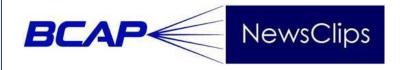
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October 1, 2018

# Philadelphia Inquirer

How Pa. is working to close the gender gap in tech

# St. Paul (MN) Pioneer Press

Op-ed by FCC
Chairman Ajit Pai:
How to make the
most of the 5G
revolution

## **New York Post**

Comcast, Charter are struggling to sell their stakes in the Mets

#### scni.com

Work on new
Charter
Communications HQ
quietly moves
forward

# Washington Post

Google CEO visits
White House and
Congress to combat
charges of anticonservative bias
ahead of key hearing

### Los Angeles Times

HBO ends 43-year relationship with boxing and will focus on sport storytelling Cellular companies such as Verizon are looking to challenge traditional cable companies with residential internet service that promises to be ultra-fast, affordable and wireless. Using an emerging wireless technology known as 5G, Verizon's 5G Home service provides an alternative to cable for connecting laptops, phones, TVs and other devices over Wi-Fi. It launches in four U.S. cities on Monday.

Verizon won't be matching cable companies on packages that also come with TV channels and home phone service. But fewer people have been subscribing to such bundles anyway, as they <a href="mailto:embrace">embrace</a> streaming services such as Netflix for video and cellphone services instead of landline. "That's the trend that cable has been having problems with for several years, and a trend that phone companies can take advantage of," Gartner analyst Bill Menzes said. That's if the wireless companies can offer a service that proves affordable and effective.

T-Mobile and Sprint are also planning a residential 5G service as part of their merger proposal, though few details are known. Verizon's broadband-only service will cost \$70 a month, with a \$20 discount for Verizon cellular customers. According to Leichtman Research Group, the average price for broadband internet is about \$60, meaning only some customers will be saving money. Even so, Verizon can try to win over some customers with promises of reliability.

Verizon says its service will be much faster than cable. That means downloading a two-hour movie in high definition in two minutes rather than 21. The service promises to let families play data-intensive games and watch video on multiple devices at once, with little or no lag. "The things that really matter to a customer are how fast it is and how reliable it is," longtime telecom analyst Dave Burstein said. In tests of Verizon's 5G so far, he said, "reliability is proving out quite nicely."

Verizon could also capitalize on many people's frustration with their cable companies. Consumer Reports magazine <a href="says customers have">says customers have</a> <a href="long been unhappy">long been unhappy</a> with perceived weak customer service, high prices and hidden fees. The residential 5G service is part of a broader upgrade in wireless technology. Verizon has spent billions of dollars for rights to previously unused radio waves at the high end of the frequency spectrum. It's a short-range signal, ideal for city blocks and apartment buildings, but less so for sprawling suburbs or rural

# Philadelphia Daily News

Great Scott! What a race!

#### Pennlive

Op-ed by Charlie Gerow: Nov. 6 will be a red-letter day in purple Pa. communities. That's why Verizon is pushing residential service first, while AT&T is building a more traditional cellular network for people on the go, using radio waves at the lower end.

AT&T is aiming to launch its 5G mobile network this year in 12 cities, including Atlanta and Charlotte, North Carolina. Dish also has plans for a 5G network, but it's focused on connecting the so-called "Internet of Things," everything from laundry machines to parking meters, rather than cellphones or residential broadband. Sprint tried to introduce residential wireless service before, using a technology called WiMax, but it failed to gain many subscribers as LTE trumped WiMax as the dominant cellular technology. This time, Verizon is using the same 5G technology that will eventually make its way into 5G cellular networks.

The Verizon service will start in parts of Houston, Los Angeles, Sacramento, California, and Indianapolis. "These are small areas but significant," said Ronan Dunne, president of Verizon Wireless. "Tens of thousands of homes, not hundreds of thousands of homes." Eventually, Verizon projects 30 million homes in the U.S. will be eligible, though there's no timeline. For now, Verizon isn't planning to hit markets where it already has its cable-like Fios service. Verizon stopped expanding Fios around 2010, in part because it was expensive to dig up streets and lay fiber-optic lines. Verizon can build 5G more cheaply because it can use the same towers available for cellular service.

That said, Verizon might not recoup its costs if it ends up drawing only customers who stand to save money over cable, said John Horrigan, a broadband expert at the Technology Policy Institute. And while Verizon says the new network will be able to handle lots of devices at once, anyone who's tried to use a phone during concerts and conferences will know that the airwaves can get congested quickly. What Verizon's service won't do is extend high-speed internet access to rural America, where many households can't get broadband at all, let alone competition. Cable and other companies haven't found it profitable to extend wires to remote parts of the country. But Verizon will face the same problem, given that its short-range signal will require several wireless towers closer together. That's feasible only in densely populated areas.

That's not good enough, said Harold Feld, senior vice president of the advocacy group Public Knowledge. He said internet service at reasonable prices is "fundamental" for all Americans — not just those who live in populated areas. T-Mobile and Sprint want to jointly create a 5G network that would also offer residential wireless broadband, but not for a few years. In <a href="seeking regulatory">seeking regulatory</a> approval, the companies say 20 percent to 25 percent of subscribers will be in rural areas that have limited access to broadband. But the companies offered no details on how they would do so. T-Mobile and Sprint declined to comment. — <a href="Associated Press">Associated Press</a>

Indiana Gov. Eric Holcomb (R) recently announced a new program allocating \$100 million to promote broadband access in rural places. This is a bold and thoughtful policy experiment that will yield significant benefits. Nevertheless, it is important to understand what the problem with broadband really is, and what this policy can and cannot address and where the benefits actually accrue.

There can be little doubt that many Hoosiers, maybe 100,000 or so, lack any landline wireless and maybe one million lack the sort of reliable service that most urban dwellers expect and pay for. The reason for this is straightforward. Wireline telecommunications access to a home is what economists call a natural monopoly. In this case, nearly all the costs come in the form of laying the wire or fiber optics to a home, not in the actual service provision. For a natural monopoly service to be profitable, it must have sufficient local demand to justify the initial investment.

The lack of service is due to the simple fact that doing so is not profitable, and the extra \$100 million cannot fix that fact. The government can subsidize service or alarm telecom companies into extending service to unprofitable areas to prevent unwanted competition. In reality, it'll probably do a bit of both. There can also be little doubt that the lack of broadband already makes things worse in many rural and poor places across Indiana.

My colleagues and I at Ball State completed a study last year that found that measures of regional inequality were worse due to the absence of this technology. A remedy to this will make many rural dwellers better off, but this is a complex issue, with several dimensions. Let me explain them in turn. The commercial economic development effects of this proposal will be near zero, and certainly far less than \$100 million. The factors that make places unprofitable for broadband make them unprofitable for most other types of commerce as well.

Whatever anecdotal evidence arises from new businesses benefiting from this program will be overwhelmed by continued economic and population decline in rural areas. The benefits accruing to this program are to be found outside traditional economic development, and that is good news, otherwise the program would not be justifiable. It's important to admit that urban households heavily subsidize rural households in Indiana. On a per capita basis, the spending gap between the most rural and urban places is more than \$2,500 per year. This is true despite much lower costs of rural living. Urban dwellers pay much higher land and rental costs, pay for more local services and are big losers when it comes to the transfer of wealth between city and country.

Any call upon urban taxpayers to subsidize rural taxpayers for economic development is dubious public policy. Fortunately, that is not the real justification for this service. The real benefits to expanded broadband access come in several forms. In maybe one third of Hoosier schools, students lack basic broadband internet service in their classrooms or at home.

This reduces both access to information, and places students at a disadvantage in higher education. While part of this is a consequence of poor decisions by communities, it is in all our interests to insure that these students have better opportunities. I believe the \$100 million is justified by these benefits alone. Today, nearly all public services are accessed through the internet, as are a growing suite of private services. The absence of broadband access limits household ability to apply for or receive public services across the entire domain from applying for retirement benefits to scheduling a BMV visit.

Today private activities ranging from banking to retail purchases are performed online through broadband connections. Healthcare services, including those delivered to homes, increasingly need broadband access to enable diagnostic services, medical records and other services. While health care professionals transport much of these services on their own equipment, the demand for in-home series will grow over time. Places without broadband will be at a healthcare disadvantage.

To reiterate the absence of local economic development benefits to broadband, I note that access to more private services through the internet will shift local consumption away from local firms. So, it is imperative that communities focus on ensuring broadband adoption is high where it becomes available. There is no panacea here, as households in a wired community will find themselves even less able to access important goods and services if they aren't also connected.

My final words on this are to commend again the state's leadership on this issue. Since the enormously successful 2007 deregulation of telecommunication, it has been difficult to garner support for more innovation in this area. I have largely agreed with this policy hiatus, but the world has changed enough that this policy experiment is now needed. It will not be popular with everyone, and probably will not pay off politically. But, it is surely the right thing to do. – *Indianapolis Star op-ed* 

California Gov. Jerry Brown on Sunday signed a bill reinstating Obama-era open-internet rules in the state, and the Justice Department responded almost immediately with a lawsuit seeking to overturn the law. In a statement, Attorney General Jeff Sessions said that the federal government, not the states, should oversee the internet, and California had "enacted an extreme and illegal state law attempting to frustrate federal policy."

State lawmakers in August passed the nation's strongest net-neutrality provisions, with the support of all the legislature's Democrats and some Republicans. The law forbids internet service providers from blocking websites, intentionally slowing down a website or app or accepting payments to make online services go faster. The measure's regulations resemble those adopted by the Federal Communications Commission in 2015. Now led by Ajit Pai, President Trump's choice for the role, the FCC undid those rules last year.

Experts had expected a legal showdown over the California measure. Mr. Pai, in a recent speech, called California's measure "illegal." In rolling back the Obama-era rules, the FCC claimed to pre-empt any state rules. On Sunday, Mr. Pai said in a statement that he was "pleased" the Justice Department had filed suit. He added: "The internet is inherently an interstate information service. As such, only the federal government can set policy in this area." Mr. Pai contends the California law also would hurt consumers and is unnecessary to protect the open internet.

In response to the Justice Department suit, California Attorney General Xavier Becerra said, "While the Trump Administration continues to ignore the millions of Americans who voiced strong support for netneutrality rules, California—home to countless start-ups, tech giants and nearly 40 million consumers—will not allow a handful of power

brokers to dictate sources for information or the speed at which websites load."

California is already fighting the Trump administration in court on a number of fronts, including environmental and immigration issues. Mr. Brown waited until the last day legally allowed to make his decision on the net-neutrality law. He didn't issue a statement on his reasons for signing it. Democrats in the state said the legislation was necessary to protect a competitive internet, echoing activists and many tech companies for whom the issue has become a rallying cry. "Net neutrality, at its core, is the basic notion that we each get to decide where we go on the internet, as opposed to having that decision made for us by internet service providers," said state Sen. Scott Wiener, a San Francisco Democrat who wrote the measure, said after Mr. Brown signed it Sunday but before the federal government lawsuit. "Today marks a true win for the internet and for an open society."

The governors of six other states—Hawaii, New Jersey, New York, Montana, Rhode Island and Vermont—have signed executive orders reinstating some net-neutrality provisions. Oregon, Vermont and Washington also have enacted net-neutrality legislation. But the California measure would go well beyond what other states have done, industry experts say. Beyond outlawing the blocking or slowdown of access to websites, the new law also bans, in certain cases, "zero rating," an increasingly common practice where telecom providers stream content they favor without counting it against consumers' data usage. The California bill also says interconnection agreements—in which an online service pays a cable or wireless provider to carry its traffic—can't be used by media companies to circumvent the open internet rules and receive faster speeds.

Cable and wireless companies that provide Internet service lobbied aggressively against the bill in the legislature. They and other industry groups have argued the rules represent a government overreach and could create a patchwork of regulation. — Wall Street Journal

Our category is "Two rich guys from York County." Who are Tom Wolf and Scott Wagner, candidates for Pennsylvania governor, Alex. And, tonight they will square off tonight in their first and only debate. Such a special occasion deserves a special guest moderator, "Jeopardy" host Alex Trebek.

The <u>45-minute debate</u> is part of the entertainment at the Pennsylvania Chamber of Business and Industry's 34th Annual Chamber Dinner in Hershey. Wolf is the Democratic incumbent governor who ran a family business before winning election in 2014. He is seeking a second term. In summary, Wolf believes government serves a societal purpose by offering programs and support to help the downtrodden. Wagner is a Republican businessman who served four years in the state Senate.

In summary, he believes government's primary role is protection but has too many regulations for business and people to succeed on their own. Wolf is ahead by an average of 15 percentage points, according to a compilation of various polls done by Real Clear Politics. A recent Morning Call-Muhlenberg College Poll had Wolf with 55 percent of support among likely voters, compared to Wagner's 36 percent. Libertarian Ken Krawchuk was at 2 percent, and Green Party

candidate Paul Glover at 1 percent. The election is Nov. 6. –  $\emph{Allentown Morning Call}$ 



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