Good Broadband Needs Good Maps

Insufficient government maps, plant records and marketing are a few of the challenges to accessing accurate data.

By Trevor Jones / *OTELCO*

If you're involved in advocating for better broadband access, chances are you've found yourself in an exasperating conversation about maps. It doesn't matter whether you're an ISP, a policymaker or a consumer – all three have been frustrated at some point by bad mapping, specifically the deficiency of accurate, geolocated data.

Maps play multiple roles in the business of building broadband networks. Those who build broadband infrastructure use maps to keep location records of their facilities and to identify the target market for a service in which location matters even more than it does in the retail world. More important, maps help determine where service is available commercially and where government funding may be necessary to stimulate deployment.

MAP AND BROADBAND POLICY PROBLEMS

Government agencies spend lots of money mapping broadband to help guide their broadband policy decisions, but they get surprisingly poor results for the expense. The reasons are complex, rooted in issues such as granularity, availability of records, and the competitive motivations of private industry.

Most government data maps – and certainly the FCC's current broadband map – dissect the country at the census-block level. The census block seems like a reasonably small unit of measure when assessing the entire country, except that in most cases a block is considered "served" for funding decisions if a single address in the block is served – sometimes with as little as 10 Mbps / 1 Mbps. In such cases, hundreds of homes may lose out because one person on their block is at the very end of a cable TV line.

In addition, until now government maps have relied on service providers to self-report data. Often, service provider maps are only marginally more granular than government maps. This produces grossly inaccurate results.

Recently, when OTELCO looked at funding solutions for a broadband project in the unorganized township of Argyle, Maine, we found that the state broadband map indicated that Argyle already was covered by 25 Mbps / 3 Mbps broadband from the cable company. Yet, to our knowledge, the cable company did not serve Argyle.

Upon investigation, we found that because Argyle shares a ZIP code with nearby Old Town and the cable company's broadband availability data was at the ZIP-code level, users

of both the state and cable company's websites would be told their address qualified, only to find that service was unavailable when they attempted to order it. Fortunately, the state program provides a process to prove an address is unserved and funds projects at a much more granular level than census blocks or ZIP codes. Unfortunately, however, this adds another step to the application process.

OTHER CHALLENGES

Simply building fiber down a road doesn't guarantee that every address can be served, creating a unique set of challenges for both service providers and municipalities as they work to sell and service the network.

The first challenge is what industry folk call "plant records." This is an inventory of available fibers, ONTs and other network components; details about whether components are aerial or buried; and a record of what components are assigned to specific customers. Understanding the location of available facilities in relation to customers is essential to fulfill orders, resolve problems and forecast the need for new facilities when populations grow and networks near capacity. Maintaining such records is a big challenge and generally requires specialized software, which may be costly.

Another challenge that comes from the street-by-street nature of fiber networks is marketing. Most digital marketing tools work at the ZIP-code level, and most broadcast media are even less granular. This requires service providers to use geotargeted marketing vehicles such as direct mail and door-to-door canvassing. To minimize aggravation and waste in the marketing process, providers will want to accurately plot street addresses in relation to fiber facilities to identify the addresses they wish to serve. Again, this is challenging even in the era of Google Maps because matching an address to a latitude and longitude, or "geocoding," is as much an art as a science.

Whether the broadband industry is funding, building, operating or marketing a broadband network, mapping will be an important tool to reach goals – and poorly done maps will be among the chief obstacles. ❖

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