Initial Consultation Meeting

Working together to bring broadband to Public Safety Entities

May 13, 2015
Baton Rouge, Louisiana

Welcome & Introductions

Initial Consultation Goals

Strengthen Our Relationship

Provide FirstNet Updates

Learn about Louisiana's Unique Needs

Discuss Next Steps

Meeting Goals

Agenda – Initial Consultation

Time	Agenda Item	
7:30 am	Registration	
8:30 am	Welcoming Remarks	Louisiana FirstNet
9:15 am	FirstNet Update & Consultation Process	FirstNet
	State Update	Louisiana
12:00 pm	Lunch	
1:15 pm	Data Collection Elements Discussion: Coverage, Users/Operations, Capacity, Current Service	FirstNet
	State Data Collection Activities	Louisiana
	Wrap-up and Next Steps	Louisiana & FirstNet
4:00pm	Adjourn	

First Responder Communications

First Responder Communications

| Non-Mission Critical | The Near-Term Vision | Mission Critical |

FirstNet will ensure that emergency responders are provided with the first nationwide, high-speed, wireless broadband network dedicated to public safety

FirstNet® LTE Service / Devices

| Data | Voice |

Land Mobile Radio (LMR) for Public Safety

| Voice |

FirstNet Network Benefits

Dedicated to Public Safety

Public Safety Apps / Services

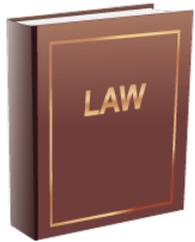**QoS, Priority & Preemption (QPP)**

Situational Awareness

Local Control

Public Safety Grade

THE LAW

2.22.12

FirstNet becomes law
PL 112-96

GOVERNANCE

The FirstNet Board has **15** members, including those with telecommunications and public safety backgrounds

Each Governor appoints **1** Single Point of Contact (SPOC) and governing body to represent the State's interests to FirstNet.

40 member Public Safety Advisory Committee (PSAC) advises FirstNet on public safety intergovernmental matters.
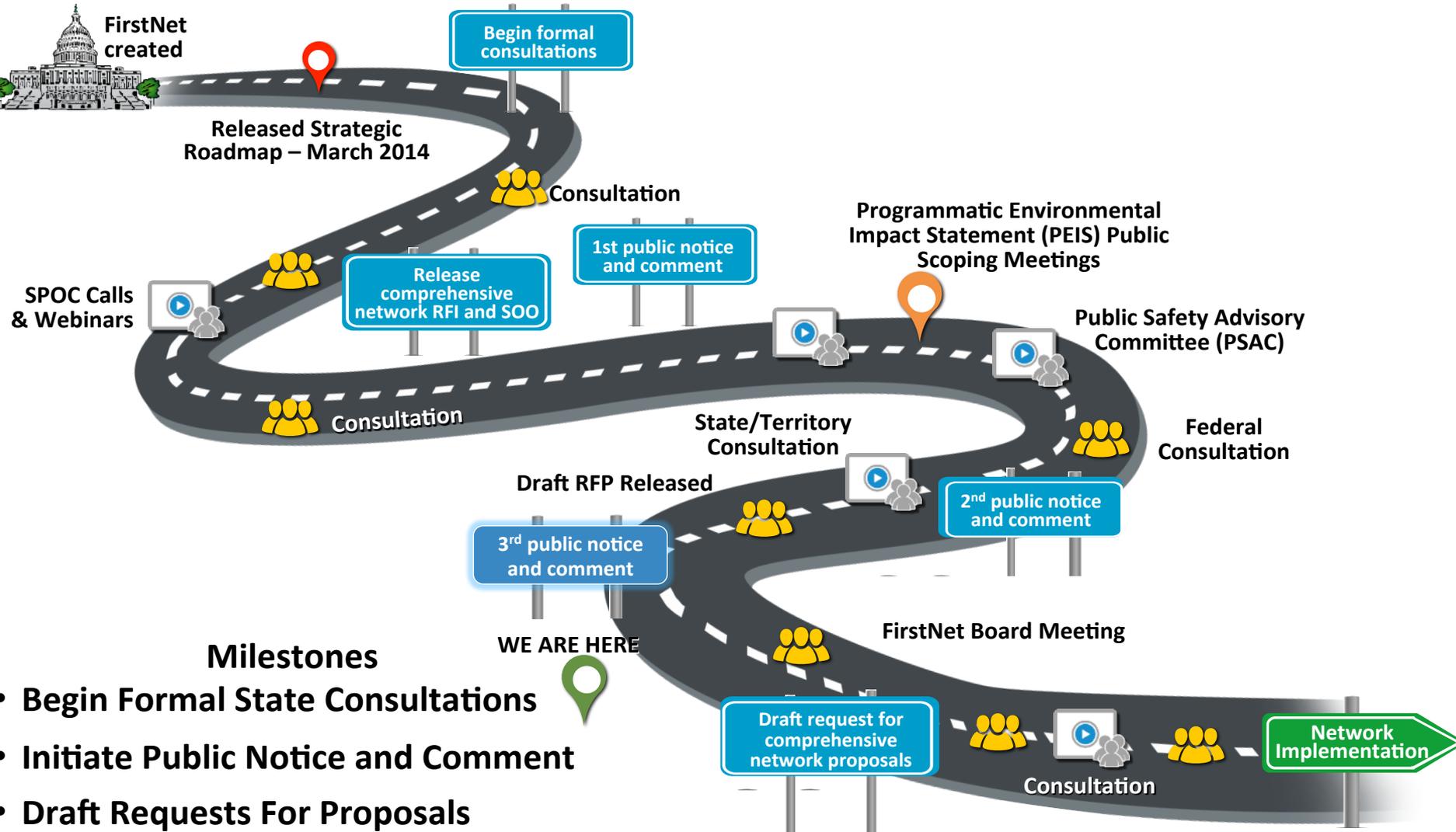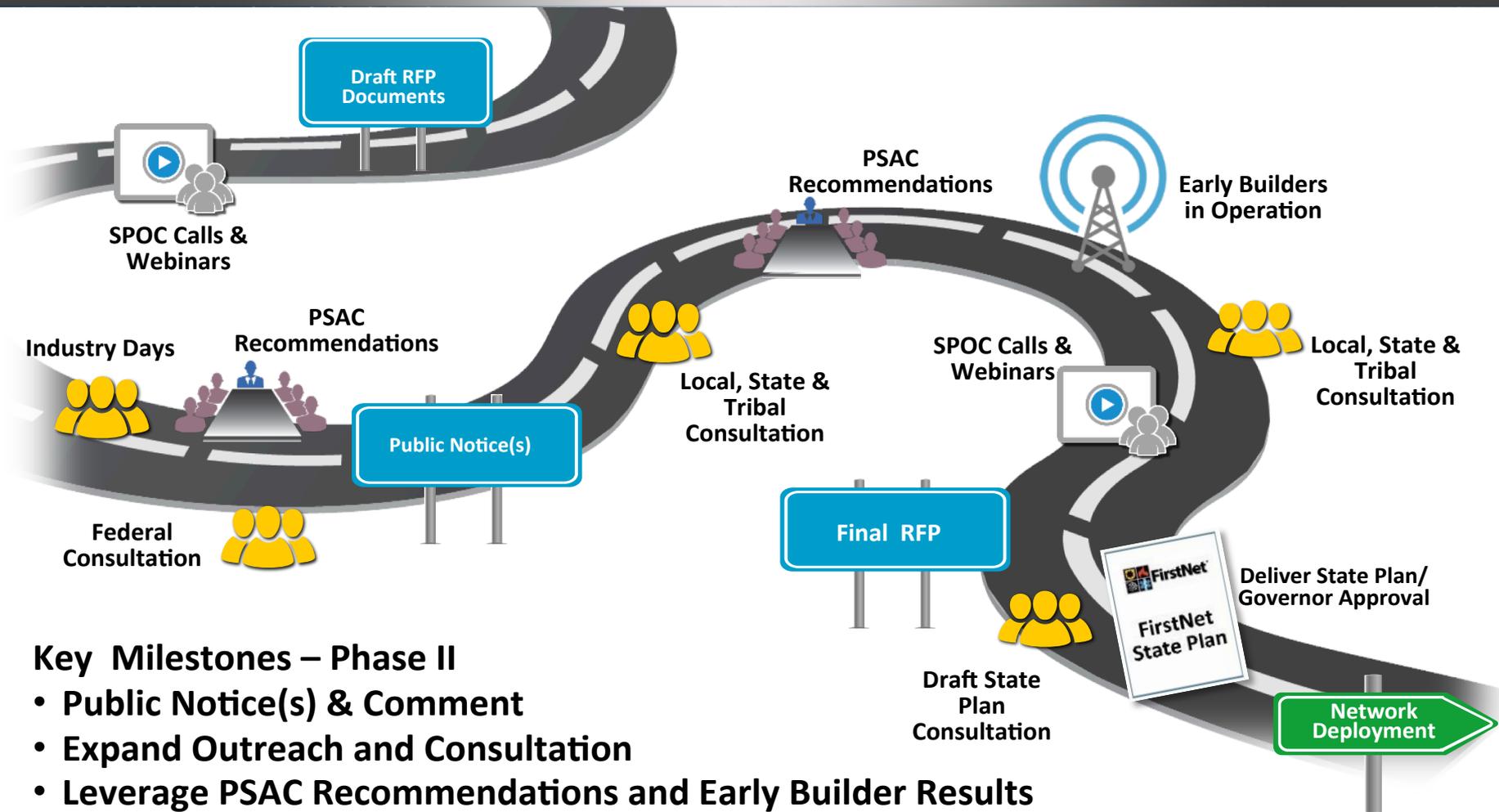
FUNDING

$7B authorized to build the FirstNet network. Funded by spectrum auctions through 2022.

BAND CLASS (BC) 14

20MHz of bandwidth has been dedicated to public safety in the prime upper **700MHz** frequency range.

	BC 17			BC 17						
BC 12		BC 29	BC 12		BC 13	BC 14	LMR	BC 13	BC 14	LMR
T-Mobile	AT&T	AT&T Dish	T-Mobile	AT&T	Verizon	PS Broadband FirstNet	PS Narrowband	Verizon	PS Broadband FirstNet	PS Narrowband
UL	UPLINK	DOWNLINK	DL	DOWNLINK	DOWNLINK	DOWNLINK		UPLINK	UPLINK	
6 MHz	12 MHz	12 MHz	6 MHz	12 MHz	11 MHz	10 MHz	6 MHz	11 MHz	10 MHz	6 MHz

1 MHz Guard Bands

Progress Toward Roadmap Milestones

FirstNet created

Begin formal consultations

Released Strategic Roadmap – March 2014

Consultation

SPOC Calls & Webinars

Release comprehensive network RFI and SOO

1st public notice and comment

Programmatic Environmental Impact Statement (PEIS) Public Scoping Meetings

Public Safety Advisory Committee (PSAC)

Consultation

State/Territory Consultation

Federal Consultation

Draft RFP Released

2nd public notice and comment

3rd public notice and comment

WE ARE HERE

FirstNet Board Meeting

Draft request for comprehensive network proposals

Consultation

Network Implementation

Milestones

- **Begin Formal State Consultations**
- **Initiate Public Notice and Comment**
- **Draft Requests For Proposals**

Phase II: Road To Implementation

SPOC Calls & Webinars

Draft RFP Documents

Industry Days

PSAC Recommendations

Federal Consultation

Public Notice(s)

Local, State & Tribal Consultation

PSAC Recommendations

Early Builders in Operation

SPOC Calls & Webinars

Local, State & Tribal Consultation

Final RFP

FirstNet State Plan

Draft State Plan Consultation

Deliver State Plan/ Governor Approval

Network Deployment

Key Milestones – Phase II

- **Public Notice(s) & Comment**
- **Expand Outreach and Consultation**
- **Leverage PSAC Recommendations and Early Builder Results**
- **Release Final RFP**

FirstNet Organization

Board

Sue Swenson, Chair
Jeff Johnson, Vice Chair
Barry Boniface
Tim Bryan
Chris Burbank
Ron Davis
Geovette Washington
James Douglas
Kevin McGinnis
Annise Parker
Frank Plastina
Ed Reynolds
Suzanne Spaulding
Richard Stanek
Teri Takai

Executive Director
TJ KENNEDY (Acting)

Deputy Executive Director
TJ KENNEDY

Chief Technical Officer (CTO)
JEFF BRATCHER (Acting)

Chief Admin. Officer (CAO)
FRANK FREEMAN

Chief Financial Officer (CFO)
KIM FARRINGTON (Acting)

Chief Information Officer (CIO)
JIM GWINN

Office of Chief Counsel (OCC)
JASON KARP (Acting)

Chief User Advocacy Officer
TJ KENNEDY

Director of State Consultation
DAVE BUCHANAN

Claudia Wayne

Director of State Plans
RICHARD REED

Brian Hobson
Doug Harder

Director of Outreach
AMANDA HILLIARD

Jeremy Zollo (State/Local)
Carl Rebstock (Tribal)
Chris Algiere (Federal)
Kristi Wilde (SPOCs)
Vicki Lee (Associations)

Director of Government Affairs
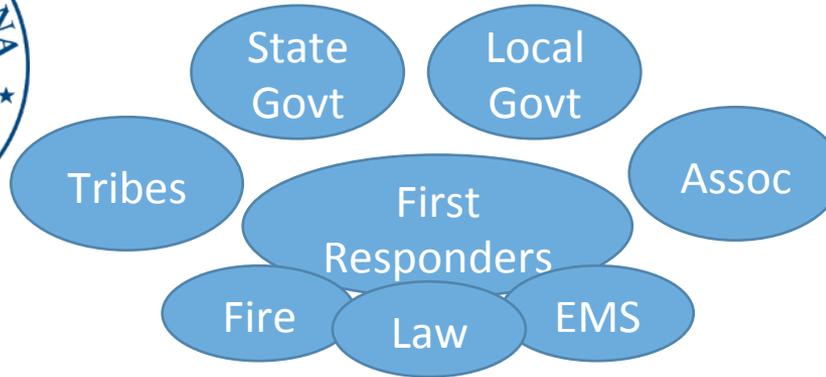**ED PARKINSON**

Justin Shore
Thomas Shull
Jeanette Kennedy

Director of Communications (Acting)
RYAN OREMLAND

Kyle Richardson

Louisiana Governance
Key Stakeholders

State Govt

Local Govt

Tribes

First Responders

Assoc

Fire

Law

EMS

Chief User Advocacy Officer
TJ KENNEDY

FirstNet®

Director of State Consultation **DAVE BUCHANAN**	*Director of State Plans* **RICHARD REED**	*Director of Outreach* **AMANDA HILLIARD**	*Director of Government Affairs* **ED PARKINSON**	*Director of Communications (Acting)* **RYAN OREMLAND**
Claudia Wayne	Brian Hobson Doug Harder	**Jeremy Zollo** (State/Local) **Carl Rebstock** (Tribal) **Chris Algiere** (Federal) **Kristi Wilde** (SPOCs) **Vicki Lee** (Associations)	**Justin Shore** **Thomas Shull** **Jeanette Kennedy**	**Kyle Richardson**

FIRSTNET STRATEGY AND CONSULTATION

Stakeholder Inputs

State Consultation

State Consultation

1. Construction of a Core and RAN build out
2. Placement of towers
3. Coverage areas of the network
4. Adequacy of hardening, security, reliability, and resiliency
5. Assignment of priority to local users
6. Assignment of priority and selection of entities seeking access to or use of the network
7. Training needs of local users

Need Inputs to Get Answers

FirstNet

FirstNet Consultation

Plan Options

Service Plan $$$

Data Usage

Deployables

Hardening

Applications

Core Network

Training

Users

Security

Coverage Objectives

Devices

Prioritization

$7B ✓ + **Excess Capacity Revenue** ? + **Fees** / Infrastructure Lease ? + **Deployment Costs** ? + **Operations & Maintenance Costs** ? + **PS Features** Priority, Security, Hardening, etc. ?

Self-Sustaining Network

Deployment Schedule

Baseline Coverage

Excess Capacity Valuation

Core Design

Cost Estimates

Hardening Costs

Available Devices

FirstNet Acquisition

Adoption Estimates

The FirstNet Opportunity

$7B + Fees + Synergies + Excess Network Capacity − Costs = Financial Sustainability

Offerors propose funding needed to deploy and operate network

FirstNet Cash Balance

FirstNet Breakeven

Cash balance inclusive of excess network capacity value

Cash balance inclusive of synergies (leverage existing backhaul, sites, etc.)

Cash balance with stand alone network costs and government funding

Cash balance inclusive of public safety revenue

Strong financial proposal

Minimum Value from Offerors for Contract with FirstNet

Contract Award

For illustrative purposes only. Not to scale.

End of Contract

Leveraging an Evolving Landscape

Aggregate LTE Coverage 3Q 2014

99.3% of population covered by LTE

All coverage illustrated is derived from public information provided by terrestrial mobile operators. Not all operators choose to market coverage information. Standards for coverage representation vary among operators. Mosaik Solutions provides no warranty to the accuracy of the data. Analysis reflects 2010 U.S. Census Data.

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PUBLIC SAFETY NEEDS

- ✓ Dedicated Spectrum
- ✓ Priority / Preemption
- ✓ Public Safety Grade
- ✓ Cybersecurity
- ✓ Public Safety Applications

LEVERAGING INDUSTRY

- ✓ Existing Infrastructure
- ✓ Built & Maintained
- ✓ Global Standard
- ✓ Interoperability
- ✓ Economy of Scale

Why Leverage Industry?

- Follow the marketplace to leverage economies of scale and keep costs low

- Commercial service providers lease sites from large tower companies
  - Site Management is their business
  - Tools and services in place for site acquisition
  - Some own 10,000s of sites

- An LTE RAN site has high demands
  - Multiple, large antennas
  - High bandwidth connectivity requirements

- RAN share options are attractive to share costs and speed deployment times

- Public Safety Grade requirements will be addressed when economically feasible

Tower Owner A

Provider X

Provider Y

Provider Z
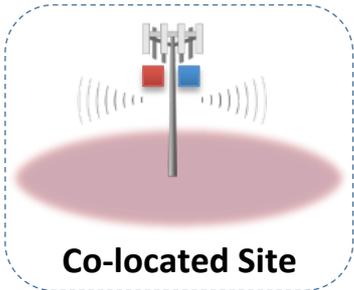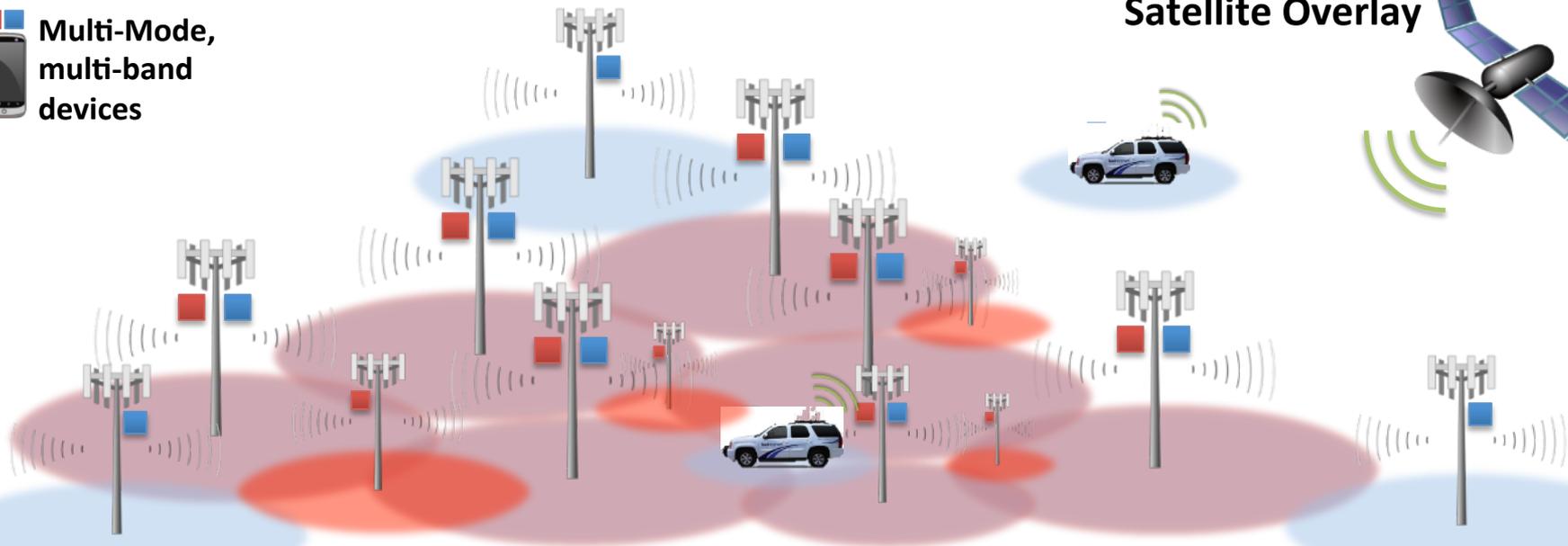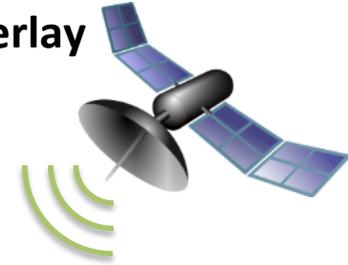
FirstNet Spectrum – A Valuable Resource

- FirstNet is the license holder for Public Safety's Broadband allocation – **Band Class (BC) 14**
- Commercial Carriers also operate in several bands outside of 700 MHz

BC 17			BC 17							
BC 12	BC 29		BC 12	BC 13	BC 14	LMR	BC 13	BC 14	LMR

T-Mobile / cellularsouth / U.S. Cellular / CONTINUUM	AT&T	AT&T Dish / dish	T-Mobile / cellularsouth / U.S. Cellular / CONTINUUM	AT&T	Verizon	PS Broadband FirstNet	PS Narrowband	Verizon	PS Broadband FirstNet	PS Narrowband
UL	UPLINK	DOWNLINK	DL	DOWNLINK	DOWNLINK	DOWNLINK		UPLINK	UPLINK	
6 MHz	12 MHz	12 MHz	6 MHz	12 MHz	11 MHz	10 MHz	6 MHz	11 MHz	10 MHz	6 MHz

1 MHz Guard Bands

Conceptual Design Approach

Multi-Mode, multi-band devices
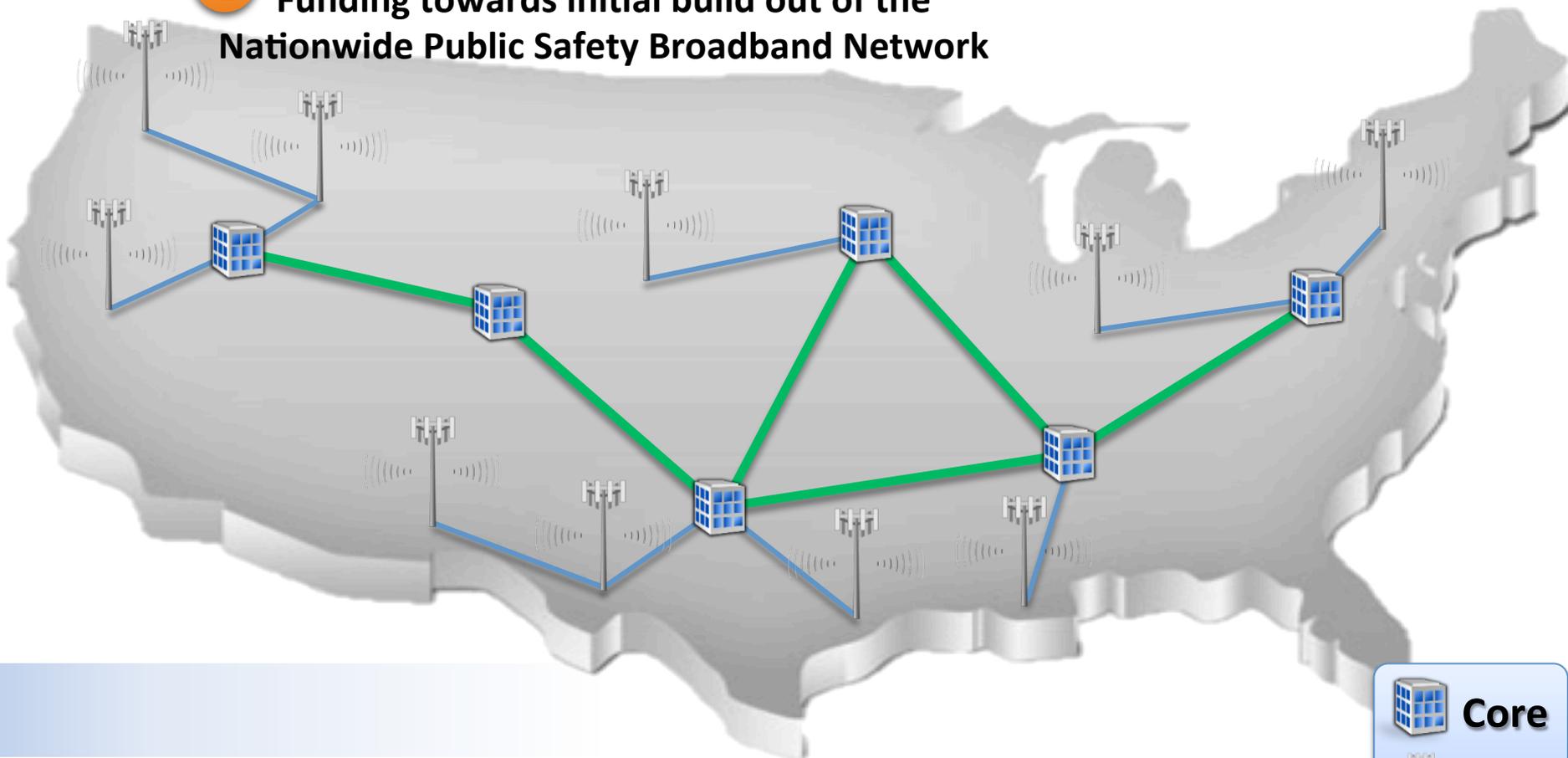
Satellite Overlay

Co-located Site

FirstNet RAN Only
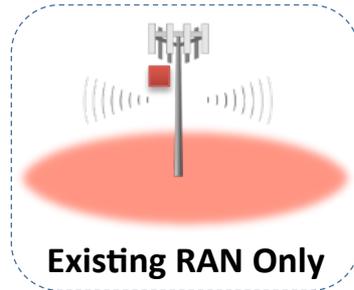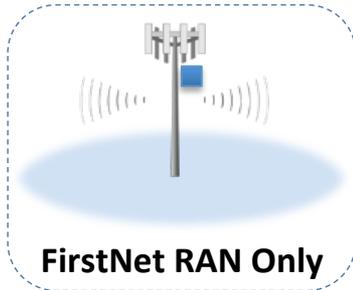
Existing RAN Only

■ = FirstNet RAN (Band 14)

■ = Existing RAN (Band ??)

)) = Satellite Overlay

Revenue, Architecture & Priority

1.$7B Initial Funding from Auction Proceeds

1 **Funding towards initial build out of the Nationwide Public Safety Broadband Network**

Core

RAN

Revenue, Architecture & Priority

FirstNet®

1. $7B Initial Funding from Auction Proceeds
2. Network User Fee (Service Plan)
3. Lease Fee for Excess Network Capacity
4. Core Network Access Fee
5. Lease Fee for Network Infrastructure

1 Funding towards initial build out of the Nationwide Public Safety Broadband Network

5

FirstNet Spectrum

Priority Access

4
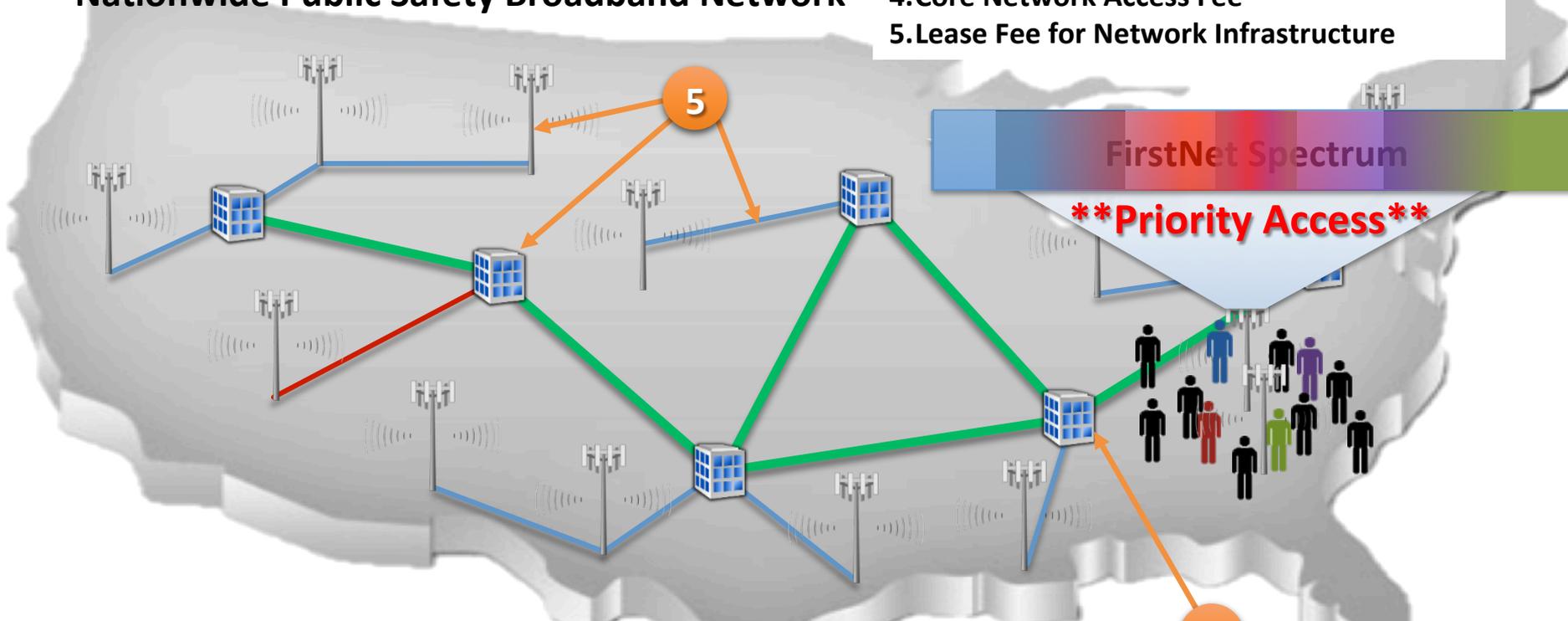
FirstNet Users **2**

Commercial Customers of Secondary User **3**

Core

RAN

Rural Deployment

Requirements of the Act

"…shall require deployment phases with substantial rural coverage milestones as part of each phase of the construction and deployment of the network"

- State Consultation Topic – identifying coverage objectives and inputs on a phased deployment

Fiscal Approach

Nationwide Reinvestment of Revenues
(As proposed in 2nd public notice)

Potential Technical Options

- High power ("boomer") sites
- High power devices
- Deployable solutions (including SATCOM)
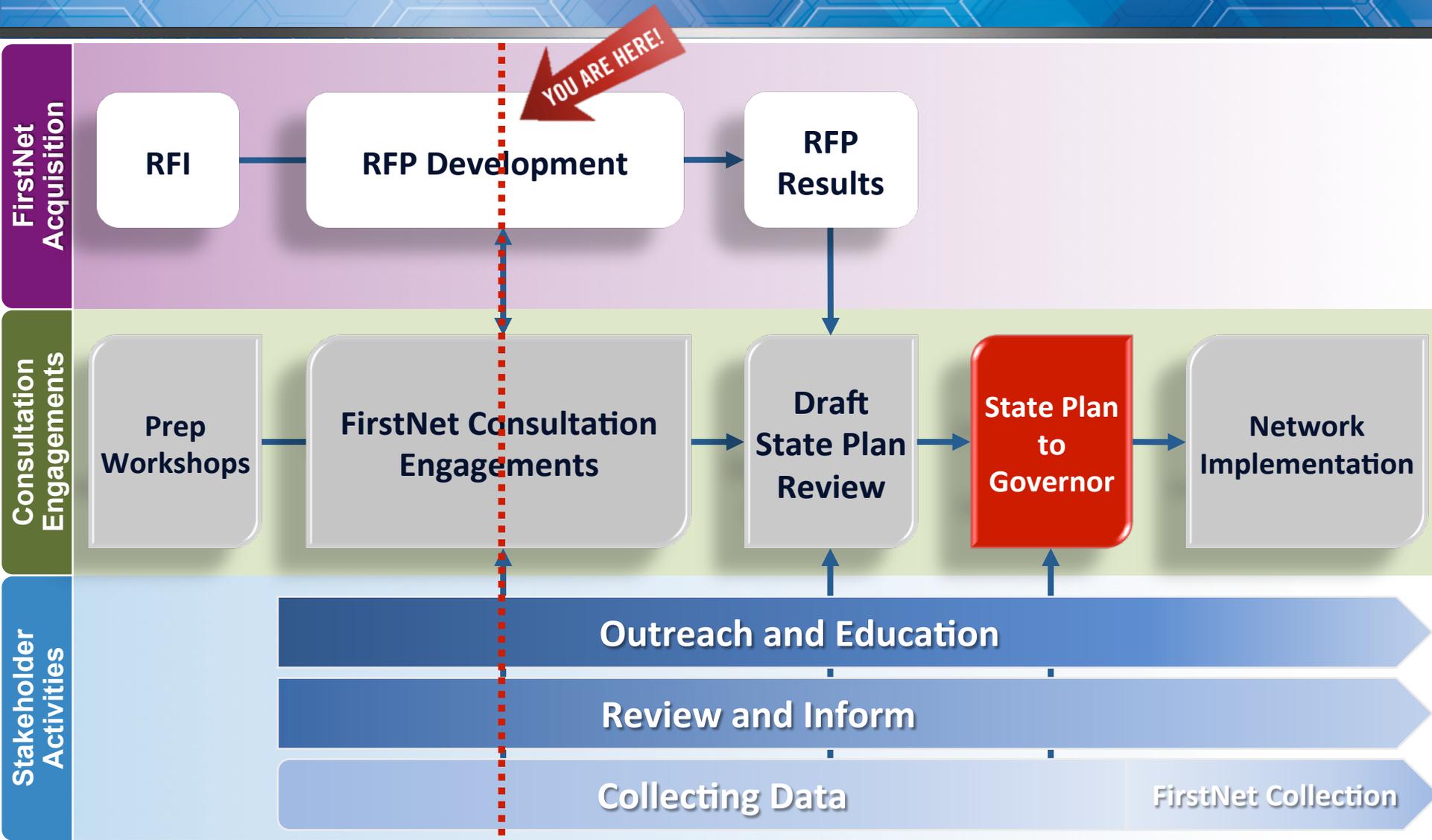
Contractual Measures

- Considering RFP incentives for rural
- Network policies with partner(s) to evaluate existing infrastructure beyond initial deployment

Note: The definition of rural does not determine coverage, our resources will determine coverage. The definition of rural will be used to measure whether substantial rural milestones have been included in each phase of deployment. Being included in the definition of rural does not guarantee coverage, nor does being excluded from it deny coverage.

GETTING INPUT THROUGH CONSULTATION

State Plan Development Process

FirstNet Acquisition
- RFI
- RFP Development — **YOU ARE HERE!**
- RFP Results

Consultation Engagements
- Prep Workshops
- FirstNet Consultation Engagements
- Draft State Plan Review
- State Plan to Governor
- Network Implementation

Stakeholder Activities
- Outreach and Education
- Review and Inform
- Collecting Data — FirstNet Collection

State Consultation Partnership

Elements of State Consultation

Outreach and Education
- Webinars
- Meetings
- Surveys
- Training

Review and Inform
- Stakeholder Needs
- Technology and Economic Topics
- Legal Interpretations
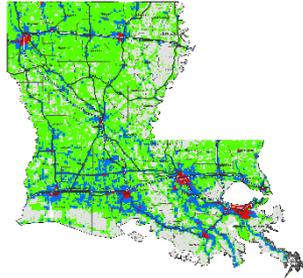- Network Policies and Procedures

Collect Data
- Coverage Objectives
- User and Operational Areas
- Capacity Planning
- Current Service / Procurement

State Plan Process

Acquisition

Outreach and Education

Network Policies and Procedures

Data Collection
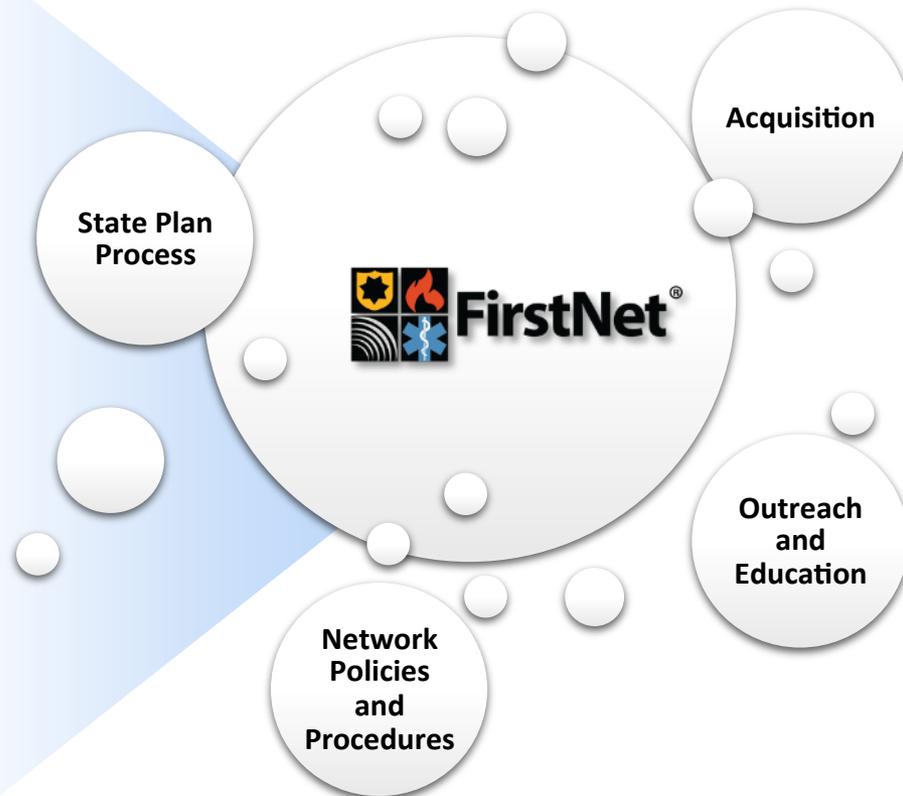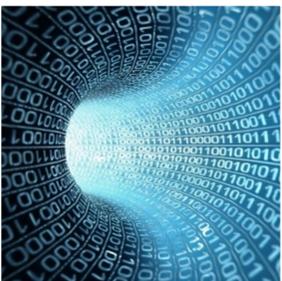
Coverage Objectives

- Coverage
- Phased Build Out

Capacity

- Applications
- Data Usage

Louisiana

Users and Operations

- Public Safety Entity Info
- Devices
- Operational Areas
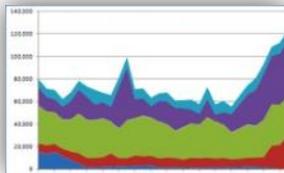
- Current Service
- Procurement Vehicles
- Service Plans

Current Service

Service Plan

PURCHASE ORDER

Learning Through Consultation

- Use cases discussed included events such as:

  - Active Shooters
  - Wild fires
  - Flooding
  - Bridge collapse
  - Hurricanes

  - Mudslide
  - Fugitive tracking
  - Super Bowl Victory Parade
  - National level sporting & musical events
  - Search & Rescue (Over Water & Land)

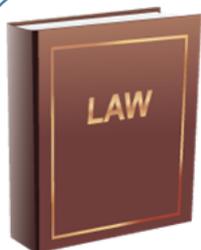# STATE PLAN – BRINGING EVERYTHING TOGETHER

What is in a State Plan?

7 REQUIREMENTS OF THE ACT:

- Construction of a core network and any radio access network build out
- Placement of towers
- Coverage areas of the network, whether at the regional, State, tribal, or local level
- Adequacy of hardening, security, reliability, and resiliency requirements
- Assignment of priority to local users
- Assignment of priority and selection of entities seeking access to or use of the nationwide public safety interoperable broadband network
- Training needs of local users

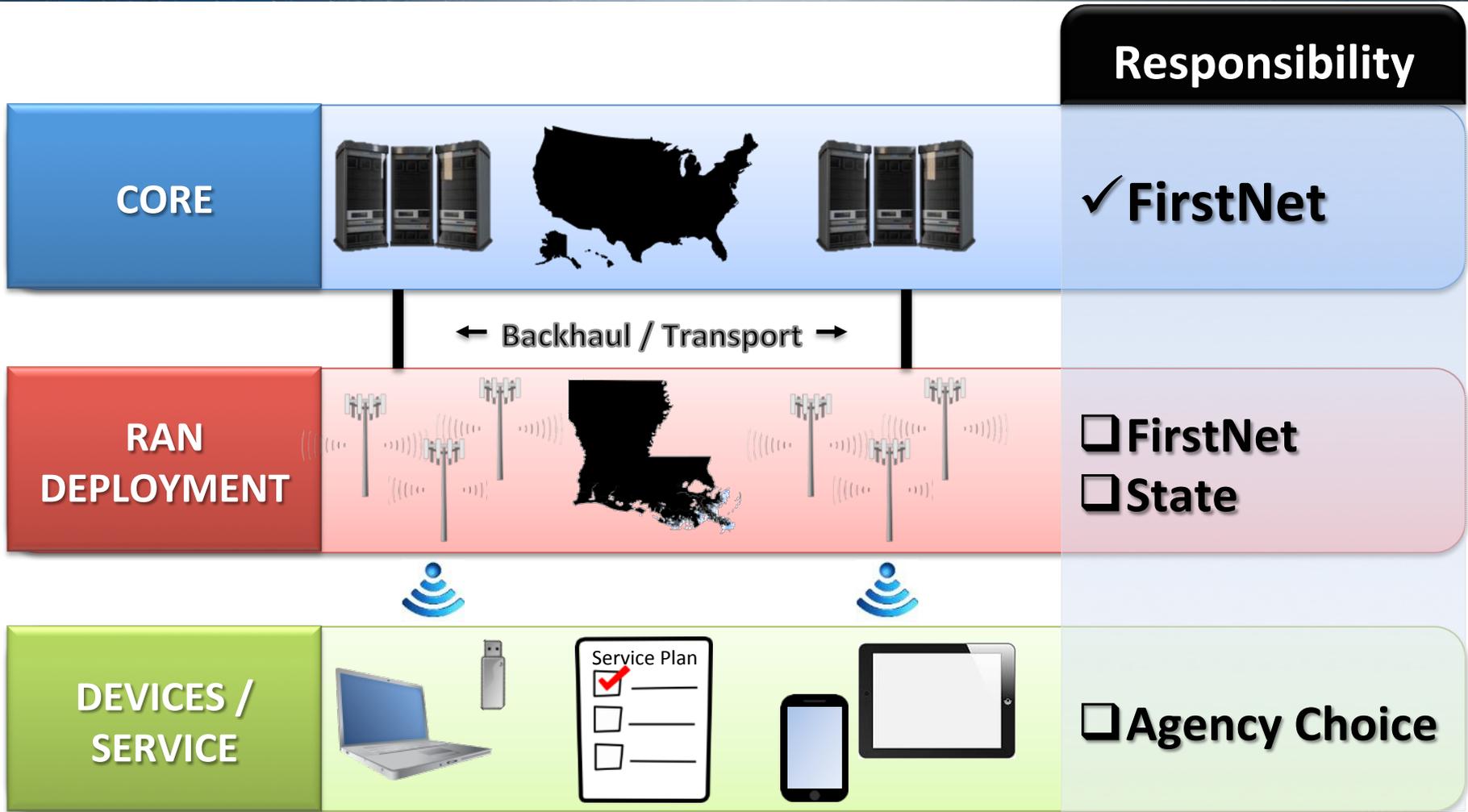## CONSULTATION WILL HELP INFORM:

- Service Levels
- Performance Criteria
- Technical and Operational Requirements of the Network
- Network Management and Operation Practices
- Procedures and Standards
- Terms of Service for Network Use
- Compliance Review and Monitoring of Network Management
- Operation
- Use

What is a State Plan?

- ☑ **Contains the Information the Act Requires**

- ☑ **Contains the Information the State Desires**

- ☑ **Captures a Snap Shot in Time**

- ☑ **Allows the Governor to Make an Informed Decision on the FirstNet Value**

- ☑ **Is a Non-Binding Document**

- ☑ **Is Implementable and Affordable**

- ☑ **Supports the FCC and NTIA in Evaluation of a State's Alternative RAN Plan**

Responsibilities for Network Components

Component	Responsibility
CORE	✓ **FirstNet**
RAN DEPLOYMENT	☐ **FirstNet** ☐ **State**
DEVICES / SERVICE	☐ **Agency Choice**

← Backhaul / Transport →

Service Plan

FirstNet Network Benefits

Dedicated to Public Safety

Public Safety Apps / Services

QoS, Priority & Preemption (QPP)

Situational Awareness

Local Control

Public Safety Grade

"FirstNet must provide a service that is compelling to public safety in order to earn your business."

Sue Swenson
Chairwoman, FirstNet

FirstNet and Louisiana are working together to bring wireless broadband to Public Safety