Datacasting for Public Safety
Access to Enhanced Technology via Public Television

**Thursday, January 17, 2019
2:00 – 3:30 PM Eastern Time Zone**

Conference Line: (510) 227-1018 | Conference ID: 446 1830

Screen Share: https://join.me/NPSTCsupport1

Submit Questions Online to: support@npstc.org

The member organizations of the National Public Safety Telecommunications Council are grateful to the Department of Homeland Security's Science and Technology Directorate, Office for Interoperability and Compatibility (OIC) and the National Protection and Programs Directorate, Office of Emergency Communications (OEC) Points of view or opinions expressed are those of the originators and do not necessarily represent the official position or policies of the U.S. Department of Homeland Security.

Welcome and Opening

NPSTC

- Barry Luke, Moderator

  – Welcome to this Town Hall presentation on public television's role in improving access to incident and response data

  – Please mute your phone line. If your phone system has the "music on hold" feature, please do not place us on hold.

  – NPSTC staff may mute your phone line, if necessary

  – Please do not use the Join.Me screen share chat bubble to send messages. Use our email instead.

  – We will manage questions via email and will hold them to the end of the presentation.

  – Please submit questions and comments via email to support@npstc.org

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Introduction of Panel Members

Patrick Butler
President and CEO
America's Public Television Stations
pbutler@apts.org

W. Craig Fugate
Former FEMA Administrator
APTS Board Trustee
Craig@CraigFugate.com

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Introduction of Panel Members

Mark O'Brien
President and Chief Technology Officer
SpectraRep
mobrien@SpectraRep.com

John Contestabile
Program Manager
Johns Hopkins Applied Physics Laboratory
John.Contestabile@jhuapl.edu

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Introduction of Panel Members

Shane Rekeweg
Sheriff (retired)
Adams County, Indiana
srekeweg@co.adams.in.us

Jeff Cook
District Chief
Houston Fire Department
Jeffrey.Cook@houstontx.gov

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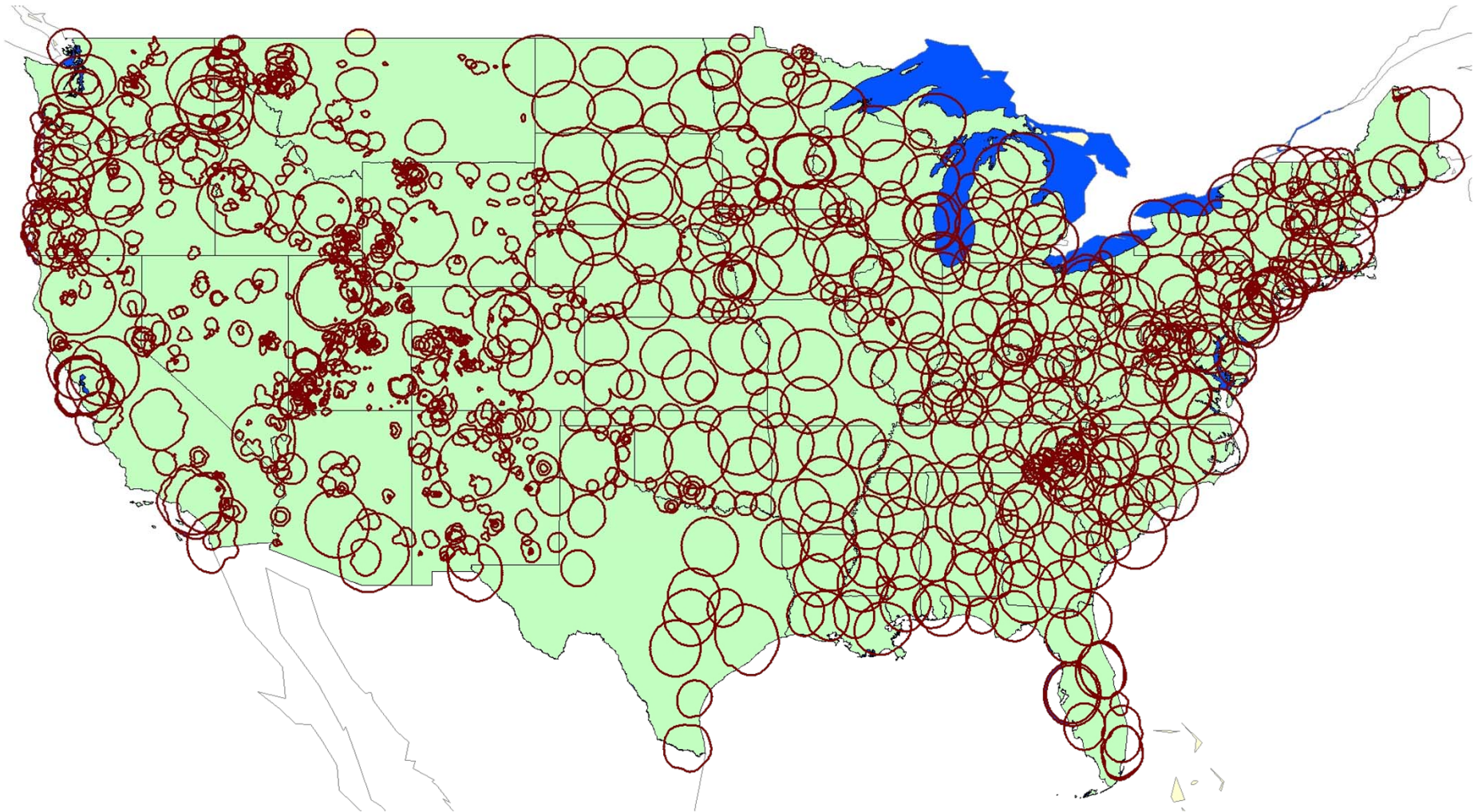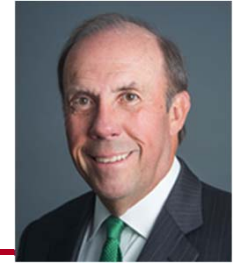
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Introduction of Panel Members

Lonna Thompson
Executive Vice President &
  Chief Operations Officer
America's Public Television Stations
lthompson@apts.org

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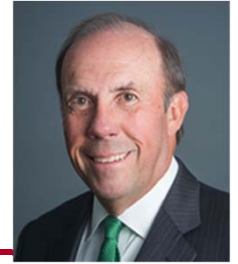# Meeting The Needs Of First Responders: Public Television Wants to Help

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Partnering with Public Television
Pat Butler
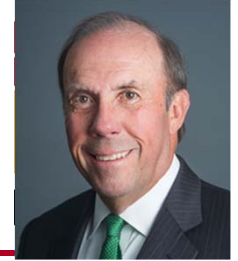
- Public Safety is faced with an increasing complex mission

- Public Television is fully committed to public safety
  - Public Safety is one of the three Pillars of Public Television
  - Datacasting enables us to partner with public safety
  - Possibilities are enormous, but not well known

- Strength of Public Television's Nationwide Wireless Network
  - Over 350 stations in all 50 states and 6 territories
  - Prime licensed spectrum
  - Fiber and other backhaul
  - Tall hardened towers
  - Resilient and redundant systems

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Partnering with Public Television
Pat Butler

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Partnering with Public Television
Pat Butler

- Datacasting Use Cases To Date
  - Fires
  - Floods
  - Earthquakes
  - Search and Rescue
  - School Safety

- Rapid Wide Area Public Alerting
  - Open alerts to the public

- Encrypted/Targetable Public Safety Information Sharing
  - Secure information to responders
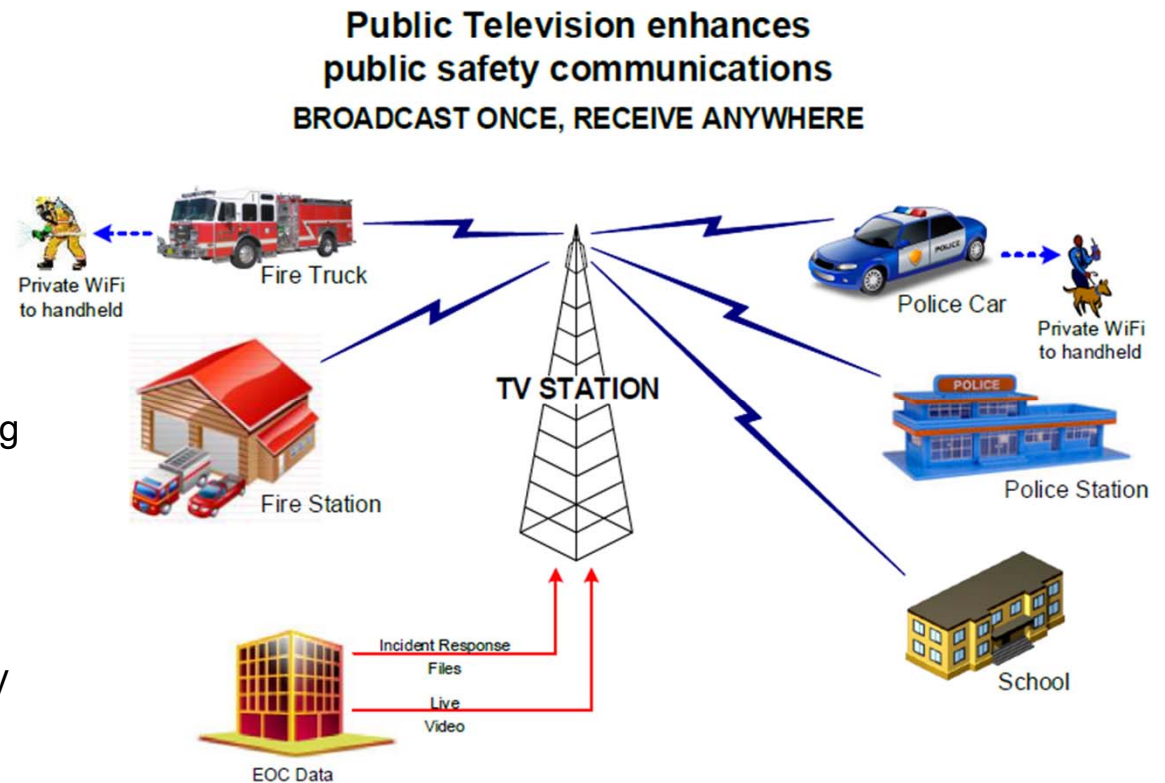 - Building blueprints, drone video, etc.

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FEMA Perspective
Craig Fugate

- Phases of a disaster event
  - Warning
  - Event
  - Cleanup

- Broadcast is the most efficient way to deliver alerts and warnings to large audiences

- Multi-modal – Cell, broadcast, Internet, etc. – is key to effective notifications

- Infrastructure must be resilient to withstand the event that triggered the alert

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Datacasting Technology
Mark O'Brien

- What is datacasting?
    - IP data over broadcast television
    - Encryption
    - Receiver targeting

- Leverages existing public television infrastructure

- One-to-Many instant delivery

- Targetable

- Live Video, files and other supporting data

- Unique capabilities
    - Native one-to-many

- Datacasting supports secure agency content
    - Encryption
    - Receiver targeting

Public Television enhances public safety communications
BROADCAST ONCE, RECEIVE ANYWHERE

Private WiFi to handheld — Fire Truck — TV STATION — Police Car — Private WiFi to handheld — Police Station — Fire Station — School — EOC Data — Incident Response Files — Live Video
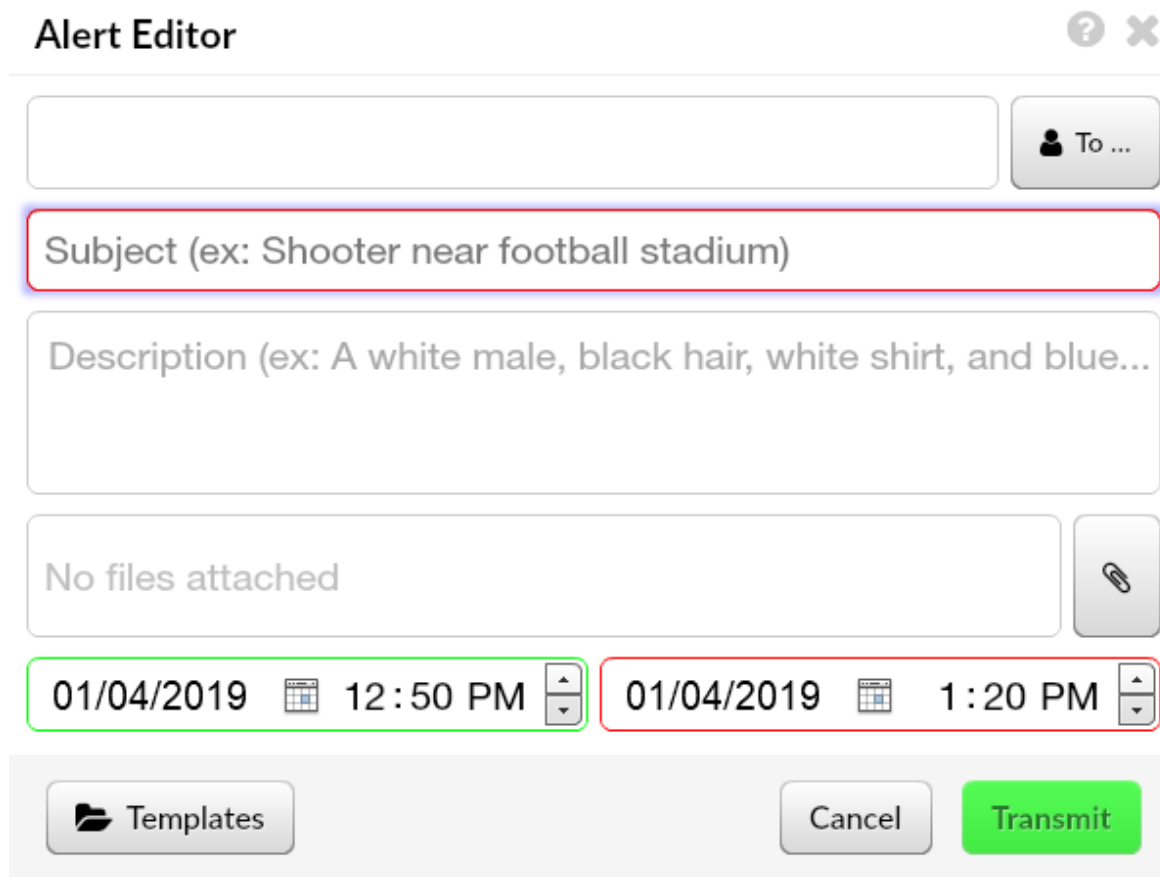
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Datacasting Technology - Video
Mark O'Brien

- Video sources display in a secure dashboard

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Datacasting Technology
Mark O'Brien

- Authorized users can target groups or individuals

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Datacasting Technology
Mark O'Brien

- Alerts with file attachments easily created and broadcast to unlimited users
  - Common Alerting Protocol (CAP) for interoperability with existing alerting devices

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Datacasting Technology - Receivers
Mark O'Brien

Today

Future

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Next Generation Broadcast TV Standard

Broadcast TV is undergoing a major technology transformation

- Mobile reception on phones and tablets
- Built-in hooks for LTE and Internet integration
  - Hybrid broadcast/broadband services
  - HTML 5
- More efficient spectrum usage
- Higher power, denser signals
- Deeper building penetration
- Single Frequency Networks
- Advanced public alerting
- Native IP transport

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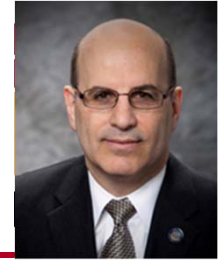
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Public Safety Use of Data
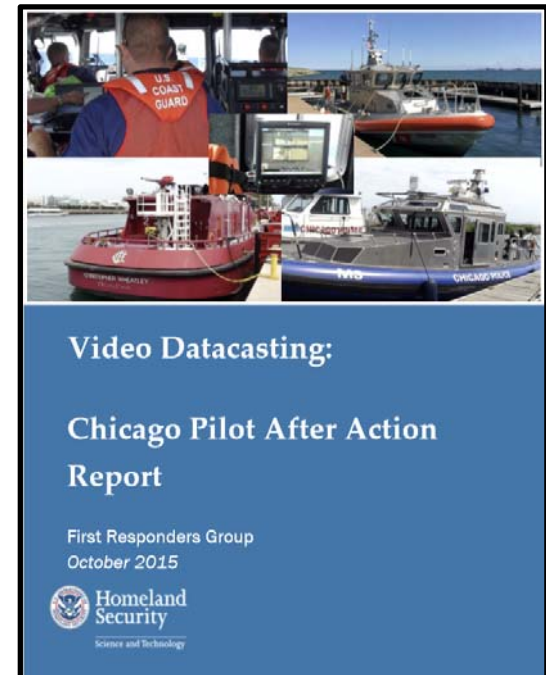## John Contestabile

- Demand for data is growing
  - Public safety communications is expanding beyond LMR voice
  - Video becoming prevalent
  - Existing wireless networks, including FirstNet, expanding to meet demand
  - Rural coverage and urban congestion remain a concern

- How Datacasting can Enhance FirstNet
  - Rural coverage
  - Congestion relief
  - New licensed spectrum
    - Optimized for data
  - One-to-many delivery

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Public Safety Use of Data
John Contestabile

- DHS S&T Demonstrations of Datacasting:
  - Boston
  - Chicago
  - Houston
  - Indiana

- Reports available on the DHS web site*

Video Datacasting:

Chicago Pilot After Action Report

First Responders Group
October 2015

Homeland Security
Science and Technology

https://www.dhs.gov/science-and-technology/frg-publications

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Datacasting Implementation by Public Safety Agencies

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Datacasting and School Safety
Sheriff Shane Rekeweg (retired)

- Adams County, Indiana

- School safety

  - Unique rural area issues

- Sharing Across Agencies

  - Improved Interoperability

    - Police

    - Fire

    - EMS

    - Hospital

    - Bomb Squad

- Lessons Learned

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Houston Fire Department
District Chief Jeff Cook

Another Tool in the Toolbox

- Stream video from Divisions to Command Post
- Stream video from incident scenes to EOC/Forward Command Post
- Stream video updates of real time conditions to EOC
- Stream video from scene to responding specialty units
    (HazMat, Technical Rescue)
- Send Safety Data Sheets to responders or incident command post
- Send maps, floorplans, and other files to incident command post
- Send alerts/emergency messages to field responders
    (active shooter on scene, shelter in place, etc)

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Houston Fire Department
District Chief Jeff Cook

Planned Events

- Super Bowl
- World Series
- Marathon
- Final Four
- Other Large Crowd Events

Unplanned Events

- Large Fire Incidents
- Hazmat Incidents
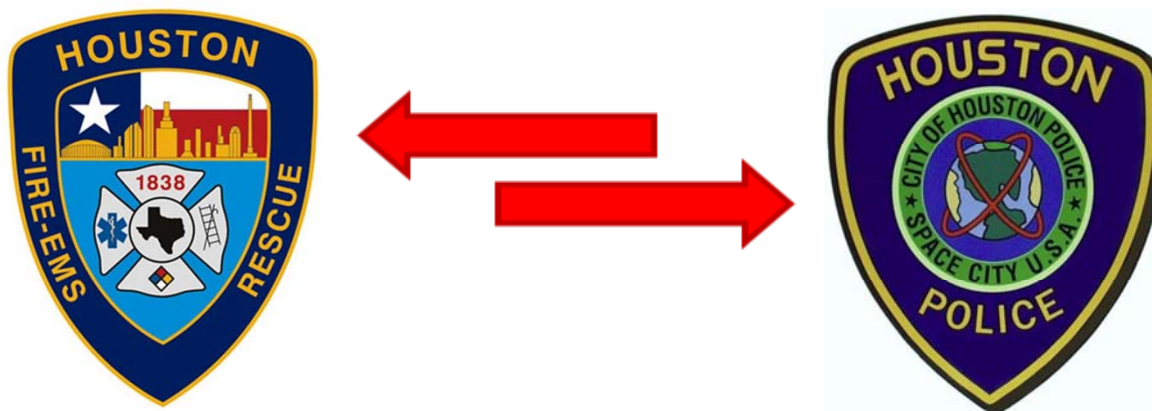- Technical Rescue
- Weather Events
- Other Emergencies

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Houston Fire Department
District Chief Jeff Cook

- Multi-Discipline, Multi-Jurisdiction Tool
- Larger Coverage Area Than Cellular/Radios
- Planned Large Scale/Complex Events
  - Super Bowl, World Series, Final 4, Marathon
- Unplanned Daily Events
  - Wildland, Structure, Hazmat, Rescue
- Allows for Sharing Multiple Tools
  - Cell Phone App, Portable Cameras, Web-based Data

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State of Tennessee's New Deployment
## Lonna Thompson

- New statewide datacasting network

  - 7 TV transmitters cover the entire state

- Public safety advisory committee set up to steer deployment and innovation

- The 2016 Great Smokey Mountain fires triggered Governor Haslam to look for solutions

  - Public television demonstrated how the stations can help

- Public alerting as well as first responder information

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Thank You for Your Time Today!
Lonna Thompson
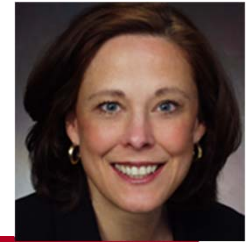
- Public Television is committed to supporting Public Safety

- Public Television's nationwide network is available to you

- Contact APTS to learn more about working with your local public television station and to set up a live demonstration

- Lonna Thompson
  - lthompson@apts.org
  - 202-654-4215

APTS® — America's Public Television Stations

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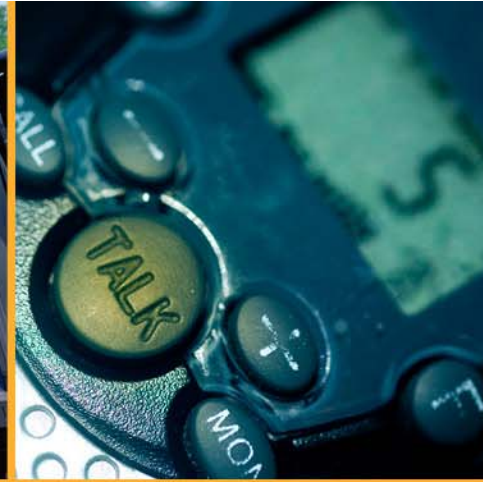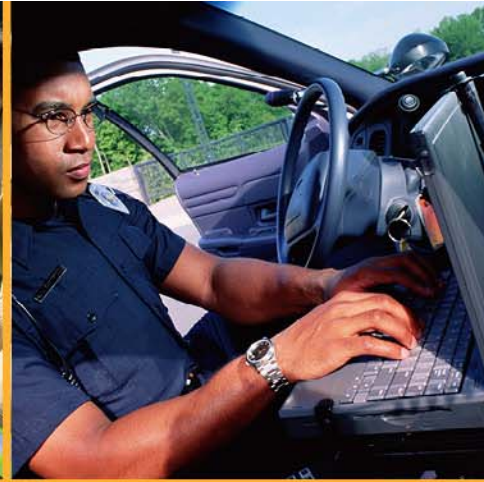
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Audience Submission of Questions

- Please send your questions to Support@npstc.org

- The moderator will present questions to a panel member and ask other panel members if they have additional comments.

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Moderator Q&A

- Why are public television stations willing to share their spectrum with public safety?

- Is Datacasting complimentary to systems like FirstNet on the AT&T network, or other cellular systems?

- How hard was this to set up the Datacasting solution in Houston?

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Thank You for Participating with our Town Hall Session Today