

# FirstNet Data Collection Project For Florida

## Regional Workshop

January 2017



# Agenda

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- Team Introductions
- Introduction to FirstNet
- LTE and Public Safety Applications
- FirstNet Data Collection Project for Florida
- Next Steps
- Questions and Answers



# Team Introductions

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# Our Team

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*Individualized Service*  
*Innovative Solutions*  
*Focused Results*

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ISF is a Florida-based management consulting and information technology firm, committed to helping businesses and government operate better, smarter and more efficiently.

ISF is one of only two Florida-based vendors on the State Term Contract, and the only Certified Minority Business Enterprise.

ISF has delivered management consulting services since 1979.



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Televate has served the public safety community as a trusted communications and information technology consultant over the last 15 years.

Televate is working on FirstNet planning projects in Alabama, Ohio, Wisconsin, Minnesota, Oklahoma and North Dakota.

Televate has played a major role in the design, procurement and construction of four major public safety broadband deployments in New Jersey, Los Angeles, and two in Washington, DC.



# Introduction to FirstNet

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# FirstNet Mission

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- FirstNet's mission is to build, operate, and maintain the first high-speed, nationwide wireless broadband network dedicated to public safety.
- FirstNet will provide a single interoperable platform for emergency and daily public safety communications.



# Introduction to FirstNet

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- The Middle Class Tax Relief and Job Creation Act created the First Responder Network Authority (FirstNet)
- FirstNet has been established to create the Nationwide Public Safety Broadband Network (NPSBN)
  - Congress allocated \$7 billion
  - 20 MHz of radio spectrum
  - Public safety has priority on FirstNet spectrum



# FirstNet's Differentiators

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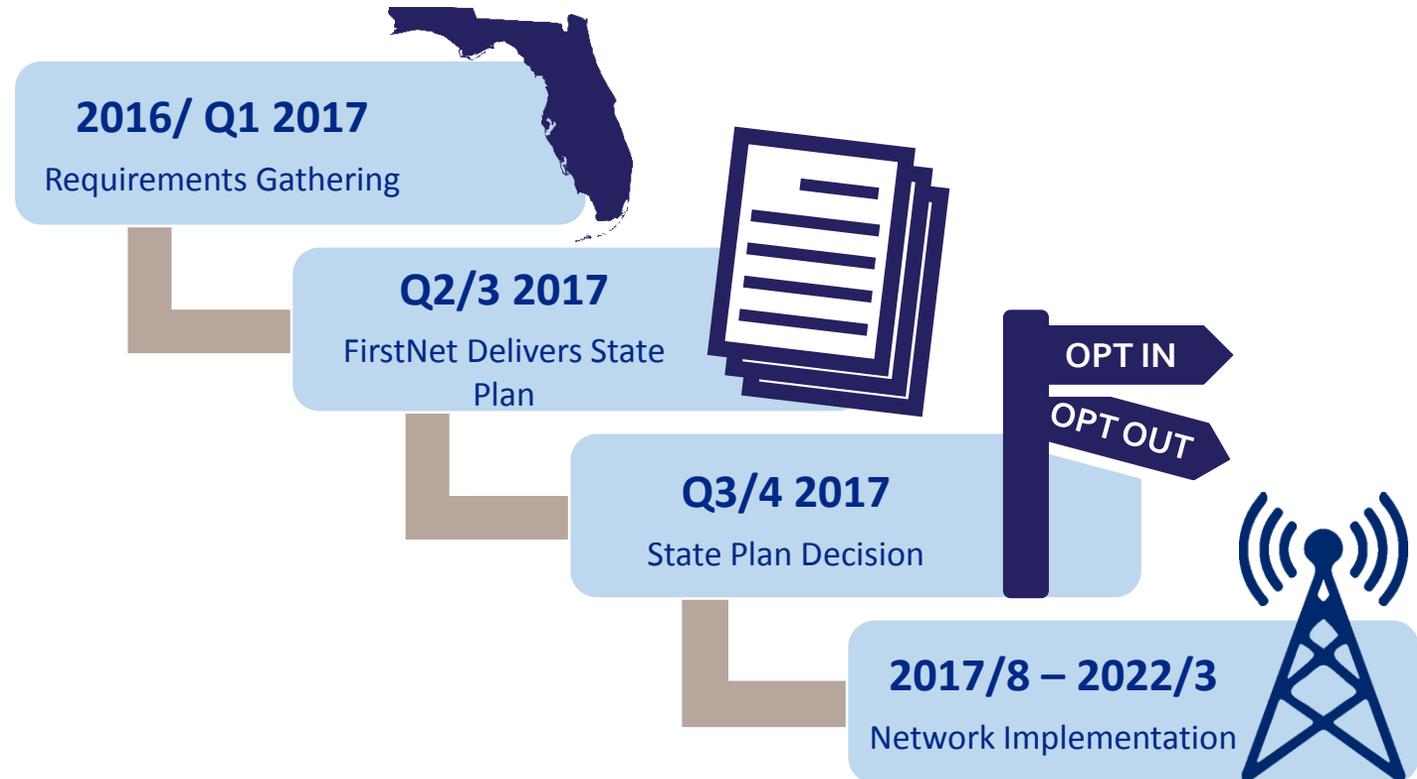
Item	Description
Devices	Mass market and devices unique to public safety
Applications	Specifically addressing public safety needs
Service availability	99.99% - includes network hardening
Priority	Priority over consumers, and additional priority options within public safety
Cybersecurity	Identity, credential and access management and multiple additional protective measures



# FirstNet Consultation Process

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FirstNet is required to consult with federal, state, tribal and local public safety entities to ensure the network is designed to meet public safety's needs.



# FirstNet Timeline

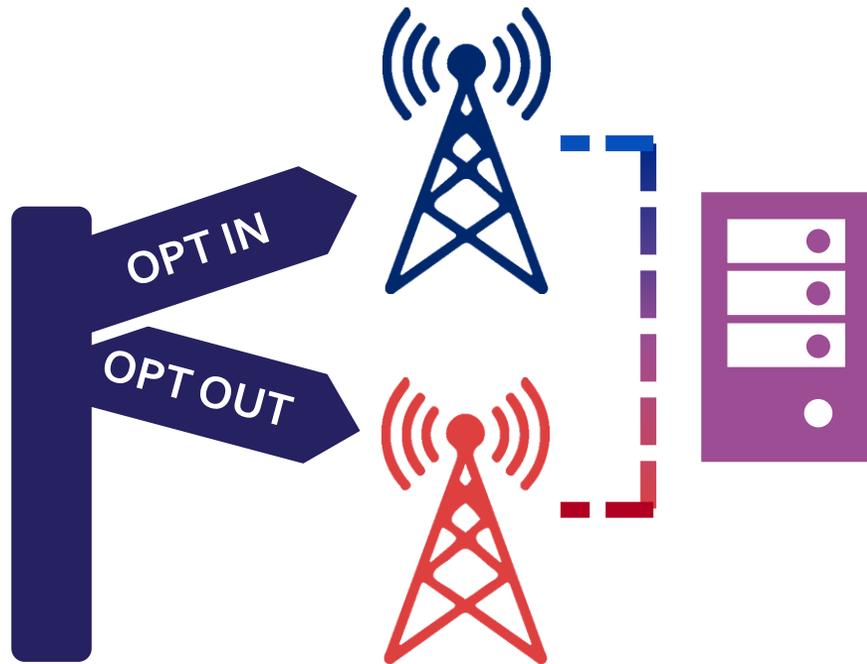


Note: FirstNet award date is delayed which may impact all future dates



# Opt Out Process

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- State receives FirstNet state plan
- Governor has 90 days to review and make a determination
- State has 180 days to present an alternative plan Opt-Out Process:
  - FCC Approval (interoperability)
  - NTIA review
  - FirstNet lease
- FirstNet provides core network services to opt-out Radio Access Network (RANs)



# Long Term Evolution and Public Safety Apps

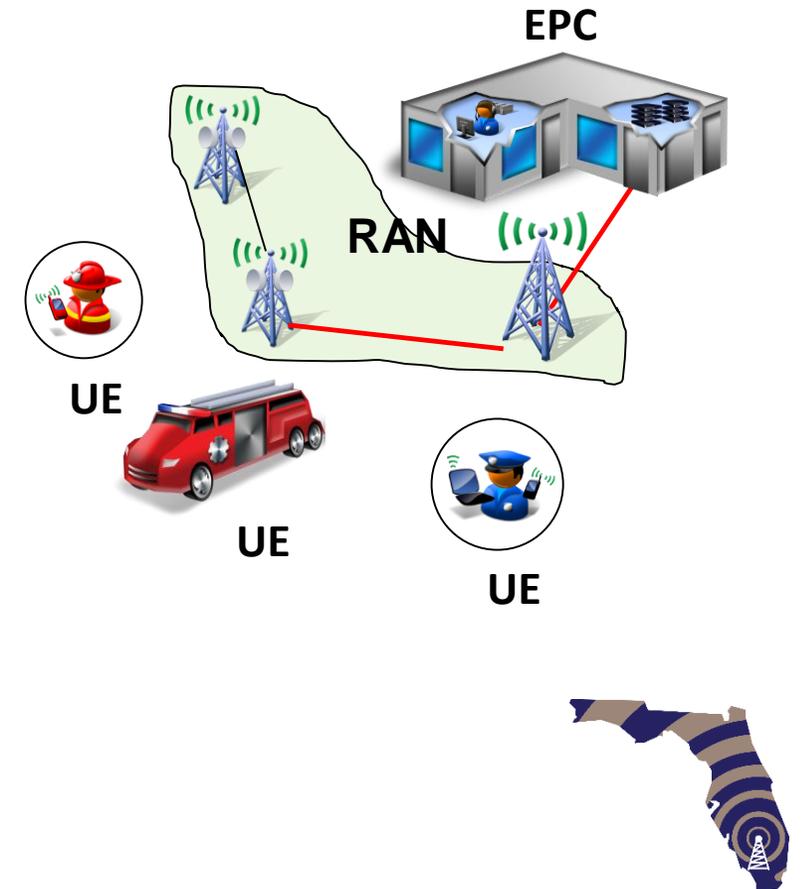
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# Long Term Evolution (LTE)

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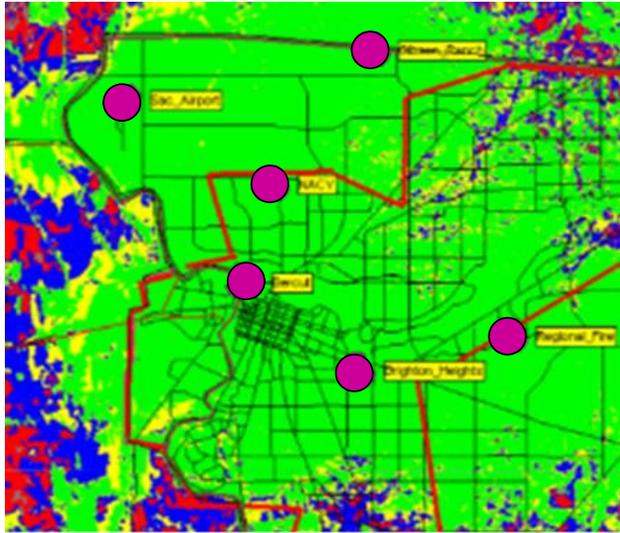
- 3GPP (Third Generation Partnership Project) global standard to achieve 4G broadband data speeds and features ITU
- Globally adopted by major commercial carriers - 1.7 billion subscriptions
- Centralized portion of the network is called Evolved Packet Core (EPC)
- Radio Access Network (RAN) provides wireless coverage to User Equipment (UE)



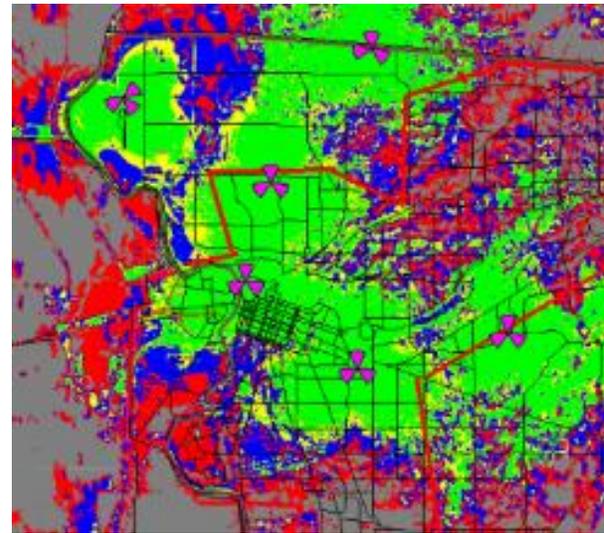
# Coverage: LMR Radio vs. LTE

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*P25 Coverage*



*LTE w/ same sites*



- Lower power and other factors results in less coverage per site than LMR
- Challenging to serve rural areas
- Substantial signal needed to delivered broadband speeds



# Throughput: LMR Radio vs. LTE

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12.5 KHz P25 pipe

- A single mission critical voice stream

10 MHz broadband pipe

- Video
- Internet
- Database downloads
- Multiple mission critical voice streams
- Push-to-Talk (non mission critical voice)
- Text messaging
- Messaging/Text

800 x more bandwidth



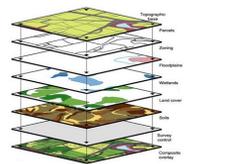
# LTE Air Interface

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- Single channel network: all frequencies used at all sites and sectors
- Resources are frequency and time based
- User speed depends on various factors
  - Signal degrades and interference rises as the user moves farther from the cell site
  - More users requesting resources at the same time impacts speed per user
  - Device power limits ability to use all resources
- LTE scheduler allocates different resource blocks (RB) depending on the user's needs, radio conditions and priority



# Ability to Support High Bandwidth Apps

Applications made possible by 4G Wireless Broadband			Capacity Impact
	Text Based Database Lookups	NCIC look-ups	Low
	Geographical Information Systems	Automatic vehicle location	Low to Medium
		Preplans	High
	Video	Traffic	High to Very High*
	Telemetry, AVL	Patient and responder biometrics	Low
	Common Apps & Desktop Extension	Email: varies depending on content of messages	Medium to High

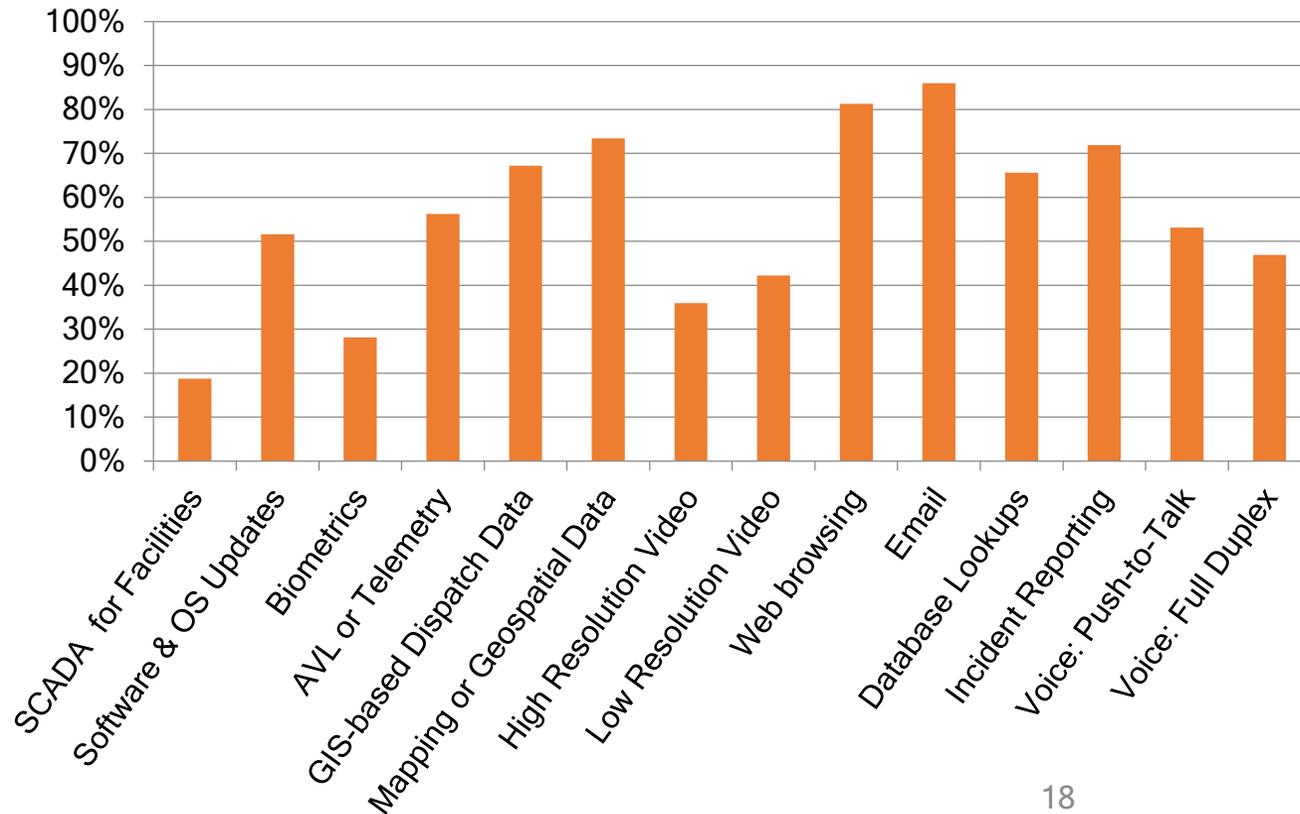


# Potential Incident Capacity Limitations

Major incidents bring many responders and more data usage

Application interest and deployment is rapidly changing

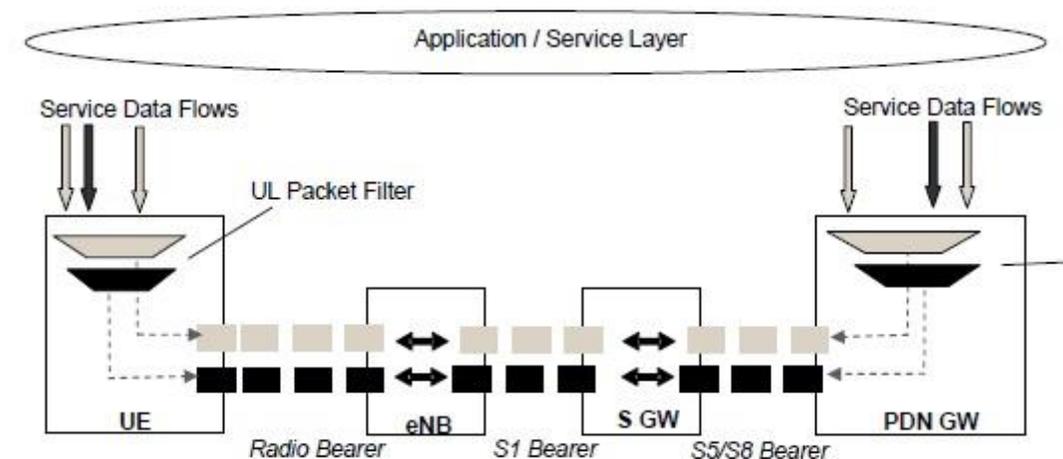
Use of video and other high bandwidth apps necessitate Quality of Service (QoS)



# Quality Of Service (QoS)

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- LTE has powerful QoS capabilities
  - Priority over consumers
  - Priority within public safety usage (e.g., major incident/event)
  - Facilitates priority access of users and applications
  - Enables priority and preemption
  - Allows for dynamic control of quality of service
  - Guaranteed bit rate
  - Maximum bit rate



# FirstNet Data Collection Project For Florida

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# Project Objectives

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*Advocate for public safety, FirstNet related needs – drive FirstNet to deliver a broadband wireless solution that addresses communications challenges!*

- Understand public safety needs regarding FirstNet
- This session is focused on an introduction to FirstNet and the project
- Answer questions about FirstNet or the FirstNet Data Collection Project
- Allow for open discussion on other requirements or questions



# About the Project

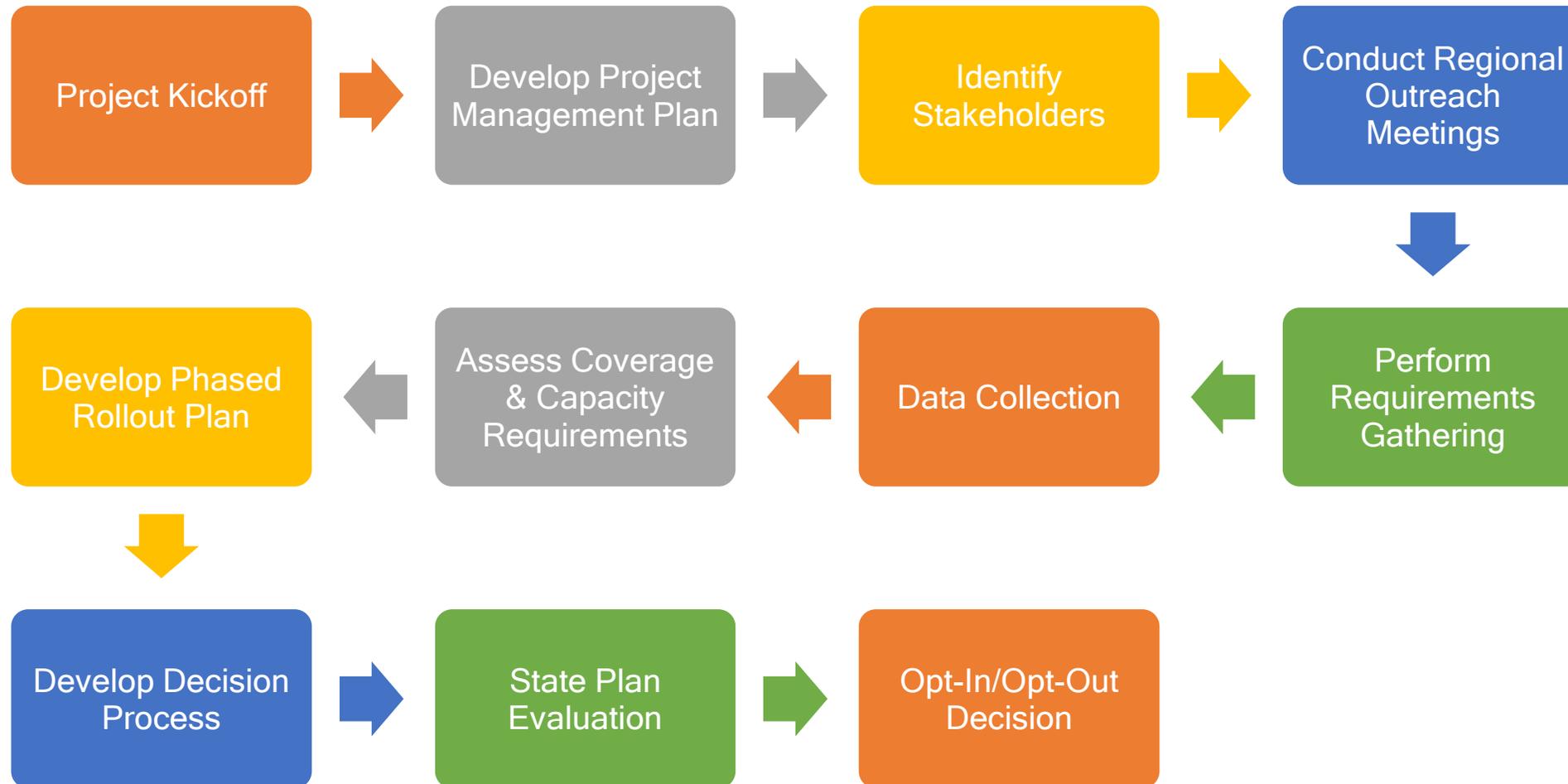
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- The FloridaNet project began with the Department of Highway Safety and Motor Vehicles in January 2015
  - Beta survey was released in Region 5, then statewide in August 2015
- Governor appointed Secretary Poppell as SPOC in 2016
- The goals of the FirstNet Data Collection Project:
  - Capture specific wireless broadband needs
  - Develop a phased roll-out plan
  - Develop a state plan review process, which will be used to evaluate the FirstNet state plan against the needs of the user community

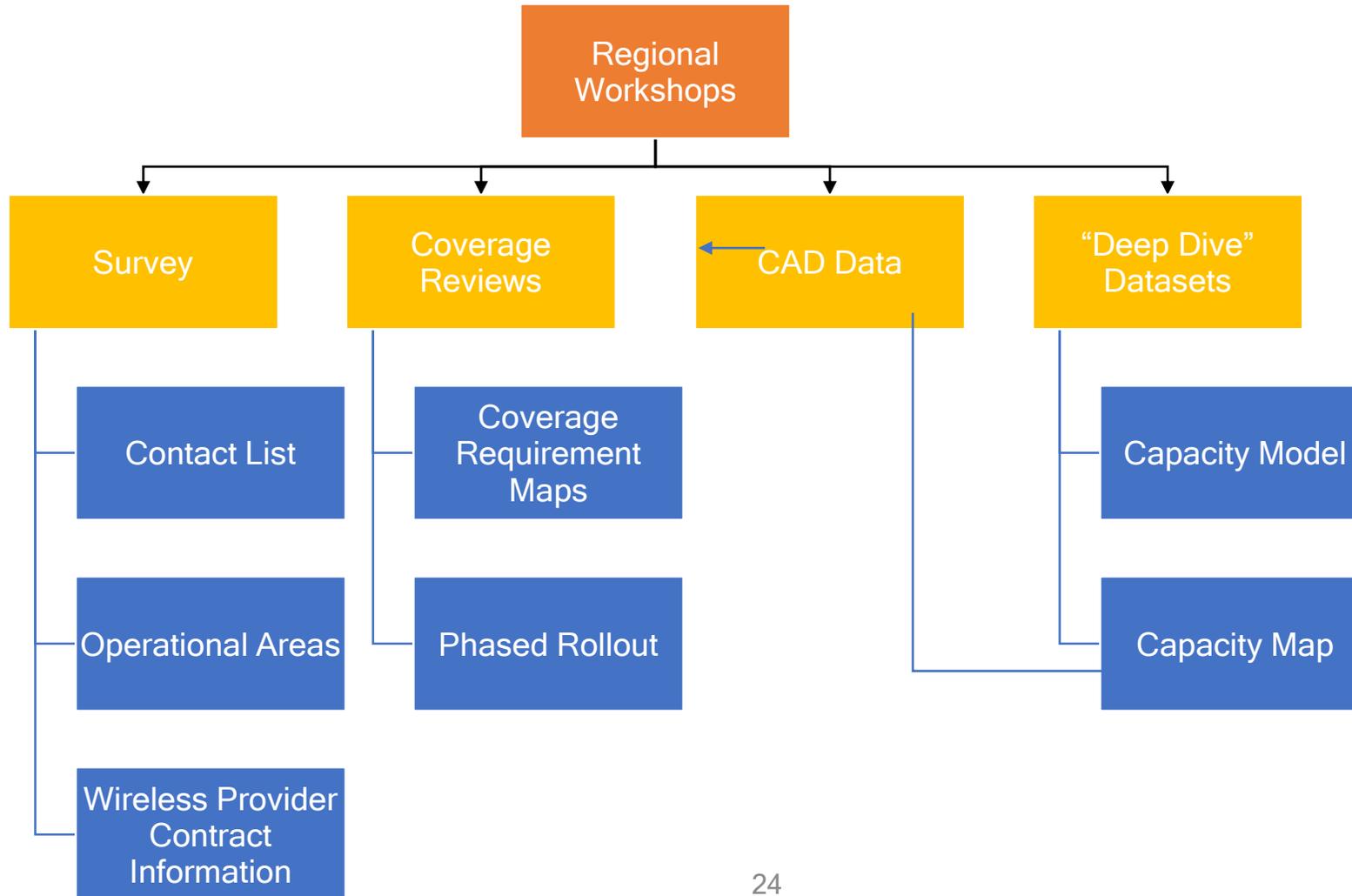
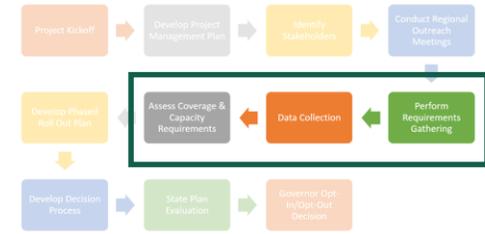


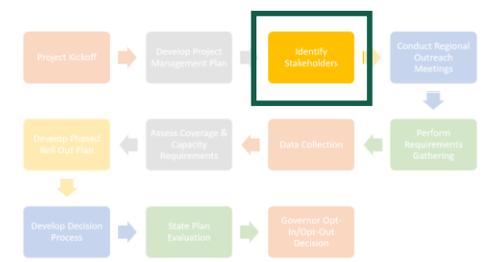
# Project Overview

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# Data Collection Overview





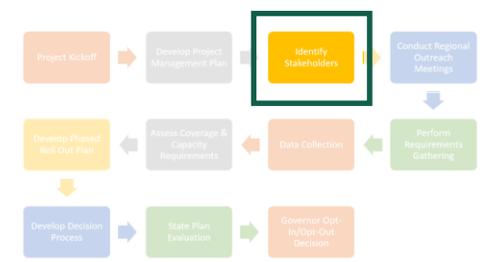
# Who is Public Safety?

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## Definition:

- Individual or agency, governmental or nongovernmental, authorized by traditional public safety agencies (e.g., fire, law enforcement, emergency management, EMS)
- Includes individuals and agencies operating on public safety LMR
- Includes personnel of emergency support functions
- Includes others defined by the FloridaNet Executive Committee





# Who is Public Safety?

## Qualifying Agencies

- Fire
- Law Enforcement
- Emergency Management
- EMS
- Department of Corrections
- Public Works
- Department of Health
- National Guard
- Communications Specialists (public safety)
- Public Schools
- Parks and Recreation Departments
- Department of Transportation
- Attorney General (ex. investigators)
- Hospitals
- Utilities (water, electric, and gas emergency response personnel)
- Volunteer response organizations (e.g., Red Cross)



# How Do We Identify PSEs?



Note: We need your help to secure contacts for ambulance, fire, public works and transportation agencies.

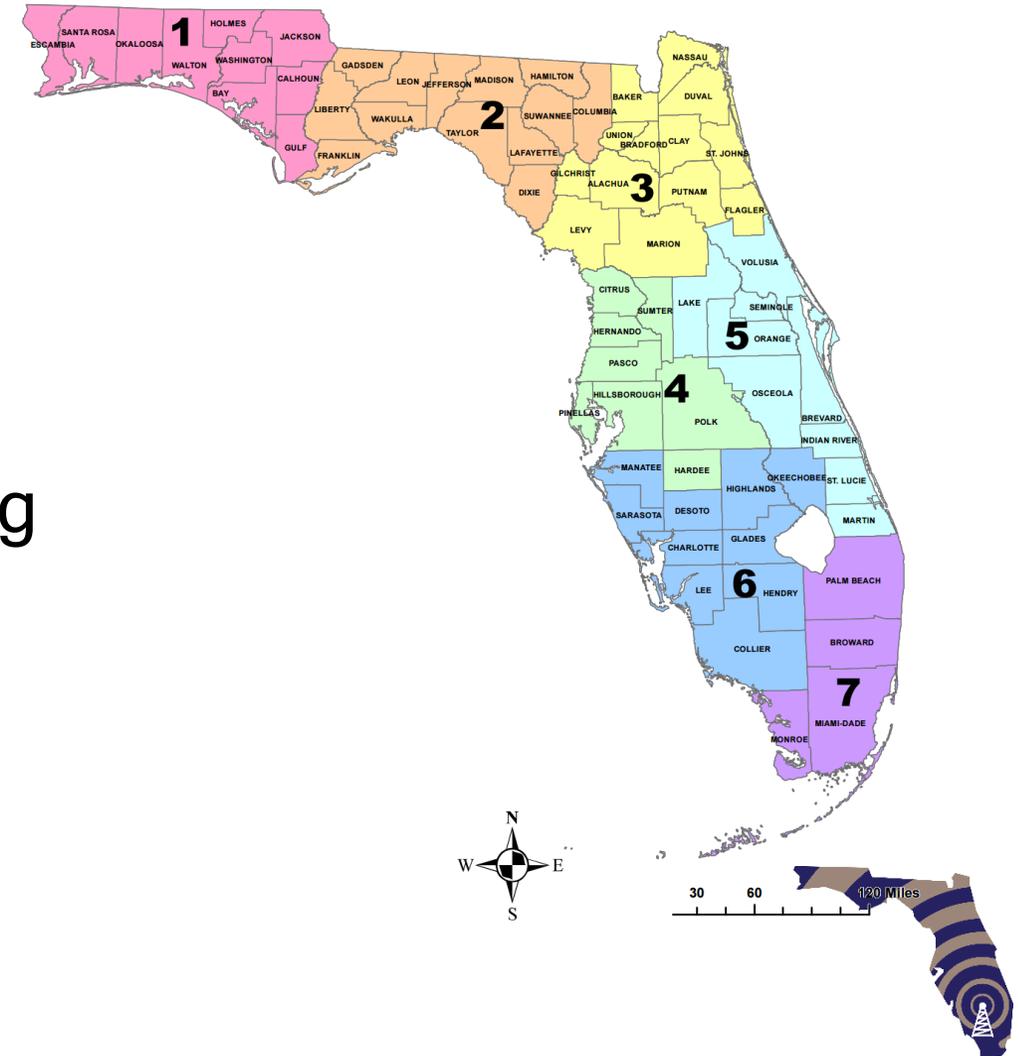


# Education & Outreach



Three sets of workshops (21 total) beginning January and monthly newsletters will provide the following:

- Project updates
- Information on ongoing and upcoming project activities
- Information to prepare stakeholders to participate in the project



# Regional Workshops





## Latest News Alert

*Save the Date*

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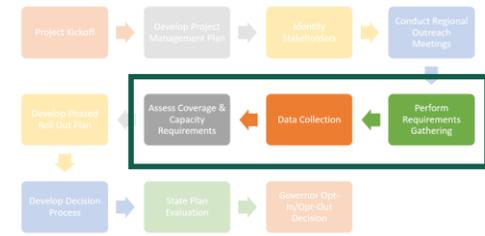
You are cordially invited to attend the inaugural Regional Workshop of the FirstNet Data Collection Project. The goal of this project is to work with FirstNet —tasked with building a nationwide, interoperable public safety broadband network—and better understand the broadband communications needs and expectations of the public safety mission in Florida. These regional workshops provide an important opportunity to conduct outreach with Florida public safety stakeholders and educate the public safety community on FirstNet.

Keep an eye out for this invite!

Regional	Dates	Topics
Workshop #1	January 2017	Program overview, key activities and data collection
Workshop #2	March 2017	Progress update and discuss draft phased rollout
Workshop #3	May 2017 (est.)	Presentation of requirements, discuss draft decision process and state plan update



# Survey



Web-based data collection to capture:

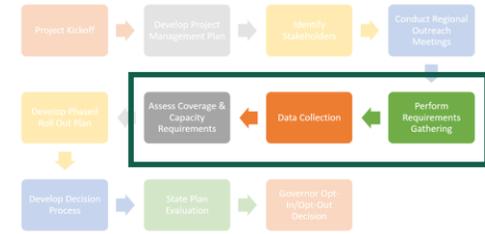
- Contact information for FirstNet related activities for each public safety entity
- Information about the number of personnel, devices and vehicles
- Data and application usage information
- Information on current providers and procurements
- Current and anticipated areas of response for PSE

Please help by forwarding survey request emails to other public safety agencies!

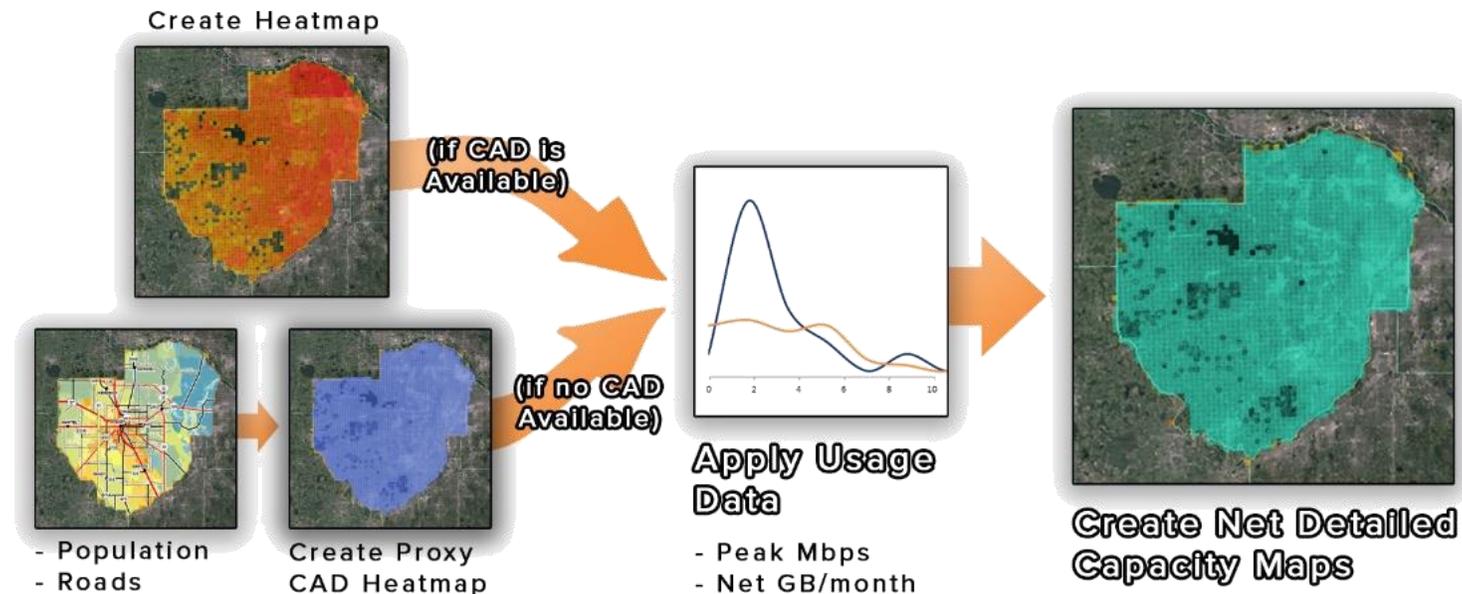
Survey available at <http://floridanetproject.org/firstnet-web-survey/>



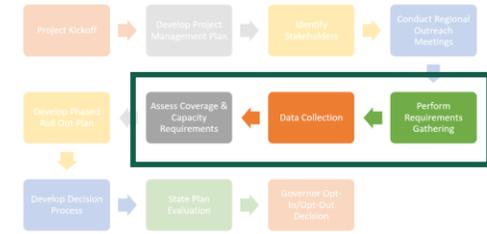
# Broadband Maps: Capacity



- The project team will work with up to six “deep dive” counties to develop capacity model
- CAD data will be leveraged for all participating counties



# Broadband Maps: Coverage



- Captured via coverage reviews
- Give stakeholders the opportunity to identify their city or county's unique coverage needs
- Identify different areas
  - **Critical Service Area: Important high density areas**
  - **Extended Service Area: Important areas currently unserved or underserved by commercial carriers**
- Primary building block for the state rollout plan (5 phases)

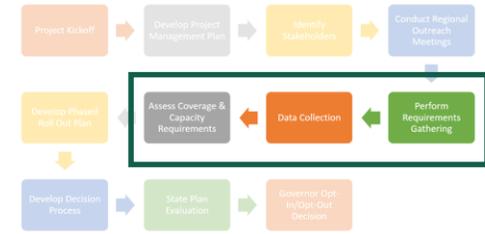


*Sample Coverage Review Output for Jacksonville*

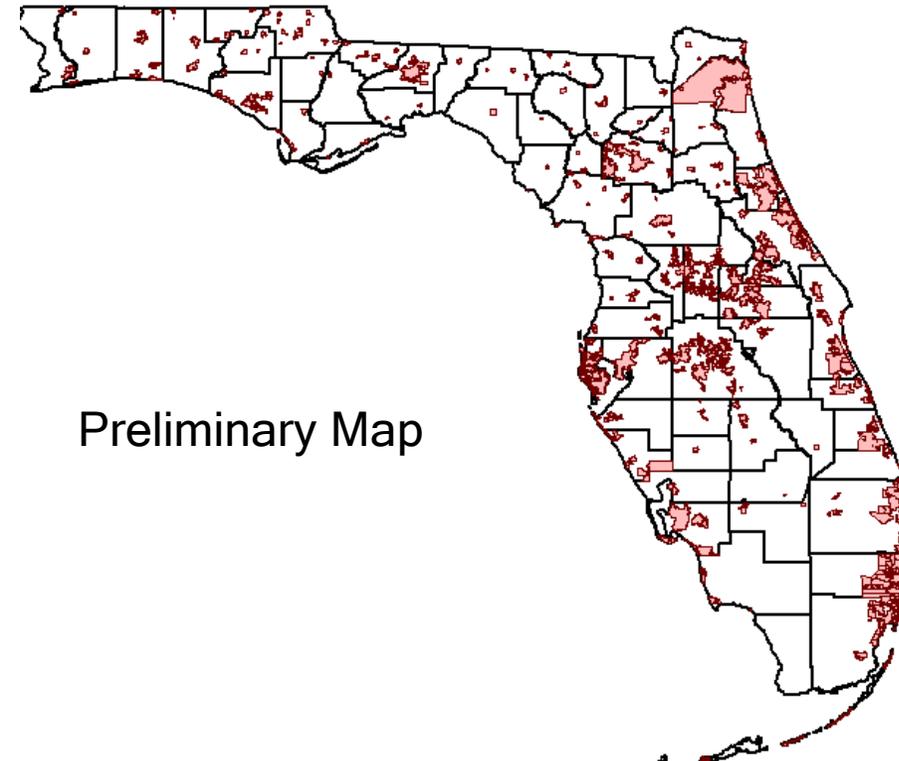
Sessions will be held with all participating counties and major cities online or in person



# Broadband Maps: Operational Areas



- Captured via online survey
- Drop-down list in survey for political boundaries
- Where boundaries are not available, county boundary will be selected and used
- Comment boxes allow for PSEs to convey multiple geographies and anticipated changes in operational area



# How Is Your Data Protected?

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- Dedicated environment for GIS in a secure data center
- Logins require user names and passwords
- Access provided on a case-by-case basis

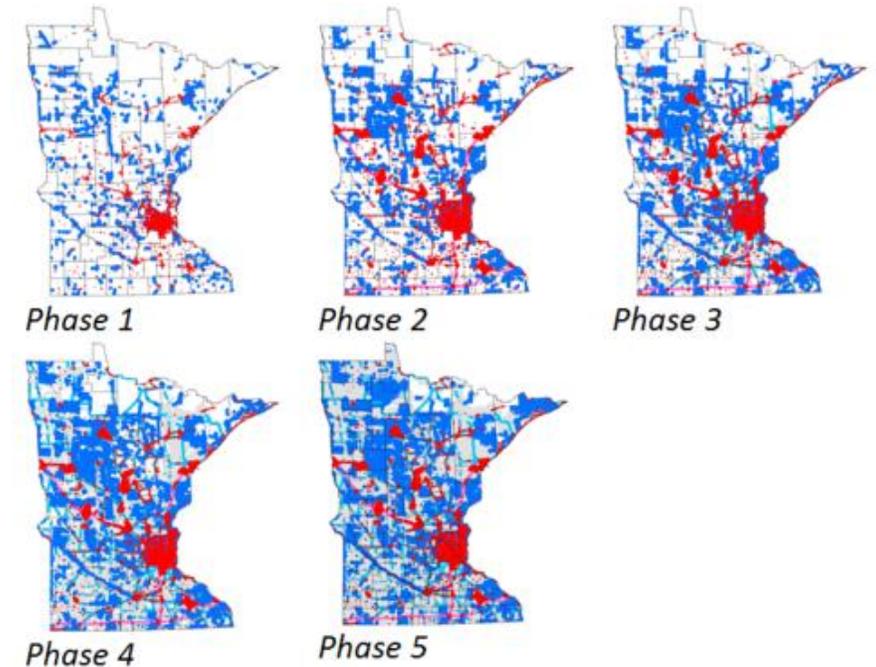




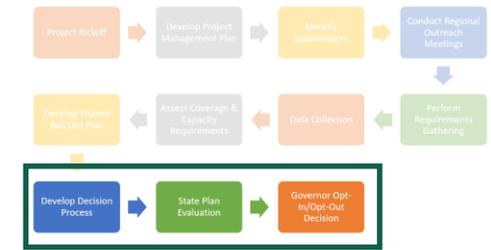
# Phased Rollout

- Coverage defined in five phases
- Requires rural coverage in each phase
- Leverages critical and extended service areas from coverage reviews
- First draft will be provided by March 31, 2017

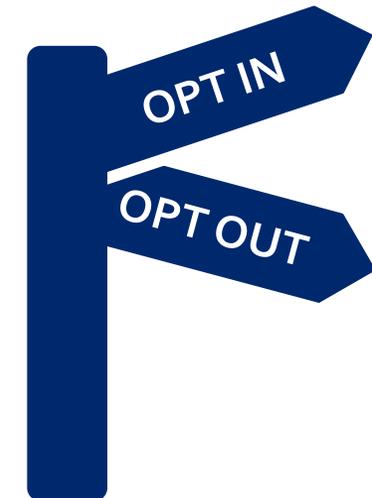
Sample Roll-Out For Minnesota:



# State Plan Process



- Information gathered will be reviewed by the Governor to make a determination to opt-in or opt-out
- Law requires decision within 90 days of state plan receipt
- Florida will need to prepare for decision in advance of the 90-day period
- First draft of state plan due from FirstNet in the fall of 2017



# Next Steps

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# Next Steps

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- Coverage reviews have started, please provide availability
- The first monthly newsletter has been distributed
- Complete the web-based survey
- Please share additional contacts
- Forward survey email to contacts directly
- PSE input is critical to address the specific needs of each agency!



# Follow Up

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## *Contact Us*

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# Questions and Answers

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- Questions on FirstNet
- Questions on current data collection project
- Questions on technologies
- Communications challenges
- Future topics for discussion



# Thank You!

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