

# Networks in the Time of Coronavirus

Anahí Rebatta – TeleGeography  
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MAP OF THE WORLD  
Showing In-Service and Planned  
SUBMARINE CABLES  
and the CITIES where they LAND shore.  
WITH CABLES, AND ANNOTATIONS, TO 2000.

Legend  
In-Service submarine cables  
Planned submarine cables  
0-4  
5-9  
10-19  
20-29  
30-39

# Today's agenda

Impact of COVID-19 on:

- Submarine cable industry
- Network operations
- International connectivity
- Wholesale pricing

# The year of 2020

Telecom

## COVID-19's impact will evolve the telecommunications industry

### Netflix Reduces Traffic, Where Needed

Netflix has tested and deployed a way to reduce traffic on networks by 25%, starting with Italy and Spain.

Netflix | March 21, 2020

International voice traffic spikes 20% during pandemic

02 JUNE 2020

## COVID-19 pandemic highlights submarine cables as critical infrastructure

### COVID-19 Hasn't Infected Operators' Capex Plans

The global pandemic has upended almost all aspects of daily life – except when it comes to network operators' capital expenditures. That, according to a wide range of network equipment vendors focusing on a variety of markets and technologies, has remained relatively unaffected.

Light Reading | August 19, 2020

Q Search

Bloomberg Businessweek

■ April 13, 2020, 6:00 AM EDT

## It's Time to Get Smart About Dumb Pipes

● The coronavirus revealed our reliance on the telecommunications industry. What's next is making our connectivity more resilient for the next big shock.



# COVID-19's initial impact

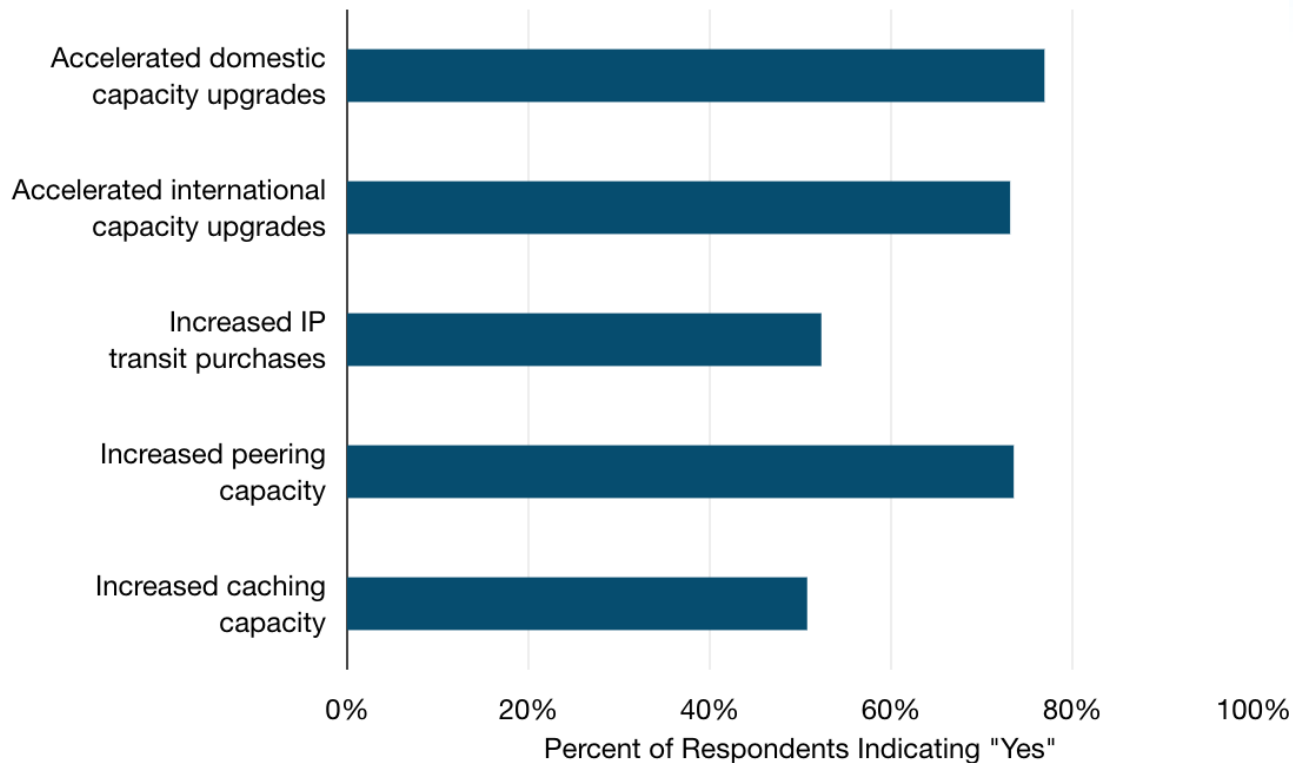
The outbreak of the pandemic led to a surge in network traffic. *What did operators do?*

- **Managed traffic** – Amazon, Apple, Google, Facebook, and many others reduced the bit rate of streaming video applications in some regions to help ease network congestion.
- **Upgraded capacity** – Many networks operators accelerated plans for capacity upgrades to stay ahead of demand.
- **Network maintenance and repairs** – Behind the scenes, teams of technicians kept (*and are still keeping*) global networks running whether inside data centers, in the field, or onboard cable repair ships.

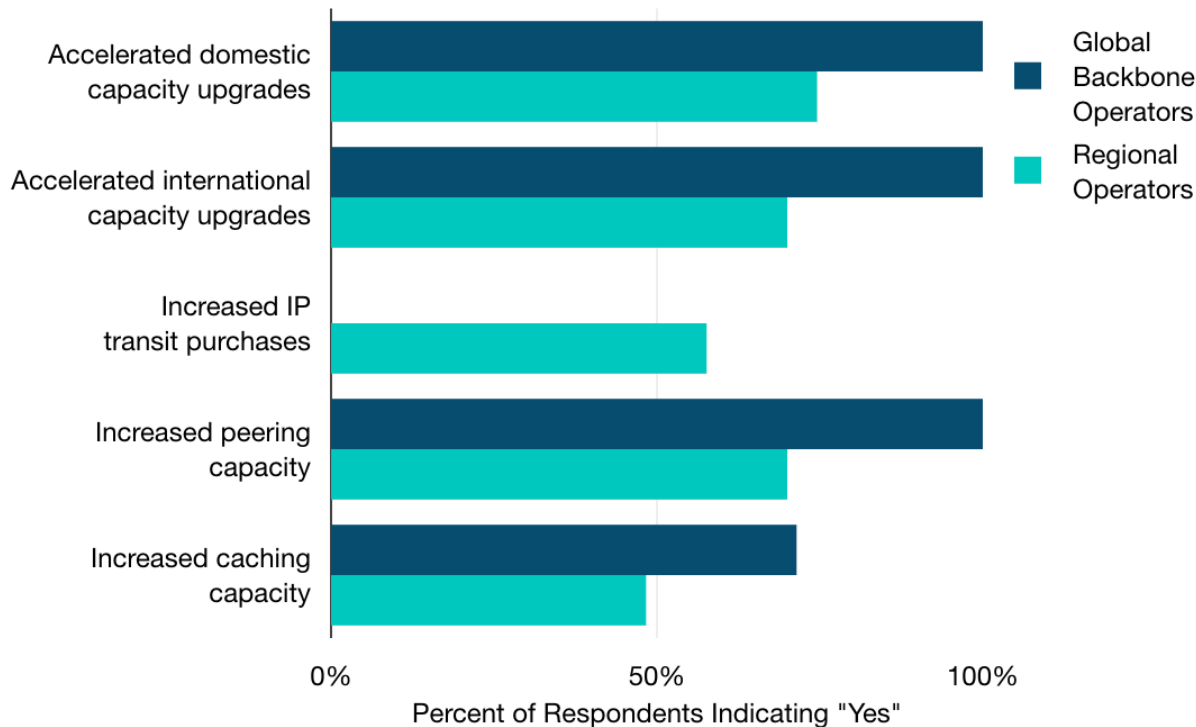
# The pandemic and the subsea cable market

- **Manufacturing** – The pandemic has led to some slowdowns in the subsea cable supply chain. For example, a supplier closed two its factories in early March, but then re-opened in May. The closure did not seem to have had a major impact on the deployment of new systems.
- **Survey and Deployment** – It has become increasingly difficult to get crews on and off ships due to international borders closing. This can negatively impact surveying and cable laying.
- **Maintenance** – Repairs themselves are very challenging. Permitting needed to access ports and conduct repairs in territorial waters has always been a choke point in the industry. As tighter restrictions come into place, they can slow the process even further.

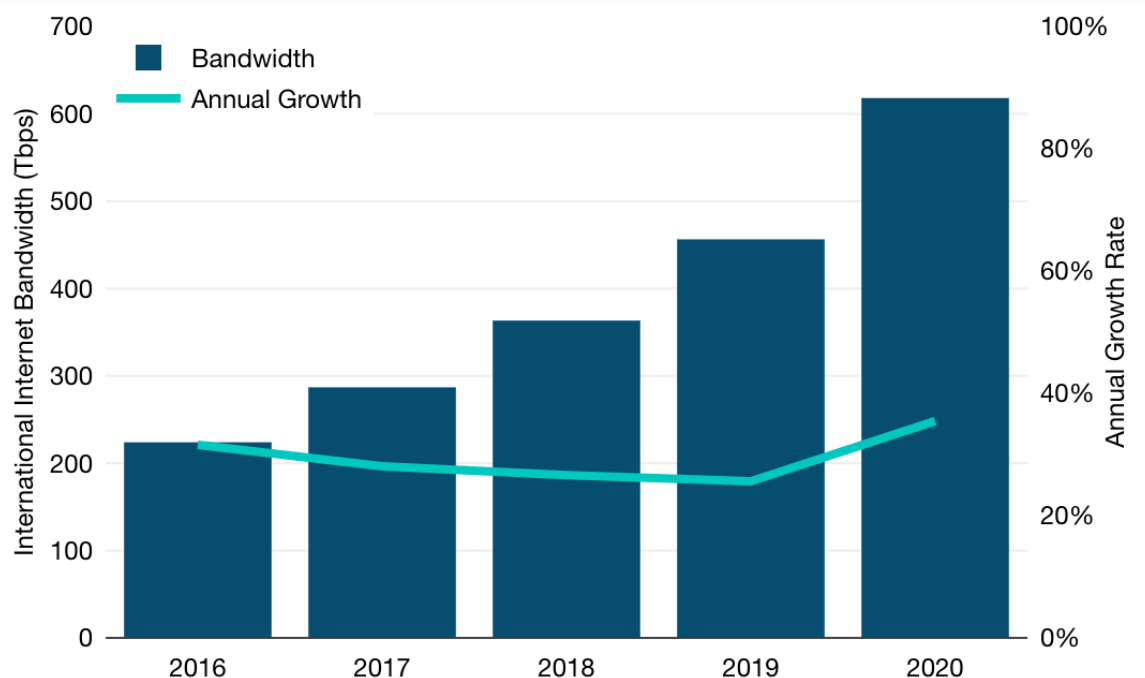
# Measures taken by operators around the world due to COVID-19



# Difference in actions taken by global and regional operators due to COVID-19



# International internet bandwidth growth



Global internet bandwidth grew by 35% in 2020. This growth was driven largely by the response to the COVID-19 pandemic, and it was the largest one year increase since 2013.



# COVID-19's impact on capacity

## Bandwidth Growth, 2019-2020

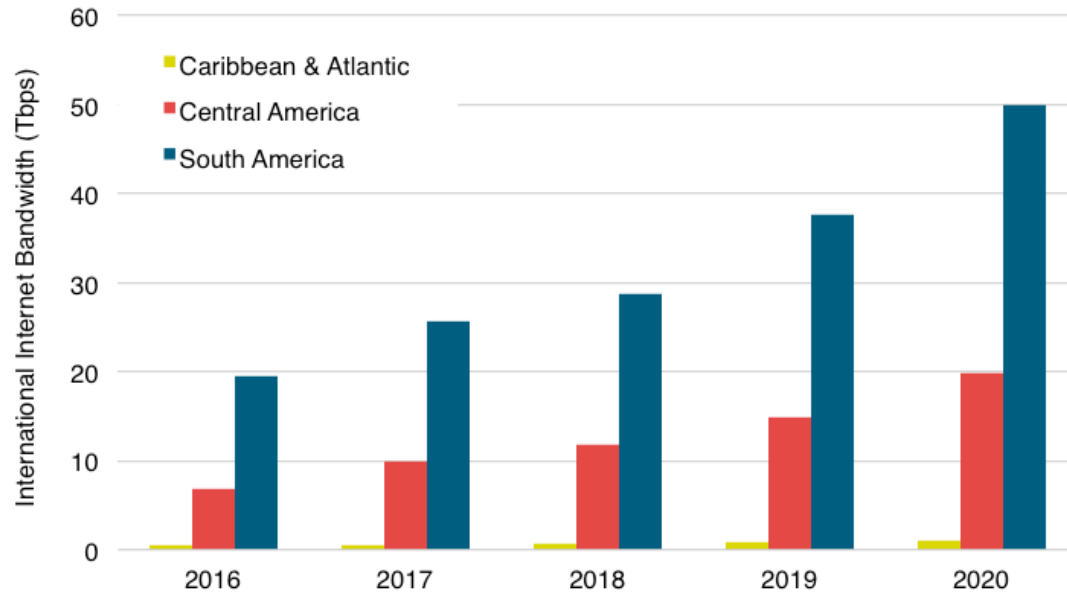
Region	Forecasted Growth	Observed Growth	<i>Implied COVID-19 Acceleration Effect</i>
Africa	42%	46%	3%
Asia	36%	41%	4%
Europe	23%	34%	9%
Latin America	26%	32%	5%
Middle East	34%	39%	4%
Oceania	24%	39%	12%
U.S. & Canada	23%	30%	5%
Global	26%	35%	8%

# COVID-19's impact on traffic

## Bandwidth and Traffic Growth, 2019-2020

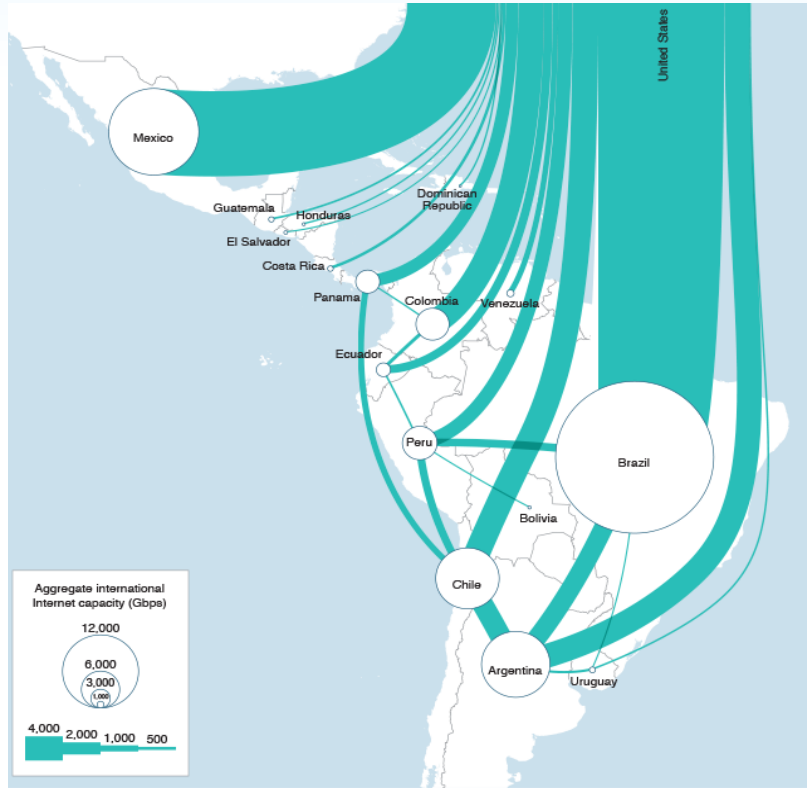
Region	Bandwidth	Peak Traffic
Africa	46%	49%
Asia	41%	51%
Europe	34%	44%
Latin America	32%	51%
Middle East	39%	42%
Oceania	39%	50%
U.S. & Canada	30%	44%
Global	35%	47%

# Latin America international internet bandwidth



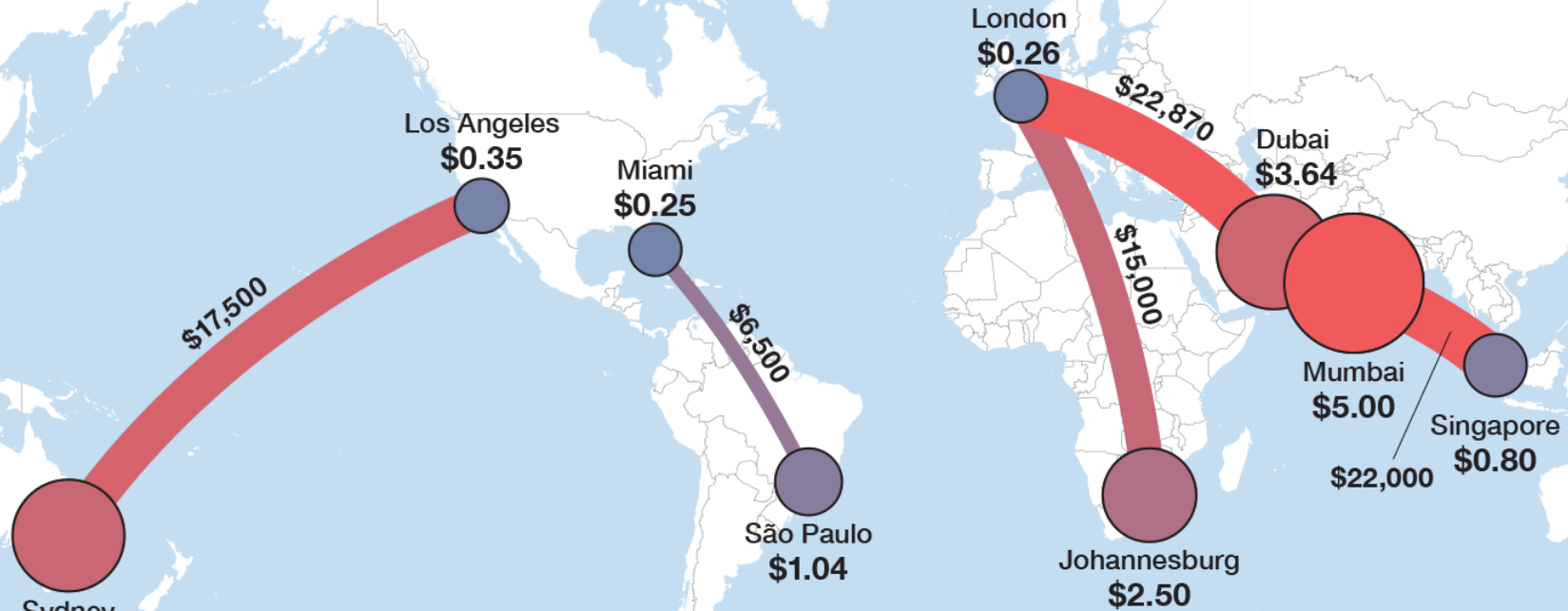
- International internet bandwidth connected to Latin America grew 32% in 2020 to reach 69 Tbps.
- South America accounted for 72% of the region's total capacity.
- Central America grew the fastest in 2020, at a rate of 33%.

# Top Latin American IP routes



- In 2020, the top 5 international capacity routes in Latin America were all connected to the U.S.
- The Brazil-U.S. route is the highest-capacity route in the region, and the second highest-capacity route in the world.

# Transport and IPT pricing around the world, Q2 2020



Weighted median 10 Gbps wavelength  
Weighted median IPT per Mbps, 10 GigE port

Questions? Thank you!

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