



September 24, 2019

## 5G Small Cell Rollout in DC – What You Need to Know

The District Department of Transportation (DDOT) is spearheading the rollout of 5G Small Cell technology throughout the city for cellular services. The term “cell” refers to the cellular antennas employed in such a network. The use of “small cell” to describe this is something of a misnomer and misleading, as 5G cells are not small in size. Small refers to the short broadcasting range of these cells due to the weakness of the 5G radio signal. Implementation of 5G will require that these cells be only a couple of hundred feet apart in some places due to these weak signals.

Currently allowable locations for 5G cells will be on streetlights (cobra-neck poles, not on the traditional DC globe poles), utility poles in alleys and streets, and on new, stand-alone poles up to 31’ in height (almost twice the height of the standard globe light poles). New stand-alone poles can be located either on streets or in alleys- anywhere along DDOT right of ways.

Four cellular carriers have already signed Master License Agreements (MLAs) with the City: AT&T, Verizon, and T-Mobile and Sprint (the latter two are being represented by Crown Castle). Claiming technical incompatibility, AT&T and Verizon are not willing to share poles (referred to as “hoteling”), so instead of 4 small cells on a single pole, there could be one pole per carrier at any given location.

For historic districts and many residential neighborhoods, the majority of cells may end up on new poles on streets. Instead of clustering poles at a single location on a given street, they would be spread out, one at the intersection of each lot line, resulting in up to three poles in a row, one house apart, and then another set of poles not too far away. Dictating the density of these poles will be the fact that in order for the 5G signal to be delivered, cells may need to be placed as close as 150 feet to each home (compared to the 1200-foot reach of the 4G small cells now). Also, as small cell sites need to have a clear line of sight to each other and to the area around them, tree trimming around them will be necessary.

There have been major medical concerns raised about 5G, as exposure to 5G signals has been demonstrated to cause brain cancer. For more information on these health concerns, see the Environmental Health Trust’s fact sheet “*What You Need to Know About 5G Wireless and “Small” Cells.*” The Mill Valley, California city council voted unanimously in early September to effectively block deployments of small-cell 5G wireless towers in the city’s residential areas. See TechCrunch article: “*Bay Area City Blocks 5G Deployments Over Cancer.*”

The reality is that 5G is not ready for a real-time deployment. The first 5G-ready smartphones won't arrive until 2019, so this year's planned rollout efforts will consist of a mix of portable hotspots and "fixed" wireless using existing 4G cellular networks with additional cells to offer an alternative to cable connections for home broadband. Thus, the MLAs give the carriers the right to install poles as beachheads for 5G and put additional 4G cells on them now, and then add 5G small cells later. Industry is confusing the picture by trying to make this interim step between the current 4G system and 5G seem like more than it is in order to secure favors and protections from the FCC and state legislatures, when in reality it is just a way to extend the life span of the existing technology. The upshot is that 4G cells will not come down once the 5G networks are activated, and thus these poles will end up being laden with both 4G and 5G cells.

As proposed, one can only imagine the visual impact this will have on our city, especially on viewsheds in historic districts and other residential neighborhoods – so many poles per block, each with their own equipment and housing (backhaul), which can be up to the size of a refrigerator. DDOT's *Draft Small Cell Design Guidelines* suggest that this backhaul be placed underground in historic districts, but so far Verizon is refusing to put its backhaul underground, claiming issues with ventilation and the need for fans, etc. The others could soon follow suit. There is also an issue with burying the backhaul in or around tree boxes, as excavations to do so may require cutting vital tree roots.

Ideally, as with the current 4G networks, rooftops and sides of buildings would make the best locations in DC for small cell installations, as these elevations would keep the small cells free from surrounding line of site obstructions and have the least visual and physical impact. But such locations are not being discussed very much. This begs the question of why the emphasis on locating the cells on poles? For one explanation, see the March 2018 Forbes article "*Autonomous Cars Won't Work - Until We Have 5G.*" With 5G, we may be being sold on one technology in anticipation of another that is also not ready for deployment.

This whole process is being railroaded by industry at lightning speed through DDOT. Very little input on the DDOT draft design guidelines is being accepted from the Historic Preservation Office (HPO), National Capital Planning Commission (NCPC), or the Commission of Fine Arts (CFA). City Council and ANCs are being bypassed, short of some informational presentations for ANCs. Our City Council members claim to know very little about the details of this proposed 5G rollout. Unlike with 4G, the Federal Communications Commission (FCC) has determined (declared) this is not a Section 106 undertaking under the Historic Preservation Act, so with what is being proposed, HPO will have little or no regulatory oversight on 5G cell installations.

DC's ANC 3C voted on a resolution Monday, September 17th calling to slow this process down and asking City Council to hold hearings. Other ANCs need to do the same in order to be heard.

The DDOT draft guidelines were an action item on CFA's September 20 meeting agenda this past Thursday, but there was not a quorum at the meeting and they took no official position. CFA had many questions that were not answered satisfactorily by the carriers. CFA asked for perspectives of what installations would actually look like. They also expressed concerns about different standards being established for different parts of the city- especially

disadvantaged ones - and felt that perhaps one standard should be established for application city-wide- the most stringent one based on historic districts/ L'Enfant Plan areas.

The DC Federation of Citizens Associations is holding a public meeting this Tuesday, September 25th on Small Cells from 6:30pm – 8:30pm at 441 4th Street NW, 11th Floor South (Citywide Conference Center). The guest speaker is Carley Didden from Crown Castle.

The Public Space Committee (PSC) is convening a special meeting to consider the draft design guidelines that is scheduled for Monday, October 15, 2018 and to be held in Room 200 of 1100 4th St SW. PSC meetings are open to the public and the PSC welcomes testimony from all parties. The meeting will be scheduled to provide time for as many participants as possible to provide comment to the PSC. The deadline to provide written comments in advance of the PSC meeting is 5:00 PM on Friday, October 5. Contact PSC staff at: [PublicSpace.Committee@dc.gov](mailto:PublicSpace.Committee@dc.gov) if you wish to testify. Comments may be submitted to the same email address. Visit the DDOT Small Cell web site (<https://ddot.dc.gov/smallcell>) for details on submitting written comments or for signing up to testify at the meeting.

The draft guidelines as they stand now are simply a giveaway to industry and there are still far too many questions unanswered. Precise information must be extracted from industry and the DC government as to the actual practical consequences, both immediate and longer term, of what is currently being proposed and pushed.

Time is of the essence and this process has to be slowed down until we can better understand the effects of a 5G rollout on our city and have a voice in its implementation. More ANCs passing resolutions, and the public calling for a slowdown and Council hearings may help provide the necessary time to properly evaluate 5G and determine how to best and safely implement it in DC.

Please reach out now to Council members and your ANC representatives to express your concerns.

Stephen Hansen

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Links to documents, articles, and web sites mentioned:

[DDOT Draft Small Cell Design Guidelines:](#)

[https://ddot.dc.gov/sites/default/files/dc/sites/ddot/page\\_content/attachments/FINAL%20DR AFT%20SMALL%20CELL%20DESIGN%20GUIDELINES%2008232018\\_0.pdf](https://ddot.dc.gov/sites/default/files/dc/sites/ddot/page_content/attachments/FINAL%20DR AFT%20SMALL%20CELL%20DESIGN%20GUIDELINES%2008232018_0.pdf)

[DDOT Master License Agreement:](#)

[https://ddot.dc.gov/sites/default/files/dc/sites/ddot/page\\_content/attachments/MLA%20Final\\_0.pdf](https://ddot.dc.gov/sites/default/files/dc/sites/ddot/page_content/attachments/MLA%20Final_0.pdf)

Environmental Health Trust's fact sheet "[What You Need to Know About 5G Wireless and "Small" Cells.](#)" [https://ehtrust.org/wp-content/uploads/5G\\_What-You-Need-to-Know\\_BW.pdf](https://ehtrust.org/wp-content/uploads/5G_What-You-Need-to-Know_BW.pdf)

"[Bay Area City Blocks 5G Deployments Over Cancer,](#)" *TechCrunch*:

<https://techcrunch.com/2018/09/10/bay-area-city-blocks-5g-deployments-over-cancer-concerns/>

"[Autonomous Cars Won't Work - Until We Have 5G.](#)" *Forbes* March 25, 2018

<https://www.forbes.com/sites/bijankhosravi/2018/03/25/autonomous-cars-wont-work-until-we-have-5g/#260a3f0f437e>

[DC District Department of Transportation's \(DDOT\) Small Cell web site:](#)

<https://ddot.dc.gov/smallcell>