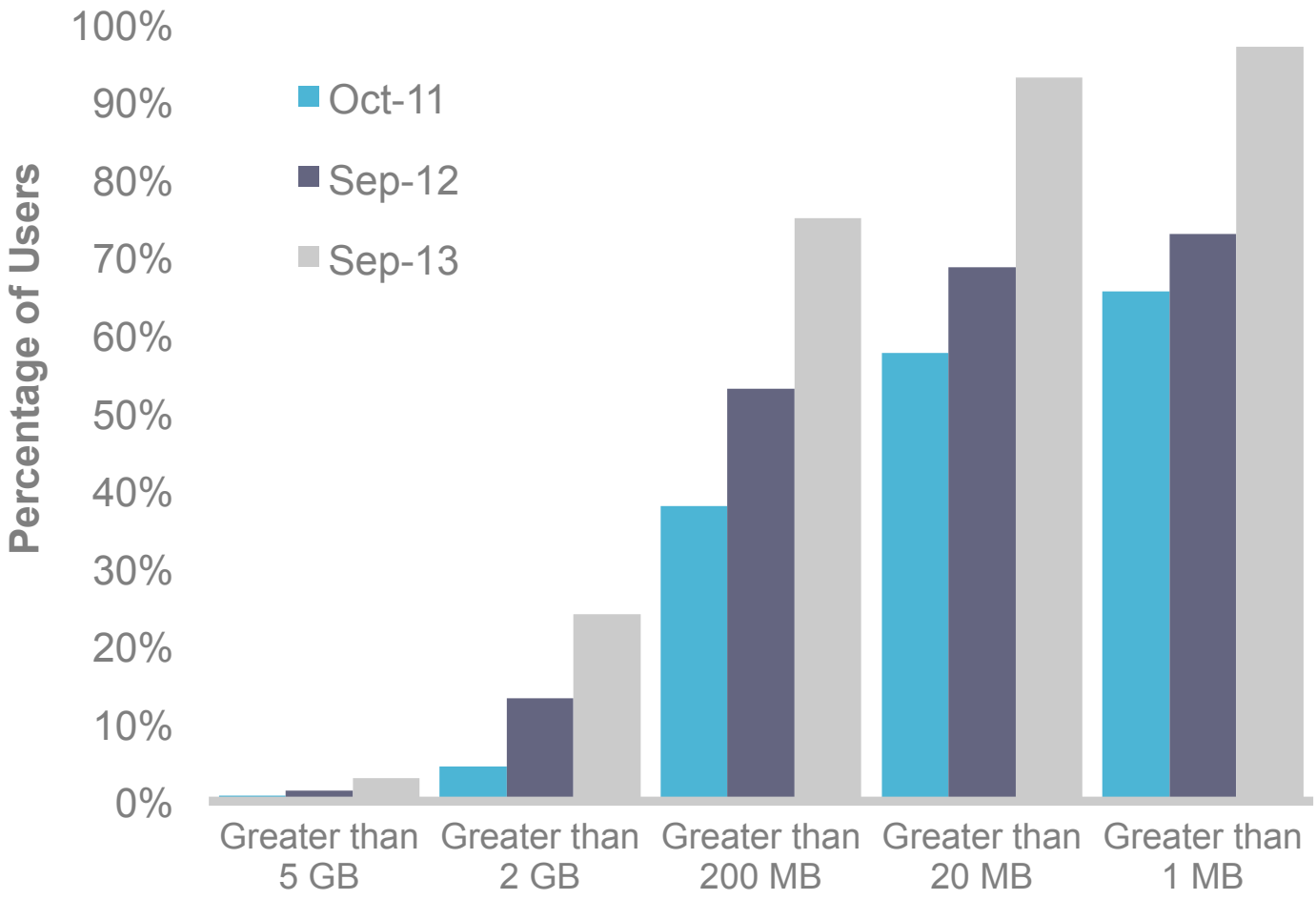
Top 1% Generated10% in Sept 2013—early adopters becoming new normal



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

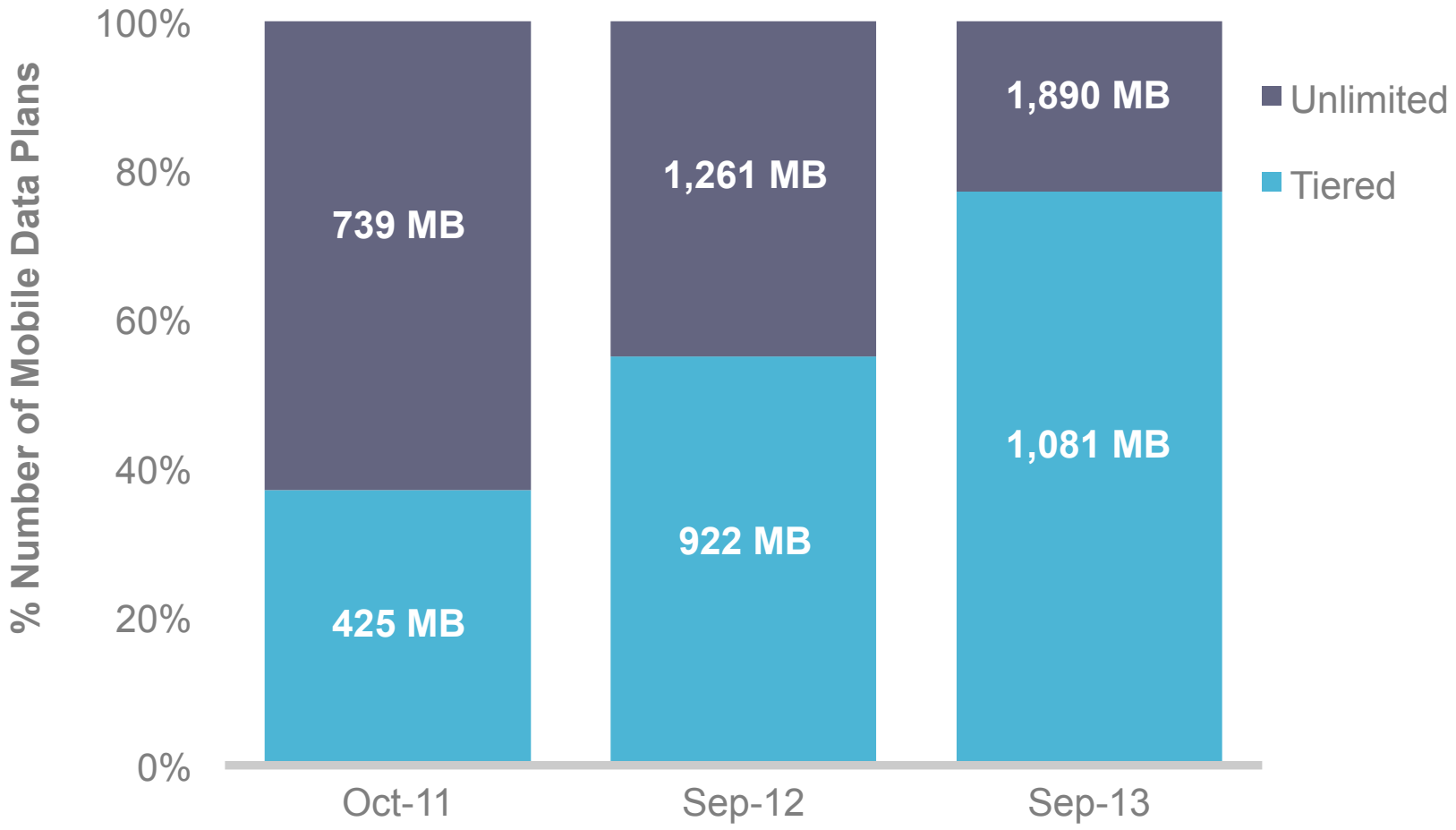
3 Percent of Users Consume 5 GB per Month

24 Percent Consume over 2 GB per Month



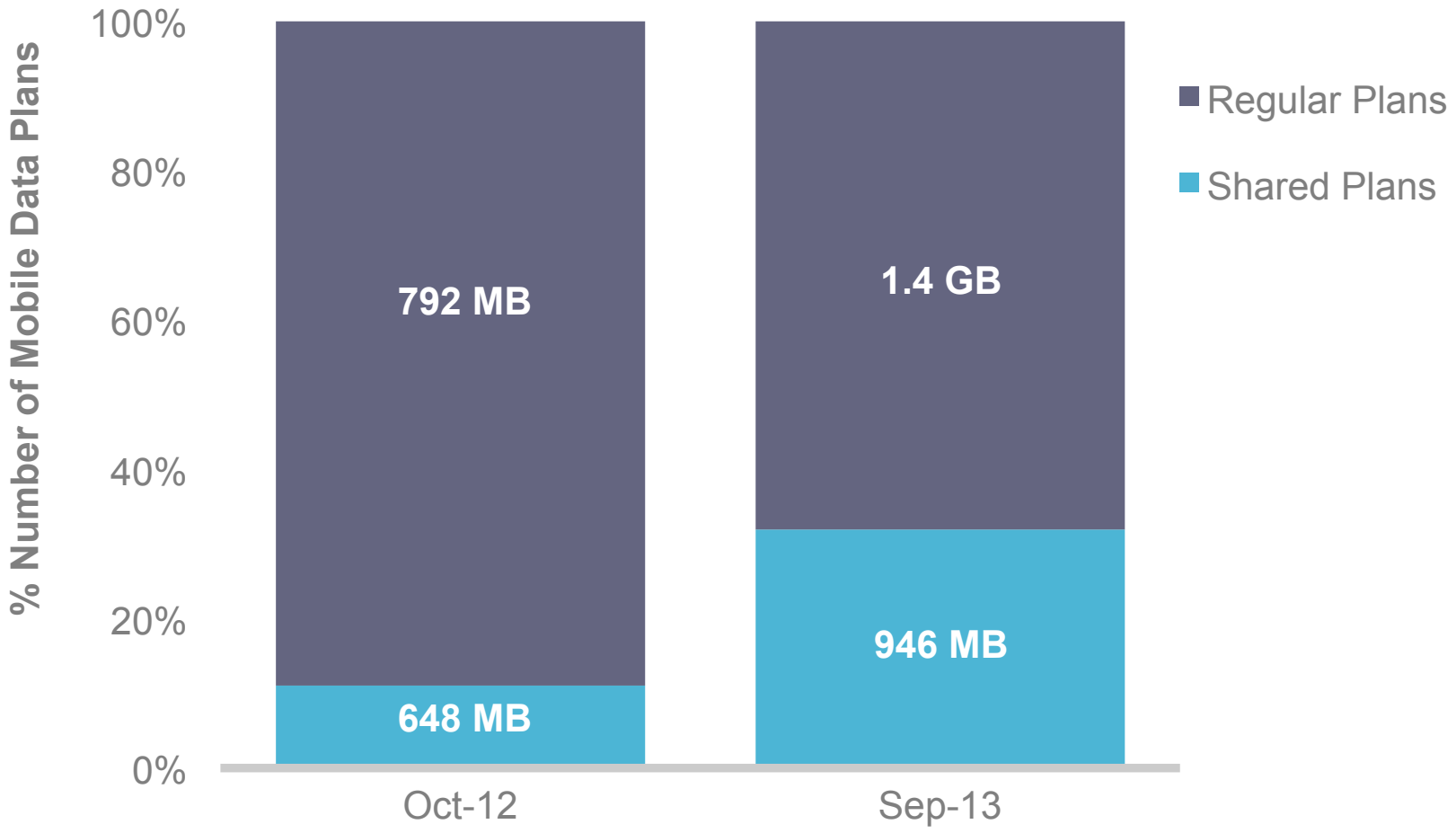
Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Tiered Plans Outnumber Unlimited Plans;
Unlimited Plans Continue to Lead in Data Consumption



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

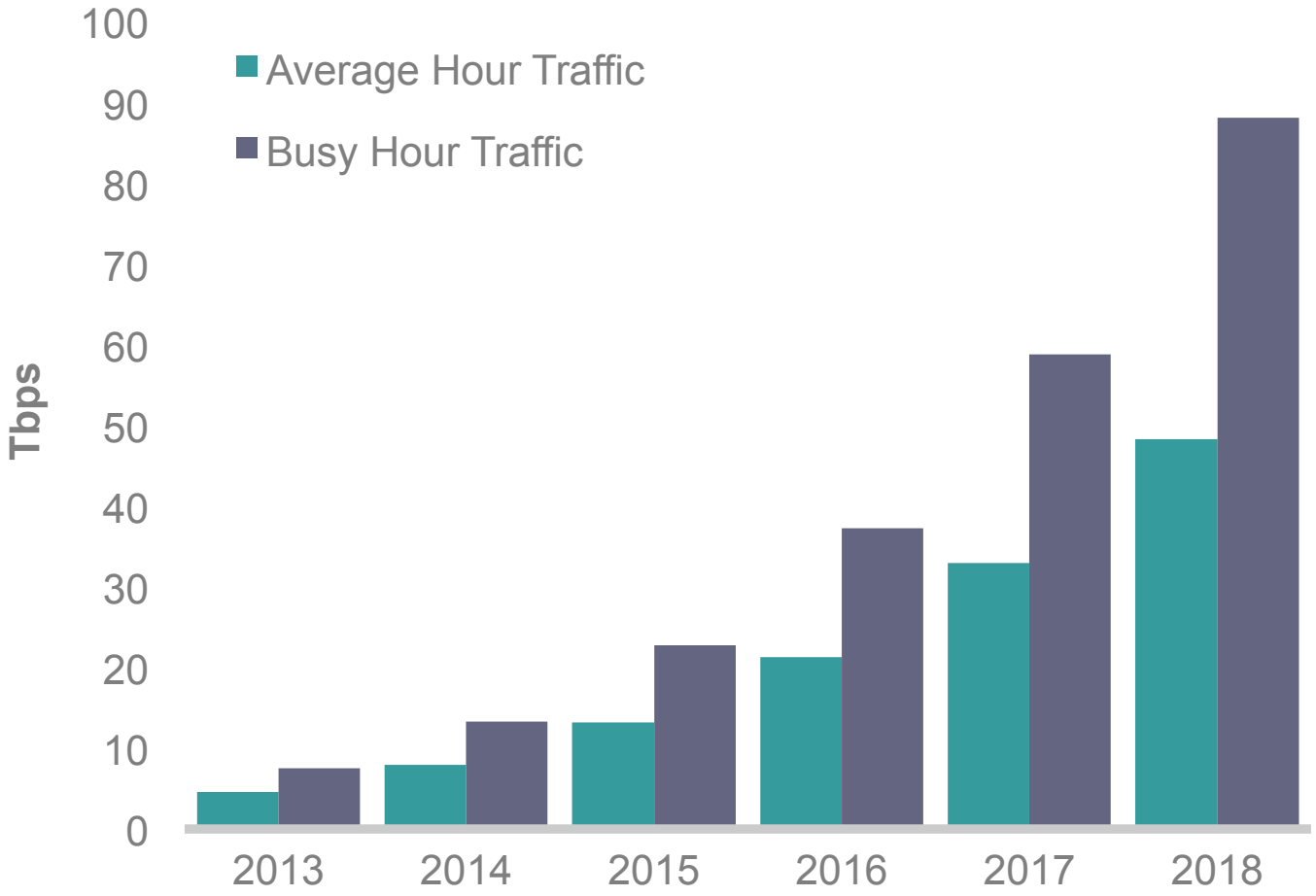
Number of Shared Plans Increase



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Busy Hour Mobile Data Traffic

Busy Hour Is 66% Higher Than Average Hour in 2013, 83% in 2018



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2013–2018

Cisco VNI Mobile Forecast; 2013–2018

Get more info—see Tools and Resources

www.cisco.com/go/vni
traffic-inquiries@cisco.com

Thank you.