

Appendix A: Broadband Research Questions Posed by Chairman Norris

Availability:

- What is the current availability of high-speed internet access in Tennessee from all technologies, including but not limited to landline technologies, such as DSL, ADSL, Cable, Private Line, GPON, and fiber-based service as well as wireless technologies such as mobile broadband, fixed wireless, Wi-Fi and satellite?
- Are there gaps in the availability of broadband?
- If so, are these in rural or urban areas?
- Traditionally, high-speed broadband has been readily available for business, industries and schools. Is that still the case?
- What about residence consumers?
- What are the various broadband target speeds discussed by the FCC? What speeds are required to run typical residential and business applications, such as email, web surfing and video streaming?
- What role does broadband play in decisions by businesses to locate or expand in Tennessee?

Adoption:

- What percentage of Tennessee households, where broadband is already deployed, currently subscribe to high-speed internet access in Tennessee?
- Will increasing subscription rates (adoption) change the business model to encourage more private-sector deployment of broadband?
- What reasons do Tennessee residents give for choosing not to subscribe where high-speed broadband service is available?
- Are there programs in Tennessee and elsewhere today that encourage the adoption of broadband?
- Which are most successful?
- What are recommended ways Tennessee can increase digital literacy and adoption of existing broadband service?

Deployment incentives:

- What are the costs to providers to provide broadband?
- Are those costs different in cities, compared to rural areas?
- Has Tennessee or other states or local government entities created a funding mechanism to provide targeted financial incentives to encourage broadband providers to deploy broadband in specific underserved and unserved areas?

- If so, how successful are/were those programs in increasing deployment of broadband?
- How could that be replicated in Tennessee?
- What would be the costs?
- The FCC recently announced that it will provide \$4.5 billion over the next six years, including approximately \$210 million in Tennessee, for telephone companies to deploy broadband in underserved areas of Tennessee that the FCC has identified. How would state specific activities hinder or maximize that Federal funding?

Broadband discounts:

- Do local and state governments in Tennessee provide discounts directly to consumers to pay for broadband?
- Have other government entities provided funding or financial incentives paid directly to residents to increase the affordability of high-speed internet access to encourage adoption of existing broadband such as the federal E-Rate program for discount service to schools and the Rural Health Care program?
- If so, did that increase adoption and deployment of broadband?
- How could that be replicated in Tennessee? Should it?

Tax policy:

- Ten years ago, Sen. Bill Ketron introduced legislation to provide tax credits for companies to encourage broadband deployment. The bill didn't pass.
- Do other federal, state, or local government entities provide tax incentives, such as income tax credits, sales-tax exemptions, and property-tax exemptions for the purchase and installation of high-speed internet infrastructure by broadband providers to encourage broadband deployment?
- Have they been successful?
- Does Tennessee provide sales- and property-tax exemptions for the purchase and installation of broadband infrastructure?
- If not, how could those programs be replicated in Tennessee? What would be the costs?

Streamlined government costs:

- Have state or local government entities adopted efforts to streamline local government zoning and right of way and permitting costs, fees and red tape to encourage the placement of wireless broadband towers and other broadband infrastructure in the public right of way?
- Has Tennessee and local governments taken similar approaches?

- Are local governments in Tennessee taking any actions to inhibit the deployment of broadband? How could efforts to streamline broadband deployment be applied to Tennessee?

Pole attachment rates:

- In most states, the FCC sets pole attachment rates for commercial providers and has said high pole attachment rates can reduce broadband deployment. The FCC does not regulate poles for cities and cooperatives. More than 20 states regulate pole attachment rates for both commercial and municipal providers.
- How do the rates that broadband providers pay to municipal and cooperative electric providers in Tennessee to attach to their poles compare to the FCC rates?
- Are broadband providers paying more or less than in states where pole attachment rates are regulated? If it's more, how much more is it?
- What role should the state play in reducing high pole attachment rates to encourage broadband deployment?

Municipal electric expansion:

- As discussed in the Commission meeting last month, several members anticipated that the legislation sponsored by Senator Janice Bowling and Rep. Kevin Brooks (SB1134/HB1303) would likely be referred to TACIR for study in the 2016 session. Although the legislation doesn't specifically reference broadband, proponents of the bill (a variation of which has been introduced every year since 1999) say that removing the statutory limitation that prevents city-funded broadband networks from providing service outside their electric footprint will lead to increased rural broadband. Opponents of the bill are concerned that government expansion will allow cities to overbuild and cherry pick customers from the private sector, thereby inhibiting broadband deployment.
- With that in mind, what role could Tennessee's current city-owned networks play in deploying broadband to rural areas that do not have service provided by a private-sector provider? How many cities currently provide broadband?
- Have they all built out broadband service to all existing electric customers in their footprint?
- Two cities, Covington and Morristown, were part of a pilot program that allowed them to serve customers outside their footprint. Are these entities serving typically unserved rural broadband customers outside their footprint or have they deployed service overbuilding existing commercial providers?
- Are these city-funded networks using resources funded by the monopoly electric service? Does that affect electric rates?
- What is the debt load of existing government-owned networks? Who is responsible for that debt?

- What state agency provides oversight of these city networks?
- Do the current municipal networks pay sales tax when purchasing materials or network components used to deliver broadband?
- Do they pay property taxes to the local governments and F&E taxes to the State of Tennessee?