

Special Section on Deployment Policy

Wireless carriers are preparing for the rollout of the next generation of wireless infrastructure. These fiber-rich, ultra-dense wireless networks are expected to support improved fixed and mobile wireless services, smart-cities projects and other implementations of the internet of things. In addition, they are expected to generate enormous private profits and great public benefits.

Understandably, carriers are anxious to deploy this new technology as quickly as possible, and application vendors want to demonstrate its uses. Localities are eager for the anticipated benefits and at the same time cautious about making sure those

benefits will be realized. Federal and state regulators are worried about unnecessary delays due to conflicting rules in different localities and about addressing the digital divide. The FCC has already excluded small cells from National Historic Preservation Act and National Environmental Policy Act review and will soon take additional steps to streamline deployment. Because this is uncharted territory, tensions are running high.

This section presents several perspectives on the 5G rollout and related issues. There's much more to be said, and **BROADBAND COMMUNITIES** will report further on this issue as it develops.

SURVEY ON SMALL-CELL AND SMART-CITY DEPLOYMENTS

Next Century Cities, a membership organization that supports community leaders in their quest for fast, affordable, reliable internet access, commissioned independent researcher RVA LLC to study the deployment status of and attitudes toward small-cell deployment and smart-city applications. Local government employees completed 176 surveys. Full research findings are available at <http://nextcenturycities.org/wp-content/uploads/5Gresearch.pdf>.

Key Findings: Small-Cell Deployment

- **Small-cell deployment is already underway:** Nearly half of respondents reported small-cell deployment, and an additional 26 percent reported consideration of deployment.
- **Small-cell deployment is beginning in large communities that already have fiber:** Ninety-five percent of communities with a population greater than 500,000 and fiber already deployed reported deployment or consideration of small cells, and just 21 percent of communities with a population of less than 50,000 and no fiber activity reported small-cell deployment or consideration.
- **Communities are concerned about maintaining local control and input:** More than half of respondents reported being greatly concerned about state laws (59 percent) and federal regulations (52 percent) that are passed without city input. Eighty-four percent of respondents believe that state laws under consideration related to pole use for small cells are negative for their community.
- **Communities face a variety of obstacles related to small-cell deployment:** Fifty-eight percent of respondents reported complaints from citizens about deployment aesthetics, and 42 percent reported complaints from citizens about safety concerns of deployments.
- **Median annual lease rate per pole** in communities currently leasing poles was \$1,200.

Key Findings: Smart-City Technology

- **More than half (55 percent) of respondents' communities are pursuing smart-city solutions.**
- **Presence of fiber is key for smart-city deployments:** Sixty-five percent of communities with residential and/or business fiber deployed are pursuing smart-city applications, compared with 39 percent of communities with no residential or business fiber.
- **Larger communities are far more likely to deploy smart-city technology:** Ninety-three percent of communities with populations larger than 500,000 are pursuing smart-city applications, compared with 29 percent of communities smaller than 50,000.
- **Citizen safety and improved quality of life are primary drivers:** Among communities deploying smart-city applications, 75 percent said the purpose of deployment was to improve public safety, and 88 percent responded that improving citizens' quality of life was a very important driver for deploying smart-city technology.
- **Respondents are most concerned with hacking, privacy and digital equity:** When considering smart-city deployments, communities are interested in developing cybersecurity to prevent hacking (67 percent of respondents), maintaining an acceptable level of citizen privacy (64 percent) and serving all residents equally (61 percent).