



NEW MEXICO LEGISLATURE

**SCIENCE, TECHNOLOGY  
AND  
TELECOMMUNICATIONS  
COMMITTEE**

2016 INTERIM FINAL REPORT

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## INTERIM SUMMARY



**Science, Technology and Telecommunications Committee**  
**2016 Interim Summary**

Broadband (high-speed internet access) deployment, and how best to expedite it for economic development in New Mexico, was the theme of the 2016 interim meetings of the Science, Technology and Telecommunications Committee. A consensus was too elusive for legislative action to achieve that goal. Therefore, no legislation was endorsed. There was discussion and exploration of public-private partnership possibilities for broadband deployment.

The committee continued to monitor progress by the Department of Information Technology and the respective agencies at deploying hardware and software for the management of state information technology systems and service to the taxpayer.

Other issues that came before the committee included technology commercialization, distance education, telehealth, unmanned aviation systems (drones), university research and development and the new contract provisions for managing Los Alamos National Laboratory. The committee did endorse a letter to U.S. Secretary of Energy Ernest Moniz urging continued community investment by whatever entity gets the laboratory management contract.





## WORK PLAN AND MEETING SCHEDULE



**2016 APPROVED  
WORK PLAN AND MEETING SCHEDULE  
for the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**Members**

Sen. Michael Padilla, Chair  
Rep. James E. Smith, Vice Chair  
Sen. William F. Burt  
Rep. Stephanie Garcia Richard  
Rep. Jason C. Harper  
Sen. Daniel A. Ivey-Soto  
Rep. Conrad James

Rep. Bill McCamley  
Sen. Bill B. O'Neill  
Rep. Debbie A. Rodella  
Sen. John C. Ryan  
Rep. Carl Trujillo  
Rep. John L. Zimmerman

**Advisory Members**

Sen. Jacob R. Candelaria  
Sen. Carlos R. Cisneros  
Rep. Kelly K. Fajardo  
Sen. Ron Griggs  
Rep. Antonio Maestas  
Sen. Richard C. Martinez  
Sen. Steven P. Neville

Sen. Mary Kay Papen  
Sen. William H. Payne  
Sen. Nancy Rodriguez  
Rep. Nick L. Salazar  
Rep. Luciano "Lucky" Varela  
Sen. Peter Wirth  
Rep. Monica Youngblood

**Work Plan**

The Science, Technology and Telecommunications Committee was created by the New Mexico Legislative Council on May 9, 2016. The committee proposes to hear testimony on:

1. bandwidth expansion and funding mechanisms, including for schools and special schools; broadband deployment; and New Mexico Telecommunications Act reform;
2. increased technology transfer;
3. economic development initiatives related to science, technology and telecommunications;
4. intellectual property development at research institutions in New Mexico, including new and emerging technology incentives at universities;
5. small business technology needs;
6. public-private partnerships related to technology, including that of the New Mexico Gas Company;
7. Department of Information Technology (DOIT) project spreadsheet updates;

8. development updates of the New Mexico One Stop Business Portal from the DOIT;
9. the status of the Information Technology Commission of the DOIT and the proposal to sunset that commission;
10. small business investment and research for technology commercialization;
11. status of the campaign finance information system at the Secretary of State's Office;
12. cybersecurity and data breach risks, including a presentation from the FireEye cyber security firm;
13. Legislative Finance Committee (LFC) staff analysis on higher education's performance on emerging technology initiatives and technology commercialization;
14. cash and budget reconciliation between the Department of Finance and Administration and the State Auditor's Office;
15. university performance in jobs creation;
16. the inclusion of economic development components in national laboratory contracts;
17. science, technology, engineering and mathematics (STEM) education in the public schools;
18. federal Department of Energy micro-laboratory facilities at national laboratories;
19. workforce training for the national laboratories;
20. enacting a new Tire Recycling Act;
21. Public Service Company of New Mexico smart grid and grid security initiatives;
22. computer science training in the public schools; and
23. the LFC staff performance evaluation report on the DOIT.

**Science, Technology and Telecommunications Committee  
2016 Approved Meeting Schedule**

<u>Date</u>	<u>Location</u>
May 26	Santa Fe
July 25-26	Albuquerque
August 22-23	Taos
September 22-23	Las Cruces
October 20-21	Santa Fe
November 14-15	Santa Fe



# AGENDAS AND MINUTES





Revised: May 13, 2016

**TENTATIVE AGENDA  
for the  
FIRST MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**May 26, 2016  
Room 311, State Capitol  
Santa Fe**

**Thursday, May 26**

- 10:00 a.m.           **Call to Order and Introductions**  
                          —Senator Michael Padilla, Chair
- 10:10 a.m.       (1) **[Department of Information Technology \(DOIT\) Update](#)**  
                          —Darryl Ackley, Secretary, DOIT
- 11:30 a.m.       (2) **[2016 Interim Work Plan and Meeting Schedule Discussion](#)**
- 12:00 noon           **Adjourn**



**MINUTES  
of the  
FIRST MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**May 26, 2016  
Room 311, State Capitol  
Santa Fe**

The first meeting of the Science, Technology and Telecommunications Committee (STTC) was called to order by Senator Michael Padilla, chair, on May 26, 2016 at 10:04 a.m. in Room 311 of the State Capitol in Santa Fe.

**Present**

Sen. Michael Padilla, Chair  
Rep. James E. Smith, Vice Chair  
Rep. Stephanie Garcia Richard  
Rep. Conrad James  
Rep. Bill McCamley  
Sen. Bill B. O'Neill  
Rep. Carl Trujillo  
Rep. John L. Zimmerman

**Absent**

Sen. William F. Burt  
Rep. Jason C. Harper  
Sen. Daniel A. Ivey-Soto  
Rep. Debbie A. Rodella  
Sen. John C. Ryan

**Advisory Members**

Sen. Carlos R. Cisneros  
Sen. Mary Kay Papen  
Sen. Nancy Rodriguez  
Rep. Nick L. Salazar  
Rep. Luciano "Lucky" Varela

Sen. Jacob R. Candelaria  
Rep. Kelly K. Fajardo  
Sen. Ron Griggs  
Rep. Antonio Maestas  
Sen. Richard C. Martinez  
Sen. Steven P. Neville  
Sen. William H. Payne  
Sen. Peter Wirth  
Rep. Monica Youngblood

**Staff**

Gordon Meeks, Legislative Council Service (LCS)  
Ralph Vincent, LCS  
Shawna Casebier, LCS

**Guests**

The guest list is in the meeting file.

**Handouts**

Handouts and other written testimony are in the meeting file.

**Thursday, May 26**

**Welcome and Introductions**

Senator Padilla welcomed the committee to the first meeting of the STTC for the 2016 interim. Members of the committee, staff and audience were invited to introduce themselves.

**Department of Information Technology (DOIT) Update**

Darryl Ackley, secretary of information technology, provided the committee with an overview of the DOIT and a status report on its current activities. Secretary Ackley explained that through a recent office restructuring, the DOIT not only provides IT services and acts as chief information officer to most state agencies, but it also brokers solutions and acts as a business partner to the agencies. Through the restructuring, Estevan J. Lujan became deputy cabinet secretary, John Padilla took on the chief information officer position and Maria Sanchez is the DOIT general counsel and policy director. Secretary Ackley noted that the DOIT's motto is "Run, Grow and Transform" and that the department is seeking feedback from agencies and will be convening a leadership advisory group to transform and update the department's practices. Recent developments since the restructuring include a new office in broadband services and the planning of geospatial information systems.

Secretary Ackley next summarized for the committee some of the successes and upcoming programs of the DOIT. Secretary Ackley emphasized that the statewide financial and human capital management system, SHARE, is operational and that the DOIT has received good feedback from its users. The DOIT is currently focusing on upgrading SHARE with a process that will take only one day through a virtual platform and is working with the Department of Finance and Administration (DFA) to achieve best business practices. Secretary Ackley also apprised the committee that funding has been received for the One-Stop Business Portal, a website that will assist businesses in navigating the processes for obtaining necessary licenses. Vendors are currently being evaluated, and the website is slated to be deployed by the end of the year. In the area of broadband for education, Secretary Ackley stated that the DOIT's goal is to provide one megabit per student by the year 2018 and that a rollout of how the program will look is to take place in the next few weeks. Next, Secretary Ackley discussed the DOIT's broadband initiatives for public safety communication. He stated that New Mexico is one of five early adopters in the United States and that the program will help provide public safety officers with broadband services to increase public safety at large events, such as the state fair and balloon fiesta. The DOIT is working with public safety departments, homeland security and corrections in this effort. Lastly, Secretary Ackley discussed an upcoming joint initiative with the DFA and state treasurer to monitor and protect against cyber threats, such as those faced in credit card transactions.

Questions and discussion included:

- software needed for updates to SHARE;
- inclusion of the New Mexico School for the Deaf for broadband services;

- the status of vacancies on the Information Technology Commission and a proposal to sunset the commission;
- mechanisms to extend broadband infrastructure;
- the work of the Secretary of State's Office on the Campaign Finance Information System; and
- the DOIT's liaison to the legislature.

Members requested that the DOIT give presentations at all meetings of the STTC and continue using the "spreadsheet" approach it provided the committee in the 2014 interim to keep the committee informed of program status. Members requested that the DOIT allocate its time presenting to the committee as follows: one-fourth of its time on tasks that are on track and have no issues to completion; one-fourth of its time on projects that will be started in the next 30 to 90 days; and one-half of its time on projects that are behind schedule or over budget.

### **2016 Interim Work Plan and Meeting Schedule Discussion**

Senator Padilla asked the committee for input on the draft 2016 work plan. Committee members, with input from the audience, discussed the addition of the following items:

- broadband expansion for schools and special schools;
- New Mexico Telecommunications Act reform;
- new and emerging technologies from universities;
- job creation at the research institute level;
- cybersecurity and data breach risks;
- Legislative Finance Committee (LFC) staff analysis on corporate relations with research institutions;
- cash and budget reconciliation between the DFA and the State Auditor's Office;
- the inclusion of economic development components in national laboratory contracts and technical grant matching;
- federal Department of Energy micro-laboratory facilities at national laboratories;
- science, technology, engineering and mathematics (STEM) education in public schools;
- enacting a new Tire Recycling Act;
- the efforts by Public Service Company of New Mexico on smart grid and security issues; and
- the LFC staff program evaluation report on the DOIT.

Members of the committee suggested Taos for the location of the committee's August meeting. The committee then approved the work plan and meeting locations, as discussed, with no meeting schedule changes.

### **Adjournment**

There being no further business before the committee, the first meeting of the STTC for the 2016 interim adjourned at 11:00 a.m.



Revised: July 20, 2016

**TENTATIVE AGENDA  
for the  
SECOND MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**July 25-26, 2016  
Rotunda Room, University of New Mexico Science and Technology Park  
801 University Boulevard SE  
Albuquerque**

**Monday, July 25**

- 10:00 a.m.           **Call to Order and Introductions**  
—Senator Michael Padilla, Chair
- 10:10 a.m.       (1)   **[Welcome to University of New Mexico \(UNM\)](#)**  
—Gabriel Lopez, Vice President for Research, UNM
- 10:30 a.m.       (2)   **[Intellectual Property Development, Job Creation and Innovate ABQ](#)**  
—Elizabeth (Lisa) J. Kuuttila, President and Chief Executive Officer,  
Science and Technology Corporation, UNM
- 12:00 noon           **Lunch**
- 1:00 p.m.       (3)   **[Opportunities for Enhancing Broadband Deployment](#)**  
—Darryl Ackley, Secretary, Department of Information Technology (DOIT)  
—Mike Ripperger, Public Regulation Commission  
—Ovidu Viorica, Broadband Deficiencies Correction Program Manager,  
Public School Facilities Authority  
—Joe Menapace, AT&T  
—John Badal, Sacred Winds Communication  
—Katherine Martinez, Legislative Affairs Director, CenturyLink  
—Gil Gonzales, Information Technology Manager, UNM  
—John Francis, Executive Vice President, Western New Mexico Telephone  
Company  
—Sam Ray, New Mexico Exchange Carrier Group  
—Stuart Roberts, TDS, and President, Southwest Cable Communications  
Association  
—Kimberly Legant, Smith Bagley, Inc./Cellular One
- 3:00 p.m.       (4)   **[Department of Information Technology Project Spreadsheet Update](#)**  
—Darryl Ackley, Secretary, DOIT

4:00 p.m. (5) [Information Technology Commission Status](#)  
—Darryl Ackley, Secretary, DOIT

5:00 p.m. **Recess**

**Tuesday, July 26**

9:00 a.m. (6) [Collaboration and Workforce Training with the National Labs](#)  
—Joseph Cecchi, Dean of School of Engineering and Associate  
Provost for National Laboratory Relations, UNM

10:00 a.m. (7) [STEM Education](#)  
—Jenn Gutiérrez, Elementary Education Program Coordinator, UNM  
—Trenia Walker, Department Chair of Teacher Education, Educational  
Leadership and Policy, UNM  
—Kathryn Watkins, Associate Professor, Teacher Education, Educational  
Leadership and Policy, UNM  
—Hector Ochoa, Dean of College of Education, UNM  
—Viola Florez, Professor and PNM Endowed Chair, College of Education,  
UNM

11:00 a.m. (8) [New Initiatives in K-12 Computer Science Education](#)  
—Stephanie Forrest, Distinguished Regents Professor of Computer Science,  
UNM

12:00 noon **Adjourn**



**MINUTES  
of the  
SECOND MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**July 25-26, 2016  
Rotunda Room, University of New Mexico Science and Technology Park  
801 University Boulevard SE  
Albuquerque**

The second meeting of the Science, Technology and Telecommunications Committee (STTC) was called to order by Senator Michael Padilla, chair, on July 25, 2016 at 10:01 a.m. in the Rotunda Room of the University of New Mexico (UNM) Science and Technology Park in Albuquerque.

**Present**

Sen. Michael Padilla, Chair  
Rep. James E. Smith, Vice Chair  
Sen. William F. Burt  
Rep. Stephanie Garcia Richard  
Rep. Jason C. Harper (7/25)  
Rep. Conrad James  
Rep. Bill McCamley  
Sen. Bill B. O'Neill  
Rep. Debbie A. Rodella  
Rep. Carl Trujillo  
Rep. John L. Zimmerman

**Absent**

Sen. Daniel A. Ivey-Soto  
Sen. John C. Ryan

**Advisory Members**

Sen. Carlos R. Cisneros (7/25)  
Rep. Kelly K. Fajardo  
Sen. Ron Griggs (7/25)  
Sen. Nancy Rodriguez  
Rep. Monica Youngblood (7/26)

Sen. Jacob R. Candelaria  
Rep. Antonio Maestas  
Sen. Richard C. Martinez  
Sen. Steven P. Neville  
Sen. Mary Kay Papen  
Sen. William H. Payne  
Rep. Nick L. Salazar  
Rep. Luciano "Lucky" Varela  
Sen. Peter Wirth

(Attendance dates are noted for those members not present for the entire meeting.)

**Staff**

Gordon Meeks, Legislative Council Service (LCS)  
Ralph Vincent, LCS

**Guests**

The guest list is in the meeting file.

**Handouts**

Handouts and other written testimony are in the meeting file.

**Monday, July 25****Welcome and Introductions**

Senator Padilla welcomed the committee to the second meeting of the STTC for the 2016 interim. Members of the committee and the staff were invited to introduce themselves.

**Welcome to UNM**

Gabriel Lopez, vice president for research, UNM, welcomed the committee to UNM and discussed his role in developing research activities at the university. Dr. Lopez discussed the vision to dramatically enhance UNM's research excellence and the current metrics showing the status of research funding. Dr. Lopez also discussed the Legislative Finance Committee (LFC) staff's recommendation to create an Industrial Relations Office to consolidate corporate relations at higher education institutions.

Questions and discussion from committee members included:

- branch campus participation in research;
- prioritization of research projects within UNM's capital outlay requests;
- joint appointments of staff between Sandia National Laboratories and UNM;
- collaboration among higher education institutions in corporate relations efforts;
- the impact on job creation and/or loss as technology from institutions of higher education evolves;
- the effectiveness of research projects and the metrics used to measure the results;
- the possibility of someone in private industry being advised or aided in research as a service from the university; and
- a one-stop portal at the university for finding specialized university resources.

**Intellectual Property Development, Job Creation and Innovate ABQ**

Elizabeth Kuuttila, president and chief executive officer, Science and Technology Corporation (STC), UNM, discussed the STC's role in creating opportunities for and supporting technology transfer projects. The metrics show a steady increase both of projects and money involved.

The following initiatives were highlighted:

- the Joseph L. Cecchi VentureLab, office space for new business, intern support, etc.;
- the STC's and the UNM Foundation's co-investment fund;
- a partnership with New Mexico Angels;
- a memorandum of understanding with Osage Venture Partners;
- Innovate ABQ, a business incubator; and
- the Innovation Academy and coursework related to entrepreneurial activities and business planning.

Questions and discussion from committee members focused on:

- the role that the State Investment Council could play in the investments with venture capitalists in start-up companies; and
- performance measures for start-up enterprise investments, including jobs created, tax revenues, the number of inventions and the number of contacts with venture capitalists.

### **Information Technology Status Report**

Brenda Fresquez, LFC, provided the committee a spreadsheet of the progress of the Department of Information Technology (DOIT) in deploying and managing information technology systems among state agencies. The spreadsheet shows the DOIT's top-10 projects, plus two other projects: the Corrections Department's offender management system (OMS) and the Department of Public Safety's computer-aided dispatch (CAD) system.

A motion was made by Representative Garcia Richard and seconded by Representative Zimmerman to have this spreadsheet provided on a quarterly basis. The motion passed unanimously, and LFC staff will provide it at either the October or November meeting.

### **Information Technology Commission (ITC) Status**

Darryl Ackley, secretary, DOIT, reported on the status of the ITC. Rather than concentrate on the ITC as it is directed in statute, DOIT staff is working with the Office of the Governor to provide policy oversight and is also conducting project certification through the Project Certification Committee (PCC), which was created by the ITC a number of years ago. Secretary Ackley presented a plan to move forward during the 2015 interim, but no direction has been adopted as yet.

A possibility would be to change the ITC to just an advisory board, with other oversight roles provided at the DOIT. Already, \$200 million to \$300 million worth of project oversight is being handled by the DOIT and the PCC.

Questions and discussion from committee members addressed:

- the functions of oversight by the ITC as specified in statute need to remain if any legislation is enacted to reform the ITC; and
- the independence of the ITC and a former chair's vision of what the oversight should be.

Members requested that Secretary Ackley define more clearly the responsibilities for policy oversight and make recommendations for the ITC. The members also requested Secretary Ackley to map the requirements in statute to a path going forward and to recommend how the PCC fits within a new structure. Secretary Ackley was requested to come back in September or October with recommendations on a path forward.

### **Opportunities for Enhancing Broadband Deployment**

Senator Padilla asked that presenters invited to address the broadband issue sit at the witness table in three groups. Presenters were requested to be brief in outlining their organizations' roles and their needs for expedited broadband deployment and to limit remarks to seven minutes each.

Participants in addition to Secretary Ackley included:

- Mike Ripperger, Public Regulation Commission (PRC);
- Ovidu Viorica, Broadband Deficiencies Correction Program Manager, Public School Facilities Authority (PSFA);
- John Badal, Sacred Winds Communication;
- Katherine Martinez, Legislative Affairs Director, CenturyLink;
- Gil Gonzales, Information Technology Manager, UNM;
- John Francis, Executive Vice President, Western New Mexico Telephone Company;
- and
- Sam Ray, New Mexico Exchange Carrier Group.

The participants discussed broadband deployment relative to their respective organizations' current specific plans and what the legislature can do to help. Secretary Ackley discussed broadband deployment in general terms and introduced Kendra Karp, the new director of the Office of Broadband and Geospatial Initiatives at the DOIT. He summarized how broadband evolved and why it is talked about. He said one million gigabytes of internet traffic will go around the internet this year. Perennial questions, he said, include: how can more broadband be obtained to accommodate the growth and how can cybersecurity issues associated with data transmissions be handled? Secretary Ackley testified that the requirement for bandwidth is increasing by exponential numbers. The governor has an initiative to ensure that every child in New Mexico will have access to one megabyte of bandwidth by 2018. The administration also has significant requirements to provide sufficient broadband service for public safety and first responders.

Mr. Ripperger summarized the PRC's responsibility, which is mainly the regulation of intrastate telecommunications services. Traditional regulation has been over the "non-broadband" public switched telephone network (PSTN), operating through time division multiplexing. Broadband is primarily an internet protocol (IP)-based service. The Federal Communications Commission (FCC) has determined that broadband is largely interstate in nature and, therefore, primarily under FCC jurisdiction, he stated. The FCC decided to refrain from broadband rate regulation. Therefore, he said, pursuant to the FCC's Net Neutrality Order of April 3, 2015, the PRC does not assert authority over broadband services. However, he said that the PRC does assist with informal broadband billing complaints in its Consumer Relations Division. The PRC supports deployment of broadband services in New Mexico and has taken action to further that cause. It established the New Mexico Broadband Task Force to provide a report and action plan to stimulate the deployment of broadband in New Mexico, and the commission created a broadband fund as part of the State Rural Universal Service Fund. The commission also has the responsibility for the annual certification of eligible telecommunications carriers (ETCs) for the use of state and federal universal service funds for broadband and PSTN-based funding. The FCC has recently revised its Lifeline program so Lifeline money may be applied to broadband service, with certification of broadband Lifeline ETCs at the FCC.

Mr. Viorica told the committee that the FCC's goal of one megabyte per student by 2018 is economically infeasible. The PSFA has expended considerable resources in mapping out the current state of broadband in the schools and has researched the funding possibilities.

Mr. Gonzales discussed UNM's investments in collaborative efforts with other research institutions and the investment in the 505 GigaPoP. UNM's information technologies has established the Albuquerque GigaPoP, an aggregation point of networks to provide high-bandwidth network accessibility to the State of New Mexico. ABQG is the on-ramp for high-speed national networks. These high-speed networks are the Western Regional Network and Internet2 (I2).

Mr. Badal emphasized planning for New Mexico and adopting a mixed technology that works across the state. He also suggested expanding the PRC fund to support broadband industry and suggested tax incentives for rural investment in infrastructure.

Ms. Martinez stated that CenturyLink has plans to invest \$11 million annually for the next six years. Ms. Martinez also mentioned that the New Mexico Telecommunications Act was written in 1985 with updates in 1999 and 2006. She stated that it should be modernized to reflect the new technology and where business is today. The regulatory environment may affect business investment. Ms. Martinez also stressed the importance of public and private partnerships (P3) and pointed to a couple of P3 models — Utah Department of Transportation construction projects (open-trench situations) and the Colorado model for broadband funding that provides fewer barriers as well as tax deductions for investments.

Mr. Francis told the committee that, prior to 2011 there was no support for broadband to small telephone carriers anywhere in the U.S. He said the Connect America Fund is the only FCC-sponsored initiative to get more penetration into the market. In rural New Mexico, there will be haves and have nots. He asked the committee to take a lead in trying to encourage more deployment support for broadband.

Questions, discussion and comments from committee members included:

- erosion of the State Rural Universal Service Fund because of those who have moved away from land-line telephone service and are not paying their share of the infrastructure costs;
- the federal funding contingency on providing services to every area;
- the PRC broadband fund does not kick in until 2017 and is being challenged in the courts;
- the use of highway rights of way for broadband conduits;
- the PRC does not have regulatory authority over broadband;
- the levels of investments by the industry;
- problems with rights of ways across Indian land;
- in 2015, Senate Bill (SB) 159 provided \$10 million per year for school infrastructure;
- the broadband divide is one of the largest issues before the legislature, which requires collaboration with the industry to create more opportunities;
- tax incentives that are tied to a level of service;
- the Nebraska broadband fund as a model to emulate;
- the amount of money going to networks within schools compared to money going to networks to schools;
- most schools in most areas have fiber optics;
- there is not enough business in New Mexico to warrant multinationals to invest in the state's infrastructure but the schools' conduit capacity exceeds demand;
- Nebraska schools do not need state money to lease lines from carriers;
- private industry piggybacking on the universities' system is similar to community aggregation;
- South Carolina's use of networks for research;
- qualification for proposed tax incentives would be dependent on minimum speed and quality of service;
- P-3 legislation (?); and
- the correlation between economic development and broadband coverage.

The industry group was requested to email Mr. Meeks with any suggestions on legislation. Also, members requested that Secretary Ackley look at new directions and potential funding for extending broadband.

The industry group was requested to have regular discussions with all of those involved in providing broadband services.

## **Approval of Minutes**

The minutes of the first STTC meeting on May 26, 2016 were approved by unanimous voice vote.

## **DOIT Project Spreadsheet Update**

Secretary Ackley presented the DOIT's quarterly spreadsheet that shows the status of the major IT projects. He discussed the project life-cycle activities — initiation, planning, implementation and closeout — and how the DOIT is managing projects through this life cycle. He mentioned that this process begins with an appropriation request for the Computer Systems Enhancement Fund.

Questions, comments and discussion from committee members included:

- the Children, Youth and Families Department's request for funding in 2017 for education for parents of Indian children with special needs (\$10 million was requested, but the project was not funded);
- additional layers of complexity because of the difference in federal and state rules;
- the secretary of state's campaign finance system;
- risk assessment and security concerns;
- over which agencies does the DOIT have oversight and which ones do not fall under the DOIT;
- child support enforcement systems;
- tracking of milestones on the DOIT project report;
- the meaning of the percent column and whether it is an actual status or is based on the dollars expended;
- continuing concern that the total system cost is not identified during the initial budgeting phases; and
- laboratory information management system data availability to counties and special districts.

## **Tuesday, July 26**

The meeting's second day reconvened at 9:01 a.m.

## **UNM Collaboration and Workforce Training with the New Mexico Federal Laboratories**

Joseph L. Cecchi, dean, School of Engineering, UNM, discussed UNM's collaboration on research projects with New Mexico's national security laboratories. He said that UNM has strengthened its research programs and aligned many of them with areas critical to New Mexico's national security laboratories — Sandia National Laboratories, Los Alamos National Laboratory, the Air Force Research Lab and White Sands Missile Range. UNM has hired new faculty in key areas for the labs and has also been very successful in securing funding that has supported research, along with graduate students and post-doctoral fellows. UNM's proximity to the laboratories and UNM faculty and federal laboratory researchers working together have built

increasingly productive and vital research collaborations that have provided outstanding opportunities for training graduate students and post-doctoral fellows jointly with national laboratory scientists and engineers. This collaborative environment has helped both UNM and the national laboratories attract "the best and the brightest", he testified.

Questions, discussion and comments from committee members included:

- collaboration with the laboratories as it relates to teaching;
- the level of experience of New Mexico students and their preparation level;
- revamping the mathematics curriculum so that it is less theoretical and more context oriented;
- the percentage of Hispanic and other minority students;
- the advanced materials research facility collaboration with Sandia;
- security practices as a potential obstacle to collaboration;
- employment administration for joint appointments;
- examples of start-up enterprises that have resulted from collaboration, including nanospheres for cancer therapies;
- 3-D printing;
- articulation between K-12 and colleges;
- "bottom-up" as opposed to "top-down" collaboration; and
- the benefits of "show and tell" days.

### **Science, Technology, Engineering and Math (STEM) Education**

Hector Ochoa, dean, College of Education, UNM; Jenn Gutierrez, elementary education program coordinator, UNM; Kathryn Watkins, associate professor, teacher education, educational leadership and policy, UNM; and viola florez, professor and PNM endowed chair, College of Education, UNM, discussed the Accelerated Alternative Licensure STEM Program initiative for teaching licensure in the STEM areas. The program recruits motivated STEM professionals and veterans into the middle and secondary education field. Of the 164 students in the program, 49 are in mathematics and 72 are in the science track.

The students take courses that are equivalent to a major in the science field. The goal is to develop a teacher who will train the next researcher by teaching in seventh through twelfth grades. This is a very intensive and extensive program, and fellowships are offered. There is a guarantee of placement within the Albuquerque Public School District upon successful graduation. The program teaches students how to deliver their knowledge with the complexities of teaching.

Questions, discussion and comments from committee members included:

- how elementary teachers teach in the STEM area without the background and training;
- the ability to measure the disposition of prospective teachers;
- grants to improve teacher self-efficacy with teaching labs and review;



- how to deal with cultural differences and disabilities;
- how to measure at various stages of the program;
- the teacher evaluation system does not address teacher efficacy;
- how a teacher's effectiveness is measured;
- the provision of in-service assistance;
- the framework for next-gen science;
- concern about the books being used for the next 10 years without next-gen;
- the role of the legislature;
- concern about the amount of professional development that current teachers get to adopt, new teaching methods and evolving technology;
- the "inquiry science" curriculum;
- "content expertise" and "instructional expertise";
- teacher "dispositions" ("bed side manner") and student motivation;
- intense "clinical practice" supervision;
- "embedded faculty";
- "self-efficacy";
- the importance of clinical practice;
- "student learning outcomes";
- math teaching methods;
- the teacher evaluation system not including "teacher efficacy";
- "cohort model schools";
- "next-gen science";
- "time on task";
- continuing education requirements and professional development;
- teaching younger students compared to teaching older students;
- math and science education standards for elementary (K-1 to K-3) schools;
- "directed education";
- masters degrees and licensing pathways;
- National Science Foundation (NSF) training for teachers;
- a Public Education Department conference;
- the problem of nationwide teacher shortages;
- integration of disciplines at UNM;
- aggressive recruitment at the College of Education; and
- In 2015, SB 329 sponsored by Senator Gay G. Kernan.

### **New Initiatives in K-12 Computer Science Education**

Stephanie Forrest, distinguished professor of computer science, UNM, told the committee that President Obama announced in January 2016 an initiative to spend \$4 billion through the NSF and the U.S. Department of Education to support "Computer Science (CS) for All". New Mexico was an early experimenter in this area with an NSF grant three years ago. This program was the first in the United States, and funding has been extended for one year through a supplemental funding award. She said that UNM has incorporated a CS course into its core curriculum and that she supports a requirement for CS training in secondary school curricula.

Questions, comments and discussion from committee members included:

- funding to sustain this program;
- how curriculum policy changes are needed at the Public Education Department;
- admissions requirements for universities beginning to include computer courses;
- encouragement of under-represented groups to participate in CS;
- the supercomputing challenge program;
- cybersecurity as a new field;
- preliminary requirements and preparation for a student to get to the point of studying CS;
- the Santa Fe Institute's Growing Up Thinking Scientifically program;
- a "career or work place" core curriculum instead of an acceptable component in math or science core curriculum; and
- CS as a laboratory science.

Roy Soto, former New Mexico chief information officer, asked for and received a commitment to be on the September agenda for the Las Cruces meeting.

### **Adjournment**

There being no further business before the committee, the second meeting of the STTC for the 2016 interim adjourned at 12:17 p.m.

Revised: August 11, 2016

**TENTATIVE AGENDA  
for the  
THIRD MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**August 22-23, 2016  
Kit Carson Electric Cooperative Board Room  
118 Cruz Alta Road  
Taos**

**Monday, August 22**

- 10:00 a.m.           **Call to Order and Introductions**  
—Senator Michael Padilla, Chair
- 10:10 a.m.       (1)   **[Kit Carson Electric Cooperative Broadband Deployment](#)**  
—Luis Reyes, Chief Executive Officer (CEO) and General Manager,  
Kit Carson Electric Cooperative
- 11:30 a.m.           **Lunch**
- 1:00 p.m.       (2)   **[Department of Information Technology \(DOIT\) Project Spreadsheet Update](#)**  
—Darryl Ackley, Secretary, DOIT
- 2:00 p.m.       (3)   **[One-Stop Business Portal Status Report](#)**  
—Darryl Ackley, Secretary, DOIT
- 3:00 p.m.       (4)   **[Policy Issues for Remote Piloted Aircraft](#)**  
—Jennifer Sensiba, New Mexico Air Rangers
- 5:00 p.m.           **Recess**

**Tuesday, August 23**

- 9:00 a.m.       (5)   **[Public-Private Partnerships for Infrastructure Development](#)**  
—Mike Puelle, CEO, Associated General Contractors of New Mexico
- 10:00 a.m.       (6)   **[Education Networks of America](#)**  
—Michael McKerley, Chief Technology Officer, Education Networks of  
America
- 11:00 a.m.       (7)   **[New Mexico Business Climate for Technology Enterprise](#)**  
—Jack Vigil, CEO, Harmonix Technologies
- 12:00 noon           **Adjourn**



**MINUTES  
of the  
THIRD MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**August 22-23, 2016  
Kit Carson Electric Cooperative Board Room  
Taos**

The third meeting of the Science, Technology and Telecommunications Committee (STTC) was called to order by Senator Michael Padilla, chair, on August 22, 2016 at 10:09 a.m. at the Kit Carson Electric Cooperative Board Room in Taos.

**Present**

Sen. Michael Padilla, Chair  
Rep. James E. Smith, Vice Chair  
Sen. William F. Burt  
Rep. Stephanie Garcia Richard (8/22)  
Rep. Conrad James  
Rep. Bill McCamley  
Rep. Debbie A. Rodella  
Rep. John L. Zimmerman

**Absent**

Rep. Jason C. Harper  
Sen. Daniel A. Ivey-Soto  
Sen. Bill B. O'Neill  
Sen. John C. Ryan  
Rep. Carl Trujillo

**Advisory Members**

Sen. Carlos R. Cisneros  
Rep. Kelly K. Fajardo  
Sen. Richard C. Martinez  
Sen. Nancy Rodriguez (8/23)  
Rep. Monica Youngblood (8/23)

Sen. Jacob R. Candelaria  
Sen. Ron Griggs  
Rep. Antonio Maestas  
Sen. Steven P. Neville  
Sen. Mary Kay Papen  
Sen. William H. Payne  
Rep. Nick L. Salazar  
Rep. Luciano "Lucky" Varela  
Sen. Peter Wirth

(Attendance dates are noted for those members not present for the entire meeting.)

**Guest Legislators**

Rep. Alonzo Baldonado  
Rep. Roberto "Bobby" J. Gonzales

**Staff**

Gordon Meeks, Legislative Council Service (LCS)  
Shawna Casebier, LCS  
Ralph Vincent, LCS

## **Guests**

The guest list is in the meeting file.

## **Handouts**

Handouts and other written testimony are in the meeting file.

## **Monday, August 22**

### **Welcome and Introductions**

Senator Padilla welcomed the committee to the third meeting of the STTC for the 2016 interim and thanked Kit Carson Electric Cooperative for hosting the committee and Representative Gonzales for inviting the committee to meet in Taos and for organizing a dinner reception for the evening. Members of the committee and the staff were invited to introduce themselves.

### **Welcome to Kit Carson Electric Cooperative and to Taos**

Bobby Ortega, president of the board of trustees of Kit Carson Electric Cooperative, welcomed the committee. He explained that Kit Carson is proud to have brought high-speed internet access to all rural areas in Taos, Colfax and Rio Arriba counties. He then introduced other board members in the audience.

### **Kit Carson Electric Cooperative Broadband Deployment**

Luis A. Reyes, general manager of Kit Carson, introduced Gabriel Montoya of the Pueblo of Pojoaque, who summarized some recent changes to the management of REDI Net, the regional internet cooperative that is providing fiber-optic cable access to high-speed internet services for institutions in northern New Mexico.

Mr. Reyes summarized Kit Carson Electric Cooperative's success with partnerships on rural broadband. He said that most of state's geographic area is served by electric cooperatives. In addition to electricity, Kit Carson has embarked on a proactive mission to help its rural service area to achieve economic development by expanding beyond its primary 30,000-customer base for electric service to include propane service to 3,500 customers and 4,000 internet customers. He said that Kit Carson has the largest solar fleet in New Mexico and is number two in the country for watts per customer from solar power. The cooperative has aggressive plans for the future following a 2011 award for its achievements, including the goal of deploying fiber optics to all homes and businesses in its service area. It currently has 90% of the network lit and 100% built. Its basic package provides for 30 megabits upload rate and 30 down. The system will have the capacity to scale up, he said. He said that high-speed internet access is most critical for economic development in rural areas because it is a critical ingredient to attract tourism, retirement relocation and work during vacation.

He said that Kit Carson's program provides an economic development model that can be replicated in rural areas around the state, as well as in some small urban settings. Grid

modernization is important for all utilities, and Kit Carson is working with Los Alamos National Laboratory and Sandia National Laboratories to gather data to formulate plans for optimum energy efficiency and system reliability.

In response to a question from the committee, Mr. Reyes said that Kit Carson is working with CenturyLink to deploy redundant paths, as well as with REDI Net and an unnamed telephone cooperative in southern Colorado. He said the cooperative is also working with La Jicarita Rural Telephone Cooperative in Mora to provide access lines to Las Vegas, New Mexico. He said that the cooperative first rolled out internet service to rural areas and then extended service into Taos and other more urban centers in its service area.

Mr. Montoya explained that an audit of REDI Net led to a change in the organization's fiscal management with Rio Arriba County, which is now acting as fiscal agent. He said that networks like REDI Net will only survive with partnerships. He said that since October 2015, the organization has been in hibernation mode. During this time, the board looked at all services, what is being contracted out and what should be done internally and decided to change its fiscal management. The board also changed and has new blood. It includes four tribal entities, one county and one city. Easements have been signed for 25 years to provide network expansion. Educational institutions are its priority for service, and it is connecting schools and public safety centers first. REDI Net is a middle-mile provider and cannot build to the home, but it can work with others to get lower costs for customers, he explained.

REDI Net is a very strong middle-mile provider, and it is also partnering with Jemez Mountains Electric Cooperative, which has all fiber on its poles. He explained that rural areas are hard to build in, and right-of-way access is expensive and slow for return on investment, so it is crucial that REDI Net partner with a variety of organizations for leverage of its resources. REDI Net is planning for redundancy. It is also working with tribes and last-mile providers to build a stronger network.

Margaret Campos, Public Education Department, said that everything the REDI Net board is doing is intended to make REDI Net sustainable for the future. It is partnering with higher education institutions, such as Northern New Mexico College and Luna Community College, and is hoping to support a pipeline for information technology (IT) technicians to receive certification in all high schools and to smooth matriculating credits through to completion of bachelor's degrees into internships and mentorships in hopes of building capacity and uniting communities.

Mr. Reyes closed the presentation by saying the electric cooperatives adopted rural broadband as an initiative because it complements the core service of a membership electric utility cooperative. Kit Carson now has 4,000 members connected to internet service and 13,000 in line.

Katherine Martinez, lobbyist for CenturyLink, expressed appreciation to Kit Carson Electric Cooperative for partnering with CenturyLink and pointed out that CenturyLink serves more rural customers than all other providers.

Committee members queried the presenters and commented about the following:

- the Questa mine closure resulted in the loss of 350 area jobs, and the cooperative's service needed to replace those;
- the shift from Tri-State Generation and Transmission Association (an interstate cooperative) to an independent power provider;
- the 10-year contract with Tri-State required \$37 million to exit, but Kit Carson member rates will actually fall in 5.5 years, and the cooperative will save, over 10 years, \$50 to \$70 million;
- the history of the cooperative getting into the propane business;
- the source of REDI Net's investment was from the federal government under the federal American Recovery and Reinvestment Act of 2009 (ARRA);
- Native American governments' acquisition of land, and right-of-way issues being raised, as tribes raise right-of-way costs;
- the need to attract out-of-state high-technology companies dependent on high-speed internet;
- the growth of Santa Teresa and its impact on the rest of New Mexico;
- potential new funds other than through ARRA for high-speed deployment;
- student enrollment at Taos High School;
- Enron's plans to expand retail wheeling into Kit Carson's service area as the original rationale for Kit Carson Electric Cooperative providing internet services;
- franchise agreements;
- service to schools in smaller communities;
- challenges with internet service providers;
- installation of fiber in existing water conveyance systems;
- trust land restrictions on Indian nations, tribes and pueblos;
- the federal Rural Utilities Service (RUS) as a source of funds for broadband investments;
- the average member pays \$39.95 for basic service; and
- the community dedication of Kit Carson board members.

### **Approval of Minutes**

The minutes of the July meeting were approved.

### **Department of Information Technology Project Spreadsheet Update**

Darryl Ackley, secretary of information technology, introduced Deputy Secretary Estevan J. Lujan and General Counsel Maria Sanchez and told the committee that not much has changed on the spreadsheet data since the July meeting. He distributed a portfolio management list and announced that the Information Technology Commission had met. Secretary Ackley said that the



department is working diligently with the Department of Finance and Administration's Local Government Division on Department of Public Safety issues.

Discussion from the committee addressed:

- progress on the secretary of state's online voter registration system and its estimated costs compared to actual costs;
- the status of the Computer Systems Enhancement Fund;
- the Children, Youth and Families Department IT budget;
- the membership of the Information Technology Commission; and
- the replacement of the Motor Vehicle Division's system.

### **One-Stop Business Portal Status Report**

Secretary Ackley gave the committee a brief history of the one-stop business portal, which was created by legislation in 2014. Over the next two years, the legislature has appropriated \$1 million for planning and implementation. There is a steering committee composed of appointees from numerous agencies, and there is a project team with appointees from various agencies. There is also a business advisory group. He provided the committee with a flow chart showing progress of the effort and the participants. A vendor has been selected, and contract negotiations are proceeding. The project is on schedule for an initial basic portal to go online in early 2017. A more robust portal will go live in late 2017.

Topics of the committee's discussion included:

- the membership of the business advisory group;
- the frequency of meetings;
- quality control to ensure participation by small businesses;
- the role of the legislature in getting the one-stop business portal systemitized;
- specific time schedules;
- 24/7 accessibility of agency portals and customer support;
- compliance with federal and local regulations;
- cyber-security aspects;
- a business emphasis on cutting paperwork;
- potential statute changes as they may affect rulemaking;
- the continual need for feedback;
- the reasons for including the Human Services Department;
- significant successes in other states (e.g., Kentucky);
- the reasons some agencies are left off (e.g., the Facilities Management Division of the General Services Department);
- the potential to integrate municipalities, counties and other political subdivisions on the one-stop business portal;
- access to all state agencies;
- attendance and participation by all agencies at the planning committee meetings; and

- how to make deployment fit the time line.

### **Remote Piloted Aircraft**

Jennifer Sensiba, a photographer and drone business operator, showed a drone-recorded video of a planned road alignment in Los Lunas as an example of the beneficial use of drone technology, with which any potential legislation should avoid interfering. She said that the Federal Aviation Administration (FAA) was slow to act, but it adopted Part 107 rules, which provide that any recreational user of a drone under 2.2 pounds be required to register. The registration fee is \$5.00 for noncommercial users for an unlimited number of drones and \$5.00 for commercial users per drone. She showed where this registration is made quite easy on the FAA website. Local and state law enforcement agencies have access to the information. The FAA requires all commercial users to obtain a piloting license. The rules also limit the use of drones to under 400 feet within the line of sight of the operator and not above anyone who is not involved in the operation of that drone. There are also regulations limiting drone use near airport air space. There are no laws in New Mexico currently addressing drone use, except general laws that address interfering with an aircraft. There is a five-year term for drone registration. On August 27, new FAA rules will take effect that require a two-year commercial pilot certification at a cost of \$250, and the certification exam includes a background check by the Transportation Security Administration. There is an online study guide for prospective drone pilots.

Committee discussion addressed:

- the accuracy of permit and zoning enforcement;
- shooting down a drone would be covered by state law on interfering with aircraft, which makes it a crime punishable as a fourth degree felony;
- the FAA count of how many drone pilots are registered;
- the military use of drones;
- the applicability of Part 107 rules to local governments;
- the use of drones for building permit inspections to pick up every carport, garage and garden structure;
- the potential need for state law to clarify local government use;
- the use by tax assessors to look at properties changing from agricultural use to development;
- what the legislature needs to do, e.g., leave federally licensed people alone but maybe regulate recreational drone users and drone use for criminal activity;
- the prices of drones; and
- dissemination of registered drone information to local law enforcement.

After the committee recessed, Ms. Sensiba demonstrated the capability of a drone in the Kit Carson Electric Cooperative parking lot.

**Tuesday August 23**

**Public-Private Partnerships**

Mike Puelle, chief executive officer, Associated General Contractors of New Mexico, told the committee that the legislature needs to consider new tools to address infrastructure needs in New Mexico. Infrastructure is the foundation of the state's economy, education, public safety and quality of life. It is diverse and continually needs improvement. The state needs legal and institutional tools to keep up with critical infrastructure, he said. He introduced Wayne Rutherford, a member of the board of Associated General Contractors and a contractor based in Taos. Mr. Rutherford said he has survived lots of recessions and knows what it takes to keep small town businesses healthy.

Senator Padilla joined Mr. Puelle at the witness table and explained that he will co-sponsor a public-private partnership (P-3) bill this session, as he did last session. He said that he hopes it will be broadly appealing to use as an economic development engine. Senator Padilla said he expects to see upwards of 10,000 to 15,000 jobs out of this initiative.

Mr. Puelle said there are lots of data about P-3s. The Bipartisan Policy Center is a national group from which he provided two handouts. The handouts describe benefits, why P-3s should be used and recommended actions by state legislatures. He said that P-3 initiatives are open-ended, and, hence, he is open to amending the bill to make it more amenable to more folks. P-3s vary from state to state, and there is no cookie-cutter approach. It is a partnership, a framework. Sometimes it is not the right answer; sometimes it is the only answer, he said.

Mr. Puelle defined P-3 as an agreement or contract between governments and the private sector for goods or services. P-3s are voluntary for governments. The contracts hold each of the parties accountable. P-3s can be used for broadband deployment, he said. Broadband infrastructure is important for educational services and entertainment. He said it was an infrastructure that did not exist a couple of decades ago but that now leaves smaller communities economically behind if it is not present. Broadband needs cost-effective and reliable deployment.

He cited more traditional infrastructure, such as school buildings and roads, that need maintaining and keeping up to standard. Water and energy efficiencies help manage government budgets. Energy efficiencies, for example, and updating public buildings can pay for those buildings' capital costs over time. There may be lots of areas for savings. P-3s are useful in many areas of government services.

Mr. Puelle emphasized that P-3s are not the same as privatization. They do not involve giving the function of government to the private sector. They are rather like sharing work, responsibilities, financial risk and revenue. The bill that Senator Padilla will sponsor allows and facilitates these frameworks to come together, Mr. Puelle said. He explained the need for a bill that includes best practices to facilitate better P-3 agreements. The bill will provide for transparency, competition and avoidance of "back-room deals" lingo. The bill will also allow for

a comprehensive long-term view of projects. Infrastructure projects are not just about the build phase, but they also include maintenance and keeping up standards. He mentioned examples of unbuilt courthouses, water infrastructure appropriations not being spent and expensive failures of projects that were not P-3 structures. There needs to be a comprehensive view from the beginning.

Mr. Puelle said that advantages include the ability to leverage money and bring multiple revenue sources to bear on projects, and P-3s allow project proponents to look at a variety of public money methods. He said private-sector interest is in long-term stable investments. He concluded by saying that there is an enormous amount of capital available for P-3 projects.

Senator Padilla closed by adding that P-3 projects will not exclude organized labor. They will bring outside money into New Mexico and will help put people to work.

Questions and comments from the committee members addressed:

- whether the City of Espanola could buy the Hunter Building and turn it into a food hub using a P-3 approach;
- how P-3 legislation would interact with the Procurement Code;
- the Constitution of New Mexico's Anti-Donation Clause;
- the old Albuquerque High School renovation as an example of the need for a P-3;
- more detail on ownership by the public;
- the voluntary nature of P-3 contracts;
- a bill would require provisions for what kind of condition the asset has to be in when it is returned to the government-jurisdiction owner;
- the use for blighted areas;
- P-3s will not lead to toll roads in New Mexico;
- the integration of union labor, a living wage and prevailing wage laws;
- the philosophical issue of government shirking its duties;
- that failures with P-3s could lead to a slippery slope into privatization;
- how P-3s can be used by municipalities; for example, for fire and police services;
- help for small rural communities;
- that examples include conservation-type projects, such as power purchase agreements for clean, cheap energy and water metering paid for over time;
- the interaction with local municipalities and counties over building permit approvals and zoning;
- a bill threshold of \$50 million or more above project costs to qualify as a P-3;
- a concern about consulting with small communities on developing the bill;
- a skittishness about mixing public and private funds;
- University of New Mexico's lack of expertise to develop, run and market an entertainment district next to the Pit;
- broadband deployment in Utah;
- the Burrell College of Osteopathic Medicine at New Mexico State University;

- the "dig once" strategy for broadband deployment; and
- concerns about privatizing water systems.

### **Education Networks of America**

Gary McKerley, chief technology officer, Garry Lough, government relations, and Gale Nelson, vice president of customer services, all of Education Networks of America (ENA), spoke to the committee about bundled IT services to school districts and broadband connectedness. ENA has a nationwide backbone but serves only three school districts in New Mexico through Apple's national connect system: the Gallup-McKinley County School District, the Pueblo of Laguna and the Los Lunas Public School District. One out of every 14 students in the U.S. is served by ENA's network. The company has 6,000 sites in 550 school districts in the country.

Questions and comments from committee members dealt with the following:

- ENA provides the "pipes" to students, not the computers or software;
- the needs from the legislature are none, it just needs an information presentation;
- E-Rate leverage for New Mexico to qualify for federal money;
- clarification of ENA services as an E-Rate service provider and not an E-Rate consultant;
- New Mexico is an 80% E-Rate state, meaning that ENA services can be subsidized by the federal government; some states are leaving this money on the table;
- the potential enhancement of existing broadband pipelines;
- charter schools' responsibility for their own E-Rate applications;
- cyber-security issues over student identification and social security numbers;
- the cost of ENA services;
- the Nebraska and New Jersey models aggregate services using multiple carriers;
- the cost per student;
- solutions to address and manage network issues in schools; and
- use of on-the-ground and local vendors.

### **New Mexico Business Climate for Technology Enterprise**

Jack Vigil, chief executive officer, Saul Villalobos and Eric Martinez, all with Harmonix Technologies, gave the committee an overview of the company's services. It provides managed services and IT outsourcing, special systems architecture planning, technology asset documentation, network switching, server deployment, wireless, unified communications, storage area networking, data center and desktop virtualization, backup and disaster recovery, software and license administration, internet protocol surveillance and access control and structured cabling. The company has worked with more than 20 well-known and prominent corporate partners around the world. Featured New Mexico customers include Taos County, Roosevelt County Electric Cooperative, Cibola General Hospital, South Central Colfax County Special Hospital District clinics, the Santa Fe Public School District, the Espanola Public School District, the Portales Municipal School District, the Dulce Independent School District and Fiore Industries. Mr. Vigil said that New Mexico has middle-mile infrastructure for massive data

center capabilities, but he explained that outsourcing by government agencies to out-of-state and large global companies hinders small and local businesses. Statewide broadband expansion initiatives could significantly expand data storage services to create jobs, develop the economy and stimulate revenue in New Mexico. He said that one of the biggest obstacles to Harmonix doing more business in New Mexico is delays by state agencies in paying their bills to small businesses.

Discussion from committee members included:

- potential Procurement Code improvements to make it more business-friendly, such as creation of a small business advocacy agency, requiring a percentage of government procurement to be dedicated to in-state businesses and enhanced ranking of New Mexico-based businesses;
- intellectual property;
- the data center for Facebook in Los Lunas;
- what may attract level 3 data centers;
- the inability to connect to middle-mile infrastructure;
- a subcommittee on broadband;
- legislation;
- coding classes in kindergarten through twelfth grade; and
- the business-antagonistic culture and "rice bowl" mentality.

### **Adjourn**

There being no further business, the STTC adjourned at 12:01 p.m.

Revised: September 13, 2016

**TENTATIVE AGENDA  
for the  
FOURTH MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**September 22-23, 2016  
Club House Meeting Room  
New Mexico State University (NMSU) Golf Course  
3000 Herb Wimberly Dr.  
Las Cruces**

**Thursday, September 22**

- 10:00 a.m.        **Call to Order and Introductions**  
—Senator Michael Padilla, Chair
- 10:10 a.m.        (1) **[Welcome and State of the University](#)**  
—Dr. Daniel Howard, Ph.D., Provost and Executive Vice President, NMSU
- 10:30 a.m.        (2) **[Science, Technology, Engineering and Mathematics \(STEM\) Initiatives in Public Schools](#)**  
—Dr. Karen Trujillo, Ph.D., Director of K-12 Outreach, College of Education, NMSU
- 11:30 a.m.        **Lunch**
- 1:00 p.m.        (3) **[Computer Science Training in Public Schools](#)**  
—Paige Prescott, Computer Science Teachers Association, New Mexico Chapter  
—Dr. Enrico Pontelli, Vice Chair, Computer Science Teachers Association, New Mexico Chapter
- 2:00 p.m.        (4) **[Building a Smarter Energy Infrastructure](#)**  
—Sayuri Yamada, Director of New Mexico Governmental Affairs, Public Service Company of New Mexico (PNM)  
—Carlos Lucero, P.E., New Mexico Governmental Affairs, PNM
- 3:00 p.m.        (5) **[Tour of NMSU Chiller Plant](#)**
- 5:00 p.m.        **Recess**

**Friday, September 23**

- 9:00 a.m.      (6)    **NMSU Research Initiatives**  
—Dr. Vimal Chaitanya, Ph.D., Vice President for Research, NMSU
- 10:00 a.m.      (7)    **Technology Commercialization and Economic Development Initiatives**  
—Dr. Kevin Boberg, Ph.D., Vice President for Economic Development,  
NMSU
- 11:00 a.m.      (8)    **Information Technology Spreadsheet Report**  
—Darryl Ackley, Secretary, Department of Information Technology
- 12:00 noon      **Adjourn**



**MINUTES  
of the  
FOURTH MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**September 22-23, 2016  
New Mexico State University Golf Course  
Las Cruces**

Meeting as a special subcommittee, the Science, Technology and Telecommunications Committee (STTC) was called to order by Senator Michael Padilla, chair, on September 22, 2016 at 10:01 a.m. at the Club House Meeting Room at the New Mexico State University (NMSU) Golf Course in Las Cruces.

**Present**

Sen. Michael Padilla, Chair  
Rep. Jason C. Harper  
Rep. Bill McCamley  
Rep. Debbie A. Rodella  
Rep. John L. Zimmerman

**Absent**

Rep. James E. Smith, Vice Chair  
Sen. William F. Burt  
Rep. Stephanie Garcia Richard  
Sen. Daniel A. Ivey-Soto  
Rep. Conrad James  
Sen. Bill B. O'Neill  
Sen. John C. Ryan  
Rep. Carl Trujillo

**Advisory Members**

Sen. Carlos R. Cisneros  
Rep. Kelly K. Fajardo  
Sen. Ron Griggs (9/22)  
Sen. Richard C. Martinez  
Sen. Mary Kay Papen

Sen. Jacob R. Candelaria  
Rep. Antonio Maestas  
Sen. Steven P. Neville  
Sen. William H. Payne  
Sen. Nancy Rodriguez  
Rep. Nick L. Salazar  
Rep. Luciano "Lucky" Varela  
Sen. Peter Wirth  
Rep. Monica Youngblood

**Guest Legislators**

Rep. Idalia Lechuga-Tena (9/22)  
Sen. William P. Soules

(Attendance dates are noted for members not present for the entire meeting.)

**Staff**

Gordon Meeks, Legislative Council Service (LCS)  
Shawna Casebier, LCS

**Guests**

The guest list is in the meeting file.

**Handouts**

Handouts and other written testimony are in the meeting file.

**Thursday, September 22**

Senator Padilla welcomed the committee to the fourth meeting of the STTC for the 2016 interim. Members of the committee and the staff were invited to introduce themselves.

**Welcome and State of the University**

Dr. Daniel Howard, Ph.D., provost and executive vice president, NMSU, welcomed the committee to NMSU and gave an update on NMSU's administrative, academic and research initiatives. He stated that, most importantly, the university is transforming itself to streamline administrative processes, reduce fragmentation and improve purchasing processes, resulting in millions of dollars in savings from a properly calibrated administration. Dr. Howard also detailed for the committee an initiative in general education to move from a focus on content to a focus on essential skills, the creation of eight "meta-majors" for undeclared/undecided students and the development of the Aggie Pathway, in which NMSU partners with the community college system to provide support and academic alternatives for students not quite ready for the university level. Dr. Howard also shared with the committee recent news, including the opening of the first-in-the-state Patent and Trademark Resource Center and the award of several grants, including one from the National Institutes of Health (NIH) for cancer research collaborations with the University of New Mexico (UNM), a National Science Foundation grant to ensure that students from all demographics are included in the science, technology, engineering and mathematics (STEM) disciplines and a \$1.2 million grant to transition to a new consortium model at the Sunspot Solar Observatory.

Questions and discussion from committee members included:

- possibilities for budget cuts at NMSU;
- administrative consolidation of higher education throughout the state;
- cancer research collaboration with UNM; and
- the benefits of the Sunspot Solar Observatory to NMSU, the state and the nation.

**STEM Initiatives in Public Schools**

Referring to the handout "Formal and Informal STEM Outreach at NMSU", representatives of NMSU's various colleges presented initiatives that NMSU is undertaking at the university, in public schools and in the community to encourage the study and application of STEM.

Dr. Karen Trujillo, Ph.D., director of K-12 outreach, College of Education, NMSU, stressed that 80% of the jobs of the future will require STEM skills. She noted that a focus on STEM education for minorities and females, who are currently underrepresented in the disciplines and make up more than one-half of New Mexico's population, presents a unique opportunity for New Mexico to prepare its population for future success.

Dr. Barbara Chamberlin, Ph.D., project director, Learning Games Lab, NMSU, shared with the committee that math and science education is funded at one-seventh the level of literacy education, although math achievement has been shown to be a better indicator of student success. She reviewed learning games and media products that have been developed by NMSU to engage students in science in addition to STEM-related programs in the community and schools, such as 4-H, the Agricultural Extension and Education Center at Memorial Middle School and Future Farmers of America, that are inspiring students to study STEM and preparing them for higher education and future careers.

Kathryn Renner Hansen, director and chief executive officer, Arrowhead Center, NMSU, explained that Innoventure is a middle school and high school program offered throughout the state that inspires youth to create scientific, technical and business solutions through innovation. With summer camp programs for middle school students and entrepreneurial programs for students in grades K-5, students at all grade levels are practicing the application of STEM skills by developing technology products and businesses that solve specific real-world problems.

Dr. Enrico Pontelli, Ph.D., interim dean, College of Arts and Sciences, NMSU, discussed the benefits of computational thinking across disciplines, outreach and support for female students in computing-related disciplines, the importance of science tools in the classroom and efforts to increase the number of people who learn about and understand smart grid technologies. Dr. Pontelli noted that success in STEM is closely related to reading and writing, and the STEM curriculum has a role in helping teachers to teach students to read and write.

Dr. Susan Brown, Ph.D., interim associate dean of research, College of Education, NMSU, reviewed programs in grades K-16, including the MC<sup>2</sup> MathLab, the Science, Engineering, Mathematics and Aerospace Academy, the Digital Media Academy and the Creating Opportunities Using Numerical Thinking program, that were designed to get students excited about studying math and to make connections between math and other disciplines, such as art and geography. Dr. Brown also discussed STEM professional development for teachers, STEM outreach facilities and the STEM pipeline of various summer camp, cocurricular and extracurricular programs designed to encourage and inspire STEM knowledge and ways of thinking.

Dr. Patricia A. Sullivan, Ph.D., associate dean for outreach and public service, College of Engineering, NMSU, shared with the committee how NMSU is leveraging its facilities, equipment and knowledge to build STEM capacity for students in grades K-16. Dr. Trujillo concluded with future steps for STEM education in New Mexico, noting that there is a great need

to graduate more STEM teachers in the state and to coordinate with the different colleges to ensure that there are academic programs offering STEM-based degrees at all levels, in addition to supporting K-12 STEM education and the professional development of teachers.

Questions and discussion from committee members included:

- how to evaluate the success of the various programs;
- the next-generation science standards;
- the need for experts in STEM fields to be pedagogically trained;
- opportunities and barriers for retirees in STEM fields to obtain a license or certificate to teach;
- aggressive student loan forgiveness for STEM teachers staying in New Mexico;
- professional development for teachers and mentoring of schools;
- the number of STEM teachers graduating each year versus the number of STEM teachers that New Mexico needs;
- work with the Economic Development Department and Workforce Solutions Department;
- collaborations with UNM and the New Mexico Institute of Mining and Technology (NMIMT); and
- international exchange programs, cross-border collaborations and international STEM competitions.

### **Computer Science Training in Public Schools**

Elisa Cundiff of Las Cruces High School; Melody Hagaman of Centennial High School; Paige Prescott, Computer Science Teachers Association, New Mexico Chapter; and Dr. Pontelli, referring to their handout "Computer Science and High Schools A Call for Action", discussed with the committee the importance of computer science and computational thinking in educational pursuits and the workforce. Emphasizing that computer science teaches logic, problem-solving, understanding of the world and creativity, the panelists underscored the need for computer science to be an integral part of students' education and encouraged legislative action to, at a minimum, allow the option for computer science courses to count as a rigorous course for math and/or science high school graduation requirements. If computer science counted as a credit for graduation, the panelists explained, more funding would be available for successful programs, curriculum standards would be developed and more females and minorities would be encouraged to study computer science.

Questions and discussion from committee members included:

- potential committee endorsement of the proposed legislation;
- the importance of computer science knowledge at Sandia National Laboratories;
- legislation models from Idaho, Utah, Colorado, Wisconsin and New Jersey;
- collaborations with UNM, NMSU, NMIMT and the national laboratories for technical expertise;

- whether computer science should count as a credit for math, science or language arts;
- job-creation opportunities for students;
- the disparity of participation in computer science classes between male and female students and potential reasons why;
- the benefits of teaching computer science fundamentals to K-12 students and elementary school teachers;
- the fiscal impact of allowing computer science to count as a graduation credit; and
- minimum education requirements for coding careers.

### **Building a Smarter Energy Infrastructure**

Matthew Jaramillo, federal and state governmental affairs, Public Service Company of New Mexico (PNM), and Carlos Lucero, P.E., New Mexico governmental affairs, PNM, referring to their handout, "Building a Smarter Energy Infrastructure", addressed the committee on PNM's pending rate case before the Public Regulation Commission (PRC) and stated that the requested rate increase is needed for PNM to recoup its past energy investments and to continue to invest in energy infrastructures and new technologies. Mr. Jaramillo also addressed consumer protection concerns relating to the leasing and financing of private rooftop solar systems. Legislative action was requested to create a customer bill of rights that would require greater transparency and disclosure to protect consumers who are interested in financing, leasing or purchasing private solar systems and to standardize and streamline the interconnection processes for the private systems.

Questions and discussion from committee members included:

- problems with rooftop solar system financing, lease and purchase power agreements;
- the need for required disclosures, such as those required for credit cards, for rooftop solar installation financing;
- PNM's progress on meeting the renewable energy portfolio standards set by the legislature;
- the PRC's rule that rooftop solar panels may only be installed to meet, at maximum, 120 percent of the user's average peak use;
- community solar systems;
- solar installation on public or government buildings;
- PNM's investment in energy infrastructure;
- smart meters;
- electrocution of cats by power lines;
- electricity rates in New Mexico compared with neighboring states; and
- PNM's rate increase application.

### **Tour of NMSU Chiller Plant**

The committee toured NMSU's Central Utility Plant, a utility production center providing steam, electricity and chilled water for the NMSU main campus.

## **Friday, September 23**

The meeting's second day reconvened at 9:04 a.m.

### **NMSU Research Initiatives**

Sudha K. Murthy, director, Office of Research and Development, NMSU, referring to her handout "NMSU Research Overview", opened the discussion with an overview of NMSU's research profile and strengths, its award of various grants and its collaborations with other universities, national laboratories and institutions outside of the state. For the latest relevant successes, Ms. Murthy shared with the committee NMSU's award of the 2016 National Science Foundation Major Research Instrumentation Program Award of a high-resolution orbitrap fusion mass spectrometer for multidisciplinary research in the state, which will have applications in the energy, environmental and biosciences fields. She also detailed a premier award from the NIH for a collaborative effort between NMSU and UNM for a drug discovery project focused on the design and development of new synthetic compounds that target estrogen-related physiology and disease, particularly breast cancer.

Dr. Satyajayant "Jay" Misra, associate professor, Department of Computer Science, NMSU, described NMSU's recent interdisciplinary research initiatives. Highlighting initiatives in smart grids and energy management, cyber-security and cyber-defense, and data science and data analytics, Dr. Misra demonstrated how collaborations among various NMSU colleges, national laboratories and private enterprise enable excellent interdisciplinary research and training for students, sustain NMSU as a hub for expertise in the fields and address important problems faced by a technologically advanced modern society.

Henry M. Cathey, Jr., deputy director, Physical Science Laboratory (PSL), NMSU, recounted that the PSL was created in 1946 to support the United States Department of War with rocket technology and has grown today to have expertise in aerospace, the modern electronic battlefield, intelligence community solutions and information sciences and security systems. Mr. Cathey demonstrated that the PSL's strengths lie not only in its research, education and training capabilities, but also in its unique ability to utilize over 15,000 square miles of uncongested airspace with varied terrain and excellent year-round flying conditions.

Dr. R.T. James McAteer, associate professor, NMSU, referring to the Sunspot Solar Observatory, explained to the committee why it is important for the sun to be studied, its role in humans' understanding of the universe and its impacts on man-made infrastructure. He stated that the Sunspot Solar Observatory is not only important to New Mexico as a productive scientific laboratory, but also as a go-to scientific tourist destination and a driver of economic stability. He explained that jobs at the observatory are currently paid for through a National Science Foundation grant, but that these positions will be transferred to other observatories in Hawaii and Colorado. NMSU intends to take over the operations of the observatory and run it less expensively and more efficiently.

Blane M. Sanchez, program manager, New Mexico Water Resources Research Institute (WRRI), discussed with the committee statewide water assessment efforts. He stated that a model of the state's water budget is available online, and this model, supported by new science, helps develop model scenarios for water resource planning on river basin, county, regional and statewide scales. The WRRI is also actively involved in supporting students, faculty research and peer-reviewed technical reports and keeping the New Mexico water community informed through conferences and workshops. Mr. Sanchez indicated that funding would be requested from the state to maintain the WRRI's contribution to the understanding of water issues.

Questions and discussion from committee members included:

- the need for greater publicity of NMSU's research;
- unmanned aviation vehicles;
- NMSU's research successes and grant awards;
- meetings with municipalities and government entities regarding the use of new technologies;
- government laboratory clearance for students;
- solar flare data dissemination;
- the status of the Office of the Attorney General's Consumer Protection Fund; and
- the efficient and economical operation of the Sunspot Solar Observatory.

### **Approval of Minutes**

The minutes of the STTC meeting of August 22-23, 2016 were recommended to be approved by unanimous voice vote of members present, which did not constitute a voting quorum.

### **Technology Commercialization and Economic Development Initiatives**

Working through their handout, "Economic Engagement Related to Work Plan Items 2, 3, 5, 6, 13", Dr. Kevin Boberg, Ph.D., vice president for economic development, NMSU, Terry Lombard, director of intellectual property and technology transfer, NMSU, Dr. Misra, Dr. Sullivan and Wayne L. Savage, executive director, Arrowhead Park, NMSU, addressed the committee regarding NMSU's economic engagement efforts and approach.

Beginning the discussion by addressing national trends relating to increased technology transfer, Ms. Lombard noted that: a proactive approach is needed to reach out to private companies to partner with the university to utilize its research capacities; potential commercialization of research efforts incentivizes researchers; and the partnerships contribute to the mutual benefit and growth of the university and industry. Utilizing a three-phased approach of research and disclosure; evaluation and protection; and commercialization and licensing, NMSU works with its Office of Vice President for Economic Development, research deans, venture capitalists and licensing agents to get industry involved in its research efforts.

Dr. Misra reviewed the technology needs of small businesses and noted that small businesses in the Las Cruces area are uniquely underserved in technology support, workforce support, economic policy and state and local government support. He said that the Arrowhead Center serves as a great asset to these small businesses in providing assistance with technology incubation, patenting processes, identification of funding sources and subject matter expertise, in addition to assisting with creation of the workforce by educating and graduating well-rounded students.

Next, Dr. Sullivan discussed developments in science, technology and telecommunications and highlighted grant programs, such as the National Science Foundation's participation grant to assist students transferring into the engineering curriculum and its Pathways to Innovation program that helps institutions transform the experience of their undergraduate engineering students to incorporate innovation and entrepreneurship into their studies. She stated that these programs, and others hosted by NMSU, utilize a multidisciplinary approach to create a "real world environment" for students to learn best practices and be prepared for the business world.

Mr. Savage then described Arrowhead Park at NMSU and the cluster approach to economic growth that has been used in this master-planned community. Mr. Savage described Arrowhead Park, which is 95 percent funded by the private sector, as a mixed-use space that includes a health technology cluster anchored by NMSU, the Burrell College of Osetopathic Medicine and five tenant partners. It is a creative campus that is not only a physical location but also a concept to assist industry to grow in the world of digital media. Considered a successful public-private development model, average salaries at Arrowhead Park are well-above the average for the region. Dr. Boberg concluded the discussion by noting that collaboration, coordination, congruity and conjunction are the principles upon which NMSU has undertaken its economic engagement initiatives for the future.

Questions and discussion from committee members included:

- the use of NMSU resources, such as the wind tunnel, by private industry;
- the incentivization of private-sector work;
- the job-creation potential of NMSU's research initiatives;
- the goal of education to educate and prepare students for the workforce;
- statewide collaboration regarding the New Mexico Experimental Program to Stimulate Competitive Research; and
- graduate student requirements to design start-up ventures before graduating.

### **Information Technology Spreadsheet Report**

Darryl Ackley, secretary, Department of Information Technology (DOIT), demonstrated for the committee the DOIT's new web-based project management portfolio ([www.doit.state.nm.us/project\\_dashboards.html](http://www.doit.state.nm.us/project_dashboards.html)). Developed as a means to more efficiently present project updates to the committee, the web portal provides the status of all projects in the



four phases of initiation, planning, implementation and closeout, including budget updates, concerns or risks encountered and the status of the project schedule, which are all updated in near real time.

Questions and discussion from committee members included:

- project status notifications to project managers;
- the meaning of colors and symbols used in the project management portfolio;
- the consistency of project information provided to the DOIT by other departments;
- quality control of the project information before it is uploaded to the web portfolio;
- the use of transparency to incentivize agencies to be diligent in project management;
- the feasibility of an alert system to notify project managers and executive leadership on project deficiencies or problems; and
- outreach efforts by the DOIT to train agencies on how to use the project management portfolio.

### **Adjournment**

There being no further business before the committee, the fourth meeting of the STTC for the 2016 interim adjourned at 11:48 a.m.



Revised: October 18, 2016

**TENTATIVE AGENDA  
for the  
FIFTH MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**October 20-21, 2016  
Room 317, State Capitol  
Santa Fe**

**Thursday, October 20**

- 9:00 a.m.           **Call to Order and Introductions**  
—Senator Michael Padilla, Chair
- 9:10 a.m.       (1)   **[Need for High-Speed Internet \(Broadband\)](#)**  
—Charles Lehman, Community Economics Laboratory  
—Robert Gorrell, Director, Public School Facilities Authority  
—Dale Alverson, New Mexico Telehealth Alliance  
—Terry Boulanger, New Mexico Telehealth Alliance
- 11:00 a.m.       (2)   **[Colorado Broadband Fund and Providers' Comments](#)**  
—Katherine Martinez, CenturyLink  
—Tim Goodwin, CenturyLink
- 12:00 noon       **Lunch**
- 1:30 p.m.       (3)   **[Providers' Plans to Meet Needs](#)**  
—Charlie Ferrell, Executive Director, New Mexico Exchange Carrier Group  
—Stuart Roberts, President, Southwest Cable Communications Association  
—John Badal, Sacred Wind Communications  
—Katherine Martinez, CenturyLink  
—John Brown, CityLink Fiber
- 3:00 p.m.       (4)   **[Federal Support of Broadband Deployment in New Mexico](#)**  
—Terry Bruner, State Director, United States Department of Agriculture,  
Rural Development
- 4:00 p.m.       (5)   **[P-3 Legislation to Deploy Broadband](#)**  
—Senator Michael Padilla  
—Representative Larry A. Larrañaga  
—Michael Puelle, Chief Executive Officer, Associated General Contractors  
of New Mexico

5:00 p.m.            **Recess**

**Friday, October 21**

9:00 a.m.        (6)    [Department of Information Technology \(DOIT\) Spreadsheet Report](#)  
—Darryl Ackley, Secretary, DOIT

10:00 a.m.        (7)    [Administrative Office of the District Attorneys \(AODA\) Information Technology Challenges](#)  
—Henry Valdez, Director, AODA

11:00 a.m.        (8)    [Campaign Finance Information System](#)  
—Kari Fresquez, Interim Elections Director, Office of the Secretary of State

12:00 noon            **Lunch**

1:30 p.m.        (9)    [Next Generation Science Standards](#)  
—Lesley Galyas, Director, Mathematics and Science Bureau, Public Education Department

2:30 p.m.        (10) [Technology Readiness Tax Credit](#)  
—Genaro Montoya, Program Leader of Technology and Economic Development, Sandia National Laboratories  
—Micheline Devaurs, Los Alamos National Laboratory

3:30 p.m.            **Adjourn**

**MINUTES  
of the  
FIFTH MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**October 20-21, 2016  
Room 317, State Capitol  
Santa Fe**

The fifth meeting of the Science, Technology and Telecommunications Committee (STTC) was called to order by Senator Michael Padilla, chair, on October 20, 2016 at 9:13 a.m. in Room 317 of the State Capitol in Santa Fe.

**Present**

Sen. Michael Padilla, Chair  
Sen. William F. Burt  
Rep. Stephanie Garcia Richard  
Sen. Daniel A. Ivey-Soto (10/21)  
Rep. Conrad James  
Rep. Bill McCamley (10/20)  
Sen. Bill B. O'Neill  
Rep. Debbie A. Rodella  
Rep. Carl Trujillo  
Rep. John L. Zimmerman

**Absent**

Rep. James E. Smith, Vice Chair  
Rep. Jason C. Harper  
Sen. John C. Ryan

**Advisory Members**

Sen. Carlos R. Cisneros  
Sen. Richard C. Martinez  
Sen. Nancy Rodriguez  
Rep. Luciano "Lucky" Varela  
Sen. Peter Wirth (10/20)  
Rep. Monica Youngblood (10/21)

Sen. Jacob R. Candelaria  
Rep. Kelly K. Fajardo  
Sen. Ron Griggs  
Rep. Antonio Maestas  
Sen. Steven P. Neville  
Sen. Mary Kay Papen  
Sen. William H. Payne  
Rep. Nick L. Salazar

(Attendance dates are noted for members not present for the entire meeting.)

**Staff**

Gordon Meeks, Legislative Council Service (LCS)  
Shawna Casebier, LCS  
Ralph Vincent, LCS

**Guests**

The guest list is in the meeting file.

## **Handouts**

Handouts and other written testimony are in the meeting file.

## **Thursday, October 20**

### **Call to Order and Introductions**

Senator Padilla called the committee to order at 9:13 a.m. as a subcommittee. Committee members and staff were invited to introduce themselves.

Senator Burt brought to the attention of the committee a presentation taking place after the committee's meeting on an application called GovWhiz that is being used in Texas to streamline governmental processes, including renewal of licenses and mandated reporting. He noted that the application could be useful for New Mexico in simplifying its own processes.

### **Need for High-Speed Internet (Broadband)**

Charles Lehman, Community Economics Laboratory, discussed with the committee New Mexico's broadband needs in economic development. He noted that surveys of 80 economic development organizations and chambers of commerce show that there is a greater need for broadband deployment in rural areas of the state, though there are still needs to be met in the urban centers. He stressed that adequate broadband is of critical importance to the economic-base sectors identified by the Jobs Council in its job-creation plan, and he said that New Mexico risks losing workforce development if the state does not have adequate broadband. Mr. Lehman noted that barriers to deploying broadband include the cost of deployment given the widely scattered nature of the population in New Mexico and the wide range of income levels. He reviewed for the committee the contracts that have been awarded as a result of recent legislation requiring a comprehensive broadband study and implementation plan and the progress that is being made as a result of this work.

Ovidiu Viorica, broadband program manager, and Eric Moores, broadband project manager, both of the Broadband Deficiencies Correction Program, Public School Facilities Authority, updated the committee on the progress of the public schools' broadband upgrades and equated the school broadband upgrades to the broadband needs statewide. The Broadband Deficiencies Correction Program was instituted pursuant to Senate Bill 159 (2014) to fund the planning, design and construction of broadband infrastructure in the public schools. Through partnerships with the federal E-Rate Program, fiber upgrades have been completed for approximately 60 schools network equipment and Wi-Fi upgrades have been completed for approximately 240 schools, and over \$30 million in infrastructure upgrades have been done using less than \$4 million from state and school funding. It was emphasized that cooperation with vendors is needed to continue the work of the program as the availability of state funding is uncertain and expensive. Wide area network connections and network and Wi-Fi upgrades will be needed in the future.

Dale Alverson and Terry Boulanger of the New Mexico Telehealth Alliance gave a PowerPoint presentation to the committee on the current status and future of telemedicine and e-health. They noted that there are major public health issues affecting New Mexico's rural communities and their economic development, and they said that telemedicine and telehealth can bridge gaps in access to health care. However, adequate broadband is a requirement of successfully implementing the telehealth technology. It was noted that Mississippi has deployed telehealth statewide, saving \$320 million a year. It was emphasized that a health information exchange (HIE) is a necessary component of implementing telehealth. They reviewed new and emerging telemedicine technologies, such as telemedicine carts, diagnostic/monitoring devices that remotely transmit patient information to doctors in real time and possibilities for tele-mentoring, tele-supervision, teaching and training with "Google Glass". The Southwest Telehealth Access Grid has been established to connect telehealth networks and help members access funding that is available through the Federal Communications Commission's (FCC's) Healthcare Connect Fund; however, a 35% cash match required by the FCC for participation remains a significant obstacle to broad participation.

Questions, comments and discussion from committee members included:

- the cost of diagnostic/monitoring devices; the availability of the devices to patients and doctors to use in home or clinical settings; and the federal Food and Drug Administration's approval process for the devices;
- retinal scans and other devices to detect glucose levels for diabetes care;
- Medicare/Medicaid eligibility for telehealth and telemedicine;
- the interoperability of medical data software and the standardization of health records through the HIE;
- how to encourage or incentivize patients to use telemedicine in place of emergency rooms;
- the status of the State Rural Universal Service Fund (SRUSF) and its use for broadband; there is support for a fee on users to go toward broadband deployment;
- the primary driver in other states for broadband deployment;
- the SRUSF and the sharing of resources and the need for legislation;
- the size of digital files for diagnostic images;
- the ongoing growth of broadband capacity demand;
- school districts budgeting for five-year master plan upgrades in information technology infrastructure;
- school districts being limited by needs at the "final mile";
- how much money is needed to match the FCC's 35% rule;
- the cost to connect a school to fiber optic cable;
- the federal Health Insurance Portability and Accountability Act of 1996 compliance and potential liabilities with transfer of health data;
- legislation to limit liability and protect physicians who may be hacked through the internet;
- amendments to the "Good Samaritan" statutes; and

- the hepatitis C epidemic, barriers to treatment and ways telemedicine could help.

### **Approval of Minutes**

The minutes of the third STTC meeting on August 22-23, 2016 and the fourth STTC meeting on September 22-23, 2016 were approved by unanimous voice vote.

### **Discussion of Proposed Letter Regarding Los Alamos National Laboratory's (LANL's) Request for Proposal (RFP) Process**

Representative Trujillo proposed, and the committee discussed, a letter to Secretary Ernest Moniz, United States Department of Energy, requesting that regional economic development proposals be added back into the RFP process in the next contract for management of LANL. A motion was made by Representative Garcia Richard, seconded by Representative Zimmerman, to endorse the letter, but the motion was held until the end of the day to allow for thorough review of the letter by the committee.

### **Colorado Broadband Fund and Providers' Comments**

Referring to their handout, Tim Goodwin and Katherine Martinez, both from CenturyLink, addressed the committee on Colorado's 2014 broadband legislation. They said that Colorado passed a five-bill package that, in short, facilitated an environment that allowed broadband development. For example, they said the legislation streamlined the permitting processes and provided access to public rights of way for all broadband providers; deregulated all internet protocol-enabled services, including voice over internet protocol (VoIP) and broadband access; updated the terminology in the telecommunications statutes; deregulated basic service, except for areas where universal service support is provided, and prohibited state universal service support in areas where effective competition existed; and established a broadband deployment board and fund. They emphasized that there was strong bipartisan support in Colorado at the leadership level that forced the carriers and consumer groups to the table to draft and pass the legislation.

Questions, comments and discussion from committee members included:

- the four years it took in Colorado for stakeholders to come to a consensus and pass legislation;
- aggregation of users in Texas to equal a commercial user so as to incentivize expansion into sparser areas through "Texas Connect";
- gross receipts tax deductions in Texas and use and sales tax refunds in Colorado for broadband equipment;
- the outcomes of the Colorado legislation;
- Colorado's universal service fund assessment as a percentage of intrastate telecommunication revenue and the possibility of a "connection-based" approach;
- who and what types of services contribute to rural universal service funds (RUSF) and the lack of contribution from prepaid plans;



- the impact on the RUSF of data packages as a component of wireless telecommunications service contracts versus the voice component, which is the basis for the universal surcharge;
- identification of areas in New Mexico that do not have effective competition and how to define effective competition; and
- the challenges of obtaining public and private rights of way and franchise agreements with certain municipalities.

### **Providers' Plans to Meet Needs**

John Francis, vice president, New Mexico Exchange Carrier Group (NMECG), referring to his handout, explained that the NMECG is a telephone association composed of telecommunication cooperatives and companies that offer services to customers throughout rural New Mexico. He provided some background to the committee on the establishment of the federal Universal Service Fund (USF) by the FCC to provide financial support for the expansion of telephone lines into rural communities and how the FCC is now transitioning the USF to include support for the expansion of broadband service under the Connect America Fund (CAF). Similarly, the Rural Telecommunications Act of New Mexico (RTA) created the SRUSF to implement and supplement the federal legislation. He stated that all NMECG members are using the support in state and federal legislation to expand broadband service, and by November 1, the small carriers will have to elect to participate in the CAF based on FCC eligibility, taking advantage of the \$2.1 billion a year that is available in funding for rural service across the United States. He noted that the small carriers are committed, but more needs to be done, especially in outlying areas.

Stuart Roberts, president, Southwest Cable Communications Association (SWCCA), provided the committee with a map of the areas where SWCCA members are providing very high-quality, reliable and commercial services. He stated that, as an industry, the SWCCA is 100% self-funded and that it finds the mechanisms to make the construction of the broadband infrastructure economically feasible, such as business customers paying for 50% of construction, which can be amortized, and residential customers receiving the infrastructure for free in exchange for buying the service. He also noted that the SWCCA is focused on finding redundant routes to bring broadband into the state and expressed optimism that the state is getting closer to meeting the demands of three years ago.

John Badal of Sacred Wind Communications reported to the committee that Sacred Wind Communications services 3,200 square miles of McKinley and San Juan counties and portions of Cibola and Rio Arriba counties and the Tohajiilee Chapter of the Navajo Nation. In 2006, when Sacred Wind Communications acquired the Navajo land business, only 26% of the residents had basic voice service. The company applied for and received a low-interest \$55,000 loan from the United States Department of Agriculture (USDA) RUSF to build out the network from scratch, and in 2016, it received approval for a \$13.8 million RUSF loan to upgrade the broadband system and increase capacities to meet the federal requirements. Today, 100% of customers have access to broadband and 78% have access to 10 megabit download speeds or higher. Sacred

Wind Communications has had success with using fixed wireless and has the largest fixed wireless network in the country. As it expands the fiber network to connect all hubs, it has also found opportunities to help other entities that were being passed over; for example, the Village of Milan. Using the Village of Milan as anchor, it has been able to build a fixed wireless network, using fiber-to-tower technology. Sacred Wind Communications put in a bid for E-Rate to get fiber optic cable to a number of schools, both in and out of the company's territory, and has won eight E-Rate cases outside of its territory.

Mr. Badal emphasized that rural telecommunications companies are a great resource for rural communities. The federal government has established regulations driving all regulated telephone carriers in the country to meet certain objectives. He said that, for broadband purposes, there are three categories of telecommunications providers: 1) price cap carriers; 2) rural telephone carriers, which are cost-based; and 3) neutral carriers, which are alternate carriers to the Connect America model. Telecommunications companies can get out of the USF, but it provides a guaranteed 10 years of predictable USF support if certain download objectives are met, and this is a significant funding source to the state of New Mexico, which Mr. Badal believes dovetails well with the Public Regulation Commission's (PRC's) policy. He stated that Sacred Wind Communications is also looking to the PRC's USF as a resource and the company is seeking support for a flat surcharge, suggesting that the PRC should be authorized to impose a higher surcharge.

John Brown, owner, CityLink Telecommunications, stated that his company has been in business for 10 years, providing neutral open-access, dark-fiber and high-speed, symmetrical bandwidth broadband services in Albuquerque. He noted that there are several hurdles to providing fiber to a customer's premises, including right-of-way access, pole attachment rules and the lack of "peering" in New Mexico. As to rights of way, usually, new entrants do not have access; the processes are expensive and lengthy as negotiations must be undertaken with each community; and often there is a maze of jurisdictions at the city, county and state level to navigate. As to pole attachment, new entrants do not have access, new federal rules dictate rates for telecommunications carrier attachers and cable company attachers, and it takes one to three years to negotiate a pole attachment with the pole owner. Mr. Brown also expressed frustration that New Mexico is not openly peered. He stated that peering, the interconnection between networks to exchange routing information, reduces the cost of broadband between entities and improves connectivity and reliability. Because New Mexico is not openly peered, his company peers with 800 other networks, most outside of New Mexico, which does not keep the internet traffic local. He stated that he has been trying for 10 years to peer with the University of New Mexico (UNM), but UNM wants to charge \$3,000 a month for peering, which other resource entities do not do. Mr. Brown also raised a concern that the Department of Information Technology's (DOIT's) rules regarding procurement exclude everyone except incumbents from participating in RFPs, and although his franchise agreement with Albuquerque requires dark fiber to schools without any cost to the school, the Albuquerque Public School District usually declines the offer and says it does not need it.

As to potential solutions, Mr. Brown stated that public-private partnerships (P-3s) are needed and the state needs to figure out a way to make them easier and better, whether through the Local Economic Development Act or other mechanisms. He suggested creating a one-stop shop for right-of-way needs and the grandfathering in of existing right-of-way holders. Additionally, Mr. Brown stated that pole attachment rules need to be created at the state level to level the playing field and give the state enforcement rights. He also suggested that New Mexico should actively peer to interconnect with other providers to keep the traffic local, which is good for cybersecurity.

Godfrey Enjady, general manager, Mescalero Apache Telecom, Inc., shared with the committee that his company has been in business since 2001 and is one of nine tribally owned telecommunications companies in the nation. He stated that the network is built of copper, which in a few years will be retired, and it will need to transition to fiber. More funding will be needed to make this transition in Indian country. He raised a concern that the funding reductions are enormous. There is a \$2 billion set-aside in the USF for small companies, but this fund is hard-capped for inflation or costs, while other funds, such as E-Rate, can grow. Mr. Enjady stressed that access to the internet is of particular importance to Native American communities as internet connection is vital to education.

Ms. Martinez reported to the committee that CenturyLink is accepting CAF funding to bring high-speed internet services to more than 25,000 households and businesses in rural New Mexico and bring new or faster broadband service to an additional 25,308 homes and businesses in high-cost areas. Investments are being made in 755 multi-tenant buildings in New Mexico to expand fiber-based services, and \$20 million has been invested in redundancy routes in the Taos area. To expand the reach of broadband, Ms. Martinez suggested that a broadband gross receipts tax deduction that is diverted directly into a broadband fund should be part of the conversation. She also suggested that legislation needs to be passed to encourage P-3s for broadband projects, including provisions to keep trenches open when the state is doing other work to allow providers to pull fiber; alleviate cost-prohibitive right-of-way fees; and eliminate franchise fees for right-of-way use. Ms. Martinez said that New Mexico is one of only two states that still mandate franchise fees. Ms. Martinez further suggested that the New Mexico Telecommunications Act is in need of modernization to reflect the current technology environment.

Questions, comments and discussion from committee members included:

- the cost, speed and ease of installation of fiber optics versus wireless;
- the disparate regulations for cable companies and telecommunications companies;
- the disqualification of cable companies for the USF;
- franchise agreements;
- possibilities for a unified, statewide strategic plan to provide broadband;
- USF support for broadband and federal requirements to provide local telephone services (lifelines);
- the investments of service providers in small communities;

- collaboration and coordination with governmental entities when street work is being done to lay pipe to enable technology infrastructure development;
- coordination with competing providers and tribal entities to install infrastructure;
- the need for tribal input in broadband planning;
- private company collaborations with municipal entities;
- the taxation of conduits that are buried but do not contain cable;
- the need for a one-stop shop for rights of way and permits; and
- the application, or lack thereof, of FCC pole attachment rules to telecommunications cooperatives.

### **Federal Support for Broadband Deployment New Mexico**

Terry Brunner, state director, USDA Rural Development, told the committee that the USDA is the largest funder of broadband infrastructure in the state, having invested over \$200 million since 2009. He stated that loan funding is available through the infrastructure program, which provides low-interest loans to finance new and improved telecommunications infrastructure in rural communities, and the Farm Bill Broadband Program, which provides loans to finance the costs of constructing a broadband network serving rural communities of 20,000 or fewer and is mostly used by cooperatives. Grant funding is also available to entirely unserved communities through the Community Connect Program and to nonprofits and universities through the Distance Learning and Telemedicine Program. Special consideration is provided under both grant programs to projects serving tribal communities, Mr. Brunner said. He advised that rural universal service projects will likely continue under the next administration, and the stimulus Broadband Initiatives Program, which provided low-interest loans for community facilities and loan guarantees for private entities, may be reinitiated.

Questions, comments and discussion from committee members included:

- the need for a master plan for broadband deployment through the state;
- the elements of a master plan, including any needed legislative action to fix statutory holes; a broadband map showing deficiencies; and a financing plan similar to the ones for highways; and
- the need to have "shovel ready" projects to take advantage of stimulus money should more become available.

### **P-3 Legislation to Deploy Broadband**

Senator Padilla addressed the committee on potential legislation that would create a framework for P-3s. He advised the committee that he was working to identify a couple of specific areas to focus on that could stimulate additional investment in New Mexico. As to broadband, he noted that the question is: how does the state encourage private investment? He stated that he has met with the public employees labor union and is working on coming to an agreement; however, no legislation has been drafted at this time. He cautioned that previously introduced legislation covered all potential P-3s. Senator Padilla said that, this time, he intends to create a successful framework for specific issues that could then be replicated for others P-3s.

Questions, comments and discussion from committee members included:

- major concerns with House Bill 299 (2015) that proposed enacting a P-3 Act, including labor utilization and accountability from the private sector, questions of who owns the asset, who guarantees maintenance during the life of the investment and the privatization of water services;
- whether or not P-3 legislation is really needed;
- whether the political will exists to undertake infrastructure projects in the state;
- the importance of investing in infrastructure;
- the importance of initiating narrowly defined P-3 legislation that focuses on meeting a need, which cannot be accomplished by the state on its own; and
- National Conference of State Legislatures' research on other states' successes with P-3s.

### **Motion to Send Letter to Secretary Moniz**

The committee discussed amendments to the letter to the U.S. secretary of energy, Ernest Moniz, proposed by Representative Trujillo. On motion by Representative Rodella, seconded by Representative Trujillo, the committee approved sending the letter as amended by unanimous voice vote.

### **Friday, October 21**

#### **DOIT Spreadsheet Report**

Darryl Ackley, secretary, DOIT, and Maria Sanchez, general counsel, DOIT, informed the committee that, in contravention of the conversation of yesterday, the state does have a broadband plan and map, and the plan may be accessed online at [http://www.doit.state.nm.us/broadband/reports/nmbbp\\_strategic\\_plan.pdf](http://www.doit.state.nm.us/broadband/reports/nmbbp_strategic_plan.pdf). Secretary Ackley stated that the plan includes provider information and maps, actionable goals, recommendations for regional approaches and funding recommendations. He also stated that over the past two years, the DOIT has asked for a General Fund appropriation to have a single leadership office to deploy the broadband and geospatial initiatives, but the granting of the appropriation has yet to occur. Currently, the DOIT is working with the Broadband Deficiencies Corrections Program group since broadband projects are treated as a portfolio under the office of broadband planning. Additionally, Secretary Ackley told the committee that an Information Technology Commission exists, with representatives from all levels of government, that could be a centralized point for broadband policymaking.

Questions, comments and discussion from committee members regarding the statewide broadband plan included:

- a perceived lack of action on implementing the broadband plan;
- efforts and resources needed to keep the plan current;

- the current ongoing broadband projects for public safety, the Department of Health's telehealth initiatives and education; and
- the coordination needed to understand what the providers are doing to deploy broadband throughout the state and other opportunities for P-3s.

Secretary Ackley told the committee that since the committee's meeting in Las Cruces, an additional dashboard was created for the business case log. The dashboard shows the completed business requests to date, categorized by strategic domains and sectors.

Secretary Ackley then reviewed with the committee the DOIT's top-10 projects, based on the quarterly reporting of the lead agencies:

1. the Circuits Grant for radio towers and public safety broadband is mostly on track, although the federal grant needs to be closed out;
2. the MVE modernization project is in the green, on time and on schedule;
3. the SHARE upgrade is on track to go live with the human capital management module in early-to-mid 2017, and the first test for payroll using live data has been completed with minimal error;
4. EPICS continues to have risks in multiple areas, but Secretary Ackley said that he is confident enough in the leadership to move forward; the Children, Youth and Families Department (CYFD) case management system will be built using a modular approach, and the system will provide caseworkers access to case files in the field;
5. the ONGUARD system, which is the modernized system to provide accounting for oil and gas revenues and severance tax, is using a post-modern approach to build; the intent is to tie into the land management system at the State Land Office, and although the schedule has been pushed back, Secretary Ackley said that the technology approach is sound;
6. SWIRE will modernize the New Mexico State Police handheld mobile communications and provide funds for upgrades of the core of the radio system;
7. the Medicaid Management Information System upgrade project is expected to be a \$100 million plus project, depending on federal mandates, Secretary Ackley said, noting that the project is the first of its kind; the federal government has given approval for a modular approach and the Human Services Department (HSD) is on the cutting edge with this project;
8. the child support enhancement system replacement schedule is a little delayed, but is generally moving forward and corrective action has been taken to address the delay;
9. the Women, Infants and Children Program system upgrades are being developed in collaboration with the State of Texas; there have been some schedule slippages, but the project is moving forward; and
10. the Land Information Management System at the State Land Office is nearly complete; it is in the warranty phase of the contract negotiations, the details of which the state takes very seriously to ensure that the state is protected.

Questions, comments and discussion from committee members included:

- compliments from committee members on the new dashboard;
- a suggestion to add agency names to the top-10 project descriptions;
- the CYFD budget request for EPICS;
- the dependency of federal funding on what is appropriated at the state level;
- the consequences of projects being behind schedule and over budget;
- leveraging resources by collaborating with other states or cities in software development;
- ONGARD hosting; and
- the use of Medicaid software by health maintenance organizations or other contractors in addition to the HSD.

### **Administrative Office of the District Attorneys (AODA) Information Technology Challenges**

Henry R. Valdez, director, AODA, Damion Bradford, information technology director, AODA, Filemon Gonzalez, fiscal officer, AODA, and Rick Tedrow, president, New Mexico District Attorney's Association, discussed with the committee the information technology support that is provided to all district attorneys (DAs) throughout the state and the information technology support and services that are provided to others involved in the criminal justice system. Mr. Valdez remarked that the DA is a criminal justice hub for all agencies. All reporting requirements originate with the DAs, and the AODA's information technology services help provide prosecutors with the tools necessary to evaluate a defendant and make a determination as to whether prison or diversion is best, which ultimately saves the state money. The information technology services support the DAs by providing access to a centralized case management system that contains all cases statewide. This is a valuable tool when criminals cross district and county lines, and it also enables the statewide victim notification system. Having access to the information helps move cases forward in an expedient manner. Several DAs from around the state were present and were introduced to the committee.

Mr. Bradford explained the status of the administrative and technical support that the AODA provides to all 14 judicial districts and to 14 separate state agencies. Through the use of data sharing in the Case Management System, many state agencies are able to get the data they need for reporting and prosecution, including federal reporting, insurance fraud reporting, criminal history reports for the DA's use and the universal jury instruction, among others. As to the New Mexico State Automated Victim Information Notification (SAVIN) System, any stakeholder can use the system, including the media, and notifications can be provided in English or Spanish via email, text message and/or a phone call. In addition to notifications about case status, the SAVIN System can be used for parole and release notifications.

As to major accomplishments of the AODA in fiscal year (FY) 2016, Mr. Bradford reported that the AODA continued to work with participating districts to implement a more refined document automation process whereby the system emails appropriate stakeholders when

a new document is added to the case. This system has been especially valuable for the discovery aspect of a trial, and it serves as an archive of all records. Enterprise technical support is also provided for all judicial districts to help with technical support issues, project management, business analysis and reporting.

Mr. Bradford noted that when the legislature modifies or creates a new statute that affects the AODA's business rules, modifications to the Case Management System are required. Such modifications require countless hours of design, testing, implementation and training, and Mr. Bradford stated that the AODA is understaffed to accomplish such work. He then outlined the critical staffing, project and software that the AODA needs to continue to be successful, and he discussed an appropriation request to meet those needs.

Questions, comments and discussion from committee members included:

- the need for the legislature to do whatever it can to mitigate additional cuts to the AODA;
- the potential to use capital outlay for hardware and equipment needs;
- unfilled full-time employment positions;
- the impact of the 3% budget cut on the AODA;
- location, security and backup of the data center;
- the annual information technology strategic plan and collaboration with the DOIT;
- funding sources for the AODA;
- sex offender registration;
- the importance of the AODA services to administrating justice;
- victim notification regarding parole hearings and releases from prison and the role of the victim's advocate;
- calculation of parole eligibility and release dates; and
- the AODA funding request.

### **Campaign Finance Information System**

Brad Winter, secretary of state, Kari Fresquez, interim elections director, Office of the Secretary of State, and Ken Ortiz, chief of staff, Office of the Secretary of State, addressed the committee on information technology successes of the office and the modernization of the campaign finance information system. Ms. Fresquez began the presentation by noting that since FY 2013, software replacement and modernization efforts have been under way for the New Mexico Business Filing System (NMBFS) and the Integrated Reporting and Integrity System (IRIS). The NMBFS was completed in June 2016, and the system replaced nine disparate legacy systems, including the corporation filing for the PRC. There are numerous self-service features in the NMBFS, and the Corporations Bureau of the Administrative Services Division of the PRC has maintained a one-to-three-day turnaround on filings due in large part to the technology and process improvements. As to the IRIS, it has improved election results delivery to the public and features automatic recount flags. In the 2016 primary, in which the IRIS was operational, there were zero audit findings by the independent election auditor. The Online Voter Registration



System, implemented in January 2016, has resulted in more accurate voter rolls and increased registrations and renewals. Ms. Fresquez said that the Motor Vehicle Division (MVD) electronic registrations have also been successful since the system went live in 2015.

In regard to campaign finance reform, Ms. Fresquez said that House Bill 105, passed in 2016, focuses on greater transparency, more meaningful data that make connections across reporting entities and easier, more error-free-reporting. To implement the system, a Computer Systems Enhancement Fund appropriation request will be made in the upcoming legislative session. The funding would cover software licensure, customization and implementation costs, project management, a security assessment and independent verification and validation. She noted that the new system is needed as House Bill 105 enacted specific requirements for how the reporting data need to be able to be reviewed and analyzed and the current system cannot be modernized to accomplish those mandates.

Questions, comments and discussion from committee members included:

- success of the online voter registration and the MVD systems;
- the importance of online voter registration information updates;
- the security of the online voter registration system and protections against cyberthreats;
- collaboration with the DOIT to implement the campaign finance modernization system;
- the specifics of the secretary of state funding request;
- the relational nature of the Campaign Finance Information System database in comparison to the requirements of the system mandated by House Bill 105;
- the safeguards to ensure accuracy of data contained in a modernized campaign finance system;
- idiosyncracies in election-cycle reporting;
- alerts to elected officials regarding the status of donations from particular donors;
- verification of a voting registrant's address when no physical address exists at a residence and the potential for voter disenfranchisement;
- legislation to provide for provisional voter registration and cancellation of registration if a mailing address cannot be confirmed;
- report cards for states on campaign finance transparency;
- which state is the gold standard for campaign finance databases (State of Maine);
- outside funding opportunities to increase transparency in campaign finance; and
- praise for the AODA's work and customer service.

### **Next Generation Science Standards (NGSS)**

Lesley Crowell Galyas, director, Mathematics and Science Bureau, Public Education Department, gave a presentation to the committee on the NGSS and emphasized that the NGSS are critical since the last time science standards were adopted was in 2003. The 2003 standards were based on national standards written in 1996, and some things, such as DVDs and texting,

have been invented since the last science standards were written. She stressed that the NGSS is not common core — the NGSS is a state-led effort and each district is allowed to choose its own curriculum. The NGSS provides a framework for kindergarten through twelfth grade (K-12) science education that has an evidence-based foundation that draws on current scientific research; includes research on how students learn science effectively; and identifies the science that all K-12 students should know. She said that the NGSS replaces the "scientific method" with science and engineering practices, noting that teaching these practices is critical, given the number of laboratories and engineering practices in the state. The goal of the NGSS is not to teach students all of the facts, but rather to have students work through problems with cross-cutting concepts, building upon their knowledge and experiences. The NGSS creates performance expectations that focus on students being able to demonstrate proficiency and understand the practices, cross-cutting concepts and disciplinary core ideas.

Questions, comments and discussion from committee members included:

- how the NGSS integrates the study of mathematics and science;
- the importance of word problems to mathematics and science learning;
- the NGSS's use of group projects;
- the necessity of professional development of teachers to successfully manage and teach students; and
- appreciation for the work being done on the NGSS.

### **Technology Readiness Tax Credit**

Genaro Montoya, program leader of technology and economic development, Sandia National Laboratories, and Micheline Devaurs, LANL, discussed with the committee the proposed Technology Readiness Gross Receipts Tax Credit and Program (TRGR). Mr. Montoya averred that the laboratories are responsible for transferring technologies developed in the laboratory to the private sector, but often, the technology developed is too immature to be used in commercial products without additional investment by companies. For instance, Sandia National Laboratories has 100 patents and 900 copyrights that are waiting on industry to commercialize. He also noted that, because of national security, technologies are often not ready to be commercialized.

The TRGR was modeled on the New Mexico Small Business Assistance Program to provide financial assistance to the laboratories and private enterprises to enable the collaborations that are needed between the laboratories and the private sector; promote the commercialization of licensed technology from a national laboratory in New Mexico; support the development and expansion of technology-based companies in New Mexico; and increase economic development in the state. Participation in the TRGR would be dependent on meeting specific eligibility requirements by the national laboratory and the business entity. The project and the impact of the project would go through a rigorous evaluation process, looking at return-on-investment analysis, cost savings, revenue generation and jobs created, along with other factors, to make sure that the taxpayers' money is being well-spent. Ms. Devaurs added that both

laboratories have worked together to develop the TRGR, and it has been vetted over multiple years with the research universities and industry, and she stated that the TRGR is an agreed-upon priority of both of the laboratories.

Questions, comments and discussion from committee members included:

- how the gross receipts tax credit from the state would work;
- participation of students in the program; and
- program accountability.

Senator Padilla requested that the panelists present the proposed TRGR to the Legislative Finance Committee as well.

### **Adjournment**

There being no further business before the committee, the fifth meeting of the STTC for the 2016 interim adjourned at 2:36 p.m.



Revised: November 9, 2016

**TENTATIVE AGENDA  
for the  
SIXTH MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**November 14-15, 2016  
Room 311, State Capitol  
Santa Fe**

**Monday, November 14**

- 10:00 a.m.           **Call to Order and Introductions**  
—Senator Michael Padilla, Chair
- 10:10 a.m.       (1)   **Need for High-Speed Internet (Broadband)**  
—Charles Lehman, Community Economics Laboratory  
—Robert Gorrell, Director, Public School Facilities Authority  
—Dale Alverson, New Mexico Telehealth Alliance  
—Terry Boulanger, New Mexico Telehealth Alliance  
—Sanjeev Arora, Director, Project ECHO (Extension for Community  
Healthcare Outcomes); Distinguished Professor of Medicine,  
University of New Mexico Health Sciences Center
- 11:30 a.m.       (2)   **Wireless Industry in New Mexico**  
—Gerry Keegan, Senior Director, State Legislative Affairs, CTIA-The  
Wireless Association  
—Marco Gonzales, Verizon Communications  
—Terri Nikole Baca, Director, External Affairs, AT&T New Mexico  
—David LaFuria, Smith Bagley/Cellular One
- 12:30 p.m.           **Lunch**
- 1:30 p.m.       (3)   **Providers' Plans to Meet Needs**  
—Charlie Ferrell, Executive Director, New Mexico Exchange Carrier Group  
—Stuart Roberts, President, Southwest Cable Communications Association  
—John Badal, Sacred Wind Communications  
—Katherine Martinez, CenturyLink  
—John Brown, CityLink Fiber  
—Gabriel Montoya, REDI Net Board Chair  
—Margaret Campos, REDI Net Board Member
- 3:00 p.m.       (4)   **Proposed Legislation**  
—Senator Michael Padilla, Chair

4:00 p.m. (5) [La Cañada Wireless Association — Fixed Wireless Internet Service Provider](#)  
—Dana Simmons, President and Director, La Cañada Wireless Association

5:00 p.m. **Recess**

**Tuesday, November 15**

9:00 a.m. (6) [Department of Information Technology \(DOIT\) Project Dashboard](#)  
—Darryl Ackley, Secretary, DOIT

10:00 a.m. (7) [Legislative Finance Committee \(LFC\) DOIT Analysis](#)  
—Brenda Fresquez, Program Evaluator, LFC

11:00 a.m. (8) [Southwest Power Pool \(SPP\) Report](#)  
—Mike Ross, Senior Vice President for Government Affairs and Public Relations, SPP

12:00 noon **Lunch**

1:00 p.m. (9) [Motor Vehicle Division Tapestry Program](#)  
—Demesia Padilla, Secretary, Taxation and Revenue Department

2:00 p.m. (10) [Gas Company of New Mexico Economic Development Initiative](#)  
—La Vanda Jones, Governmental Affairs Administrator, Gas Company of New Mexico  
—Tom Domme, General Counsel, Gas Company of New Mexico

3:00 p.m. **Adjourn**

**MINUTES  
of the  
SIXTH MEETING  
of the  
SCIENCE, TECHNOLOGY AND TELECOMMUNICATIONS COMMITTEE**

**November 14-15, 2016  
Room 311, State Capitol  
Santa Fe**

The sixth meeting of the Science, Technology and Telecommunications Committee (STTC) was called to order by Senator Michael Padilla, chair, on November 14, 2016 at 10:05 a.m. in Room 311 of the State Capitol in Santa Fe.

**Present**

Sen. Michael Padilla, Chair  
Rep. Stephanie Garcia Richard (11/14)  
Rep. Jason C. Harper (11/14)  
Rep. Conrad James (11/15)  
Rep. Bill McCamley  
Sen. Bill B. O'Neill (11/14)  
Rep. Debbie A. Rodella  
Rep. Carl Trujillo (11/14)  
Rep. John L. Zimmerman

**Absent**

Rep. James E. Smith, Vice Chair  
Sen. William F. Burt  
Sen. Daniel A. Ivey-Soto

**Advisory Members**

Sen. Carlos R. Cisneros (11/14)  
Rep. Kelly K. Fajardo (11/14)  
Sen. Richard C. Martinez (11/14)  
Sen. Nancy Rodriguez  
Rep. Nick L. Salazar (11/14)  
Rep. Luciano "Lucky" Varela (11/14)

Sen. Jacob R. Candelaria  
Sen. Ron Griggs  
Rep. Antonio Maestas  
Sen. Steven P. Neville  
Sen. Mary Kay Papen  
Sen. William H. Payne  
Sen. Peter Wirth  
Rep. Monica Youngblood

(Attendance dates are noted for members not present for the entire meeting.)

**Staff**

Gordon Meeks, Legislative Council Service (LCS)  
Ralph Vincent, LCS  
Shawna Casebier, LCS

**Minutes Approval**

Because the committee will not meet again this year, the minutes for this meeting have not been officially approved by the committee.

## **Guests**

The guest list is in the meeting file.

## **Handouts**

Handouts and other written testimony are in the meeting file.

## **Monday, November 14**

### **Call to Order and Introductions**

Senator Padilla welcomed committee members to the sixth meeting of the STTC for the 2016 interim. Members of the committee and the staff were invited to introduce themselves.

### **Need for High-Speed Internet (Broadband)**

Charles Lehman of Community Economics Laboratory emphasized the necessity of greater broadband development for the economic health and development of the state. Referring to his handout, he discussed how a lack of broadband is a barrier to the creation of jobs and that adequate broadband is necessary for all industries across all sectors. He proposed several broadband policy recommendations, including the provision of loans and grants from the state and federal levels; the creation of an infrastructure bank; and qualifying broadband infrastructure projects for funding under the Local Economic Development Act or separately enacted legislation. He advocated a "dig-once" policy to ensure that when trenching is done for other projects, the trenches are made available for the laying of broadband infrastructure, and a "single-truck-roll" policy that utilizes a single permit for suspending lines on utility polls. He also encouraged public-private partnerships to share the risk, funding and work needed to deploy broadband. He noted that some of the policy recommendations may be difficult to implement based on the financial situation in the state and that other recommendations would require legislative action.

Ovidiu Viorica, broadband program manager, Broadband Deficiencies Correction Program (BDCP), Public School Facilities Authority (PSFA), and Eric Moores, broadband project manager, BDCP, PSFA, referring to their handouts, shared with the committee the successes of the BDCP and the goals of the program for 2017 and 2018. Noting that approximately 315 miles of new fiber is being installed and that there has been a 70% increase of access, Mr. Viorica highlighted the coordination with and support of schools, libraries, telehealth and other entities and programs, and that available funding sources are being maximized. Referring to a map of district costs per megabits per second (Mbps), Mr. Viorica noted that some school districts are locked in long-term contracts with higher rates. Newer contracts where there is more competition have lower rates. Additionally, combining the purchasing power of school districts is a successful strategy to bring down the cost of broadband. He said that K-12 broadband infrastructure upgrades encourage broadband progress generally, but investment in broadband infrastructure is a long-term endeavor that requires stability and perseverance.



Dale Alverson, chair, New Mexico Telehealth Alliance, and Terry Boulanger, executive director, New Mexico Telehealth Alliance, addressed the committee on the need for broadband for health care in New Mexico. Dr. Alverson talked about the New Mexico Health Information Exchange (HIE) and how there is a great need for patients' medical records to be consolidated into a health information system and shared to deliver coordinated care and ensure that treating doctors and specialists have access to all of the medical information they need about a patient. The exchange of information helps increase the quality and safety of care, while lowering the cost. Because the data files are huge, adequate broadband is necessary to support the data transfer. The HIE also needs adequate interfaces between the spectrum of electronic health record programs being used and the HIE.

Mr. Boulanger discussed how telehealth can provide access to needed health care services at hospitals and clinics, including school-based clinics, and even directly to patients in their homes, but telehealth needs adequate broadband to be successful. He described the funding available under the federal Healthcare Connect Fund and the work that the Southwest Telehealth Access Grid is doing to assist rural providers in applying for the funds. He noted that the requirement that rural hospitals and clinics provide a 35% cash match to receive funding is a major barrier to more work being done and that a pool of funds from the state could magnify the federal funds and expand broadband coverage greatly.

Project Extension for Community Healthcare Outcomes (ECHO) was cited as a success story of telehealth. Started in 2013, Project ECHO is a collaboration with the University of New Mexico's Center for Telehealth to provide virtual clinics for rural clinicians where case presentations are made and better care plans created, resulting in a continuity of care and better access to services. In regard to the treatment of hepatitis C, through this program, the same outcomes have been achieved as if the patient had been seen in a clinic, and there has been an increase in minority groups being treated. In summary, the panelists emphasized that to get health care to rural areas and achieve better health outcomes, there is a need for broadband.

Questions and discussion from committee members included:

- the impact of long-term contracts on schools' Mbps costs per month and the potential to recover infrastructure costs;
- the requirements of the opioid prescription monitoring bill (Senate Bill 263 (2016)) and telemedicine;
- the importance of Project ECHO to help people and provide cost savings throughout New Mexico;
- the specialities being served by Project ECHO;
- reasons for the large disparity between internet service provider costs by Mbps per month throughout the state;
- the use of telemedicine to address health epidemics in correctional facilities;
- funding for Project ECHO and the impact of budget cuts;
- exit strategies for a private investor in public-private partnerships;

- the lack of coordination and competition between electronic health record vendors and providers to share health record information; and
- mergers of electronic health record vendors and the transfer of health records among vendors.

### **Wireless Industry in New Mexico**

Gerry Keegan, senior director, state legislative affairs, CTIA-The Wireless Association, discussed with the committee the current status of wireless communication in New Mexico and its future. He highlighted the economic contributions of wireless to New Mexico, including providing 4,200 jobs, \$308.68 million in wages and investments totaling \$487 million between 2012 and 2014. He noted that wireless traffic more than doubled between 2014 and 2015, and in New Mexico, 52% of adults and 66% of children live in wireless-only households. Mr. Keegan discussed the fact that with the growing number of advanced devices, more and more mobile data traffic is generated, and in 2020, the volume of mobile data traffic is expected to be six times greater than in 2015. He said that the "5G" future will be 100 times faster than today and will further expand the "internet of things" to include smart homes, mobile health, smart cities, advanced robotics and connected-car vehicle safety. Mr. Keegan discussed small cells, which are wireless antennas that may be placed on any existing structure, such as a streetlight or utility pole, and he said that access to rights of way, reasonable costs and a streamlined application process are needed to take advantage of this technology. Mr. Keegan said that a sound tax policy is needed to facilitate more investment by the wireless industry.

Marco Gonzales, Verizon Communications, and Terri Nikole Baca, director of external affairs, AT&T New Mexico, expressed their support for the information provided by Mr. Keegan and CTIA's policy work.

David LaFuria, Smith Bagley, Inc., (SBI) and Cellular One, discussed SBI's operations in northwest New Mexico, where it serves approximately 35,000 customers, mostly members of the Navajo Nation and the Pueblo of Zuni. Because of the demographics on tribal lands, including low incomes, few commercial enterprises and the high cost of connecting towers, Mr. LaFuria said there would be no financial return from most cell towers in the region without federal support through the Universal Service Fund (USF) and Lifeline programs. He said that high-quality mobile broadband networks are critical to New Mexico's future, especially in the areas of public safety and health care, and many areas in New Mexico lack access to high-quality coverage. He said that the State Rural Universal Service Fund (SRUSF) has approximately \$24 million available for telephone service, which should be used for broadband. He noted that in 2016, the Public Regulation Commission (PRC) adopted a broadband fund for fixed and mobile wireless and has been sued by CTIA over whether or not the PRC has the authority to use the funds for broadband. Mr. LaFuria suggested that the legislature needs to clarify the PRC's authority to use the SRUSF for broadband, and he further suggested that the legislature should, by amendment, direct the PRC only to use state funds for broadband, instead of basic landline phone service, because if the person has access to broadband, the person also has access to voice communications.

Questions and discussion from committee members included:

- the importance of installing fiber to cell sites, especially in rural areas;
- how the USF and SRUSF are funded;
- the possibility of the SRUSF being funded by a fixed fee;
- unfair taxation of the telecommunications industry to support universal broadband deployment;
- how far a small cell can carry a signal;
- the status of CTIA's lawsuit against the PRC;
- the choices of carriers in rural communities;
- that rural communities are unable to implement smart cities technologies without broadband;
- hurdles to overcome regarding easements;
- difficulties in using small cell tower technology in rural areas;
- the continuation of 4G after 5G is available;
- tax incentives and exemptions to accelerate broadband deployment;
- the amount of money needed to install fiber per square mile; and
- the need for more competition in the broadband market.

### **Providers' Plans to Meet Needs**

Charlie Ferrell, executive director, New Mexico Exchange Carrier Group (NMECG), highlighted that more work needs to be done to ensure that rural customers have access to broadband speeds. He noted that the NMECG's companies have made good progress in providing broadband due to the support of the USF and SRUSF; however, the high-cost companies that have received support in the past are now facing uncertainties over the USF and whether they will receive the same support in the future. Based on recent information from the Federal Communications Commission, some carriers will receive less support in the future. He said that the funds help rural communities to keep pace with urban communities and allow for infrastructure development because it is a source of revenue to keep service affordable in rural areas. Continued funding support for landlines is also needed as customers may not be able to afford basic phone service otherwise. NMECG members support the PRC's new broadband plan to offer grants to companies to offset the investment in rural areas, and Mr. Ferrell encouraged the committee to support the PRC plan.

Stuart Roberts, president, Southwest Cable Communications Association (SCCA) said that the SCCA represents all of the major cable operators and broadband operators. He said the association wants the opportunity to participate in state funding from the PRC, but not all operators agree. To date, all growth, expansion and upgrades have been self-funded from the shareholder pot. He said that the SCCA looks at the return on investment, and if the project is not feasible, the association puts it aside until the project is economically viable. As to the E-rate map and the disparities in rates throughout New Mexico, he noted that Carlsbad signed a new E-rate deal for five years at \$1.39 per Mbps, while Lovington is locked into a long-term deal that

was signed three years ago when there was not a competitive market for broadband; thus, its rate is higher.

John Badal, Sacred Wind Communications, said that if others had access to the same speeds provided to Navajo customers, the committee would not be having this conversation. He said low-interest loans are available from the United States Department of Agriculture, but no tax incentives exist. Regarding CTIA, he noted that mobile wireless is a zero-sum game, and he reminded the committee that mobile wireless is dependent on fiber. He noted that approximately 45% of Sacred Wind's customers subscribe to broadband, while 55% subscribe to voice only. The FCC is moving subsidies from the USF to broadband and is imposing rules that kick in three years from now that require a broadband channel for rural customers. Customers will have to pay \$60.00 a month for broadband when they only need voice service. He said affordable voice service is being replaced by unaffordable broadband. Sacred Wind supports legislation to clarify the PRC's authority to include broadband in the SRUSF and a flat surcharge, instead of a percentage fee, for the generation of the SRUSF. He noted that most broadband is used for entertainment and suggested that perhaps video and movie streaming services should have a surcharge to support broadband, though this would be a federal issue. In summary, he said, he supports a broadband fund, but not a broadband-only fund, and there should be incentives to accelerate the move to broadband. He also said that he is opposed to fiber in most areas of the state because most small businesses and homes do not need gigabit speeds and other technologies like fixed or mobile wireless could be used. Additionally, consumers cannot be forced to consume what they do not want.

Gabriel Montoya, chair, REDI Net, Margaret Campos, board member, REDI Net, David Trujillo, vice chair, REDI Net, and Raymond Ortiz, REDI Net, discussed the operations of REDI Net with the committee. Working through her handout, Ms. Campos stressed that broadband is necessary for economic prosperity and that access to adequate broadband speeds was life-changing for her in her approach to her work. She said that REDI Net's goals are to reduce the cost of broadband for anchor institutions; to expand services geographically while maintaining affordability and reliability; to form strategic partnerships; and to improve information technology capacity in the region for workforce development. She noted that REDI Net is able to move quickly because joint powers agreements address the issues of easements and rights of way, and REDI Net's governmental partners are the owners of the rights of way. REDI Net brings fiber to anchor institutions, such as schools and libraries. By using point-to-point transport and economies of scale, REDI Net has been able to reduce costs and realize a three-month return on investment.

Mr. Montoya, who is also a Pueblo of Pojoaque council member, told the committee that REDI Net is looking to expand to underserved areas and places where it can directly compete to bring down the costs. REDI Net has partnered with Kit Carson Electronic Cooperative, Plateau, Jemez Mountains Electric Cooperative and others. Without partnerships, Mr. Montoya said, REDI Net would not be anywhere. He said that REDI Net is willing to set up a pilot project with the state and see if it will work for all involved.

Questions and discussion from committee members included:

- the reorganization of REDI Net's board;
- disparities in rates between public schools and private customers;
- REDI Net's inability to reach the end user because it is not a last-mile provider;
- connectivity issues in Los Alamos;
- the number of new landlines added in rural areas in past years;
- contributions by landline and mobile users to the SRUSF;
- how to repurpose SRUSF money to expand broadband but still ensure that people have telephone service;
- the variability of SRUSF surcharges on mobile phone bills versus landline bills;
- the disparity between actual intrastate calls versus what is estimated and reported by the carriers;
- the simplicity of calculating a flat rate for SRUSF charges; and
- opposition to a flat rate.

### **Proposed Legislation**

Senator Padilla presented to the committee for discussion, but not endorsement, two bills. The first bill makes changes to the New Mexico Telecommunications Act and provides for PRC jurisdiction over incumbent local exchange carriers and their investment in telecommunications and broadband infrastructure. He said that the bill seeks to bring outside investment into New Mexico, and it redefines how carriers are established and regulated by the PRC. He said the bill has been considered for multiple years and will be reintroduced in the upcoming legislative session. A committee member stated that there are currently concerns about areas without a lot of competition being monopolized and that this bill puts all on a level playing field, creates competition and, in turn, protects consumers.

The second bill, enacting the Public-Private Partnerships Act, is only a broad draft that will be narrowed before it is introduced. Senator Padilla said that the bill creates a framework for public-private partnerships in regard to broadband so as to incentivize private entities to make more investment. He noted that the bill addresses public ownership of infrastructure, the use of labor unions in projects and maintenance of projects. The committee discussed whether a bill for public-private partnerships is actually needed and the need for outside investment in infrastructure that the state cannot afford.

### **La Cañada Wireless Association — Fixed Wireless Internet Service Provider**

Dana Simmons, president and director, La Cañada Wireless Association (LCWA), shared with the committee how the LCWA formed as a nonprofit, self-funded, volunteer cooperative to deliver broadband wireless internet service to rural New Mexico communities and described the model's potential to bring broadband to other rural communities. He said that 78% of LCWA members have no other internet service alternative, and access to broadband affects home prices and desirability in the real estate market. The LCWA's services are sourced from CenturyLink, and strategically placed fixed wireless access points deliver services from one

member to another. Many of the access points are on members' homes, and there is no issue with rights of way because no wires are placed in the ground; only a "line of sight" from one access point to another is needed. Members pay \$40.00 a month for up to five Mbps and a one-time \$50.00 membership fee. There are no long-term contracts or data caps, and services are provided on a month-to-month basis. Since the LCWA's inception in 2003, there have been four iterations of the technology, and community members have been involved in ensuring that upgrades are made.

Questions and discussion from committee members included:

- how similar work could be done cost-effectively in particularly remote areas;
- the strategic nature of placing access points;
- the speeds being provided; and
- the reliability of the network.

## **Tuesday, November 15**

### **Department of Information Technology (DOIT) Project Dashboard**

Darryl Ackley, secretary, DOIT, reminded the committee of the information that is located on the project portfolio dashboard ([http://www.doit.state.nm.us/dashboards/FY-2017-Q1/project\\_dashboards.html](http://www.doit.state.nm.us/dashboards/FY-2017-Q1/project_dashboards.html)). Out of the top-10 projects, he said that many are on track, and those are indicated in green. The ones in yellow mostly have scheduling issues, primarily due to federal reporting requirements. The dashboard indicates projects that go out to 2019. Secretary Ackley said that some projects will be closing out soon, bringing down the volume of the top-10 projects. He said that the DOIT is overseeing approximately \$410 million worth of information technology projects, and information technology special requests are noted in their own separate dashboard, which will be used in the DOIT's presentation to the Legislative Finance Committee (LFC) in making recommendations on the budget. Secretary Ackley provided the STTC with two reports: 1) the "2016 State CIO Survey", available online, which contains a decade of longitudinal data and statistics on each state's information technology services; and 2) the "2016 Deloitte-NASCIO Cybersecurity Study", which provides a status report by state regarding cybersecurity and acknowledges that cybersecurity requires coordination and collaboration across organizations and agencies.

Questions and discussion from committee members included:

- praise for the work of Secretary Ackley and the DOIT;
- the existence of cyberthreats on the secretary of state and county clerks' offices during the election; and
- a suggestion to add funding sources to the dashboard's project budgetary information.

## **LFC DOIT Analysis**

Jon Courtney, program evaluator manager, LFC, summarized for the STTC the LFC's program evaluation of the DOIT's enterprise service rates and project management and oversight, the final report of which may be found on the LFC's website. Referring to the report, Dr. Courtney said that the evaluation assessed information technology rate development and methodology, project management and oversight responsibilities from the LFC's 2012 program evaluation. He said the current evaluation found that some of the LFC's 2012 recommendations had been implemented, but issues remain involving how the DOIT charges agencies for equipment replacement, the rate-setting process and service delivery and oversight and governance. He discussed as a main area of concern the DOIT's reporting of operating losses despite increases in cash balances and rates and that the DOIT's budget requests overestimate the revenue generated. A discussion ensued about the DOIT's ability to fully allocate depreciation to the service rates to collect revenue for equipment replacement. Another concern was whether or not the DOIT had a plan for the replacement of equipment.

Brenda Fresquez, program evaluator, LFC, continued by discussing with the STTC a need for the DOIT to improve its rate-setting and service delivery. She said that the rates are set with estimates, although the actual costs are known, and the rate-setting process is not always substantiated by a documented process. Concerns were also raised that the DOIT does not sufficiently use service level agreements (SLAs) to establish the quality and type of service that will be provided in exchange for the fee, and it was suggested that establishing SLAs could help overcome issues with communications between the DOIT and other agencies. Ms. Fresquez said that the DOIT's compliance and project management program serves as the state's enterprise project management office (EPMO), and restructuring the compliance and project management program may allow EPMO functions to be funded through enterprise funds, creating General Fund savings. Ms. Fresquez cited a need for information technology contract terms and conditions to be revised to accommodate cloud services and improve other key clauses, such as termination management, indemnification and liability. It was also noted that because the Information Technology Commission (ITC) is inactive, there has been a lack of accountability and transparency in the making of significant information technology decisions, and proposals need to be brought forward to modernize the state's information technology plan, institute new information technology policies, update administrative rules and make changes to ensure the ITC can operate. She said the DOIT has implemented some key recommendations from the LFC's 2010 program evaluation, and the DOIT has realized financial management improvements by implementing SHARE's accounts receivable and assets management modules.

Ms. Fresquez concluded with recommended actions for the legislature, the ITC and the DOIT. As to the DOIT, she highlighted that it should develop an equipment replacement plan as required by statute and provide it to the ITC, LFC, Department of Finance and Administration (DFA) and the legislature; provide annual equipment replacement fund reconciliation, as required by statute, to the legislature and include it in its annual budget submission to the DFA and LFC; document and publish the methodology for rate-setting; ensure that information

technology costs and cost recovery methods are transparent and clearly communicated; and establish SLAs with state agencies.

Questions and discussion from committee members included:

- state agency delays in responding to the DOIT's requests;
- when the DOIT should be in charge of information technology for a department versus when the department should have its own internal information technology;
- the DOIT's response to the LFC's report;
- the existence of a detailed SHARE plan;
- Corrections Department radios;
- modernization of the statewide information technology strategic plan;
- the frequency of DOIT evaluations;
- the time it took for the LFC to put together the report;
- the need for feedback to be given more regularly;
- the DOIT's ability to move forward with the constructive criticism;
- state procurement processes;
- the DOIT's cash balances and the inability of the legislature to use the money for other purposes;
- the DOIT's inability to fully recover depreciation;
- the need for a formal equipment replacement plan;
- the cost of phone service across state agencies;
- the status of the Taxation and Revenue Department's (TRD's) predictive dialer upgrade; and
- the DOIT's independent verification and validation requirements and practices.

### **Southwest Power Pool (SPP) Report**

Mike Ross, senior vice president for government affairs and public relations, SPP, told the committee that the SPP is one of seven Federal Energy Regulatory Commission designated nonprofit regional transmission organizations in the United States and that the SPP operates in all or part of 14 states, including eastern New Mexico. The SPP works to ensure that power gets from where it is made to where it is needed by matching the generation of electricity to the load, and the SPP's markets include transmission service, a day-ahead market and a real-time balancing market to ensure the most cost-effective and reliable mix of generation for the region. The SPP is also responsible for transmission planning for the region. Mr. Ross noted that the SPP is responsible for studying the need for new transmission lines and issuing a notice to construct. Thereafter, the entity building the line works with state utility regulators to plan the actual path of the line as well as cost recovery. He noted that it can take up to eight years from when the time studies begin until a new transmission line is put into service. In support of the value that the SPP contributes to the region, the SPP recently completed a study concluding that for every dollar invested in modernizing the grid, a benefit of \$3.50 is realized and that the value of the service provided by the SPP is in excess of \$1.4 billion annually.



Questions and discussion from committee members included:

- incentives and credits for industry investment; and
- the impact of the election on the energy industry.

### **Motor Vehicle Division (MVD) Tapestry Program**

Demesia Padilla, secretary, TRD, and John Monforte, deputy secretary, TRD, discussed with the committee the history, planning, implementation process and successes of the MVD's project to institute the driver and vehicle services software, Tapestry. Secretary Padilla explained that through a transparent and inclusive planning process, strategic decisions were made to wait for the market to mature and to forego employment of a project manager. The project was prioritized above operations on the assumption that, with the completion of the project in five years, operations would necessarily improve and employees would be empowered to make decisions. In addition to keeping the project on schedule, these decisions shaved over \$12 million from the project budget and improved the morale at the MVD, which is now ranked one of the top-three motor vehicle divisions in the nation.

Questions and discussion from committee members included:

- praise for the Tapestry project;
- how to replicate Tapestry's success with other projects;
- the role of empowering people through the success of the project;
- the importance of placing the project above operations and putting great employees on the project;
- the LFC's findings on the status of the TRD's predictive dialer upgrade; and
- the need to revise performance benchmarks and raise the bar for success.

### **Gas Company of New Mexico Economic Development Initiative**

Lloyd Hatch, director of business and economic development in New Mexico, New Mexico Gas Company (NMGC) and La Vanda Jones, governmental affairs administrator, NMGC, informed the committee that the acquisition of NMGC by Emera, Inc., of Canada was approved unanimously by the PRC pursuant to a stipulation developed by the PRC, the attorney general and other interveners requiring Emera to contribute to economic development initiatives within the state.

Emera has earmarked \$10 million in matching funds for natural gas infrastructure expansion in unserved or underserved parts of the state, and \$5 million of shareholder money will be used for general economic development over five years. Emera is working with the University of New Mexico, Innovation Central and other technology resource centers to build technology and entrepreneurial businesses that will stay in the state. Funds will also be given to chambers of commerce and other economic development groups that have been affected by the oil and gas recession, including the MainStreet program, the Regional Development Corporation of northern New Mexico, the Southeastern New Mexico Economic Development District, seven

counties and six colleges. Also, \$5 million will be used to build a pipeline from the southern reach of New Mexico's natural gas system into Mexico. Although there are 11 pipelines from Texas to Mexico and three each from Arizona and California, there are no pipelines from New Mexico to Mexico. It was noted that this project will be funded with shareholder money that will not be recouped from customers, and Emera is looking to find viable markets across the border. Lastly, Emera agreed to increase NMGC's contribution to charities and community organizations by \$400,000, for a total contribution of \$800,000 by NMGC.

Questions and discussion from committee members included:

- right-of-way issues with the pipeline into Mexico;
- environmental reviews required for the pipeline;
- permits;
- praise for the company's community contributions and diversity of public service projects;
- the impact of a new federal administration on the pipeline plans; and
- revenue generated from expanded access of pipeline into Mexico.

#### **Approval of Minutes**

On a motion by Representative Zimmerman, seconded by Representative McCamley, the minutes of the fifth STTC meeting on October 20-21, 2016 were approved by unanimous voice vote.

#### **Adjournment**

There being no further business before the committee, the sixth meeting of the STTC for the 2016 interim adjourned at 12:36 p.m.