



Middle Mile * State Telecom Plan * Funding * Local Community Initiatives * Rights-of-Way

August 7, 2007

Mike Keeling, Chair
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Mike,

Here is the Final Report for the **Arizona Telecom Summit 2007 - Advanced Telecom And Broadband Deployment In Arizona**. held May 17, 2007 at the Mesa Convention Center. The Summit was presented by ATIC and the Communications Infrastructure Advisory Committee to the Governor's Council on Innovation & Technology, in cooperation with 13 other business, technology and government organizations. The Summit provided workshops to identify issues and barriers, and to develop policy and strategy recommendations to accelerate deployment of affordable broadband Internet and advanced telecommunications services to all Arizona communities.

This report contains;

- My Observations
- Summary of the Summit Events and Activities
- Summary of Participant Evaluations
- The Promotion Strategy
- Listing of Partner Organizations
- Listing of Sponsors and Exhibitors
- Listing of the Planning Committee
- Appendix A – Results of Straw Poll and Compilation of Workshop Issues and recommendations

Here are my observations:

Overall the Summit appears to have been a great success.


- We informed a lot of key people in the state of our ATIC/CIAC initiatives and engaged a lot of new people that had not been involved in our strategy and policy deliberations. Over 220 people including federal, state, local, and tribal officials, policy advisors and CIOs, telecom service provider executives, and other key stakeholder representatives participated in one or more of the Summit events (pre-summit online briefing sessions, the May 17 Summit and/or the After5 reception). Based upon the evaluations submitted (25) and the comments provided by the participants, generally they felt that the event was "valuable, informative and worthwhile". They also liked the facilities and food services.
- Throughout the day 18 Summit sponsors and exhibitors showcased telecom, Internet, and other technology products and services. Other nonprofit organizations and government agencies were also featured. All of the sponsors and exhibitors felt that it was a great event and well worth their investment. One sponsor even commented it was the best event of this type that he has participated in.
- Thirty six people participated on the Planning Committee.

- In order to keep the Summit event to a single day we intended to utilize four Pre-summit online meetings to provide the Summit participants background information, technology overviews, updates on Arizona issues and initiatives, best practices, etc. This would enable us to focus more time on policy and strategy deliberations on May 17 rather than spend a lot of time providing background information. The four Pre-Summit online sessions produced some great presentations, identified some new issues and recommendations, and initiated some dialog beneficial to the Summit, however they did not achieve our intent. Only 10-15 people participated in each session. The presentations were excellent, and shorter versions of the presentations were incorporated into the May 17 Summit opening presentation. The PowerPoint presentations from these sessions were later available for download from the Summit Web Site. Some of these sessions are now available for on-demand audio or web conference from the Summit Web Site. In my opinion a key factor in the lack of participation in the online sessions was the lack of time to adequately promote the Summit and the online sessions far enough in advance.
- While we had some additional people attend the reception, many of the Summit participants, and exhibitors, did not stay for the After5 Reception. There was also not a huge influx of new people arriving just for the reception. I did observe that there was great networking taking place among those in attendance.
- The Strategy and Policy Workshops validated many of our policies and strategies, provided us some new ideas to pursue, and engaged new people in our initiatives. The Straw Poll votes provided us some sense of what people think our priorities should be.

In Summary, I think we provided a great event, however, we tried to do too much too soon. In my opinion we needed more time to adequately prepare the background documents, recruit sponsors and to plan and promote the May 17 event and the four online sessions.

Additional documents, PowerPoint presentations, and some of the online Pre-Summit presentations are available from the Summit Web Site at <http://www.tucsonlink.org/Summit07/>

Sincerely



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CC: Mark Goldstein
Oris Friesen
Michael Cohen



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The Summit

Like water and roads, in our **Networked World** advanced telecommunications and broadband Internet services are critical infrastructure for community development and the health, safety, welfare, educational advancement, and economic prosperity in Arizona communities. Unfortunately many rural and other underserved communities lack the telecommunications infrastructure to support deployment of these services.

On May 17, 2007 **ATIC**, the Arizona Telecommunications and Information Council and **CIAC**, the Communications Infrastructure Advisory Committee to GCIT, the Governor's Council on Innovation & Technology, convened the **Arizona Telecom Summit 2007 - Advanced Telecom And Broadband Deployment In Arizona**. Federal, state, local, and tribal officials, policy advisors and CIOs, telecom service provider executives, and other key stakeholder representatives (economic development, education, government, health services, public safety, libraries, homeland security, CIOs, etc) They engaged in workshops to identify issues and barriers, and to develop policy and strategy recommendations to accelerate deployment of affordable broadband Internet and advanced telecommunications services to all Arizona communities. Over 220 people participated in some or all of the Summit activities including the Pre-Summit online briefing sessions, the May 17 Summit, or the After5 reception.

Date and Location

May 17, 2007
8:00 am - 5:00 pm
5:00 - 7:00 Reception & Showcase
Centennial Hall
Mesa Convention Center
263 N. Center Street
Mesa Arizona 85201

Summit Activities

The Summit included the following activities:

- Pre and Post Briefing Documents on the Summit Web Site, including a Summit Briefing Document that provided an overview of Arizona broadband strategy and policy initiatives and recommendations
- Four Online Pre-Summit Briefing Sessions
- May 17 Summit event
 - Telecom in Arizona Status and Initiatives
 - Keynote Presentation - Community And Tribal Planning
 - Planning and Policy Development Workshops
 - Closing Session and Straw Poll Electronic Voting
 - Telecom/Technology Expo
 - Arizona Technology Council After5 Reception and Showcase

Online Pre and Post Summit Documents

The following documents and presentations were posted to the Summit Web Site

Documents

- Telecom Summit 2007 Background Document – Advanced Telecom and Broadband Deployment In Arizona
- Summit Straw Poll Voting Results
- Communications Infrastructure Advisory Committee Review 2006
- Advanced Telecom and Broadband Deployment in Arizona
- ATIC Recommendation to the Governor's Council on Innovation and Technology - May 2005
- Connecting Arizona: Ensuring Broadband Access for All - ATIC - Fall 2002
- Arizona Broadband Initiative Framework 2007 - The Center for Digital Government (CDG)
- Statewide Network Request For Information (RFI) – Report
- RFI Summary Report - Communications Infrastructure Advisory Committee 2005
- Press Release
- Summit Flyer
- Letter of Invitation

Presentations

- Arizona Telecom Summit May 17
- Telecom in Arizona - Status and Initiatives - Overview presented at May 17 Summit Plenary Session.
- Arizona Telecom Summit - Pre-Summit Overview, Arizona Telecom Summit Pre-Summit Briefing April 9, 2007
- Community Telecom Planning Arizona Telecom Pre-Summit Briefing, April 19, 2007 - Presented by Dave Evertsen, Municipal Telecom Solutions
- Town Of Superior AZ - A Case Study, Arizona Telecom Pre-Summit Briefing April 19, 2007 - Presented by Superior Mayor Michael Hing-
- Telecom Issues in Indian Country, Arizona Telecom Pre-Summit Briefing, April 19, 2007 - Presented by Ron Lee, President, Native Policy Group
- Telecom Technologies Overview, Arizona Telecom Pre-Summit Briefing, April 30, 2007 - Presented by Mark Goldstein, President, International Research Center

Summit Documents In Registration Packets

The following Documents were included in the registration packets:

- Program - Color
- Summit Briefing Document
- Evaluation Form
- ATIC Description

Pre-Summit Online Sessions

The Summit included four online Pre-Summit Briefing Sessions prior to the May 17 event. Statewide audio and web conferencing was provided by iLinc Communications and Cox Business Services. In order to keep the Summit event to a single day we intended to utilize the online meetings to provide Summit participants background information, technology overviews, updates on Arizona issues and initiatives, best practices, etc. This would enable us to focus on policy and strategy deliberations on May 17 rather than spend a lot of time providing background information. In person or online attendance ranged from only about 10 – 15 people per session. The presentations were excellent, and shorter versions of the presentations were incorporated into the May 17 Summit opening presentation. The PowerPoint presentations from these sessions were later available for download from the Summit Web Site.

Sessions included:

- April 9 - Telecom in Arizona –Status and Initiatives
 - ATIC Overview – Mike Keeling, ATIC Chair
 - CIAC Overview – Galen Updike representing Chris Cumiskey, Chair, CIAC
 - Telecom in Arizona: Status and Initiatives - Mike Keeling, ATIC Chair, and Ron Schott, Arizona Technology Council
 - Arizona Telecom Legislation – Mike Keeling
- April 19 – Community and Tribal Planning
 - Community Planning - Dave Evertsen, CEO of Municipal Solutions
 - Telecommunications Issues in Indian Country - Ron Lee, President of the Native Policy Group
 - Town Of Superior AZ Case Study - Michael Hing, Mayor
- April 30 – Overview of Telecom Technologies
 - Mark Goldstein, President, International Research Center
 - Josh Nelson, VP Information and Network Technology, Cox Communications and Allan Meiusi, CEO, WI-VOD
- May 10 – Issues and Challenges - Telecom Providers Perspective
 - Moderator - Mark Goldstein, President, International Research Center
 - Wireless - Allan Meiusi, CEO, WI-VOD
 - Cellular - Brian Gilbert, Director of Network Services, CellularOne
 - Curt Huttshell, Frontier Communications Solutions

Sessions Now Available Online - www.tucsonlink.org/Summit07

Some of the online presentations are available for on-demand access from the Summit Web Site

- April, 9 2007, Due to technical problems the audio only Conference recording is available at 1-800-756-3819 Pin: 225735 (**This Session Only**)
- April 19 & 30, 2007: Web Conference Recording now available for viewing.
<http://www.tucsonlink.org/Summit07/Conferencing.htm>
- May 10, 2007: Due to technical problems this session is not available online

May 17 Summit

The May event included the following activities:

Tech Showcase

Throughout the day, and at the Tech Council Reception in the evening, 18 Summit sponsors and exhibitors showcased the latest and greatest telecom, Internet, and other technology products and services provided in Arizona. Other nonprofit organizations and government agencies were also featured. (See list of sponsors and exhibitors in this document)

Opening Session

- ATIC Introduction – Oris Friesen, Vice Chair, ATIC
- CIAC Introduction – Galen Updike, Telecommunications Manager, Government Information Technology Agency
- Telecom in Arizona –Status and Initiatives - Mike Keeling, ATIC Chair, and Ron Schott, Chair, CIAC Strategic Plan Committee
 - Critical Infrastructure
 - Status of Broadband In Arizona
 - Goals
 - Infrastructure Development Deficits
 - Barriers to Broadband Deployment
 - ATIC/CIAC Recommendations
 - Key Reports that Provide Arizona Policy and Strategy Framework
 - Arizona Broadband Initiative Framework Report - Center for Digital Government
 - What is Broadband
 - Barriers, Strategies and Policies
 - Strategy
 - Middle Mile and Redundancy
 - Barriers To Middle Mile Deployment
 - Implementation Strategies
 - ATIC/CIAC Priorities
- Community and Tribal Planning– Dave Evertsen, Principal, Municipal Solutions
- Challenges To Deployment In Indian Country - Ron Lee, President, Native Policy Group
- Telecom Technologies –Mark Goldstein, President, International Research Center
- Telecom Providers Perspective – Debra Dupee, IT/Telecom Business Systems Consultant, Advanced TechSystems

This presentation is available for download from the Summit Web Site

Workshops

The Summit included 5 Strategy and Policy Workshops. The purpose of the workshops was to identify issues and barriers and develop recommendations to overcome these barriers.

Each workshop had a facilitator, 1-3 resource people and a recorder.

- **State Strategic Telecom Planning:** Ron Schott –Facilitator: This workshop identified the content and the processes for the development of a Statewide Strategic Telecom Plan (including development of local/tribal plans). The plan will provide the vision, framework and strategies for the deployment of advanced telecommunications and Broadband Internet service throughout the state, and help better leverage our investments.
- **Leadership Structures and Funding Mechanisms:** John Kelly – Facilitator: This workshop explored options for structure and funding mechanisms to fund telecom infrastructure projects and to provide statewide leadership, coordination and planning that will accelerate deployment of advanced telecommunications and Broadband Internet service throughout the state. You will look at options such as the creation of a state Broadband Development Authority or a public and private nonprofit infrastructure organization, developing an Arizona Broadband Universal Service Fund, providing grants and loans, or providing technical and grant writing assistance for state and local projects.

- **Rights-Of-Way:** Gene Walker – Facilitator: This workshop identified barriers and developed strategies to lower costs and expedite telecom provider access to federal, state, tribal, and local public rights-of-way. Issues may include multiple jurisdiction permitting, delayed application approvals, and unequal and prohibitive fees, etc.
- **Local/Regional and Tribal Planning Strategies:** James Hettrick (for Dave Evertsen) – Facilitator: This workshop identified funding strategies, best practices, and planning processes for communities/regions and tribes to conduct community assessments and implement telecom infrastructure initiatives.
- **Telecom Providers:** Mark Goldstein – Facilitator: This workshop had a three fold purpose: provide a forum for telecom providers to identify issues and barriers to deployment of advanced telecom and Broadband Internet service to rural, tribal and underserved communities; develop recommendations to overcome these barriers; and initiate discussion on the development of the ATIC Telecom Provider Committee that will provide a mechanism for provider input into ATIC and CIAC telecom planning.

See appendix 1 for a compilation of Issues and Recommendations from all of the Workshops

Closing Session – Straw Poll Voting

Following the end of the afternoon workshop sessions we utilized voting technology provided by the University of Arizona College of Engineering to conduct a Straw Poll vote on the top 3 recommendations from each breakout session. **See the results in Appendix 1.**

Tech Council Reception

The Summit concluded with the Tech Council After5 Showcase and Networking event hosted by ATIC and the Arizona Technology Council. The Summit participants were joined by Tech Council members and the public. Summit sponsors and exhibitors showcased their telecom, Internet, and other technology products and services.

Schedule

8:00 - 9:00	Registration, Networking, Exhibitors, and Breakfast
9:00 - 9:15	Welcome
	<ul style="list-style-type: none"> ➤ Mike Keeling, Chair, Arizona Telecommunications and Information Council ➤ Chris Cumiskey, Director, State Government Information Technology Agency, and Chair of the Communications Infrastructure Advisory Committee ➤ Jan Leshner, Director, Arizona Department of Commerce ➤ Steve Peters, Summit Coordinator
9:15-10:15	Plenary Session – Overview
	<ul style="list-style-type: none"> ➤ ATIC Introduction – Oris Friesen, Vice Chair, ATIC ➤ CIAC Introduction – Galen Updike, Telecommunications Manager, Government Information Technology Agency ➤ Telecom in Arizona –Status and Initiatives - Mike Keeling, ATIC Chair, and Ron Schott, Chair, CIAC Strategic Plan Committee ➤ Community and Tribal Planning– James Hettrick, Chief Executive Officer Information Systems Management Solutions for Dave Evertsen, Principal, Municipal Solutions ➤ Challenges To Deployment In Indian Country - Ron Lee, President, Native Policy Group ➤ Telecom Technologies –Mark Goldstein, President, International Research Center ➤ Telecom Providers Perspective – Debra Dupee, IT/Telecom Business Systems Consultant, Advanced TechSystems
10:30 - 11:30	Planning and Policy Development Breakout Sessions
	<ul style="list-style-type: none"> ➤ Strategic Telecom Plan ➤ Funding Mechanisms and Structures ➤ Rights-of-Way ➤ Regional/Community/Tribal Planning ➤ Telecom Providers
11:30 - 12:00	Lunch, Networking and Exhibitors
12:00 - 1:15	Lunch and Program
	<p>Best Practices – Community And Tribal Planning</p> <ul style="list-style-type: none"> ➤ Keynote: Honorable Joe Shirley, President Navajo Nation ➤ The Navajo Model, Telecom Planning on the Navajo Nation - Ernest Franklin, Director, Navajo Nation Regulatory Commission ➤ Best Practices -Town of Superior, Honorable Michael Hing, Mayor
1:30 - 3:00	Planning and Policy Development Breakout Sessions
3:00 - 3:30	Break, Networking and Exhibitors
3:45 - 5:00	Large Group Report Session and Voting
5:00 - 7:00	Arizona Tech Council After5 Reception & Tech Showcase

Promotion

The following methods were utilized to promote the event

- The Summit Web Site
- Over 1000 mailed letters of invitation (including insert from Jan Leshner, Director of the Arizona Department of Commerce, and Chris Cumiskey, Director of the Government Information Technology Agency) sent to local and state elected officials, City and County Managers, members of the Federal Communications Commission and the Arizona Corporation Commission, state and federal Senators and Representatives, Bureau of Indian Affairs, and more.
- Over 10,000 e-mail invitations to ATIC, AZIPA, the Community Information and Telecommunications Alliance, the Arizona Association of Economic Developers, County Supervisor's Association of Arizona, Greater Arizona eLearning Association, League of Arizona Cities, and Towns, local and state elected officials, City and County Managers, members of the Federal Communications Commission and the Arizona Corporation Commission, the Arizona Technology Council, and more
- 750 Flyers distributed by ATIC Board members to various individuals, groups and organizations
- Announcements on Arizona Technology Council Web Site
- Press releases sent to about 80 local newspapers in Arizona

Partners

Presented By

- Arizona Telecommunications and Information Council
- Communications Infrastructure Advisory Committee to GCIT, the Governor's Council on Innovation & Technology

In Cooperation With

- Arizona Consumers Council
- Arizona Association for Economic Development
- Arizona Department of Commerce
- Arizona Government Information Technology Agency
- Arizona Small Business Association
- County Supervisor's Association of Arizona
- Arizona Technology Council
- Arizona Telemedicine Program
- eLearning System For Arizona Teachers and Students
- Greater Arizona eLearning Association
- League of Arizona Cities and Towns
- Navajo Nation Telecommunications Regulatory Commission
- Community Information and Telecommunications Alliance

Sponsors/Exhibitors (and Comments)

Platinum Sponsors

- AT&T
- Strategic Technology Communications

Gold Sponsors

- Wi-Vod
- OnSat
- Qwest
- SRP Telecom

Silver Sponsors

- Cox Communications
- TeleSpectra/Sparkplug
- Conterra Ultra Broadband
- Arizona State Library Archives and Public Records

Conferencing Support

- Cox Communications
- iLinc Communications

Exhibitors

- Municipal Solutions and Information Systems Management Solutions
- SkyPilot Networks
- Tierra Right of Way Services
- Starnet Data Design
- Triad Wireless
- CellularOne
- Qameleon Technology
- i/o Data Centers

Other Exhibitors

- Arizona Technology Council
- Greater Arizona eLearning Association and eLearning Systems For Arizona Teachers and Students
- US Dept. Of Agriculture Rural Development Telecommunications Program and USDA Arizona Rural Development

Planning Committee and Summit Coordination

Coordination provided by Steve Peters, Community Information and Telecommunications Alliance.

Committee

- Tom Belshe Arizona League Of Cities and Towns
- Bill Bolin AZ Dept. of Commerce
- Art Consoli Entrepreneur and Consultant
- Bruce Coomer Arizona Association For Economic Development
- Bob Denton Prime Connexions
- Deborah Dupee Advanced TechSystems, LLC
- Connie Eitel Qwest
- David Evertsen Municipal Solutions, LLC
- George Favela Qwest Communications
- Ernest Franklin Navajo Nation Telecommunications Regulatory Commission
- Oris Friesen ATIC/Future Information Technologies
- Ralph Gierish ATIC
- Brian Gilbert CellularOne
- Mark Goldstein International Research Center
- Steve Grey Navajo Nation Telecommunications Regulatory Commission
- Troy Hass Verizon Business
- David Heck City of Tempe
- James Hettrick Information Systems Management Solutions
- Curt Huttzell Frontier Communications Solutions
- Randy Jackson City of Surprise
- Mike Keeling Data Site Consortium, Inc
- Nevina Kinlahcheeny Lawrence Livermore National Laboratory Field Office
- Joan Koerber-walker Arizona Small Business Association
- Ted Kraver eLearning System for Arizona Teachers and Students
- Ron Lee Native Policy Group
- David Lemelin In-Stat
- Allan Meusi WI-VOD Corporation
- Jay Miringoff Tele-Com Solutions
- Pat Quinn Qwest Communications
- Ron Schott Arizona Technolgy Council
- Ben Standifer Tohono O'odham Nation
- Albert Sterman Arizona Consumers Council
- Craig Sullivan County Supervisors Association of Arizona
- Galen Updike Government Information Technology Agency
- Marisa Paula Walker CANAMEX Corridor & Cyberport Projects
- Genene Walker Pinal County
- David Whitt Able Information Technologies

Appendix 1

Straw Poll Voting Results

**Compilation of Workshop
Issues and Recommendations**



Middle Mile * State Telecom Plan * Funding * Local Community Initiatives * Rights-of-Way

Straw Poll Voting Results

State Strategic Telecom Planning	Responses	
	(percent)	(count)
1. Create a High Level of Awareness	20%	11
2. Knowledgeable Leadership	21.82%	12
3. Strategic Planning Process Design	34.55%	19
4. Practical Cost/Investment Models	23.64%	13
Totals	100%	55
Leadership Structures and Funding Mechanisms	Responses	
1. Revolving Fund	18.87%	10
2. Grant Enablement	22.64%	12
3. Public Broadband Authority	16.98%	9
4. Public/Private Broadband Authority	41.51%	22
Totals	100%	53
Rights of Way	Responses	
1. Appointed Authority [Czar]	22.64%	12
2. Reduce Time to Market	60.38%	32
3. Raise awareness	16.98%	9
Totals	100%	53

Local/Regional and Tribal Planning Strategies	Responses	
1. Protection with the State	15.09%	8
2. Facilitators	13.21%	7
3. Priority for Planning	39.62%	21
4. Local Control	32.08%	17
Totals	100%	53
Telecom Providers	Responses	
1. Increase education and public awareness	14.29%	8
2. Define economic impact of Broadband	26.79%	15
3. Exclude ROW from environmental & archeological impact studies	28.57%	16
4. Legislation for authority to provide grants	30.36%	17
Totals	100%	56



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ISSUES AND RECOMMENDATIONS

WORKSHOP REPORTS

Rights-of-way

Constitutional Issues: #1 Rank

- Lack of Leadership/Facilitators to timely move policies and laws through Legislature.
- Disconnects in current policies and laws between the Bureau of Indian Affairs and Regional Offices and tribes (Navajo, Hopi).
- Gift Clause.
- Crossing Boundaries
- Broadband is unregulated.
- No Private Individual or Government can share if paid by government.
- Existing laws
- Who should control?

Constitutional Recommendations

- CZAR – (appointed authority/agency) to work with appropriate representation.
- Representation / Support & Buy-In from Private / Industry / Government – Local, County, State, Federal, Tribal
- Unified Approach / Effort (ADOT and USDOT good examples of continuous & working together from urban to rural and across Tribal, Federal, etc).
- Tie to Economic Development Initiatives. (Satisfies Gift Clause requirements)

Awareness Issues: #3 Rank

- What are the issues and what can all communities, Government, and providers do?
- Lack of sharing of resources and disclosure by providers and utilities of infrastructure.
- Clearly identify problems between State/City/County/Government vs. Utility
- Engineering of technology, need for infrastructure
- Cultural Diversity (Tribal Nations regarding placement of visible infrastructure)
- 80% of land is government owned.
- Lack of Comprehensive Plan (Priorities & Focus).

Awareness Recommendations: #3 Rank

- Create and propagate the vision and passion.
- Identify and Reach Out to Key Stakeholders
- Showcase Successes.

- Push the competitive factor particularly in western AZ.
- Push Boarder Security and Public Safety Factor.

Cost Issues: #2 Rank

- Paying for Right-of-Way more than once
- Excessive/Prohibitive Costs (Last and Middle Miles, Lease, Permits, Value of Time)
- Gift Clause
- Crossing Boundaries
- Cultural Issues can cause higher cost – can't use best or least expensive path.
- Right-of-Way & Permitting are significant costs.
- Who should control?

Cost Recommendations: #2 Rank

- Conduit Standards
- Public Investment
- Subsidy Funding
- Co-location / Shared of Infrastructure
- Priority & Focused Spending
- Reduced Time to Market

TELECOM PROVIDERS

Telecom Provider Issues

- Tribal ROW – cost, delays, 16 entities for Navajo approval & studies
 - Fees high, sometimes declined to build since fees too high
- Federal and State USF –
 - Can't be used for broadband / Fed = POTS
 - AUSF = difficult/ impossible to access, limited purposes
 - Competition UTOPIA funded publicly Enterprises, Utah Utopia losses guaranteed
- Federal USF: proposed cap on CLECs in high cost areas
 - Cap (2006/ AZ rec'd \$15M 67th ILEC, \$59 M CLEC – AZ very much “donor” state
- Broader ROW issue
 - Dealing with State, County, Municipal, may be seen as “revenue stream”
 - Shippo – spent \$.5 – with unforeseen issues (survey & mitigation costs, delays – archeological finds interfere)
- AZ Highly Urban (Phoenix, Tucson)
 - No specific provider - open territory
 - Revolves around cost, ACC, DOC concern
- Institutional Networks: Secondary state networks “compete” or preclude carrier investment
 - County, state (Galen involved)
- Muni- wireless - what biz
- Investment / capital necessary for rural deployment
 - Marginal Rate of Return - the rate
 - Broadband Development
- Issue of redundancy – good or bad?
 - For redundancy expensive – US when needed for capacity
 - May need diversity - Disaster Recovery (for Interoffice)
 - Secondary carriers may lease capacity from 1st
- Connectivity between ILECs (13-14 in AZ)
 - Frontier/ or Valley - Qwest
- Middle Mile issues
- General Funding issues
 - Marginal rate of return –
 - Pricing for BB, eLearning, etc – wholesale cost structure doesn't support retail
- Middle Mile – if you build & own, others will want to Wholesale capacity & retail in competition with you can't be supported
 - ILEC/CLEC differences in obligations
- Quantitative demand by community – justify putting in network, uses? affordability?
 - Cost & general affordability
 - Literacy - able/want to use

- Competitive Provider Profile – existing infrastructure in Community & Middle Mile
- General Demand analysis may not help - must be specific
- RUS requires quantitative surveying & modeling
 - Grants may as well (even expedite)

Telecom Provider Recommendations

Universal Service Funding (Federal and State) (30 votes)

- Limited to POTs and Wireline
- Opposed Cap to CLECs unless Federal USF provide connect vehicle
- ACC decline since 1997 to give USF

Right of Way (ROW) (26 votes)

- ROW Clearinghouse for identifying pathways, ownership/oversight, processes and contacts, capacity for new
- ROW broker with general agreements with
- Rural ROW exempt from Environmental & Archeological
- Legislation solution to include funding for records access and existing road ROW exclusion
- Coordinate in GIS databases and ACCESS
- Navajo and Native Nations take direct ROW authority not BIA

Investment/ Capital (CAPEX) for Rural Infrastructure (16 votes)

- Grants and loans
- Broadband Development Authority
- Legislative issue forbranch agency to grant \$ for attracting for non-profit
- (Funding base – general funds vs. telecom customer surcharge
- E-fund allows ILECs & CLECS to contribute to a fund voluntarily in exchange for relaxed oversight and flexibility
- Coordinate and facilitate federal and non-profit **Grant Opportunities**, (e.g. Bill and Melinda Gates Foundation w/OnSat Satellite)
 - could be State Agency, non-profit and/or vendor
 - possibly use Grant Writers as intermediary since vendor involvement sometime unfavorable
 - cautionary note about vendor involvement sometimes disqualified from Grant

Quantifying Demand (12 votes)

- Appropriate business models
- State (DOC?) community telecom assessments (CTA)
- Needs assessment can encourage grants, partnerships, loans & low interest loads access
- Education and public awareness of what can and should be done, in communities/ what policies may preclude / discourage provider investment
 - What is economic development impact of BB or lack thereof?

Publicly Funded Infrastructure Projects (9 votes)

- Appropriate business Models
- Muni - wireless
- Prohibition/ Preclusion
 - Preclude (in some circumstances) via state legislation gov't competition for business and homes where comm'l options exist but allow where no comm'l options present
 - **Caveat:** Legal Case: Philadelphia vs. Verizon – Verizon chagrined for challenging the city public network instead of using Verizon
 - Consider Partnering possibilities – public/private
 - State legislation to prohibit treating affiliates differently than proprietary or for-profit entities

Middle Mile (8 votes)

- Creation, capacity, sharing
- ADOT – joint licensing for shared ROW projects w/ resultant state conduits for use / reuse
- Map and capture info about existing and planned Middle Mile

Connectivity between / LEC / Redundancy to Communities (7 votes)

Areas not obligated to be served (late entry – no votes)

Strategic Plan

ISSUES:

- Lack of service providers in rural communities
 - Lack of competition
 - Lack of education within the community
- Challenges are great in the rural communities to get space (this is county specific) for, towers, locations for equipment, etc.
- Need to attract & foster investment, competition & capacity building
- Dept of Interior is working with multiple states SD, WY, Montana (and 11 other states) to develop P25 networks for public safety
 - Need proportional sharing of resources (land, spectrum)
 - Such as, land access & mitigation
 - Most difficult problem – to define a common set of terminology & standards
- How can we really share resources? It seems to be more of a demand, rather than sharing – who pays for shared resources
- How can we develop a model that will meet needs of sparse populations such as libraries, etc.?
- There is a role for govt. – but there needs to be a strong private influence regarding
 - Content
- No coordination on which org takes the lead in implementing BB
- Need an ombudsman or a sounding board that will bring these ideas and orgs together.
- There are grant rules that conflict with state procurement codes.
- AZ has no history of having govt jump starting development
 - Legislature represents the broad general populace – regard telecom as something to be used
 - Lack of awareness about BB & econ dev.
 - Bio was an exception
 - Need a champion
 - Need capital
 - Need govt to be a catalyst.
- There is money out there, but it is difficult to exit from an agreement as it becomes large – is a scaling issue.
 - In telecom you don't have the scale function that investment capital looks for
- Wifi corridor along I-19 -- Green Valley to Rio Rico
 - Brought 28 agencies together
 - What about sustainability? Does the project die after the grant ends?
 - We used commercial entities to share the network with the 1st responders
 - Try to invest in the community with the community leaders & residents & businesses
 - ROW was the major issue – caused long delays – pole attachments, etc.
- Scalability & replicability of models is of utmost importance
- Identify stallpoints – how to manage stallpoints & overcome them.

- What to do if there is not a clear business case?
 - Then public sector must become involved.
 - State has a role in creating a business case in such instances.
- Can municipalities in small rural areas replace the private funding?
- Grant applicants need to engage the private sector to avoid the conflicts and delays that inevitably arise.
- Study is needed for: Rural area of service “take rate” – how many people have signed up for service?
- AHCSS has signed up for a \$12M grant for electronic records.
 - How can we coordinate our vision with all the disparate entities involved in the required process?

The following issues were submitted in writing at the end of the session:

- Critical Issue: High cost of telecom services to rural areas --> practical cost investment models
- Many citizens in Coconino County live 40 miles from anything, because they like a very rural lifestyle. Most (a high %age) would probably not use BB in their home even if available.
 - But, they do need and expect availability in the nearest **Health clinic, Library & School**
 - A business model for investment would be difficult to sustain. The govt will most certainly have to subsidize a majority of the **investment and operational costs**.
- Critical Issue: A way to standardize BB technology so all services can use the infrastructure that each metro/rural system employs
- Issue: Working with different govt agencies to complete a project of this magnitude. It is difficult to coordinate project tasks when dealing simultaneously with entities of the City, County & State
- What really needs to happen is that all carriers need to Partner to get the infrastructure to the rural markets.
- Flexible model to establish a BB network that incorporates the required
 - knowledge contribution
 - the dollars for capital
 - the equipment &
 - the ongoing maintenance
- In AZ many rural “towns” are not incorporated so there is no local taxing agency.
 - Being unincorporated also affects eligibility for some grants.

Recommendations

- Region specific challenges (2 votes) – NOTE: Each person was given 3 votes for the most important recommendation
 - Statewide survey of current telecom capacity
 - i. By school districts
 - ii. By DOC economic regions
 - iii. Database of all stakeholders
 - iv. Focus only on the underserved areas
 - v. Current vs. future needs

- Practical cost investment models (10 votes) Number 4 in priority
 - Buy low – sell high
 - Other people's money
 - Grant writers
 - Definition of rural wrt population & incorporation
 - Isolated communities
 - Maximize federal \$
 - Get investment from big business – higher bandwidth → more sales revenue → more bandwidth
 - vi. Scale & scope is needed – AZ doesn't have enough eyeballs
 - Work with erate schools/libraries/medical
 - vii. School is anchor tenant
 - viii. Build tower for school & then rent excess capacity
 - ix. In-kind exchange
 - Define/identify the necessary partners for economic development process
- Arizona Strategic Planning Process Design (12 votes) NUMBER 3 in priority
 - Identify stakeholders & get their involvement
 - Begin with the end in mind (what is the end? Needs to be defined by the stakeholders – that means end-users)
 - Middle mile or last mile (i.e., end-users)?
- Knowledgeable Leadership to Integrate the Players (14 votes) NUMBER 2 in priority
 - Cf. Science Foundation of Arizona & Bill Harris
 - Start with community leaders
 - Superior Mayor did not know what BB was
 - Dumb it down so everyone understands it
 - Use the person who was taught as a testimonial
 - Need legislative & executive champions & rural leaders
- New Models: Buyers & Suppliers (0 votes)
 - <come back to this later>
- Conflicting Regulations & Codes – Fed/state/local (4 votes)
 - ACC service-related issues
 - Identify biggest obstacles & then come up with recommendations
 - Fast track – Navajo Nation reduced 2 yrs to 60 days
 - Procurement codes vs. grant regulations

- Create a High Level of Awareness (15votes) NUMBER 1 in priority
 - Dumb down the message (simply & remove tech-speak) for education purposes -E.g., educate the legislature
 - A 1-page elevator speech on the benefits for different end-users
 - Education should start at K-12 level with kids
 - Kids pester the parents who pester the politicians, etc.
 - Survey of current needs (being done for a RUS application for 30 communities)
- Scalability & sustainability (0 votes)
 - Grant focus → Scalability & sustainability
 - Ties to #5 (New Models)
 - Pick a community & coordinate implementation
 - State level systematic plan
 - How doe we pass the data from one org to another
- Standards & Terminology (4 votes)
 - Broadband def. must be more than 1 mbps
 - Must be included in strategic plan
 - Example of how to use
 - Ties into #7 (Awareness)
- Critical Mass of Market (2 votes)
 - Ties to #5 (quantity of constituents)
 - Korea model – dictated it to all homes & businesses
 - Accountability factor – how do you define critical mass? Is it a sustainability measure? Is it an operational goal to be striven for.

FUNDING MECHANISMS

Problems/Barriers

- Small Grant Pool
- Requirement to be in census
- Qualified entities – to narrow or to large

Recommendations

- Grant Program
- Redeploy “POTS” Fund – Apply To Get \$ back
- Arizona Broadband Fund with sunset
- “Revolving Fund” – work with interest
- Efficiency Savings - Repurpose saved money
- Special “Tax District”
- Funding
 - Collaboration
 - Grants
 - Community development
- Unserved/underserved
 - Appropriate mechanisms
 - Qualified recipients
- Revolving Fund
 - Reapply Universal Service Funds
 - Efficiency Savings
 - Grants
 - Sunseted Funding Sources
- Grants Enabler
 - Revolving Fund
 - Local Communities
 - Arizona Broadband Authority to oversee and deploy fund