March 5, 2015

As the recent 30th Annual Emerging Issues Forum, *Innovation Reconstructed*, served to remind us, innovation is an increasingly essential driver of economic growth. The Forum highlighted numerous North Carolina innovators who are developing new products, better services, and entirely new business models through innovative technologies and approaches. In each of these cases, communications technology has played an important role by supporting new connections and new collaborative relationships.

Given the important role of communications technology in innovation, it should come as no surprise that a Forum breakfast for local government officials examined the evolving broadband connectivity environment. A panel of speakers outlined a number of challenges with North Carolina’s broadband:

1. *First, there is shifting definition of what constitutes “broadband.”* In late January, the Federal Communications Commission (FCC) changed its definition of broadband by raising the minimum download speeds to 25 Mbps and the minimum upload speed to 3Mbps. But in North Carolina, existing state law defines broadband as 200 kilobits per second, a standard that is just 8/10 of 1 percent of the new FCC threshold and just 2/100 of 1 percent of what Google or AT&T would offer in a Gigabit city.
The connectivity issue in North Carolina is complicated by the widely varying quality and cost of current Internet service. Although North Carolina has key goals that depend on adequate broadband, such as transitioning to a digital K-12 education system by 2017, many gaps exist in broadband coverage, cost, and quality. For instance, only 22 percent of K-12 students currently have adequate Wi-Fi in their classrooms. Given that 56 percent of public school students reside in homes with incomes low enough to qualify the children for free and reduced-price school lunches, one wonders how digital learning services will be provided to these 840,000 students given the likely cost of devices or access in their homes. Meanwhile, 3.3 million North Carolinians live in rural areas where broadband service is limited.

North Carolina lacks a comprehensive, coordinated policy regarding broadband service. Our country literally invented the Internet, yet our speeds and infrastructure lag those of other countries such as South Korea and Singapore, which have invested in next-generation fiber optic networks.

So, what exactly does all this mean for the average North Carolinian who wants easy and fast access to the Internet? Let’s consider some key aspects of the evolving broadband environment.

First, that environment was obviously changed by last week’s FCC “network neutrality” announcement and related new rules. The new FCC standards follow from the FCC’s decision to designate broadband connectivity as a “public utility,” just as basic telephone service has long been regarded and regulated. In making this decision, the FCC noted that U.S. leadership in innovation is in jeopardy without rules requiring providers to inform consumers about the broadband operational environment. Broadband providers will no longer be able unilaterally to make the rules for service, determining when to provide faster Internet speeds or under what terms.

North Carolina earlier restricted how cities and municipalities operate broadband services, mainly by limiting their ability to build or expand existing high-speed Internet service networks. However, as part of the FCC’s “net neutrality” announcement, the FCC will now enforce a federal standard that preempts state-level restrictions. The new FCC rules were welcomed by the City of Wilson, which earlier
established a municipal broadband program. The decision also appears to clear the way for the possibility of more municipal offerings in the state.

Other factors are shaping broadband’s rollout on the national stage. For example, the federal government has allocated nearly $7 billion to build the “FirstNet” system, which is intended to allow fire, police, and other emergency responders to communicate seamlessly using broadband. Power companies, meanwhile, are focused on deploying smart-grid technology, which requires that data be transmitted over broadband from equipment in the field to computing systems in operation centers.

Without any doubt, broadband represents the backbone of society’s future communications capacity. To this end, it is critically important that North Carolina’s large broadband providers, state leaders, and city and county officials work together to decide how best meet the state’s broadband needs. Economic development, education, and so many aspects of day-to-day life all depend on high-quality, accessible broadband.

As FCC Chairman Tom Wheeler remarked last week when announcing the new net neutrality regulations: “High-speed Internet access has become fundamental to modern life, whether we are on the job, at home, or going to school. Broadband connectivity can overcome geographic isolation and put a world of information and economic opportunity at the fingertips of its citizens even in the most remote communities.”

*Thanks to Mike Ozburn, former Executive Advisor to the North Carolina Office of Information and Technology Services, for discussing the broadband issue. Responsibility for any of the information shared above is mine alone.*

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![Image]
What interests you about the natural and built environments in our state? Let us know, and it could be a topic for a future IEI Environments newsletter.