Smarter States, Smarter Communities Learning Lab

October 17 - 19, 2018

National Governors Association Center for Best Practices

#SmarterStatesNGA  #WeTheStates
Welcoming Remarks

Kirk Lonbom, Chief Information Officer, State of Illinois

Sue Gander, Director, Environment, Energy & Transportation Division, NGA Center for Best Practices

Jeff McLeod, Director, Homeland Security & Public Safety Division, NGA Center for Best Practices
About NGA

Office of Government Relations
- Collective voice of governors in Washington D.C.
- Builds consensus on Federal issues
- National policy focus

Center for Best Practices
- Comparative policy shop for state level efforts
- Provides governors and staff technical assistance and policy guidance

Office of Management Consulting & Training
- Internal management consultants
- Training and advice for governors, chiefs of staff, legal counsels, policy directors, schedulers, spouses
Smarter States, Smarter Communities Advisory Group

- Carnegie Mellon University
  - Richard Stafford, Professor, rstaff@andrew.cmu.edu

- Crown Castle
  - Rebecca Hunter, External Affairs and Strategic Communications, Corporate Development & Strategy, Rebecca.Hunter@crowncastle.com

- Esri
  - Patricia Cummens, Government Strategist, pcummens@esri.com

- Itron
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  - Dan Pfeiffer, Director of Government and Regulatory Affairs, Dan.Pfeiffer@itron.com

- Keystone Policy Center
  - Mallory Huggins, Senior Policy Director, mhuggins@keystone.org
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- MetroLab
  - Ben Levine, Executive Director, ben.levine@metrolabnetwork.org

- SAS
  - Kevin McLaughlin, Policy Director, SAS U.S. Government Practice, Kevin.McLaughlin@sas.com

- SIEMENS
  - Tom Phillips, Senior Director, State and Local Government Affairs, tom.phillips@siemens.com

- T-mobile
  - Dan Leary, Senior Manager of Government Affairs, Dan.Leary@T-Mobile.com
  - Russell Sarazen, National Director, State Legislative Affairs, Russell.Sarazen@T-Mobile.com

- Verizon
  - Walter White, Vice President, State & Local Government, walter.w.white@verizon.com
NGA Smarter States Learning Lab

June
- Learning Lab Request for Applications

July
- Learning Lab States Announced

Aug
- Learning Lab in Chicago, IL

Sept
- State Team Calls to Plan Learning Lab

Oct
- Targeted Follow-Up Technical Assistance
- Learning Lab in Chicago, IL

Nov
- State Team Action Steps Memo
- Learning Lab Completed
- Follow-Up Call #1

Dec
- 2018
- 2019

2017-2018
- Shadowed IL Initiative
- Participated in VA Smart Communities Working Group
- Hosted Experts Roundtable
- Held Ahead of the Curve NGA Chair’s Initiative

2019
- Release Smarter States Roadmap
- Issue Policy
- Academy Request for Applications

State Team Action Steps Memo

Follow-Up Call #2
Overview of State Goals

**Colorado:**
Adam Zarrin, Policy Advisor, Office of Colorado Governor John Hickenlooper

**Nevada:**
Tracy Larkin-Thomason, Deputy Director, Nevada Department of Transportation

**New Jersey:**
Vinn White, Senior Policy Advisor, Office of Governor Phil Murphy, New Jersey

**North Dakota:**
Duane Schell, Chief Technology Officer, North Dakota Information Technology Department

**Virginia:**
Robby Demeria, Deputy Secretary of Commerce and Trade for Technology, Commonwealth of Virginia
Welcome from Governor Bruce Rauner
Overview of the Smarter Illinois Initiative

Kirk Lonbom, Chief Information Officer, State of Illinois
Nicholas Cosentino, Special Projects Manager, Illinois Department of Innovation & Technology
Smarter Illinois Initiative Projects & Deliverables

LED Streetlighting
Smart Public Safety
Smart Roads

Speakers

Nicholas Cosentino, Special Projects Manager, Illinois Department of Innovation & Technology

Essam El-Beik, Telecommunications Consultant, Department of Innovation & Technology

Matt McAnarney, Project Manager for Connected & Autonomous Vehicles, Illinois Department of Transportation
Laying the Foundation: Broadband, 5G Deployment, and Ensuring Rural Equity

Moderator: Lori Sorenson, Chief Networking Officer, Illinois Department of Innovation and Technology

Jennifer Duane, Broadband Program Specialist, BroadbandUSA, NTIA
Walter White, Vice President, State and Local Government, Verizon Wireless
Paul Breakman, Senior Director, Cooperative Systems, Business and Technology Strategies, National Rural Electric Cooperative Association
Jannine Miller, Senior Advisor for Rural Infrastructure, U.S. Department of Agriculture
Laying the Foundation: Broadband, 5G Deployment, and Ensuring Rural Equity

Lori Sorenson, Chief Networking Officer, Illinois Department of Innovation and Technology
Jennifer Duane, Senior Advisor, BroadbandUSA
National Governors Association
Smarter States, Smarter Communities
NGA Learning Lab
Jennifer Duane, Senior Advisor, BroadbandUSA
October 17, 2018
The National Telecommunications and Information Administration (NTIA) advises on telecom policy issues

• Serves as principal advisor to the Executive Branch

• Expanding broadband access and adoption

• Expanding the use of spectrum by all users

• Ensuring that the Internet remains an engine for continued innovation and economic growth

• Supporting public safety communications
NTIA’s BroadbandUSA program educates stakeholders, facilitates relationships and provides helpful resources.

**EDUCATE**
- Arm stakeholders with key information to have more effective discussions with providers.

**CONVENE**
- Convene & facilitate the right conversations.
- Provide guidance to stakeholders, partners and providers.
Our resources help stakeholders learn, share and implement the benefits of community connectivity
BroadbandUSA also engages communities through webinars and events across the country

<table>
<thead>
<tr>
<th>FY18 Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Regional convenings and workshops</td>
</tr>
<tr>
<td>• Monthly “BroadbandUSA Practical Broadband Conversations” Webinars</td>
</tr>
<tr>
<td>• State Broadband Leaders Summit</td>
</tr>
<tr>
<td>• TN and VA Broadband Workshops</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample Events FY16-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Big Sky Broadband Summit</td>
</tr>
<tr>
<td>• AZ, IA, WV, GA Technical Assistance Workshops</td>
</tr>
<tr>
<td>• State Broadband Leaders Network Workshop</td>
</tr>
<tr>
<td>• Technical Assistance Webinars</td>
</tr>
<tr>
<td>• California Broadband Workshop</td>
</tr>
<tr>
<td>• Digital NW Broadband Summit</td>
</tr>
</tbody>
</table>
BroadbandUSA: Technical Assistance

**Planning**
(e.g., RFP Development/Review, Preliminary Network Design, Asset Inventory)

**Funding**
(e.g., Partnership Facilitation, Funding Option Assessments)

**Implementation**
(e.g., Network Design, Regulatory Approvals, Interconnection, Permitting)

90% of TA requests involve broadband planning and 62% involve questions related to funding
## Broadband Network Architecture 101

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Backbone</strong></td>
<td>Major high-speed transmission lines that link smaller networks across the country</td>
</tr>
<tr>
<td><strong>Middle Mile</strong></td>
<td>Connection between the backbone network and local networks</td>
</tr>
<tr>
<td><strong>Last Mile</strong></td>
<td>Connection between the local network and end user homes and businesses</td>
</tr>
</tbody>
</table>
Broadband Technologies: No Silver Bullets

<table>
<thead>
<tr>
<th>Technology</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber</td>
<td></td>
</tr>
<tr>
<td>Aerial Fiber</td>
<td>✔</td>
</tr>
<tr>
<td>Buried Fiber</td>
<td>✔</td>
</tr>
<tr>
<td>Copper-Based</td>
<td></td>
</tr>
<tr>
<td>Coaxial Cable</td>
<td>✔</td>
</tr>
<tr>
<td>DSL</td>
<td>✔</td>
</tr>
<tr>
<td>Wireless</td>
<td></td>
</tr>
<tr>
<td>Fixed</td>
<td>✔</td>
</tr>
<tr>
<td>Mobile (4G/5G)</td>
<td>✔</td>
</tr>
<tr>
<td>Satellite</td>
<td>✔</td>
</tr>
<tr>
<td>Microwave</td>
<td>✔</td>
</tr>
</tbody>
</table>
Efforts to expand broadband access are helping, but the digital divide still persists

- 10% of all Americans (34 million people) and 39% of rural Americans (23 million people) lack access to broadband speeds.
- Approximately 21 million children do not have the bandwidth needed for digital learning.
- 34% of non-metro healthcare facilities lack sufficient broadband connectivity for electronic medical records and information exchange.
- 42% percent of public libraries have 10 Mbps or slower connections.
Broadband access and use is critical to the growth of communities

- Up to $600 Per Student Saved Annually Using Digital Resources
- Hospital Admissions by 35%  Hospital Stay by 59%
- Home Value by 3.1%
- 79% of Unemployed Americans Search for Jobs Online
- Annual Median Business Revenue by $300,000
The Urban-Rural Divide in Broadband

• Recent research by the FCC, which defines home broadband as 25 Mbps down and 3 Mbps up, shows:

  – 39% of rural Americans, 4% of urban Americans lack access

  – 34% of non-metro healthcare facilities lack adequate speeds

  – 42% of public libraries have speeds less than 10Mbps

  – 23% of schools do not meet the FCC’s 100 Kbps per student standard, mostly in rural areas
BroadbandUSA – Data Collection and Mapping

• Consolidated Appropriations Act of 2018 – Congress authorized $7.5M to update the National Broadband Availability Map in coordination with the FCC and previous partnerships developed by the States.

  – NTIA can acquire, utilize and display available third-party data sets to the extent such data can be used to augment existing data from the FCC, other Federal government agencies, State government, and the private sector. The updated map will help identify regions with insufficient service.

  – NTIA released a Request for Comment, “Improving the Quality and Accuracy of Broadband Availability Data”. Received 53 comments.
    • NTIA met with many stakeholders about accessing broadband data sets.
    • NTIA is planning a phased approach to compiling data for a broadband availability map.
    • NTIA will be working with states that already have collected broadband availability data or have strong broadband programs.
Funding Options

- State Funding
- Public Private Partnerships
- Federal Communications Commission (FCC)
- National Science Foundation (NSF)
- Department of Transportation (DOT)
- Department of Homeland Security (DHS)
- Housing & Urban Development (HUD)
- U.S. Department of Agriculture (USDA)
- U.S. Department of Energy (DOE)
- Economic Development Administration (EDA)
## Five categories of federal broadband-related funding opportunities

<table>
<thead>
<tr>
<th>Infrastructure Deployment</th>
<th>Planning</th>
<th>Research</th>
<th>Digital Skills</th>
<th>Public Computer Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitates the buildout of community connections and technology. This can include network cables, facilities and structural upgrades.</td>
<td>Provides communities and municipalities assistance in creating regional improvement plans directly incorporating broadband.</td>
<td>Strives to improve research and data collection to provide new knowledge surrounding broadband and evidence based solutions.</td>
<td>Offers training to maximize patron knowledge, adoption, and usage of broadband capabilities. Focuses on both usage and understanding.</td>
<td>Targets funding efforts that provide public computer access to broadband hubs in locations such as community centers, schools and libraries.</td>
</tr>
</tbody>
</table>
Federal Funding Options

• Federal Communications Commission (FCC) - Universal Service Fund
  – Connect America Fund (High-Cost Program) – reduces the cost of operating and extending
    infrastructure (both fixed and mobile) to serve consumers and small businesses in rural,
    high-cost areas.
  – Funding recipient must be designated an eligible telecommunications carrier by the
    relevant state or the FCC.
  – E-rate (Schools and Libraries) Program – provides discounts of up to 90 percent for
    broadband connectivity to and within elementary and secondary schools and public libraries.
  – Rural Health Care Program – subsidizes broadband connectivity for public and non-profit
    health care providers through the Healthcare Connect Fund Program. Funding capped at
    $400 million per year.
Federal Funding Options – Executive Branch

• USDA Rural Development – manages the primary loan and grant programs that support rural broadband deployment.

• Other Federal Agencies have made broadband an allowable expense within their current funding streams.

• Funding for broadband infrastructure may be supported by block and formula grants provided through programs managed by HUD and the Department of Education.

• The Economic Development Administration, Appalachian Regional Commission, and the Delta Regional Authority have identified broadband as an eligible expense and a priority for economic development.
BroadbandUSA: Federal Funding Guide

- Provides communities with information about federal funding for broadband, including:
  - Information regarding the purpose of each program
  - Potential restrictions on funding
  - Rules for eligibility
  - Updated periodically
State Broadband Leaders Network (SBLN)

- SBLN: community of practitioners who work on state broadband initiatives.
- Outgrowth of State Broadband Initiative Program under BTOP.
- NTIA's BroadbandUSA program coordinates the group and convenes participants to:
  - Share priorities and best practices;
  - Discuss emerging telecommunications policy issues;
  - Link states and local jurisdictions to federal agencies and funding sources; and
  - Address barriers to collaboration across state agencies.
SBLN: Who Participates – 38 States to Date

- SBLN participants represent a variety of state level offices:
  - Senior managers or directors from State Broadband Offices
  - Geographic Information Services (GIS) offices
  - Offices of Information Technology (IT)
  - Public Utility Commissions (PUCs)
  - Commerce Departments/Economic Development Agencies
  - Universities and State Extension Services
  - Public Safety offices and
  - State-designated third party entities
State Actions to Spur Broadband Deployment

- More States are getting involved in supporting broadband deployment and access. More than two thirds of states have dedicated offices, programs, or employees focused on broadband.
  - Twenty-two states now have state-level grant programs (some of these are E-rate matching programs).
  - **Illinois** – first state to become a “smart state” with its Smarter Illinois Initiative.
  - **Nevada** – On July 1, 2017, enacted SB53 to facilitate broadband expansion by allowing NV DOT to install conduit and fiber systems in the state rights-of-way supporting telecommunications facilities and enabling NVDOT to enter into public-private partnerships for cooperative fiber and conduit trades.
State Actions to Spur Broadband Deployment - Grants

- **Colorado** – Broadband Deployment Board and associated Broadband Fund provides infrastructure grants for last-mile projects in unserved areas of the state. CO’s High Cost Support Mechanism (HCSM) allocates monies originally designated for high cost support in areas subsequently deemed competitive to the Broadband Fund. Nearly $2.4 million made available for first grant cycle.

- **Maine** – Funds community planning and infrastructure grants for broadband projects in underserved areas (<25/3Mbps). Has awarded $11.5M over 11 funding rounds since 2007.

- **Minnesota** – As of 2014, grants fund areas without access to 25/3 wireline. Funding through annual general fund appropriation ($20M allocated in 2017)

- **Tennessee** – As of 2017, grants fund areas without access to 10/1 fixed terrestrial connection. $25M available ($10M year 1, $15M year 2).
Executive Office Updates

Presidential Actions


• E.O. Strengthening Cybersecurity of Federal Networks and Critical Infrastructure (February 2017)
  — Protecting federal networks using the NIST Cybersecurity Framework [https://www.nist.gov/cyberframework](https://www.nist.gov/cyberframework)

• Presidential Memoranda – Directing Interior to make its towers available for co-location (January 2018)

• E.O. Streamlining and Expediting Requests to Locate Broadband Facilities in Rural America (January 2018)
Broadband Interagency Working Group

Federal Funding of Broadband

Streamlining Federal Permitting

Leveraging Federal Assets

37
BroadbandUSA is available to help states and communities improve their with broadband access

BBUSA Resources:
- Guide to Federal Funding of Broadband Projects
- Community Broadband Roadmap Toolkit
- Implementing a Broadband Network Vision: A Toolkit for Local and Tribal Governments
- Using Partnerships to Power Smart Cities

- Jennifer Duane, Senior Advisor
  jduane@ntia.doc.gov

- New BroadbandUSA website:
Laying the Foundation: Broadband, 5G Deployment, and Ensuring Rural Equity

Walter White, Vice President, State and Local Government, Verizon Wireless
Laying the Foundation: Broadband, 5G Deployment, and Ensuring Rural Equity

Paul M. Breakman
Senior Director, Business & Technology Strategies
National Rural Electric Cooperative Association
There are 6.3 Million Electric Co-op Households WITHOUT HIGH SPEED
Sorry NO INTERNET Today

DAD!!! The Internet is BROKEN!!!
LIFE WITHOUT INTERNET
Broadband Access Provides Value
$1,950/Household Annually

Lost Value to Electric Co-op Households: $68 Billion (over 20 years)
The Future IS the Networked Grid

Broadband Backbone ➔ Broadband-To-The-Home

THE NETWORKED GRID

Historically, the electric grid has been a one-way street with energy flowing from large power plants to utilities, to consumers at the end of the line.

Smart thermostats maximize energy efficiency.

Specially designed water heaters can "charge" like a battery at night. So can electric vehicles.

Smart Thermostat  Rooftop Solar  Electric Vehicle  Water Heater Energy Storage
# 10/1 Mbps Is Not Sufficient for Advanced Telecommunications Capability

<table>
<thead>
<tr>
<th>Applications</th>
<th>10 Mbps/1 Mbps</th>
<th>25 Mbps/5 Mbps</th>
<th>50 Mbps/10 Mbps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web browsing</td>
<td>✅ ✅</td>
<td>✅ ✅</td>
<td>✅ ✅</td>
</tr>
<tr>
<td>Download 100 pg text doc with graphics</td>
<td>✅ 2 sec</td>
<td>✅ 1 sec</td>
<td>✅ 1 sec</td>
</tr>
<tr>
<td>Multi-point video-conferencing streaming at 768 Kbps for group 5-6</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>VoIP (10 external lines)</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Upload videos, presentations (1 GB)</td>
<td>✗</td>
<td>✅ 27 min</td>
<td>✅ 14 min</td>
</tr>
<tr>
<td>Download high-def video (2 GB)</td>
<td>✗</td>
<td>✅ 11 min</td>
<td>✅ 6 min</td>
</tr>
<tr>
<td>Telecommuting</td>
<td>✗</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Distance learning</td>
<td>✗</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Telemedicine (radiological images, 160 MB)</td>
<td>✗</td>
<td>✅ 52 sec</td>
<td>✅ 26 sec</td>
</tr>
</tbody>
</table>

Source: CTC Technology & Energy, 2010

Legend: ✅ Good, ✅ OK, ✗ Bad
### Broadband Enables Electric Distribution Optimization

Digital Applications Enhance Controllability of Costs

<table>
<thead>
<tr>
<th>Application</th>
<th>Annual Valuation per Meter (2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution Automation</td>
<td>$20-$30</td>
</tr>
<tr>
<td>Substation Automation</td>
<td>$1-$3</td>
</tr>
<tr>
<td>Advanced Metering Infrastructure (AMI)</td>
<td>$12-$18</td>
</tr>
<tr>
<td>Volt/Var Optimization</td>
<td>$14-$29</td>
</tr>
<tr>
<td>Demand Management</td>
<td>$88-$140</td>
</tr>
<tr>
<td>Outage Reduction</td>
<td>$1-$3</td>
</tr>
<tr>
<td>Asset Management</td>
<td>$45-$85</td>
</tr>
<tr>
<td>Distributed Energy Resources (DER)</td>
<td>$1-$3</td>
</tr>
</tbody>
</table>
Financing Support for Electric Co-op Retail Internet

- **None**: 25%
- **RUS Loan**: 20%
- **State Grant**: 15%
- **ARRA Stimulus**: 10%
- **FCC Schools & Libraries**: 5%
- **State Loan**: 0%
- **Other**: 0%
• Build it & they will come isn’t necessarily right approach
• Technology is the easy part
• Gain Understanding & Appreciation for market
• Research will take you places
• Develop & Communicate right message
• Ensure staff are trained & prepared
• Community events & social media is where the action happens
• Execute, Execute, Execute
Strategic Questions I Ask My Members

• What will it take to exceed consumer-member expectations in a digital world?

• How can the need for improvements to the communication infrastructure also contribute to meeting the needs of the members and communities?

• What role is appropriate for co-ops to take on while they maintain their focus on delivering electric service?
Thank you!

Call Me Anytime with Questions

MY MOBILE NUMBER

Paul Breakman, NRECA

(202) 306-2758
Laying the Foundation: Broadband, 5G Deployment, and Ensuring Rural Equity

Jannine Miller, Senior Advisor for Rural Infrastructure, U.S. Department of Agriculture
Lunch and Presentation: Security-by-Design

Beau Woods, Cyber Safety Innovation Fellow at Atlantic Council & Co-Founder, I Am The Cavalry
Cyber Safety
Security By Design in Smart Cities

Beau Woods
@beauwoods

I Am The Cavalry
Atlantic Council

NGA
History of Auto Safety

610,000 Lives Saved
30,000 per year lost

IT Security Failures have become Mission Failures
Holding a Mirai to Our Neglect
Individual Human Lives
Technology Supply Chain
Public Health Readiness
Global Shipping & Logistics
Dependence
Vulnerability
Range | Component
--- | ---

- cm | Nearfield
- meter | Serial
- km | Wi-Fi
- Global | Bluetooth
-  | 3G/4G/5G/LTE
-  | Internet

Exposure
Examining the Adversaries
Willingness

Nation State
- IR
- RU
- US
- UK
- FR
- IL
- NK
- SK
- CN
- AU

Professional
- Exploit Dev
- Coders
- Criminals
- DDoS
- Blackhat SEO
- Operators
- Social Bots
- Hosting
- Ransomware
- Botnets

Ideological
- Hacktivists
- Terrorists

Capabilities

Willingness
IT Security Cost/Benefit
August 2, 2018

Apple became the world’s 1st $1 Trillion company
August 17, 2018

Sixteen year old pled guilty to hacking Apple
Forecasted Global Cybersecurity Spending, 2017-2021: $1 Trillion
ONE HUNDRED PERCENT of companies will be hacked over the same time period.
Defensible Infrastructure
Operational Excellence
Situational Awareness
Countermeasures

- Endpoint Security
- Active Defense
- Intrusion Prevention
- Anti-Everything
  - ...
- Coordinated Vulnerability Disclosure
- DevSecOps
- Visible Ops
- Vulnerability Management
- Change Management
- Egress Filtering
- Network Admission Control
  - ...
- Penetration Testing
- Threat Intelligence
- Security Monitoring
- Threat Hunting
  - ...
- Countermeasures
- Secure by Design
- Secure Baseline Configurations
- Secure Deployment Guidance
- Operating System and Software Support Lifetimes
- Software Updateable
- Software Ingredients or Components List
- Evidence Capture and Logging
  - ...
- Visible Ops
Automotive 5-Star Cyber Safety Framework
All systems fail. What is your ready posture toward failure?
★ **Safety by Design** – Anticipate and avoid failure
★ **3rd Party Collaboration** – Engage willing allies to avoid failure
★ **Evidence Capture** – Observe and learn from failure
★ **Security Updates** – Correct failure conditions once known
★ **Segmentation & Isolation** – Prevent cascading failure

Connections and Ongoing Collaborations

- Security Researchers
- Automotive Engineers
- Policy Makers
- Insurance Analysts
- Accident Investigators
- Standards Organizations
- Government Agencies

https://iamthecavalry.org/5star/
Great Fire
October 8-10, 1871
Built In vs Bolt On
Traceability & Transparency

1. Start Here
2. Check Calories
3. Limit these Nutrients
4. Get Enough of these Nutrients
5. Footnote
6. Quick Guide to % DV
   - 5% or less is Low
   - 20% or more is High

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>Calories</th>
<th>Calories from Fat 110</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup (226g)</td>
<td>250</td>
<td>110</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>10%</td>
</tr>
<tr>
<td>Total Fat</td>
<td>18%</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>15%</td>
</tr>
<tr>
<td>Trans Fat</td>
<td>15%</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>10%</td>
</tr>
<tr>
<td>Sodium</td>
<td>20%</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>10%</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>0%</td>
</tr>
<tr>
<td>Sugars</td>
<td>0%</td>
</tr>
<tr>
<td>Protein</td>
<td>4%</td>
</tr>
</tbody>
</table>

| Vitamin A          | 4%            |
| Vitamin C          | 2%            |
| Calcium            | 10%           |
| Iron               | 4%            |

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

<table>
<thead>
<tr>
<th>Calories</th>
<th>Fat</th>
<th>Saturated Fat</th>
<th>Trans Fat</th>
<th>Cholesterol</th>
<th>Sodium</th>
<th>Total Carbohydrate</th>
<th>Dietary Fiber</th>
<th>Sugars</th>
<th>Protein</th>
</tr>
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<tbody>
<tr>
<td>2,000</td>
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<tr>
<td>Less than 65g</td>
<td>65g</td>
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<tr>
<td>Less than 20g</td>
<td>20g</td>
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<td>Less than 300mg</td>
<td>300mg</td>
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<tr>
<td>Less than 2,400mg</td>
<td>2,400mg</td>
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</tr>
</tbody>
</table>

Touchscreen / Ion-X Glass
Display Module
Force Touch Sensor
Taptic Engine Module
Interconnect PCB A
Interconnect PCB B
Optical Pulse Sensor PCB
Wireless Charging Coil
Bluetooth / WLAN Antenna
Digital Crown / Home Button
Side Button
Loudspeaker
Battery
Button PCB
Aluminum Housing
Watch Strap
Side Button
Digital Crown / Home Button
Wireless Charging Coil
Bluetooth / WLAN Antenna
Collaboration with Security Researchers
I Am The Cavalry
Five Motivations of Security Researchers
https://iamthecavalry.org/motivations

- Protect
- Puzzle
- Pride/Prestige
- Profit/Payment
- Protest/Patriot
<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total valid reports resolved</td>
<td>2,837</td>
</tr>
<tr>
<td>Participating hackers</td>
<td>645+</td>
</tr>
<tr>
<td>High or critical severity vulnerabilities</td>
<td>100+</td>
</tr>
</tbody>
</table>

Hackers from **50** countries including: India, Great Britain, Pakistan, Philippines, Egypt, Russia, France, Australia and Canada.
Software Security Updatability

Increasing Agility & Decreasing Cost

Hardware Replacement  Connected Updates  Remote Updates  Automatic Updates
Cyber Safety by Design in Smart Cities
Resources
5-Star Framework
Addressing Automotive Cyber Systems

5-Star Capabilities
All systems fail. What is your ready posture toward failure?
★ Safety by Design – Anticipate and avoid failure
★ 3rd Party Collaboration – Engage willing allies to avoid failure
★ Evidence Capture – Observe and learn from failure
★ Security Updates – Correct failure conditions once known
★ Segmentation & Isolation – Prevent cascading failure

Hippocratic Oath
For Connected Medical Devices

Cyber Safety Capabilities What is your ready posture toward failure?
❖ Cyber Safety by Design – Anticipate and avoid failure
❖ Third-Party Collaboration – Engage willing allies to avoid failure
❖ Evidence Capture – Observe and learn from failure
❖ Resilience and Containment – Prevent cascading failure
❖ Cyber Safety Updates – Correct failure conditions once known
Anything sold to the US Government must:

A. Provide a software component list
   Software Bill of Materials or Food Label
B. Disclose known vulnerabilities
C. Be software updateable
Anything sold to the US Government must:

A. Disclose known vulnerabilities
B. Be software updateable
C. Avoid hard-coded credentials
D. Have a coordinated disclosure policy
Code of Practice for IoT Security

1. No default password
2. Coordinated Vulnerability Disclosure Policy
3. Keep devices updated
Coordinated Vulnerability Disclosure

- US Department of Commerce, NTIA Template

- ISO/IEC 29147 Standard for Vulnerability Disclosure
  https://www.iso.org/standard/45170.html

- ISO/IEC 30111 Standard for Vulnerability Handling Processes
  https://www.iso.org/standard/53231.html

Total valid reports resolved: 2,837
Participating hackers: 645+
High or critical severity vulnerabilities: 100+
Countries included: India, Great Britain, Pakistan, Philippines, Egypt, Russia, France, Australia and Canada
<table>
<thead>
<tr>
<th>4. System information:</th>
<th>Provides more granular information as to how the system is setup and managed within the Mayo Clinic environment.</th>
<th>Provide vendor documentation (i.e. Bill of Materials) for the bulleted items. Template provided.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• List of 3rd Party Software</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• List of Accounts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• List of Network Ports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• List of firewall rules (if applicable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Documentation of Security Capabilities/Configurations for System Hardening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Scanning Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Vulnerability Assessment, including:</td>
<td>Provides an in-depth vulnerability assessment, outstanding vulnerabilities and appropriate remediation plans and timelines to resolve the issues. This provides Mayo Clinic with appropriate information on risks that may be introduced into the patient care environment and allows for collaborative mitigation strategies to be detailed.</td>
<td>Complete a vulnerability assessment as detailed in the Vendor Assessment Book (pdf). Once testing is completed, complete the VA Statement of Methodology and document findings and remediation plans in a report. Example VA Statement of Methodology (pdf) and Vulnerability Assessment Template report provided.</td>
</tr>
<tr>
<td>• Testing Results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Remediation Tracking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Mayo Clinic Information Security Schedule</td>
<td><strong>Provides advanced copy</strong> of Mayo Clinic’s Information Security Schedule that Supply Chain Management will negotiate as part of the purchase contract or vendor agreements.</td>
<td>1. Ensure appropriate vendor internal staff receives Mayo’s Information Security Schedule for review.  2. Perform review and prepare any proposed redline items.  3. Provide a vendor contact to the Mayo proponent for the redlined ISS negotiation.</td>
</tr>
</tbody>
</table>

https://www.mayoclinic.org/documents/medical-device-vendor-instructions/doc-20389647
Software Component Transparency (Software Bill of Materials)
https://www.ntia.doc.gov/SoftwareTransparency

Coordinated Security Vulnerability Disclosure

Device Upgradeability and Patching
https://www.ntia.doc.gov/IoTSecurity

President’s Commission Report on Enhancing National Cybersecurity
https://www.nist.gov/cybercommission
Silo Busting: Statewide Data Governance and Data Sharing

Kay Meyer, Principal Industry Consultant, State and Local Government, SAS
Tyler Kleykamp, Chief Data Officer, State of Connecticut
Krishna Iyer, Chief Data Officer, Illinois Department of Innovation and Technology
Jon Gottsengen, Chief Data Officer, Colorado Governors Office of Information Technology
Silo Busting: Statewide Data Governance and Data Sharing
IN THE RIGHT PLACE
Moves efficiently between multiple systems

AT THE RIGHT TIME
Immediate reactions, streaming sensor data, overnight batch processes

IN THE RIGHT FORMAT
Validated, standardized or enriched; data is made usable

FOR ALL USERS
Usage governed; business semantics applied
BUSINESS PROBLEM

Finding, downloading, manually manipulating and aggregating data needed to solve the problem

BUSINESS DECISION

Solving the problem

BUSINESS PROBLEM

Spend more time on effective analysis of the data to arrive at better outcomes

BUSINESS DECISION

20% 80%

80% 20%
Government Analytics Center of Excellence

Data Governance
- Identity Mgt.
- Data/System Monitoring
- Business Intelligence
- Policy and Procedure
- Data Standards
- Data Mgmt. and Admin
- Security

Fraud and Compliance Analysis and Alerts
- Unemployment
- Workers Comp
- Social Services
- Medicaid
- CRM
- Revenue Collections

Health and Social Services
- Health Care
- Medicaid
- Social Services
- Unemployment
- Insurance

Criminal Justice
- Criminal Offender
- Workers Comp
- Medicaid
- Revenue

Education
- Revenue
- EVAAS
- Longitudinal Data Analysis

Other Solutions
- Retirement Plan
- Budget Accounting

INFORMATION DELIVERY PORTAL
Challenges and Opportunities

Data Governance and Data Sharing
Silo Busting: Statewide Data Governance and Data Sharing

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State Team Time

Main Meeting Room/Salon 2 - 4: North Dakota & Virginia
Skyline room (11th floor) – New Jersey
Screening room (main floor/off of the Library bar): Colorado & Nevada
Day 2: Smarter States, Smarter Communities Learning Lab

October 18, 2019

#SmarterStatesNGA
#WeTheStates
Welcome – UI Labs

Jamie Ponce, Director of Strategic Partnerships, City Tech Collaborative, UI Labs
Smarter Transportation

Shailen Bhatt, President & CEO, ITS America
ITS AMERICA’S VISION

A better world transformed by intelligent mobility.

Safer. Greener. Smarter.
CONVENING KEY PLAYERS

Our members include city and state DoTs, MPOs, private companies, research organizations, and academic institutions.
Singapore: Smart Nation
INRIX
AV Road Rules
Laying the foundation for safe HAV operation

The future is here. HOP ON AAA.
Smart Infrastructure
V2X
Cybersecurity
AVs
Smart Infrastructure
ITS America Task Forces
Data and the Digital Highway
November 5 | San Francisco

Rob Bauer, AIG
Tilly Chang, SFCTA
Steve Heminger, MTC
Michelle Maggiore, Cisco
Chris Murphy, GM
MOVING
PEOPLE, DATA
& FREIGHT
CONGRESSIONAL ACTION REQUIRED

National framework + continued state and local operational authority = prevent future tragedies, save more lives
WORLD CONGRESS 2020: LOS ANGELES

Focusing on seamless mobility in an increasingly complex world, ITS WORLD CONGRESS 2020 is the preeminent forum for professionals to discuss and build systems addressing global transportation challenges.
My reason for doing this. What is yours?

THANK YOU!
Emergency Management

Craig Fugate, Chief Emergency Management Officer, One Concern
The Smarter Grid

Bob Borzillo, Vice President of Smart Cities, Itron
IDENTIFYING STATE STRATEGIES TO ENABLE SMART TECHNOLOGY DEPLOYMENT

BOB BORZILLO | VICE PRESIDENT SMART CITIES BUSINESS DEVELOPMENT | ITRON
THE UTILITY DILEMMA

AGING INFRASTRUCTURE

- GAS PIPELINE (Age by decade):
  - Pre-1940s: 11%
  - 1940s: 24%
  - 1950s: 23%
  - 1960s: 8%
  - 1970s: 11%
  - 1980s: 10%
  - 1990s: 9%
  - 2000s: 4%

ELECTRICITY DISTRIBUTION SYSTEM

- $24 BILLION ANNUALLY of electricity T&D a year lost in the US*

WATER DISTRIBUTION SYSTEM

- 2 TRILLION GALLONS of water a year lost in US annually*

WORKFORCE GAPS

- 50% OF THE NATION'S utility workforce will retire in the next five to 10 years*

Sources: *US Dept. of Energy, AWWA, US Dept. of Labor
THE ENERGY LANDSCAPE IS EVOLVING

- INTERNET OF THINGS
- INTEGRATING DISTRIBUTED ENERGY RESOURCES
- WATER EFFICIENCY
- GAS SAFETY
- GREATER CUSTOMER EXPECTATIONS
- EVOLVING UTILITY AND CITY REVENUE MODELS
...AND THE VISION FOR CONNECTED ENERGY & COMMUNITIES IS GETTING BROADER
IloT Applications Are Making an Impact Today

- Pole Sensor
- Methane Detection
- Traffic Monitoring
- Water Leak Detection
- Acoustic Gunshot Detection
- Dynamic Lighting
HURRICANES HARVEY & IRMA
"The fastest restoration of the largest amount of people by any one utility in U.S. history."

– Eric Silagy, President and CEO, Florida Power & Light

CUSTOMER OUTAGES RESTORED IN 48 HOURS

2.7M CUSTOMER OUTAGES RESTORED IN 10 DAYS

4.4M
How Can We Work Together Today?

- NEW REVENUE & FUNDING MODELS
- SHARED NETWORKS BUSINESS MODELS
- REGULATORY OVERSIGHT
- PREPARING TODAY FOR TOMORROW
WE’RE STANDING ON THE EDGE OF WHAT’S POSSIBLE
Smarter Public Safety

John Hollywood, Senior Operations Researcher, RAND Corporation
This presentation and supporting research were funded by cooperative agreements and grants with the Office of Science and Technology of the National Institute of Justice and the Bureau of Justice Assistance. The views in this presentation are those of the authors and do not represent official findings of these agencies.
Emerging Findings on Technology and Governance to Improve Public Safety

• **What’s ahead**: issues that will result from the next iterations of information technologies

• **Staying ahead of the game**: from technology at the center to supporting users at the center
  – Providing displays of information *as needed*
  – With improved governance and processes
  – Ensuring data, security, privacy and civil rights protections

• **Making smart IT investments**: tips and lessons learned
Examples of Emerging Issues from NIJ’s *Future Internet Technologies* Workshop

- Self-driving and flying vehicles – how will we interface with them?

- Internet of Things / widespread cameras – how do we take advantage of the volumes of data? How do we ensure security, privacy and civil rights protections?

- Intelligent agents – which tasks could be automated? Which need tools to help humans?
  - E.g., scene and interview capture; report-writing assistance; prioritizing tasks and workloads
Some Technologies That Have Received a Great Deal of Recent Attention

<table>
<thead>
<tr>
<th>Video Analytics (Ref. NISTIR 8164)</th>
<th>Sensor Fusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Capabilities to interpret physical features and activities in video streams</td>
<td>• Capabilities to analyze multiple sensor streams to help make inferences beyond what one can do with a single stream</td>
</tr>
<tr>
<td>Analyses Matching Features with Identities</td>
<td>• Focus on “video plus other sensors”</td>
</tr>
<tr>
<td>• Facial recognition</td>
<td>– E.g., “move camera to where a shot was detected”</td>
</tr>
<tr>
<td>• License plate recognition</td>
<td></td>
</tr>
</tbody>
</table>
Four Key Business Cases for Video Analytics & Sensor Fusion

Real-time monitoring
- Crimes & suspicious activity
- Hazards

Video forensics
- Data management to support investigations

Automatic reporting
- Help describe an event
- Help capture interviews

Performance monitoring
- For individuals
- For agency performance
What a Video & Sensor Fusion Network Might Look Like

Real-Time Monitoring

- Monitoring for alerts
- Review alerts / get additional information
- Act on alerts & supporting info

Post-Event Investigation & Reporting

- Auto-indexing
- Case / event search
- Speech to text
- Preparation for de-anonymization
- De-anonymization
- Anonymization/redaction
- Reports generation
- Metrics generation

Video & sensor feeds

Initial search & data porting

Temporary storage

Permanent storage

Security, forensics integrity, privacy & civil rights protections

External integration (RMS, CAD, etc.)

Distribute to public

Distribute to courts

Distribute internally

Monitoring has higher precedence: “We want to make it stop, not assess it afterwards”
A Technology on the Way to SA Policing: Predictive Policing

Input data
May include:
- Crimes
- Disorder calls
- Suspicious activity
- Field interviews
- Time and date
- Weather
- Geography
- Gang intelligence
- Criminal histories
- Etc.

Statistical model (many types) → Estimates of future crime & criminal risk (predictions) → Interventions & assessment
Predicting Robberies: Hot Spots or PP?
Predicting Robberies: Hot Spots or PP?
The Future Will Not Look Like Minority Report

• Unless the maps can start telling us where and when to go to pick up the criminals, we are just getting hot spots, and we’ve done hot spot policing for years.
  – Paraphrase of a comment from the Shreveport Predictive Policing Experiment
  – This would require several thousand-times increases in predictive accuracy

• Instead, need to ask “how do we identify and resolve problems driving crime risk?”
Using Data as a *Business Process*

Diagram showing the steps of the data process:

1. **Data Collection**
2. **Analysis**
3. **Tailored Displays**
4. **Police Operations**
5. **Criminal Response**
6. **Intervention**
7. **Assessment**
8. **Altered Environment**

The process is cyclical, with data flowing through each step and back to the start.
Using Data as a Business Process (2)

- Increase resources in areas at greater risk
- Conduct crime-specific interventions
- Address specific issues driving crime risk

Communicate with public about uses of data, along with privacy & civil rights protections

Situational Awareness

Generic

Problem-specific

Crime-specific

Data collection

Analysis

Police Operations

Criminal Response

Assessment

Intervention

Altered Environment

Data

Tailored Display

Communicate with public about uses of data, along with privacy & civil rights protections
Also Generically Referred To As “Dashboards” in the Information Systems Business

Source: "3 Dashboards" by Kate07lyn - Jinfonet Software. Licensed under Creative Commons Attribution-Share Alike 3.0 via Wikimedia Commons - http://commons.wikimedia.org/wiki/File:3_Dashboards.JPG#mediaviewer/File:3_Dashboards.JPG
From Dashboards to Real-Time Operations and Decision Support Centers

“... nerve centers that include predictive crime software..., additional cameras, gunshot detection systems, and mobile phones to officers in the field who receive real-time notifications and intelligence data at their fingertips”

https://www.youtube.com/watch?v=54-z8_s9Nbc
SDSC Technologies

Genetec
Citigraf
situational awareness maps and surveillance camera displays

ShotSpotter Displays

HunchLab Predictions

Source: SecurityInfoWatch.com

Also: access to datasets (CLEAR), including a network analysis tool and an app on events, persons, and warrants of interest
SDSCs Have Helped Enable Much More Rapid Decision Cycles...

COMPSTAT
Data on delays of a month or greater
Planning on a monthly or greater basis

Weekly
Meetings on topics like shootings
Assigns resources over next week

Daily
Meeting on events within the past day
Assigns resources over next day

Real Time
Monitoring of radio, cameras, & dashboard,
Assigns resources right now
...Including Near Real-Time Monitoring, Response, and Other Ongoing Activities

<table>
<thead>
<tr>
<th>24x7 monitoring</th>
<th>Immediate response</th>
<th>Ongoing analyses &amp; information sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Calls for service and radio traffic</td>
<td>• Directing units</td>
<td>• Preparing slides for briefings</td>
</tr>
<tr>
<td>• Live map of calls, units, and other data</td>
<td>• Assisting units</td>
<td>• Crime analyses &amp; investigations</td>
</tr>
<tr>
<td>• 4 surveillance camera feeds</td>
<td>• “Virtual chases” – tracking suspects across cameras</td>
<td>• Ad-hoc meetings – “get info out of notebooks”</td>
</tr>
<tr>
<td>• ShotSpotter</td>
<td>• Analytic support</td>
<td></td>
</tr>
</tbody>
</table>

## Examples of Issues & Responses at Daily Meetings

<table>
<thead>
<tr>
<th>Issue</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cars stolen after being left with ignition on to warm up</td>
<td>Distribute flyers to residents warning them about the risk</td>
</tr>
<tr>
<td>Shot Spotter hits (no victims found)</td>
<td>Send warning letters to owners</td>
</tr>
<tr>
<td>Patterns of crimes (recent spikes or computer predictions)</td>
<td>Concentrate resources in hot spots and times of the pattern</td>
</tr>
<tr>
<td>Open-air drug dealing at gas stations</td>
<td>Send resources to gas stations</td>
</tr>
<tr>
<td>Crimes on commercial properties</td>
<td>Send warning letters to owners and set up meetings</td>
</tr>
<tr>
<td>Shooting, with a risk of retaliation</td>
<td>Meet with those at risk</td>
</tr>
</tbody>
</table>
Top Policing Strategies to Enable, Based on Evidence

From the *Better Policing Toolkit*, an upcoming site providing tips and articles on strategies

- Reduce crime in places: Problem-Oriented Policing
- Reduce individuals’ risk: Focused Deterrence
- Improve community relations: Legitimacy Policing
- Solve serious crimes: BJA’s *Homicide Process Mapping* guidebook
- Not recommended: Zero tolerance / aggressive policing
The Future of Data Will Include Civil Rights and Privacy Disputes

- “We regard as inevitable, particularly with the technology’s widespread adoption and attendant increased publicity, Fourth Amendment–based lawsuits challenging its use.”
  - From License Plate Readers for Law Enforcement
  - But widely applicable... and focusing on uses can help
Bottom Line on Privacy Policies

**Don’ts**
- Allow just about anyone to access the data
- Keep as much data as possible forever
- Allow just about any data use
- Not sure about what will be done with data, other than catch bad guys – maybe
- Don’t talk to anyone about what you’re doing

**Do’s**
- Access policies / authentication measures
- Restrictions on collection and retention
- Auditing of collection and use
- Defined use cases, e.g.—
  - Search for social media threats at major public events
- Talk with community and experts about what you’re doing in advance
Bottom Line on Privacy Policies

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- Don’t talk to anyone about what you’re doing

Need a user / activity focus – in other words, a focus on what you will do with the data – to do these properly

Do’s

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- Auditing of collection and use
- Defined use cases, e.g. –
  - Search for social media threats at major public events
- Talk with community and experts about what you’re doing in advance
What We Would Like to See With IT Investments

Department Investments → Department Activities → Outputs → Outcomes

Should be a clear storyline (logic model) linking investments to activities, to outputs, to improvements in outcomes (i.e., performance metrics)
What We Would Like to See With IT Investments

Department Investments
- Personnel
- Training/Ed.
- IT
- Planning
- Facilities
- Equipment

Department Activities
- Proactive
- Reactive
- Support

Outputs
- Proactive activities
- Cases cleared
- Community collaborations
- Capabilities developed
- Data shared & used

Outcomes
- Less crime & fear of crime
- Offenders held accountable
- Improved legitimacy
- Greater capabilities
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*IT in support of:* to improve quality of life by protecting life and property; detecting, solving, and reducing crime; reducing fear of crime; and enhancing security and safety in cooperation with citizens and the community

*Created from analyzing ten agencies’ mission statements*
Questions? (johnsh@rand.org)

Search: RR-233

Search: RR-2301

Report on video analytics & sensor fusion forthcoming

Search: RR-467

License Plate Readers for Law Enforcement
Opportunities and Obstacles

Keth Granin, Shena Williams, Tim LaGuerre, James M. Anderson, Lauren A. Mayer, Johanna Zvirad

Search: RR-569

Police Department Investments in Information Technology Systems
Challenges Assessing their Payoff

Brian A. Jackson, Victoria A. Greenfield, Andrew R. Marshall, and John S. Hollywood

Search: RR-645

Improving Information-Sharing Across Law Enforcement: Why Can’t We Know?

John S. Hollywood, Zev Winkelmann

Search: RR-928

Using Future Internet Technologies to Strengthen Criminal Justice


Search: RR-928
Lunch & Plenary Presentation on Innovative Technology Procurements

Robin Carnahan, Director, State and Local Practice, 18F, U.S. General Services Administration

Waldo Jaquith, Technology Advisor, 18F, U.S. General Services Administration
Campfire Discussions: identifying State Strategies to Enable Smart Technology Deployment

Smarter Transportation
Smarter Emergency Management & Public Safety
A Smarter Grid
State Strategies Report
Out

Moderator: Sue Gander, NGA Center
State Team Time

Main Meeting Room/Salon 2 - 4: North Dakota & Virginia
Skyline room (11th floor) – New Jersey
Screening room (main floor/off of the Library bar): Colorado & Nevada
Day 3: Smarter States, Smarter Communities Learning Lab

October 19, 2018

#SmarterStatesNGA #WeTheStates
Dig Deeper: Jurisdictional Partnerships in Illinois

Robin Woodsome, Manager for Field Operations, Regional Technology Center, IL Department of Innovation & Technology
Roger Fahnestock, Executive Director, Information Technology Department, Kane County Government
Michael Pegues, Chief Information Officer, Information Technology Division, City of Aurora
Strategic Public & Legislative Engagement

Moderator: Mallory Huggins, Senior Policy Director, The Keystone Policy Center
Tyler Clark, Chief of Staff, IL Department of Innovation & Technology
Robby Demeria, Deputy Secretary of Commerce & Trade for Technology, Commonwealth of Virginia
Lunch & State Team Time

Main Meeting Room/Salon 2 - 4: North Dakota & Virginia
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Report Out & Sharing
Next Steps