FirstNet®

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FirstNet Committee Meetings

December 8, 2015

Performance Evaluation and Charter Review

Governance and Personnel
Technology
Consultation and Outreach
Finance

December 8, 2015

User Advocacy Update

Amanda Hilliard
Director of Outreach

David Buchanan
Director of Consultation

Rich Reed
Director of State Planning

December 8, 2015

New User Advocacy Staff

Outreach

Senior Advisors

- Bill Hinkle (9-1-1)
- Brent Williams (EMS)
- Mike Worrell (Fire)

Tribal Liaisons

- Margaret Muhr (Regions 1-8)
- Adam Geisler (Regions 9-10)

Consultation

Area Leads

- Jeff King
- Steve Smith

Regional Leads

- Mike Varney (Region 1)
- Lori Stone (Region 3)
- Jacque Miller (Region 6)

Federal Liaisons

- Tiffany Perry
- Charlotte Whitacre

User Advocacy Year End Summit Outcomes

- Updated messaging strategy
- Coordinated state and association engagement strategies
- Further defined team roles and responsibilities
- Strengthened User Advocacy team synergy

User Advocacy 2016 Goals

Broaden consultation and outreach efforts to:

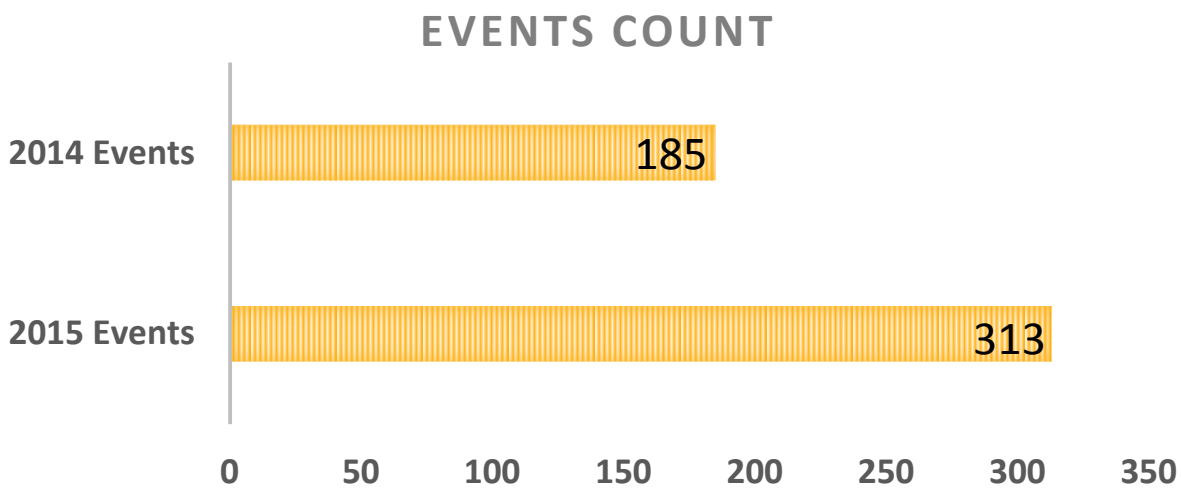
- Obtain input from a wide range of stakeholders from local, state, tribal, territory and federal entities to inform network planning
- Prepare Governors for state plan decision
- Prepare stakeholders for adoption and use of the FirstNet network

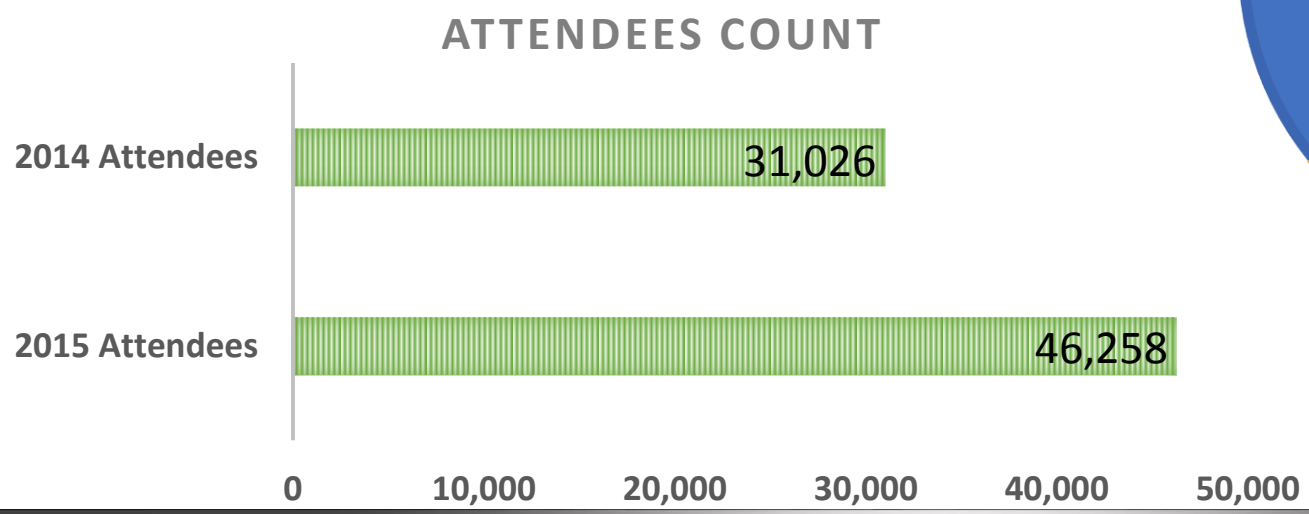
Customer Relationship Management (CRM) Tool

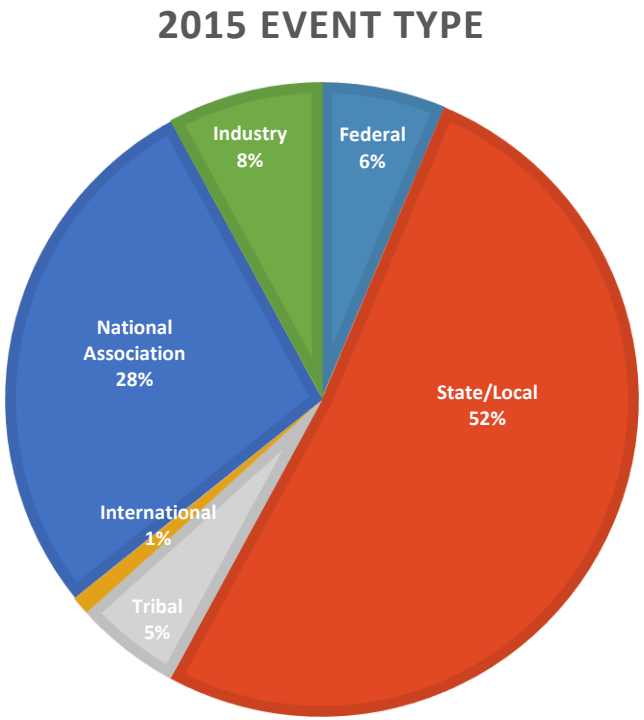
- ✓ Phase 1 Launched
  - Contacts Management: Logging contacts and activities with contacts
  - Event Management: Tracking events from initial planning through post event follow-up

- Phase 2
  - Enhanced reporting and other functionality
  - Stakeholder Portals: Providing online forum for key stakeholder groups to collaborate

Summary of 2015 Events







Recent Stakeholder Engagements

FirstNet®

IACPI 2015

NASEMSO

MAJOR CITIES CHIEFS ASSOCIATION

National Congress of American Indians

NASCIO 2015 Annual

APCO International Emerging Technology Forum

BIGCITY emergency managers

8TH ANNUAL LTE north america 2015

POLICE EXECUTIVE RESEARCH FORUM

CITIG

CANADIAN INTEROPERABILITY TECHNOLOGY INTEREST GROUP
GROUPE D'INTÉRÊT CANADIEN EN TECHNOLOGIE DE L'INTEROPÉRABILITÉ

MILCOM 2015

LEVERAGING TECHNOLOGY—THE JOINT IMPERATIVE

iCERT

Social Media 2015 Update

FirstNet®

Breadth… How has interest and engagement for our social media accounts improved?

Twitter: Our **followers** grew over 100% percent from to CY14 to CY15. On average, daily tweets reached 3,000 people (Impressions)

LinkedIn: We started our company page in June 2014. Number of **followers** has increase over 150%

Blog: The **frequency** of **media mentions** of our blog articles increased.

YouTube: We have more than 9,380 **views** of our **videos**.

Flickr: Total cumulative lifetime **views** of all the photo **albums** has improved to 6,856

Direct Engagement… How many followers do we have today on our top social channels?

2940 twitter

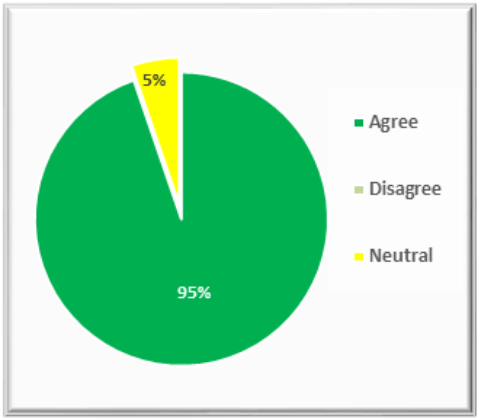
1154 LinkedIn

177 YouTube

October In-Person SPOC Meeting Highlights

- Over 125 individuals representing 51 states and territories, the PSAC and the Tribal Working Group
- Allowed FirstNet to share up-to-date information, including recent Board decisions and data collection results
- Provided opportunity to share best practices and lessons learned
- Helped FirstNet gather input on 2016 planned activities

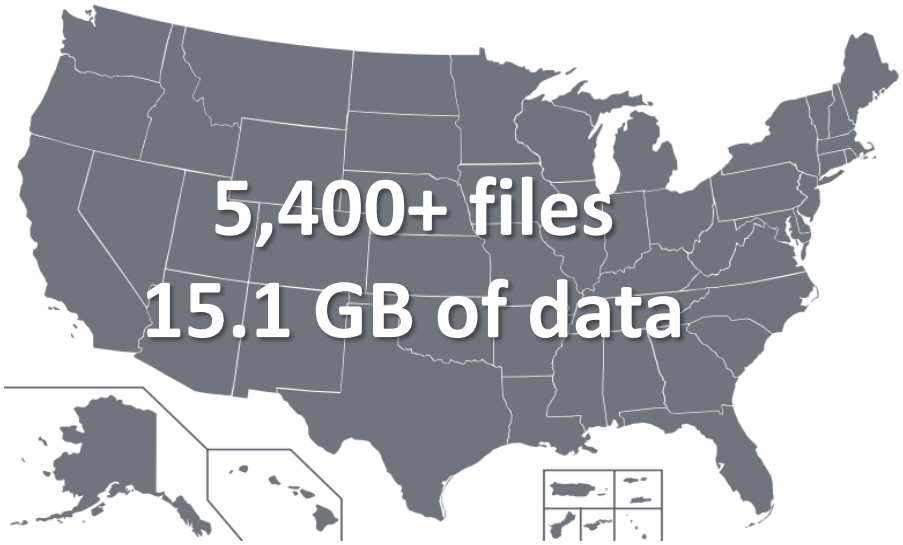
Overall, the meeting met my expectations



October SPOC Meeting Sessions and Topics

- Acquisition Update
- Public Notices
- 2016 Consultation Overview
- State Plan Process for 2016
- Technical Updates
- Early Builders Update
- Education and Outreach Lessons Learned
- Federal Engagement
- Governor and Elected Officials Engagement
- How to Meet and Document SLIGP Match Requirement
- Metropolitan Engagement
- Operational Architecture Overview
- Quality of Service, Priority, and Preemption
- Tribal Engagement

Data Submission Summary

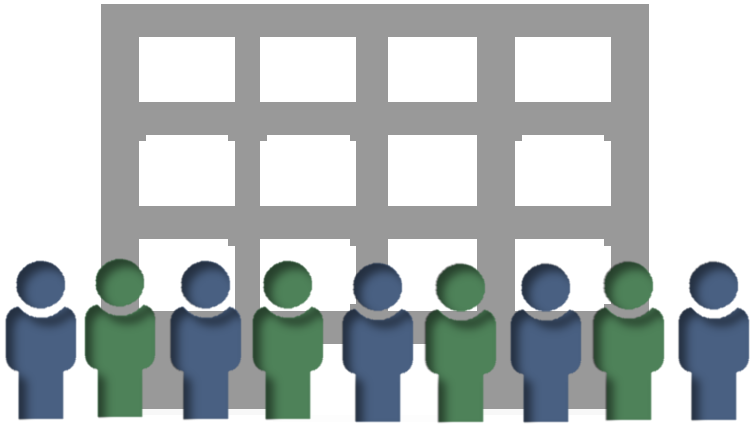


54 States and Territories

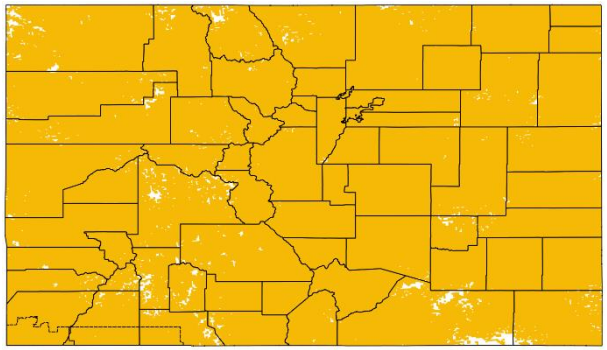
7 Federal Agencies

11,600+ Entities Surveyed

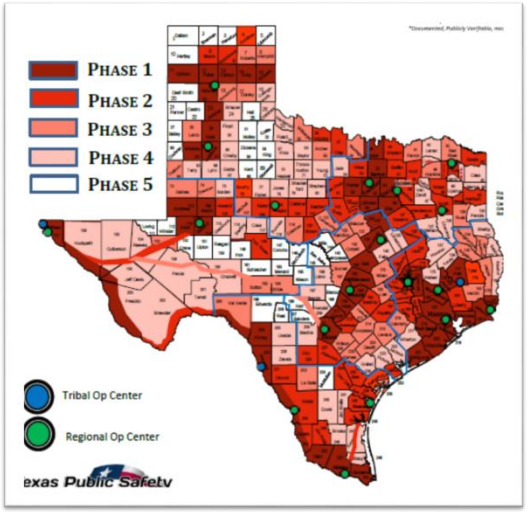
1.6m+ Personnel Represented



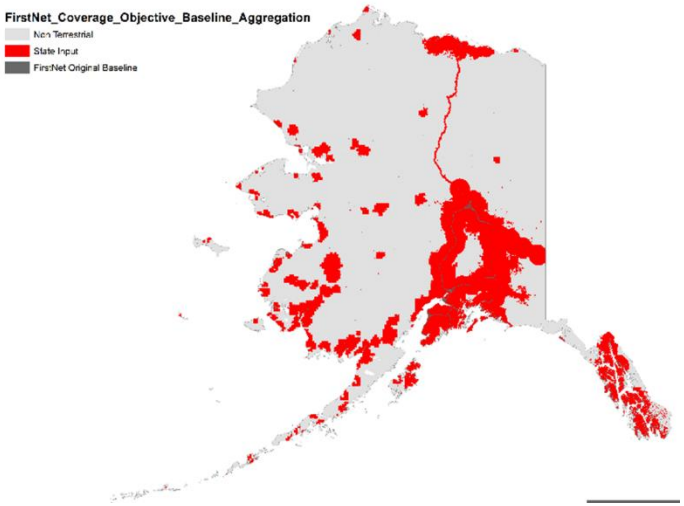
Coverage Example Inputs



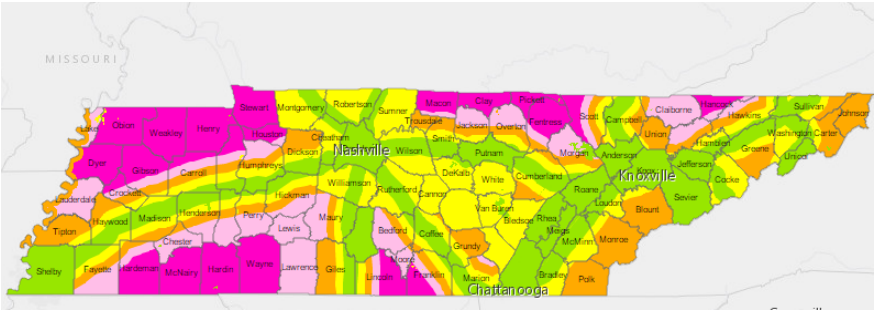
Colorado Coverage Objective



Texas Coverage Phasing



Alaska Coverage Objective



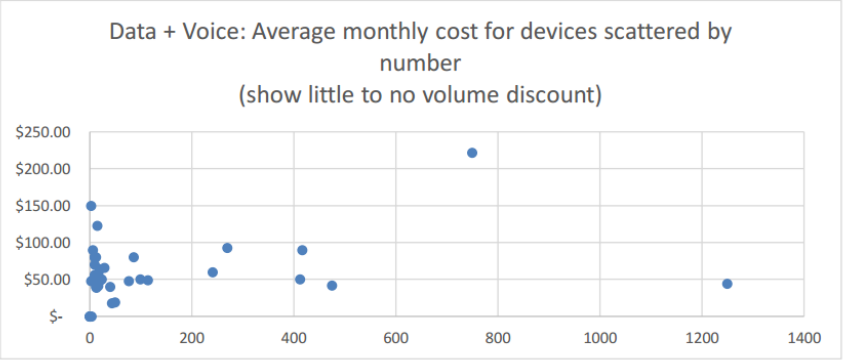
Tennessee Coverage Phasing

Data Example Inputs

Scott Bailey - JC MA Users and Devices Summary v1.xlsx

Commonwealth of Massachusetts	Surveyed Data (Sampling)				Estimated Totals				
Discipline	Agencies	Personnel	Devices	Devices/User	Agencies	Personnel	Devices/User	Devices	Notes
Corrections - Adult Institutions	1	6,754	672	0.10		6,754	0.10	672	Does not include County Houses of Corrections and any specialized correction facility not run by Massachusetts Department of Correction.
Emergency Management - MEMA	1	91	105	1.15		91	1.15	105	
Emergency Management - Municipal and County	1	228	60	0.26		228	0.26	60	
EMS Departments (Private and Nonprofit)	17	6,574	505	0.08	110	11,800	0.08	1,181	Estimated based on OEC and survey results
Environmental & Conservation	1	73	44	0.60		1,923	0.60	1,923	
Fire Services - Fire Departments	174	10,998	2,872	0.26	344	18,672	0.26	4,726	
Fire Services - State Island	2	193	122	0.63	4	213	0.63	134	
Fire Services - State Fire Marshal	1	372	209	0.56	2	372	0.56	209	
Law Enforcement - Campus	18	1,455	109	0.14	82	6,037	0.14	837	Estimated campus security department sizes based on survey data
Law Enforcement - Environmental			-			-			Pending reporting of personnel and device counts from MA Environmental Police
Law Enforcement - Medical Facility	2	10,668	48	0.00	16	10,668	0.00	358	Pending estimates of statewide Medical Facility security staffs
Law Enforcement - Police Departments	196	21,038	8,390	0.40	353	37,982	0.40	15,322	
Law Enforcement - Sheriff's Departments	3	4,272	400	0.22	24	5,252	0.22	720	
Law Enforcement - State Police	1	2,932	1,670	0.60	1	2,932	0.60	1,670	
Law Enforcement - Training	1	1,003	6	0.01	1	1,003	0.01	6	
Medical - Emergency Department	1	1,104	-	-	1	1,104	-	-	Pending estimates of statewide emergency department staffs
National Guard	1	9,308	473	0.05	1	9,308	0.05	473	
Probation & Parole	1	1,500	610	0.41	1	1,500	0.41	610	
Public Health			-		1	-	-	-	Pending reporting of personnel and device counts from MA Department of Public Health
Public Safety Inspection			-		1	-	-	-	Pending reporting of personnel and device counts from MA Department of Public Safety
State Office - Attorney General			-		1	-	-	-	Pending reporting of personnel and device counts from MA Attorney General's Office
State Office - Coroners & Medical Examiners	1	84	60	0.71	1	84	0.71	60	
State Office - Public Safety and Security			-		1	-	-	-	Pending reporting of personnel and device counts from EOPSS
Transportation - Aeronautics			-		1	-			Pending reporting of personnel and device counts from MassDOT Aeronautics
Transportation - Harbor and Ferry	20	112	28	0.25	22	243	0.25	122	Estimated based on survey data
Transportation - Highway			-		1	-			Pending reporting of personnel and device counts from MassDOT - Highway
Transportation - Massport			-		1	-			Pending reporting of personnel and device counts from Massport
Transportation - MBTA	1	8,550	8,750	1.02	1	8,550	1.02	8,750	
Transportation - Railroad	1	77	24	0.31	1	110	0.31	34	Estimated total rail security
Trial Court					1	-			Pending reporting of personnel and device counts Administrative Office of the Trial Court
Tribal Government					1	-			Pending reporting of personnel and device counts from Massachusetts Tribes
Grand Total	386	74,410	23,176	0.31	1,016	101,992		32,916	

Massachusetts Total Personnel Table



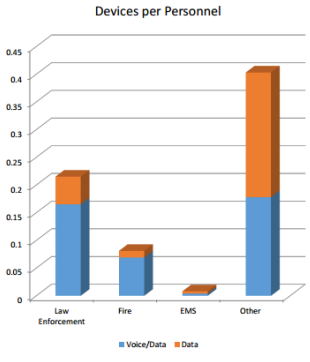
Maryland Monthly Cost Chart

Personnel & Devices

Responses By Discipline	Full Time	Part Time	Volunteers	Total Employees
Law Enforcement	838	130	52	1,020
Fire	218	73	415	706
EMS	21	90	104	215
Emergency Management	10	4	93	107
Public Services	93	13	0	106
Other	2,241	247	119	2,607
Total	3,421	557	783	4,761

Devices Issued to Personnel	Voice/Data	Data Only	Other	Total
Law Enforcement	169	52	61	282
Fire	49	9	33	91
EMS	1	1	1	3
Other	503	636	16	1,155
Total	722	698	111	1,531

	Personnel	Total Voice/Data & Data Devices	Device per Personnel
Law Enforcement	1,020	221	.216
Fire	706	58	.082
EMS	215	2	.009
Other	2,820	1,139	.403
Total	4,761	1,420	.298



Homeland Security

South Dakota Data

8

South Dakota Device per User Data

	Selection Response
Computer Aided Dispatch (CAD) interface (76)	68.4%
Text messaging, paging, one way notifications (92)	82.80%
Small File transfers (up to 1MB) (55)	49.5%
Large File transfers (over 1MB) (43)	38.1%
GIS/Situational awareness (57)	51.3%
Internet browser access (85)	76.5%
Intranet access/VPN to home network (63)	56.7%
Transmission of low quality video (20)	18.0%
Transmission of high quality video (27)	24.3%
Web based training (37)	33.3%
Video conferencing (18)	16.2%
Field-based Reporting (79)	71.1%
Automatic Vehicle Location/GPS (AVL/GPS) (56)	50.4%
Database (FCIC/NCIC, crim hist, hot files) (86)	77.4%
Records Management Systems (local queries) (81)	72.9%

North Carolina Application Data

Data Collection – Next Steps…

OBJECTIVE: Ensure we understand the data that has been submitted

Regional Lead Review

Data Analyst Review

Follow-up Call (Oct/Nov)

FirstNet Data Aggregation

FirstNet RFP Package

Consultation & State Plans

Aggregating Coverage Inputs

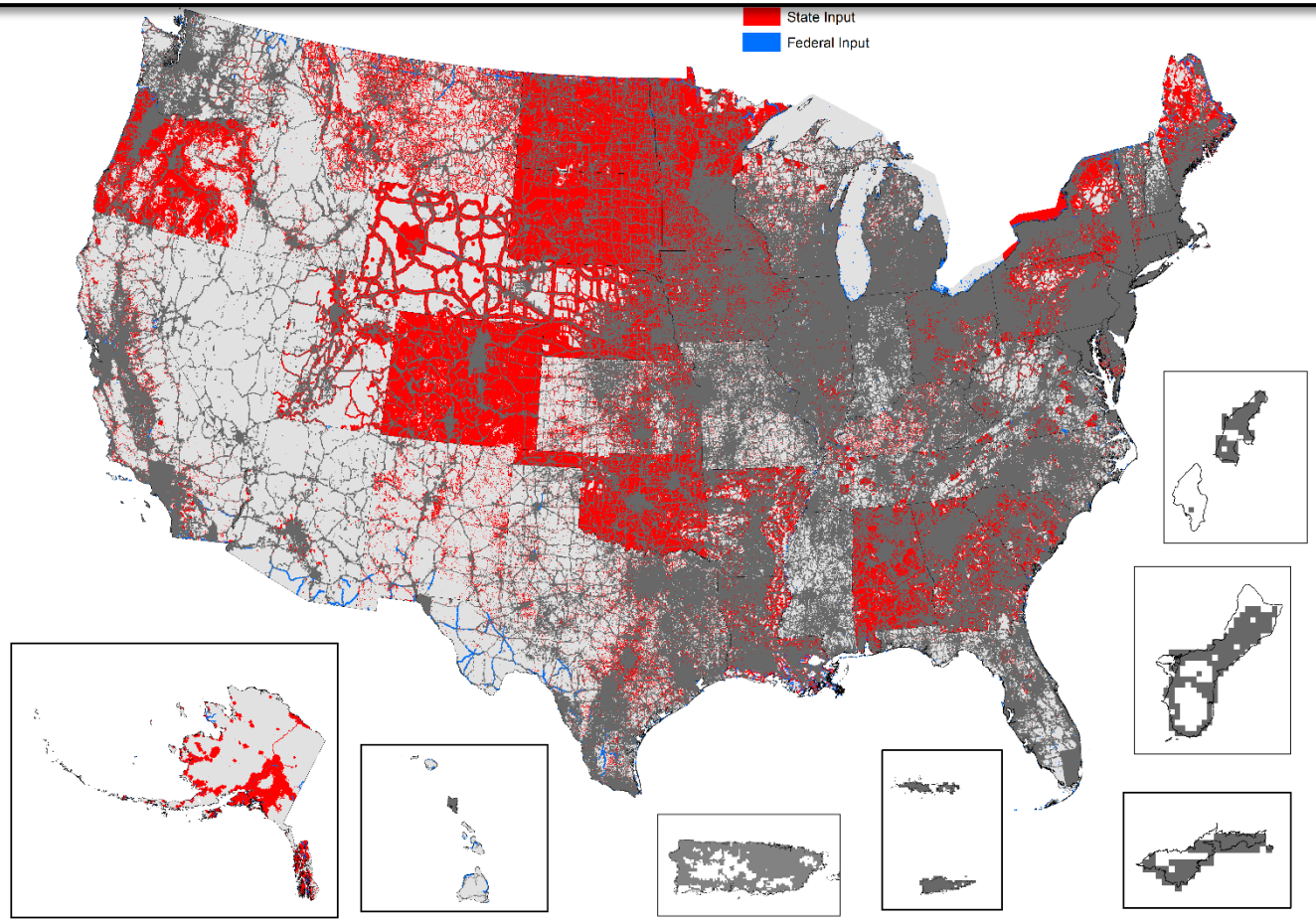
State/Local + Federal = FirstNet Baseline

Federal Datasets

1. Border Crossings & Roadwa
2. HQ & Field Offices
3. Key Facilities / Locations
4. Federal Buildings

State/Local Datasets

1. LE, Fire, EMS Personnel
2. Public Safety Risk/Areas of
3. US Population
4. Developed Areas/Buildings
5. Roadways

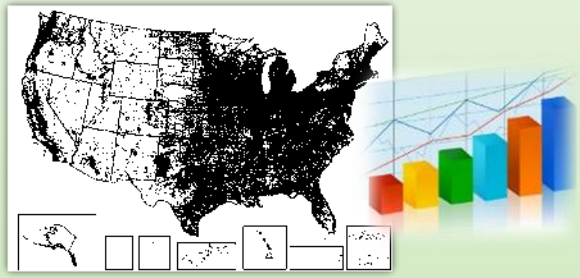


Use of the Data

RFP / Acquisition

Readers' Room
(All States/Territories)

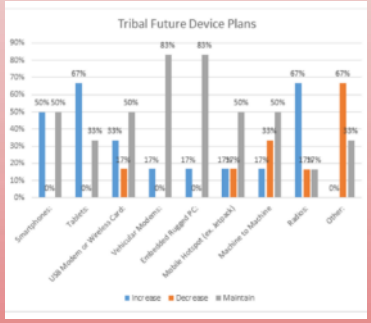
RFP *(Nationwide data)*



Evaluation Approach

Consultation

National Report



State Plan

2016 Consultation Vision

1

- Expanded outreach and education with state, local, and tribal public safety entities

2

- Obtaining state and territory input to inform state plans and network deployment policies, processes, and procedures

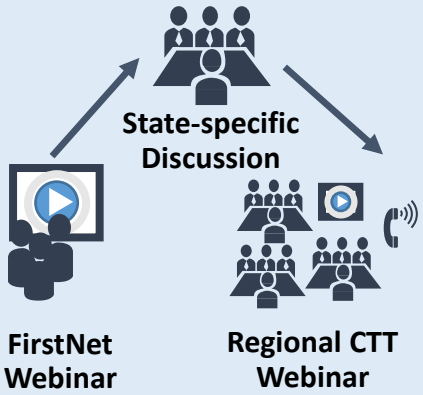
3

- Preparing key decision makers for state plan delivery and network deployment

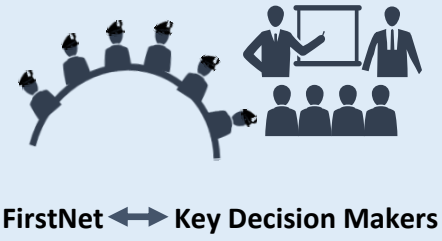
2016 Consultation Elements

SPOC Kick-Off Meeting

Governance Body Meeting



Consultation Task Teams



Executive Consultation Meeting

EXPANDED NATIONAL OUTREACH

EXPANDED FEDERAL CONSULTATION

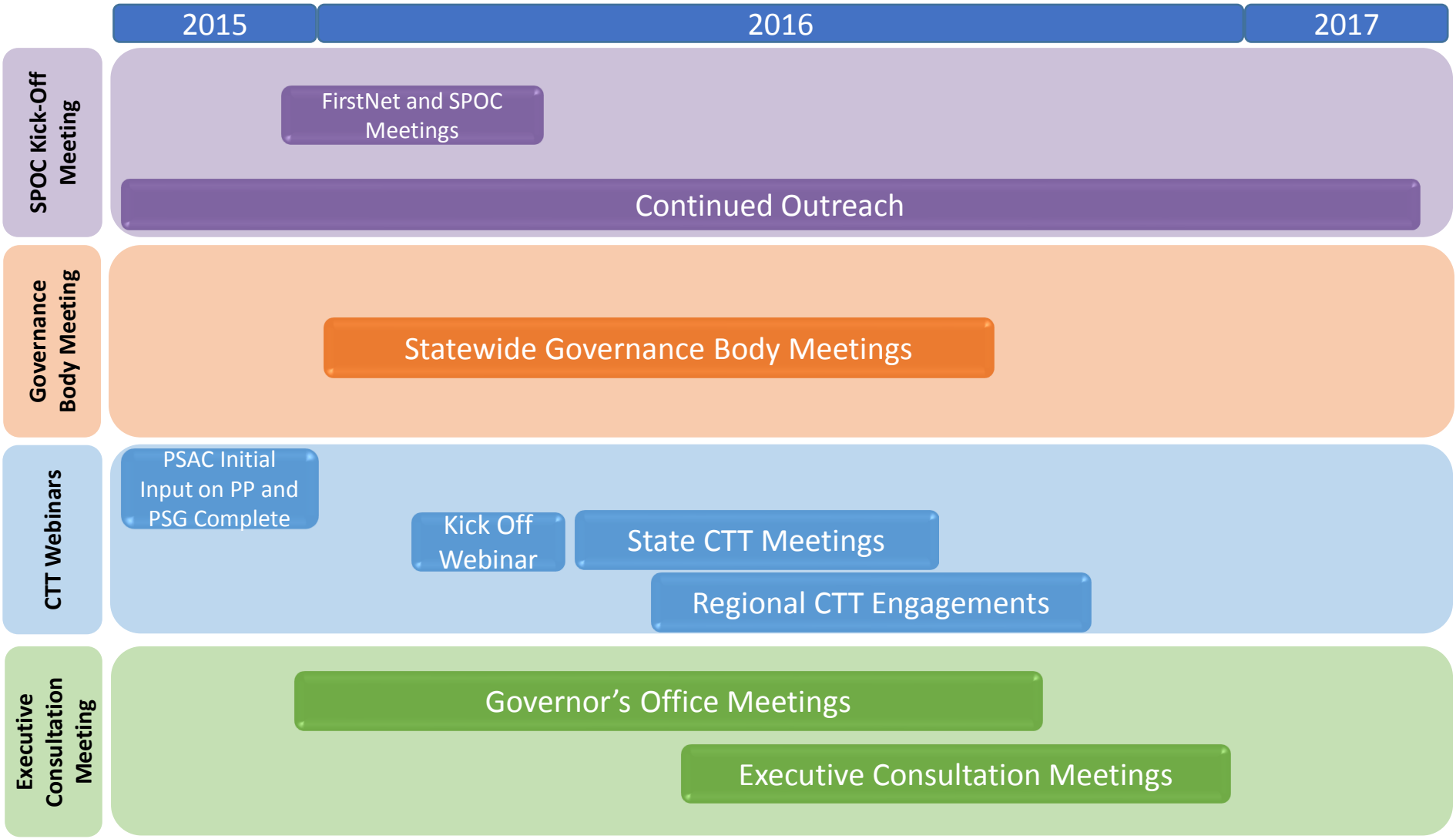
2016 – Expanded Outreach and Engagement

FirstNet®

State Engagement Strategy will identify expanded customer base for aligned state/territory and FirstNet outreach, such as:

Emergency Medical Services	Metropolitan Leaders	Chief Information Officers	Attorney Generals	Tribes	Emergency Management Directors
Governor's Staff	FirstNet Champions	Key Executives	Key Decision-Makers	Rural Communities	Future User Communities
State-Level Professional Associations	Local Public Safety	Chiefs of Staff	Cabinet Secretaries	County Supervisors	City Councils
Police Chiefs	Mayors	Fire Chiefs	Homeland Security Directors	Public Safety Directors	PSAPs

2016 Consultation Milestones



Technology Update

Jeff Bratcher
Chief Technology Officer

December 8, 2015

Agenda

- CTO Hiring Updates
- RFP Development – CTO Focus
- Recent Highlights
- Early Builder Update
- PSCR Efforts

FirstNet Boulder at a Glance

- Current Headcount: 33
  - CTO: 20
  - User Advocacy: 1
  - IT: 2
  - PMO: 2
  - Contractors: 8
- Facility: 28,614 sqft
  - Office: 14.6K sqft
  - Warehouse: 10K sqft
  - Test & Validation Lab: 4k sqft

CTO Hiring Update

New CTO Team members since the October Technical Committee brief:

▪ Ebony Murray	Administrative Assistant
▪ Murry Westall	Senior RAN Design Engineer
▪ Brigitte Horner	Lead Systems Engineer
▪ FNU Rajan	Sr. Applications Sec. Architect
▪ Qumars Eghaneyan	Senior RAN Design Engineer
▪ Peter Rachad	Network Services Analyst
▪ Erickson Trejo-Reyes	Lead End to End Architect
▪ Swaran Singh	RAN Design Engineer
▪ Jeff Posner	Sr. Applications Architect

RFP Statement of Objectives

FirstNet®

- Building, Deployment, Operation & Maintenance of the NPSBN
- Financial Sustainability
- First Responder User Adoption
- Device Ecosystem
- Applications Ecosystem
- Accelerated Speed to Market
- User Service Availability
- Service Capacity
- Cyber Security
- Priority Services
- Integration Of Opt-out State RANs
- Integration of Existing Commercial/ Federal/ State/Tribal/Local Infrastructure To Support NPSBN Services
- Life-cycle Innovation
- Program and Business Management
- Customer Care and Marketing
- Facilitation of FirstNet's Compliance With The Act & Other Laws

RFP Major Sections – CTO Work

FirstNet®

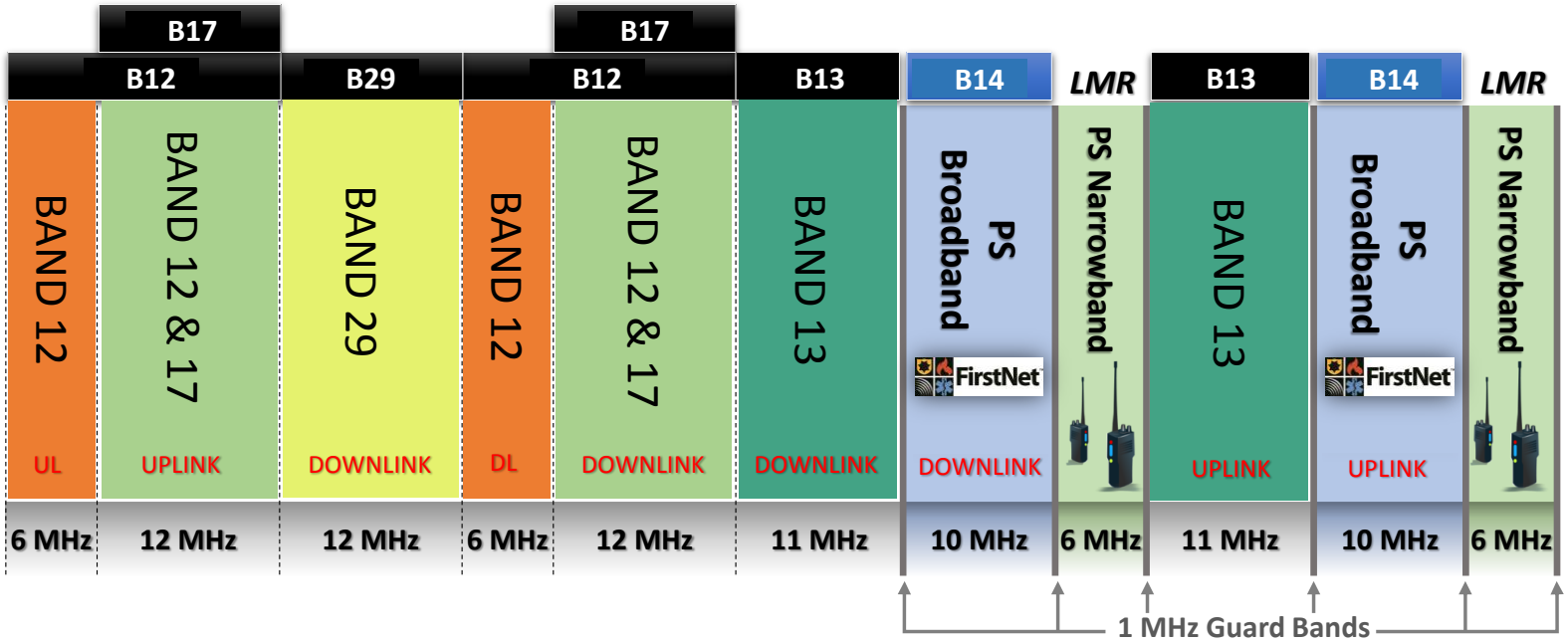
A Information to Offerors	B Pricing	C Statement of Objectives	D Packaging & Marking
E Inspection & Acceptance	F Deliverables	G Contract Administrative Data	H Special Contract Requirements
I Contract Clauses	J Attachments (1-26)	K Representations, Certifications	L Instructions to Offerors
M Evaluation Factors for Award			

LEGEND Reviewer Provided Input Heavily involved

FirstNet Spectrum – Band 14

20 MHz of Spectrum @ 700MHz

- 3GPP standardized as LTE "Band 14" 10 MHz Downlink + 10 MHz Uplink
- Spectrum licensed to FirstNet from the **FCC** under call sign "WQQE234"
- Governed by **PART 90** rules "Private Land Mobile Radio Services" not Part 27 which governs commercial cellular in other bands
  - Allows higher power portable/mobile devices – benefit to rural
  - 3GPP Standards already in place for 1.25W devices



Early Builder Projects

Project	SMLA	KLCP	Sites	Primary Focus Areas / Key Learning Conditions	On-Air
1. **LA-RICS**	Yes	Yes	77	Secondary responders partnerships, Quality of Service, priority/pre-emption	Now*
2. **NM**	Yes	Yes	7	Hosted core, int'l border spectrum management, Federal partnerships	Now*
3. **NJ**	Yes	Yes	29	Deployable assets, Disaster Recovery, training exercises, Network Operations Center notification	Now*
4. **ADCOM**	Yes	Yes	20	Public Safety Communications Research program/FirstNet test support, Band Class 14 device testing, demonstration access	Now
5. **TX**	Yes	Yes	93	Core migration, data analytics, rural coverage, special events, LTE training	Now

* On-air testing commenced

Recent Updates

- New Mexico
  - Optimization and project closeout continues. The team is focusing on engaging federal users and sustainability
- New Jersey
  - Successful B14 LTE demonstrations and operations continue. Team is focused on optimization and operational readiness
- LA-RICS
  - Construction complete on all but one site. Focus is on delivery of power and backhaul. Optimization has commenced along with Rose Bowl event support and planning. Recent Opt-out news related to JPA not FirstNet
- ADCOM-911
  - 3 DIA sites still awaiting power. Usage continues to increase providing valuable data insights
- Texas (Harris County)
  - $5.8 million approved local funding. Brazos County Sheriffs Office providing many users and valuable insight. Good information came out of Texas A&M Winter Institute on deployables and applications

Current PSCR Tasking

- Vehicular Network System
  - Primary Lab/Field Research Topics
    - Bandwidth requirements of deployable eNodeB/EPC
    - LTE network tolerance of mobile satellite links
- Inter-Network Mobility
  - Focusing on Mobility Between Independent Networks
  - Visiting JerseyNet in December
- Near/Far Radio Measurements
  - Preliminary Testing
  - Developing Test Methodology
    - Classic radio measurements
    - 3GPP-defined measurements
- Local/Dynamic QPP
  - Dynamic Controller Capabilities Assessment
- Mobile Application Security
  - Provided feedback on FirstNet's high level objectives related to mobile application security
  - Facilitating briefing by the Federal CIO Council's Mobile App Security Vetting Working Group (MASVWG) on their efforts
  - Discussion of the mobile application development and vetting process for FirstNet
- Formal Standards Development
  - 3GPP Focus
- RAN Modeling and Simulations

Network Congestion Topics

FirstNet Board Meeting Finance Update

Kim Farington
Acting Chief Financial Officer

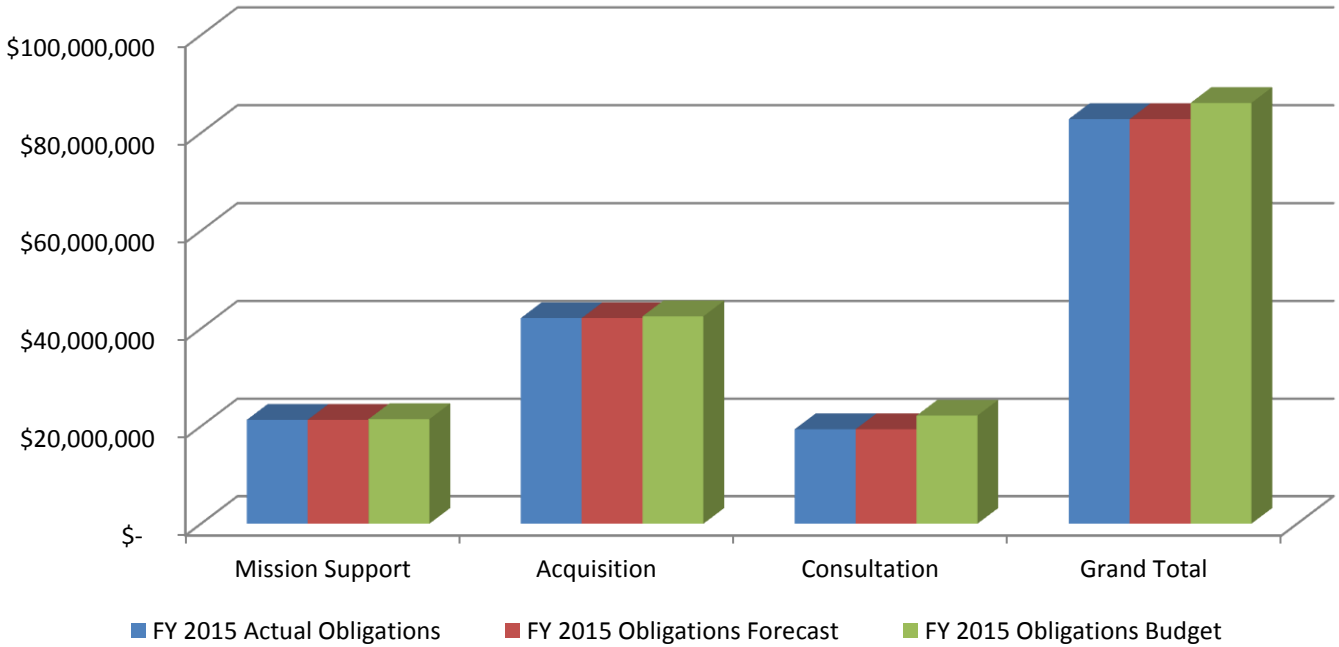
December 8, 2015

Table of Contents

- FYE 2015 Obligations and Expenses Budget Review
- FY 2016 Obligations and Expenses Budget Review
- FY 2016 Milestones Review
- Internal Control Program Update
- Strategic Plan Update

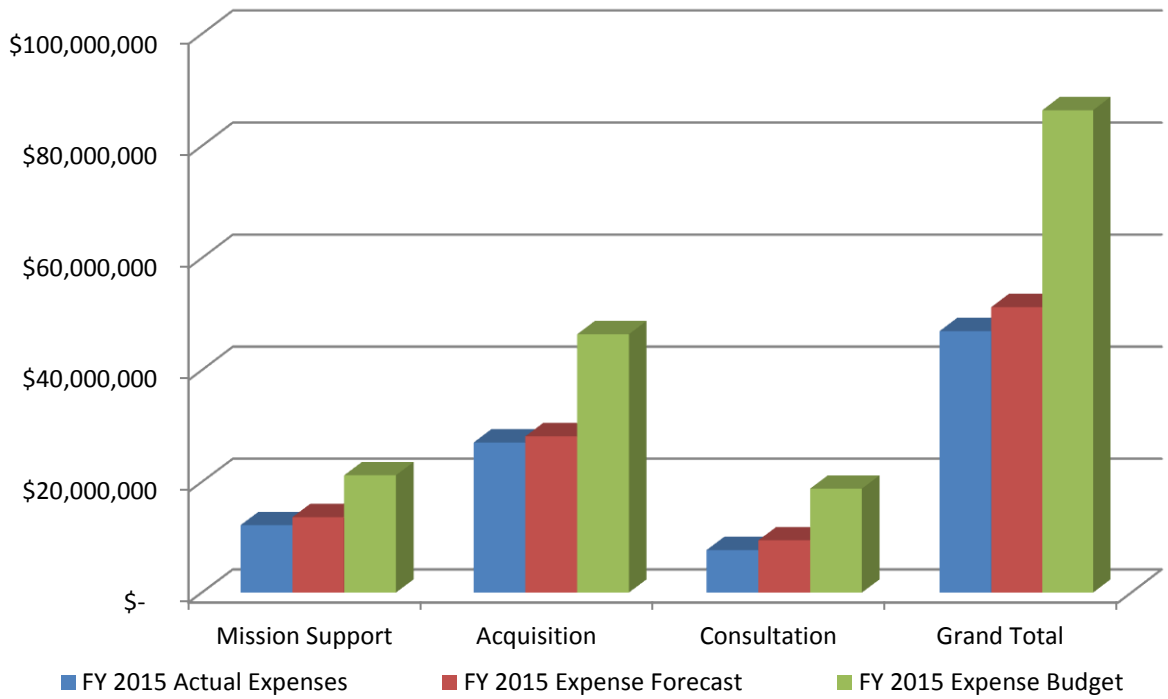
FYE 2015 Budget Obligations

- **Obligations were about 96% of our total obligations planned for the fiscal year**
- **All variances were within Board approved allowances**



September 30, 2015	Acquisition Total	Consultation Total	Mission Support Total	Grand Total
Obligations				
FY 2015 Actual Obligations	$ 42,134,938	$ 19,382,633	$ 21,303,656	$ 82,821,227
FY 2015 Obligations Forecast	$ 42,300,117	$ 17,446,756	$ 23,345,546	$ 83,092,420
FY 2015 Obligations Budget	$ 42,504,633	$ 22,173,376	$ 21,444,735	$ 86,122,744

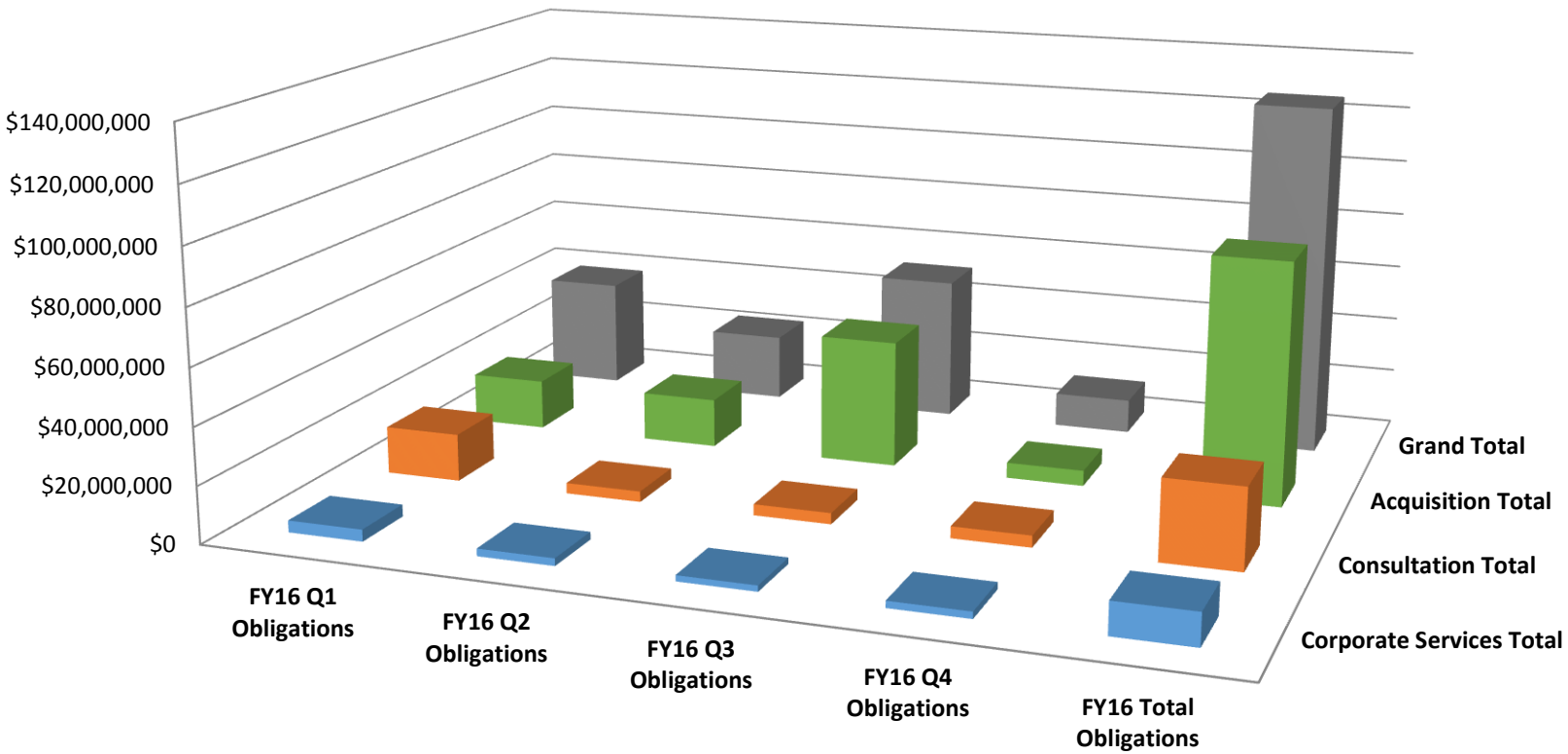
FYE 2015 Budget Expenses



- **92% of our expense forecast was utilized during FY15**
- **Expenses lagged by 55% at the end of the fiscal year compared to budget**
- **The remaining 45% will carry over and be utilized during FY16**

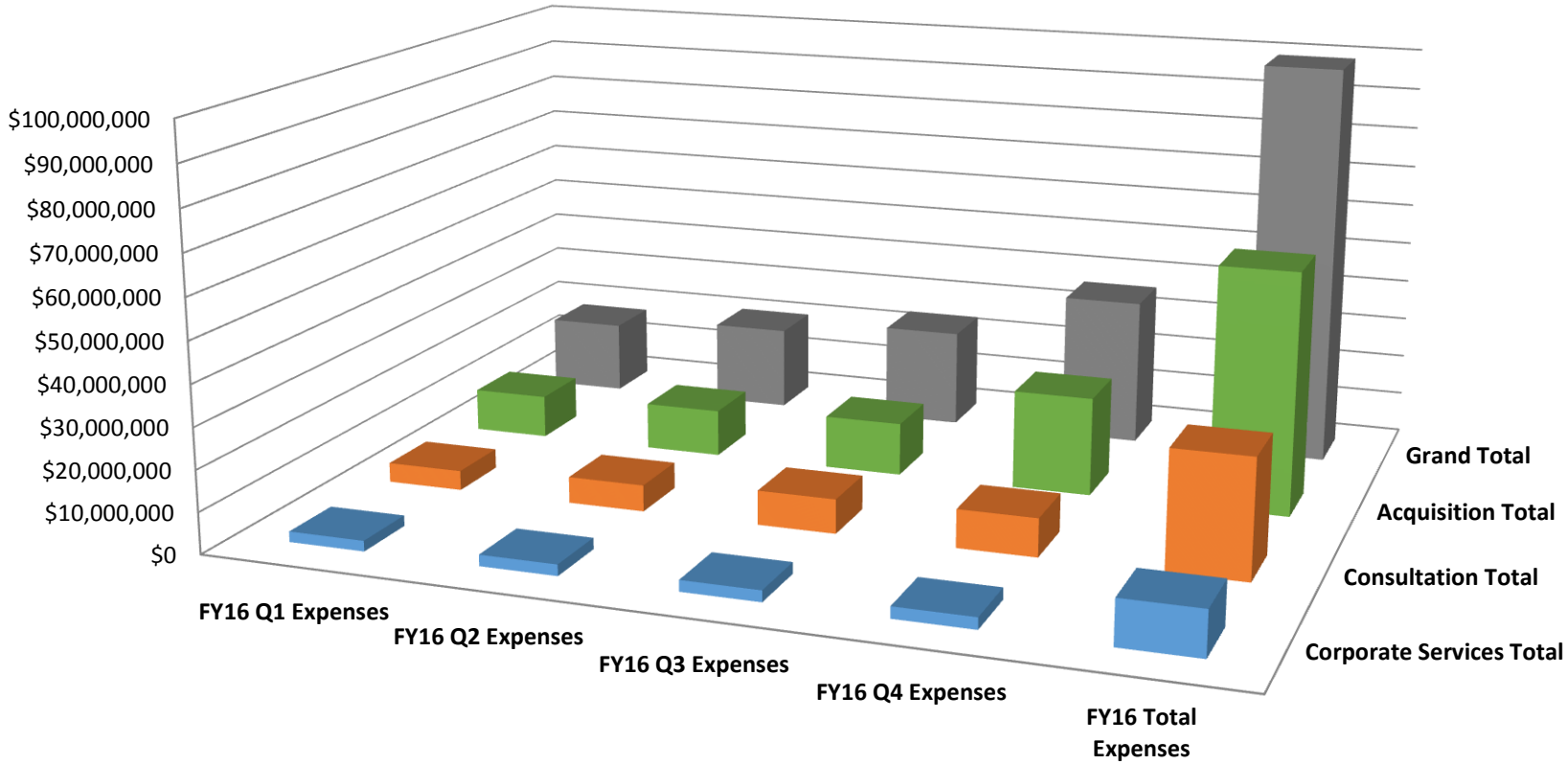
September 30, 2015	Acquisition Total	Consultation Total	Mission Support Total	Grand Total
Expenses				
FY 2015 Actual Expenses	$ 27,102,106	$ 8,011,778	$ 12,029,404	$ 47,143,288
FY 2015 Expense Forecast	$ 28,177,446	$ 9,437,963	$ 13,629,516	$ 51,244,924
FY 2015 Expense Budget	$ 46,400,361	$ 18,784,026	$ 21,204,889	$ 86,389,276

FY 2016 Budget Obligations



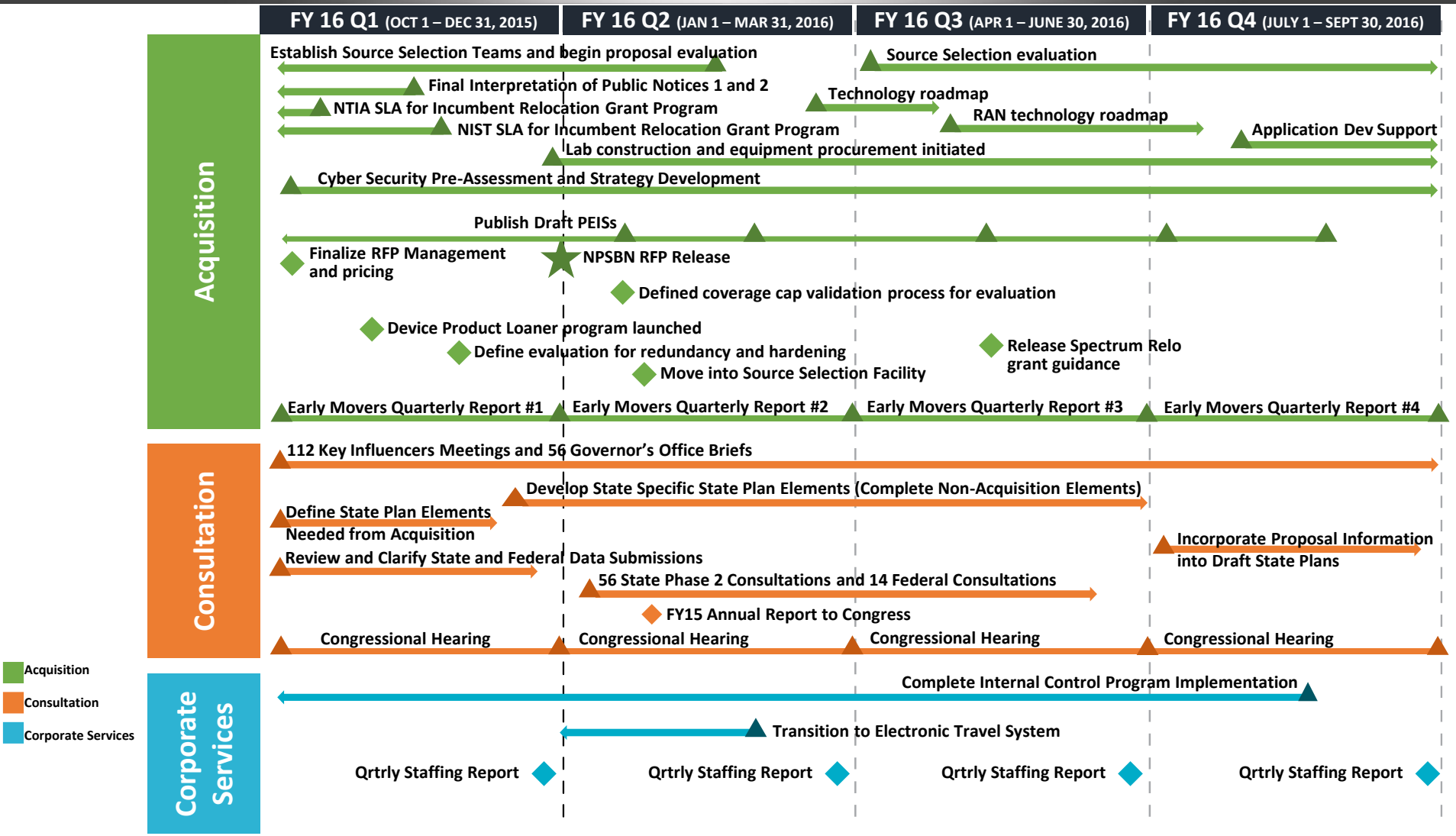
	FY16 Q1 Obligations	FY16 Q2 Obligations	FY16 Q3 Obligations	FY16 Q4 Obligations	FY16 Total Obligations
Corporate Services Total	$4,181,955	$2,643,332	$2,101,157	$2,412,001	$11,338,445
Consultation Total	$16,820,792	$3,743,396	$3,915,509	$4,178,635	$28,658,332
Acquisition Total	$17,812,382	$17,403,373	$45,238,462	$5,524,236	$85,978,453
Grand Total	$38,815,129	$23,790,101	$51,255,128	$12,114,872	$125,975,230

FY 2016 Budget Expenses



	FY16 Q1 Expenses	FY16 Q2 Expenses	FY16 Q3 Expenses	FY16 Q4 Expenses	FY16 Total Expenses
Corporate Services Total	$2,549,924	$2,725,350	$2,722,869	$2,807,857	$10,806,000
Consultation Total	$4,781,504	$6,441,225	$8,385,267	$9,331,651	$28,939,647
Acquisition Total	$10,556,427	$11,524,839	$13,028,186	$24,235,824	$59,345,276
Grand Total	$17,887,855	$20,691,414	$24,136,322	$36,375,332	$99,090,923

FY 2016 FirstNet Milestones



Internal Control Program

- Completed documenting the Internal Control Framework and Plan
- Established a new Policy and Internal Control (PIC) organization within the Office of the CFO
- Completed an entity-level risk assessment with positive results
- Began compiling the FirstNet Financial Manual

Five Year Strategic Plan Goals and Objectives

FY 2016 – 2020 Strategic Goals			
Partnerships	**Stakeholder Engagement**	**Innovation**	**People and Organization**
Effectively manage resources and partners to acquire, build, deploy, and operate a reliable, self-sustaining, and interoperable nation-wide public safety LTE broadband network	**Leverage consultation and communication opportunities to build and maintain strong partnerships with local, state, tribal, and federal public safety agencies and industry**	**Serve the 24/365 needs of public safety and be the leader in emerging communication technologies by establishing and sustaining an entrepreneurial culture of innovation and excellence**	**Meet the needs of public safety by recruiting, hiring, and retaining the best talent and maintaining a high-performance organization dedicated to the achievement of the FirstNet mission**
FY 2016 – 2020 Objectives			
▪ Successfully complete the public/private partnership agreement in a timely manner ▪ Evolve NPSBN policies, requirements, technical designs, standards and operations ▪ Advocate for public safety to ensure the network is built according to public safety needs	▪ Maximize value to public safety subscribers through the establishment, refinement, and achievement of robust engagement goals ▪ Meet all legislative mandates as required by The Act ▪ Provide timely, open, transparent, and consistent communication ▪ Conduct ongoing consultation to ensure customer needs are being met ▪ Identify, inform, and influence key decision makers to achieve FirstNet's programmatic and financial goals ▪ Build, maintain, and expand ongoing industry partnerships	▪ Establish and deploy rewards that promote and recognize innovation and excellence ▪ Establish and sustain an environment that promotes learning and collaboration ▪ Identify and leverage emerging technologies to deliver ever-improving public safety features and capabilities ▪ Utilize tools to ensure that innovation is commensurate with public safety needs	▪ Utilize all hiring flexibilities and authorities strategically to acquire and retain the best talent ▪ Evolve a strategic organizational plan to meet FirstNet's mission ▪ Institute programs and practices to promote optimal employee performance, engagement, and satisfaction ▪ Be responsible stewards of Government resources