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**MINUTES OF THE  
TENNESSEE ADVISORY COMMISSION  
ON INTERGOVERNMENTAL RELATIONS**

**30 August 2016**

**Meeting Called to Order**

The Tennessee Advisory Commission on Intergovernmental Relations met in Legislative Plaza Room 16 at 1:04 p.m., Chairman Mark NORRIS presiding.

<b>Present 21</b>	<b>Absent 3</b>
Mayor Tom Bickers	Ms. Christi Gibbs
County Mayor Ernest Burgess	Senator Jim Tracy
Mr. Charles Cardwell	Mayor Larry Waters
Representative Mike Carter	
City Commissioner Betsy Crossley	
Assistant Commissioner Paula Davis	
Mayor Brent Greer	
County Executive Jeff Huffman	
Representative Harold Love Jr	
Mayor Kenny McBride	
Regional Director Iliff McMahan	
Senator Randy McNally	
Senator Mark Norris	
Representative Antonio Parkinson	
Mayor Tom Rowland	
Representative Charles Sargent	
Mayor Pro Tem Kay Senter	
Comptroller Justin Wilson <sup>1</sup>	
Representative Tim Wirgau	
Senator Jeff Yarbro	
Mr. Kenneth Young	

<sup>1</sup> Russell Moore represented Justin Wilson

## **1. Call to Order and Approval of the Minutes**

Chairman Mark NORRIS called the meeting to order at 1:04 p.m., dispensed with the calling of the roll having detected a quorum, and requested approval of the minutes from the meeting of May 25-26, 2016. Vice Chairman Tom ROWLAND moved approval, and Mr. MCMAHAN seconded the motion, which passed unanimously.

## **2. Commission and Staff Updates**

Chairman NORRIS announced the promotion of Interim Executive Director Dr. Cliff LIPPARD to executive director and yielded the floor to Dr. LIPPARD. Dr. LIPPARD congratulated Executive Director Lynnis ROEHRICH-PATRICK on her retirement and recognized her for her years of service and dedication to state service. Chairman NORRIS also recognized Ms. ROEHRICH-PATRICK, describing the reception held in her honor before the meeting began and telling the audience about the Senate proclamation presented to her at that event. Ms. ROEHRICH-PATRICK thanked the staff and the Commission for the good work that it does. Representative PARKINSON also thanked Ms. ROEHRICH-PATRICK for her service. Dr. LIPPARD also welcomed Mark MCADOO to the TACIR staff as a Research Manager.

## **3. Update on Tennessee's Lawsuit Challenging FCC Preemption**

Associate Attorney General Bill YOUNG provided an update on the recent ruling by the US Court of Appeals for the Sixth Circuit in favor of Tennessee over the Federal Communications Commission (FCC). Providing background, he explained that Tennessee Code Annotated, Section 7-52-601 et seq., authorizes municipal utilities to provide broadband but only within their electric service areas. Mr. YOUNG said that the Electric Power Board of Chattanooga (EPB) petitioned the FCC to preempt Tennessee's territorial restriction on municipal providers in July 2014 and that the FCC granted EPB's petition in February 2015. He said that the Tennessee Attorney General's Office petitioned the Sixth Circuit to reverse the FCC's order in March 2015. The Sixth Circuit ruled in favor of Tennessee's challenge and reversed the FCC's order in August 2016.

Mr. YOUNG said that the Attorney General's Office did not take a position on whether municipal utilities should be authorized to provide broadband outside their electric service areas. The state only sued because the Tennessee General Assembly, not the FCC, should decide whether to lift the territorial restriction. He said the US Court of Appeals for the Sixth Circuit accepted the state's position that the Federal Telecommunications Act does not authorize the FCC to preempt state laws restricting the territories of municipal providers. The state also argued that even if congress had authorized the FCC to preempt these territorial restrictions it would still violate principles of federalism. Mr. YOUNG said one of the basic concepts of state sovereignty is the ability of a state to determine the jurisdiction of its subordinate municipalities and counties. He said that the FCC's case was weak and that the US Department of Justice declined to participate.

Mr. YOUNG said the FCC has announced that it will not appeal the Sixth Circuit's ruling. Chairman NORRIS said that the ruling removes any impediments to the General Assembly deciding whether to allow municipal providers to expand beyond their electric service areas. Representative WIRGAU asked whether the FCC's decision not to appeal would result in more lawsuits from municipalities. Mr. YOUNG answered that EPB could still appeal and that the city of Wilson, North Carolina, which also petitioned the FCC to preempt North Carolina's territorial restriction on municipal providers, could as well. He said it is unlikely these appeals would succeed. The ruling is binding within the Sixth Circuit's jurisdiction and it is likely binding on the FCC in other jurisdictions too.

Mayor BICKERS' asked whether the Sixth Circuit's finding that Chattanooga benefits from the operation of EPB's broadband division is also binding on the state when deciding whether to remove the territorial restriction on municipal providers. Mr. YOUNG said that it is not binding on the General Assembly.

#### **4. Biennial Report for Fiscal Years 2014-15 and 2015-16—Final Report for Approval**

Executive Director LIPPARD presented the Commission's biennial report for fiscal years 2014-15 and 2015-16 for approval, pointing out that the online version of the report will include hyperlinks to referenced reports, legislation, and public chapters. Regional Director Iliff McMAHAN moved approval, and Mayor Pro Tem Kay SENTER seconded the motion, which passed unanimously.

#### **5. The Economic Impact of Open Space On Residential Property Values in Tennessee— Report to the Commission**

Dr. Charles SIMS, of the University of Tennessee's Howard H. Baker Jr. Center for Public Policy, presented findings from a study co-authored with Dr. Matt Murray on the economic effect of open space on residential property values throughout Tennessee. The report, partially funded by TACIR, seeks to help local officials estimate the potential effect on the property tax base of alternative patterns of development and changes in land use.

Dr. SIMS noted that over 93% of Tennessee's land area is some type of open space, with more than half being forest and over a third agricultural land. The remainder is comprised of developed open space, such as parks and golf courses, as well as shrublands and wetlands. Only 4% of this open space is publicly owned (e.g. state and national parks), and very little of the privately owned open space is protected from development.

Dr. SIMS explained the methods used to determine value, and how things other than a home's size and construction—like open space and city services—translate into value, and how the report isolates the value added (or reduced) by proximity to open space. He shared information from similar studies conducted mainly in East Tennessee and Knoxville, and explained how the report looks at those findings through a statewide analysis by comparing the median home value in each Census Block Group to the median value for the state.

Dr. SIMS noted that results of the analysis vary for different types of open space in different areas of the state. Developed open space detracts from home values, generally—more so in Middle Tennessee’s Metropolitan areas and less in rural areas throughout the state. However, SIMS points out that developed spaces like a golf course or city park could positively affect values in that specific location. The policy implication is that decreasing this type of open space throughout the state would provide a small increase to property tax collection. Dr. SIMS noted that permanently protected open space in urban and suburban areas adds the largest value to nearby homes, because permanent protection supports long-term investment in housing, and open space tends to be less abundant as land is developed.

Mayor ROWLAND asked Dr. SIMS about utility easements, and whether that open space is considered buildable and does it depend on the type of utility. Dr. SIMS said it would, but that easement open space was not part of their USGS data set of permanent easements.

## **6. Annual Report on Tennessee’s Public Infrastructure Needs—Final Report for Approval**

Senior Research Associate David KEISER presented the report *Building Tennessee’s Tomorrow: Anticipating the State’s Infrastructure Needs 2016* for approval. He discussed highlights, including TDOT’s Expedited Project Delivery program, variations in needed infrastructure improvements across the state, how improvements are funded, and needs at Tennessee’s public schools.

Following the presentation, Chairman NORRIS said the infrastructure report is important and that he uses it as a policy resource. Mayor GREER applauded the development districts for their work and said local governments are important for giving the correct information so the report represents as accurate a picture as possible of the infrastructure needs facing local and state governments and a better understanding of funding gaps. For example, he said that local governments have not been able to accomplish many needed transportation improvements.

Chairman NORRIS discussed the future of transportation funding and the \$6 billion transportation backlog. He asked why the Tennessee Department of Transportation (TDOT) reports \$6 billion in backlogged transportation projects, while the Commission’s report says there are \$26 billion in transportation needs. Mr. KEISER said the \$26 billion reflects the total need and that the TDOT list includes only projects that have been approved by the General Assembly and are either in the right-of-way or construction stage. Almost all projects on the TDOT list are for road projects. TACIR’s inventory includes far more—including approximately 7,000 bridges that total about \$9.2 billion and another \$10 billion in other projects in the conceptual stage. [Staff note: TDOT Commissioner John SCHROER reported a backlog of approximately \$4 billion to the Senate Transportation and Safety Committee and the House Transportation Committee during the 2015 session of the 109<sup>th</sup> General Assembly. See discussion in Commission and Staff Updates for day two of the Commission meeting, below.] Chairman Norris said the infrastructure report begs several questions: Who approves the projects in TDOT’s 25-year long-range plan; do local and state officials have sufficient information in front of them concerning transportation needs; does TDOT’s reports provide

enough information to allow legislators and local officials to identify actual needs for more revenue?

In response to questions raised during further discussion, Mr. KEISER explained that TACIR does not calculate the net benefit of projects but only inventories the estimated cost to construct the project. He also explained that the report does not provide a priority list per se, instead inventorying all reported needs and reporting total costs. Mr. KEISER also said that the report found that the more people a county has, the more infrastructure needs it has, and fortunately, the county also has a greater fiscal capacity to deal with those needs.

Chairman NORRIS then discussed a possible new report format for next year's infrastructure report. The new format would include a page for each county area summarizing its infrastructure needs. Examples were handed out to the commission members for their review. Dr. LIPPARD explained that if the commission agrees with the change, staff will move forward with the new dashboard format. He explained that the new report would still have the top level summary and detailed appendix tables and mentioned that there are plans for an online dashboard where users can dive into the data and dig down to individual projects.

Representative WIRGAU said the new format could help communicate the infrastructure needs to constituents better and could help communities get more money to pay for needs. Mr. McMAHAN said the new report format would also help state agencies as they go out into the field, because it gives them a county snapshot. Chairman NORRIS reminded everyone that this is a needs report and maybe staff should add a footnote to the new report format that breaks down funding.

Discussing funding, Representative CARTER asked why he should be concerned about it when so much is paid for with federal grants. He asked if the \$26 billion for transportation the total cost or the portion that the state needs to fund? Mr. KEISER said that it was the total cost. Senator YARBRO observed that some cities and counties will have more needs because of population and population growth, and the bulk of these needs are taken care of by local funding mechanisms. However, he said, transportation needs receive more funding from state and federal sources and maybe new mechanisms need to be created for locals to come up with more funding to help with their transportation needs.

Chairman NORRIS asked about the large increase in the cost for storm water infrastructure. [Staff note: The increase was mainly because of a \$100 million flood wall in Nashville added in inventory year 2014.] Chairman NORRIS asked if last year's legislative discussion about storm water fees affected this in any way. Mr. KEISER thought that it didn't because the costs in this report are from the July 2014 survey.

Chairman NORRIS noted that the costs for school renovations and replacements increased over 10% and wondered if the lottery program could be used to pay for these needs. Representative SARGENT said that very little lottery money goes towards brick and mortar projects and infrastructure projects are mainly paid for with local dollars. He mentioned that a new TN Promise report will be released in the coming months that shows dramatic increases in

enrollment at community colleges. Chairman NORRIS wondered if there is some existing legal authority for more school infrastructure funding. Representative SARGENT said that some counties like Williamson County need to build several schools and those schools cost a lot of money.

Chairman NORRIS asked for a motion to approve the report. Mr. McMAHAN moved approval, and Vice Chairman ROWLAND seconded. The report was unanimously approved.

## **7. Fiscal Capacity for Fiscal Year 2016-17**

Senior Research Associate Michael MOUNT presented the annual update on TACIR's fiscal capacity index and provided background information about the index and education funding in Tennessee. Mr. MOUNT's presentation included an update of the counties' 15-year fiscal capacity trends. He concluded the presentation with an update on the effect of the Tennessee Virtual Academy on the fiscal capacities of both Union County and the state's other 94 counties.

County Executive HUFFMAN asked whether Williamson County's increasing number of students means its service burden is increasing, and if so, whether its fiscal capacity is decreasing. Mr. MOUNT said the increasing number of students does not necessarily increase the service burden because it also depends on the increase in population. [Staff note: Williamson's service burden decreased from 18.92% for 2015-16 to 18.88% for 2016-17. Because the weight on the service burden factor changed from negative to positive for 2016-17, the effect of this was to lessen Williamson County's increase in fiscal capacity.] County Executive HUFFMAN noted that per capita income is used in TACIR's model but not in the Center for Business and Economic Research model.

Representative SARGENT said the state's share of the cost of the Basic Education Program for some counties is nearly 90%, but for others it's much less. He suggested that there be a floor on the state's share at 80%. Mr. MOUNT noted that there is a floor on the state's share of the non-classroom component at 25%. Representative SARGENT added that fiscal capacity does not consider indebtedness and said that Williamson County just built three new schools costing \$85 million. He said the growth fund was \$19 million, and if it were fully funded, it would be \$33 million.

Chairman NORRIS asked why Shelby County's share of statewide fiscal capacity used to be greater than 20% but now is close to 15%. Mr. MOUNT said, among other contributing factors, Shelby County's property tax base per student increased slower than that for the rest of the state.

Mayor Pro Tem SENTER asked about the significance of the decrease in Union County's fiscal capacity. Dr. LIPPARD said counting the Tennessee Virtual Academy's students as Union County's students distorts the results in TACIR's fiscal capacity model.

## **8. The Privilege Tax in Tennessee: Taxing Professionals Fairly —Draft Report for Review and Comment**

Senior Research Associate Michael MOUNT presented the draft report on Tennessee’s professional privilege tax for review and comment. The report is in response to Public Chapter 1024, Acts of 2016, which directs the Commission to study Senate Bill 1919 by Senator Bowling and its companion, House Bill 1951 by Representative Hazlewood, which would have exempted nonresident licensees from the professional privilege tax, Senate Bill 167 by Bowling and its companion, House Bill 601 by Durham, which would have exempted audiologists and speech pathologists from the tax, and the original language of Senate Bill 556 by Bowling and its companion House Bill 678 by Van Huss, which became Public Chapter 1024. As introduced, the legislation that became Public Chapter 1024 would have decreased the privilege tax annually by 20% over the next five years, eliminating it in 2019 and thereafter, and would have prohibited the tax from being applied more than once for a single person having multiple professions affected by the tax. It also would have prohibited any new tax upon the privilege of engaging in certain professions, businesses, and occupations. Public Chapter 1024 also requires the study to examine the history and intent of the professional privilege tax, other states’ laws imposing a professional privilege tax or similar tax, and alternatives for eliminating or phasing it out.

Mr. MOUNT gave an overview of the history of the tax beginning with its enactment in 1992 and including changes to the tax that followed. Mr. MOUNT said that some argue that the tax is not equitable for three main reasons: because some professions that aren’t taxed have higher incomes than those that are taxed, because incomes of professionals vary significantly within the taxed professions, and because those in professions earning lower salaries have to pay the same amount as those earning more. Some advocates for groups of professionals also argue that professionals who pay the professional privilege tax and have to pay franchise and excise taxes are being double taxed. Mr. MOUNT concluded by describing five other states’ laws that impose professional privilege taxes and presenting information on eliminating or phasing out Tennessee’s tax.

## **9. Legislative Compensation: Comparing Tennessee to Contiguous and Peer States—Draft Report for Review and Comment**

Senior Research Consultant Ethel DETCH presented the draft report on legislative compensation for review and comment. The report responds to Senate Joint Resolution 463, requiring TACIR to compare Tennessee’s legislative salary and other kinds of expense reimbursements to those of our contiguous states to determine whether Tennessee legislators are being adequately compensated and fully reimbursed. Ms. DETCH explained the role of state legislatures and the need for sufficient compensation. She explained that after comparing all 50 states to identify states similar to Tennessee based on certain criteria, staff chose to examine legislative salaries in Indiana and Louisiana in addition to those in contiguous states.

Ms. DETCH said that based on the review, Tennessee’s legislative compensation is similar to that in its comparison states and falls in the middle. She explained that Tennessee’s General

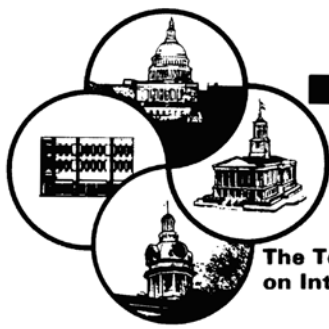
Assembly is classified as what the National Council of State Legislators (NCSL) describes as “hybrid.” She discussed the factors that appear to play a role in determining legislative compensation and said that based on NCSL data, full-time legislatures receive higher salaries and office allowances than do hybrid or part time legislatures. Ms. DETCH said that to encourage participation in public office and provide an adequate level of compensation for the expenses incurred to serve, the legislature could either apply these factors to determine what, if any, changes to make in how it’s compensated or, similar to 21 other states, create an independent legislative compensation commission to either recommend or determine fair and appropriate compensation.

Representative PARKINSON asked if there are any specific recommendations. Ms. DETCH said that the report is providing information to make those discernments and is highlighting some interesting factors including effect of the 50-mile rule. Representative PARKINSON said that being a legislator is definitely not a part-time job and is not profitable. He hoped the commission could come up with some recommendations that are more specific. Representative PARKINSON also asked if terms of office were factored into this analysis and why states chose full time or part time status. Ms. DETCH said that terms of office were not a factor in this analysis but that the NCSL had considered them in their review. She also said that states did not necessarily choose their category; rather they have evolved in one direction or another. States with a large population are more likely to be full-time while small rural states tend to be part-time.

Senator YARBRO asked how staff determined the two similar states and suggested that more data would be helpful. Ms. DETCH said that staff was trying have a manageable number of states, but all 50 states were considered before it was decided to add Indiana and Louisiana for comparison. Senator YARBRO asked if there was good research about whether compensation changes the characteristics of the body. Ms. DETCH said there is some research from a few years ago that showed changes in compensation affected the number of people who choose to run. With a bigger pool of candidates, you would expect better representativeness.

**Chairman NORRIS adjourned the meeting at 3:49 p.m.**





# TACIR

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## MINUTES OF THE TENNESSEE ADVISORY COMMISSION ON INTERGOVERNMENTAL RELATIONS

31 August 2016

### Meeting Called to Order

The Tennessee Advisory Commission on Intergovernmental Relations met in Legislative Plaza Room 16 at 8:35 a.m., Chairman Mark NORRIS presiding.

Present 20	Absent 4
Mayor Tom Bickers	Representative Harold Love Jr
Mayor Ernest Burgess	Senator Jim Tracy
Mr. Charles Cardwell	Mayor Larry Waters
Representative Mike Carter	Mr. Kenneth Young
City Commissioner Betsy Crossley	
Ms. Paula Davis	
Ms. Christi Gibbs	
Mayor Brent Greer	
County Executive Jeff Huffman	
Mayor Kenny McBride	
Regional Director Iliff McMahan	
Senator Randy McNally	
Senator Mark Norris	
Representative Antonio Parkinson	
Mayor Tom Rowland	
Representative Charles Sargent	
Mayor Pro Tem Kay Senter	
Comptroller Justin Wilson <sup>1</sup>	
Representative Tim Wirgau	
Senator Jeff Yarbro	

<sup>1</sup> Russell Moore represented Justin Wilson

## Commission and Staff Updates

Before taking up the day's docket, Chairman NORRIS introduced Executive Director LIPPARD for some additional commission and staff updates. Dr. LIPPARD asked the Commission to congratulate Ms. Melissa BROWN on her promotion to deputy executive director and Ms. Leah ELDRIDGE on her promotion to senior research manager, saying that both are consummate professionals with extensive research and management experience and that both have contributed greatly to a number of major commission projects.

Dr. LIPPARD next referred the Commission to a draft research plan prepared by the staff in response to discussion at the May 2016 commission meeting. At that meeting, Mayor BICKERS had requested that staff study issues concerning state prisoners housed in county jails, many of which are overcrowded. Dr. LIPPARD noted that in preparing the draft plan, staff referred back to the 2007 TACIR report on county jails. The draft plan proposes examining the number of state prisoners being held in county jails and whether the number is increasing, capacities and overcrowded conditions in county jails, the cost borne by counties for medical care (including addiction treatment) of state prisoners held in county jails, and whether the current amount the state reimburses a county for housing a state prisoner is reasonable. Dr. LIPPARD noted that it would stretch staff resources to conduct a complete study if it were expected sooner than the Commission's summer 2017 meeting.

Mayor BICKERS said he appreciated staff putting the draft plan together and the effect on their workload but would like staff to also examine how the state chooses which inmates are sent to county jails and how inmates are chosen in jails for jobs like cooking and laundry. Representative PARKINSON said he would like the study to include an examination of contractual obligations and limitations to housing state prisoners in prisons operated for counties by private contractors.

Dr. LIPPARD also provided members two additional handouts—the first an Attorney General's opinion clarifying that counties without a contractual agreement to house state prisoners are not required to accept state prisoners. The second handout was a newspaper article about Blount County, where the state removed 99 state inmates from the county jail. Mayor BICKERS said that in that case, the state taking back all of their prisoners caused problems since many of them performed important jobs in the jail. He said that he wonders if the state prisoners were dispersed to other county jails instead of to state facilities.

Representative PARKINSON moved to approve the research plan as amended to reflect Mayor BICKERS' and his own requests. Mr. CARDWELL seconded. The motion passed unanimously.

Referring to the infrastructure report discussion from the previous day's meeting, Chairman NORRIS shared a March 20, 2015, letter from TDOT Commissioner John SCHROER to the Senate Transportation and Safety Committee and the House Transportation Committee. Chairman NORRIS summarized the letter, which explains the process of how TDOT determines its backlog. Commissioner SCHROER wrote that it takes several years to design projects, acquire the real estate, and receive the appropriate approvals to build the projects, and that some level of

backlog is necessary to establish an efficient mechanism to deliver projects. TDOT estimated a backlog of approximately eight times the department's annual funding (\$500 million at that time) would be appropriate. Based on an eight-year delivery cycle, this would generate an appropriate backlog of about \$4 billion. Commissioner SCHROER had attached a list of specific projects that had been approved totaling \$6 billion, which represented the department's commitments at that time, noting that a modest number of new projects as well as inflationary costs in the mid to late 2000s had increased the backlog.

## **10. Broadband Internet Deployment, Availability, and Adoption in Tennessee—Updates and Panel Discussion**

Before introducing the two presenters and the panel, Senior Research Associate Matthew OWEN said that staff had developed preliminary answers to the questions raised in the research plan adopted by the Commission in August 2015 and will use those answers to determine areas where more research is needed. He said staff will present a draft report at the Commission's next meeting.

### **A. Updates:**

The Commission heard a presentation on the history of Connected Tennessee and its programs from its former director, Michael RAMAGE, currently the director of the Center for Telecommunications Systems Management at Murray State University. Mr. RAMAGE said that Connected Tennessee, a subsidiary of Connected Nation, was created in 2007 based on the recommendations of Tennessee's broadband taskforce. Initial funding came from the Tennessee Department of Economic and Community Development and was to last three years, but it was extended to seven years with additional funding from the American Reinvestment and Recovery Act. Connected Tennessee was tasked with producing a map showing broadband coverage throughout the state at the census block level, researching barriers to technology use, increasing broadband availability by working with private providers and the public sector, increasing adoption using grassroots programs, and providing devices to at-risk kids.

Mr. RAMAGE said that Connected Tennessee focused on improving access, adoption, and use. He said that in communities without broadband access, Connected Tennessee helped collect signatures of all residents who wanted service but could not get it. These lists were used to demonstrate aggregated demand in the areas to convince providers to expand coverage and they were successful in some cases. Mr. RAMAGE said that in communities with broadband access, Connected Tennessee worked on awareness campaigns so that residents knew about the options available to them. He also said that local libraries are the best partners in the state for providing digital literacy training.

Mr. RAMAGE said Connected Tennessee worked with leaders in each of the state's 95 counties to develop local broadband plans through the organization's Connected program. Both the type and success of the initiatives adopted varied based on community needs, support from local leaders, and available resources. Some, like Marshall County, established community technology fairs, while others established WiFi networks to support tourism. Perry County

created a job training center, which taught residents the skills needed to work as programmers or in telework, as part of its Vision Perry initiative.

Mr. RAMAGE said that Connected Tennessee's Computers4Kids program provided approximately 5,000 computers to at-risk teens, including almost 2,900 to teens in foster care, who were staying in school and getting good grades. Connected Tennessee partnered with private companies, such as AT&T, Ciber, and Microsoft, as well as community centers, libraries, and churches. Connected Tennessee also worked with all 76 Boys and Girls Clubs in the state as part of the program and that it provided 90,000 hours of training to kids and teens at these clubs.

In response to Chairman NORRIS' question about what data Connected Tennessee still maintained, Mr. RAMAGE said all of the mapping data that the organization collected was still available. Mr. MCMAHAN said that in his experience, the entities that provided data to Connected Tennessee for mapping had overstated the extent of coverage, especially outside cities. Mr. RAMAGE said that Connected Tennessee tried to verify whether the coverage data they received were accurate. He said that although the data are not perfect, Connected Tennessee was able to verify much of it at the census block and, in some cases, street level. He said that it was important to update this information at least once if not twice per year to account for changes in coverage. In response to Mayor HUFFMAN's question about where Tennessee ranked relative to other southeastern states, Mr. RAMAGE said that broadband access and speed in Tennessee has historically been comparable to if not better than others in the region with the possible exception of Georgia.

Mr. MCMAHAN said that access isn't just about where broadband is technically available and that affordability is important especially in areas of the state where average incomes are no more than \$22,000 to \$24,000 per year. He said that competition among providers helps drive down costs. In response to Representative WIRGAU's question about whether affordability is always about cost, Mr. RAMAGE said that it can also be a value proposition and that some people who could afford service choose not to have it because they don't think it is worth the money. Maps comparing adoption with availability show that people are not always subscribing to the fastest available speeds.

Mr. RAMAGE said that one of the lessons Connected Tennessee learned from its different community programs is the difficulty of moving beyond access to focusing on adoption and use. The minimum speed defined as broadband by the Federal Communications Commission (FCC) was 200 kilobits per second when Connected Tennessee started and that it is now 25 megabits per second and will continue to increase. But he said that his family doesn't need a 25 megabits per second connection at his house and that they subscribe to a slower speed without any problems streaming multiple videos even though they have access to faster service. Mr. RAMAGE said that the more important question when determining what speeds are needed is how broadband will be used to improve communities and encourage economic development. It is important to consider what broadband will be used for in education and how it can

encourage job creation as well as how it can be made available to vulnerable populations to promote digital inclusion.

In response to Chairman NORRIS' question about whether this means that future research and policies should focus more on adoption and use than access, Mr. RAMAGE said that the state shouldn't ignore access issues, but the determining factor that dictates minimum necessary speed is what broadband will be used for. Infrastructure must be built to meet current and future needs. In response to Chairman NORRIS' question about whether the state should focus on expanding coverage to residents or community anchor institutions like schools, hospitals, and industrial sites, Mr. RAMAGE said that the two weren't comparable. Large industries don't have difficulty getting broadband wherever they want because of their ability to pay for large amounts of capacity, but individual residential customers don't have the same bargaining power with providers. Focusing on access alone will only get the state one third of the way to solving its broadband issues. In response to Representative WIRGAU's question about factors that influence adoption and use, Mr. RAMAGE said that it varies. Some people rely on mobile broadband, while others want connections for specific purposes like staying in touch with their children and grandchildren.

Mr. RAMAGE said that to achieve the state's goals for access, adoption, and use, it is important to take advantage of federal programs that can provide additional support. He said that programs like Lifeline can provide discounts to low-income residents and that the Rural Utility Service worked with telephone cooperatives to improve infrastructure in their service areas. Keeping an eye on federal programs was a full time job at Connected Tennessee.

The Commission next heard a presentation on the results of the Tennessee Department of Economic and Community Development's (ECD) broadband survey from Amanda MARTIN, special projects director for ECD. Ms. MARTIN said that broadband was a common topic in discussions with residents and local leaders during a tour of the state by ECD's commissioner, Randy Boyd. ECD decided to do its survey because of broadband's importance for economic development as well as general disagreement about the nature of the broadband problem and potential solutions. Ms. MARTIN said that ECD wanted to do a survey to supplement existing federal data. ECD chose its consultants for the project based on their holistic approach to researching access, adoption, and use. The consultants' reports define the scope of the broadband problem and, rather than a single solution, they offer a menu of options for addressing it.

Ms. MARTIN said that ECD's consultants surveyed residents and businesses throughout the state to help determine broadband access, adoption, and use in Tennessee. The survey received more than 23,000 responses, including 18,000 residents and 5,500 businesses. In response to Representative PARKINSON's question about how the survey was conducted, Ms. MARTIN said that it was primarily conducted online but that telephone surveys were done in approximately two-thirds of the state's counties. ECD and its consultants worked with local partners such as libraries, broadband providers, mayors, chambers of commerce, and development districts to reach residents and businesses without internet access.

Ms. MARTIN said that ECD's consultants defined broadband as having a minimum speed of 25 megabits per second download and 3 megabits per second upload because it is adequate to meet demand for the foreseeable future. [Staff note: The FCC also defines broadband as having a minimum speed of 25 megabits per second download and 3 megabits per second upload.] In response to City Commissioner CROSSLEY's question about whether this definition will support future needs especially in agriculture, Ms. MARTIN said that it should. She said that FCC data show that 87% of Tennesseans have access to fixed connections with those download and upload speeds, leaving approximately 834,000 residents without coverage. She said that coverage gaps are larger in rural areas where 34% of residents lack access to broadband using the consultants' definition compared with only 2% of urban residents. In response to Representative CARTER's question about whether these statistics include access to mobile wireless, Ms. MARTIN said that the coverage gaps reported were only for fixed connections of at least 25 megabits per second download and 3 megabits per second upload. She said that ECD's consultants estimated that eliminating these coverage gaps by building fiber to the home networks would cost between \$1.1 billion and \$1.7 billion and that it would cost between \$500 million and \$1.3 billion to build fixed wireless networks instead. She said that this shows that the state has a \$1 billion problem to solve.

Ms. MARTIN said that access to broadband doesn't necessarily imply adoption and use. She said that while 87% of Tennesseans have access to fixed broadband connections according to FCC data, only 31% of business respondents and 24% of residential respondents actually achieved those speeds in tests performed as part of ECD's survey. The reasons for this could be that respondents have not subscribed to the highest speeds available or that respondents may not have computers or other devices capable of supporting those speeds. She said that it was possible, though less likely, that they were not receiving the advertised speeds that they subscribed to.

Ms. MARTIN said it is important to increase adoption and use because doing so could improve the business case for expanding coverage. The most common barriers to increasing broadband use cited in ECD's survey differed between residential and business respondents. Speed and reliability were the most important barriers for residential respondents, whereas security and privacy concerns were most important for business respondents. Individual satisfaction with existing internet service correlated with download speed for residential users, but business users' satisfaction correlated with upload speeds of at least three or four megabits per second. She said that this was likely because business users are more likely to need to upload data to the web while most residential users are usually just pulling information.

Ms. MARTIN said ECD's survey respondents rated fiber to the home networks best for speed and reliability followed by coaxial cable networks and fixed wireless. She said that providers are also building fiber deeper into their networks to improve reliability and capacity regardless of whether they use a different medium to make the final connection to their customers. She said that 54% of ECD's survey respondents, however, connect to the internet using digital subscriber line networks, mobile wireless networks, satellite, or dial-up and that these networks were not rated as highly both for reliability and speed compared with all-fiber, coaxial

cable, or fixed wireless networks. In response to Representative CARTER's question about whether this means that 54% of survey respondents are underserved, Ms. MARTIN said that it does not necessarily mean they are underserved; rather it shows they are connecting using networks that are less reliable and less likely to deliver speeds of at least 25 megabits per second download and 3 megabits per second upload. Although mobile wireless and satellite networks cover almost all parts of the state including areas that other networks don't, their service plans often come with strict data caps that can make them cost prohibitive. In response to Representative WIRGAU's question about whether studies on the need for data caps exist, Ms. MARTIN said that she could not speak to specific billing practices of providers but her understanding is they are trying to discourage users from clogging the limited capacity of their networks.

Ms. MARTIN said that broadband can encourage economic development especially in rural areas. According to business respondents in ECD's survey, 66% of their revenue and 43% of net new jobs are attributable to broadband. Thirty-four percent of respondents said that broadband was essential to choosing their location and 56% said that it is essential to remaining in their current location. Ms. MARTIN also said that 16% of economic development agencies in the state said that businesses frequently choose not to locate in their communities because they lack access to broadband.

Ms. MARTIN said that ECD's consultants found that internet use varies by community and correlates with economic status, population density, and the type or speed of available connections. Broadband provides opportunities for employment and training: 24% of residential respondents run home-based businesses; 26% use the internet for telework; and 36% earn additional income from the internet, with 20% earning at least \$5,000 from it. She said that 75% of residential respondents wanted to improve how they use the internet.

Ms. MARTIN said that other states vary widely in the broadband programs and policies they have adopted. But ECD's consultants found that critical success factors include strong public leadership to support projects and goals, significant state capacity devoted to broadband either as part of a broadband office or across other agencies, the availability of grants or other funding sources, effective partnerships between the public and private sectors as well as within each sector individually, and transparency and planning. Ms. MARTIN said that although some states have decided to throw hundreds of millions of dollars at the issue, Tennessee should consider its fiscal constraints when determining which policies to adopt. Mayor BURGESS said that contrary to Mr. Ramage's assertion that Tennessee is comparable with others in the region, several southeastern states rank better than it according to ECD's consultants and that they rank Tennessee 39th in the nation. He said that it is evident the state has a ways to go.

In response to Representative PARKINSON's question about whether ECD's report recommends the state remove its territorial restriction on municipal providers, Ms. MARTIN said that was one of several options discussed in the report, but that doesn't mean it is the right approach for Tennessee. In response to Representative WIRGAU's question about whether government should be competing with business, Ms. MARTIN said that was a question for the General

Assembly to decide and that one option is a more open regulatory environment. In response to Mayor BICKERS' question about what local governments can do to encourage providers to expand coverage now that local governments no longer control the franchising process, Ms. MARTIN said that they could streamline permitting processes to reduce delays and costs for providers. Mayor BICKERS said that streamlining permitting processes alone wouldn't necessarily make it economically feasible to serve certain communities and that local governments need to be empowered. Ms. MARTIN said that local governments could consider other incentives including tax breaks and grants and that they could also develop planning teams.

Chairman NORRIS made a distinction between ECD's survey and the Commission's broader study and said there are many things to consider when developing broadband policy and there are more than two sides to many of the issues involved. Noting that ECD is represented on the Commission, he said that ECD's survey, which was announced after the Commission had already begun its study, is one source of information among many that the Commission will consider when developing its recommendations for the state. He said the Haslam administration has not adopted the policy recommendations made in ECD's survey and that the survey's methodology affects the conclusions one can draw from the data collected. He thanked Ms. MARTIN for her presentation.

**B. A panel discussion of Federal, State, and Local Regulatory Landscape included presentations by:**

- Cliff Lloyd, Chief Information Officer, Tennessee Department of Education
- Charles A. Sherrill, Tennessee State Librarian and Archivist, Office of Secretary of State
- Larry Jones, Telehealth Coordinator for Rural Health Care Program, Tennessee Primary Care Association
- Dr. Jacob Weiss, Director, High-Wired Communities and High-Wired Lifeline
- Keith Durbin, Information Technology Services Director and Chief Information Officer, Metropolitan Government of Nashville and Davidson County

Mr. LLOYD said that Tennessee schools spend \$85 million per year on broadband service and the equipment necessary to support it, including wireless access points, routers, switches, and other devices. The federal government funds 86% of this figure through the E-Rate program administered by the FCC and the Universal Service Administrative Company. Mr. LLOYD said that one year ago the state was in trouble because the FCC had denied E-Rate funding to 50 school districts because of perceived problems in funding applications. There was very little competition among broadband providers and other equipment vendors in some districts and that FCC was concerned that some of the applications seemed to be provider or vendor led.



Mr. LLOYD said that as a result Tennessee created a statewide consortium in partnership with the FCC to be transparent and remain compliant with the E-Rate application process. Every public school district in the state applied for funding and was approved for this year. He said that the consortium has helped drive down costs by creating a more competitive bidding landscape. This year school districts in the state will spend \$52 million on broadband service—not including internal infrastructure and devices—down from \$72 million the year before when 50 districts didn't even receive funding. This amounts to a 40% cost reduction compared to the approximately \$90 million districts would have spent last year if all of them had received E-Rate funding.

Mr. LLOYD said that school districts also received an additional \$20 million this year from the FCC to fund purchases of equipment like wireless access points, routers, switches, and connections between buildings. In response to Representative SARGENT's request for a list showing where the additional \$20 million is being spent broken down by county or school district, Mr. LLOYD said that the state Department of Education did not have that information available because districts apply directly to the FCC for funding and E-Rate funds for approved purchases are sent directly from the FCC to vendors. He said the state does not allocate the funding and is only informed of the total funding approved. He said that his office would try to contact districts to put together a list. Representative SARGENT said that it is important to know where all of the money is going and that it was not brought to his attention during the budget process.

Mr. LLOYD said that the Tennessee Department of Education is also in the process of creating an affordable laptop program to help districts afford enough devices so that every student can have one. He said that the current average is six students for every device, but this is a bit misleading because while some cities have already achieved one-to-one computing many rural areas have ratios closer to twelve or even fifteen students per device. A one-to-one ratio is necessary for the state to achieve goals related to technology in the classroom, digital learning, and personalized instruction. In response to County Executive HUFFMAN's question about where Tennessee's current six to one ratio ranks relative to other states, Mr. LLOYD said that the state is in the lower half nationally but the upper quadrant among its neighbors.

Mr. LLOYD said that cost is the traditional barrier for districts when trying to obtain and update devices. He said that districts have treated devices like any other capital building project, but this is problematic for computers that have to be replaced every three years unlike buildings that can last decades. He said that under the affordable laptop program, districts will rent computers and other devices for \$5 per year and manufacturers will replace the devices every three years. He said that Apple, Lenovo, Dell, and Hewlett Packard have already agreed to participate in the program. Districts are prevented under state law from making multi-year commitments for their operating budgets, and this remains an obstacle to the program. But the Tennessee Comptroller of the Treasury has agreed to a solution with the Department of Education that will make the program possible without violating local procurement laws.

Mr. LLOYD said that colleges and universities now expect students to be digitally literate and that students without these skills are dropping out in large numbers. He said the state will address this issue through a partnership with Microsoft to make a digital curriculum called Imagine Academy that will be available free to every high school student in Tennessee. The state will pay for the program, and it will include instruction on how to use the suite of Microsoft Office products as well as how to develop and write code.

In response to Chairman NORRIS' request for a summary of his presentation, Mr. LLOYD said that his office would provide one.

Mr. SHERRILL said that the Tennessee State Library and Archives (TSLA) has nine regional offices to support the state's non-metropolitan libraries. Staff in these regional offices work with local libraries—some of which are very small—to provide the public with broadband access and digital literacy training. Mr. SHERRILL said that TSLA had surveyed each of the libraries in the nine regions and found that 28% of them do not have access to 100 megabits per second connections, the minimum speed necessary for anchor institutions according to the FCC. In response to Chairman NORRIS question about whether any libraries lacked internet access altogether, Mr. SHERRILL said that every library in the state had a connection even if it didn't meet the 100 megabits per second standard. Chairman NORRIS said that libraries could be a resource for the 13% of Tennesseans who don't have access to broadband connections at home.

Mr. SHERRILL said that TSLA also found that of the 72% of libraries with access to 100 megabits per second connections only 30% of those actually subscribe to them. Cost is an issue for many of these libraries, and some don't subscribe to faster connections because they are currently receiving free service. Others have connections that are shared with local government agencies and can't unilaterally increase the speed of their subscriptions. Mr. SHERRILL said that libraries, like school districts, are eligible for federal E-Rate funding and that this funding can reimburse libraries for between 75% and 90% of the cost broadband service. But staff at some libraries are unaware of the E-Rate program, and many small libraries have had their budgets frozen for decades and can't get extra money for faster connections even if they are reimbursed for most of the cost. TSLA staff are encouraging local librarians to take advantage of the E-Rate program and subscribe to faster connections, but it is also necessary to educate local library boards and government officials.

Mr. SHERRILL said that TSLA offers annual technology grants through a combination of state and federal funding to local libraries so that they can purchase new or update existing equipment. The grants are capped at \$15,000 per year, and this year, many libraries have applied to use them for mobile hotspots that they can lend to patrons for at home broadband access. He said that approximately seventeen or eighteen libraries have already begun lending hotspots. Mayor BICKERS said that the hotspot lending program in Blount County has been tremendously successful and that it enables school children who otherwise wouldn't have broadband access to do their schoolwork at home.

Mr. SHERRILL said that TSLA had used a 2014 grant from the US Department of Agriculture and the Tennessee Department of Economic and Community Development to provide laptop labs to 70 libraries in rural areas. The libraries are required to offer at least 60 hours of digital literacy training as part of the grant program. In response to Representative WIRGAU's question about whether the laptops could be checked out, Mr. SHERRILL said that they were only for use inside the library. He also said that the laptops were now almost three years old and needed to be replaced. Representative WIRGAU asked whether the libraries could participate in a laptop rental program similar to the one described by Mr. Lloyd, and Mr. SHERRILL said that they could if they had the funding.

Mr. SHERRILL said that TSLA has also adopted technology standards for local libraries based on those developed by the Gates Foundation's Edge program. He said the standards are not required but encouraged and that they establish benchmarks for both the amount and types of digital literacy training offered by libraries that vary based on the size of the community served. He said that 75% of the state's libraries are meeting the standards, but he said that they do not apply to libraries serving communities of less than 5,000 residents. Many of these small libraries have difficulty finding qualified individuals to lead training sessions. Mr. SHERRILL said that the Tennessee Electronic Library was available to anyone in the state and that it offered free, self-guided computer training courses.

Mr. JONES said that broadband access is important for telehealth programs connecting patients in rural communities with specialists in urban areas. These programs reduce the need of patients to drive long distances to receive medical care. In addition to telehealth, hospitals and healthcare centers increasingly need broadband to manage electronic health records. Mr. JONES said that the federal government is strongly encouraging the use of these electronic records and that they have become a more important driver of the need for more broadband capacity than even telehealth. While a 1.5 megabit per second connections was sufficient for most telehealth programs, it is now common for healthcare centers to ask for 4, 10, and even 20 megabits per second connections.

Mr. JONES said that the disparity in broadband between urban and rural areas is both one of access and cost. Providers charge more in rural areas, and healthcare centers rely on federal funding to defray these costs. Mr. JONES said that initially, the FCC's Rural Healthcare pilot program funded 85% of the cost of broadband service for hospitals. The pilot program has been joined with the Healthcare Connect Fund, and the Universal Service Administrative Company has recently reduced the subsidy to 65%. He said that despite the reduced subsidy, hospitals and healthcare centers are still eager to participate in the program.

Dr. WEISS said that the FCC reimburses providers through the Lifeline program for offering discounted plans to low-income individuals. Similar to E-Rate, the funds are paid directly by the federal government to providers and are not managed or allocated by the state. He said that the Lifeline program was created during the Reagan administration and initially only offered discounts for landline telephone service. The program was expanded to include cellphone

voice and text service in 2012, and the FCC just voted to allow the program to be used for both fixed and mobile broadband beginning in December.

In response to Mayor ROWLAND's question about whether Lifeline offers free cellphones, Dr. WEISS said that the program offers a \$9.25 discount per plan per month and that subscribers usually get a free cellphone from their providers as part of the plan. The change to make Lifeline available for cellphone plans in 2012 increased the program's usefulness to low-income residents who may not always have a permanent residence or who may move frequently. In response to Mayor SENTER's question about whether Lifeline would also offer subscribers free computers, Dr. WEISS said that he didn't think it would. He said now that Lifeline will be available for broadband it is likely that subscribers will receive smartphones from providers.

Dr. WEISS said that the biggest challenge for Lifeline is raising awareness about the program both among the low-income populations it serves and among social service organizations and other non-profits. Many state and local agencies that provide other social services in low-income communities are unaware of Lifeline or how to enroll people in it. Dr. WEISS said that there is a need to integrate information about Lifeline and its eligibility requirements more fully within the state's social service infrastructure. Increasing connectivity would also increase the effectiveness of social service organizations, healthcare providers, and schools by helping them maintain contact with low-income residents they serve. But he said that it can be difficult to convince non-profits and local and state agencies to integrate Lifeline within their other operations.

In response to Mayor ROWLAND's question about Lifeline's eligibility requirements, Dr. WEISS said that it is available to individuals whose incomes are less than 135% of the federal poverty level. It is also available to those who qualify for other programs like the Supplemental Nutrition Assistance Program and Medicaid. Mayor ROWLAND asked whether participants in these other programs are automatically informed that they are eligible for Lifeline, but Dr. WEISS responded that they are not. He said that whether individuals are informed of their eligibility depends on the person working with them. In response to Dr. LIPPARD's question about the total number of Tennesseans eligible for Lifeline, Dr. WEISS said that he did not have the exact number of those eligible, but it would be similar to the number of residents eligible for the Supplemental Nutrition Assistance Program or the TennCare program. He also said that he did not have information available about the number of people who are eligible for Lifeline but who are not participating in the program.

Mr. DURBIN said the Metropolitan Government of Nashville and Davidson County (Metro) began investigating ways to increase access and adoption after a 2012 survey found that 44% of Metro's public school students—approximately 35,000 of 80,000 students—either didn't have access to a computer or internet service at home or didn't understand the benefits of having them. A 2015 Pew survey found that more than 53,000 families in Davidson County lack devices, service, or an understanding of how the internet might benefit them. Mr. DURBIN said that Metro wanted to develop a program that would be repeatable and scalable and that it found a model in Boston, Massachusetts' Tech Goes Home program. Boston's program was

paid for by the city and implemented by Boston Public Schools. It focused on families rather than students alone by providing devices like desktops, laptops, and tablets, connecting families with free or reduced-price service plans, and providing training on broadband's relevance and usefulness both to students and their guardians.

Mr. DURBIN said that like Boston's program, Metro's Anytime Access program focuses on improving access to devices, subsidized service, and training. Metro partners with Vanderbilt University, Dell Computers, and a company called ER2 to take old computers that the university is replacing and recycle them for a credit that can be used for new or relatively new devices. Getting access to affordable devices is typically the biggest challenge for these programs, but it has been easy for Metro because of its partnership with Vanderbilt. Mr. DURBIN said that Metro provides training for families in the program through Nashville Public Library. The training focuses on useful everyday applications of broadband such as online banking, accessing student grades, and applying for jobs. He said that the biggest initial challenge for Metro's program was getting access to subsidized service and that Metro worked with Connected Tennessee to reach out to providers. Now all of the major wireline providers in Nashville offer discounted plans for families with school children, and at least one provider offers discounts to residents of public housing.

Mr. DURBIN said that one remaining challenge for the program is to improve access to wireless plans because many of Metro's public school students move residences multiple times a year. Lifeline will also be a useful program for providing residents with low cost mobile broadband access.

Mr. DURBIN said that Metro is partnering with the Community Foundation of Middle Tennessee on a project called the Digital Inclusion Fund, which will help increase outside funding for its broadband program. The Community Foundation serves as a funding aggregator by bringing together different donors. Mr. DURBIN said that Metro set aside \$100,000 for the fund and challenged providers and non-profits to meet it. Google, Comcast, and the Stephen Turner Family Fund all matched Metro's donation.

Mr. DURBIN said that Metro also developed a pilot program for US Housing and Urban Development's (HUD) Connect Home Initiative. The program provides devices, service, and training to residents of public housing, and it has become a model that HUD is encouraging others to implement.

Mr. DURBIN said that Metro plans to establish a Broadband Technology Commission dedicated to improving access and adoption of broadband especially in underserved communities. Metro is also planning to conduct a survey of residents based on one used in Austin, Texas, to determine what service and adoption gaps remain and potential policies to address them. Mr. DURBIN said that the most important lessons Metro has learned are the importance of partnerships, the need for full-time leadership, and the difficulty of overcoming barriers to access.

## **Meeting Adjournment**

Following the panel, the Commission set the next meeting for December 5 and 6, 2016.

**Chairman NORRIS adjourned the meeting at 11:19 a.m.**