

THE CONNECTED CANDIDATE

ROADMAP TO A CONNECTED AMERICA

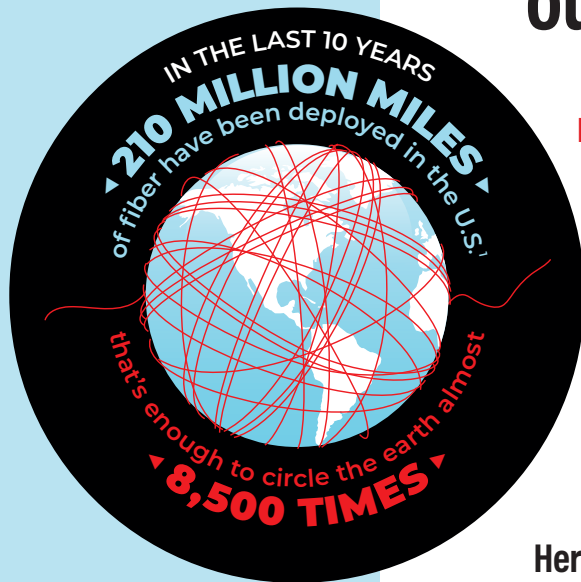


BROADBAND

★ 2020 ★

USTELECOM
THE BROADBAND ASSOCIATION

What Policies Will **Connect** our Country?



Broadband touches every part of our lives and every issue central to the future of our country.

From jobs, to our economic recovery, health care, education, national security, and promoting inclusion in society, every great idea candidates have for the future is connected to the power of broadband. This November, voters want leaders who will work to ensure broadband reaches all communities and lifts our nation's economy, competitiveness, security and equity.

Here is a roadmap to a connected future.

WHERE WE STAND TODAY

\$1.7 TRILLION

Private sector investment in U.S. broadband networks over the last 20 years. That's more than the U.S. government spent to build the interstate highway system and put a man on the moon combined.²



94% OF AMERICANS

(and counting) have access to high-speed internet ($\geq 25/3$ Mbps).³

BROADBAND WORKS:

Our digital economy supports

10.5M AMERICAN JOBS.⁴



¹ Source: TIA 2016-2019 Market Review and Forecast, USTelecom Analysis

² USTelecom State of Industry 2020 Update, April 2020, available here <https://www.ustelecom.org/research/ustelecom-industry-metrics-and-trends-2020-update/>

³ U.S. Broadband Availability Mid-Year 2018, USTelecom, November 14, 2019; available at: <https://www.ustelecom.org/research/u-s-broadband-availability-mid-year-2018/>

⁴ USTelecom. This includes approximately 6.5 million in Broadband/ICT industries and 4 million in ICT occupations outside of Broadband/ICT (including, for example, software programmers or network administrators working for finance or health care companies).

Roadmap to a **CONNECTED AMERICA**

A more perfect union is one in which everyone and everything is connected to the power and potential of broadband. To get there, connected candidates should commit to timely action that ensures all Americans have access to fast, reliable and continually advancing broadband service—and the array of opportunities and innovation this modern infrastructure will continue to bring into our lives. In 2020 and beyond, candidates will be judged on their commitment to:

- ★ Connect All Americans
- ★ Wire All Infrastructure
- ★ Power Job Growth and Economic Opportunity
- ★ Train the Workforce of (Today and) Tomorrow
- ★ Deliver Online Privacy for All... Everywhere
- ★ Legislate Modern Net Neutrality Rules
- ★ Wire Our Wireless Future
- ★ Defend the Nation from Cyber Threats
- ★ Hang Up on Illegal Robocalls for Good

30%

of K-12 students lack the home connectivity and/or devices to sustain effective distance learning.¹

Connect All Americans

All Americans should be connected to the power and potential of broadband. Broadband providers, working closely with government leaders, have made extraordinary progress to connect the final frontier. Now more than ever, it's time to finish the job. Connected candidates understand the importance of ensuring all communities are connected to a strong, resilient and continually improving U.S. fiber backbone, and investing in the public-private partnerships needed to make this a reality.



MORE THAN 18 MILLION AMERICANS DO NOT HAVE ACCESS TO HIGH-SPEED BROADBAND²

THE CHALLENGE

Government lacks the ability to identify all unserved homes and businesses.

UP TO 38% of unserved homes and businesses overlooked by **government data**.³

1 IN 4 unserved homes **misplaced on current maps** by a football field's distance or more.⁴

THE SOLUTION

MODERN MAPS ASAP

WHAT'S NEXT



Congress must immediately fund the FCC's work to 'map the gap,' then commit the substantial resources necessary to close the digital divide once and for all.

¹ Closing the K-12 Digital Divide in the Age of Distance Learning, Common Sense and BCG, June 29, 2020; available at: https://8ce82b94a8c4fdc3ea6d-b1d233e3bc3cb10858bea65ff05e18f2.ssl.cf2.rackcdn.com/9c/0b/62d34d674c979876e9b13be353df/common-sense-media-report-final-6-26-738am_WEB.pdf

² Broadband Mapping Initiative: Proof of Concept, CostQuest Associates, August 2019; available at: <https://ecfsapi.fcc.gov/file/1082010869365/UST%20BSLF%20PoC%20Findings%20-%20August%202019.pdf>

³ Broadband Mapping Initiative: Proof of Concept, CostQuest Associates, August 2019; available at: <https://ecfsapi.fcc.gov/file/1082010869365/UST%20BSLF%20PoC%20Findings%20-%20August%202019.pdf>

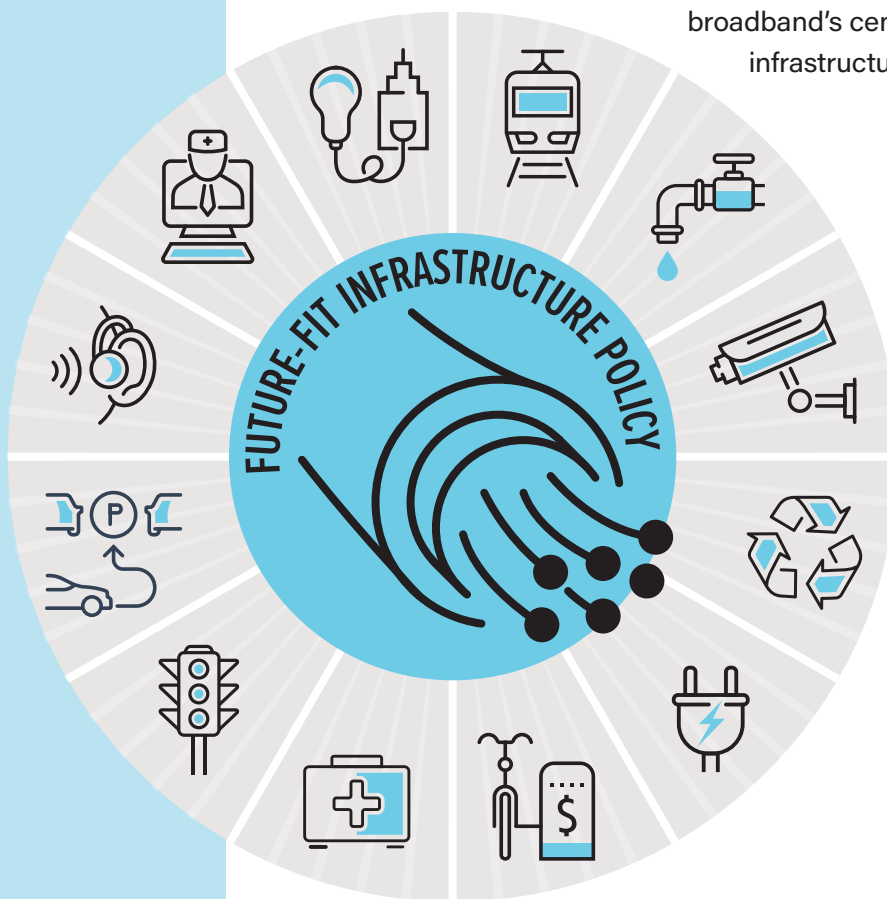
⁴ Broadband Mapping Initiative: Proof of Concept, CostQuest Associates, August 2019; available at: <https://ecfsapi.fcc.gov/file/1082010869365/UST%20BSLF%20PoC%20Findings%20-%20August%202019.pdf>

Wire All Infrastructure

Any national infrastructure plan must prioritize broadband.

The systems that keep life moving in modern America are invariably linked to a dynamic and growing broadband infrastructure. From ports and the power grid to bridges and highways—our infrastructure is smarter and lasts longer when it connects to the power of broadband.

Connected candidates champion policies that recognize broadband's central role in ANY national infrastructure plan.



3 WEEKS

Saved time broadband-enabled 'smart cities' give back to their residents each year.¹

1 IN 3 AMERICANS

have turned to telemedicine amid the COVID-19 pandemic.²

WHAT'S NEXT

Support major new commitments to invest in America's infrastructure, broadband networks and connectivity.

Artificial
intelligence
may create
**58 MILLION
NEW JOBS**
by 2022.⁴

Power Job Creation and Economic Growth

Without question, our nation's innovation economy is the envy of the world. But we can never take that status for granted. Connected candidates understand a modern, constructive policy framework is essential to sparking the powerful cycles of innovation, job growth and economic expansion that have propelled our nation forward. Access to strong broadband networks is essential to every American's ability to take advantage of these opportunities. Connected candidates have specific ideas to advance American innovation—and make sure it works for everyone.

\$1.4 TRILLION

annual contribution to GDP from
digital economy in 2018.¹



56%

of broadband industry jobs
pay above U.S. average.³

Job growth in tech 2X
all other industries
by 2024.²

Data Analytics
CYBERSECURITY
Health IT
CODING
ADVANCED
MANUFACTURING
AI
Network Engineer

WHAT'S NEXT

Promote policies that encourage investment and innovation, and allow companies to compete on a level playing field while investing in R&D and job training

¹ USTelecom analysis of Digital Economy and GDP by Industry data from Department of Commerce, Bureau of Economic Analysis.

² A Look Ahead at Future Tech & Engineering Jobs, Modis, September 23, 2019; available at: <https://www.modis.com/en-us/resources/employers/top-jobs-2020/>

³ Bureau of Labor Statistics, State and County Employment and Wages, 2018 Preliminary Data, "Telecom" (NAICS 517) Average Annual Pay/Total U.S. Annual Pay = \$89,221/\$57,265 = 1.56; NAICS 517 includes wireline, wireless, cable, satellite, and telecom resellers and aggregators; it excludes programming owned by cable or telecom network operators.

⁴ Source: Forbes, Artificial Intelligence To Create 58 Million New Jobs By 2022, September 18, 2018; available at: <https://www.forbes.com/sites/amitchowdhry/2018/09/18/artificial-intelligence-to-create-58-million-new-jobs-by-2022-says-report/#1810adb04d4b>

87%**of IT executives**Say it's challenging to find skilled tech professionals.¹

Train the Workforce of (Today and) Tomorrow

Digital inclusion goes beyond access to broadband.

It also must include access to the economic opportunities high-speed connectivity makes possible. The future of work is shifting on a massive scale around the globe. Connected candidates champion ambitious national initiatives to train, retrain and upskill a diverse and inclusive workforce to ensure broad participation in our information economy.

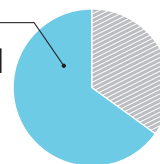
UP TO ONE-THIRD OF THE U.S. WORKFORCE

may need to switch occupational categories and learn new skills by 2030.²



75% of U.S. workers say they are ready to learn new skills or completely retrain in order to remain employable in the future.³

65% of children entering primary school will end up in jobs that don't yet exist.⁴



45% of schools teach computer science.



9 in 10 parents want their child to study computer science.⁵

WHAT'S NEXT

Ensure our children are tech ready and the proper incentives and policies are in place for companies to train workers to succeed in our innovation economy.

¹ Robert Half Blog, How to Retain Your Team in a Competitive IT Hiring Environment, December 12, 2018; available at: <https://www.roberthalf.com/blog/management-tips/how-to-retain-your-team-in-a-competitive-it-hiring-environment>

² Jobs lost, jobs gained: What the future of work will mean for jobs, skills, and wages, McKinsey, November 2017; available at: <https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages>

³ PWC's Workforce of the Future: The Competing Forces Shaping 2030, 2018, available at: <https://www.pwc.com/gx/en/services/people-organisation/publications/workforce-of-the-future.html>

⁴ The K-12 Computer Science Access Report: charting a path to our vision. <https://medium.com/@codeorg/the-k-12-computer-science-access-report-charting-a-path-to-our-vision-28c6e32d86a2>

⁵ Code.org, CSTA, ECEP, 2019 State of Computer Science Education Equity and Diversity, https://advocacy.code.org/2019_state_of_cs.pdf

Deliver **Online Privacy** for All... Everywhere

82%

OF AMERICANS WANT
A STRONG NATIONAL
PRIVACY LAW

that consumers can
understand and
punishes bad actors
who fail to protect
personal data.¹

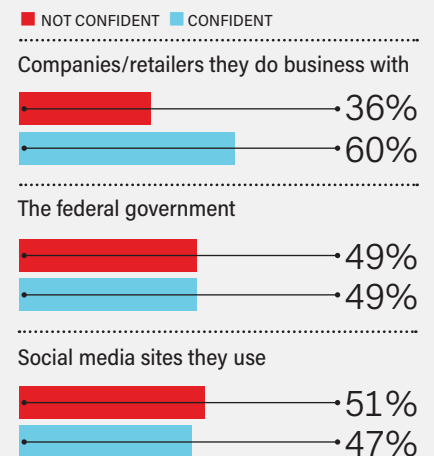
A national reckoning on privacy and consumer protection has arrived.

Connected candidates lead by supporting and prioritizing passage of a single federal privacy framework that respects and protects consumers online and applies to all (yes, all!) companies online. The Federal Trade Commission has shown itself to be both tough and determined in overseeing privacy enforcement. Connected candidates commit to ensuring this 'cop on the beat' continues to have the tools and resources necessary to do its job.

In a survey asking consumers what non-economic factors U.S. companies should prioritize, **privacy took the top spot, besting even healthcare (65% to 61%).**²

Time to restore digital trust

Roughly half of Americans do not trust the federal government or social media sites to protect their data.³



WHAT'S NEXT

Enact national legislation that provides consistent consumer protections across the internet and ensure the FTC has the resources to enforce it.

¹ 82% of Americans want a strong national privacy law that consumers can understand and that punishes bad actors who fail to protect personal data. Morning Consult and Verizon, Leading on Consumer Data Protection; available at: <https://verizon.morningconsultintelligence.com/>

² In a survey asking consumers what non-economic factors U.S. companies should prioritize, privacy took the top spot, besting even healthcare (65% to 61%). Societal Return on Investment (SROI) Index, Harris Poll and Finn Partners, November 9, 2018; available at <https://www.finnpartners.com/societalroi>

³ Roughly half of Americans do not trust the federal government or social media sites to protect their data. [table] PEW Research Group, Americans' complicated feelings about social media in an era of privacy concerns, March 27, 2018; available at: <https://www.pewresearch.org/fact-tank/2018/03/27/americans-complicated-feelings-about-social-media-in-an-era-of-privacy-concerns/>



Legislate Modern Net Neutrality Rules

Connected candidates support federal legislation that puts an end to the constant regulatory back and forth about net neutrality and rejects calls to look backward to the 1930s for solutions. Instead, they will create, champion and enact modern, enforceable national legislation to once and for all put consumers in control of their online experience. Everyone supports net neutrality. But not every company online is subject to the same rules. Broadband companies have committed to honoring net neutrality. It's time the most powerful social media, advertising, retail and search companies are required by law to do the same.

WHAT CONSUMERS WANT

WHAT BROADBAND COMPANIES DELIVER

WHAT CONSUMERS DESERVE FROM ALL COMPANIES ONLINE

NO BLOCKING

NO THROTTLING

NO UNFAIR PRIORITIZATION

MYTH: Replacing rotary phone regulations from the 1930s with modern net neutrality rules would "grind the internet to a halt."

**THE WASHINGTON POST
FACT CHECKER'S VERDICT:**

3 out of 4 Pinocchios¹



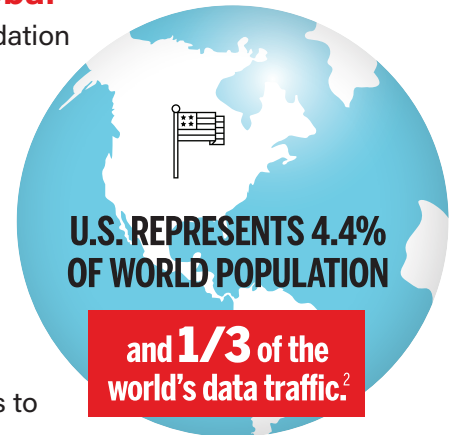
WHAT'S NEXT

Pass national legislation applicable to all internet companies prohibiting throttling, blocking and anticompetitive prioritization.

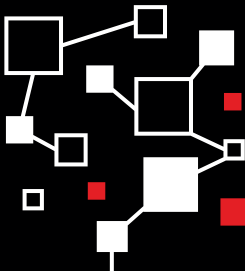
Wire Our Wireless Future

America's leadership in the fast-emerging 5G world is essential to our global competitiveness. But the true foundation

of "wireless" connectivity is not widely understood. Simply put, state-of-the-art wireless cannot exist at scale unless it is supported by strong, ubiquitous wired broadband infrastructure. We need support for a fiber-rich diet that fuels the next generation of American broadband. Connected candidates understand the importance of wired broadband networks to U.S. 5G leadership and commit to modern, pro-investment policies that ensure all communities—urban, rural and everywhere in between—can connect to the full benefits of the next "wireless" revolution.



By 2022,
U.S. broadband
networks will carry
the equivalent of
**every movie
ever made every
3 MINUTES.**¹



Nearly all "wireless" traffic travels mostly over a
backbone of fixed networks.³



WHAT'S NEXT

Encourage capital-intensive investments to expand and upgrade the nation's fiber-based broadband backbone.

¹ Cisco Visual Network Index; available at: https://www.cisco.com/c/m/en_us/solutions/service-provider/vni-forecast-highlights.html#

² US and World Population Clock, accessed on 9/11/2019; available at: <https://www.census.gov/popclock/>. Cisco Visual Network Index; available at: https://www.cisco.com/c/m/en_us/solutions/service-provider/vni-forecast-highlights.html#

³ Jonathan Spalter, 5G—It's All About the Wires, USTelecom Blog, September 28, 2018.

Defend the Nation from Cyber Threats



314,000

UNFILLED U.S.
CYBERSECURITY
JOBS¹

There is perhaps no greater threat to our economic and national security than persistent agile cyber threats by capable adversaries. Staying one step ahead of cyberattacks requires accountability, responsibility and resources from broadband providers, government and all sectors of our economy. A connected candidate encourages public-private partnerships to protect networks and insists that all parts of America's critical industries step up and become part of the solution.

**U.S. CEOs identified
cybersecurity as
THE #1 threat to their
bottom lines in 2020.**²

2020 Pricewaterhouse Coopers Global CEO Survey

CYBER THREATS	53%
POLITICAL UNCERTAINTY	41%
TRADE CONFLICTS	41%

5 MINUTES

Average time between a device
being connected to the internet and
probed for a cyber attack.³



>50% of all global data breaches
will occur in the U.S. by 2023.⁴

WHAT'S NEXT

Ensure our federal, state and local governments are resourced to combat cyber threats while encouraging public-private partnerships.

¹ CyberSeek, "Cybersecurity Supply/Demand Heat Map," <https://www.cyberseek.org/heatmap.html>

² CEO Survey, PWC, January 2020. Available at: <https://www.pwc.com/us/en/library/ceo-agenda/ceo-survey.html>

³ IOT Devices are attacked within five minutes of being connected, IT Web, June 6, 2019; available at: <https://www.itweb.co.za/content/nWJadMb89N4vbJ01>

⁴ 10 cyber security facts and statistics for 2018, Norton, available at: <https://us.norton.com/internetsecurity-emerging-threats-10-facts-about-todays-cybersecurity-landscape-that-you-should-know.html>

Hang Up on Illegal Robocalls FOR GOOD

90%
of U.S. adults

said they want the government to do more to reduce the number of fake and misleading robocalls¹

Unwanted calls are the #1 consumer complaint to the FCC and FTC each year. Many go beyond annoyance

to illegal scams—frequently targeting vulnerable senior populations. A connected candidate understands that government must continue to work closely with industry innovators to disconnect bad actors and protect consumers.

Connected candidates forge a united front to step up criminalization of scamming; accelerate public-private coordination and enforcement through programs like USTelecom's Industry Traceback Group; educate consumers; and promote new tools and standards created by technology innovators.

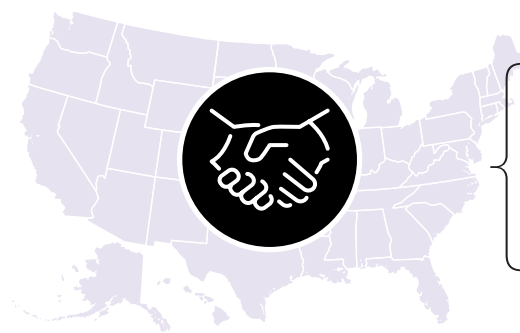
"Con artists have become increasingly sophisticated and devious, and once they connect with you and get you talking it's far too easy to fall prey to their schemes."

Kathy Stokes, director, fraud prevention programs, AARP²

→ In 2019, U.S. consumers received nearly **5 billion robocalls per month.**²

ROBOCALLS

60% of all FCC complaints
\$3B annual cost to consumers.⁴



All 50 State and D.C. Attorneys General

Join Anti-Robocall Pact
with Broadband Partners

WHAT'S NEXT

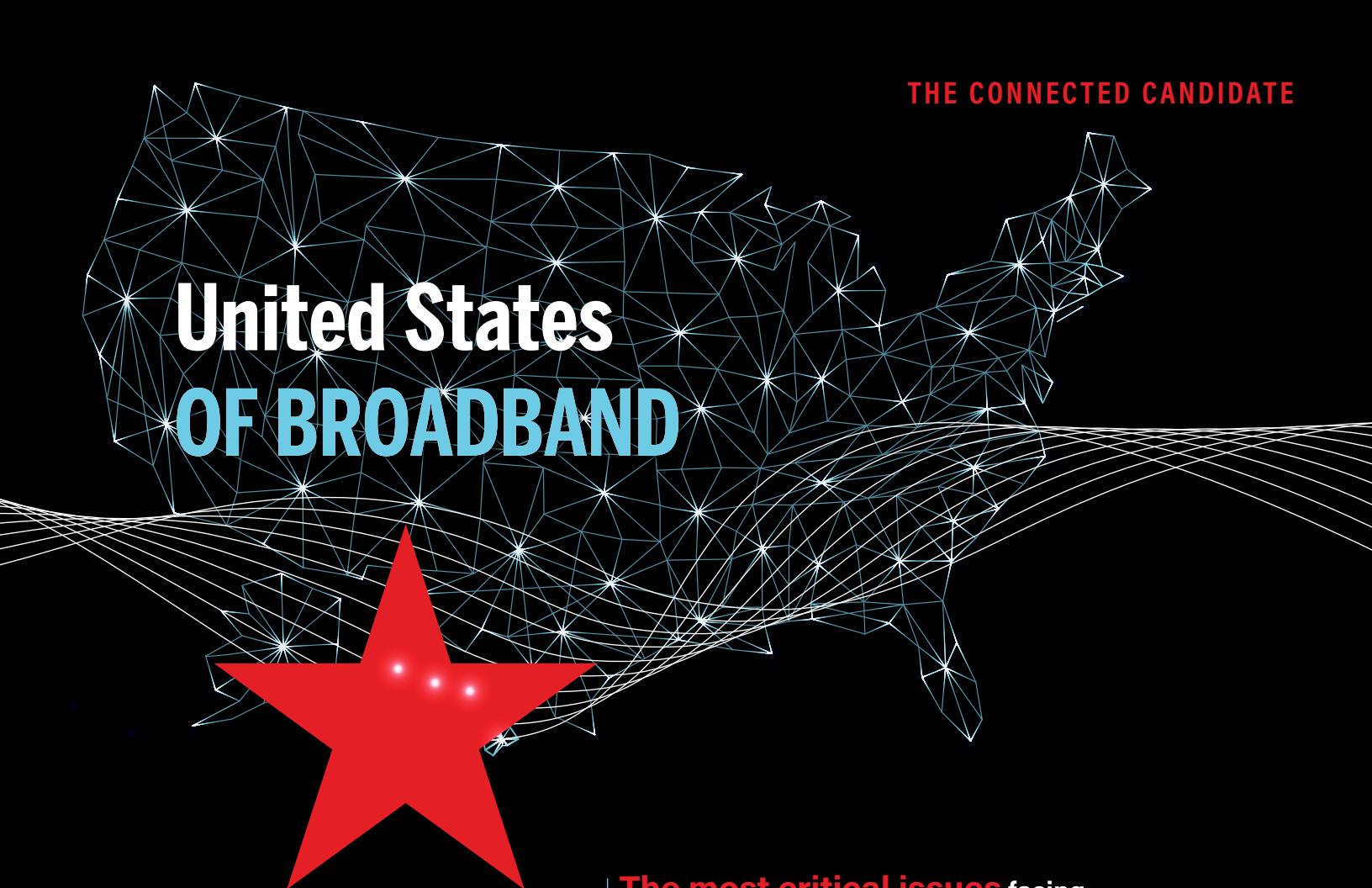
In partnership with industry, significantly increase federal enforcement activities to bring illegal robocallers to justice while encouraging more industry-led solutions.

¹ Consumers at Risk from Robocall Scams, Says AARP Survey, AARP Press Release, May 22, 2019; available at: <https://press.aarp.org/2019-5-22-Robocall-Survey-Results>

² Tal Axelrod, 58.5 billion robocalls made in 2019, up 22 percent, The Hill, January 15, 2020; available at: <https://thehill.com/policy/technology/478388-585-billion-robocalls-made-in-2019-up-22-percent>

³ The FCC's Push to Combat Robocalls & Spoofing; available at: <https://www.fcc.gov/about-fcc/fcc-initiatives/fccs-push-combat-robocalls-spoofing>

⁴ FCC as cited in Bringing the Fight to Illegal Robocallers: All Hands on Deck, Morning Consult, June 11, 2019; available at: <https://morningconsult.com/opinions/bringing-the-fight-to-illegal-robocallers-all-hands-on-deck/>



United States OF BROADBAND

The most critical issues facing America—from public health and education to the economy, national security, and quality of opportunity—all depend on innovative and growing wired broadband networks. As voters consider their options, they should be looking at candidates committed to delivering 21st century connectivity to every community in our nation, no matter where, no matter what. From some of the largest investors in the U.S. economy to family-owned businesses that have served rural communities for generations, the nation's broadband companies are deeply committed to connecting all Americans—rural, urban, and everywhere in between—through continued investment throughout our nation and support for thoughtful, innovative and fair policies.

Learn more at
USTelecom.org