

# Reclaiming Local Control Over Cellular Wireless Facilities in Colorado

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**Boulder 5G Action**  
Boulder, CO

**El Paso County Citizens Against 5G**  
Colorado Springs, CO

**Larimer County Safe Wireless Advocates**  
Fort Collins, CO

**Concerned Citizens for 5G Health Effects**  
Aspen, CO

**Colorado 5G Action**  
State of Colorado

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“ To continue down the path the FCC is currently on, to continue to ignore the serious alarms the scientific community is raising, could lead to dangerous impacts to American national security, to American industries, and to the American people.  
—*Congresspersons Ron Wyden (OR) and Maria Cantwell (WA)*<sup>1</sup> ”

## I. Executive Summary

### *What is HB 17-1193?*

The telecom industry is seeking to roll out a new 5<sup>th</sup> generation of cellular wireless technology. In 2017 the Colorado legislature passed an industry-initiated law, HB 17-1193, to promote 5G wireless deployment by preempting and limiting local government regulation of cellular wireless facilities using the public rights-of-way. This new seriously overreaching law granted telecom corporations a right of access at low cost and imposed short timeframes to enable a proliferation of “small cell” sites throughout cities and communities. This 5G roll-out is being falsely framed in the media as a “race to 5G”. But, due to the lack of 5G products, is actually more about 4G antenna densification and the expropriation of the public rights-of-way under the guise of 5G.

### *How did this bill come about?*

The law is consistent with industry-inspired model legislation from the *American Legislative Exchange Council* (ALEC) that has been passed in over 20 states. The new 5G technology has a more limited range and will require vastly greater antenna densification, with small cells situated only a few hundred feet apart and relying heavily on use of public rights-of-way at a reduced cost. This legislation was advanced quietly and strategically, often couched as simply “enhancing wired and wireless telecom services”, and it is not clear that either legislators, local governments, or the public had much, if any, awareness of its full purpose or implications. Since early 2019 when telecom companies began actually installing the new small cells, widespread public concern and alarm has rapidly emerged.

### *What is the impact on communications?*

Heavily promoted by the industry, 5G promises faster wireless Internet access and a dazzling array of futuristic applications including autonomous vehicles, Internet-of-Things (IoT), virtual reality, and artificial intelligence. However, growing grassroots public opposition is emerging around a variety of concerns such as health risks of electromagnetic radiation, threats to personal privacy, cyber-security, private corporate appropriation of public property and rights-of-way, environmental disruption, loss of community rights, and loss of income by *de facto* forced subsidization of telecom providers.

### *Why should law be changed?*

There are serious questions that need to be answered or better understood before making such a massive commitment of public resources, including questions about risks to public health and to personal privacy, data security, and surveillance. However, perhaps the greatest concern is the risk to democratic governance and the *private appropriation of public resources*. This includes the cost and public subsidization and environmental impact of small cell proliferation. Also, it may well be that rather than more wireless infrastructure, what is really much more needed is fiber-to-the-premises (FTTP) that is *locally owned and controlled as a municipal public utility*. HB 17-1193, and perhaps other laws, need to be reconsidered and state-wide policy should be restructured to benefit the people of Colorado rather than simply private telecom corporations.

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<sup>1</sup> Letter from Ron Wyden and Maria Cantwell to Ajit Pai (May 13, 2019), at: <https://bit.ly/2RsjvIk>.

## II. Background

There is a significant amount of misinformation about 5G. This section defines basic terms and summarizes important data and information regarding 5G and small cell networks generally.

1. **What is 5G?** The term “5G” denotes the 5th generation of wireless cellular telecom technology that is still being defined. Over the past four decades, the wireless industry has introduced a new generation of their cellular phone technology roughly every 10 years. Today’s cellular networks support 2G, 3G, and 4G. 4G, though not yet fully built out, was given the nickname, LTE for “long term evolution.” 5G is somewhat different in that it will augment, not replace, 4G. In the U.S., 5G only exists partially in a few trials. 5G is intended to be a short-range companion to 4G LTE that uses new, much higher frequency bands that are capable of faster data transfer and shortened latency delay. The longer-range 4G LTE will continue to provide voice service and will manage links to 5G devices. Some of the promises of 5G include increased speeds, enabling deployment of autonomous vehicles, the “Internet of Things,” virtual reality, and other futuristic gadgets and services.
2. **How is 5G Different?** 5G radio signal propagation characteristics are much different and not yet fully understood. These new higher frequency bands will employ millimeter waves such as those used by airport security scanners. These waves tend to have a very short range and can be blocked by walls, buildings, moisture, leaves, or even our bodies. They are getting closer to and behave similarly to light. This means that to provide effective service, cellular sites need to cover many smaller spaces and be closer to the receivers. This necessitates saturating our urban spaces with many “small cells” on lampposts, phone poles, streetlights and the like—as close as every few hundred feet or so. As with conventional larger cells, the small cells will also still need to have optical fiber “backhaul” connections to the core network.
3. **What are Small Cells Facilities/Networks?** A small cell facility (sometimes called a “small cell wireless facility” or “small wireless facility”) is a cellular network that delivers higher transmission data transfer speed at a lower range, typically 500 to 1,000 feet. The “small” in “small cell facility” refers to a device’s range, not its physical size. In practice, many SCFs are the size of a picnic cooler or a refrigerator. In Colorado, per HB17-1193, SCFs are not to exceed three cubic feet for the antenna, nor seventeen cubic feet for the primary equipment enclosure, excluding some pieces of equipment. Typically, SCFs are installed in the public rights-of-way on existing and replacement utility poles and streetlights.
4. **Deployment of 5G in the United States:** Small cell infrastructure is being developed at breakneck speeds throughout the United States, including in Colorado. Experts estimate that the telecommunications (“telecom”) industry could install 800,000 to 3 million small cell antennas in the United States in the next decade,<sup>2</sup> driven largely by 4G LTE and 5G

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<sup>2</sup> Bob Fernandez, “Pa. Republicans Pull the Bill to Greenlight 5G Antennas as Towns say it Would Undercut Their Zoning Powers,” *The Philadelphia Inquirer* (June 18, 2019).

networks. The small cell market is predicted to be worth \$58 billion by 2024.<sup>3</sup> However, at present, due to incomplete technical standards, a lack of spectrum allocation, and a dearth of 5G phones and networking gear, what is happening is a “land rush” to obtain permits for a proliferation of small cells for 4G wireless, but hyped as a “race to 5G” that may be more “...designed to scare governments into giving companies large subsidies and consumers into paying a premium for prototype devices.”<sup>4</sup>

5. **Fiber as an alternative to 5G:** While local governments are eager to modernize their network speeds, many are focused on deployment of fiber-optic networks (or simply “fiber”) as their preferred next generation technology. Widespread deployment of local municipal fiber access networks provides extremely fast service that may mitigate much of the need for widespread 5G installation.<sup>5</sup> One example is Longmont's *NextLight*™ municipal broadband utility enterprise, which is a publicly-owned network that offers blazingly fast speeds—currently the fastest in the nation.<sup>6</sup>

### III. The Colorado State Law on Small Cell Facilities: *HB 17-1193*

House Bill 17-1193 (“HB 17-1193”) regulates small wireless service infrastructure at the local level. It was enacted by the General Assembly of Colorado and signed by Governor Hickenlooper on April 18, 2017 under the title *Small Cell Facilities Permitting and Installation*. HB 17-1193 expedites the permitting process for SCFs and SCNs,<sup>7</sup> extends presumptive right-of-way access to providers, and makes other changes to facilitate the proliferation of SCFs and SCNs in Colorado with minimal barriers.<sup>8</sup>

“ We are really limited in our ability to regulate these new facilities. The city can’t say no to facilities in the right-of-way. To minimize the number of new poles is our priority.  
—Hector Reynoso, Manager – Real Property Services, Aurora, CO<sup>9</sup>

<sup>3</sup> Kendra Chamberlain, “Mobile Experts Predicts Small Cell Market to Hit \$5.2B by 2024,” *FierceWireless* (Apr. 10, 2019).

<sup>4</sup> *A Pocket Guide To 5G Hype*, Institute for Local Self-Reliance, August 2019 <muninetworks.org> or <ilsr.org>.

<sup>5</sup> See Timothy Schoechle, *Re-Inventing Wires: The Future of Landlines and Networks* (May 2018) at: <http://electromagnetichealth.org/wp-content/uploads/2018/05/Wires.pdf>.

<sup>6</sup> Jason Plautz, “Longmont, CO Municipal Internet has Nation's Fastest Service,” *Smart Cities Dive* (June 22, 2018), at: <https://www.smartcitiesdive.com/news/longmont-co-municipal-internet-has-nations-fastest-service/526391>.

<sup>7</sup> See C.R.S. § 29-27-403(1). Note that an SCN is simply a collection of SCFs and that the Colorado definition of SCFs adopts the 1996 Act’s definition of “personal wireless service facility.” See C.R.S. § 29-27-402(4)-(5). Further, at the federal level, “small wireless facility” (“SWF”) is used regularly. See 47 C.F.R § 1.1312(e)(2) (2018). Although these terms each include additional, technical specifics, they largely refer to the same structures.

<sup>8</sup> See C.R.S. §§ 29-27-403, 29-27-404; §§ 38-5.5-104, 38-5.5-104.5; § 38-5.5-105; § 38-5.5-107.

<sup>9</sup> John Fernandez, “Small Cell Facilities – Coming Soon to a Street Near You,” *Front Porch* (Jan. 1, 2018).

### *How did HB 17-1193 get passed?*

The initial sponsor listed on the bill was Rep. Tracy Craft-Tharp of Jefferson County HD-29. Following are the bill's additional sponsors.<sup>10</sup>

- Rep. Jon Becker (Republican)—telecom executive  
District and counties of, Cheyenne, Kit Carson, Logan, Morgan, Phillips, Sedgwick, Yuma. .  
<https://leg.colorado.gov/legislators/jon-becker>
- Senator Jack Tate (Republican)—technology, business committees.  
<https://leg.colorado.gov/legislators/jack-tate>.
- Senator Andy Kerr (Democrat)—teacher.  
Jefferson County “prime sponsor”

The committee summary of the bill does not include a description of the permitted “by-right” issue, and does not emphasize that local control was taken away for siting facilities. But when Sen. Kerr and Sen. Tate, co-prime sponsors, discussed the provisions in the hearing, they clearly communicated that the re-engrossed bill permits the *use by right* of small wireless service infrastructure, in any zone.<sup>11</sup> The industry provided testimony in favor of the bill. The record shows<sup>12</sup> that both the Colorado Municipal League and the Colorado Communities & Utility Alliance (CCUA)<sup>13</sup> (Ken Fellman) testified neutral. There was no opposing testimony. The bill passed the hearing 5–0.

Municipalities in Colorado, as in other states, were largely caught uninformed and therefore off guard when the overreaching small cell facility bills were quickly adopted. The state bills along with the new FCC rulemaking in late 2018 required local governments to draft new wireless regulations to come into compliance with both the FCC rules and the new state law. This was essentially the advice conveyed by CCUA to its members. CCUA and its law firm reported that any discussion of the bill’s pending drafts were discussed in closed executive session and private legal briefs were distributed to members via their delegated individuals. According to CCUA, what the members do with those confidential briefs is up to the members and beyond CCUA’s prevue.<sup>14</sup> There appears to have been no outreach to members warning of the impending disastrous consequences of HB 17-1193.

### *What are the provisions of the Bill?*

The following are some of the primary elements of HB 17-1193:

1. Right to Install SCFs in Any Zone: Unlike the U.S. federal *Telecommunications Act of 1996*, HB 17-1193 explicitly annexes the authority of local governments to regulate

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<sup>10</sup> <https://leg.colorado.gov/bills/hb17-1193>.

<sup>11</sup> testimony for the bill can be found at <https://leg.colorado.gov/content/slg2017a2017-03-21t140257z1-hearing-summary>

<sup>12</sup> 3:09 and 3:19

<sup>13</sup> CCUA is a volunteer organization of member cities, counties, and school districts in Colorado. It provides “resources and expertise in areas of public policy development, legislation, education, technology, and programming.” Among these resources are legal and policy advice from its law firm, Kissinger & Fellman PC as part of the CCUA dues. <<https://www.coloradocua.org/membership>>

<sup>14</sup> Personal interview with CCUA President, Alan DeLollis, September 20, 2019.

rights-of-way by giving private telecom and broadband providers the **right** to locate SCFs upon, within, over and under public streets, as well as on structures within the streets, such as light poles and traffic signals.<sup>15</sup> This right extends into all zone,<sup>16</sup> including locations where there are schools, daycares, fire stations, hospitals, and so forth.

It is important to note that this language represents an important legal distinction—it does not simply grant a “right to install” but rather “installation by right”—a basic inalienable and inseparable right. In other words, the community cannot say “no”. This grant represents a serious overreach in giving the public’s right-of-way to private interests for private purposes—an action with roots in legal history known as *enclosure of the commons*.

2. No Meaningful Public Review: Public review is also abridged under HB 17-1193. Small cell applicants “are no longer subject to public hearings, review, and approval by planning commissions and city councils/town boards,” although they are “subject to the regulations within zoning districts.”<sup>17</sup> This is because HB 17-1193 *mandates* approval of small cell applications as a right provided that zoning and design standards are met, so a full administrative review process is no longer warranted. *This leaves the public with essentially no recourse—counter to the most basic principles of democratic governance.*

“ It’s like we put the industry before we put regulatory common sense.  
—**Colorado State Representative Alec Garnett**<sup>\*18</sup>  
(\*Voted against HB 17-1193) ”

3. De facto Forced Subsidy by Less Compensation for Government: Erecting broadband facilities or SCFs on public property should require just compensation.<sup>19</sup> But HB 17-1193 limits the taxes, fees, and charges that state and local governments can impose on telecom providers to those “reasonably related to the costs directly incurred” by local governments through the granting or administration of permits. So local governments can no longer charge “market rates” for leasing space for SCFs in public rights-of-way. Some communities, such as Dallas, had proposed charging almost 10 times as much as current fee limits—\$2,000 instead of \$250 per year—and the same may be true of Colorado communities. Additionally, aside from leasing fees, local governments are prohibited from charging other reasonable compensation fees, such as fees for disrupting view corridors or for certain disruptions during installation, and for administration and the myriad of functions city agencies will have to perform. In sum, the telecom industry has blanket immunity from having to fairly compensate communities for their impacts.

<sup>15</sup> See, e.g., C.R.S. § 38-5.5-103(1)(a); see also C.R.S. § 29-27-402(4)(b).

<sup>16</sup> See § 29-27-404(b)(3) [emphasis added].

<sup>17</sup> Ken Fellman, Kissinger & Fellman PC, “Small Wireless Facilities in Public Rights-of-Way: Challenges and Opportunities for Municipalities,” *Colorado Municipalities*.

<sup>18</sup> Jon Murray, “Denver’s 5G Cell-Signal Future Will Rely on Hundreds of 30-Foot Poles Spread Across Many Blocks – And That Has Rankled Some Residents,” *The Denver Post* (Mar. 12, 2018).

<sup>19</sup> See C.R.S. § 38-5.5-104.

4. Creation of a Shot Clock to Sharply Limit Time to Process Applications: HB 17-1193 establishes a “shot clock” for processing SCF/SCN applications that is either 90 days (for the location, collocation, replacement, or modification of SCFs/SCNs) or 150 days (for applications involving a new structure or facility). This is largely the same as the FCC’s long-standing “shot clock” established in 2009 for wireless facility siting applications.<sup>20</sup> However, it is longer than the shortened shot clock established by the FCC’s 2018 5G Order, which is 60 and 90 days, respectively.<sup>21</sup> Unlike both FCC shot clocks, HB 17-1193 does not allow a local government to rebut the state shot clock’s reasonableness based on the circumstances.

<b>HB 17-1193 Summary</b>	
<b>Scope</b>	<u>HB 17-1193</u> : Communications and broadband facilities, including Small Cell Facilities (SCFs/SCNs). Regulations apply to base stations, alternative tower structures, towers and small cells.
<b>Right to install small cell facilities / networks</b>	<u>HB 17-1193</u> : Any telecom and broadband provider "has the right" to construct, maintain, and operate SCFs and SCNs along, above, or under public rights-of-way.
<b>“Shot clock,” i.e., the time local governments have to process cell facility applications.</b>	<u>HB 17-1193</u> : -90 days for location, collocation*, replacement, or modification of SCF/SCN. - 150 days for applications that involve a new structure or facility other than SCF or SCN and other than a collocation. (*Collocation is mounting or installing transmission equipment on existing eligible support structures. <sup>22</sup> )
<b>Penalty for missing shot clock</b>	<u>HB 17-1193</u> : Does not have a “deemed granted” provision, which would approve SCF applications by default if a shot clock is missed. However, if a local government misses a shot clock period, it cannot rebut the presumption that the review length was reasonable based on the circumstances.
<b>SCFs are permitted uses in certain areas?</b>	<u>HB 17-1193</u> : Declares that small cell facilities are permitted uses in all zoning districts.

<sup>20</sup> 24 FCC Rcd. 13994, 13995 (2009).

<sup>21</sup> See 33 FCC Rcd. 9088, 9092 (2019).

<sup>22</sup> Exact definition available at Colorado Revised Statute § 29-27-402 (2017).



<b>Fees</b>	<u>HB 17-1193</u> -C.R.S. § 38-5.5-107 limits fees to those reasonably related to the costs directly incurred by the political subdivision.  -C.R.S. § 38-5.5-108 requires the payment for attaching SCFs to be just and reasonable.
<b>Aesthetic limitations</b>	<u>HB 17-1193</u> : Local government can impose certain aesthetic or historic requirements to camouflage SCFs/SCNs so they are not readily apparent, but cannot prevent the use of local government infrastructure such as light poles, light standards, traffic signals, or utility poles in the rights-of-way.

#### IV. Concerns Over Small Cell Facilities and 5G

There is increasing concern from mainstream scientists about the impacts of 5G on human health, the environment, human privacy, and technology-based services such as weather forecasting. Some of these are summarized below. Overall, the rapid deployment of 5G in the United States amounts to a giant experiment on the health and welfare of our communities.

1. **Privacy and Security Implications:** There are significant concerns about surveillance, lack of privacy, and cyber security associated with 5G technologies. “A system built on millions of cell relays, antennas, and sensors also offers previously unthinkable surveillance potential,” stated a 2019 New Yorker article entitled “The Terrifying Potential of the 5G Network.”<sup>23</sup> Another reason behind the push for 5G relates to what has become a primary motivating force behind the Internet itself—advertising and data collection. What has emerged in the IT/big tech industry (e.g., beginning with Google, Facebook, Amazon, Microsoft, etc.) is a new economy of “surveillance capitalism”—monetizing our personal lives and predicting and shaping our behavior—as characterized by Harvard Business School Professor Shoshana Zuboff.<sup>24</sup>

Wireless networks, smartphones, and other wireless devices are proprietary and many are specifically equipped for gathering this surveillance and behavioral data to a far greater extent than conventional wired networks. This surveillance will likely become an ever-increasing function of 5G and is another reason that communities need locally governed fiber-to-the-premises wired access networks.

In China, its 5G network is already fueling new levels of surveillance, with enhanced geolocation, surveillance cameras, and facial recognition technologies, which have played a role in China's subordination of eleven million minority Uighur Muslims.<sup>25</sup> Privacy could take a hit, as well. More data about our habits, super-charged through 5G

<sup>23</sup> Sue Halpern, “The Terrifying Potential of the 5G Network,” *The New Yorker* (Apr. 26, 2019), at: <https://www.newyorker.com/news/annals-of-communications/the-terrifying-potential-of-the-5g-network>.

<sup>24</sup> Shoshana Zuboff. *The Age of Surveillance Capitalism: The Fight For a Human Future at the New Frontier of Power*. New York: Public Affairs/Perseus Books. 2019. (691 pages)

<sup>25</sup> Halpern



technologies, facial recognition, and artificial intelligence, will be gathered by large tech companies. Finally, despite cyber security risks, the Trump administration removed a limitation that 5G technical standards must be designed to withstand cyberattacks.<sup>26</sup>

2. **Emerging 5G Health Risks:** A growing number of experts argue that 5G presents significant environmental, human health, and other risks that warrant concern and additional research.<sup>27</sup> According to experts, the “high band” frequency millimeter waves used by 5G can potentially cause skin temperatures to rise and create unknown long-term health impacts.<sup>28</sup> This presents significant concerns considering that thousands of 5G transmitters could be placed in a single urban area.

*Note on RF Regulations:* Potential 5G impacts have not been fully accounted for in current FCC regulations on radio frequency (RF) exposure safety. Current FCC regulations regarding RF radiation, not officially updated since 1996, only place specific absorption rate (SAR)<sup>29</sup> limits on devices operating at frequencies up to 6.0 GHz. However, 5G technology operates at frequencies of 24 GHz and higher. In 2012, the FCC itself has admitted that “SAR measurement procedures required for testing recent generation wireless devices need further examination.”<sup>30</sup>

“ I have heard instances of these antennae being installed on light poles directly outside the window of a young child’s bedroom. Rightly so, my constituents are worried that should this technology be proven hazardous in the future, the health of their families and the value of their properties would be at serious risk . . . . While I understand the importance of this technology for the future of the American economy, I believe we must also be as certain as possible that it is safe.  
—Congressman Thomas R. Suozzi, NY<sup>31</sup>

3. **Financial and Aesthetic Burden:** There are also substantial economic concerns for local communities arising from small cell facilities, including 5G technologies. First, under state and federal law, communities are prohibited from charging market rate for leasing

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<sup>26</sup> Tom Wheeler, “If 5G Is So Important, Why Isn’t It Secure?,” *The New York Times* (Jan. 21, 2019), at: <https://www.nytimes.com/2019/01/21/opinion/5g-cybersecurity-china.html>.

<sup>27</sup> A 10-year study found evidence linking cancerous heart and brain tumors in male rats to significant levels of exposure to frequencies of RF radiation present in 2G and 3G cellular networks. However, the study did not test for 4G or 5G RF radiation, leaving the question of whether they could pose a similar health risk unanswered. In November 2018, the National Toxicology Program (NTP) released the most exhaustive study to date on RF radiation. See NIH, “High Exposure to Radio Frequency Radiation Associated With Cancer in Male Rats” (Nov. 1, 2018), <http://ntp.niehs.nih.gov/results/areas/cellphones/index.html>

<sup>28</sup> See e.g. comments of Suresh Borkar, senior lecturer of electrical and computer engineering at the Illinois Institute of Technology, as quoted in: Ally Marotti, “5G is Here. Is It a Technological Leap Forward — Or a Health Concern?” *Chicago Tribune* (May 1, 2019).

<sup>29</sup> SAR is the measurement of RF energy absorbed by the head or body that helps determine safe RF exposure levels. See Element, “RF Exposure: Specific Absorption Rate (SAR) Testing,” at: <https://bit.ly/2XgHuoB>.

<sup>30</sup> See FCC, “Draft Laboratory Division Publications Report” (2012), at: <https://apps.fcc.gov/eas/comments/GetPublishedDocument.html?id=255&tn=567064>.

<sup>31</sup> Letter from Thomas R. Suozzi to Ajit Pai (Apr. 16, 2019), at: <https://bit.ly/307Adey>.

public space to small cell facilities, depriving them of enormous revenues that could support local programs. Second, small cell facilities—which can be as large as refrigerators, not even considering much of the supplementary equipment—reduce property values when installed in very close proximity to a home. Finally, 5G networks will have a significant impact on the aesthetics and quietude of a town. 5G facilities need to be installed “on every city block, at least” and require years of digging and installation, which can be done by several different companies in the same location.

4. **Weather Forecasting Impacts:** In addition to potential health hazards, scientific organizations, including NASA and NOAA, are concerned that the frequencies used by 5G networks may interfere with meteorological water vapor data collection on a neighboring frequency band. This “self-inflicted degradation” of our weather prediction abilities would pose risks for public safety in areas facing threats of tornadoes, floods, and fires; and for national security by affecting the military’s flight safety, navigation, and tactical capabilities.<sup>32</sup>

“ The 5G build-out, which could take more than a decade, could disrupt our commutes, festoon nearly every city block with antennas, limit what cities can charge for renting spots on their infrastructure to carriers on which to place their antennas, and result in an unequal distribution of access to high-speed wireless, at least at first.

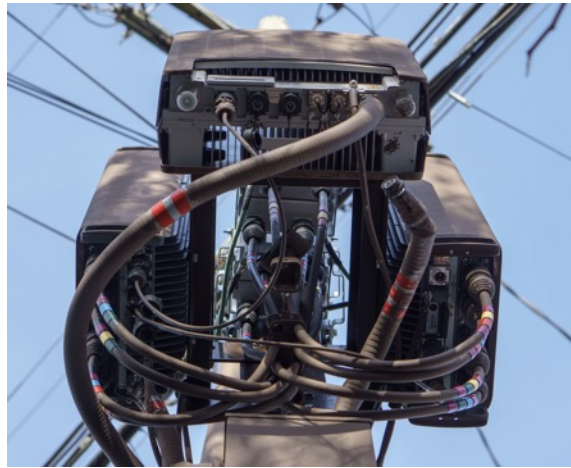
—*Christopher Mims, The Wall Street Journal*<sup>33</sup>

Based on these and other concerns, many communities in Colorado want to slow or pause small cell development in order to evaluate emerging information. However, as will be described in the next section, HB 17-1193 preempts local governments from doing so. Instead, local governments are obliged by state law to approve all SCF and SCN applications within a short period of time regardless of their concerns. Repeal of HB 17-1193 and reform of federal small cell rules are now the only path to restoring local control over small cell proliferation.

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<sup>32</sup> <https://physicstoday.scitation.org/doi/full/10.1063/PT.3.4267>

<sup>33</sup> Christopher Mims, “The Downside of 5G: Overwhelmed Cities, Torn-Up Streets, a Decade Until Completion,” *The Wall Street Journal* (June 29, 2019), at: <https://www.wsj.com/articles/the-downside-of-5g-overwhelmed-cities-torn-up-streets-a-decade-until-completion-11561780801>.



*Small Cell Wireless Facilities*

## V. State and Federal Preemption

The authority of local governments to regulate industry has been severely preempted in recent years—not just in the telecom field, but also in areas such as gas and oil, factory farms, and e-cigarettes.<sup>34</sup> This preemption typically occurs by passing state or federal laws that preclude local governments from deciding whether or how these industries operate in their communities. More generally, such preemption also prevents a healthy public discourse amongst concerned citizens.

Such is true for small cell development, including facilities capable of transmitting 5G. The proliferation of pro-industry small cell preemption laws is the result of an organized and well-financed strategic lobbying effort by the telecom industry. A major element of this effort has been a nationwide effort by the *American Legislative Exchange Council* (ALEC), a Koch Industries-backed political initiative, to draft model state legislation and train legislators to introduce and discreetly promote these bills in their state legislatures. Over 20 states, including Colorado, passed legislation that preempts local control over small cell networks. Typically, these state laws *require* local governments to allow small cell installation on public rights-of-way, such as on utility poles. Often the bills are carefully couched in terms of “facilitating advanced wired and wireless telecom services”. Frequently couched by the media as a “race to 5G”, more immediately it is a race to grab rights-of-way for 4G LTE cell densification.

With an increasing amount of concerning evidence emerging on the risks of 5G, Colorado and other states should push back against telecom lobbyists to slow down the rollout of small cell infrastructure and restore local community rights while long-term impacts are evaluated. Achieving this preemption rollback will require legal reform at both the state and federal levels, including repeal or reform of HB 17-1193.

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<sup>34</sup> Mayors Innovation Project, "Protecting Local Control," at: <https://bit.ly/2Lw1b9O>.

“ Americans across the country are expressing . . . worries about possible adverse health effects from this technology, and they are understandably demanding answers from the federal government.  
—*Congressman Peter A. DeFazio (OR)*<sup>35</sup> ”

## VI. Federal Law and Policy Pertaining to Small Cell Facilities

Telecommunications Act of 1996: The Telecommunications Act of 1996 was adopted “to provide for a pro-competitive, de-regulatory national policy framework” to rapidly deploy advanced telecommunications.<sup>36</sup> In addition to recognizing the economic and social benefits of the Act, Congress underscored the importance of retaining local autonomy. For example, the Telecommunications Act maintains the authority of State or local government to manage its rights-of-way on a competitively neutral and nondiscriminatory basis.<sup>37</sup> On the other hand, the Act does prevent state and local government from regulating personal wireless service facilities based on environmental effects of RF emissions other than ensuring compliance with FCC regulations.

FCC 5G Order: The FCC’s 5G Order on Small Cell Siting (“5G Order”) entered into force on Jan. 14, 2019. The 5G Order ensures minimal local and state restrictions on small wireless facilities that support 5G. The 5G Order limits local control to aesthetics only, sets an accelerated “shot clock” for approving small cell applications, limits costs and fees charged to small cell providers, and once again prevents governments from considering health impacts from RF emissions other than ensuring compliance with FCC regulations.<sup>38</sup> The 5G Order has been widely opposed by mayors, local city and county governments, and other stakeholders.

“ What's now happening is we've got a rule made by federal agents that allows private companies like Verizon to go put equipment onto our poles at a price, which we estimate is approximately one-tenth of the value.  
—*Mayor Paul Soglin, Madison (WI)* ”

*Legal Challenges*: There are presently two primary legal challenges to the 5G Order. First, a coalition of over 100 municipalities and associations allege the 5G Order exceeds the FCC’s statutory authority, is arbitrary and capricious and an abuse of discretion, and is otherwise contrary to law. The majority of these petitions were transferred to the Ninth Circuit as *City of San Jose v. FCC* (19-70144) (filed on Jan. 15, 2019).<sup>39</sup>

Second, in *NRDC v. FCC* (2018),<sup>40</sup> the Natural Resources Defense Council (NRDC)—along with nineteen Indian tribes and others—alleged that the 5G Order violates the National Environmental Policy Act and the National Historic Preservation Act by sidestepping public

<sup>35</sup> Letter from Peter Defazio to Ajit Pai (Apr. 15, 2019), at: <https://bit.ly/2XiZ8rZ>.

<sup>36</sup> See 142 Cong. Rec. 1145-06, 1996 WL 39800.

<sup>37</sup> See e.g., Telecommunications Act of 1996, Section 253(c).

<sup>38</sup> See generally 33 FCC Rcd. 9088 (2018).

<sup>39</sup> See case docket at: <https://www.courtlistener.com/docket/8502284/city-of-san-jose-v-fcc/>.

<sup>40</sup> See NRDC, Federal Communications Commission Case Documents, at: <https://www.nrdc.org/resources/federal-communications-commission-case-documents>.

participation and environmental review. On August 9, 2019, the federal appeals court in D.C. ruled that the FCC illegally eliminated historic-preservation and environmental review—and important opportunities for public participation—for 5G wireless infrastructure projects. Emphasizing the importance of such review, the court held that the FCC’s attempted explanations for the elimination “did not meet the standard of reasoned decision-making.”<sup>41</sup>

Either lawsuit could invalidate or limit the FCC 5G Order in the coming months. In such case, municipalities that have been persuaded to change their local codes to comply with the FCC would then find themselves stranded with codes stripping them of their own authority.

The 5G Order could be overturned by legislation currently proposed in the U.S. House of Representatives: H.R. 530, the Accelerating Broadband Development by Empowering Local Communities Act of 2019.<sup>42</sup> A related Senate bill, S.2012, the *Restoring Local Control Over Public Infrastructure Act of 2019*, was also introduced in June by Senators Feinstein, Schumer, Harris, and Blumenthal.<sup>43</sup>

Finally, in addition to the two legal challenges and the proposed Congressional legislation to overrule the 5G order, Montgomery County, Maryland is suing the FCC to update RF exposure limits.<sup>44</sup> Other litigation is also likely to emerge in the coming months and years as local communities and elected officials discover what has occurred and how their rights have been appropriated by the telecom industry.

In sum, due to a flurry of legal challenges, new proposed legislation, and possible new FCC policies that would follow the 2020 U.S. presidential election, there is a significant chance that the FCC Order will no longer be effective at some point in the near future. Colorado governments should plan ahead with this in mind rather than assuming they will continue to be bound by the 5G Order.

“ It is not a very pretty picture when you see all these cell towers going down the road, especially how close they can be together... The federal government is now all the way down in the city telling us how we use all of these rights of way ... Loveland is a beautiful city, and we want to maintain that.  
—*Moses Garcia, City Attorney of Loveland, CO*<sup>45</sup>

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<sup>41</sup> <https://www.nrdc.org/court-battles/nrdc-v-federal-communications-commission>

<sup>42</sup> H.R.530 - Accelerating Broadband Development by Empowering Local Communities Act of 2019, at: <https://www.congress.gov/bill/116th-congress/house-bill/530>.

<sup>43</sup> <https://wearetheevidence.org/5g-leading-senators-feinstein-schumer-harris-blumenthal-submitted-bill-restoring-local-control-abolishing-fcc-regulations/>

<sup>44</sup> See Montgomery County Council, “Council President Riemer's statement on new lawsuit challenging FCC small cell order,” at: [https://www2.montgomerycountymd.gov/mcgportalapps/Press\\_Detail.aspx?Item\\_ID=22601](https://www2.montgomerycountymd.gov/mcgportalapps/Press_Detail.aspx?Item_ID=22601).

<sup>45</sup> See Julia Rentsch, “Before 5G Wireless Takes Cellular Speed to a New Level, Loveland Wrestles With Policy,” *Loveland Reporter-Herald* (Feb. 23, 2019).



## VII. Governments Are Pushing Back Against Telecommunications Industry Excesses

At least 22 states have passed laws and other regulatory policies pertaining to small cell facilities, including 5G.<sup>46</sup> Some common characteristics of these laws are that they provide public rights-of-way and utility poles for deploying wireless hardware, cap fees local governments can charge, streamline permitting processes for small cell infrastructure, establish design standards, and set “deemed granted” provisions or a missed shot clock.

But some states have fought back. California Senate Bill 649 was a wireless facility management preemption bill approved in 2017. But Governor Jerry Brown vetoed the law followed a significant campaign by many environmental, health, community planning, and social justice-oriented groups.<sup>47</sup> After the veto, he issued a statement indicating that while there is merit in developing efficient and innovative technologies, the bill failed to honor “the interest which localities have in managing rights of way.”<sup>48</sup>

“ There is something of real value in having a process that results in extending this innovative technology rapidly and efficiently. Nevertheless, I believe that the interest which localities have in managing rights of way requires a more balanced solution than the one achieved in this bill.

—*Governor Brown, California*<sup>49</sup>

Other states have rejected similar laws outright. Maryland canceled a bill that would have limited local control over small cell facilities due to strong opposition and uncertainty from local governments and other stakeholders.<sup>50</sup> Speaking to the *Washington Post*, Montgomery County Council President Hans Riemer said that “We’re going to spend the next year dealing with whether this proposal to take away our control is needed or not. It’s far from over.”

For Colorado, although it passed HB 17-1193, it is not too late to repeal the law. Colorado has repealed other misguided laws in the past. In fact, there are two examples from this year alone of Colorado statutes that were repealed in order to restore local control over some regulatory regime. First, on March 29, 2019, HB 19-1033 was repealed.<sup>51</sup> HB 19-1033 was a law from the 1970s that made it much more difficult for counties and cities to enact their own tobacco

<sup>46</sup> See, e.g., Kendra Chamberlain, “5G Small Cell Deployment: Every Current State Law”, *Broadband Now* (2018).

<sup>47</sup> See EMF Safety Network, “Governor Brown Vetoes SB 649!” (last visited June 27, 2019), <http://emfsafetynetwork.org/sb-649-vetoed>.

<sup>48</sup> See California State Association of Counties, “Governor Vetoes SB 649” (last visited June 27, 2019), <https://www.counties.org/post/governor-vetoes-sb-649>.

<sup>49</sup> Statement of Governor Brown, available at: <https://bit.ly/2XgSbrf>.

<sup>50</sup> Katherine Shaver, “Maryland Lawmaker Cancels Bill to Limit Local Control Over New Cellular Facilities,” *The Washington Post* (Mar. 21, 2018), at: [https://www.washingtonpost.com/local/trafficandcommuting/maryland-lawmaker-cancels-bill-to-limit-local-control-over-new-cellular-facilities/2018/03/21/91243428-2d2c-11e8-8688-e053ba58f1e4\\_story.html](https://www.washingtonpost.com/local/trafficandcommuting/maryland-lawmaker-cancels-bill-to-limit-local-control-over-new-cellular-facilities/2018/03/21/91243428-2d2c-11e8-8688-e053ba58f1e4_story.html)

<sup>51</sup> See Statement of Matthew L. Meyers, President, Campaign for Tobacco-Free Kids, “Colorado Repeals Decades-Old State Law that Blocked City and County Efforts to Combat Tobacco Use” (Mar. 29, 2019), [https://www.tobaccofreekids.org/press-releases/2019\\_03\\_29\\_colorado\\_preemption](https://www.tobaccofreekids.org/press-releases/2019_03_29_colorado_preemption).

regulations. Second, on May 28, the governor signed a repeal of HB 1210.<sup>52</sup> Passed in 1999, HB 1210 preempted cities and counties from setting their own higher minimum wage laws.

“ I am committed to bringing 5G to the residents of Los Angeles.... The rent we agreed to [with Verizon and AT&T for 5G] provides for a reduced monetary fee and a cooperative deployment of smart city and digital inclusion technology and services. The proposed [FCC] Order would jeopardize all these benefits.  
—*Mayor Garcetti, Los Angeles*<sup>53</sup> ”

In summary, Colorado, along with numerous other states, has been saddled with private corporate laws that expropriate the public right-of-way and public property to serve private telecom corporate interests—for the benefit of their shareholders and management. The public has essentially been robbed of its basic rights by through an abuse of the legislative process. Communities have been unfairly deprived of the following rights:

- **The right to say “no”**—to exercise their liberty to control their own lives and environment, and property
- **The right to public review** of the actions of private interests—to transparency
- **The right to fair compensation for their property**—forced to subsidize private corporations and a form of private taxation.
- **The right to reasonable time** to carry out public democratic deliberation

This expropriation represents an abuse of basic democratic rights, due process, law, and justice. It is part of a growing pattern of unchecked corporate power and a private taking of the public space and the common interest. It needs to be reversed immediately.

“ We hold these public right-of-way assets in trust for the public and it's our duty to fight for the right to manage these assets.  
—*Mayor Ted Wheeler, Portland (OR)* ”

## VIII. Colorado Should Repeal and Replace HB 17-1193

Reclaiming local control over SCFs in Colorado requires two legal changes: first, the FCC’s 5G Order being overturned in court, overruled by Congress, or withdrawn by the FCC; and second, repeal and replacement of HB 17-1193. (Note that amendment of HB 17-1193 or a simple repeal of HB 17-1193 are options, as well, both of which are discussed in the subsequent section.) Advocates are pursuing both avenues simultaneously.

<sup>52</sup> See National Law Review, “Colorado Lifts Ban on Local Minimum Wage Ordinances – With Restrictions” (Mar. 31, 2019), <https://www.natlawreview.com/article/colorado-lifts-ban-local-minimum-wage-ordinances-restrictions>.

<sup>53</sup> Letter from Eric Garcetti to Ajit Pai (Sept. 18, 2018), [https://ecfsapi.fcc.gov/file/1091933119375/Ex%20Parte\\_City%20of%20Los%20AngelesCA.pdf](https://ecfsapi.fcc.gov/file/1091933119375/Ex%20Parte_City%20of%20Los%20AngelesCA.pdf) (emphasis added).



With that background in mind, here are five major reasons to repeal and replace HB 17-1193:<sup>54</sup>

### **1. Repealing and Replacing HB 17-1193 Allows Cities to Promote Fiber and Other Wired Broadband Alternatives as a Primary Option**

***What HB 17-1193 Does:*** Gives the telecom industry a right to install their SCFs with scant government regulation, allowing 5G or other technology to be deployed quickly in Colorado, and essentially enabling a mandated land grab of the taxpayer-owned public right-of-way while restricting local governments options to regulate deployments through local zoning.

***What Colorado Should Do Instead:*** Promote wired broadband alternatives, particularly fiber-to-the-premises (FTTP), as the primary means of ushering in the next generation of Internet to Colorado communities. Meanwhile, give communities *the right to say no* to 5G until it is fully understood.

At the same time, repeal SB 05-152 *Competition in Utility and Entertainment Services*. This is another corporate law that prohibited or restricted the rights of cities, towns, and communities in Colorado to install their own municipal fiber networks or to compete with private interests in providing Internet access. This is another case of industry-backed model legislation having been stealthily adopted in over 20 states to serve private interests. Internet access via FTTP has become a necessity of modern urban life—a basic public utility—comparable to access to water, sewer, electricity, and streets.

***Why:*** A growing number of communities are investing in municipal fiber networks as their preferred method of modernizing their Internet networks. Fiber is lower impact and extremely fast. The telecom industry should not be allowed to dictate to local communities that 5G is a preferable—or even a reasonable—alternative to fiber networks.<sup>55</sup> Local governments should be allowed to weigh the pros and cons of fiber versus 5G and other technologies, particularly fiber, and decide for themselves what sort of Internet infrastructure meets their needs. A new bill could promote fiber networks and other 5G alternatives in accordance with community desires. Longmont, Colorado and Chattanooga, Tennessee are two cities that offer good models of community-owned fiber.

(\*Note: Many of these changes also require federal reform, particularly overturning the FCC's 5G Order, which severely limits local control over 5G.)

### **2. Repealing and Replacing HB 17-1193 Allows Communities to Charge Fair Market Value to Providers**

***What HB 17-1193 Does:*** HB 17-1193 forces the government to lease out public land to private interests so that they can profit, with local governments unable to charge fair market rate leases. This creates what is essentially a forced *de facto* subsidy to private corporations.

***What Colorado Should Do Instead:*** Allow local governments to charge fair market rate leases for installing SCFs on public property. The funds would go towards the funding local programs.

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<sup>54</sup> Amending HB 17-1193 is another feasible option; see below.

<sup>55</sup> Fiber is the basic medium and wireless access should be regarded as adjunct service. 5G and other wireless access media suffer from certain basic drawbacks such as proprietary service/equipment and obsolescence, surveillance and a lack of security and privacy, exposure to radiation and other environmental issues, etc..

**Why:** HB 17-1193 requires local governments to lease out public property located on rights-of-way to the telecoms industry without being allowed to charge fair market rates. In effect, this means that corporations get discounted access to public equipment without any requirement to pass these savings along to customers. Meanwhile, *5G has an estimated economic value of \$2.2 trillion over the next 15 years*<sup>56</sup>—almost six times Colorado’s 2018 GDP.<sup>57</sup> Communities take all the risk yet get a limited amount of the reward, while corporations profit immensely. Local governments, if they choose to move forward with 5G at all, should be able to charge fair market value for renting out public property funded by taxpayers.

**Case study:** Dallas had planned to charge \$2,000 per year *or more* for small cell towers.<sup>58</sup> Now, the rent they can charge is capped at about \$250, or about 12.5% of their original price. With some estimating that 10,000 small cell towers will be installed in Dallas, this means they could be missing out on at least \$17,500,000 *per year* once the network is fully built out—money that will now be in the pockets of telecom providers.

(\*Note: Many of these changes also require federal reform, particularly overturning the FCC’s 5G Order, which also limits how much money local governments can charge to providers.)

“We never saw this new infrastructure as a cash cow. [...] But they’re using rights of way that belong to the public, and we deserve to be fairly compensated for it.”  
—*John Davis, Borough Manager of Doylestown*<sup>59</sup>

### **3. Repealing and Replacing HB 17-1193 Gives Communities More Time to Consider Applications**

**What HB 17-1193 Does:** HB 17-1193 gives local governments 90 or 150 days to process applications, even batch applications. (Note: the 5G Order creates an even shorter shot clock.)

**What Colorado Should Do Instead:** Give local government more time to process applications, particularly large batch applications. Also, the reasonableness of any “shot clock” should be rebuttable based on circumstances.

**Why:** Given the increasing deployment of SCFs, many applications are being filed in “batches” or “consolidated applications.” Other applications are very complicated. These take extra time to process. Furthermore, considering the unknown impacts of 5G, communities should have extra time to weigh all available information. Therefore, Colorado should revisit its reliance upon a strict shot clock and, if it deems that a shot clock is still appropriate, instill flexibility so that local governments can have extra time when needed.

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<sup>56</sup> See Anna Tobin, “5G Will Account For 15% Of Global Mobile Market By 2025.” *Forbes* (Feb. 25, 2019).

<sup>57</sup> FRED Economic Data, “Total GDP for Colorado,” at: <https://fred.stlouisfed.org/series/CONGSP>.

<sup>58</sup> Ken Kalthoff, “New Small Cell Towers Spark Controversy,” NBC DFW (Jan. 2, 2019), at: <https://www.nbcdfw.com/news/local/New-Small-Cell-Towers-Spark-Controversy-503819121.html>.

<sup>59</sup> Letter from Eric Garcetti to Ajit Pai (Sept. 18, 2018), [https://ecfsapi.fcc.gov/file/1091933119375/Ex%20Parte\\_City%20of%20Los%20AngelesCA.pdf](https://ecfsapi.fcc.gov/file/1091933119375/Ex%20Parte_City%20of%20Los%20AngelesCA.pdf) (emphasis added).

(\*Note: Many of these changes also require federal reform, particularly overturning the FCC’s 5G Order, which also establishes a shot clock for acting on applications.)

#### **4. Repealing and Replacing HB 17-1193 Allows for Meaningful Public Review and Input**

***What HB 17-1193 Does:*** HB 17-1193 essentially eliminates public review, with small cell applicants no longer being subject to a public hearing and approval process.

***What Colorado Should Do Instead:*** Allow local residents, schools, and businesses to have a say over the character of their own community through a robust public review and input process.

***Why:*** In deciding whether to permit SCFs and under what conditions, local government should be able to weigh the concerns of local residents, schools, and businesses, amongst others, against potential economic benefits, wireless infrastructure needs, available alternatives, and so forth. As described above, there are many legitimate concerns with SCFs and 5G in particular—human health impacts, weather forecasting interference, security and privacy implications, economic impacts, and others. Considering all of these factors allows local government to reach a thoughtful, balanced decision. Public review is a staple of local democracy that was eliminated in practice by HB 17-1193. This right to local review should be restored.

Additionally, a replacement law for HB 17-1193 could replace many of the current law’s shortcomings with new provisions to inform and empower local communities. These could include, for example, requirements to notify public about SCF applications, robust guidelines on aesthetic requirements for SCFs, “dig once” rules for installing multiple networks from different carriers, guidelines as to fair market value fees local governments can charge, etc.

(\*Note: Many of these changes also require federal reform, particularly overturning the FCC’s 5G Order, which limits the ability of local governments to exercise their local police power.)

#### **5. Repealing and Replacing HB 17-1193 Clears the Way For Federal Reform**

***What HB 17-1193 Does:*** HB 17-1193 mirrors many federal requirements for SCFs established by the FCC, including a shot clock, fee limits, and so forth.

***What Colorado Should Do Instead:*** Repeal HB 17-1193 so that Colorado is ready if and when the 5G Order is invalidated and/or other legal changes occur at the federal level.

***Why:*** The FCC’s 5G Order is being challenged in the courts by dozens of local governments, the NRDC, and others. There is a high likelihood that it will be overturned. Furthermore, proposed national legislation—H.R. 530, introduced on Jan. 14, 2019 by Representative Anna G. Eshoo—would eliminate its effects. With the additional possibility of a new administration taking office after the 2020 election, the legal paradigm for small cell infrastructure could change dramatically in the near future. Colorado would be wise to put into place the best possible framework, or to eliminate its current framework, to prepare for the future.

## IX. Which Option: Repeal, Replace, or Amend HB 17-1193?

Bills introduced to the Colorado General Assembly generally do one of three things: create a new law, amend an existing law, or repeal an existing law.<sup>60</sup> Amendments are typically suitable for smaller changes to a law. But “[w]hen amendments are extensive, [an] existing law is repealed and reenacted or entire new sections are added in capitalized letters.”<sup>61</sup>

*Which option is best for Colorado?*

**Option 1 - Repeal (without Replacement):** A repeal without replacement would put Colorado in the company of the approximately 28 states who have not passed laws or other regulatory policies pertaining to small cell facilities, including 5G.<sup>62</sup> Some of these, such as California, have come close to enacting small cell legislation but decided against it. While a repeal means a clean slate for 5G regulation, it also means greater deference to the FCC’s regulatory regime. Furthermore, some experts believe that Colorado’s HB 17-1193 is less restrictive for local communities than similar laws passed in other states, so repeal could also leave Colorado susceptible to passage of an even less desirable law in the future.

**Option 2 - Repeal and Replace:** Repealing and replacing HB 17-1193 could be a better option. It would allow lawmakers, community leaders, the telecom industry, and concerned citizens to make another attempt at passing a fair, equitable, and forward-thinking legal regime that meets the needs of all Coloradans. It could also take a more cautious approach to small cell facilities, including 5G technologies, until consensus emerges as to the best way forward.

**Option 3 - Amend:** The final option, amending HB 17-1193, would depend on whether the amendments are significant enough such as to warrant a full repeal and replacement. If only certain undesirable provisions are adjusted of the de facto right to install small cell facilities on rights-of-way, allowing local communities to charge fair market value for leasing public space to the telecom industry, etc.—then perhaps an amendment would be sufficient. However, if the entire character of the law is changed, or if Colorado wishes to take a bold stance in support of community rights over corporate financial interests, then a repeal and replacement strategy would be preferable.

## X. Conclusion

Colorado has the opportunity to create a new state model for the regulation SCFs and SCNs, including those capable of transmitting 5G. To do so, Colorado should repeal HB 17-1193 and, if it wishes to replace it, pass a law that is protective of community interests. At the same time, Colorado can still promote common-sense advancements in the telecommunications industry—including fiber and, only if proven safe and desirable, 5G. Through these actions, communities across Colorado will become empowered to protect community interests, which must take priority over short-term profits of the telecom industry. This is an opportunity to reshape

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<sup>60</sup> See “The Legislative Process,” Colorado General Assembly, p. 1, at: [https://www.colorado.gov/pacific/sites/default/files/The%20Legislative%20Process\\_3.pdf](https://www.colorado.gov/pacific/sites/default/files/The%20Legislative%20Process_3.pdf).

<sup>61</sup> *Id.*

<sup>62</sup> See, e.g., Kendra Chamberlain, 5G Small Cell Deployment: Every Current State Law, Broadband Now (2018).

telecommunications policy, priorities, and technology in Colorado to the benefit of the people and to stimulate economic growth and social equity.

“ Because of limitations imposed by State and Federal legislation, the City has very little leeway in its ability to regulate the presence of telecommunication facilities. ”  
—*Glenwood Springs CO: Background Report on Wireless Communications Facilities*<sup>63</sup>

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<sup>63</sup> Glenwood Springs - Background Information on Wireless Communications Facilities, available at: <https://www.gwsco.gov/DocumentCenter/View/4166/8-Work-Session-Wireless-Information>.