



## Planning for FirstNet in West Virginia



West Virginia Statewide Interoperability Executive Committee (SIEC)





- **Presentation Purpose**

- **To provide an overview for the planning of West Virginia's portion of the FirstNet Nationwide Network (FNN)**
- **FNN a dedicated public safety communications wireless broadband network**

# FirstNet Vision



## VISION:

**To provide emergency responders with the first nationwide, high-speed, wireless broadband network dedicated to public safety**

**“FirstNet will be a force multiplier, enabling collaboration to help save more lives, solve more crimes and keep communities safer.”**

Jeffrey D. Johnson, Chief (Ret.)  
Chief Executive Officer — Western Fire Chiefs Association  
FirstNet Board Member





# FirstNet will Offer West Virginia Public Safety Users:

## Communication



- **Video:** 1-to-many
- **Messaging**
- **Images**
- **Group Text**
- **Voice:** Non-Mission Critical

## Applications



- **Your applications** (Private, Selective sharing)
- **FirstNet Applications**
- **Syndicated Applications**

## Services



- **Data Storage**
- **Recordkeeping**
- **Search**
- **Databases** (CJIS, etc.)

## Capabilities



- **Network Center Status**
- **Activation**
- **Product Ordering**
- **Dynamic Priority Access**



## Use and Applications

# Public Safety Grade



FirstNet engineers are working with the public safety community to define “public safety grade” for the network

FirstNet Attribute	Defining Public Safety Grade
Coverage	“Where public safety needs it” (Geographic)
Reliability	“You can bet your life on it”
Resiliency	“Multiple back-up options”
Emergency Communications	“Your trusted resource”
Group Communications	“Essential to teamwork”



# Mission Critical vs. Mission Support



- **Mission Critical**

Communications that are required to maintain safety of first responders and the people with whom they interact

- **Mission Support**

Communications that provide improved operational efficiency, enhance safety, and augment command and control, but are not essential



*Initial FirstNet high bandwidth data applications such as streaming video will be for **mission support** use*



# High Bandwidth Data Communications are Key to Potential Public Safety Applications



## Potential Public Safety Broadband Applications

<ul style="list-style-type: none"> <li>• Video Surveillance, Remote Monitoring (streaming)</li> </ul>	<ul style="list-style-type: none"> <li>• Dynamic Mapping, Weather, Traffic</li> </ul>
<ul style="list-style-type: none"> <li>• Remote Database Access/Queries (mug shots, finger prints, reporting, NCIC, criminal history, hot files)</li> </ul>	<ul style="list-style-type: none"> <li>• Instant Messaging, SMS, One-way Notifications, Tactical Chat Rooms</li> </ul>
<ul style="list-style-type: none"> <li>• Multimedia Command and Control (floor plans, incident stills, surveillance)</li> </ul>	<ul style="list-style-type: none"> <li>• Real-time, One- and Two-Way Video in Vehicles or Handhelds</li> </ul>
<ul style="list-style-type: none"> <li>• Computer-aided Dispatch (CAD), Next Generation 9-1-1 (NG 9-1-1)</li> </ul>	<ul style="list-style-type: none"> <li>• Geo-Location and Asset Tracking (vehicle, personnel, assets)</li> </ul>
<ul style="list-style-type: none"> <li>• Records Management Systems Access (local queries)</li> </ul>	<ul style="list-style-type: none"> <li>• Mobile Office (bulk file transfer, email, Internet web access, VPN)</li> </ul>
<ul style="list-style-type: none"> <li>• Mobile Incident Command</li> </ul>	<ul style="list-style-type: none"> <li>• Geospatial Applications</li> </ul>
<ul style="list-style-type: none"> <li>• Medical Telemetry</li> </ul>	<ul style="list-style-type: none"> <li>• Automated License Plate Recognition</li> </ul>
<ul style="list-style-type: none"> <li>• Field Based Reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Digital Signage, Traffic Alerts, Automated Transactions</li> </ul>
<ul style="list-style-type: none"> <li>• Remote Control of Robotic Devices</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Standardized Push-To-Talk (PTT), Voice over IP (VoIP) - future</i></li> </ul>

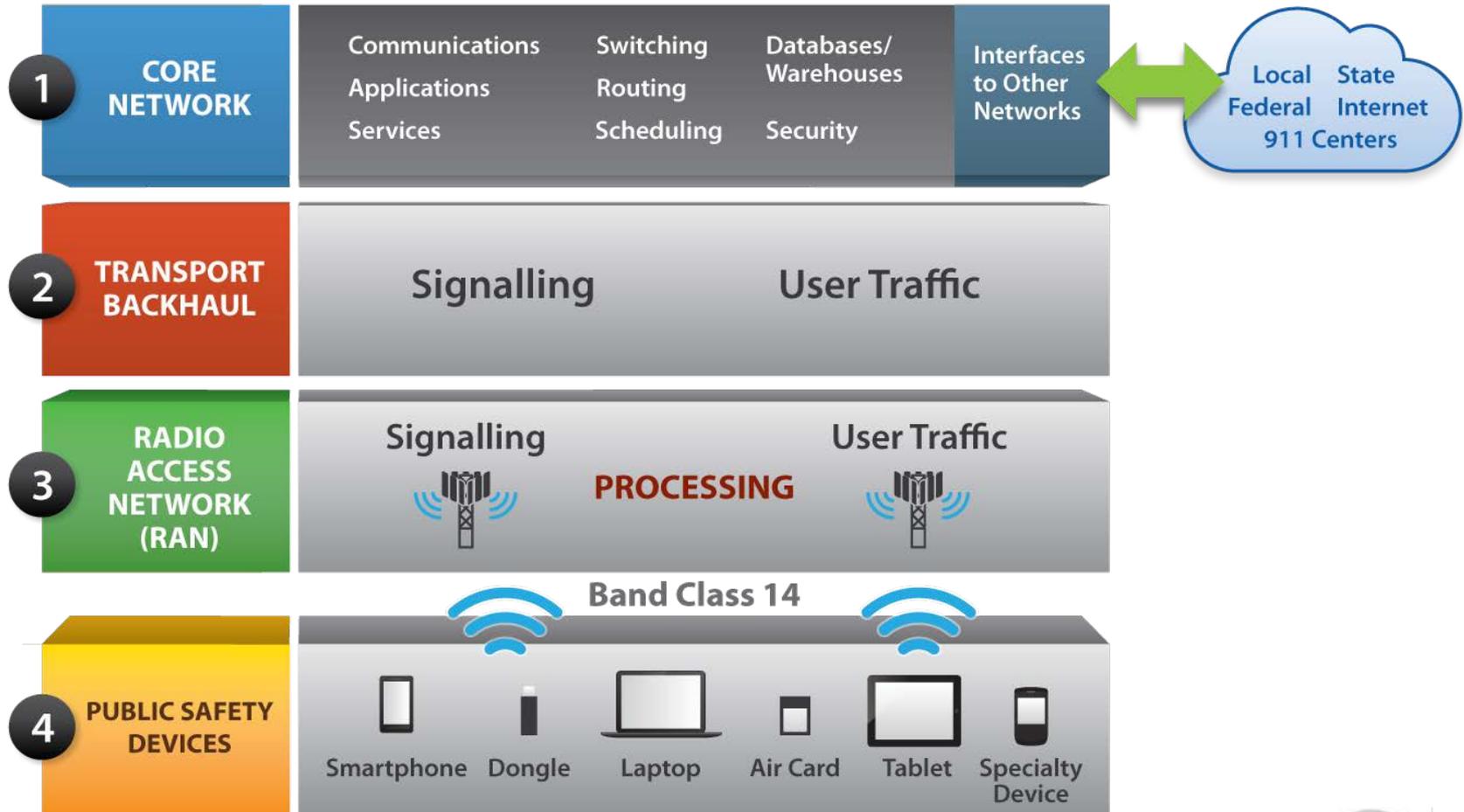
# Planning for FirstNet in West Virginia



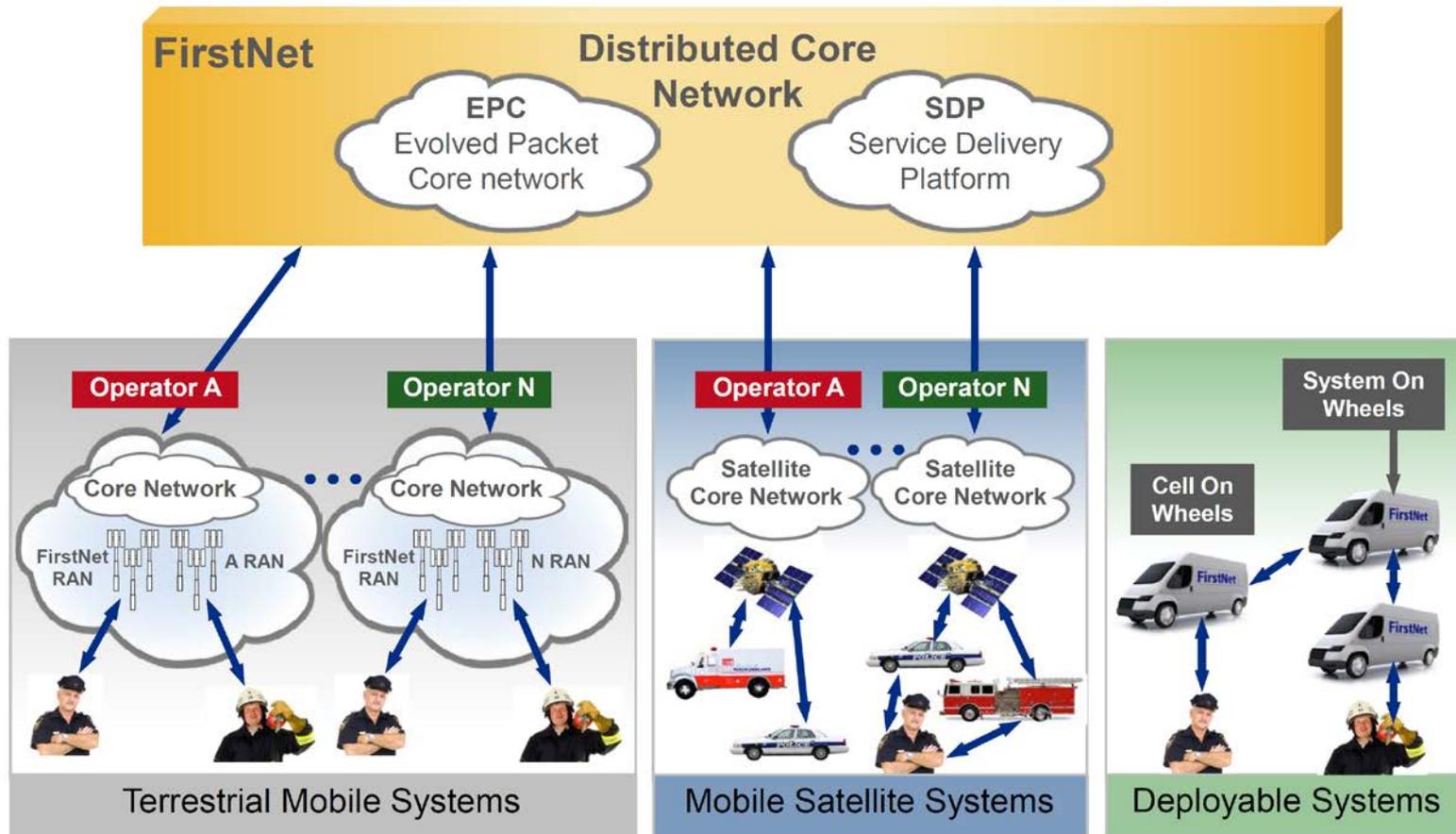
## FirstNet Nationwide Network



# FirstNet LTE Network Building Blocks



# FirstNet's "3-in-1" Approach to Coverage: Terrestrial + Satellite + Deployable



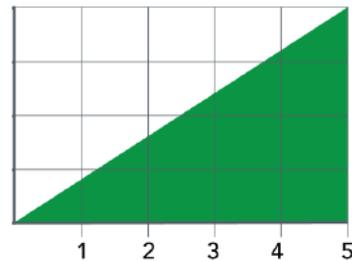
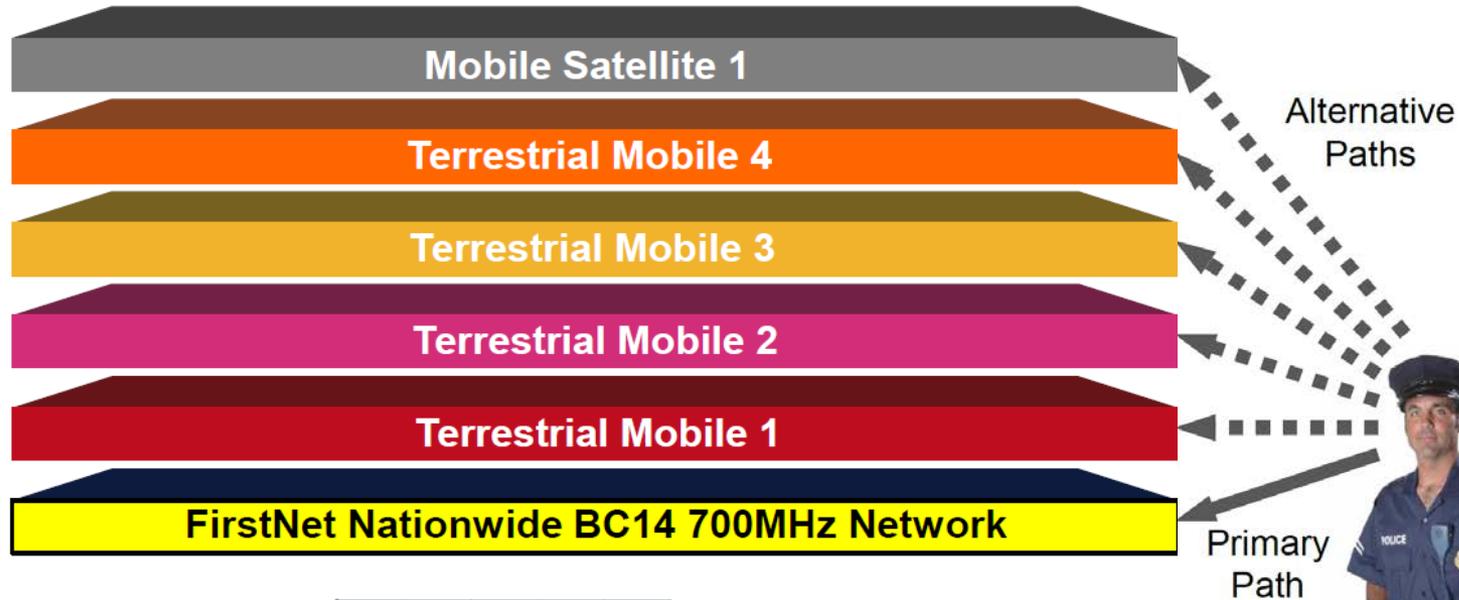
# FirstNet Devices



Suppliers are designing FirstNet Band Class 14 devices to meet public safety needs



# FirstNet Nationwide Network: Multiple Network Diversity Increases Reliability



Illustrating  
Increased  
Reliability

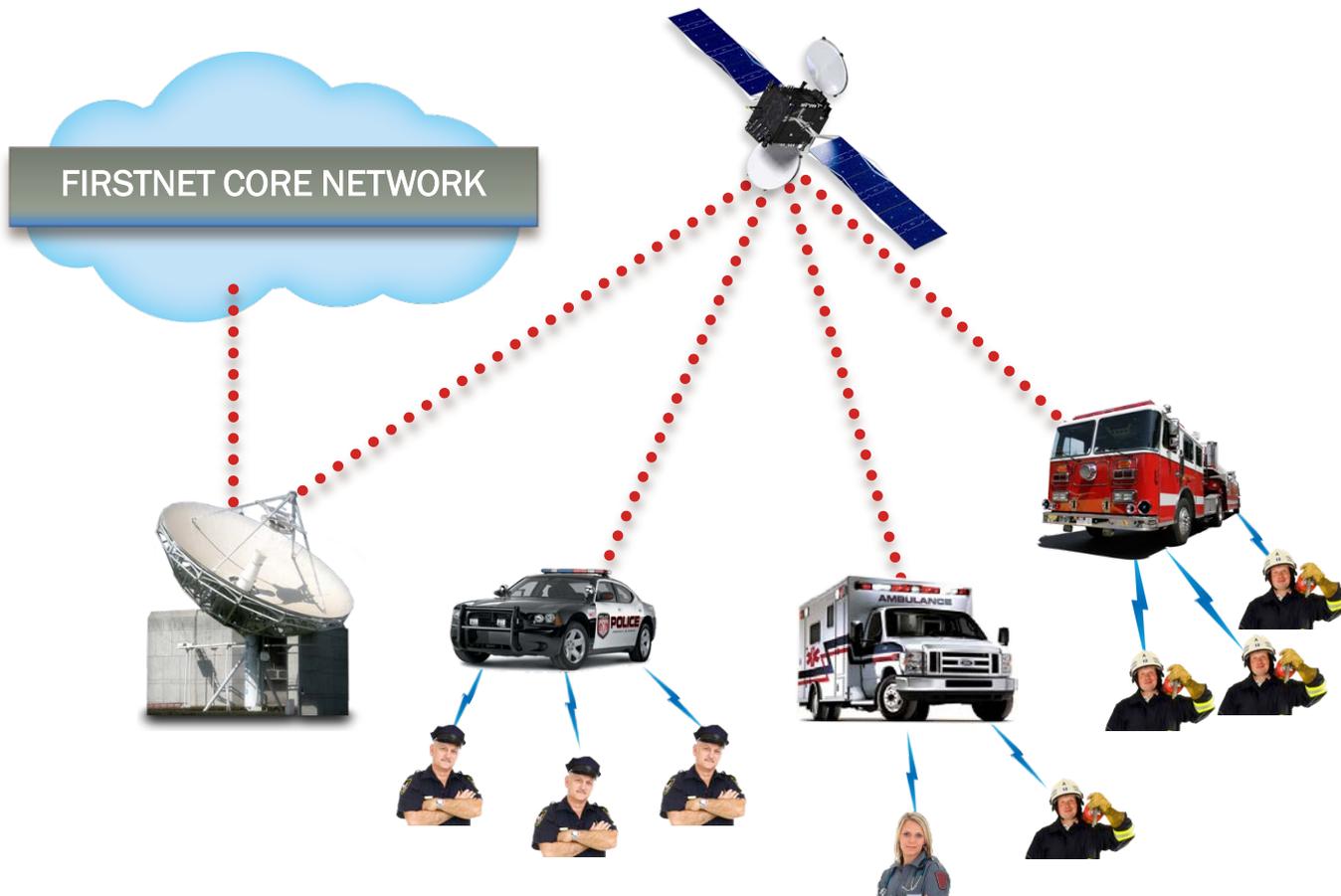
Multiple Networks



# Reaching Very Rural and Remote Areas



## Satellite networks will be important for reaching remote areas



### BENEFITS

- A vehicle-mounted and powered FirstNet BC14 PicoCell
- Local coverage in and around vehicle
- Works wherever satellite data links can be established
- Can serve:
  - Rural areas
  - Tribal lands
  - Wilderness
  - Parks and federal lands

For Official Use Only





## Governance and Stakeholders

# Governance – Federal Level



- **Federal Communications Commission (FCC)**
  - 700 MHz public safety spectrum frequency holder
  - Established interim Technical Advisory Board for First Responder Interoperability (Interoperability Board)
- **National Telecommunications and Information Administration (NTIA)**
  - Part of the Department of Commerce
  - Selected FirstNet Board of Directors
- **First Responder Network Authority (FirstNet)**
  - Managing entity for the public safety spectrum
  - Governing authority for the Nationwide Public Safety Network (NPSBN)



# Governance – State Level



- **State of West Virginia Governor's Office**
  - Per the Act, designates single officer or governmental body to coordinate with FirstNet
  - Makes the Opt-In/Opt-Out decision
- **Statewide Interoperability Executive Committee (SIEC)**
  - State's governing body for FirstNet
  - Engages key public safety stakeholders across West Virginia
  - Solicits, consolidates user input, works with FirstNet Point of Contact (POC)



# West Virginia Statewide Interoperable Radio Network (SIRN)

## Statewide Interoperability Executive Committee (SIEC)



### **West Virginia Statewide Interoperable Radio Network (SIRN)**

The WV Statewide Interoperable Radio Network (SIRN) is a collaborative effort by state, county, and municipal public safety entities to establish and maintain a statewide interoperable radio network for emergency services.

### **Statewide Interoperability Executive Committee (SIEC)**

The SIEC was created by Executive Order #2-11 issued by the Honorable Earl Ray Tomblin; Governor of the State of West Virginia on June 16, 2011. Said Executive Order shall remain in effect until such time as it is rescinded by the Governor. The SIEC shall be governed by applicable WV Code, WV Rules, Regulations and Orders, as well as Operational Policies and Procedures. The SIEC shall carry out its responsibilities as defined by Executive Order or WV Code in working with FirstNet.



# WV Statewide Interoperability Executive Committee (SIEC)



Statewide Interoperability Coordinator	Health and Human Resources Office of Emergency Medical Services	WV Director of Homeland Security and Emergency Management
WV E-911 Council	WV Chief Technology Officer	Association of Public Safety Communications Officials
WV Parkways Authority	WV Emergency Management Council	WV House of Delegates
WV State Senate	WV Zone 3 Switch Agency	WV State Fire Marshal
WV Sheriff's Association	WV Division of Highways	Emergency Management Council
WV State Police	WV National Guard	WV Municipal League
WV County Commissioners' Association	WV Division of Natural Resources Police	WV Chief Technology Officer
Emergency Management Rep (SIEC Appointed)	First Responder Rep (SIEC Appointed)	Regional Interoperability Committees



## WV Statewide Interoperability Executive Committee (SIEC)

-----

## Regional Interoperability Committees (RICs)

### Federal

- DOD
- EPA
- FBI
- Marshals Service
- USDA
- USICE

### Private Partners / Private Sector

- Utilities
- Telecommunications Providers
- Fiber Consortiums
- Equipment Manufacturers



## Business Model and Financial Considerations

# FirstNet Operations & Maintenance Business Model



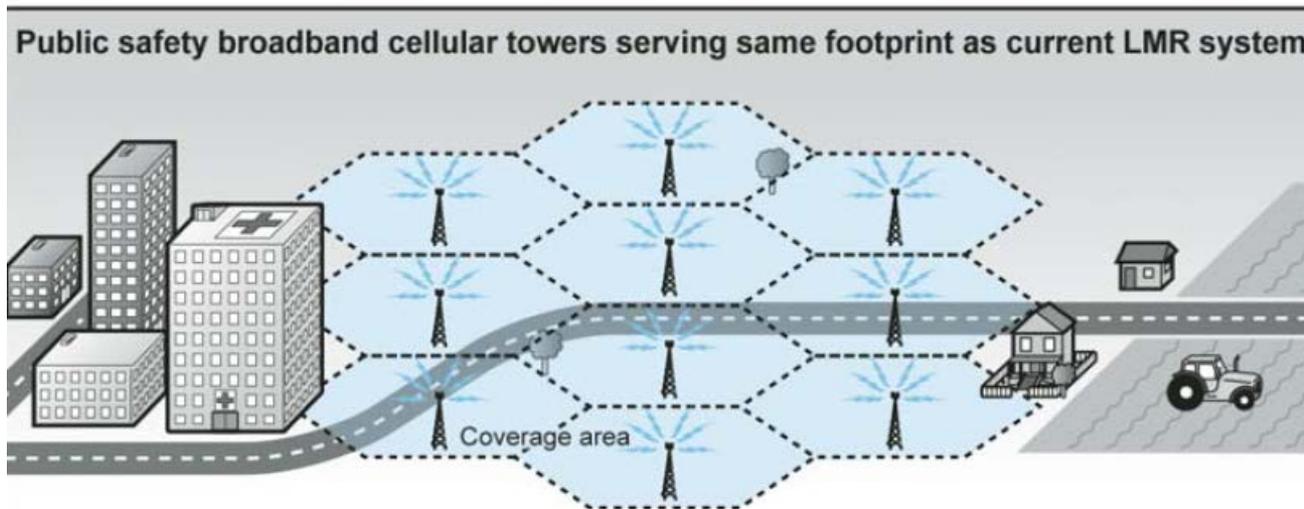
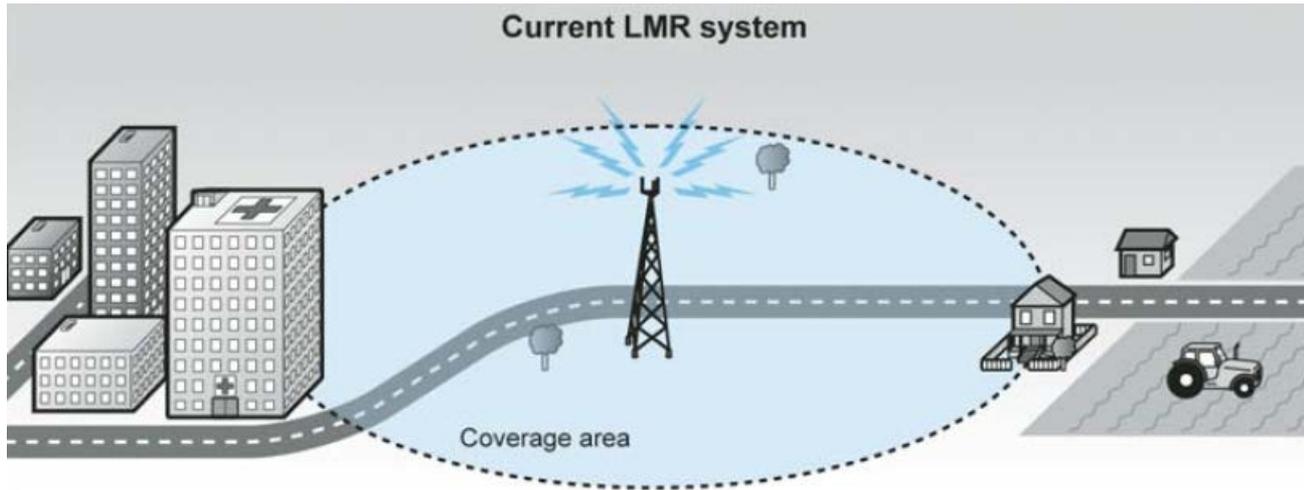
- **FirstNet service is planned to break-even and be self-sustaining**
  - No funding for ongoing operations and maintenance
- **Network User Fee**
  - Fee from each entity including public safety or secondary user that uses the network
- **Lease Fee for Network Capacity**
  - Fee for agreement between the FirstNet and secondary users to permit secondary access
- **Lease Fee for Network Equipment and Infrastructure**
  - Fee for entity that seeks access or use of antennas, towers, and other assets constructed or owned by FirstNet

**“FirstNet intends to offer public safety grade services at a cost that’s compelling to users.”**

— FirstNet Tenet



# Building Out FirstNet Coverage Will Require Significant Investment



# NPSBN Funding Afforded by the Middle Class Tax Relief and Job Creation Act



No.	Fund	Distribution	Description
1.	State and Local Implementation Fund (NTIA)	<b>\$1.124M</b>	Supports state and local efforts to plan and integrate with the NPSBN (NTIA may borrow the entire amount upfront)  West Virginia's Federal share is \$1.124M
1.	Network Construction Fund (FirstNet)	<b>\$7B</b>	Supports the design, construction, operation, maintenance, and upgrade of the NPSBN (NTIA may borrow up to \$2B upfront)

**Awarded**



# Planning FirstNet in West Virginia



## Outreach, Planning, and Deployment



# Notional National Timeline



**2013**

**2014**

**2015**

**2016**

...

**Outreach**

**Data  
Collection**

**Network  
Design**

**Contracts & Core  
Network Completion**

**Deployment  
& Operations**

**Offer to  
Governor**



## Discussion Questions For FirstNet

# Discussion Questions



## Questions:

1. In what ways do you see this capability benefiting your role and your organization?



# Discussion Questions



## Questions:

1. In what ways do you see this capability benefiting your role and your organization?
2. What potential secondary users do you see for this network?

# Discussion Questions



## Questions:

1. In what ways do you see this capability benefiting your role and your organization?
2. What potential secondary users do you see for this network?
3. What local communications assets might be shared with FirstNet?



# Discussion Questions



## Questions:

1. In what ways do you see this capability benefiting your role and your organization?
2. What potential secondary users do you see for this network?
3. What local communications assets might be shared with FirstNet?

# FirstNet Perceptions vs. Reality



## Perception

## Reality



Public safety may have to give up autonomy and control.



FirstNet will be a nationwide platform; Public safety sets rules locally.

Public safety will lose management of devices, users and talk groups.



Public safety will maintain local management.

FirstNet will cost too much to build and operate.



FirstNet has substantial opportunities to partner to lower construction and operating costs.

States can use FirstNet spectrum to generate revenue.



Fees from the use of FirstNet spectrum must, by law, be reinvested to build, operate, maintain, and improve the network.

FirstNet will replace LMR networks.



FirstNet will augment LMR for many years.

FirstNet has already begun designing the network.



FirstNet is in the research and analysis phase and must have input from states and territories to design the network.

# Conclusion: Manage Stakeholder Expectations



## Help us manage expectations

- LTE is not a replacement for LMR technology today
- LMR will continue to provide mission critical voice communications for the foreseeable future
- LTE high speed data network introduces new capabilities to assist the first responder and augment LMR
  - Provides new supplementary data and video services
  - Its true power and value will be realized once useful, interoperable applications are in the hands of users
- West Virginia will need to prepare its local networks and establish new processes to make full use of this promising capability



# Thank You



## Jimmy Gianato

State Point of Contact (SPOC)

WV Division of Homeland Security and  
Emergency Management

Director/Homeland Security Advisor

1900 Kanawha Blvd, E

Building 1 Room EB -80

Charleston, WV 25305

[\(304\) 558-5380](tel:3045585380) office [\(304\) 541-9990](tel:3045419990) cell

[jimmy.j.gianato@wv.gov](mailto:jimmy.j.gianato@wv.gov)

[www.dhsem.wv.gov](http://www.dhsem.wv.gov)

## 1/LT G.E. McCabe

Statewide Interoperability Coordinator (SWIC)

WV State Police

Director of Information Services

725 Jefferson Road

South Charleston, WV 25309

[\(304\) 766-5899](tel:3047665899) office [\(304\) 389-7507](tel:3043897507) cell

[ge.mccabe@wvsp.gov](mailto:ge.mccabe@wvsp.gov)

[swic@wv.gov](mailto:swic@wv.gov)

<http://www.sirn.wv.gov>



# DISCLAIMER

**This document/presentation was prepared by the West Virginia's Statewide Interoperability Executive Committee (SIEC) using funds under award 54-10-S13054 from the National Telecommunications and Information Administration (NTIA), U.S. Department of Commerce (DOC). The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of the NTIA, DOC, or FirstNet.**

