

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

and the
**NATIONAL TELECOMMUNICATIONS AND
INFORMATION ADMINISTRATION**
Washington, D.C. 20230

In the Matter of)	
)	
MODEL CITY FOR DEMONSTRATING)	ET Docket No. 14-99
AND EVALUATING ADVANCED)	
SHARING TECHNOLOGIES)	

To: The Commission and The Administrator

**COMMENTS OF ARRL, THE NATIONAL ASSOCIATION
FOR AMATEUR RADIO**

ARRL, the national association for Amateur Radio, formally known as the American Radio Relay League, Incorporated (ARRL), by counsel, hereby respectfully submits its comments in response to the *Public Notice* (the Notice), DA 14-981, 79 Fed. Reg. 41262 *et seq.*, released July 11, 2014.¹ The Notice requests comment from the public on a recommendation from President’s Council of Advisors on Science and Technology (PCAST) that the Secretary of Commerce establish a public-private partnership to facilitate the creation of an urban test city (Model City), that would support rapid experimentation and development of policies, underlying technologies, and system capabilities for advanced, dynamic spectrum sharing. For its comments, ARRL states as follows:

¹ These comments are timely filed, within 45 days of publication in the *Federal Register*, which occurred July 15, 2014.

I. Introduction: The Report and the Public Notice

1. In July of 2012, the President's Council of Advisors on Science and Technology (PCAST) released a set of recommendations to the President on issues relating to further sharing of government-held spectrum.² This report (the "PCAST Report") concluded that clearing and reallocation of federal spectrum is no longer a sustainable basis for spectrum policy due to the high cost, lengthy time to and disruption to the federal mission.³ Based on this finding, the PCAST Report called for a new spectrum architecture premised on spectrum sharing rather than exclusive use.

2. One of the PCAST Report's recommendations was to create an urban test city in a major U.S city to support realistic, rapid experimentation in spectrum management technology and practice. The Notice seeks comment "on ways to establish, fund, and conduct the Model City program" and poses a number of specific questions, including, without limitation:

- [I]n light of the recent modifications to the FCC's experimental licensing rules, how could the Model City take advantage of these rule changes without having to establish or fund a new federal program?
- What type of formal or informal agreements or arrangements among the non-federal parties would be necessary to effectuate the Model City relationships and understandings between, for example, an industry consortium and the participating city?
- [T]o what extent should NTIA be involved in particular initiatives to facilitate federal agency participation in a Model City program?
- How would such collaboration in a Model City better facilitate more rapid experimentation of spectrum sharing techniques between new commercial systems and incumbent or new federal systems?
- What kind of flexibility would stakeholders need to make adjustments as needed when developing sharing protocols under real-world scenarios while ensuring protection of other services and operations?

² See Report to the President: Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth, at 49-50 (July 2012), available at <http://go.usa.gov/k27R> (PCAST Report).

³ *Id.* at vi.

- How should local permitting processes, accessibility to city lands and facilities, or incentives be considered? What particular factors, accommodations, commitments, or benefits would be important in the selection of a Model City?

II. ARRL Supports the Model City Concept, Provided that the Participation of Radio Amateurs in the Model City is Permitted and Protected

3. At VHF and above, ARRL generally agrees with the PCSAT Report's conclusion that development of sharing techniques is preferable to clearing and reallocation of federal spectrum. The challenges of meeting increasing demands for spectrum access by multiple users, both existing and contemplated, is well documented in the PCSAT Report and elsewhere.

4. While it is easy to support the concept of spectrum sharing, it is more difficult to develop sharing strategies that work. And sharing strategies *must* work; an arrangement that denies operators in one or more radio service the benefit of an allocation does not constitute sharing at all. The Model City concept is a reasonable and overdue⁴ effort to develop proof of new sharing concepts and compatibility before widespread deployment thereof. This minimizes the possibility that a proposed sharing technique will be found inadequate or incompatible after deployment.

5. The Model City concept should be a final step in the development of sharing techniques, and participation of the private sector and the general public should not be limited to the Model City stage. ARRL lauds the goal of joint, public-private development and analysis of sharing technologies, followed by joint, public-private testing of these technologies in a controlled environment, culminating, if warranted, by live, rigorous, proof of concept testing in an appropriate Model City.

⁴ ARRL has consistently, for years, urged that the justifications for domestic spectrum allocation decisions include technical compatibility studies rather than mere public interest allegations in petitions for rule making.

6. When a band allocated to the Amateur Radio Service or the Amateur Satellite Service is considered for spectrum sharing, ARRL is prepared to and expects to contribute to all steps listed above. The agency structure used to oversee a Model City is far less important than the obligation to ensure that all affected stakeholders are alerted to and represented within the Model City. In addition to its professional staff, ARRL has an extensive field organization with volunteers throughout the country, who can ably assist in studies and assess the impact, if any, on licensed Amateur and Amateur-Satellite Service operation during proof of concept testing. The Office of Engineering and Technology has inexplicably declined and continues to decline to coordinate experimental license requests utilizing Amateur Radio Service allocations with relevant Amateur Radio groups in advance. **This practice *cannot* continue** if the proof of concept testing to be conducted within a Model City is to be credible, trustworthy, and a rational basis for rulemaking affecting Amateur Radio Service allocations.

III. A Model City Must be Selected on a Case-by-Case Basis and Must Accommodate Amateur Radio Through Its Entire Territory, Including Territory Subject To Private Land Use Restrictions

7. ARRL recommends that Model Cities be chosen on a case-by-case basis, depending on the compatibility to be assessed. There are simply too many variables among spectrum usage and terrain, both manmade and artificial, for one urbanized environment to fit all cases. For example, testing of compatibility with a radar facility requires adequate geographic proximity to such a facility. Testing of compatibility with a satellite service requires the proximity and involvement of a number of users of that service. While radio amateurs are numerous and widely dispersed throughout the country in urban, suburban and rural operating environments, other services to be tested may not have facilities that are as widely dispersed. The ideal Model City must be determined through discussions among federal and non-federal interests, and

should most likely not be the same city in every instance. The suitability for the testing at hand must take precedence over most incentives a candidate city may offer.

8. There is one condition that each candidate Model City must meet, however, in order for the results of any testing conducted therein to be considered credible, trustworthy, and a rational basis for rulemaking. Spectrum users within a Model City within that city **must** be permitted to freely participate in and contribute to the studies to be conducted. Public or private land use restrictions and environmental limitations precluding the operation of a radio service within all or part of the model city must be preempted to permit the necessary free participation of all concerned and a level playing field. ARRL has presented ample evidence to the Commission that private land use restrictions precluding Amateur Radio operation are preclusive and exponentially growing.⁵ Planned communities with universal private land use restrictions precluding licensed radio operation on a licensee's property (examples, without limitation, are Reston, Virginia, and Columbia, Maryland) must not be considered for a Model City designation without appropriate preemptive relief. A study of compatibility in a band to which the Amateur Radio Service is allocated cannot be credible if radio amateurs are not allowed to have stations in the community in which the study is conducted.

IV. Conclusions

9. The Model City concept is a welcome development in proving sharing concepts in the real world. That said, however, the Commission, the NTIA, and the chosen Model City must enable affected stakeholders, including radio amateurs, to actively participate in sharing analyses both before and during Model City testing for the results to be credible, trustworthy, and a rational basis for further rulemaking. ARRL staff and volunteers throughout the country stand

⁵ See, e.g., Comments of ARRL *In re Emergency Communications by Amateur Radio and Impediments to Amateur Radio Communications*, GN Docket No. 12-91, May 16, 2012, available at <http://apps.fcc.gov/ecfs/document/view?id=7021918167>, and the exhibits thereto.

ready to participate in the process and expect to do so whenever spectrum allocated to Amateur Radio is considered.

Therefore, the foregoing considered, ARRL, the National Association for Amateur Radio, respectfully requests that the Commission and NTIA take further action as recommended herein and not otherwise.

Respectfully submitted,

ARRL, the national association for Amateur Radio

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