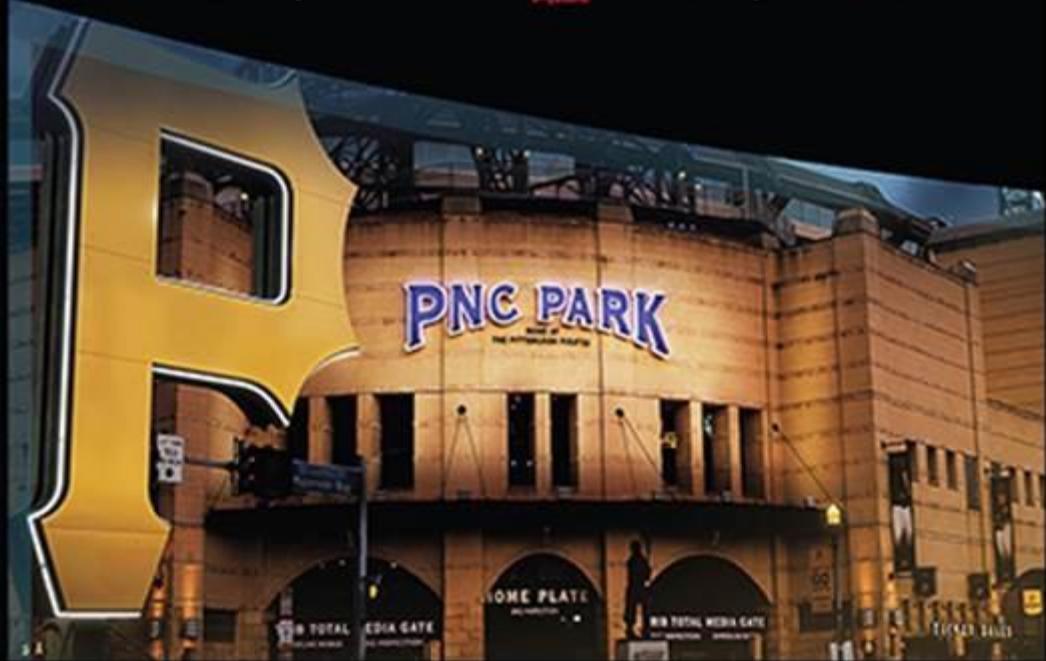




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A decade or more ago, the conversation was about giant cell towers — and how people didn't want them in their proverbial back yard. Steve Travers, now Catasauqua's manager, remembers sitting in zoning board hearings in Delaware County where officials sounded off about the eyesore they could become. Meanwhile, he said, "everybody's sitting there on their cellphone."

Then it was about the smaller cell towers on top of buildings. Now it's about boxes on street poles that are capable of producing 4G and, more recently, 5G internet broadband networks. "Five years from now, it's going to be something else," Travers said. Four major mobile carriers have already begun to roll out 5G antennae and boxes, called "small cell nodes" or "small wireless facilities," in dozens of large U.S. cities.

Local municipalities are getting ready. In February 2020, Lower Macungie Township became the first Lehigh Valley municipality to adopt a zoning ordinance guiding the size, placement, construction and maintenance of the eventual 5G cells and antennas. The nodes can be mounted on street lights, utility poles, buildings and similar structures. "We had a unified desire to get ahead of it," Commissioner Ron Beitler said. "We acknowledge this is the next level technology. We want it for economic development, but we also need to be mindful that these facilities need to be sighted suitably."

In other words, municipalities want to avoid having boxes appear outside residents' windows. A recently signed state law provides a legislative framework for deploying "small wireless facilities" — the infrastructure that supports 4G and 5G. That includes where the devices can go, and how much local governments can control that. It means Lower Macungie will have to reexamine its ordinance, Beitler said, but offers other area cities, townships and boroughs a clear signal about how to proceed. The law standardizes permit costs and the zoning requirements for boxes put in public rights-of-way, while retaining the local municipality's ability to customize design for historic districts or environmental concerns.

1G merely transmitted analog voice in the 1980s, 2G enabled digital voice in the 1990s, 3G added the internet to phones in the early 2000s, and 4G broadened the reach of that data in 2009. 5G is the next generation of mobile internet connectivity, with far faster speeds — 10-100 times faster than 4G — and the ability to enable "smart" homes, cars, fridges, or what's known as the Internet of Things.

The wireless industry lobbied for the new law for years, said Dan Cohen of the Cohen Law Group, a Pittsburgh firm that represents local governments in wireless and broadband litigation. An initial iteration of the bill about four years ago would have taken away local zoning authority over these wireless facilities and did not allow municipalities to govern design guidelines. Over the last couple of months, Pennsylvania municipal associations, industry representatives and state lawmakers came together to negotiate a bill that was more acceptable to both sides, said Cohen, who [sat in on the negotiations](#). Gov. Tom Wolf signed the [Small Wireless Facilities Deployment Act](#) into law June 30.

More than three dozen states have passed some version of this law, said Peter Schweyer, a co-sponsor of the original House bill and Allentown's state representative. It's especially necessary, he said, in Pennsylvania, a commonwealth with an unusually large number of municipalities — 2,800 — all with their own sets of rules. The aim is to level the playing field so that companies don't cherry-pick municipalities in which to build networks. "If Pennsylvania as a whole ever wants to be competitive ... we need to deploy 5G across the state," he said. "We should in Allentown already have a fully built 5G platform, and we are nowhere near that."

Instead, during the pandemic, Allentown School District gave out thousands of hot spots to students without Wi-Fi at home. While everyone was at home streaming movies, the students had less internet bandwidth to do their school work. "We needed to do something to encourage this development," Schweyer said. Allentown city officials adopted its own small cell wireless ordinance, which is similar to the outlines of the state law, in July 2020. Cohen's law firm has worked with more than 200 municipalities in Pennsylvania to craft similar ordinances.

Small wireless facilities, or boxes, already exist on poles in many communities in a piecemeal fashion. The wireless industry started rolling these out in 2012 to boost their coverage capabilities, even though municipalities didn't have the zoning ordinances to manage them, Cohen said. These boxes, which are 28 cubic feet at most, have 4G capabilities and need only an antennae switch to become 5G-capable.

A big legal game-changer for municipalities was a 2018 order from the Federal Communications Commission that defined small cell facilities and removed some regulatory barriers to broadband infrastructure deployment by setting limits on fees and aesthetic control. While this helped kickstart deployment in major U.S. cities, coverage remains spotty because these cells have yet to be widely and consistently deployed. 5G cells require more access points to achieve the same broadband coverage. An Aspen Institute paper in 2015 noted this as a regulatory challenge for policymakers "to ensure access for this vastly increased number of sites."

A challenge indeed: Portland, Oregon, challenged these FCC orders, but a federal appeals court rejected the challenge, though the city won the right to at least specify aesthetic standards. Portland appealed the decision [to the U.S. Supreme Court](#), which last week decided not to take the case. Verizon first approached Catasauqua nearly three years ago about tying into a couple OF borough-owned poles, Travers said. The company submitted an agreement right before the pandemic, which borough officials were waiting to act on until the Portland's case settled.

The new state law sets guidelines to move forward, Travers said. "They're going to be here no matter what you do," he said. "You're getting them but at least now we'll be able to regulate the aesthetics of them." There's been some pushback worldwide to the rollout of 5G, owing to the lack of conclusive studies on the health impacts of the emission of radiofrequency waves associated with 5G. 5G systems operate at frequencies close to those used by current cellular networks — in 2019, the [FCC chair announced](#) it would maintain existing radiofrequency exposure limits — but they will also use millimeter waves to handle high data traffic.

A group of doctors and scientists in 2017 [launched an online appeal](#) to the European Union asking for a moratorium on the rollout of 5G until these health effects could be studied. A [2019 study](#) in the journal Environmental Research did not find a notable increase in everyday radiofrequency exposure in the environment since 2012 despite the vast increase in use of mobile phones and small cell nodes. Exposure levels might temporarily increase during early stages of 5G implementation since it will operate in parallel with the current mobile communications system, according to [information shared by the International Telecommunication Union](#) during an expert meeting in Italy in 2017. But in the long run, scientists don't expect an increase in exposure in the overall environment, since the small cells are lower-power, shorter range devices, as opposed to large cell towers emitting high power over a much larger range.

Companies and trade associations like the Cellular Telecommunications Industry Association applaud the Pennsylvania legislation, citing a Boston Consulting Group study that estimates 5G deployment will add 126,500 jobs and more than \$45 billion in GDP growth in Pennsylvania by 2030. "In rural and hard-to-serve areas, these reforms may spur wireless investment and deployment, helping bridge the digital divide," spokesperson Caitlin Miller said. How soon 5G rolls out to communities everywhere is tough to pin down. CTIA, the trade group, predicts the number of small cells will grow from about 150,000 today to 800,000 by the end of 2026. "What we've seen is a slow but sure acceleration of that deployment," Cohen said. — **Allentown Morning Call**

Cable operators are poised to report another strong year of broadband subscriber growth in 2021 on the heels of [last year's record-breaking increases](#), but Barclays media analyst Kannan Venkateshwar warned that growth could slow substantially in 2022. In a report Thursday, Venkateshwar noted that the momentum from 2020 — where cable operators added 4 million broadband customers — should continue into this year as the impact from [stimulus programs](#) to boost household income and government broadband subsidy efforts should keep churn low. But he added those programs also could have masked underlying problems that could resurface as some of the projects disappear.

In his report, Venkateshwar noted that assuming those stimulus programs accounted for a 10-basis-point reduction in non-pay churn implies growth this year would be lower than in 2019 for the top three cable operators — Comcast, Charter Communications and Altice USA — absent that factor. Then there is the impact of such programs on broadband penetration.

Venkateshwar estimated that as many as 700,000 broadband additions in 2020 came from stimulus and subsidies, and it is unclear how much of that growth will stick around for the long term. Add planned fiber and fixed wireless broadband rollouts from several telcos, an increased focus on network quality and the need for higher uplink speeds and "these factors could imply that 2021 broadband growth will remain unusually strong but may reverse next year," Venkateshwar wrote.

The Barclays analyst estimated that Comcast, which added about 2 million broadband customers in 2020, will slip to 1.4 million additions in 2021 and 1.1 million in 2022. Charter, which led the top operators with 2.1 million broadband additions in 2020, will add 1.3 million in 2021 and 1.0 million in 2022, according to Venkateshwar. Highly penetrated Altice

USA added 172,000 broadband customers in 2020 and is expected to add 84,000 in 2021 and 65,000 in 2022. Other analysts have predicted a similar falloff in cable broadband growth. Last month, Sanford C. Bernstein media analyst Peter Supino predicted total cable broadband additions would slow to 2.9 million in 2021, 2.2 million in 2022 and 2 million by 2023.

Cable operators [have warned investors not to expect the same levels of growth](#) experienced during the height of the pandemic, and other factors like bundling broadband with wireless service could help boost subscriber levels. In addition, operators are continuously expanding their footprints into more rural markets through edge-outs and other programs, which could also mitigate any slowdown. – **Next TV**

The White House led off an infrastructure promotion fact sheet distributed to the media Thursday (July 8) with the impact of a bipartisan framework on high-speed internet, particularly in rural and tribal areas, and [President Joe Biden's pledge to get broadband into every home](#).

The Biden administration also doubled down on its definition of [availability as including speed and price](#). “More than 35% of rural Americans and Tribal communities lack wired access to broadband at acceptable speeds,” the White House said as it tried to drum up support for a new version of Biden’s massive infrastructure spending bill. It did not say what it considered acceptable.

The sheet pointed out that the compromise plan would invest \$65 billion on broadband deployment, which would include money to the Agriculture Department’s rural broadband programs. That \$65 billion was the [Republican counteroffer to Biden's proposed \\$100 billion-plus](#) in broadband funding. The GOP’s \$65 billion comes from the \$81 billion in [revenue from the FCC's C-band auction](#) — minus the \$16 billion it will cost for the repacking and reallocation of that spectrum.

The fact sheet said the broadband infrastructure investment goal was “to make high-speed internet available to all Americans, bring down high-speed internet prices across the board, and provide technical assistance to communities seeking to expand broadband.” That would include money for municipal buildouts of broadband, potentially in competition to existing service that didn’t meet the White House definition of sufficiently high speed at sufficiently now prices. The White House also echoed former FCC chairman [Tom Wheeler](#), who long argued that the country needed a rural broadband program similar to rural electrification during the Roosevelt Administration. “With the 1936 Rural Electrification Act, the Federal government made a historic investment in bringing electricity to nearly every home and farm in America, and millions of families and our economy reaped the benefits,” the White House said. “Broadband internet is the new electricity. It is necessary for Americans to do their jobs, to accelerate precision agriculture, to participate equally in school learning and health care, and to stay connected.”

According to a Data for Progress survey of 1,137 likely voters conducted June 30-July 1--and also being promoted by the White House--78% "support expanding internet access to rural communities." That includes 44% who strongly support it and 34% who said they "somewhat" support it. – **Next TV**

Last week the Pennsylvania legislature [followed through on plans](#) to remove \$750,000 in funding that in recent years has been split among Pennsylvania PBS stations to help cover the cost of PBS Kids programming and production of statewide programs. The legislature previously zeroed out funding to Pennsylvania PBS stations during the 2008-09 financial crisis. – **Rob Owen’s “TV Q&A” column in Pittsburgh Tribune-Review**

Republicans who want to be Pennsylvania’s next governor are taking two paths with former President Donald Trump’s [lies about the 2020 election](#). Some, like State Sen. Doug Mastriano and former U.S. Rep. Lou Barletta, court Trump’s support by echoing his false claims and cozying up to [his demand for a new investigation of Pennsylvania’s results](#). Others, like former U.S. Attorney Bill McSwain, seek to quietly sidestep the last election while urging the party to focus on big races in 2022 and 2024.

But last week Trump tried to drag McSwain into the first group. “We have a U.S. attorney in Philadelphia that says he wasn’t allowed to go and check Philadelphia,” Trump [told the crowd](#) during [a rally Saturday in Sarasota, Fla.](#), while again pushing debunked claims about voter fraud. “That’s a big statement. I’ll tell you who didn’t allow him some day. I’ll do it at my next rally. But could you imagine this?”

It was classic Trump: Make a head-turning assertion, offer zero proof, use one person to attack another, and then tease it like a cliff-hanger for must-see TV. Also, it doesn’t check out. McSwain, appointed by Trump and still serving as the top federal law enforcement official in eastern Pennsylvania in November, announced two weeks before the election [all the efforts his office took to guard against voter fraud](#).

Clout is certain a politically ambitious prosecutor — who says he will decide by early fall on [a campaign for governor](#) — would have filed charges if he found a crime. McSwain filed no 2020 voter fraud cases. But that’s not a subject he’s eager to discuss. [McSwain flatly refused to tell Clout](#) in May if he considers Pennsylvania’s 2020 election results to be valid. He let a few softballs go by [during a local conservative radio show interview](#) two weeks ago when asked if he’s “satisfied” with the state’s 2020 results.

McSwain pivoted to “a lack of confidence” among Republican voters in elections. He also offered a shrug of support for [the kind of partisan election investigation Mastriano is pushing](#), while also questioning how expensive and difficult that might be. “We need to be looking forward, rather than litigating 2020, because as a practical matter at this point there’s not much you can do about 2020,” McSwain said on Philadelphia’s AM 990, The Answer.

Clout gave McSwain two days this week to comment about Trump’s claim at the rally. McSwain could muster no words, offering zero response. So why did Trump do it? He [is apparently still smarting](#) about former Attorney General Bill Barr [rejecting his claims about widespread voter fraud](#) in December after authorizing federal prosecutors to search for exactly that. Barr was more direct last week, [telling The Atlantic](#) that Trump’s claims were “all bull—.”

That enraged Trump, who responded with a broadside calling Barr a “swamp creature” who had long ago lost his confidence. That explains

how McSwain became a cudgel to bash Barr. Mastriano, who has been building momentum for a gubernatorial bid with election fraud claims, this week announced an attempt at an Arizona-style “audit” in three counties, including Philadelphia. Barletta, who has already declared his candidacy, responded by tweeting that he had been calling for one since December. Trump has been complaining for weeks about Pennsylvania Republicans not moving on his demand for a partisan review.

While the 2022 Republican primary for governor looks to be a crowded affair, state Attorney General Josh Shapiro remains the lone big-name Democrat expected to seek that office. And Shapiro is not shy about relitigating 2020 — for fun and fund-raising. Shapiro dunked on Rudy Giuliani two weeks ago when his law license was suspended in a New York ruling that said he made “demonstrably false and misleading statements” while acting as Trump’s attorney and trying to overturn the election. Shapiro’s office had filed a petition in support of Giuliani’s suspension.

A Shapiro tweet was followed by an MSNBC appearance and then the inevitable fund-raising pitch, urging supporters to “fight back” against Giuliani and his ilk by giving Shapiro campaign cash. He was at it again this week, appearing Tuesday on MSNBC to note that the “handful” of voter fraud cases in the state in 2020 were all committed by Trump supporters. He followed that with a prime-time CNN hit Wednesday, knocking Mastriano as “an insurrectionist” while denouncing the audit attempt as a potential waste of millions of taxpayer dollars.

Mastriano attended the Jan. 6 Trump rally in Washington that devolved into a violent ransacking of the Capitol in an attempt to stop the certification of the presidential election. Check your inbox for the Shapiro fund-raising follow-up that is sure to come next. – **Chris Brenan’s “Clout” column in *Philadelphia Daily News***

