

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Section 74.1231(i) of the Commission's Rules on FM Broadcast Booster Stations	)	MB Docket No. 20-401
	)	
Modernization of Media Regulation Initiative	)	MB Docket No. 17-105
	)	
Amendment of Section 74.1231(i) of the Commission's Rules on FM Broadcast Booster Stations	)	RM-11854
	)	

**COMMENTS OF  
THE NATIONAL ASSOCIATION OF BROADCASTERS**

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**I. INTRODUCTION AND SUMMARY**

The National Association of Broadcasters (NAB)<sup>1</sup> hereby submits comments on the Commission's inquiry into whether to amend its rules to permit FM booster stations to originate programming.<sup>2</sup> The Notice advances a Petition for Rulemaking filed by GeoBroadcast Solutions LLC (GBS), which has developed technology to enable FM radio broadcasters to use boosters to air geo-targeted content, independent of a broadcaster's primary signal, within different portions of a station's market (ZoneCasting).<sup>3</sup> After a careful and thorough review of the Notice, NAB strongly opposes revising the booster rule.

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<sup>1</sup> NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and also broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

<sup>2</sup> *Amendment of Section 74.1231(i) of the Commission's Rules on FM Broadcast Booster Stations*, MB Docket Nos. 20-401, 17-105, Notice of Proposed Rulemaking (rel. Dec. 1, 2020) (Notice); 47 C.F.R. 1231(i) (requiring an FM booster station to retransmit only the signals of its primary station).

<sup>3</sup> Petition for Rulemaking of GBS, RM-11854 (Mar. 13, 2020) (Petition).

NAB commends the Commission on looking for new ways to ensure that local radio remains a robust service for the American public. The Commission should always look seriously at proposals ostensibly aimed at assisting the industry in its service of listeners. NAB appreciates in particular Commissioners Carr and Starks for leading the effort to have the agency to take a deeper dive into the ZoneCasting proposal.

As with any proposal, however, a deeper understanding can reveal some significant flaws and challenges. In this instance, a close review of the Notice suggests that rather than bolster the industry's economic outlook, GBS's proposal would instead undermine the industry's fundamental business model. The vast majority of broadcasters – from a wide array of perspectives – agree that permitting program origination on boosters will almost certainly drive both advertising rates and revenues down even further as advertisers push to purchase geo-targeted ads. The outcome is unavoidable, given the obvious business incentives for advertisers to purchase spots that cherry-pick what they view to be their most desirable customers and at a lower cost.

Further inspection also leads to the inevitable conclusion that broadcasters will not be able to recoup such losses through sales of any additional spot inventory that is created on boosters.<sup>4</sup> Based on their considerable advertising expertise, most station owners predict that existing advertising customers will likely substitute, rather than supplement, market-wide ads with cheaper, geo-targeted ads. They also agree that potential sales of geo-targeted ads to new customers are purely speculative. Broadcasters do not by and large see pent-up demand by small businesses in their local markets that have not previously purchased advertising time, and even if such demand exists, it would not be economical to undertake the substantial investment to capture the additional business. Stations would be forced to hire

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<sup>4</sup> Petition at 18.

and retrain sales staff and implement sophisticated systems for managing ad inventory and maximizing revenues. Revising the booster rule could therefore devastate radio net revenues, hampering stations' ability to serve listeners.

Moreover, this proposal comes at a time when broadcasters are already reeling from the financial impact of the COVID-19 pandemic and competing in a slowing advertising market against a growing array of digital outlets.<sup>5</sup> It is far too risky at this point to introduce a new product that could further destabilize a critical industry.

The proposal's "voluntary" nature does not save it. The risks identified above exist even if only one or two stations in a market volunteer to geo-target programming because ad buyers will inevitably gravitate toward cheaper, geo-targeted ads, leaving other stations no choice but to pay to use GBS's ZoneCasting system or charge unsustainably low ad rates. Amending the booster rule could very well produce a race to the bottom of ad rates and revenues, and NAB is concerned that ZoneCasting will only increase the leverage of larger broadcasters and consolidated groups at the expense of smaller stations. Minority- and women-owned stations could be hardest hit if they cannot afford the expense of selling geo-targeted ads or absorb lower advertising rates and new competition for ad dollars from the boosters of larger stations.<sup>6</sup>

Thus, listeners served by minority- and women-owned stations may stand to lose the most under the proposal. In this vein, it is also important to note that, while geo-targeted news

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<sup>5</sup> Comments of NAB, GN Docket No. 20-60, at 16-25 (Apr. 27, 2020) (NAB Competition Report Comments) (describing fundamental changes to the advertising market and the growing percentage commanded by digital platforms at the expense of radio stations).

<sup>6</sup> NAB recognizes that GBS has made overtures to finance the costs of designing, building and operating a small station's booster, in exchange for share of ad revenues. However, GBS does not mention a station's costs to hire and/or retrain sales staff or overhaul its advertising sales system to efficiently sell zoned ads. Letter from David Honig, Multicultural Media, Telecom and Internet Council (MMTC), to Marlene H. Dortch, Secretary, FCC, RM-11854, at 2 (Aug. 17, 2020) (MMTC Aug. 17<sup>th</sup> Letter).

and information could benefit certain parts of a market, it could also facilitate the geo-targeting of advertising away from certain parts of a radio market based on the demographics of an area. If given the opportunity, radio advertisers may simply direct their ad dollars to zoned ads aimed at their favored customers, especially since geo-targeted ads will cost less than market-wide ads. Listeners in some sections of a market, such as low-income areas, could find themselves “redlined” out of certain radio advertisements.

If the Commission were to still believe that there is merit to GBS’ s proposal, it must require additional testing of the technology to understand the impacts of self-interference on the industry. Broadcasters are extremely concerned that the interference caused by geo-targeting where the boundary of a primary station meets a booster airing different programming will spur listeners to change to an alternative platform and reflect poorly on the reputation of FM radio service. Even if an individual station is willing to risk that loss, listeners may not limit their disdain to one station or group; rather, they may become so disenchanted with the reliability of terrestrial radio that they seek out a plethora of other options.

Although GBS’s proposal has received some initial broadcaster support in the record,<sup>7</sup> NAB radio members – both large and small – overwhelmingly and vehemently oppose amending the booster rule. While GBS’s proposal may be well-intentioned, any potential benefits of permitting geo-targeting are speculative at best and far outweighed by the far more certain, potentially seismic risks to the business model of FM radio. NAB thus

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<sup>7</sup> As of the filing of these comments, there are approximately 58 comments in the record from mostly smaller broadcasters in support of amending the booster rule, of which 54 are essentially identical and submitted by one attorney who represented GBS in previous requests to modify the booster rule. None of these comments acknowledges the financial, competitive or technical risks of allowing geo-targeting. Petition for Rulemaking of GBS, RM-11659 (Apr. 4, 2012); Comments of GBS, MB Docket No. 17-105 (Aug. 3, 2017).

respectfully requests that the FCC retain the current booster rule, terminate this proceeding and dismiss GBS's Petition.

Moreover, if the Commission still deems the proposal worthy of further consideration despite the concerns set forth herein, myriad uncertainties about GBS's technology should preclude any advancement of the proposal based on the record.<sup>8</sup> Among broadcasters' chief concerns are the inevitable interference to a station's radio signal where the contours of the primary station and booster intersect, the extent of such interference under various conditions and the resulting impact on consumer behavior. In any event, the record lacks any real-world testing of GBS's system under certain critical circumstances sufficient to allow stakeholders to reasonably assess the technical impact of GBS's proposal.

## **II. AMENDING THE BOOSTER RULE COULD UNDERMINE THE BUSINESS MODEL OF RADIO**

The Notice seeks comment on whether revising the booster rules to permit program origination would benefit listeners and broadcasters.<sup>9</sup> It also asks whether amending geo-targeting may provide new advertising opportunities for small, local businesses.<sup>10</sup> In addition, the FCC requests feedback on GBS's claims that the proposal would generate additional economic opportunity for broadcasters,<sup>11</sup> the potential impact on stations owned by

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<sup>8</sup> At best, revising the booster rule is exceptionally premature, and NAB suspects the FCC may agree. Both the tone and text of the Notice read more like a Notice of Inquiry than a Notice of Proposed Rulemaking, with hundreds of open-ended questions but zero proposed rule changes or tentative conclusions. Instead, the Notice merely asks "whether" the FCC should modify the booster rules and seeks comment on various issues raised in comments on the Petition.<sup>8</sup> Notice at ¶¶ 1 and 10.

<sup>9</sup> *Id.* at ¶ 27.

<sup>10</sup> *Id.* at ¶ 28 citing GBS Petition at 16-17 and *Exhibit B (BIA Study)*.

<sup>11</sup> *Id.* citing GBS Petition at 18-20.

minorities, women and small businesses<sup>12</sup> and how geo-targeting may affect competition among radio stations.<sup>13</sup>

**A. Enabling Geo-Targeting Will Depress Radio Advertising Rates and Revenues at a Time When Broadcasters Already Face Enormous Economic and Competitive Challenges**

At first glance, GBS's proposal appears consistent with NAB's historical support for technical developments that are intended to help broadcasting and policy proposals to relax burdensome regulatory limits.<sup>14</sup> Thus, NAB is grateful for the opportunity to comment on the Notice and took steps to give both GBS's proposal and the questions raised in the Notice a fair and thorough review. We solicited input from the full spectrum of radio broadcasters about ZoneCasting's potential impact on their service and business, and collected advice from representatives of minority-owned stations, small market stations, advertising agencies, engineers and other stakeholders, including GBS.

This process has revealed strong opposition to amending the booster rule from nearly all NAB radio members. Most fundamentally, broadcasters reject GBS's claims that enabling stations to geo-target programming will improve stations' financial health.<sup>15</sup> To the contrary, most forecast that permitting geo-targeting will *undermine* the entire business model of radio and jeopardize the financial viability of many radio stations. On balance, the vast majority of NAB members agree that any potential benefits that ZoneCasting may produce are speculative and far outweighed by the much more certain financial risks. This conclusion is wholly apart from the industry's substantial concerns about the interference that geo-

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<sup>12</sup> *Id.* at ¶ 29.

<sup>13</sup> *Id.* at ¶ 30.

<sup>14</sup> See, e.g., Comments of NAB, MB Docket Nos. 19-311 (Mar. 9, 2020) (supporting all-digital AM service); Comments of NAB, MB Docket No. 17-106 (July 3, 2017) (supporting deletion of main studio rule).

<sup>15</sup> Petition at 19.



targeting will cause, especially to listeners in cars, and the potential impact on consumer behavior and the reputability of FM radio service writ large.

For its part, GBS has commissioned surveys and studies purporting to show that geo-targeting would make radio more attractive to both existing and new advertisers.<sup>16</sup> For example, it submitted a survey which concluded that businesses would be interested in purchasing zoned advertisements and some may even increase their radio ad buys.<sup>17</sup> GBS also states that geo-targeting would better align radio with ad buyers' expectations and help radio compete with other outlets.<sup>18</sup>

Broadcasters disagree. Their immediate concern is that allowing boosters to originate programming will depress advertising rates because ad buyers and agencies will demand zoned ads on boosters instead of market-wide ads. Few businesses will pass on an opportunity to reallocate ad dollars towards zoned advertisements that target the wealthiest or otherwise their most desired parts of a market, especially since geo-targeted ads will cost less than market-wide ads. GBS's own evidence supports this notion, as its BIA report found that a majority of advertisers say it is very important to "target consumers who are in a geographically relevant location."<sup>19</sup> Broadcasters foresee a possibly steep decline in market-wide advertising as ad buyers seek to replace, not complement, market-wide ads with less expensive, geo-targeted ads. They also note that prices for ads on a station's primary signal

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<sup>16</sup> *Id.* at 17 citing Edison Research, *What Does it Mean to be Local? Radio's Big Opportunity?*, attached as Exhibit E (Edison Report).

<sup>17</sup> *Id.* at Exhibit B, BIA Advisory Services and Advertiser Perceptions, *ZoneCasting: Main Street and Madison Avenue Survey*, (Dec. 2019 and Oct 2019) (BIA/AP Survey) (BIA projects ad revenue increases of 3 to 11% in markets that cross a state border, markets with multiple centers of economic activity, and other top 25 markets).

<sup>18</sup> *Id.* at 19.

<sup>19</sup> *Id.* at Exhibit D, BIA Advisory Services, *Opportunity Assessment for Local Radio Stations with Zoned Broadcast Coverage*, at 9 (Nov. 20, 2018) (BIA Report).

are likely to fall, at least for ads that no longer reach the entire market because the signal is carved up by boosters.

Given that advertising is the lifeblood of radio stations, the movement towards cheaper, geo-targeted advertising on stations with boosters is likely to force other stations into of a Hobson's Choice to survive. Broadcasters either will have to reduce rates for market-wide ads to low, unsustainable levels to try to retain some business, or obtain their own boosters and pay for the privilege of using GBS's system. Thus, despite GBS's characterization of its proposal as a voluntary option for broadcasters, the negative impact on other stations is far more like to be involuntary, and possibly devastating.

GBS further claims that allowing geo-targeting will help place radio stations on a level playing field with other outlets that can target advertising, and help stations capture some of the targeted advertising market.<sup>20</sup> GBS states that geo-targeting would enable radio to attract new advertisers, such as smaller businesses that may not need to reach an entire market or cannot afford current market-wide rates.<sup>21</sup> In GBS's view, the additional spot inventory created by geo-targeting would help grow a station's overall revenues.

Again, the vast majority of radio broadcasters have little confidence in GBS's assumptions. For good reason, broadcasters pay close attention to their local advertising markets, and few see much evidence of unmet demand by potential new customers. First, they explain that much radio advertising is relatively inexpensive compared to other outlets, and stations already work hard to find any potential business and accommodate the budgets of smaller customers. Second, some broadcasters already lament having excess spot inventory, which geo-targeting would only exacerbate. Third, even if ZoneCasting did unlock

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<sup>20</sup> *Id.* at 18.

<sup>21</sup> *Id.* at 3 and 18; BIA Report at 2 and 13.

some new business opportunities, broadcasters inform NAB that any sales of cheaper, zoned ads to small local businesses would not come close to recouping the revenues lost due to lower rates for market-wide ads. Some broadcasters further question GBS's assertion that ZoneCasting may help radio win a meaningful amount of business away from cable television and online outlets,<sup>22</sup> because radio is currently less addressable so would be unable to compete with services that inherently reflect consumer data as a result of them being part of a broadband service.

Finally, the heavy investment required to implement ZoneCasting effectively would not be justified for most stations. Even putting capital costs aside, many broadcasters would have to hire additional sales staff to sell into new niche markets, and retrain existing staff to sell advertising in a completely new way. Several also note that sales staff, who work on commission, would be forced to devote more time and effort to selling geo-targeted ads for lower prices than market-wide ads. Additionally, most stations would require an expensive, major overhaul of their technology systems related to advertising to efficiently manage their ad inventory and maximize revenue. Thus, the expense of using boosters to broadcast original programming would be out of reach for almost all stations.

Revising the booster rule would also moot radio's most unique features, namely, its reach and ubiquity, and shift too much leverage to advertising agencies and buyers at the expense of radio stations. It is no wonder multiple advertising agencies have registered their strong support for GBS's proposal.<sup>23</sup> That alone should give the Commission great pause. And the impact on revenues could not come at a more inopportune time, as broadcasters continue to face intense competition from a growing universe of digital platforms and try to

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<sup>22</sup> BIA Report at 3.

<sup>23</sup> Comments of MAGNA Global, RM-11854 (May 4, 2020); Comments of Dentsu Aegis, RM-11854 (May 4, 2020).

survive amid the economic downturn caused by the COVID-19 pandemic. NAB will refrain from belaboring these challenges here, but in other proceedings we have submitted data that between 2003 to 2018, FM radio's ad revenues dropped by 23.4 percent in nominal terms and 43.8 percent after accounting for inflation.<sup>24</sup> Between 2010 and 2019, digital's share of the total advertising market grew from 12.6 percent to 42.2 percent, while radio's share fell from 6.8 percent to 4.7 percent, with this trend expected to continue unabated for at least another decade.<sup>25</sup>

The FCC is also well-aware that the pandemic has significantly weakened the American economy. Advertising dollars which sustain radio are often among the first cuts when businesses contract during downturns.<sup>26</sup> Many radio broadcasters have been forced to furlough or lay off employees, impose salary cuts, or simply turn off service.<sup>27</sup> And in many respects, radio has suffered even more than its competitors because most radio listening takes place in automobiles but many Americans are not commuting to work or using their cars to shop or run errands.<sup>28</sup> Thus, the negative impact of revising the booster rule on the radio business model, particularly stations' advertising revenues, could be the death knell of some stations that may already face a bleak future.

**B. Amending the Booster Rule Could Lead to Cannibalization Among Radio Stations, and Cause the Most Harm to Smaller Stations, Including Minority-Owned Stations**

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<sup>24</sup> NAB Competition Report Comments at 18.

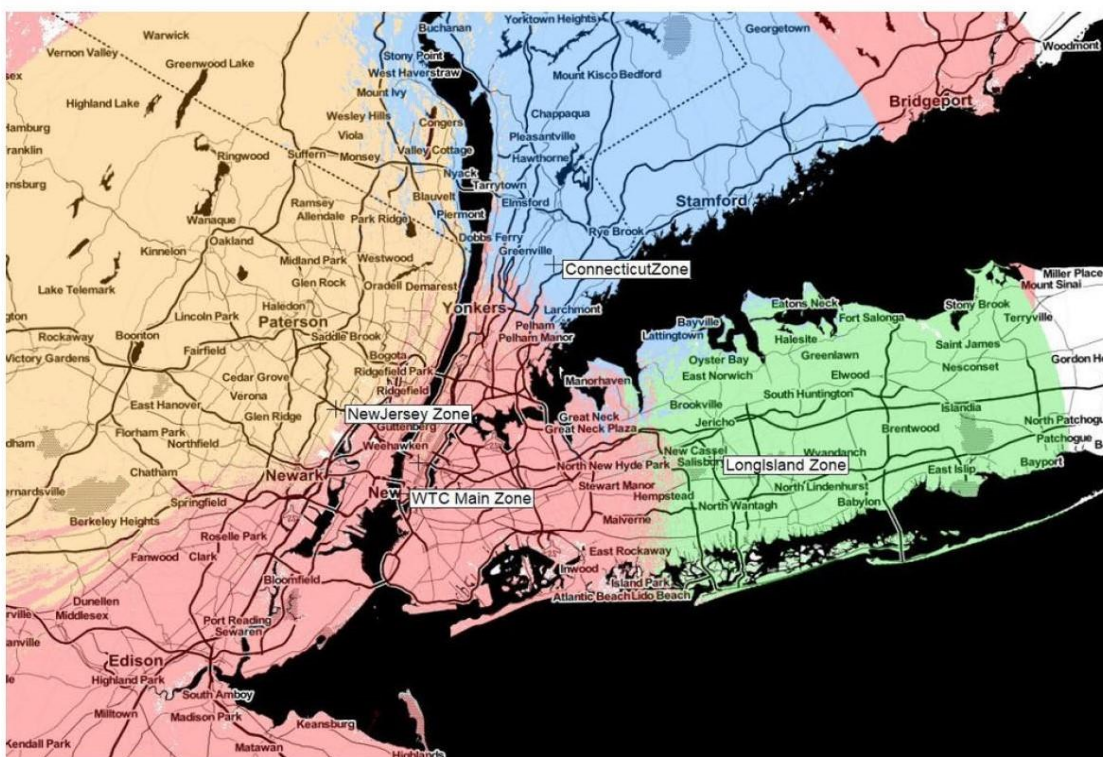
<sup>25</sup> *Id.* at 20.

<sup>26</sup> *Id.* at 23.

<sup>27</sup> *Id.*

<sup>28</sup> Susan Ashworth, [2020 is the Year that Radio Hits a Proverbial Iceberg, Survey Says](#), Radio World (Sep. 30, 2020) (describing survey showing that pandemic has led to decline of AM/FM listening in cars, "especially in . . . markets where commuting and other regular shorter-distance trips have been curtailed.").

Although GBS presents its proposal as a permissive option, even voluntary adoption by only one or two stations is likely to disrupt the advertising market for other broadcasters in the same radio market. In particular, allowing geo-targeting could thrust broadcasters into a collision that disadvantages smaller stations less equipped to absorb the costs of implementing ZoneCasting effectively or reduced ad rates. GBS's own filings demonstrates the risks. For example, GBS has depicted a high-powered station broadcasting from downtown Manhattan that could use boosters to create zoned coverage areas in New Jersey, Connecticut and on Long Island.<sup>29</sup>



Although GBS offers this image to illustrate the station's opportunity to use boosters to geo-target news and information to these respective areas, the station would also be able to sell geo-targeted ads. It is easy to foresee the negative impact on smaller stations licensed to

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<sup>29</sup> Letter from Gerard J. Waldron, Counsel for GBS, to Marlene H. Dortch, Secretary, FCC, RM-11854, attachment at 6 (Sep. 25, 2020).

Edison, New Jersey and Mount Kisco, New York and other distant suburbs. Such broadcasters must already compete with nearby stations for precious ad dollars from grocery stores, car dealers and other small businesses in the local area. If the booster rule is amended, they could be pitched into battle against much larger, New York City-based broadcasters for this critical local business. And contrary to GBS's claims, some broadcasters believe that any such opportunity to sell zoned ads to new customers will largely be one-way because smaller stations do not have access to the capital necessary to implement geo-targeting as effectively, or capture enough new advertising business to justify the effort.

We further question the usefulness of ZoneCasting for stations in small and mid-sized markets. NAB members in these markets view ZoneCasting as a "big city play," at best. It would be unusual for small and mid-sized radio markets to have multiple pockets of population sufficient to support the investment required to deploy GBS's system. GBS points to certain radio markets that cross state borders or cover multiple economic areas where geo-targeting could possibly make sense.<sup>30</sup> Again, however, most broadcasters predict that larger stations would enjoy the lion's share of any such benefits, at the expense of smaller stations. Thus, after careful review, nearly all radio broadcasters consider GBS's proposal as a lose-lose proposition in which the only winners would be the technology provider and advertisers.

Minority-owned broadcasters and the communities they serve would be among those most at risk should the FCC adopt GBS's proposal. Initially, the proposal was pitched as affirmatively helping such stations and groups. Indeed, a group of public interest organizations led by MMTC filed a series of letters in support of GBS's Petition.<sup>31</sup> MMTC

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<sup>30</sup> BIA Report 12-13.

<sup>31</sup> Comments of the Multicultural Media, Telecom and Internet Council (MMTC) et al., RM-11854 (May 1, 2020) (MMTC Comments); Letter from David Honig, MMTC, to Marlene H. Dortch, Secretary, FCC, RM-11854 (Aug. 4, 2020) (MMTC Aug 4<sup>th</sup> Letter); Letter from David

explained that minority station owners often entered broadcasting later than others, leading them to locate their tower sites located some distance from downtown.<sup>32</sup> MMTC states that ZoneCasting would enable these broadcasters to target different programming to different audiences, and adds that such owners may also be able to entice small and minority owned businesses to purchase less expensive, zoned ads.<sup>33</sup>

NAB appreciates MMTC's involvement in this proceeding. We have partnered with MMTC for many years to help promote minority ownership of broadcast stations, including efforts to improve access to capital and reinstatement of the minority tax certificate. Unlike those projects, however, amending the booster rule would not promote minority broadcasting, and would likely be counter-productive. First, a minority broadcaster with a transmitter on the fringe of a market would already have the incentive and ability to obtain a booster so as to provide a stronger signal into the urban core of a market. Given that the FCC's rules permit stations to deploy a booster at their convenience,<sup>34</sup> we presume that any such broadcaster has already done so where the investment has been justified. NAB submits that the any incremental ad sales to small businesses enabled by geo-targeting would not change this calculation, particularly in light of the risks and costs of implementing geo-targeting.

GBS has attempted to anticipate this question by offering to provide vendor financing to certain FM stations. Under this scenario, GBS would front the capital needed to design, build and operate a station's booster, in exchange for a share of the marginal advertising revenue generated by the booster.<sup>35</sup> At first blush, this seems like a good opportunity for small

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Honig, MMTC, to Marlene H. Dortch, Secretary, FCC, RM-11854 (Aug. 17, 2020) (MMTC Aug 17<sup>th</sup> Letter); Letter from David Honig, MMTC, to Marlene H. Dortch, Secretary, FCC, RM-11854 (Aug. 25, 2020) (MMTC Aug 25<sup>th</sup> Letter).

<sup>32</sup> MMTC Aug. 17<sup>th</sup> Letter at 1.

<sup>33</sup> MMTC Aug. 25<sup>th</sup> Letter at 2.

<sup>34</sup> 47 C.F.R. § 74.1233.

<sup>35</sup> MMTC Aug. 17<sup>th</sup> Letter at 2.

broadcasters. However, closer review raises several questions. For example, what happens if GBS encounters financial problems and requires immediate or accelerated payment for a booster? What would be a minority station's obligation if the revenues produced by a booster are insufficient to repay GBS, or the station decides to discontinue service on the booster because the expense of selling geo-targeted ads is not justified? Would the station be responsible for maintaining and insuring the booster station, and electricity and a generator in case of emergency? Would GBS indemnify a station for liabilities related to the booster, such as a cyber breach? Would the arrangement convey if the station is sold to a large company? And, at the end of the day, how can the Commission guarantee that this arrangement will be available in perpetuity?

We understand that vendor financing has been used in other telecommunications contexts.<sup>36</sup> However, to NAB's knowledge, it would be highly unusual if not unprecedented for the FCC to alter a long-standing rule in order to approve a new broadcast technology based on the promises of a single, private company to fund its rollout. Moreover, relying on GBS's assurances could be a shaky foundation for revising the booster rule, given the financial and technical risks set forth herein. For these reasons, GBS's alleged vendor financing plan could not sufficiently justify amending the booster rule.

Finally, MMTC does not address the unintended consequences that ZoneCasting could impose on minority broadcasters. Just like other similarly situated, smaller radio stations, minority owned stations could face new competition from large stations in other parts of a market. There would be nothing to stop a large downtown station, with the resources to fund its own booster and effectively sell zoned ads, from building a booster near a minority-owned

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<sup>36</sup> *Id.*



station and using the booster to seize ad dollars from small or minority-owned businesses in the area. Moreover, a larger station could better afford to charge very attractive prices for zoned ads to win such business. In the end, ZoneCasting could be little more than a vehicle for large stations to increase their dominance at the expense of smaller stations, including those owned by people who are members of historically underrepresented groups. Such an outcome would not serve the public interest in diverse radio service.

### **C. Revising the Booster Rule Could Lead to Unwelcome “Redlining” of Certain Listeners and Cause General Listener Confusion**

#### **1. Geo-Targeting May Facilitate Discriminatory Advertising**

Amending the booster rule will impose financial and competitive stress on all broadcasters, including smaller and minority-owned stations. Such an outcome would affect the ability of stations to serve their listeners. In addition, as the FCC queries, geo-targeting could further harm certain listeners by allowing “certain parts of a market to be ignored in favor of population clusters deemed more valuable to advertisers.”<sup>37</sup> In other words, although ZoneCasting would enable stations to provide tailored news and information to specific parts of their market, it would also facilitate the targeting of advertisements away from specific parts of their market based on racial, ethnic, income and other demographics. Some radio advertisements thus could try to bypass certain areas and listeners, akin to home loan “redlining.”<sup>38</sup>

The FCC dealt with a similar problem more than a decade ago when it adopted a policy to combat the insidious practice of some advertisers and ad agencies of imposing written or

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<sup>37</sup> Notice at ¶ 31.

<sup>38</sup> See, e.g., Zach Winter, [What is Redlining? A Look at the History of Racism in American Real Estate](#), Bankrate (Dec. 4, 2020).

unwritten “no urban/no Spanish” dictates in agreements to purchase advertising.<sup>39</sup> Some advertisers and agencies would request air time on one or more stations in a market but suggest other stations to avoid based on their format and audience demographics.<sup>40</sup> The FCC was rightly concerned that such instructions were intended to minimize the number of African Americans or Hispanics who patronize an advertiser's business, or presumed that African Americans or Hispanics could not be persuaded to buy an advertiser's product or service, in violation of U.S. nondiscrimination laws.<sup>41</sup> The FCC addressed no urban/no Spanish dictates by imposing a new requirement that all advertising contracts must contain clauses ensuring that there is no discrimination based on race or gender in the sale of advertising time,<sup>42</sup> and mandating that broadcasters certify the presence of such clauses in their license renewal applications.<sup>43</sup> NAB strongly supported the FCC's action.<sup>44</sup>

Amending the booster rule may facilitate an even worse version of advertising redlining, one based on the location of listeners. No urban/no Spanish dictates were largely based on an advertiser's perception of the race, national origin, language and income of consumers likely to listen to a certain radio format, such as urban contemporary, Hispanic rhythmic or country. That said, although this kind of stereotyping was appalling, it may have

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<sup>39</sup> *Promoting Diversification of Ownership in the Broadcasting Services et al.*, Report and Order and Third Further Notice of Proposed Rulemaking, 23 FCC Rcd 5922, 5941 (2008)

<sup>40</sup> See, e.g., Kofi Ofori, *When Being Number One Is Not Enough: The Impact of Advertising Practices On Minority-Owned And Minority-Formatted Broadcast Stations*, Civil Rights Forum on Communications Policy (1999).

<sup>41</sup> *Id.*

<sup>42</sup> See *supra* note 45.

<sup>43</sup> FCC Form 303-S, [Application for Renewal of Broadcast Station License](#), Section II Item 7 (“Licensee certifies that its advertising agreements do not discriminate on the basis of race or gender and that all such agreements held by the licensee contain nondiscrimination clauses.”).

<sup>44</sup> [Broadcasters Urge End to Advertising “Dictates”](#) (Mar. 31, 2008) (joint letter of NAB, the Radio Advertising Bureau and the Television Bureau of Advertising to approximately 4,200 advertising agencies opposing discriminatory practices and urging them to join broadcasting in working “towards free and fair competition in the market for broadcast advertising time.”).

failed to succeed sometimes because many radio formats serve a fairly diverse audience. For example, one report from 2013 report showed that African Americans made up 38 percent of the audience for Hip Hop stations, but White/Caucasian listeners made up more than 41 percent of the same audience, and Hispanic listeners made up 28 percent of the audience for Alternative radio formats.<sup>45</sup>

By contrast, enabling advertisers to construct ad purchases based on where listeners live (or do not live) could make it easier for advertisers to effectively discriminate. First, a person's neighborhood is likely a better indicator of income than their entertainment choices.<sup>46</sup> Second, as MMTC explains, it is "well documented in this country that geographics often line up closely with demographics, including race, ethnicity, and primary language."<sup>47</sup> Thus, the opportunity to geo-target advertising on boosters will allow some ad agencies and businesses to act on incentives to furtively avoid certain parts of a market. Moreover, it will be a simple matter for ad buyers to couch such requests in terms of financial efficiency because, according to BIA, it is very important for advertisers to "target consumers who are in a geographically relevant location."<sup>48</sup> And to make matters worse, advertisers seeking to redline parts of a market would get a bargain because zoned ads will cost less than market-wide ads. Such a possible outcome is extremely troubling for NAB and radio broadcasters, who of course would do everything in their power to prevent discriminatory advertising.

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<sup>45</sup> [Radio Program Demographic Rankers](#), RBR-TVBR (Mar. 16, 2013) citing data from Prosper Insights & Analytics.

<sup>46</sup> See, e.g., Issue Brief, *Neighborhood Poverty and Household Financial Security*, The Pew Charitable Trusts (Jan. 24, 2016) ("Residents of high-poverty areas are more likely to have unstable economic situations, earnings that are equal to or lower than expenses, and difficulty meeting basic financial obligations, such as mortgage, rent, or bills. Those living in low-poverty neighborhoods are more likely to be homeowners—and to have a mortgage on their primary residence—and they tend to be more equipped with practical financial products such as checking accounts, credit cards, or college savings accounts.").

<sup>47</sup> MMTC Comments at 2.

<sup>48</sup> BIA Report at 9.

## 2. Geo-Targeting May Cause Listener Confusion and Reflect Poorly on the Reputation of FM Radio Service

The Notice seeks comment on the potential impact of geo-targeted content on listeners.<sup>49</sup> NAB agrees with commenters on the Petition that geo-targeting could promote localism by allowing FM stations to air messages and news about weather, traffic and emergencies tailored to the affected parts of a radio market.<sup>50</sup> For example, the benefit to listeners of receiving updates about snowstorms tailored to them is readily apparent.<sup>51</sup>

On the other hand, broadcasters are extremely concerned about the interference listeners may experience when travelling through the “transition zone,” or the area a listener driving in a car passes through when the contour of a station’s primary station meets that of a booster airing different programming. Such interference is likely to confuse listeners. According to GBS’s filings, the latest iteration of ZoneCasting was last tested in 2016 on WIIL-FM in Union Grove, Wisconsin.<sup>52</sup> GBS asserts that this test showed that the transition zone could be limited to a “very small area where the audio transition is noticeable,”<sup>53</sup> which GBS characterizes as “*de minimis*.”<sup>54</sup> However, a closer read of this test report actually reveals disconcerting performance. Specifically, the “RF Analysis of the Test Area” section of the report discloses that the transition from the primary station to the booster signal on three of the studied tested drive routes lasted from 12 to 30 seconds.<sup>55</sup> Such a lengthy disruption of a

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<sup>49</sup> Notice at ¶ 27.

<sup>50</sup> See, e.g., Comments of Yeary Broadcasting, Inc., RM-11854, at 1 (Apr. 23, 2020); Comments of Legend Broadcasting, LLC, RM-11854, at 2 (May 1, 2020). However, as discussed above, NAB is uncertain about the impact of amending the booster rule on the monitoring and dissemination of machine-generated EAS alerts.

<sup>51</sup> Legend Comments at 2; NAB Comments at 3.

<sup>52</sup> Petition, Exhibit C at 6.

<sup>53</sup> *Id.*

<sup>54</sup> Reply Comments of GBS, RM-11854, Appendix D (ZoneCasting™ Proposed Test, WIIL(FM) Channel: 236B 95.1 MHz Union Grove, WI) (WIIL Report”), at 6 note 2 (May 19, 2020).

<sup>55</sup> *Id.* at 24-26.

listener's reception can hardly be considered *de minimis*. To the contrary, a lag or silence for 12 to 30 seconds will definitely cause listener confusion or frustration. It would also contradict the historically cautious approach of both the FCC and industry regarding any proposals that could degrade a consumer's experience.<sup>56</sup>

In any case, the record lacks reliable data sufficient for stakeholders to reasonably assess ZoneCasting's impact on listeners under real-world conditions. To date, there have only been controlled experiments. Nor is there any information about a listener's experience when passing through a transition zone from a booster station back to the primary station or when travelling along a route tangential to the intersection of the primary and booster station, when different programming is broadcast. Nor is there any data on the effect to this interference of varied driving speed or terrain, or whether using different radio receiver models would be a factor, e.g., analog vs. digital.

NAB recognizes that such interference should largely affect only the host station that volunteers to deploy ZoneCasting.<sup>57</sup> However, broadcasters have global concerns that any interference, including "self-interference," will reflect negatively on FM radio service and spur listeners to change to a plethora of competitors. Nothing less than the reputation of FM radio service is at stake, and broadcasters can ill-afford to raise any new hurdles on top of the

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<sup>56</sup> See, e.g., *Amendment of Part 74 of the Commission's Rules Regarding FM Translator Interference*, 34 FCC Rcd 3457, 3471-73 (May 9, 2019) (establishing detailed procedures for resolving translator interference in response to listener complaints); *All-Digital AM Broadcasting, et al.*, 35 FCC Rcd 12540, 12558 (2020) (creating remediation policies for handling complaints about interference caused by AM all-digital operations); Letter from Patrick McFadden, NAB, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 18-295, GN Docket No. 17-183 (Oct. 16, 2020) (increasing authorized power for low power indoor (LPI) operations without any new evidence or actual experience would increase the risk of interference to incumbent operations).

<sup>57</sup> Petition at 5 and 13.

economic downturn, the COVID-19 pandemic and exploding competition from digital platforms.

The interference caused by ZoneCasting is particularly troubling because it will most commonly affect listeners in cars, where the majority of radio listening occurs.<sup>58</sup> The potential risks are real and devastating for radio broadcasters. NAB understands that carmakers are acutely sensitive to negative feedback from consumers about their entertainment systems. When listeners experience reduced radio service, they do not hesitate to lodge a complaint with the dealership or car manufacturer. Consumer complaints can reduce a vehicle's ratings, and create incentives for carmakers to exclude broadcast radio from new models in favor of streaming services. Some automakers have already taken such steps,<sup>59</sup> and some observers already envision a day when free, over-the-air radio could disappear from cars like CD players.<sup>60</sup> The FCC and industry must vigilantly safeguard against such actions for the benefit of the millions of Americans who rely on free, over-the-air radio.

### **3. GBS's Attempts to Cabin the Potential Negative Impact of ZoneCasting Fall Short**

GBS attempts to voluntarily constrain the impact of its proposal, first by requiring a booster to broadcast "substantially similar" programming to the primary station,<sup>61</sup> and second by limiting the amount of original programming that may be aired on a booster to 5 percent of the broadcast hour (i.e., three minutes).<sup>62</sup> Neither provides much solace to broadcasters.

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<sup>58</sup> Bob McCurdy, *2018 By the Numbers*, Radiolnk. (Jan. 2, 2019) (AM/FM share of audio listening in car is 67%; 84% of Americans listen to radio in their car).

<sup>59</sup> Fred Lambert, [Tesla Brings Back Radio \(yes, radio\) for \\$500 Infotainment Retrofit](#), Electric.com (Oct. 28, 2020).

<sup>60</sup> Stephen Silver, [Do We Still Need AM/FM Radio in a Car?](#), The National Interest (Sep. 24, 2020).

<sup>61</sup> Petition at 7 and 20.

<sup>62</sup> Letter from Gerard J. Waldron, Counsel, GeoBroadcast Solutions LLC, to Marlene H. Dortch, Secretary, FCC, RM-11854, at 1-2 (July 17, 2020) (GBS July 17th Letter).

GBS defines “substantially similar” as programming that is the same “except for advertisements, promotions for upcoming programs, and enhanced capabilities including hyper-localized content (e.g., geo-targeted weather, targeted emergency alerts, and hyper-local news).”<sup>63</sup> GBS bases this definition on the simulcasting limit in the FCC’s requirement for the voluntary broadcast television transition from ATSC 1.0 to ATSC 3.0 (Next Gen TV Service).<sup>64</sup> NAB fails to see the parallel. The “substantially similar” limit is intended to serve an entirely different purpose in the context of ATSC 3.0. There, the FCC determined that local simulcasting was essential to the deployment of Next Gen TV service on a voluntary, market-driven basis. It therefore required Next Gen TV broadcasters to simulcast the primary video programming stream of their ATSC 3.0 channels in an ATSC 1.0 format so that viewers could continue to receive ATSC 1.0 service.<sup>65</sup> The FCC took this approach to help ensure that viewers would not lose access to the broadcast programming they currently receive via ATSC 1.0 during the transition, while still providing flexibility for broadcasters to innovate and experiment with Next Gen TV technology.<sup>66</sup> To that end, the FCC required that programming aired on the ATSC 1.0 simulcast channel must be “substantially similar” to the programming aired on the 3.0 channel, and defined the term as above.

GBS’s proposed use of the substantially similar limit is entirely inapposite to the allegedly corresponding one in the ATSC context. Not even GBS attempts to argue that listeners to a station’s booster geo-targeted signal will somehow be disenfranchised or need some kind of protection in order to facilitate deployment of ZoneCasting. To the contrary, GBS

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<sup>63</sup> Petition at Exhibit A.

<sup>64</sup> *Id.* at 7 citing 47 CFR § 73.3801(b).

<sup>65</sup> *Authorizing Permissive Use of the "Next Generation" Broadcast Television Standard, Report and Order and Further Notice of Proposed Rulemaking*, 32 FCC Rcd 9930, 9932 (2017).

<sup>66</sup> *Id.* at 9943.

presents the geo-targeted programming enabled by ZoneCasting as a benefit to listeners. Further, unlike GBS's proposal, the substantially similar limit for Next Gen TV is temporary.

More broadly, any analogy to the ATSC 3.0 deployment is fundamentally inapt. The voluntary deployment of ATSC 3.0 was spearheaded by commercial and noncommercial broadcasters themselves in partnership with the consumer equipment industry.<sup>67</sup> That request reflected years of extensive discussions and broad consensus among the broadcast industry that ATSC 3.0 was the future of television and that the time was right to seek Commission authorization of the standard. By contrast, the issue before the FCC in this proceeding is a request from a single vendor that hopes to change the FCC's rules to allow it to market its proprietary technology to radio broadcasters who have not yet demonstrated significant industry-wide interest in that technology. Indeed, the Commission should find it altogether perplexing that a rule change purporting to benefit broadcasters was not affirmatively sought by broadcasters themselves.

GBS's proposal to limit the amount of original programming that may be broadcast on a booster to 5 percent of the broadcast hour is equally unconvincing. GeoBroadcast chooses this limit because it is reminiscent of Nielsen's "total line reporting" rules which allow broadcasters to aggregate audience data from multiple affiliated outlets (e.g., station, online), so long as the outlets simulcast all content except for one commercial break per hour of five minutes or less.<sup>68</sup> Again, however, GBS tries to force a square peg into a round hole. Nielsen's use of a 5 percent limit is intended for an entirely different purpose, to provide stations that simulcast on multiple outlets a measure of flexibility to qualify for total line ratings. Second,

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<sup>67</sup> See Joint Petition for Rulemaking of America's Public Television Stations, AWARN Alliance, Consumer Technology Association, National Association of Broadcasters, GN Docket No. 16-142 (Apr. 13, 2016).

<sup>68</sup> GBS July 17<sup>th</sup> Letter at 1-2; see also Nielsen, *Minimum Reporting Standards*, at 1 (2014).



Nielsen's limit requires only one simulcast break per programming hour, while GBS's technology would enable a broadcaster to air distinct programming on a booster for the entire day, if permitted. GBS merely volunteers to artificially confine its proposal similar to Nielsen's practice as a way to push it over the regulatory finish line.<sup>69</sup>

Finally, GBS's proposal to limit original programming on boosters to three minutes, or "only" five percent of a programming hour, may seem reasonable on the surface. However, three minutes per hour equates to a much larger percentage of the minutes that stations devote to advertising. For example, Kagan estimated in 2018 that radio formats and spot rates across the nation's top radio networks indicated that syndicated news/talk shows and preprogrammed music commanded an average of 16.1 minutes of ad time per hour.<sup>70</sup> Thus, at least for this category of programming, GBS's proposal could allow stations to geo-target more than 18 percent of their advertising minutes per programming hour. Permitting ZoneCasting for such a major portion of a broadcaster's advertising minutes only heightens the concerns set forth above about the potential impact of ZoneCasting on the radio advertising market and the risk of undermining the entire business model of commercial radio.

**III. IN THE EVENT THE FCC DEEMS GBS'S REQUEST WORTHY OF FURTHER CONSIDERATION DESPITE THE RISKS AND CONCERNS SET FORTH HEREIN, ADDITIONAL REAL-WORLD TESTING OF THE PROPOSED TECHNOLOGY IS REQUIRED**

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<sup>69</sup> We also note that GBS does not address how ZoneCasting may affect PPM measurement. For example, how will Nielsen measure ratings for listening that occurs on both a booster and main signal within a single quarter hour? Would the booster use the same PPM encoding as the primary station when dissimilar content is broadcast? These and other ratings-related questions are critical concerns to radio broadcasters.

<sup>70</sup> Atif Zubair, [Analysis Of Major US Radio Networks 2018: Average Unit Ad Rates Tick Up](#), S&P Global Market Intelligence (Nov. 18, 2018).

Above, NAB discusses the myriad business and competitive concerns that broadcasters have regarding GBS's proposal to permit geo-targeted programming on boosters. Broadcasters have diligently considered the questions raised in the Notice and concluded that implementing GBS's proposal to revise the booster rule may have grave consequences for the fundamental business model of radio. In particular, NAB is concerned that adopting the proposal could endanger smaller stations, including those owned by women and people of color. Thus, NAB respectfully recommends that the FCC terminate this proceeding and dismiss the Petition.

Nevertheless, if the FCC still considers GBS's proposal worthy of more investigation, nearly all broadcasters, especially the engineering community, believe there are too many critical uncertainties about the technology for the FCC to consider amending the booster rule based on the current record.<sup>71</sup> The Commission asks whether permitting FM boosters to transmit original content would cause additional interference, and if so, how such interference should be managed.<sup>72</sup> The FCC also seeks comment on whether the previous experimental operations conducted by GBS has provided enough information to address interference concerns, and if not, what additional testing is necessary before it can determine whether to amend the booster rule.<sup>73</sup>

NAB agrees with the Petitioner that the proposed technology should not cause harmful interference to other full-power FM stations because of protections from booster interference which already exist in the FCC's rules.<sup>74</sup> Thus, new rules to protect second adjacent FM

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<sup>71</sup> See, e.g., Comments of Ron Zlotnick, Sr. Manager – Advanced Development & Broadcast, Mobis Technical Center of North America, LLC, MB Docket No. 20-401 (Jan. 27, 2021); Beasley et al. Statement at 2.

<sup>72</sup> Notice at ¶¶ 11-15.

<sup>73</sup> *Id.* at ¶ 17. GBS recently received experimental operation authority from FCC to conduct additional testing of ZoneCasting on KSJO-FM in San Jose, CA.

<sup>74</sup> Petition at 5 and 13.

channels from boosters are unnecessary,<sup>75</sup> given the current prohibitions against interference caused by secondary services such as boosters.<sup>76</sup> NAB also echoes REC Networks' expectation that the FCC will protect previously authorized low power FM (LPFM) stations and FM translators if a new or modified booster facility creates interference.<sup>77</sup>

However, broadcasters remain concerned about the extent and impact of self-interference to the host station's signal where the contours of the booster and primary station meet. GBS states that ZoneCasting is the product of many years of development, including multiple engineering tests pursuant to experimental authorizations from the FCC.<sup>78</sup> GBS conducted two experimental studies of its system nearly a decade ago, in 2010 on KDUT in Salt Lake City, Utah, and 2011 on WWOJ in Avon Park, Florida.<sup>79</sup> It is important to note that the systems examined during these tests do not resemble the iteration of ZoneCasting that was tested more recently in 2016 on WIIL in Union Grove, Wisconsin, or the current version that GBS hopes to deploy. This is not unexpected, as it is common for systems under development to evolve based upon experiments. However, in the case at hand, GBS presents the results of these decade-old experiments as representative of the current generation of the system it seeks to implement. GBS also offers another set of test results from France in support of its request, but again, the results of that test were also obtained about a system that is substantially different from the currently proposed ZoneCasting system.<sup>80</sup> Accordingly, most of the test data and studies that GBS has submitted in support of its proposal are irrelevant, unconvincing or raise more questions than they purport to answer.

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<sup>75</sup> Notice at ¶¶ 11-12.

<sup>76</sup> 47 C.F.R. § 74.1203.

<sup>77</sup> Comments of REC Networks (REC), RM-11854, at 4-5 (Apr. 21, 2020) citing 47 C.F.R. §§ 74.1203(a) and 74.1204(f).

<sup>78</sup> Comments of GBS, RM-11854, at 4-5 (May 4, 2020).

<sup>79</sup> Petition, Exhibit C, Declaration of Bertram S. Goldman, at 4.

<sup>80</sup> *Id.* at 12 (France test used only low-power transmitters and no main signal).

Additionally, GBS references a listening study it conducted with NPR at Towson University in Maryland.<sup>81</sup> However, this project only involved laboratory simulations of a fully synchronized booster that aired the *same* programming as the primary signal. This exercise therefore offers nothing of use to stakeholders seeking to assess a real-world test that uses actual audio of the transition area between the primary signal and the booster, or the effects when the primary and booster stations transmit different programming. Following this listening study, GBS made additional extensive changes to the proposed ZoneCasting system, rendering the results of its earlier experiments and listening study even less pertinent.

GBS then tested this subsequent generation of its system in 2016 on WIIL in Union Grove, Wisconsin.<sup>82</sup> GBS claims this test showed that the transition zone between the station's primary signal and booster could be limited to a "very small area where the audio transition is noticeable."<sup>83</sup> However, despite numerous efforts to veil the interference effect, a careful review of this report reveals intolerable results. Specifically, GBS's own data demonstrates that the interference zone created by the presence of the booster lasted as long as 30 seconds in some instances when a listener drove through in a car.<sup>84</sup> Even if such interference occurs only during the period when a listener is moving through a transition area and the booster is airing different programming, the impact of such a long lag on a listener's experience would be significant. And these results come only after GBS has invested considerable time and expense in trying to refine its system. Thus, it is uncertain whether, or to what degree, additional improvement of the system might even be possible.

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<sup>81</sup> Petition at 11.

<sup>82</sup> *Id.*, Exhibit C at 6.

<sup>83</sup> *Id.*

<sup>84</sup> WIIL Report at 24-26.

Information is also lacking about the effort required of a station that chooses to deploy ZoneCasting and self-operate its booster(s). For example, one engineering consultant has noted that “[a]nytime multiple transmitters (boosters) are operated on the same frequency, synchronization is needed. This includes using GPS to phase lock the carriers and usually some type of audio delay in the input(s) of one more transmitters.” He added that, in such situation, “there will be a certain amount of interference between the two signals where the contours meet. The degree of interference between multiple sites would vary depending on conditions.”<sup>85</sup> Although GBS has made overtures that it will install and operate boosters from some stations in exchange for a revenue share, more information is needed on exactly how GBS would ensure the seamless operation of ZoneCasting for numerous small stations, and a broadcaster’s responsibility for maintaining the fairly sophisticated ZoneCasting system.

Accordingly, given that the only somewhat relevant test of the current generation of GBS’s system in 2016 raised troubling concerns about the interference impact of ZoneCasting, more work is clearly required,<sup>86</sup> especially given the significant risks of adoption described above. The FCC routinely considers or requires much more comprehensive testing of other technical proposals before committing to major rule revisions.<sup>87</sup> Such testing must study ZoneCasting under real-world conditions and a range of parameters that remain unverified, including:

- Field tests of the impact on signal quality of the latest generation of GBS’s system in multiple areas, including markets with mountainous or flat terrain, and rural areas;
- Field tests when boosters are located at varying distances from the primary station;

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<sup>85</sup> Randy L. Stine, *GBS Gathers Support for Geo-Targeting*, Radio World (May 27, 2020), quoting Jim Stanley, President, Stanley Broadcast Engineering.

<sup>86</sup> Beasley et al. Statement at 2.

<sup>87</sup> Consider for example the FCC’s recent authorization of all-digital AM services on a voluntary basis. As part of that proceeding, NAB submitted test data it collected on all-digital AM operation obtained at nine different AM stations.

- Field tests when a listener travelling in an automobile moves from a booster zone to the primary station zone (and then possibly back into another booster zone);
- Field tests of the impact when the booster is located at various locations in a service area, including near the edge of a station’s primary contour where signal strength may be reduced;
- Characterization of the impact of vehicle speed and route on transition area; and
- Behavior of the Nielsen Portable People Meter (PPM) audience measurement system with ZoneCasting.

Evidence is also required of the proposed system’s functionality with HD Radio.<sup>88</sup>

There may be potential disruption to HD Radio in the so-called transition areas, and the FCC notes the lack of “any testing data on the operation of geo-targeted programming by HD Radio broadcast stations.”<sup>89</sup> It is critical that the significant investment made by radio broadcasters in HD Radio not be undermined. Xperi, the developer and licensor of HD Radio, has relayed some important concerns about the integration of ZoneCasting and HD Radio that gives NAB further pause regarding GBS’s proposed approach. Accordingly, NAB submits that GBS must conduct testing to address a range of issues related to HD Radio:

- Impact on the reception of HD1 signals when a listener moves through a transition area and the primary and booster stations are airing different programming;
  - The presence of any digital-to-analog blending in the transition area, and if so, the correlation of the digital outage time to the size of the transition area;
- The effect of the transition zone on the receiver display of metadata, such as dynamic metadata, “Artist Experience;”
- Impact on the reception of HD Radio multicast channels (e.g., HD2/HD3/HD4) when a listener moves through a transition area;
  - Whether the signal temporarily mutes;
  - Length of time to reacquire the multicast channel under various conditions;
- Impact of using P1 and/or P3 Partition modes; and
- Tests of the impact on “hybrid radio,” such as how receivers using either Xperi or RadioDNS-based hybrid radio behave when in the transition areas.

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<sup>88</sup> NAB Comments at 5.

<sup>89</sup> Notice at ¶ 23.

GBS also touts that amending the booster rule will allow broadcasters to disseminate geo-targeted emergency alert system (EAS) messages.<sup>90</sup> While NAB supports the concept of hyper-local EAS alerts, GBS does not offer any details on whether or how ZoneCasting would be effectively integrated with the EAS system, or the impact of ZoneCasting on the dissemination of EAS alerts.<sup>91</sup> Thus, additional testing is required on a range of issues related to the co-functionality of ZoneCasting and EAS:

- The process for filtering EAS alerts to only certain boosters, and whether EAS alerts may be “chopped up” by ZoneCasting when passed along to listeners;
  - Whether geo-targeted EAS alerts can accurately be disseminated to zoned areas on an automated basis, given that EAS is essentially a machine-based system;
  - The need for broadcasters that implement ZoneCasting to purchase additional EAS encoder/decoder boxes for each booster;
  - Whether stations would have to delay dissemination of EAS alerts while the text or code of an alert is geographically tailored;
  - The impact if a station receives an EAS alert via the legacy daisy chain system versus FEMA IPAWS, for purposes of ZoneCasting;
- Whether EAS header codes and/or end-of-messages would be affected in the transition area between a primary and booster station’s signal; and
- Whether an EAS message broadcast on the primary station may be disrupted by a booster airing different content.

A field test plan that addresses these and any other technical issues raised in the record is necessary for the FCC and industry stakeholders to properly review GBS’s proposal. Absent such information, it is also impossible for NAB to consider many of the important questions in the Notice about how stations should be required to manage the self-interference caused by using boosters that originate programming.<sup>92</sup> For example, without real-world data, it is impossible to consider whether stations should have to provide advance notice before launching geo-targeted programming to help other stations or listeners identify

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<sup>90</sup> Petition, Exhibit A, *Opportunity Assessment for Local Radio Stations with Zoned Broadcast Coverage*, BIA Advisory Services, at 14 (Nov. 20, 2018).

<sup>91</sup> Notice at ¶ 31.

<sup>92</sup> *Id.* at ¶ 11.

potential sources of interference, and what such notice should entail.<sup>93</sup> Nor can we address whether the FCC should limit the number of boosters that can be linked to one primary station to help prevent self-interference,<sup>94</sup> or whether a station should be required to shut down a booster if a certain number of listener complaints are lodged.<sup>95</sup> It is also premature to formulate a view on MMTC's proposal that Class A stations be given first priority to obtain new boosters,<sup>96</sup> or how to deal with mutually exclusive applications for boosters.<sup>97</sup> Such limits would only be needed if the rule change might produce a flood of applications for boosters, which no one can predict, and NAB, for one, does not anticipate.

#### IV. CONCLUSION

For the reasons stated above, NAB respectfully requests that the Commission decline to amend the booster rule as proposed by GBS, terminate this proceeding and dismiss GBS's Petition for Rulemaking.

Respectfully submitted,

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February 10, 2021

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<sup>93</sup> *Id.* at ¶ 12.

<sup>94</sup> *Id.* at ¶ 14.

<sup>95</sup> *Id.* at ¶ 15.

<sup>96</sup> *Id.* at ¶ 20 citing MMTC Aug. 17 Letter.

<sup>97</sup> *Id.* at ¶ 18.