

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

<b>In the Matter of</b>	)	
	)	
<b>Improving Competitive Broadband Access to</b>	)	
<b>Multiple Tenant Environments</b>	)	<b>GN Docket No. 17-142</b>
	)	

**COMMENTS OF SPRINT CORPORATION**

Sprint Corporation (“Sprint”) respectfully submits the following Comments in response to the FCC’s Notice of Proposed Rulemaking in GN Docket No. 17-142.

Large public venues--such as stadiums, airports, shopping malls, and convention centers—present a unique challenge to mobile broadband deployment. The venues are typically too large and impenetrable to wireless signals to serve effectively from cell sites outside the property. And even if the signal penetrates, there is insufficient capacity to meet the demand of the large crowds that congregate in these public spaces. Distributed Antenna Systems (“DAS”) are commonly used as a solution to this problem. DAS have a series of small antennas placed around the venue and connect to central radio equipment. DAS can typically handle multiple carriers while minimizing the need for redundant equipment.

Unfortunately, premises owners and their DAS operator partners have leveraged their control over these public spaces to impose unreasonable terms and conditions on carriers that need to serve their customers. Venue owners enter long-term exclusive agreements with a DAS operator, typically a wireless carrier or a neutral host, who in turn imposes fees on carriers to use the facilities and pays revenue back to the venue owner. Once these deals are struck, there are no alternatives and no competition. A carrier has the choice of paying the fees to be on the DAS or

have little to no service inside the venue. The need to serve their customers requires carriers to agree to these contracts despite the monopoly rents charged by the DAS owner and despite the fact that a carrier can often provide service within the venue for less money if only given the opportunity to install its own equipment.

The Commission should declare that such exclusive contracts by providers within its jurisdiction are unreasonable. The Commission may take this action consistent with the legal analysis of the 2018 Small Cell Order,<sup>1</sup> which found that unreasonable fees have the effect of prohibiting service. This reasoning should be extended to DAS or small cells serving other venues within the control of state and local governments, such as airports, transit systems, convention centers, and stadiums.

#### **I. Opportunistic Behavior by Venue Operators and DAS Providers Threatens Mobile Broadband Deployment**

Exclusive DAS are the typical deployment approach in large public venues. The venue owner—whether a private entity or a local government or subdivision of one—enters into a contract with a DAS operator to build the network and manage access by other providers. The DAS operator can be a neutral host, such as Boingo or Mobilitie, or another carrier, most often AT&T or Verizon. The contracts typically are exclusive, meaning that carriers must use the DAS and cannot deploy their own facilities in the venue. The contracts sometimes even preclude the venue owner from allowing other carriers to deploy transportable facilities (COWs and COLTs)

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<sup>1</sup> *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, Declaratory Ruling and Third Report and Order, WC Docket No. 17-84 and WT Docket No. 17-79, (rel. Sept. 27, 2018) (“2018 Small Cell Order”).

that are often a viable alternative for venues that are infrequently used.

The economics of the contract are simple. The venue owner awards the contract to the DAS supplier that pays the largest amount to the venue owner. The DAS winner is then positioned to leverage its exclusive agreement to impose excessive up-front “plug in” fees and monthly charges to other carriers that need to serve the venue. The exclusive bargaining power of the venue owner is transferred to the DAS owner. These arrangements effectively transfer the cost of deployment onto smaller carriers with less capital who do not have the deep pockets required to purchase venue rights on a large scale. While Sprint is the DAS operator in a few venues, it has not been able to secure nearly enough venues to offset the public venue dominance enjoyed by its competitors.

The DAS access payments purportedly cover costs of construction and operation of the DAS. In reality these charges include excessive profits for both the venue owner and the DAS operator. Moreover, these costs are spread evenly across all carriers despite the fact that not all carriers have the same utilization of the DAS. Because Sprint’s wireless market share is approximately 1/3 that of AT&T and Verizon, Sprint ends up paying three times the amount per customer for access compared to the nation’s two largest wireless carriers.

DAS are designed for specific spectrum bands, both from an equipment perspective as well as from general network design, such as antenna location and spacing. Because the DAS are typically not designed for Sprint’s 2.5 GHz spectrum, Sprint is harmed both financially and operationally. Typically, Sprint pays a share of the base DAS for spectrum Sprint does not use and then 100 percent of the costs to upgrade for 2.5 GHz operation so that it is useful to Sprint. As 5G deployment accelerates, Sprint expects that venue owners and DAS providers will require Sprint to pay a proportionate share to upgrade these systems to accommodate the DAS provider’s

spectrum holdings (e.g., millimeter wave spectrum) even if Sprint does not utilize that spectrum.

Moreover, the implications associated with these differences in spectrum holdings extend beyond the radio equipment. Because different spectrum bands have different propagation characteristics, antenna spacing is typically not optimized for Sprint's 2.5 spectrum. So even when Sprint chooses to pay DAS access charges, the resulting network is suboptimal for Sprint's needs.

## **II. Reasonable Costs**

### **A. Cost-Per-Person Model**

Sprint's customers are in these venues a small fraction of the time they use Sprint's network, but the costs of providing service in these venues is greatly disproportionate compared to Sprint's overall network costs. A customer may visit several airports, a transit system, a shopping mall, and a sporting event in any given month expecting service. The total cost of providing service in all these venues, however, can exceed the monthly revenue generated by the customer, leaving nothing to support the primary network.

Sprint addresses this issue by applying a model to determine whether the costs of joining a DAS (both up front plug-in fees and monthly recurring rent charges) are justified by the usage of that system by Sprint customers. The model calculates an annual Cost-Per-Person ("CPP") based on the number of Sprint customers expected to use a facility over the course of the year. Airports and transit centers have large numbers of users every single day, while, at the other extreme, football stadiums are typically only used for a handful of games and special events per year.

Sprint tracks the CPP at the 399 public venues where Sprint uses a DAS or other neutral host arrangement. The number of each type of venue is as follows:

Category	Count
Airport	35
Casino/Hotel/Resort	74
Convention Center	26
Enterprise	9
Government	4
Hospital	9
Mall	107
MLB Park	18
MLS Stadium	2
NBA/NHL Arena	29
NCAA Basketball Arena	1
NCAA Football Stadium	4
NFL Stadium	28
Other	19
Stadium Other	8
Transportation Hub	19
University	7
	<b>399</b>

Based on the CPP model, Sprint then determines whether the access fees can be economically justified given Sprint's monthly customer ARPU, or whether to provide service from outside the property. Frequently, Sprint determines that the costs of joining a DAS are so high it cannot justify joining the DAS. For example, at one NBA arena, Sprint declined to pay a \$12.5 million plug in fee and \$10,000 monthly rent. That agreement also expressly prevented

Sprint from installing its own DAS overlay or small cells. Based on Sprint's CPP model as described above, the cost per customer visiting that venue per year would have been \$62.

For a Sprint user that attends NFL or Major League Baseball games, the cost to provide service just at that one location can be \$25 to \$35, or close to an entire month's revenue, despite the tiny fraction of that customer's time spent at that venue. Such excessive fees require Sprint to either sign an uneconomic DAS access agreement (and reduce investment in other areas of its network) or provide substandard coverage to its customers.

**B. Sprint Can Often Install its Own Facilities at a Much Lower Cost than the Access Fees Imposed by DAS Exclusives**

In many circumstances, Sprint determines that it could install its own equivalent or superior system for less than it costs to join the DAS. The exclusive contracts typically prevent Sprint from doing so. In effect, these exclusive arrangements defeat a priority objective of the Commission by prohibiting mobile broadband investment and deployment to provide better service at lower cost.

In three NBA/NHL arenas, Sprint has installed its own antenna system for \$1 million to \$2 million. The overall CPP ranges around \$15 to \$20, a fraction of the excessive fees imposed under the exclusive DAS arrangement at the NBA arena discussed above. In that instance, the exclusive contract between the venue owner and a competing carrier prohibited Sprint from deploying its own network equipment and the fees were too expensive for Sprint to economically justify joining the existing DAS. Because Sprint was prevented by the exclusive contract from installing its own equipment and because of the excessive fees, it must rely on whatever signal penetrates the arena from the outside.

**III. 5G – Public venue policy needs to be forward looking**

The Commission must encourage 5G mobile broadband investment – the United States

cannot allow exclusive arrangements in public venues to dictate competitive 5G rollout. 5G requires use of ALL spectrum bands—low, mid, and high. Accordingly, public venue arrangements must be open and flexible to accommodate deployment of all bands, not dictated or closed off through the exclusive arrangements that prioritize certain spectrum holdings.

The last generation exclusive DAS arrangements typically do not use all the available spectrum bands that carriers may wish to deploy. The Commission’s policies can encourage and establish practices that ensure competitive network deployments that don’t result in valuable spectrum lying fallow. An open and flexible approach to public venue deployments will provide a higher quality and lower cost of service for all wireless customers in those venues because it will allow carriers to design to the specifications of each provider’s spectrum and its coverage and capacity needs, rather than a generic one size doesn’t fit all approach.

#### **IV. Recommended FCC action for Mobile Broadband Deployment in Public Venues**

##### **A. Section 253(a) Prohibits Excessive Fees that Have the Effect of Prohibiting Service**

The Commission’s 2018 order on small cells sets forth the legal framework for the Commission to establish guidance on exclusive contracts for publicly owned venues.

[A] state or local legal requirement will have the effect of prohibiting wireless telecommunications services if it materially inhibits the provision of such services. We clarify that an effective prohibition occurs where a state or local legal requirement materially inhibits a provider’s ability to engage in any of a variety of activities related to its provision of a covered service. ... [A] state or local legal requirement could materially inhibit service in numerous ways—not only by rendering a service provider unable to provide an existing service in a new geographic area or by restricting the entry of a new provider in providing service in a particular area, but also by materially inhibiting the introduction of new services or the improvement of existing services. Thus, an effective prohibition includes materially inhibiting additional services or improving existing

services.<sup>2</sup>

The Commission noted the importance of a carrier utilizing new technologies to provide in-building coverage: “Moreover, a critical feature of these new wireless builds is to accommodate increased in-building use of wireless services, necessitating deployment of small cells in order to ensure quality service to wireless callers within such buildings.”<sup>3</sup> Sprint’s deployment approach includes small cells in addition to DAS.

The Commission held that fees above cost have the effect of prohibiting wireless service.

Applying this approach here, the record reveals that fees above a reasonable approximation of cost, even when they may not be perceived as excessive or likely to prohibit service in isolation, will have the effect of prohibiting wireless service when the aggregate effects are considered, particularly given the nature and volume of anticipated Small Wireless Facility deployment.<sup>4</sup>

The Commission applied its interpretation to existing agreements between local governments and wireless providers. “We therefore do not exempt existing agreements (or particular provisions contained therein) from the statutory requirements that we interpret here.”<sup>5</sup>

The effect of this requirement cannot be evaded by inserting a third-party host that passes the fees along to carriers using the DAS: “Accordingly, any unreasonably high costs, such as excessive charges by third party contractors or consultants, may not be passed on through fees even though they are an actual “cost” to the government. If a locality opts to incur unreasonable costs, Sections 253 and 332(c)(7) do not permit it to pass those costs on to providers.”

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<sup>2</sup> 2018 *Small Cell Order* para 37.

<sup>3</sup> *Id.* para 40.

<sup>4</sup> *Id.* para. 65.

<sup>5</sup> *Id.* para. 66.



Nor can the exclusive DAS contracts be justified under aesthetic concerns of limiting the number of competing antenna systems: “[I]t is difficult to envision any circumstances in which a municipality could reasonably promulgate a new minimum spacing requirement that, in effect, prevents a provider from replacing its preexisting facilities or collocating new equipment on a structure already in use.”<sup>6</sup>

Sprint recommends the Commission take the following steps to apply the 2018 Small Cell Order’s interpretation of Section 253 to installation of DAS, small cells, and other comparable services in publicly owned or managed venues by prohibiting

- terms that prohibit competitive broadband investment in public venues through overlays of existing systems;
- “plug-in” fees that exceed the cost of deploying overlay systems or a provider’s proportionate share of the direct and actual costs incurred in installing a DAS, whichever is less;
- rents that exceed the direct and actual cost of managing and operating overlay systems; and
- “plug-in” fees and rents that allocate based solely on dividing by the number of mobile service operators rather than allocating based on actual system use of each provider.

**B. Commission Should Preclude Providers Within Its Jurisdiction from Entering Into Exclusive Agreements**

The same policy justifications that undergird deploying small cells and DAS in public

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<sup>6</sup> *Id.* para. 91.

venues apply to privately owned venues. The legal requirements differ, of course, as section 253 does not apply to private property

As noted in the NPRM, the Commission does have regulatory authority over carriers that operate a DAS.<sup>7</sup> The Commission applied Section 253 to small cells because the voice and data are commingled.<sup>8</sup> The Commission should invoke its authority under sections 201 and 202 and declare that it is unreasonable for a carrier to impose unreasonable charges and practices on other carriers seeking to use a DAS under an exclusive contract.

## **V. Conclusion**

Exclusive contracts for DAS access have already materially hindered wireless broadband deployment, and as the nation's carriers transition to 5G, the effects will only get worse. The Commission should continue its work over the last several years to advance deployment by adopting guidelines that will limit fees for access to DAS in public venues to direct and actual costs and by ensuring that DAS systems operated by carriers in privately owned venues are done so on terms that are fair and reasonable.

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<sup>7</sup> NPRM para. 22.

<sup>8</sup> 2018 Small Cell Order para. 36.

Respectfully submitted,

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