

**MiPSB Program**  
**2016 Interop Conference**  
Wednesday, February 24, 2016





Last year, **mobile phones** overtook PCs as the most common web access device worldwide

**90 percent** of young people use smart devices **before getting out of bed in the morning**





...is  
**CRITICAL**







# Internet

## INTEGRATED DISPLAY GLASSES

Visual display of critical status alerts

## VIDEO REMOTE SPEAKERS MICROPHONE

Capture and stream live video

## LEX 700

Public safety LTE broadband communications & mission-critical applications

## BIOMONITORING

Monitor officers' health and vitals

## ENVIRONMENTAL SENSOR

Detection of hazardous materials

## APX 700

Interoperability, collaboration and always-on communications

## GUN HOLSTER SENSOR

Gun unlock alert



## CONNECTED LAW ENFORCEMENT OFFICER





# Cyber Attacks – By the Numbers

## Each Year in Michigan State Government:

- 2.5 million web browser attacks
- 179.5 million HTTP-based attacks
- 79.5 million network scans
- 5.2 million intrusion attempts

*\*2014 statistics*



# **1.7 million attempted attacks every day**

**\*\* YTD 2015 Statistics**





# Key Factors for the Governor's Decision





## Opt-In

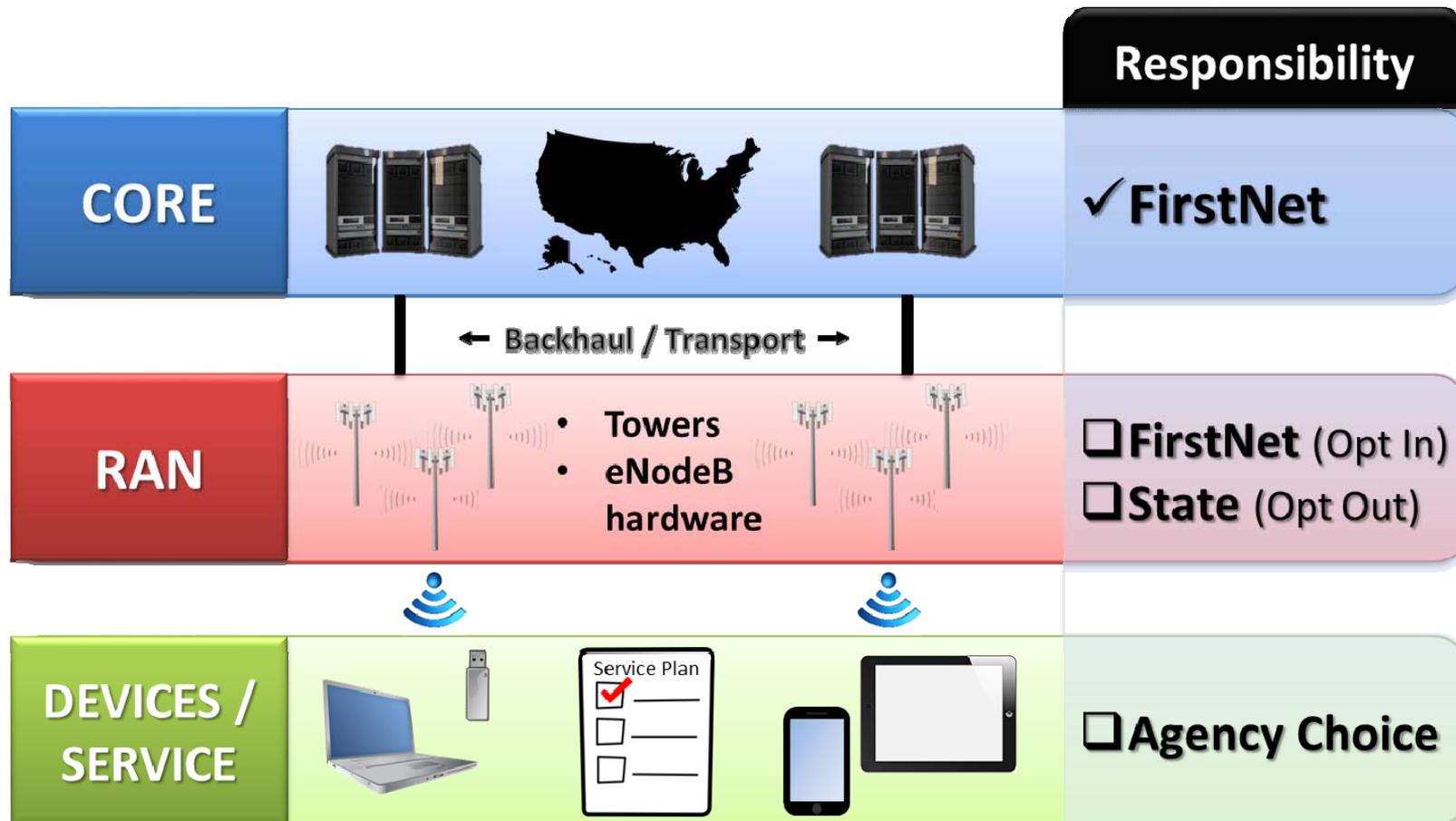
FirstNet takes on responsibility to deploy, operate, and maintain RAN

- Funds to build network — funded by FirstNet/partner
- Funds to operate/upgrade network — funded by FirstNet/partner
- User fees — funded by individuals/agencies
- Continuing consultation — staffing funded for by the state, as needed or requested

## Opt-Out

State takes on responsibility to deploy, operate, and maintain RAN

- Funds to build network — funded by state resources with potential NTIA grant for some portion
- Funds to deploy, operate, and maintain network including compliance with national network policies and use of national core — funded by state resources User fees — funded by individuals/agencies





## Key Steps – National Deployment





## How will FirstNet Deploy the Network?



## FirstNet RFP – What is it?

### To establish a Public/Private Partnership for the Public Safety Broadband Network

- 📖 The winning bidder will build and operate the system with 20 MHz of 700 MHz broadband spectrum under a lease agreement.



- 📖 In return, the company can monetize any unused network capacity.

- 📖 Pre-proposal Activity
  - 13 requests for information
  - Several draft RFPs
  - 2 public industry days,
  - 650 questions related to network specifications, and
  - Multiple meetings with interested vendors

- 📖 The Request for Proposal
  - 13 Sections (Section A – Section M)
  - 28 Maps and Tables





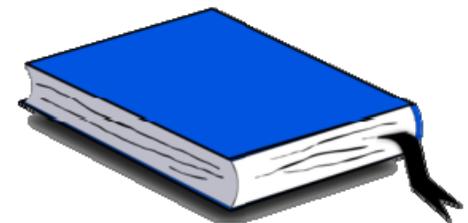
## FirstNet RFP Notable Points

 Section B of the RFP spells out a **phased-in scale of yearly minimum contractor reimbursement payments to FirstNet** that would take into account a contractor's anticipated deployment and operational ramp-up.

	Timing / Area	IOC - 1 <i>6 Months from Award</i>	IOC - 2 12 Months	IOC - 3 24 Months	IOC - 4 36 Months	IOC - 5 48 Months	FOC 60 Months
G.	Coverage and Capacity Solutions (State and Territory Task Orders)		Achievement of 20% of Contractor's proposed Band 14 coverage in non-rural areas.	Achievement of 60% of Contractor's proposed Band 14 coverage in non-rural areas.	Achievement of 80% of Contractor's proposed Band 14 coverage in non-rural areas.	Achievement of 95% of Contractor's proposed Band 14 coverage in non-rural areas.	Achievement of 100% of Contractor's proposed Band 14 coverage in non-rural areas.
H.	Substantial Rural Milestones (State and Territory Task Orders)		Achievement of 20% of Contractor's proposed Band 14 coverage in rural areas.	Achievement of 60% of Contractor's proposed Band 14 coverage in rural areas.	Achievement of 80% of Contractor's proposed Band 14 coverage in rural areas.	Achievement of 95% of Contractor's proposed Band 14 coverage in rural areas.	Achievement of 100% of Contractor's proposed Band 14 coverage in rural areas.

 The RFP also has a section on **cybersecurity** that incorporates input from industry and public safety officials

 Although the RFP does not specify what kinds of bidders it's looking for, **telecommunications carriers are the obvious choice.** Those carriers have been largely mum on their bidding plans for the project.



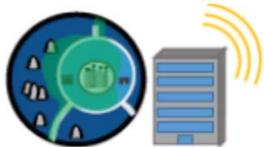


## FirstNet RFP Evaluation Factors



### **Business Management Factor**

- Leadership and Program Management
- Public Safety Customer Acquisition
- Customer Care and Lifecycle Sustainment
- Financial Standing
- Delivery Mechanism for State Plans



### **Products & Architecture Factor**

- Service (public safety features)
- Applications
- Device Ecosystem
- Architecture and Infrastructure
- Operations
- Security
- Test Strategy



### **Risk**

- Proposal Risk
- Performance Risk



### **Coverage & Capacity Factor**

- Band 14 & Non-Band 14 Coverage and Capacity
- Radio Access Networks
- IOC/FOC Milestones form Coverage and Capacity
- Ability to demonstrate Rural Partnerships



### **Value Proposition Assessment**

- Meets FirstNet Sustainability Objectives
- Use of FirstNet's \$6,500,000,000
- Demonstrated Synergies & Added Value
- Unbalanced/Unreasonable Value Determination



### **Past Performance Factor**

- Successful project completions history (e.g., similar scope, within schedule, within budget, quality of deliverables)
- Quality of cooperation and responsiveness
- Performance measure implementation and improvement



## FirstNet RFP 2016 Critical Dates

- JAN 13 - RFP Released
- FEB 12 - Questions Due
- MAR 10 - Pre-proposal Conference
- MAR 17 - Voluntary Capability Statements Due
- APR 19 - Proposals Due
- NOV ? - Contract Award



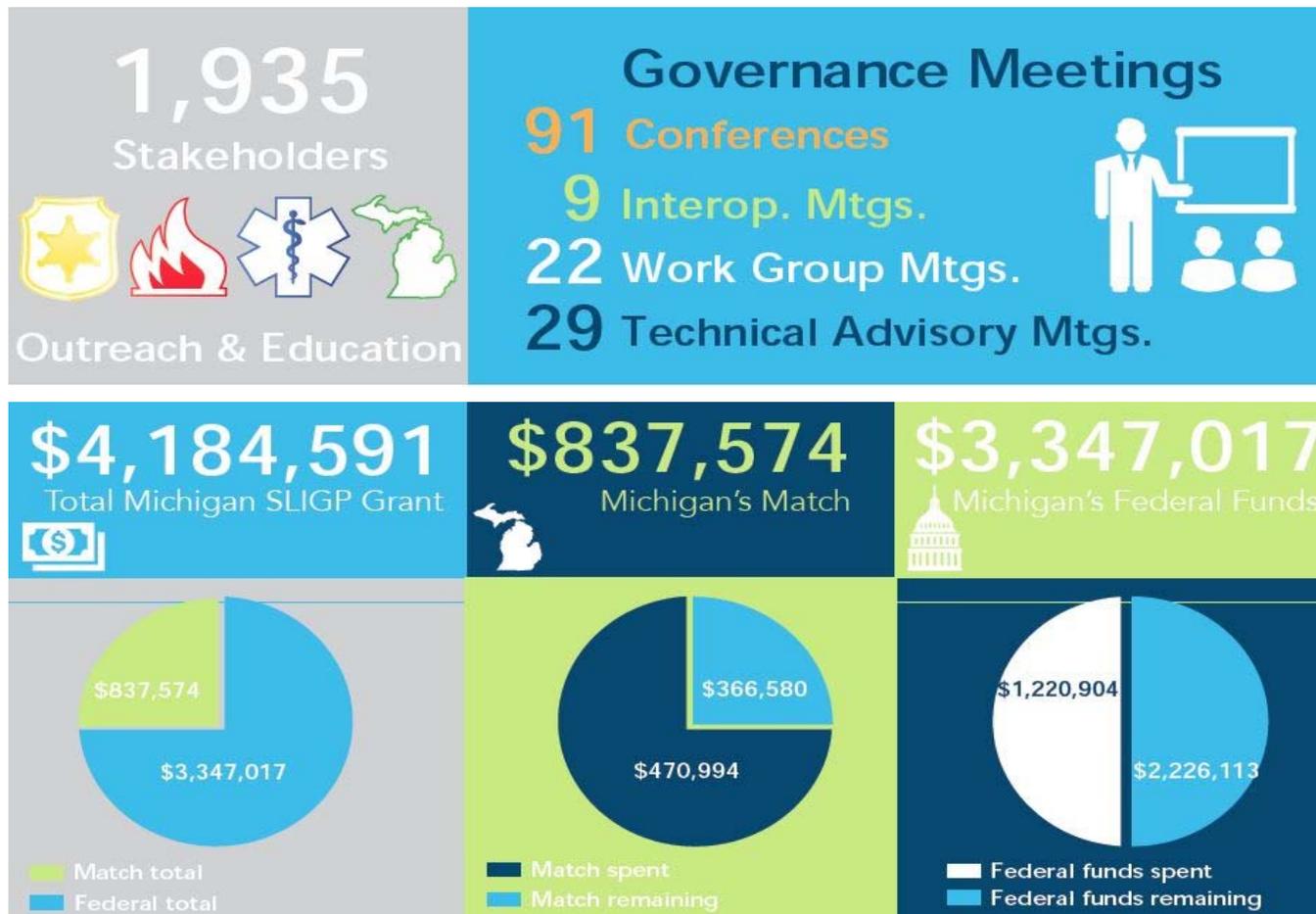


# State and Local Implementation Grant Program (SLIGP)





# Michigan by the Numbers



# 2015



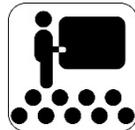
FEMA5 / FirstNet Meeting



Interop Board Mtg & Interop Conference



Michigan Sheriff's Assn Meeting



Michigan NENA Confer.



Interop Board Meeting



Michigan Data Submission



Michigan GMIS conference



Michigan FirstNet Consultation



Region 6 Pilot Workshop



Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec



Reston VA SPOC Meeting



Industry Day



Data Collection 9/30



CO SPOC Meeting



Pre-Solicitation Conf.



Board Meeting





1

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

2

- Review MiPSB Governance to develop Michigan's State Planning Process. Ensuring inclusion for input into the State Plans and network deployment policies, processes, and procedures

3

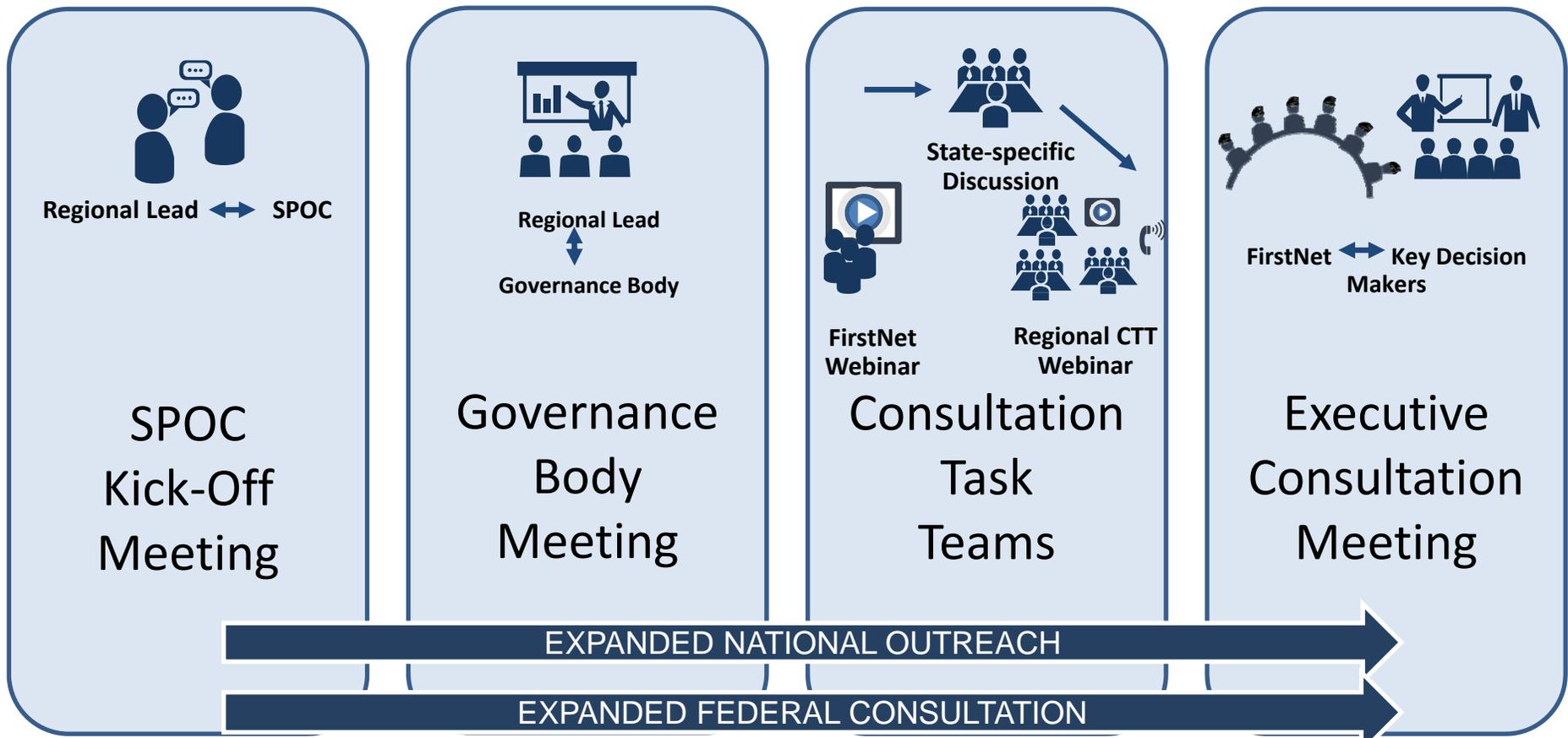
- Iterative state planning with State Planning Team and FirstNet to develop the final State Plan Proposal for the Governor's decision

4

- Preparing key decision-makers for State Plan delivery and network deployment



# 2016 Consultation Elements



# 2016



Michigan Sheriff's Assn Meeting



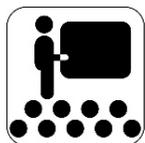
Interop Board Mtg  
2/22



FirstNet / SPOC Kick-off  
3/1



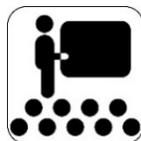
User Advisory Team Kick-off  
April



Interop Conf  
2/22



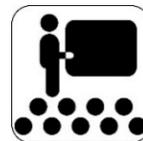
Regional Workshops  
March -- April



Tribal Workshop  
June



Interop Board / FirstNet Governance Meeting  
July



Michigan GMIS conference  
9/12



FirstNet Executive Meeting



1/12



2/9



3/8



4/12



5/10



6/14



7/12



8/9



9/13



10/11



11/1



12/13

All-year State Planning

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec



Release RFP: 1/13



RFP Offeror Questions Due



Responses to RFP Questions Issued



Pre-Proposal Conference



Bids Due: 4/29



RFP Award





## FirstNet RFP – Objectives (16)

- From the Government's perspective, the **objectives are Nationwide** in scope.
- **Objectives-based** rather than a traditional **Requirements-driven Model**.



**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**



## What does Michigan want from FirstNet?

- PSLTE Phased Approach that will have emphasis on underserved areas
- Baseline coverage that is equal to or better than MPSCS coverage
- Integration into the communications network to enhance interoperability
- Create a converged network of PSLTE and NG911 for public safety service delivery.
- Provide a PSLTE Solution that is Cost Effective



# Michigan Priorities

## **Rural Coverage**

The rationale is that broadband coverage is needed currently in areas not served, or underserved, by commercial carriers, rather than areas where such service is already available.

## **Water Coverage**

Michigan has the second longest shoreline of any state at 3,126 miles, one that touches four of the Great Lakes and There are 11,037 other lakes in Michigan totaling 1,305 square miles of inland water. The amount of water in and around the state creates significant challenges for the public safety community, and comprises a priority area for NPSBN coverage.



# Michigan Priorities Cont.

## **International Communications**

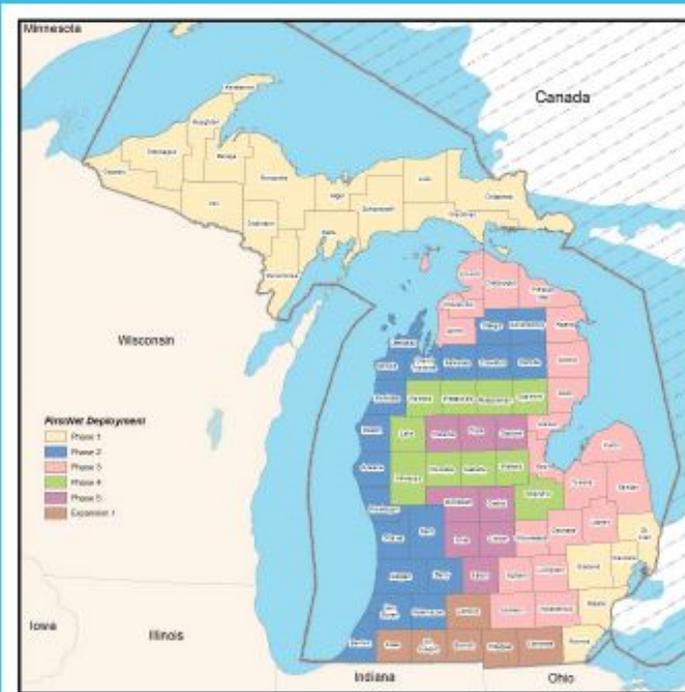
Michigan has four border crossings/points of entry between the US and Canada. These crossings create unique public safety and domestic security issues which would benefit greatly from NPSBN coverage.

## **Urban Areas**

Michigan has identified the following urban areas as priority for network coverage due to population density and large number of public safety first responders which would benefit greatly from priority access to the dedicated bandwidth promised from the NPSBN: Detroit, Ann Arbor, Flint, Midland, Lansing, Grand Rapids, Kalamazoo/Portage, Traverse City, and Pontiac.



# Phased Build Out



## Michigan's Phase Construction Plan

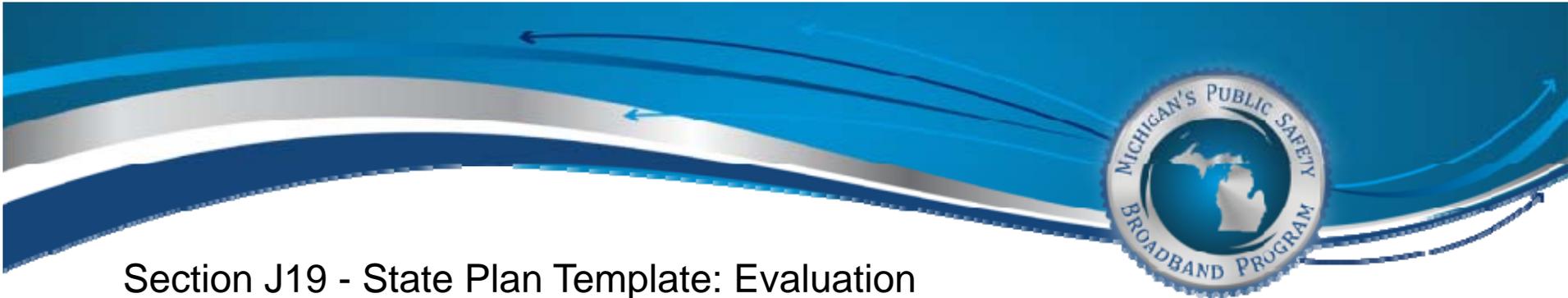
Phase	Responders	Population
Phase 1	24015	4490346
Phase 2	9839	197217
Phase 3	10327	1995460
Phase 4	3451	550278
Phase 5	2626	433014
Expansion	3026	441562



## Section J19 - State Plan Template – 7 Parts

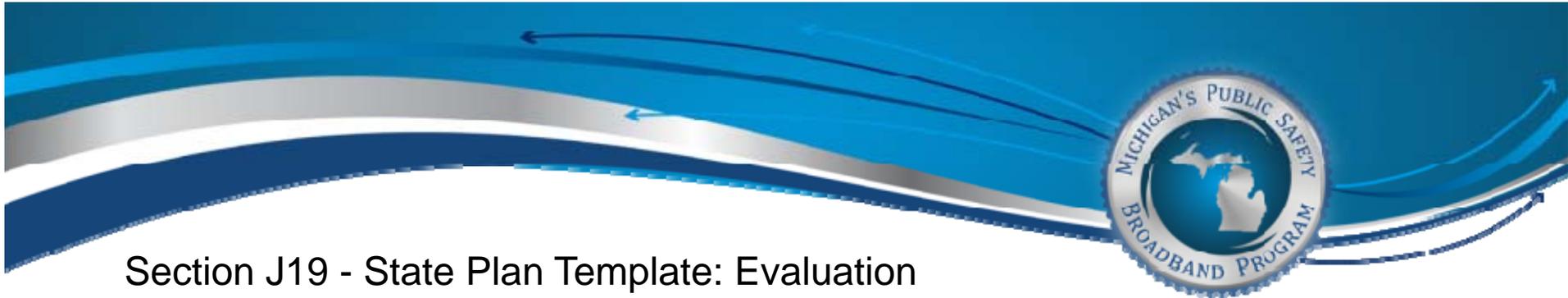
1. Purpose
2. FirstNet Overview and Mission
3. State Consultation
4. State Radio Access Network Plan
5. Public Safety Grade
6. Network Operator / User Training Requirements
7. State Decision Process / Requirements / Timeline
  - Appendix A – FirstNet Nationwide Design
  - Appendix B – Device Strategy, Roadmap, and Support
  - Appendix C – Application Strategy and Operations
  - Appendix D – Deployable Assets
  - Appendix F - Financials





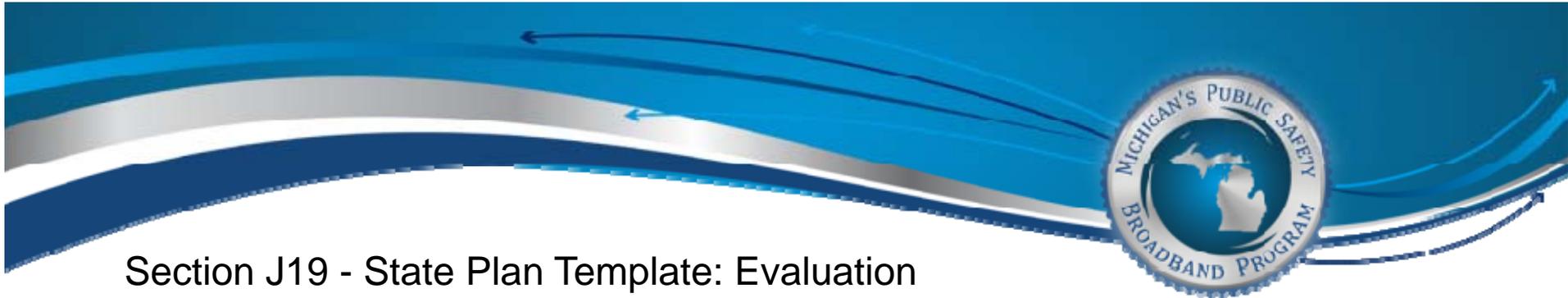
## Section J19 - State Plan Template: Evaluation

State Plan component	Description	Assignment
1 Plan Purpose		
2 Overview and Mission		
3 State Consultation		
3.1 State Governing Body		
3.2 Consultation Process		
3.3 Outreach and Education Support		
3.4 State Plan Inputs and Outcomes		
3.4.1 Minimum Criteria for a State Plan		
3.4.2 Coverage Objectives		
3.4.3 User Profiles/Statistics		
3.4.4 Capacity Planning		
3.4.5 Current Mobile Data Usage		
3.5 State Decision Process		
3.5.1 Summary/Timeline of Actions Required by the State		
3.5.2 Changes to State Plan Following Decision to Proceed with FirstNet-Deployed Radio Access Network		



## Section J19 - State Plan Template: Evaluation

State Plan component	Description	Assignment
4 State Radio Access Network Plan		
4.1 Radio Access Network Partner		
	Identify key network partners and their projected roles within the deployment of the Nationwide Public Safety Broadband Network (NPSBN). Consider including equipment and infrastructure vendors, backhaul services vendors, roaming network partners, network development partners, and state or county partners. Describe any plans to use existing assets, such as existing infrastructure, state, local, tribal, federal land parcels, or other assets.	
4.2.1 Coverage Objectives and Requirements		
4.2.2 Tower Site Locations		
	Provide maps and tables, in accordance with Table 1 Map Deliverables for Coverage and Capacity and Table 2 Network Statistics Deliverables, showing the proposed tower site locations and configurations. If available, the locations should identify whether towers will reside on local, county, state, or federal parcels of land.	
4.2.3 Link Budget Specifications		
	Provide the detailed link budget information utilized in the development of the provided coverage maps. The link budget should be provided for all morphologies (dense urban, urban, suburban, and rural) and for each of the 56 states and territories. Within the link budget, include the following information:	
	<ul style="list-style-type: none"> <li>Assumptions, margins, and gains accounted for in downlink and uplink</li> </ul>	
	<ul style="list-style-type: none"> <li>Impacts due to various device types</li> </ul>	
	<ul style="list-style-type: none"> <li>Maximum allowable path loss, design thresholds, and cell radius</li> </ul>	
4.2.4 Equipment Performance Specifications		
	Describe the proposed Radio Access Network (RAN) vendor portfolio, scope of equipment, and feature interoperability to be included with the NPSBN. Provide specifications where applicable and, at a minimum, include the following information:	
	<ul style="list-style-type: none"> <li>A diagram and description of the Long Term Evolution (LTE) base station and sectors, including the antenna system and backhaul components. Identify areas of resource aggregation or redundancy. Describe redundancy mechanisms available in the event a radio fails</li> </ul>	
	<ul style="list-style-type: none"> <li>A description of variants of Enhanced Node Base station (eNodeB) platforms available in the current architecture, including specifications for each platform</li> </ul>	
	<ul style="list-style-type: none"> <li>Hardware or software techniques utilized to maximize coverage and capacity (e.g., MIMO, carrier aggregation)</li> </ul>	
	<ul style="list-style-type: none"> <li>A dimensioning guide for all capacity-dependent hardware and software in the eNodeB. Within the guide, describe the traffic load used in the dimensioning calculation as well as any assumptions made for redundancy</li> </ul>	



## Section J19 - State Plan Template: Evaluation

State Plan component	Description	Assignment
4.3.2 Coverage Extension Assets Owned by Public Safety Entities		
	Provide a comprehensive list of coverage extension assets, such as a Vehicular Network Systems (VNSs) that will be available to Public Safety Entities (PSEs) for purchase via the customer-facing Web-based portal.	
4.3.3 Non-Persistent Cellular Service and Devices		
	Provide a comprehensive list of non-persistent cellular services, and associated devices, that will be available to a PSE for purchase via the customer-facing Web-based portal. This list may include but is not limited to a VNS with satellite fallback connectivity, a VNS with local eNodeB, Evolved Packet Core (EPC) and applications support, devices that support direct mode (D2D), devices that support Wi-Fi, and devices that support Bluetooth.	
4.4 Deployment Phases and Timelines		
	Provide a schedule noting the timeline for achieving the IOC/FOC milestones for coverage and capacity. Provide a schedule that aligns with the IOC/FOC milestones and describes the planned deployment of coverage by state/territory. Describe roaming networks that may be used in addition to the NPSBN and other networks such as a Mobile Virtual Network Operator (MVNO) network (if applicable).	
4.5 Rural Milestones		
4.6 Network Upgrade and Expansion		
	The Offeror shall describe the strategy to support necessary network expansion. The strategy shall address coverage, quality, and capacity improvements to the NPSBN and include methodologies and thresholds used to trigger Offeror-defined actions. Improvements may be needed to address the following areas:	

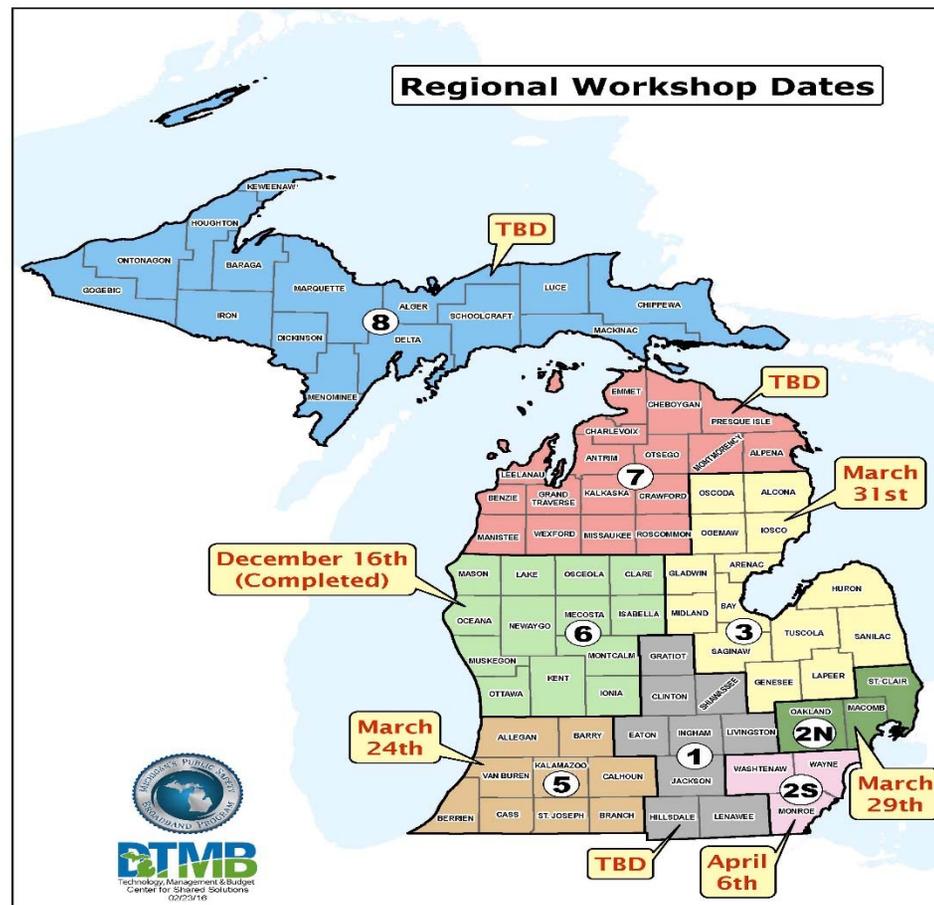


# Region Workshops - Slide 1

- To inform local public safety stakeholders about public safety broadband generally and also about the FirstNet and MiPSBP programs, specifically
- To develop a working relationship with each region that will set the tone for the building of a total Michigan State Plan and encourage an on-going local dialogue between stakeholders and MiPSBP
- Provide a format for an interactive dialogue
  - Learning and documenting the issues and concerns of that region relative to mobile data
  - Informing the region on what has been accomplished thus far
  - Planning together for the future of public safety broadband in their region especially in terms of coverage requirements
  - Helping them to understand the road that lies ahead and their role
- Identify key regional contacts who will spearhead regional discussions and decisions
- Jointly formulate an outreach and education plan within each specific region to involve those who are not present but need to be



# Regional Workshops – Slide 2





## Michigan's Next Steps

- Regional Engagement Workshops – Region 6 Pilot December 16<sup>th</sup>, 2015
- Regional Engagement Workshops – All others Q1/Q2 2016
- Review and validate coverage and priority phasing – 2016
- Participate in Consultation Task Teams on State and National level
  - Local Control
  - Priority and Preemption
  - Others as defined
- Additional FirstNet consultation meetings

*We need you to be an Advocate for your Discipline,  
...as well as an Advocate for your Community!!!*



# Stay Connected!

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