Get Ready to Participate in Live Polling!

- Grab your phone and go to menti.com
- Type in the code 2144 3832
- Vote! The results will appear live on the screen!

Welcome.

NASNA Interoperability Workshop
Dallas, TX

April 21-22, 2022

Day One Agenda

8:00 A.M. Welcome & Icebreaker

- Panel: The Importance of Public Safety Interoperability Governance
- Public Safety Communications Interoperability Landscape
- Future of Public Safety Communications Perspectives
- State Breakout Session #1 – Current State

12:30 P.M. Lunch

- State Interoperability Markers
- Future of Public Safety Communications Perspectives (Panel)
- State Breakout #2 – Desired Future State & Barriers to Success
- Report Out

6:30 P.M. Networking Dinner

Purpose & Outcomes

Why we're here and what we will get out of this meeting.

Purpose: To provide a forum for state emergency communications leaders and policymakers to collaborate on goals and actionable steps that improve emergency communications interoperability.

Outcomes:

- Greater understanding of the emergency communications Ecosystem, its challenges, and progress to date
- Enhanced relationships that lead to more integrated and informed state decision-making
- A commitment to improve collaboration
- 3 – 4 interoperability goals for your state identified as a state team

Meeting Principles

This is how we do it.

- Move on despite ambiguity.
- Listen as allies.
- Be candid—truth over harmony.
- Give criticism with upgrades.

Nicole Unger

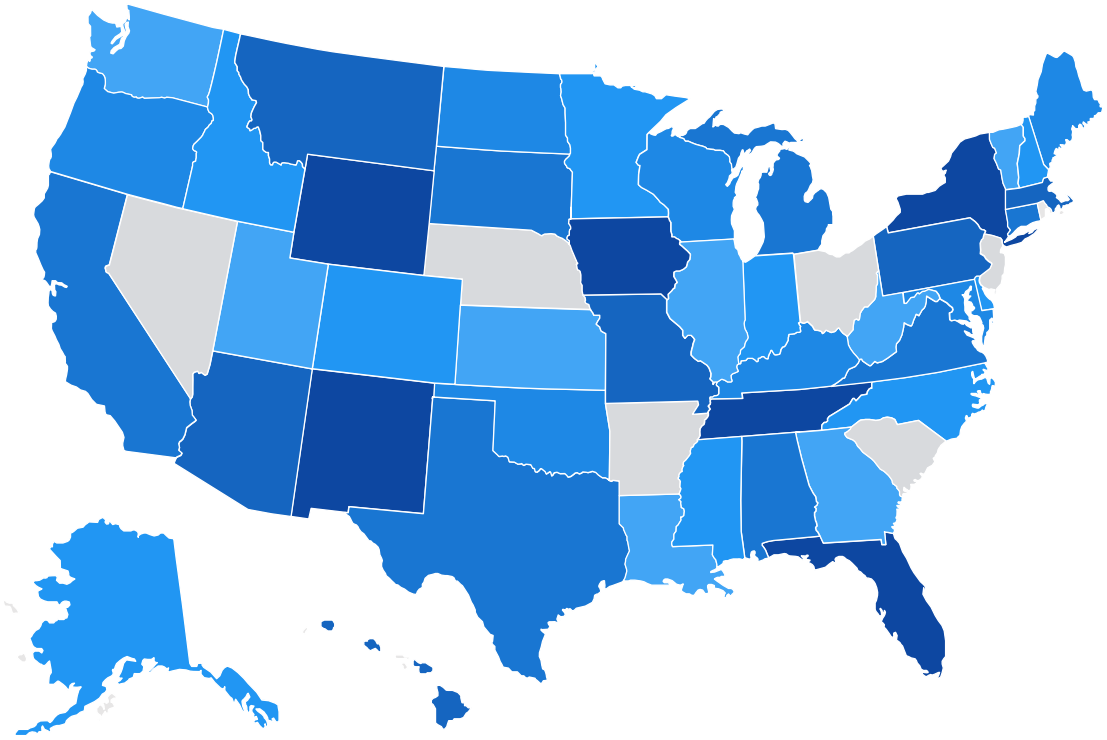
Icebreaker

- My greatest strength is …
- The best way to win me over is …
- The most surprising fact about me is …
- My life goal is …
- A random fact that I love is …

What Does Interoperability Mean to You?

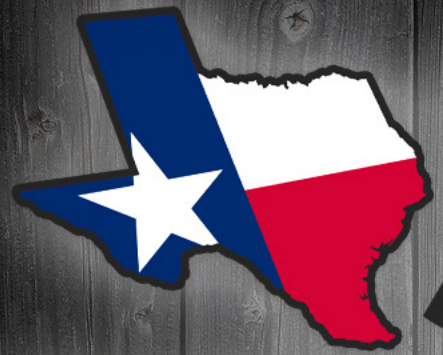
Must consider…

- *911*
- *LMR*
- *Alerts and warnings*
- *Governance*



Karla Jurrens, Kelli Merriweather

Panel: The Importance of Public Safety Interoperability Governance



SWIC

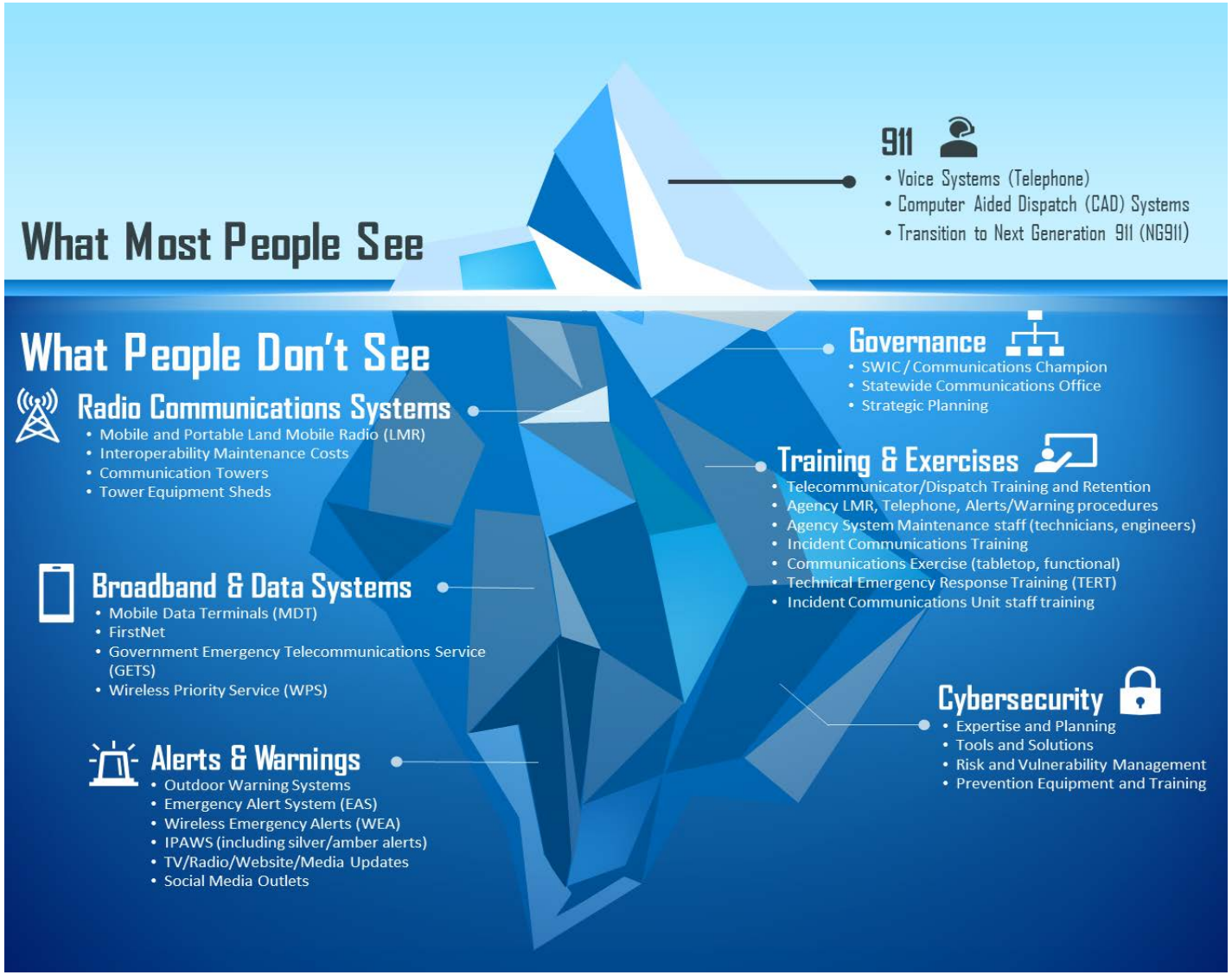
Texas Statewide Interoperability Coordinator

The Importance of Public Safety Interoperability Governance

2022 Dallas-Fort Worth Interoperability Workshop

Dallas, Texas April 21, 2022

The Complexity of the Emergency Communications Ecosystem



Although 911 is what most people think of when they hear emergency communications--

There are various concepts that play critical roles in ensuring access to reliable, secure, and interoperable emergency communications every day in order to save lives, protect property and the environment, and stabilize communities.

SWIC
Texas Statewide Interoperability Coordinator

Emergency Communications Governance (in Texas)

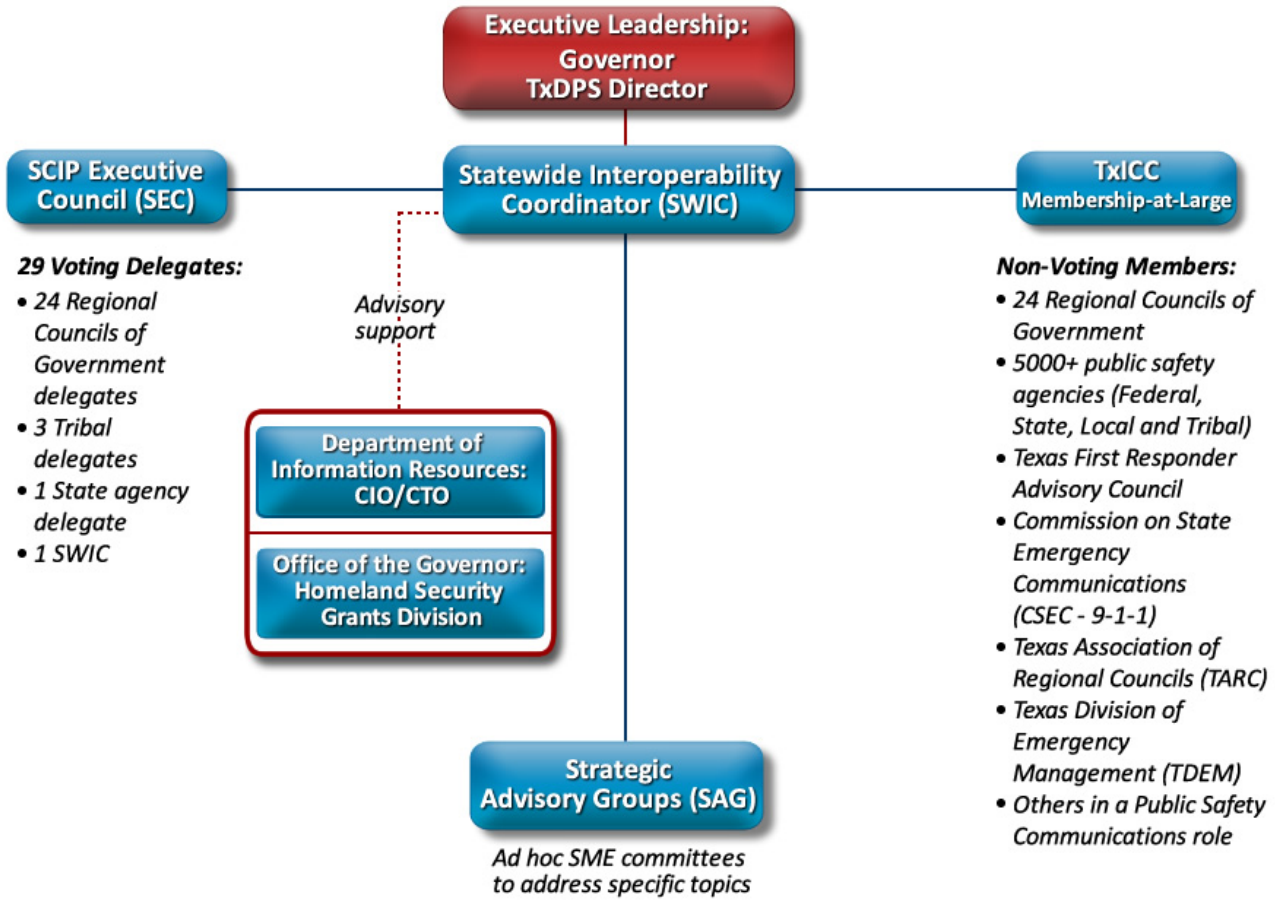
Governance:

Governance has been defined to refer to structures and processes that are designed to ensure accountability, transparency, responsiveness, rule of law, stability, equity, inclusiveness, empowerment, and broad-based participation.

Each state has developed a governance structure that works within their individual state processes. Each state is unique!

The Texas Interoperable Communications Coalition (TxICC) is a representative body of the 5,000+ public safety agencies in Texas.

A SWIC must have the trust of agencies within their state to represent their best interests



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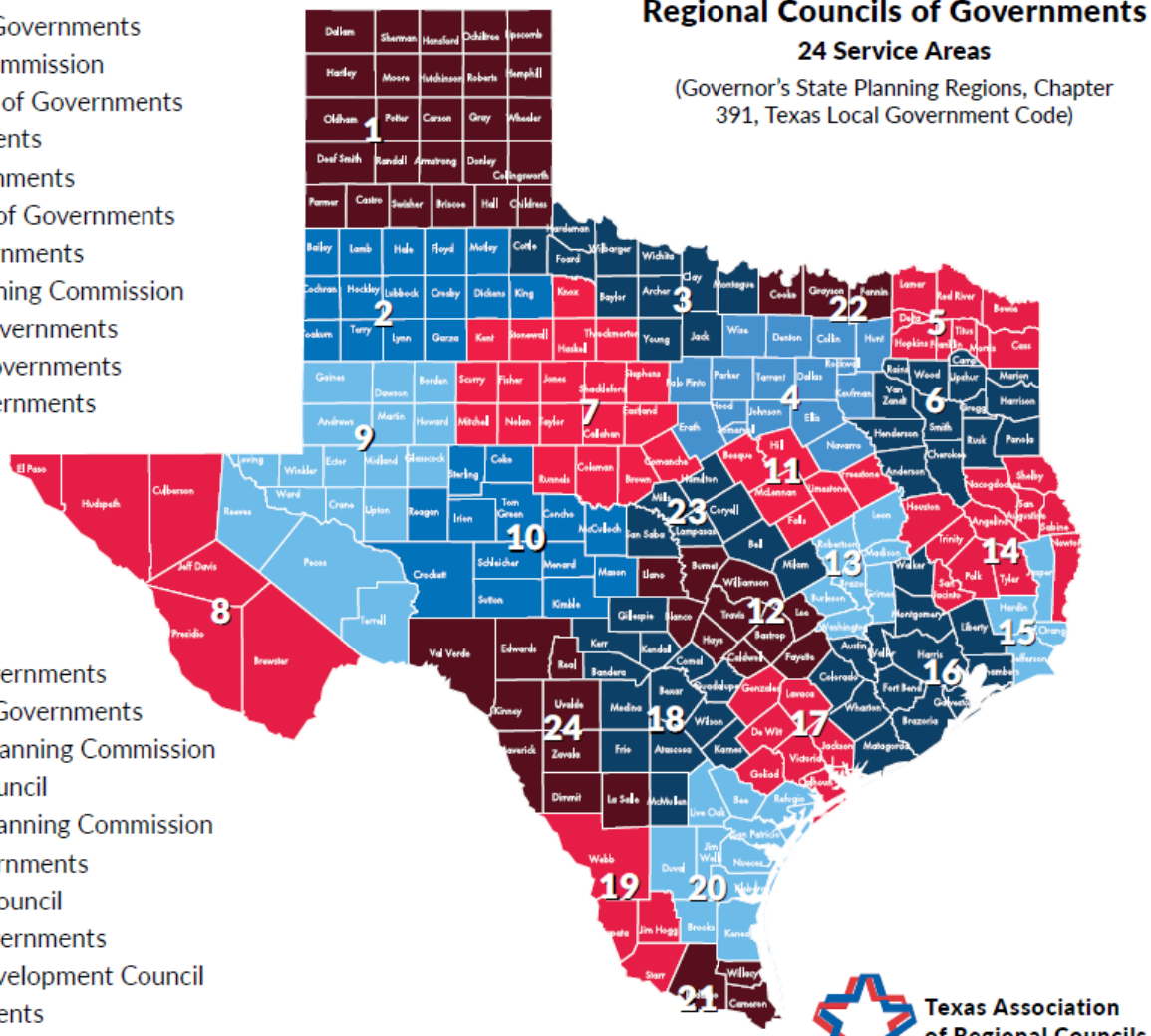
Emergency Communications Governance (in Texas)

1. Panhandle Regional Planning Commission
2. South Plains Association of Governments
3. Nortex Regional Planning Commission
4. North Central Texas Council of Governments
5. Ark-Tex Council of Governments
6. East Texas Council of Governments
7. West Central Texas Council of Governments
8. Rio Grande Council of Governments
9. Permian Basin Regional Planning Commission
10. Concho Valley Council of Governments
11. Heart of Texas Council of Governments
12. Capital Area Council of Governments
13. Brazos Valley Council of Governments
14. Deep East Texas Council of Governments
15. South East Texas Regional Planning Commission
16. Houston-Galveston Area Council
17. Golden Crescent Regional Planning Commission
18. Alamo Area Council of Governments
19. South Texas Development Council
20. Coastal Bend Council of Governments
21. Lower Rio Grande Valley Development Council
22. Texoma Council of Governments
23. Central Texas Council of Governments
24. Middle Rio Grande Development Council



NATIONAL ASSOCIATION OF STATE 911 ADMINISTRATORS

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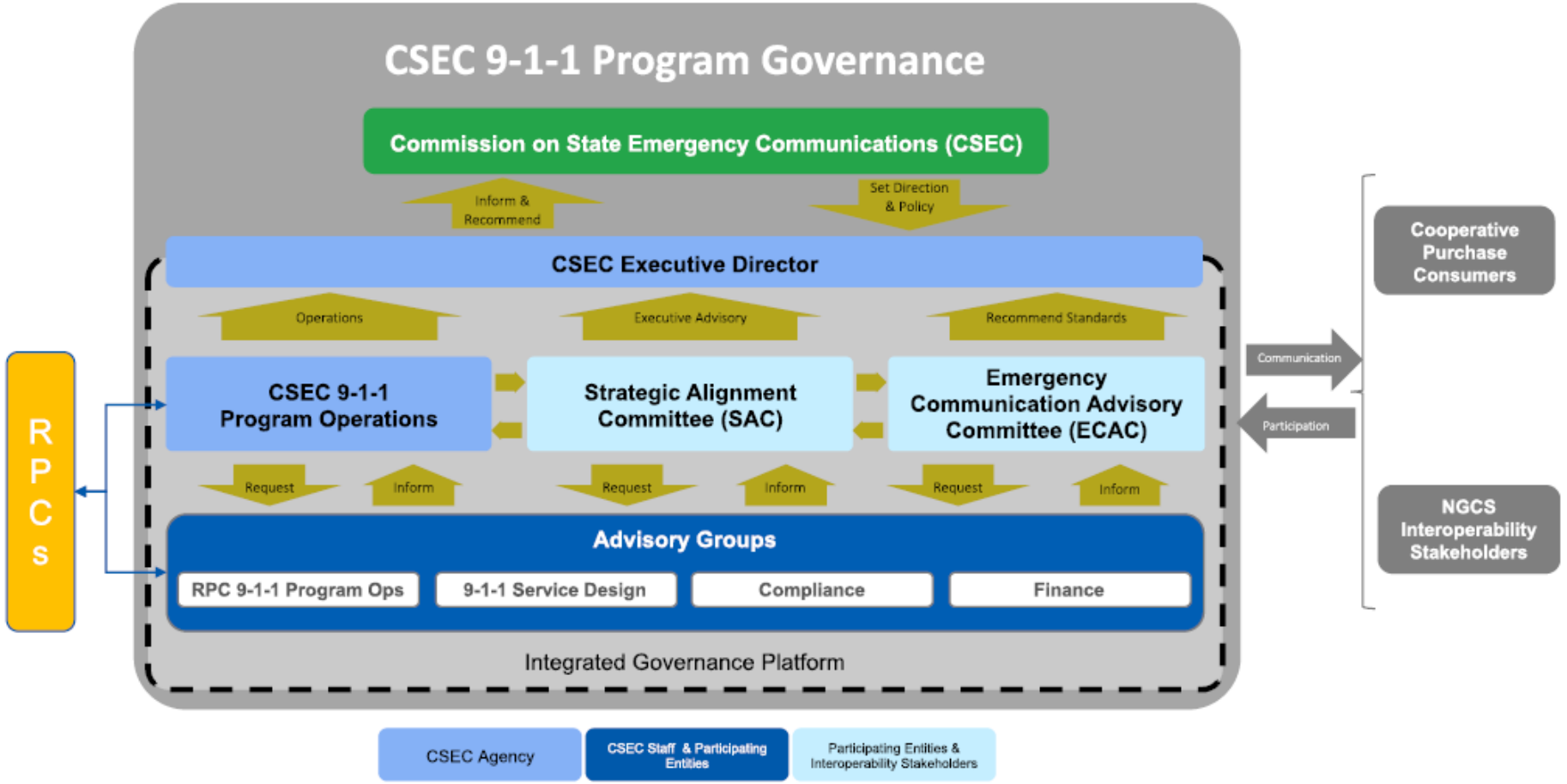
911 Governance (in Texas)



NATIONAL ASSOCIATION OF STATE 911 ADMINISTRATORS

SWIC Texas Statewide Interoperability Coordinator

911 Governance (in Texas)

Emergency Communication Districts

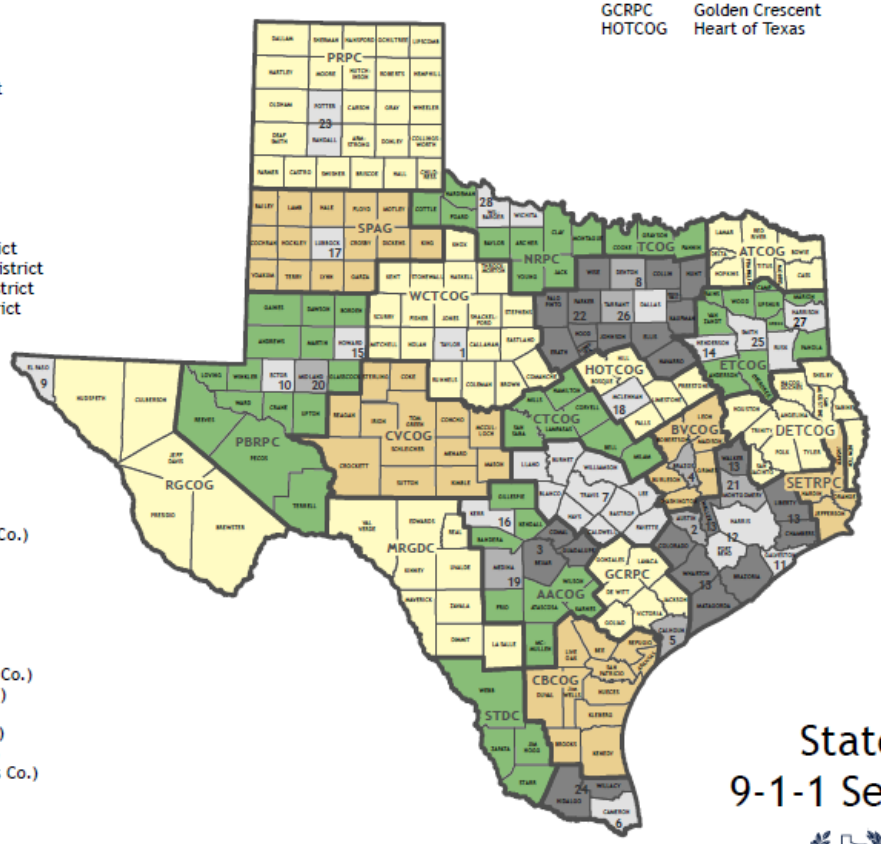
1 Abilene-Taylor Co. 9-1-1 District
2 Austin Co. Emergency Communications District
3 Bexar Metro 911 Network District
4 Brazos Co. Emergency Communications District
5 Calhoun Co. 911 Emergency Communications District
6 Cameron Co. Emergency Communications District
7 Capital Area Emergency Communications District
8 Denco Area 911 District
9 El Paso Co. 911 District
10 Emergency Communications District of Ector Co.
11 Galveston Co. Emergency Communications District
12 Greater Harris Co. 911 Emergency Network
13 Gulf Coast Regional 9-1-1 Communications District
14 Henderson Co. 911 Communications District
15 Howard Co. 911 Communications District
16 Kerr Co. Emergency 911 Network
17 Lubbock Co. Emergency Communications District
18 McLennan Co. Emergency Assistance District
19 Medina Co. 911 District
20 Midland Emergency Communications District
21 Montgomery Co. Emergency Communications District
22 North Central Texas Emergency Communications District
23 Potter-Randall Co. Emergency Communications District
24 Rio Grande Valley Emergency Communication District
25 Smith Co. 911 Communications District
26 Tarrant Co. 911 District
27 Texas Eastern 911 Network
28 Wichita/Wilbarger 9-1-1 Communications District

Regional Planning Commissions

AACOG	Alamo Area
ATCOG	Ark-Tex
BVCOG	Brazos Valley
CBCOG	Coastal Bend
CTCOG	Central Texas
CVCOG	Concho Valley
DETCOG	Deep East
ETCOG	East Texas
GCRPC	Golden Crescent
HOTCOG	Heart of Texas
MRGDC	Middle Rio
NRPC	Nortex
PBRPC	Permian Basin
PRPC	Panhandle
RGCOG	Rio Grande
SETRPC	South East
SPAG	South Plains
STDC	South Texas/Laredo
TCOG	Texoma
WCTCOG	West Central

Municipal Emergency Communication Districts

Addison (Dallas Co.)
Aransas Pass (Aransas Co.)
City of Carrollton (Denton Co.)
Cedar Hill (Dallas Co.)
Coppell (Dallas Co.)
Corpus Christi (Nueces Co.)
Dallas (Dallas Co.)
Dallas County*
De Soto (Dallas Co.)
Denison (Grayson Co.)
Duncanville (Dallas Co.)
Ennis (Ellis Co.)
Farmers Branch (Dallas Co.)
Garland (Dallas Co.)
Glenn Heights (Dallas Co.)
Highland Park (Dallas Co.)
Hutchins (Dallas Co.)
Kilgore (Gregg Co.)
Lancaster (Dallas Co.)
Longview (Gregg Co.)
Mesquite (Dallas Co.)
Plano (Collin Co.)
Portland (San Patricio Co.)
Richardson (Dallas Co.)
Rowlett (Dallas Co.)
Sherman (Grayson Co.)
Sunnyvale (Dallas Co.)
University Park (Dallas Co.)
Wylie (Collin Co.)



State of Texas
9-1-1 Service Entities

CSEC
Commision on State Emergency Communications

Note: 9-1-1 service in the incorporated portion of Dallas County is provided by Municipal Emergency Communications Districts, including the City of Dallas, or pursuant to the North Central Texas Emergency Communications District's Regional 9-1-1 Plan for four municipalities. *9-1-1 service in the unincorporated portion of Dallas County is provided by the Dallas County Sheriff's Department under Texas Health and Safety Code Chapter 772, Subchapter E.

Contact: Kelli Merriweather, Executive Director at (512) 305-6938 or kelli.merriweather@csec.texas.gov

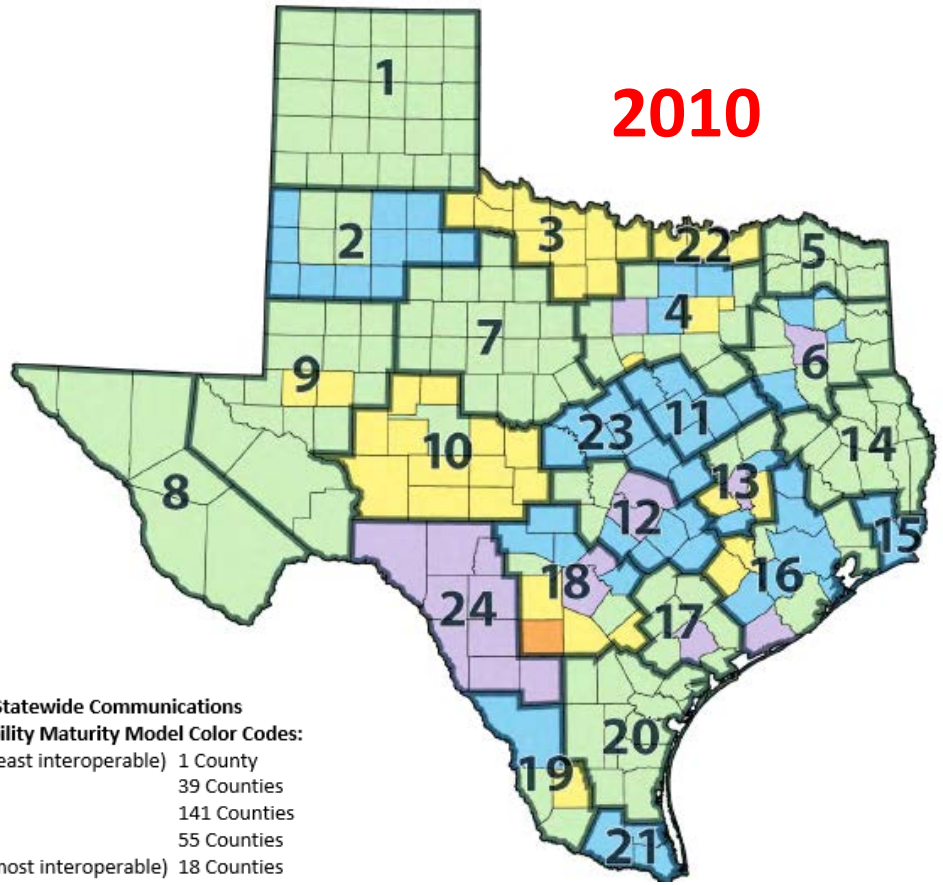
Effective: 9/1/2021

SWIC
Texas Statewide Interoperability Coordinator

NATIONAL ASSOCIATION OF STATE 911 ADMINISTRATORS

Legislative Report on Interoperability

How strong governance has worked in Texas

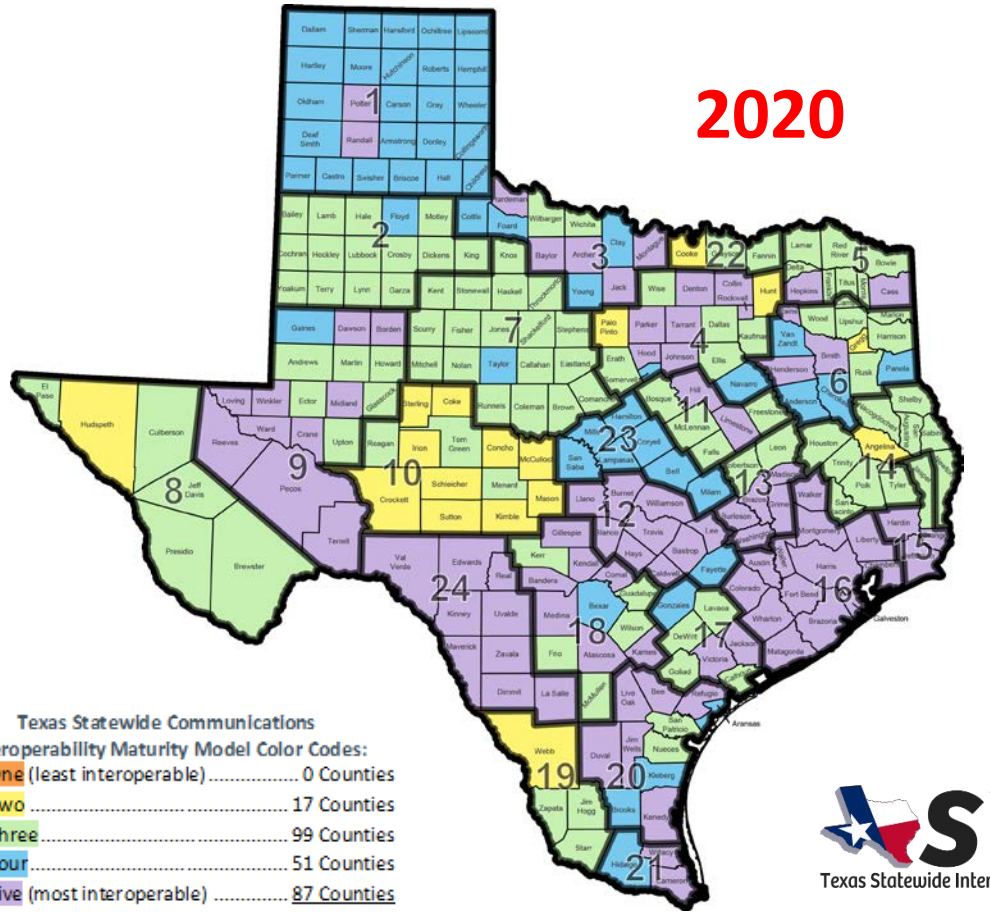


2010

Texas Statewide Communications Interoperability Maturity Model Color Codes:

Level One (least interoperable)	1 County
Level Two	39 Counties
Level Three	141 Counties
Level Four	55 Counties
Level Five (most interoperable)	18 Counties
Total:	254 Counties

Average Statewide Interoperability Level: 3.2



2020

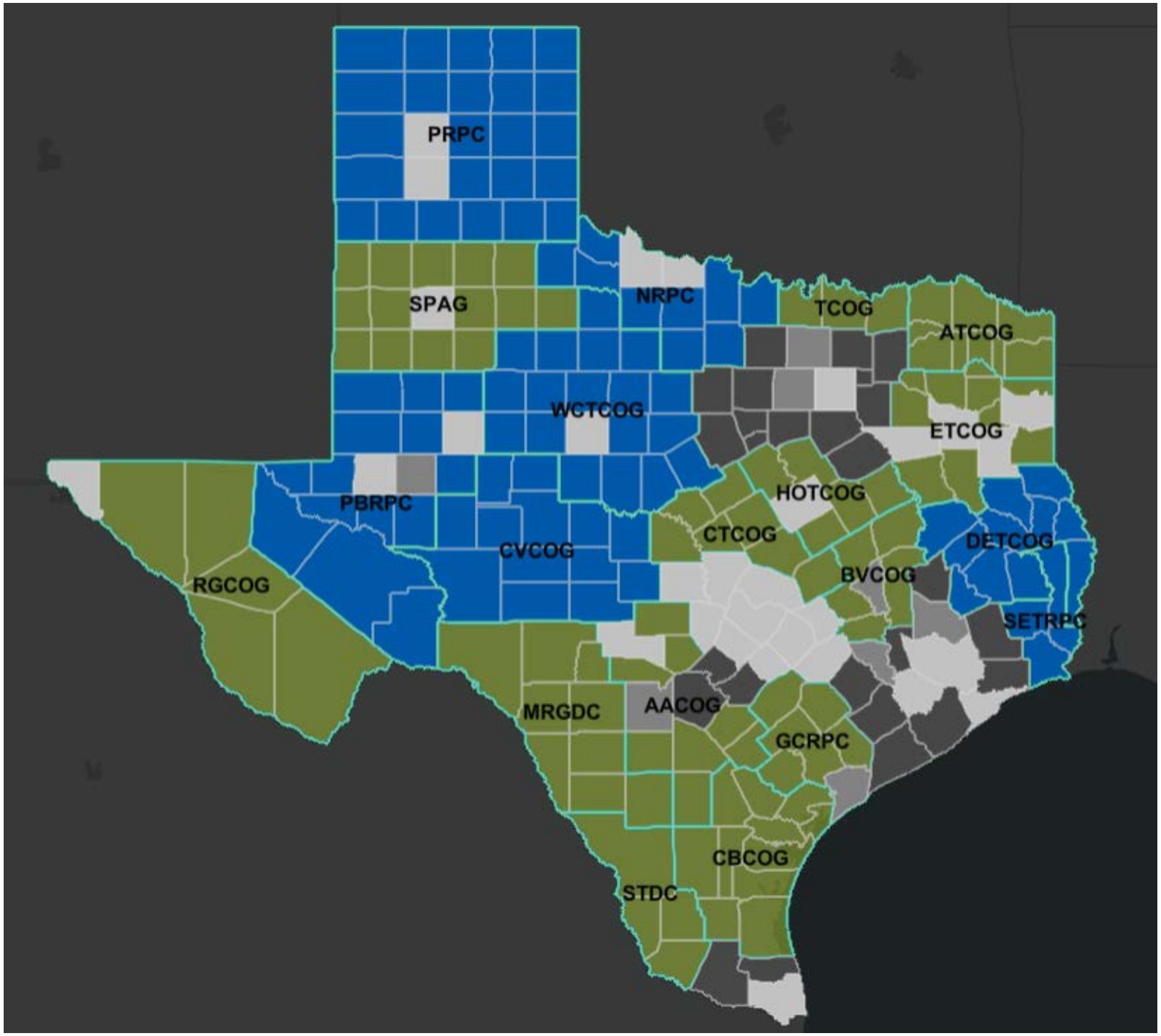
Texas Statewide Communications Interoperability Maturity Model Color Codes:

Level One (least interoperable)	0 Counties
Level Two	17 Counties
Level Three	99 Counties
Level Four	51 Counties
Level Five (most interoperable)	87 Counties
Total:	**254 Counties**

Average Statewide Interoperability Level: 3.82

SWIC
Texas Statewide Interoperability Coordinator

NG911 Deployment Dashboard



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Walt Magnussen, Admiral David Simpson

Public Safety Communications Interoperability Landscape

What Does interoperability Mean to You?

Oxford Dictionary

1. interoperability (between/with something) the ability of computer systems or programs to exchange information

2.) interoperability (between/with somebody/something) the ability of military equipment or groups to work together

To the First Responder

"I have the situational awareness information that I need to share with other first responders."

Commercial Interoperability

- Commercial service requires:
  - Standards based solutions (3GPP, IETF)
  - Conformance Testing (PTCRB, GSMA)
  - Formal Interconnection agreements
- Spend millions in testing of core infrastructure, devices and applications
- Have 6.648 billion smart phones worldwide with a population of 7.9 billion population (83% saturation)

Is Interoperability Always Required?

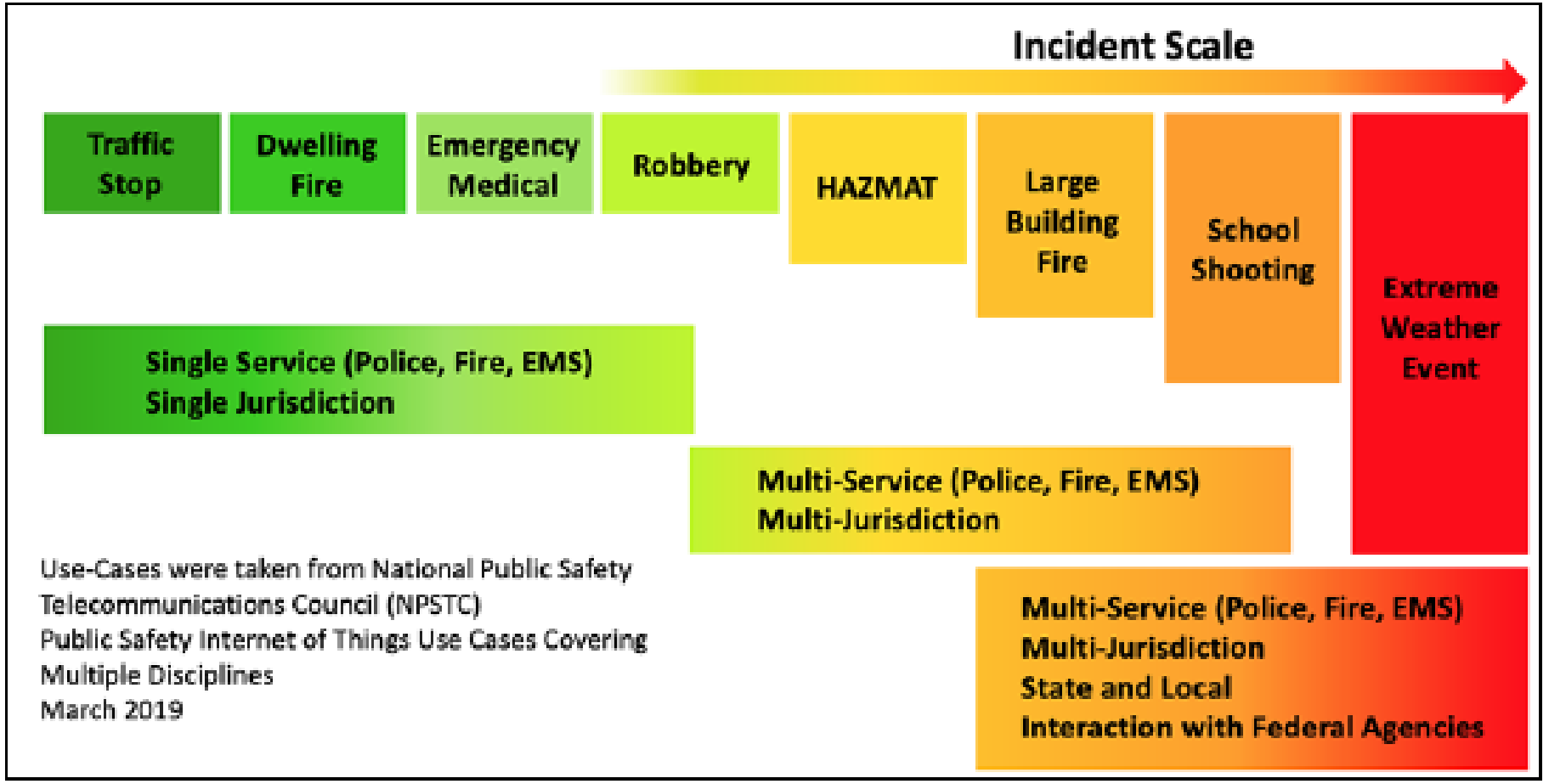


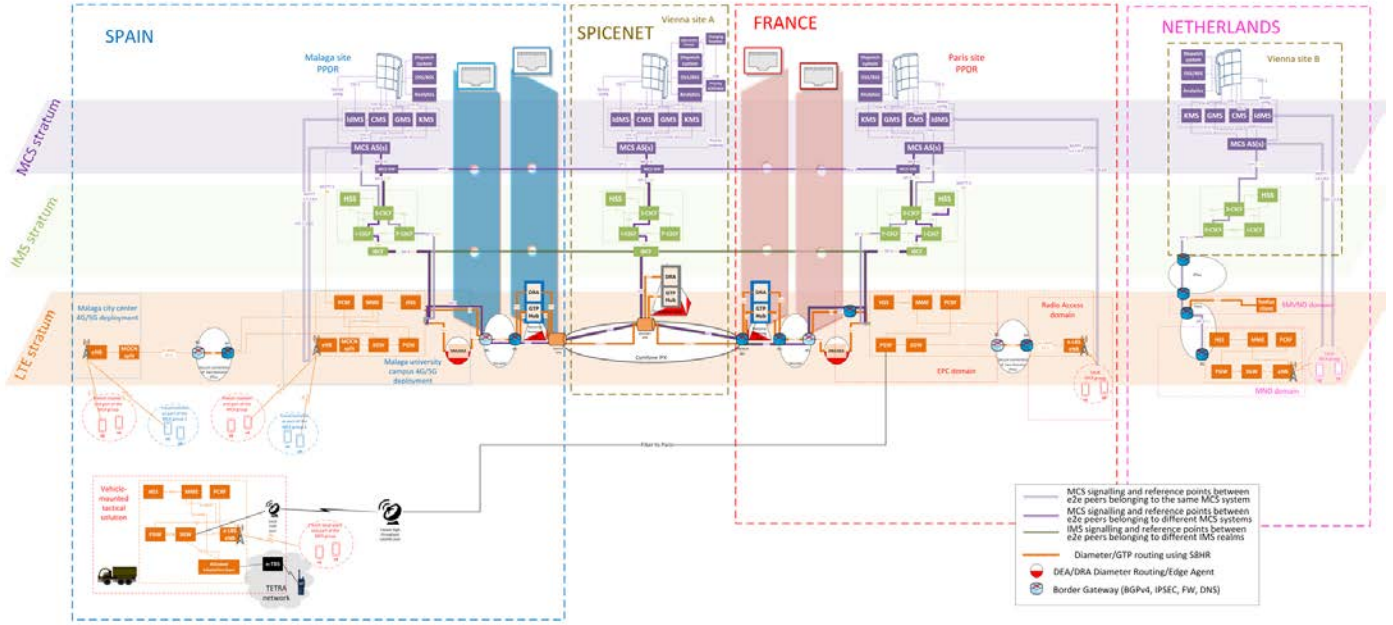
Figure 3-4: NPSTC Use Cases

Interoperability Institute 2022

- May 2-6
- Six Largest Problems (Themes)
    - MCPTT (MCX) Interoperability
    - Multi Jurisdictional Messaging (Teams, Bridge2Share, Slack etc.)
    - NG9-1-1 to PSBN Interconnection
    - Identity Credentialing and Access Management (ICAM)
    - SAFECOM Information Sharing Framework (ISF)
    - Sharing Drone Information

MCPTT (MCX) Interoperability

- Standards developed by 3GPP
- Conformance Testing funded NIST PSCR (MCX TAASTING)
- Services offered by all 3 PSBN providers but not interconnected
- European Testbed underway – “Broadport”



Multi Jurisdictional Messaging

- How do I message all responders in a large-scale disaster?
- SBIR Grant from DHS S&T to Bridge4PS (Niki Papazoglakis niki@mobility4ps.com)
- Used extensively in Texas, California, North Carolina and South Dakota
- Goal is to make it multi-vendor gateway

NG911 to PSBN Interconnection

- NENA i3 Standard began development in 2003
- FirstNet Authority established 2012
- NENA publishes NG9-1-1 to PSBN interconnection standard in 2021- NENA-STA-031.1-2021
- Next steps
  - Implement
  - Test
  - Document

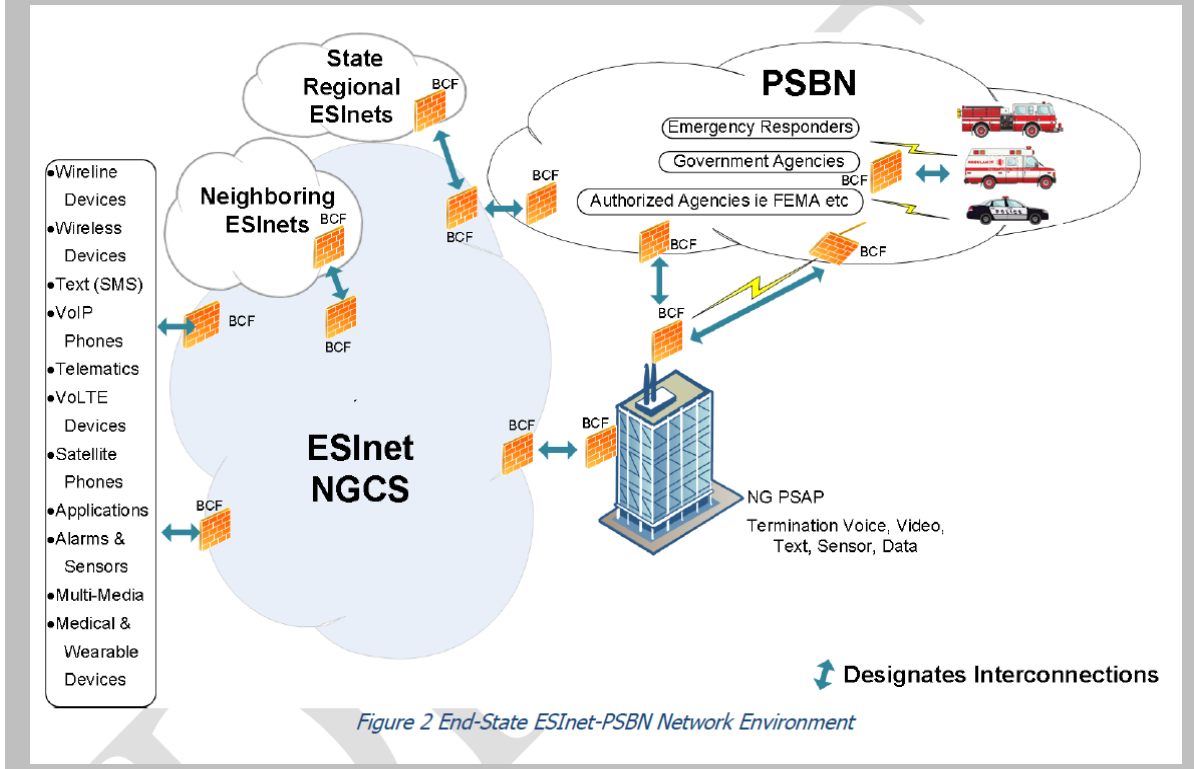


Figure 2 End-State ESInet-PSBN Network Environment

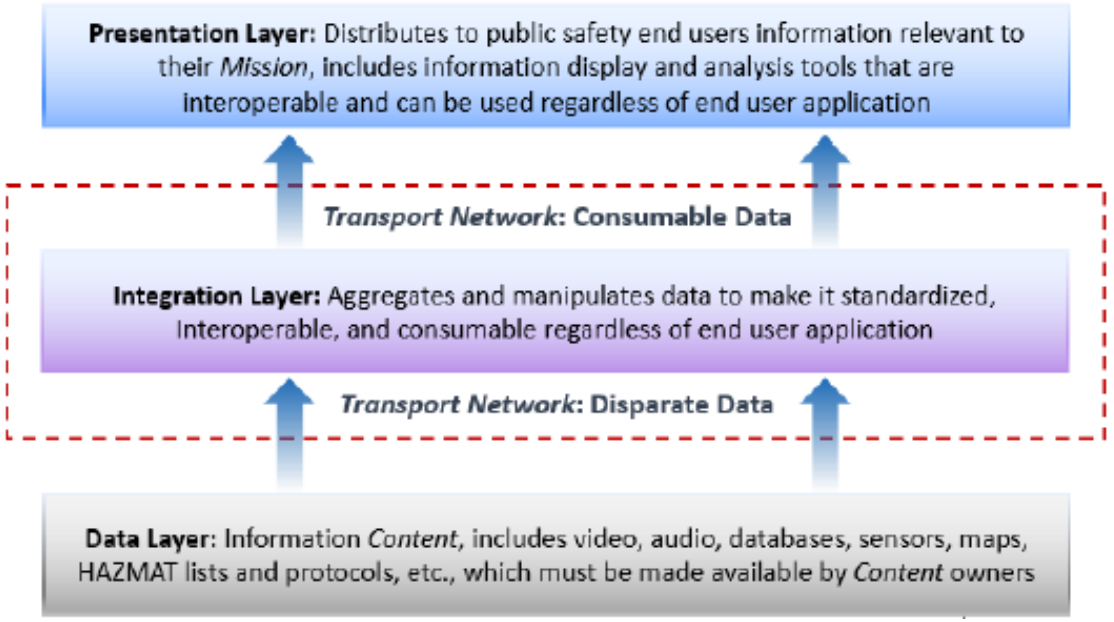
Identity Credentialing and Access Management (ICAM)

- DHS CISA initiative to Federate Public Safety Identity Management
- Early implementation through National Identity Exchange Federation (NIEF) (2008)
- Built upon standards such as SAML
- Current ICAM project funded to GTRI
  - Develop open-source application to test deployments
  - Promote use IDP ←---/---→ SP

SAFECOM Information Sharing Framework (ISF)

DHS SAFECOM initiative

- How to share situational awareness information in a total void of standards
- Work over the past 18 months by Information Sharing Framework Task Force https://www.cisa.gov/sites/default/files/video/21_0929_cisa_approachfordeveloping_isf_v3_508_0.pdf
- POC Phase 1 at Institute
  - Data sharing API Gateway
  - Video Sharing Skyline



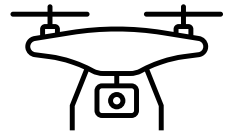
Sharing Drone Information

Drone Data such as video and GIS information can include massive files (terabytes)

PSBN networks are optimized for downlink speed, not uplink speed

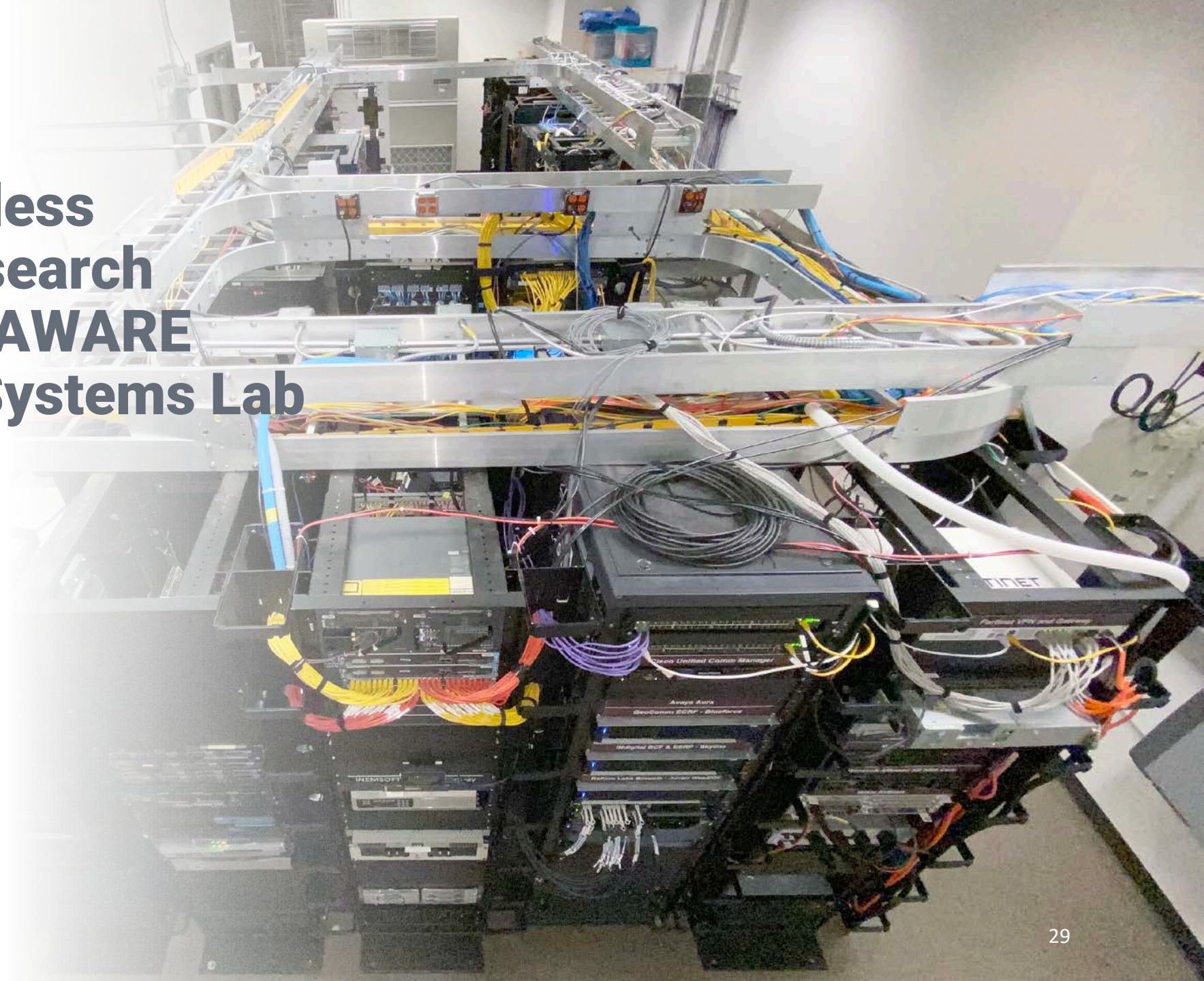
Large response often takes place in areas of congested or no access

Information is usually needed at incident command center or EOC typically miles away



Advanced Wireless Application Research Environment – AWARE ITEC Network Systems Lab

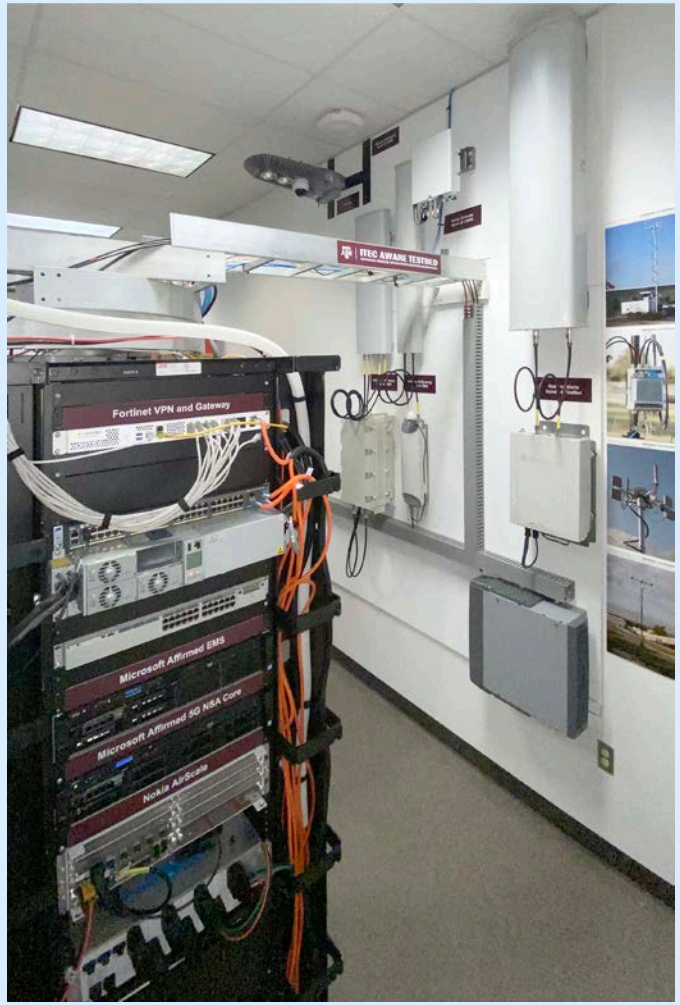
- 880 sq. ft.
- $6-7 million in grant funded and donated software and equipment



ITEC AWARE Testbed

Advanced
Wireless
Applications
Research
Environment

- Defense
- Public Safety
- Transportation
- Energy
- Smart Cities



Billy Bob Brown, Jr., Lisa Festa

Perspectives: Future of Public Safety Communications

What is Your 911 Current State?

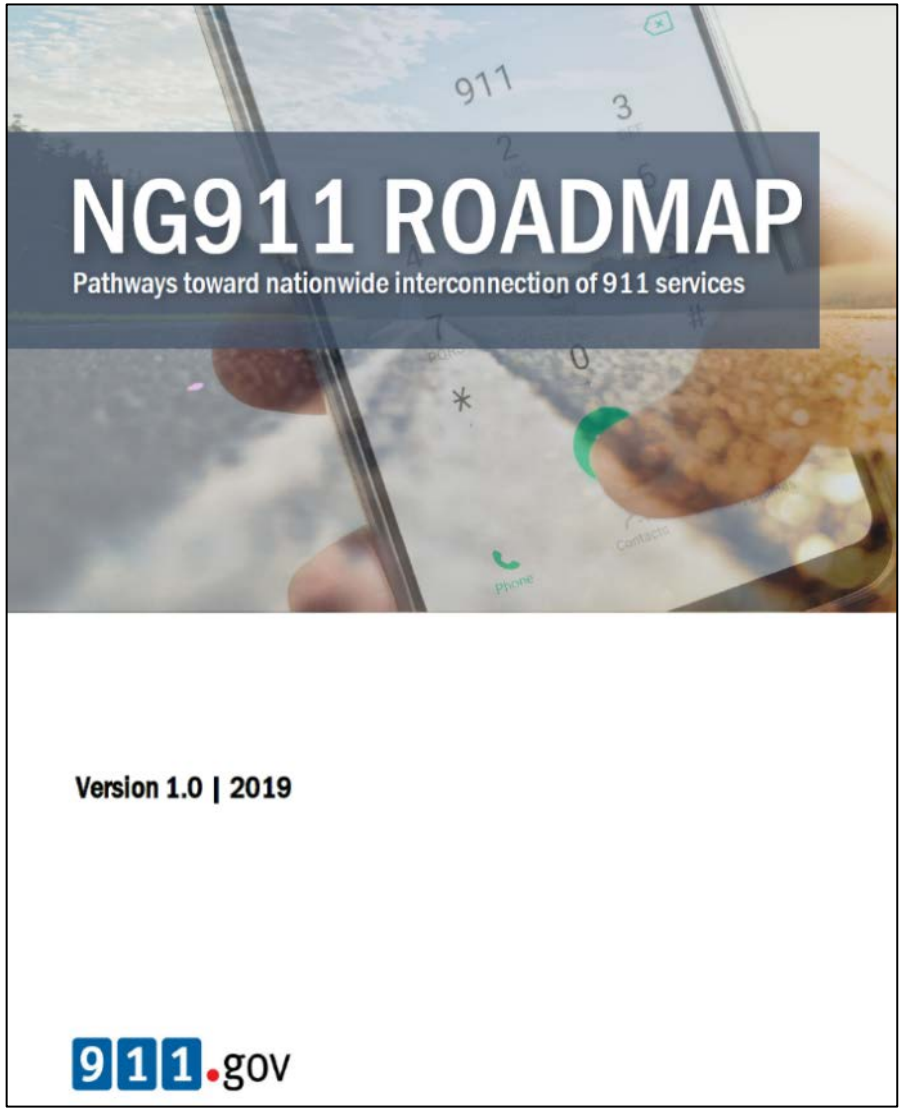
NG911 Challenges

- Education
- Funding
- Standards
- Outreach
- Workforce
- Daily Demands
- Cybersecurity

Mandated in the Omnibus Bill

Aligned with the NG911 Roadmap

Stakeholder Driven



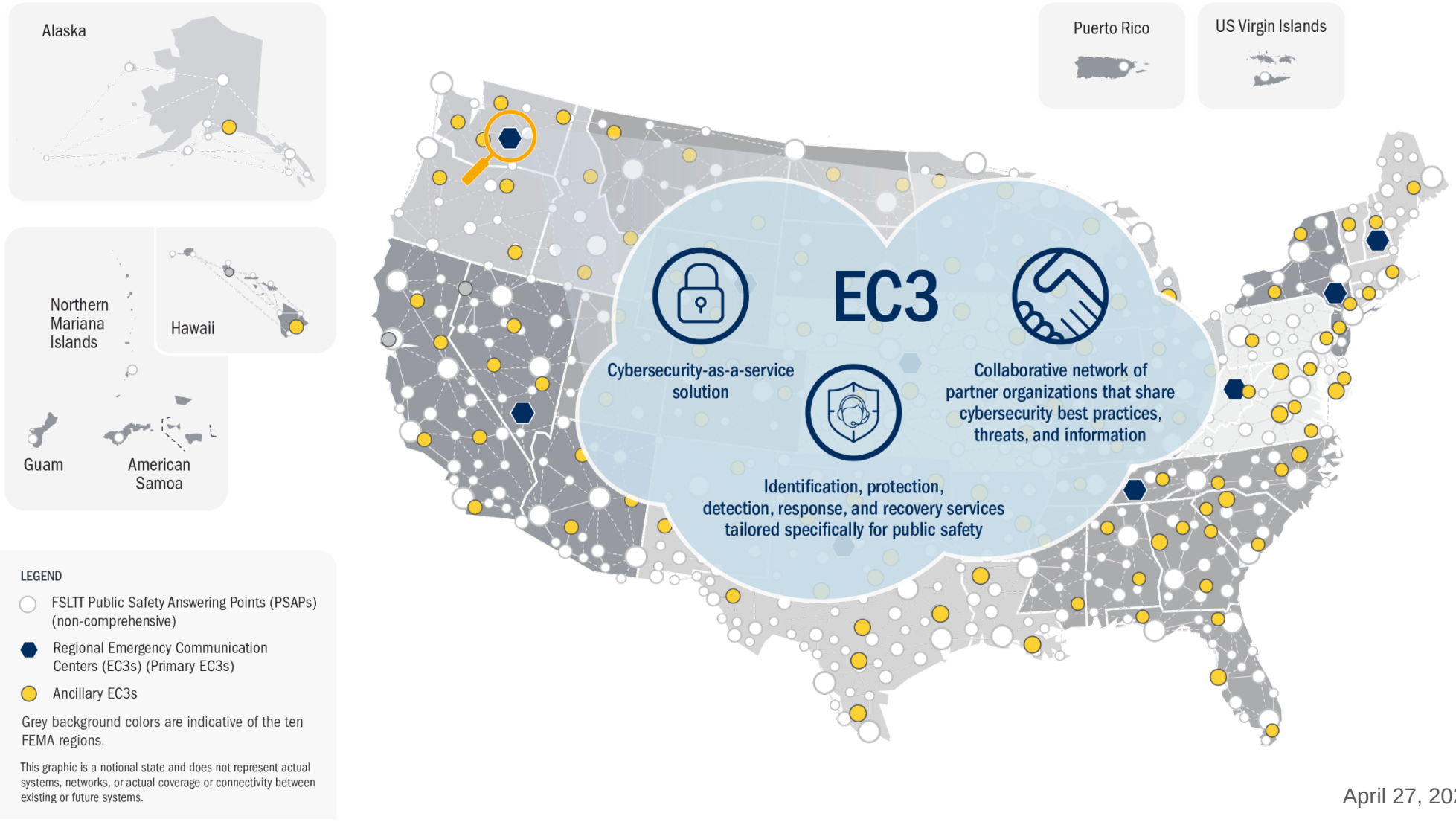
Building a Cyber Resilient 911

MISSION: Guided by the National NG911 Roadmap, collaborate with FSLTT emergency communications stakeholders and Federal partners to develop and execute an incremental plan to understand, manage, and reduce cybersecurity risks that results in a resilient NG911 Ecosystem.

VISION: Empower emergency communications communities across the nation to defend critical infrastructure against cyber threats through the design and implementation of a secure and resilient NG911 Ecosystem.

Note: Locations provided for illustrative purposes only

EC3 Nationwide Architecture



Partnering Makes Us Stronger

Break
15 Minutes

Sara Weston, Nicole Unger

State Breakout Session 1

Current State

Lunch

12:30 – 1:30pm

Day One Afternoon Agenda

12:30 P.M.

- State Interoperability Markers
- Future of Public Safety Communications Perspectives (Panel)
- State Breakout #2 – Desired Future State & Barriers to Success
- Report Out

6:30 P.M.

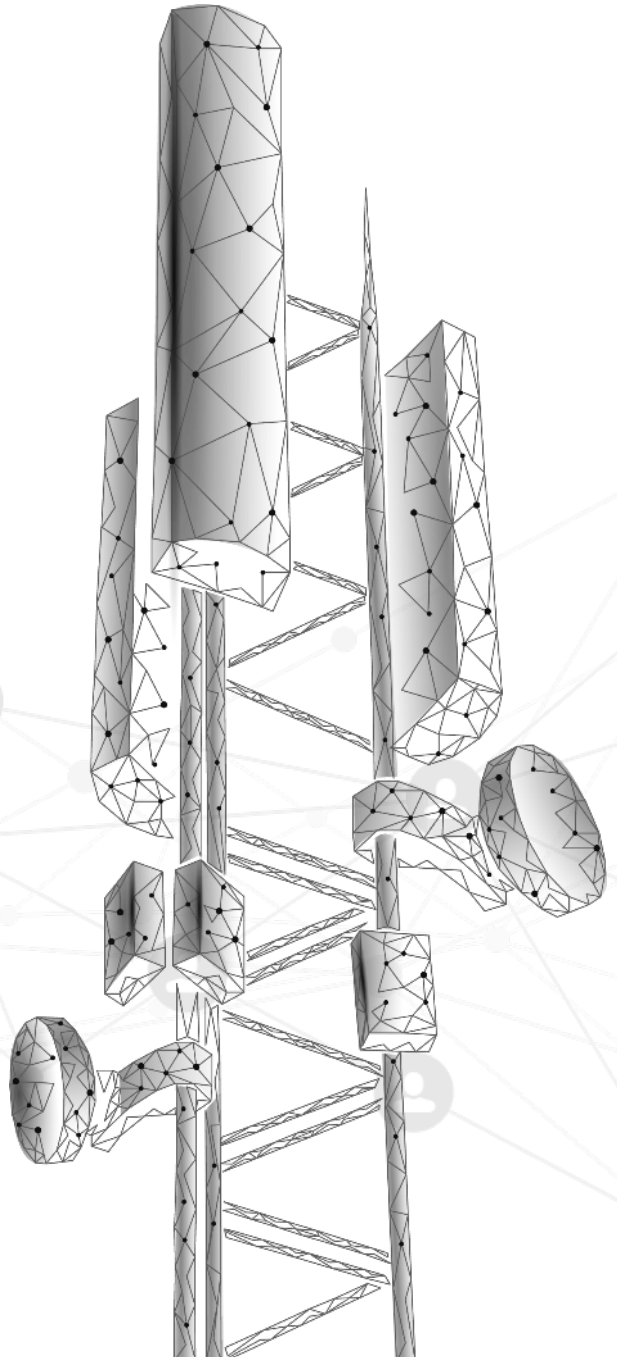
Networking Dinner

Mark Grubb

State Interoperability Markers

State and Territory Markers

- In 2019, **CISA partnered with NCSWIC** worked to develop the Interoperability Markers Program.
- **25 State and Territory Markers** aligned to the SAFECOM Interoperability Continuum were developed and a baseline scoring was completed.
- These Markers provide a **self-assessment framework** that helps indicate the progress of interoperable emergency communications maturity.



Benefits for States and Territories

- Understand impacts of interoperability efforts
- Improve coordination & buy-in from lawmakers/executive branch
- Reduce workload and reporting requests/collect data faster
- Improve strategic planning and implementation
- Justify grant funding and state budget requests
- Enhance the SCIP planning process
- Improve coordination with locals
- Enhance governance body participation and membership

Data Collection Updates

The Marker's Baseline Scoring concluded in 2019 through several Regional Workshops. CISA's ECD continues to update the State/Territory Marker scores on an annual basis to track progress toward improved interoperability.

Baseline Scoring

Q4 - 2019

- ECD concluded the initial scoring of the State and Territory Markers to determine the baseline.
- **National Average: 1.67 out of 3**

2nd Collection

Q4 - 2020

- 2nd data collection and update to the State and Territory Markers.
- **National Average 1.92 out of 3**

3rd Collection

Q4 - 2021

- 3rd Data collection and update to the State and Territory Markers.
- **National Average 2.00 out of 3**

4th Collection (Upcoming)

August 2022

- Beginning in August ECD will look to complete the 4th data collection and annual update to the State and Territory Markers.
- **National Average TBD**

State Interoperability Markers Program

Overview

- 25 markers
- Benchmark progress towards interoperability
- State/Territory Interoperability Markers Dashboard

#	Title	Initial	Defined	Optimized
1	State-level governing body established	6 (11%)	22 (39%)	28 (50%)
2	SIGB/SIEC participation	5 (9%)	18 (32%)	33 (59%)
3	SWIC established	2 (4%)	33 (59%)	21 (38%)
4	SWIC Duty Percentage	17 (30%)	16 (29%)	23 (41%)
5	SCIP refresh	14 (25%)	16 (29%)	26 (46%)
6	SCIP strategic goal percentage	11 (20%)	30 (54%)	15 (27%)
7	Integrated emergency communication grant coordination	6 (11%)	15 (27%)	35 (63%)
8	Communications Unit Process	12 (21%)	18 (32%)	26 (46%)
9	Interagency communication	15 (27%)	30 (54%)	11 (20%)
10	TICP (or equivalent) developed	30 (54%)	16 (29%)	10 (18%)
11	Field Operations Guides (FOGs) developed	26 (46%)	13 (23%)	17 (30%)
12	Alerts & Warnings	27 (48%)	16 (29%)	13 (23%)
13	Radio programming	6 (11%)	20 (36%)	30 (54%)
14	Cybersecurity Assessment Awareness	36 (64%)	15 (27%)	5 (9%)
15	NG911 implementation	26 (46%)	12 (21%)	18 (32%)
16	Data operability/interoperability	18 (32%)	27 (48%)	11 (20%)
18	Communications Exercise objectives	14 (25%)	31 (55%)	11 (20%)
19	Trained Communications Unit responders	18 (32%)	17 (30%)	21 (38%)
20	Communications Usage Best Practices/Lessons Learned	23 (41%)	26 (46%)	7 (13%)
21	WPS subscription	47 (84%)	8 (14%)	1 (2%)
22	Outreach	14 (25%)	16 (29%)	26 (46%)
23	Sustainment assessment	12 (21%)	20 (36%)	24 (43%)
24	Risk identification	26 (46%)	20 (36%)	10 (18%)
25	Cross Border/Interstate Emergency Communication	16 (29%)	35(63%)	5 (9%)

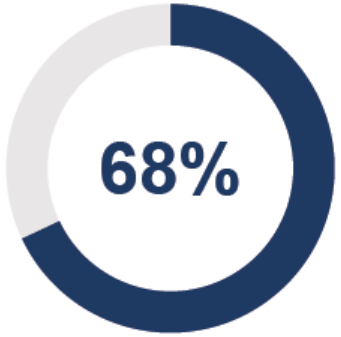
2022 State/Territory Interoperability Markers scoring breakdown by three scoring categories, Initial, Defined, and Optimized.
Marker 17 (Future Technology/Organizational Learning) is a checklist of technologies the SIEC/SIGB is tracking, evaluating, or implementing.

High-Percentage Gap Analysis

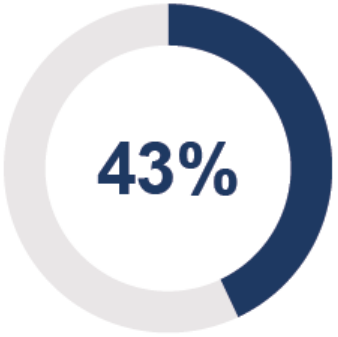
High-percentage gaps are emphasized for Markers in which 35% or more of states are identified in the “Initial” stage.

Marker	Title	Q4 - 2019, % of Initial	SEP 2021, % of Initial	Result
1	State-Level Governing Body Established	11%	11%	No Gap Identified
2	SIGB/SIEC Participation	16%	9%	No Gap Identified
3	SWIC Established	5%	4%	No Gap Identified
4	SWIC Duty Percentage	27%	30%	No Gap Identified
5	SCIP Refresh	36%	25%	Gap Removed
6	SCIP Strategic Goal Percentage	36%	20%	Gap Removed
7	Integrated Emergency Communication Grant Coordination	14%	11%	No Gap Identified
8	Communication Unit Process	21%	21%	No Gap Identified
9	Interagency Communication	29%	27%	No Gap Identified
10	TICP Developed	54%	54%	Existing Gap
11	Field Operations Guides Developed	55%	46%	Existing Gap
12	Alerts & Warnings	68%	48%	Existing Gap
13	Radio Programing	14%	11%	No Gap Identified
14	Cybersecurity Assessment Awareness	73%	66%	Existing Gap
15	NG911 Implementation	66%	48%	Existing Gap
16	Data Operability/ interoperability	36%	32%	Gap Removed
18	Comms Exercise Objectives	36%	25%	Gap Removed
19	Trained Communications Unit Responders	50%	32%	Gap Removed
20	Communications Usage Best Practices	59%	41%	Existing Gap
21	WPS Subscription	91%	84%	Existing Gap
22	Outreach	25%	25%	No Gap Identified
23	Sustainment Assessment	25%	21%	No Gap Identified
24	Risk Identification	52%	46%	Existing Gap
25	Cross Border/Interstate Emergency Communication	41%	29%	Gap Removed

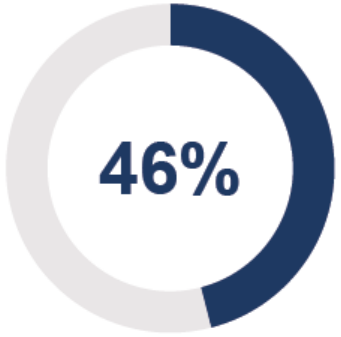
National Key Findings



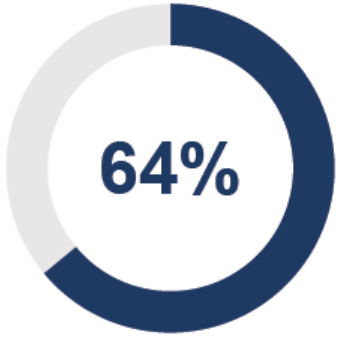
of Markers scored as **Defined and Optimized** in FY21; an increase from 59% in FY19



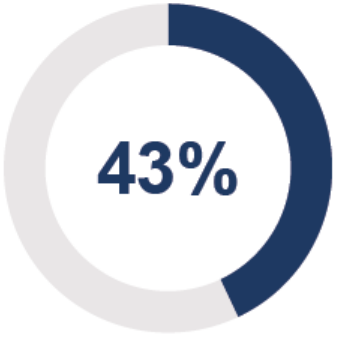
decrease in **High-Percentage Gaps** from FY19-FY21 (14 to 8)



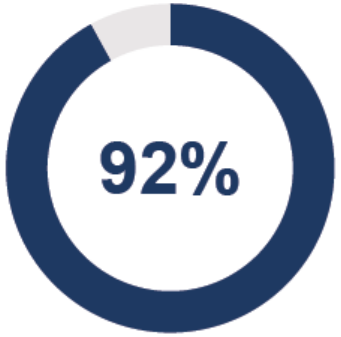
of states and territories are **above the national average** score of 2.00



of states and territories showed **improvements from FY19 to FY21**; 18% had no change and 18% decreased their average Marker score



of states and territories showed **annual improvements for FY21** only; 45% had no change and 13% decreased their average Marker score



of Markers had a **net score increase** from FY19 to FY21

Next Steps

Update State/Territory Markers

Develop and implement an updated set of State and Territory Markers to continue providing leaders with a relevant and data-driven tool

Integrate Emerging Technologies

Continue its increased focus on cybersecurity awareness as well as the integration of planning and training for advancing emergency communications technologies such as NG-911

Expansion of Marker Program

Incorporate Federal, Local, and Tribal Markers into the program

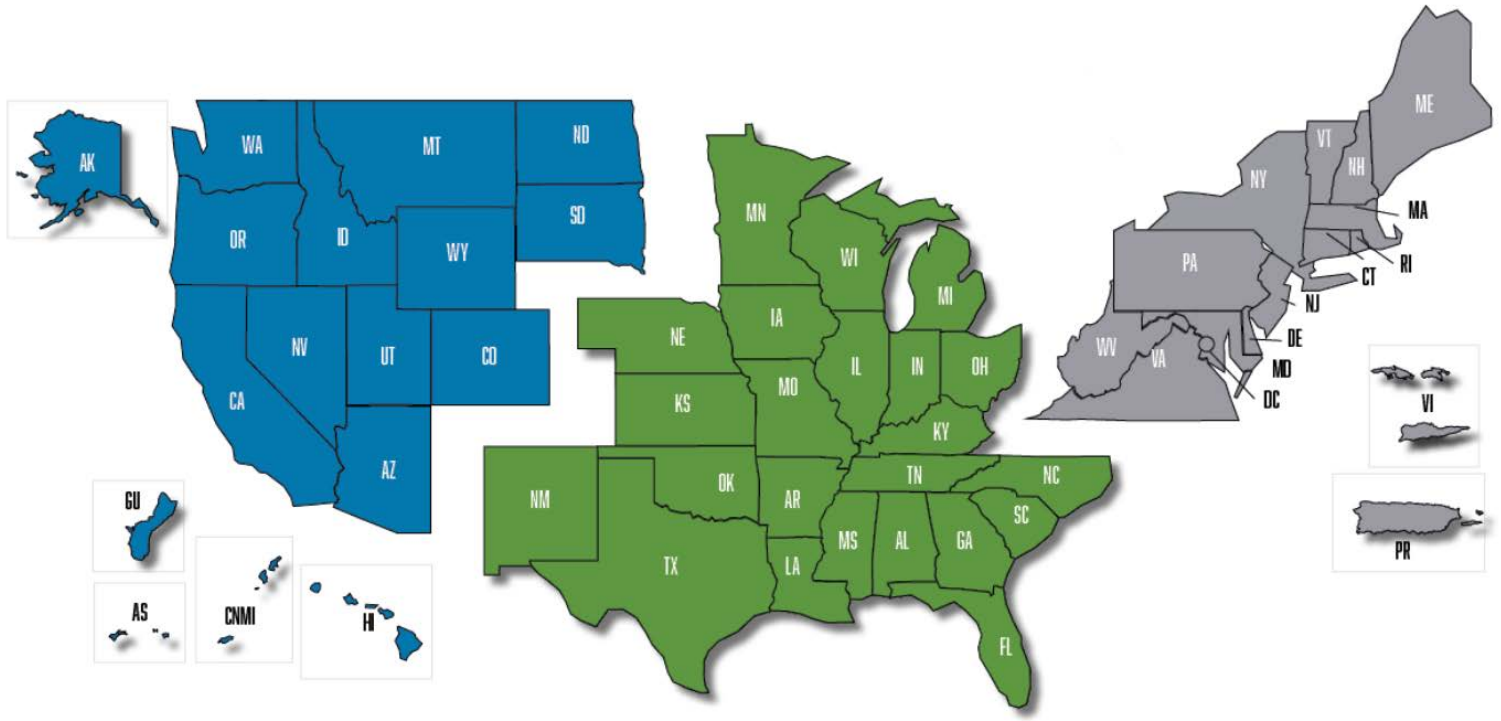
Determine Best Practices

Facilitate an annual forum to share success stories and best practices with Statewide Interoperability Coordinators

Additional Information

Consider reaching out to your State's SWIC or ECC to learn more about the Interoperability Markers Program. You can find your State's SWIC/ECC representative's information at:

- NCSWIC: https://www.cisa.gov/safecom/ncswic-membership
- ECC: https://www.cisa.gov/emergency-communications-coordination-program



Eric Caddy, Chris Essid, Jason Horning

Perspectives Panel: Future of Public Safety Communications

The Expanding Emergency Communications Ecosystem

MissionCriticalPartners

VOICE AND DATA INCIDENT | 911 EMERGENCY COMMUNICATIONS CENTER | RESPONDER COMMUNICATIONS SYSTEMS | PARTNER AGENCIES / ENTITIES

EMERGENCY SERVICES IP NETWORK

COMMAND AND CONTROL SYSTEMS

PUBLIC SAFETY BROADBAND PROVIDER

LAND MOBILE RADIO

COMMERCIAL NETWORKS

- Emergency Management
- Criminal Justice
- Utilities
- Intelligent Transportation Systems
- Smart and Safe Cities
- Healthcare

COMMUNITY

VOICE & DATA

RESPONSE

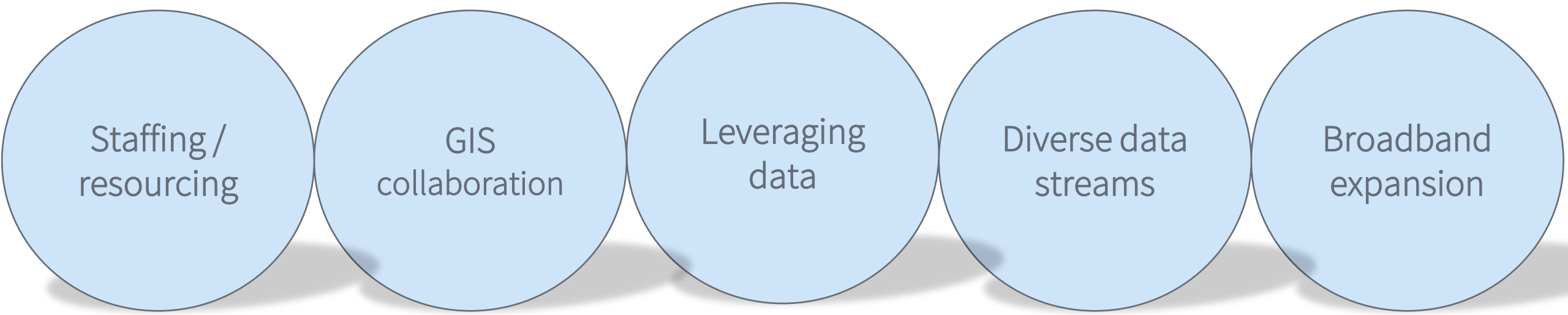
COMMUNICATION

ANALYSIS

PROTECT & PREVENT

What does the future of Public Safety communications look like to YOU?

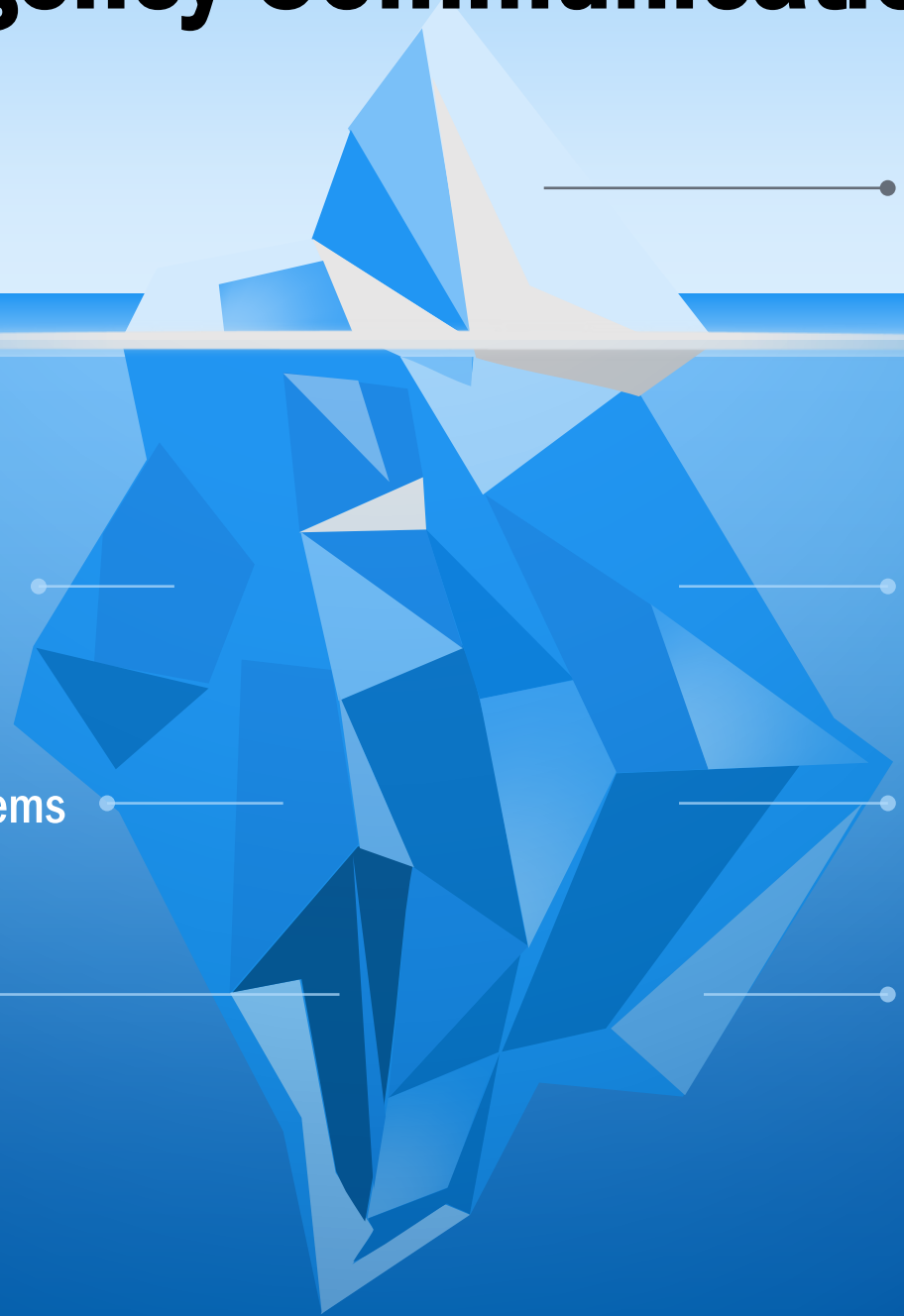
Trends in 911 Communications



Emergency Communications

What Most People See

911



What People Don't See

- Radio Communications Systems
- Broadband & Data Systems
- Alerts & Warnings
- Governance
- Training & Exercises
- Cybersecurity

Considerations for Governance / Policy

- Personal Identifiable Information
- Chain of Custody
- GIS Governance
- Cybersecurity

Break
15 Minutes

Nicole Unger

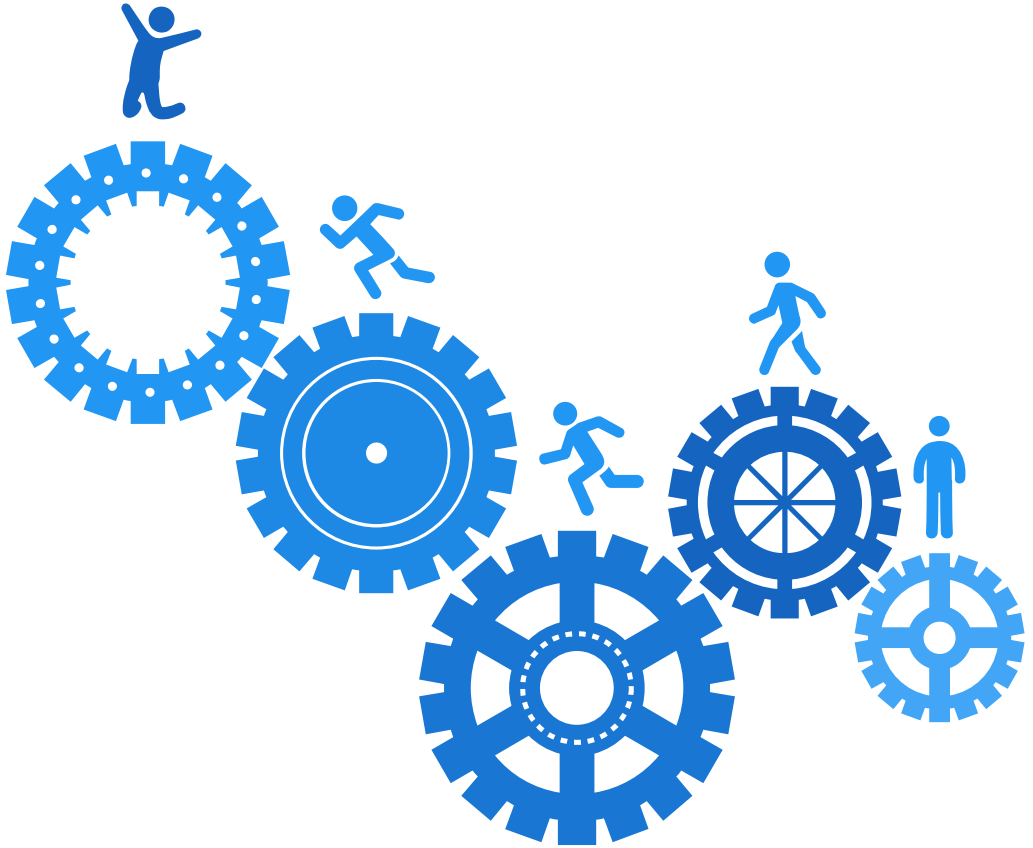
State Breakout Session 2
Ideal Future State & Barriers

Break
15 Minutes

State Report Out

Let's talk about how it went.

What was your **biggest takeaway?**
What did you **accomplish?**
What are you **most excited about?**



Wrap Up

Thank you for all that you gave to today's meeting.

Next Steps

Tonight: 6:30 p.m. Networking Dinner in Salon A

Tomorrow start: 8:00 a.m.
Tomorrow finish: 12:30 p.m.

We will discuss 911 legislation and funding, develop our overarching goals in our third and final breakout, and discuss cybersecurity

Welcome back.

NASNA Interoperability Workshop
Dallas, TX
Day Two

Day Two Agenda

8:00 A.M. — Welcome Back

- Case Study: 911 Legislation & Funding
- How to Set Actionable Goals
- State Breakout #3 – Setting Your Goals (Strategy)
- Cybersecurity Discussion
- Report Out

12:30 P.M. — Adjourn

Lance Terry, Daryl Branson

Case Study: 911 Legislation & Funding

Break

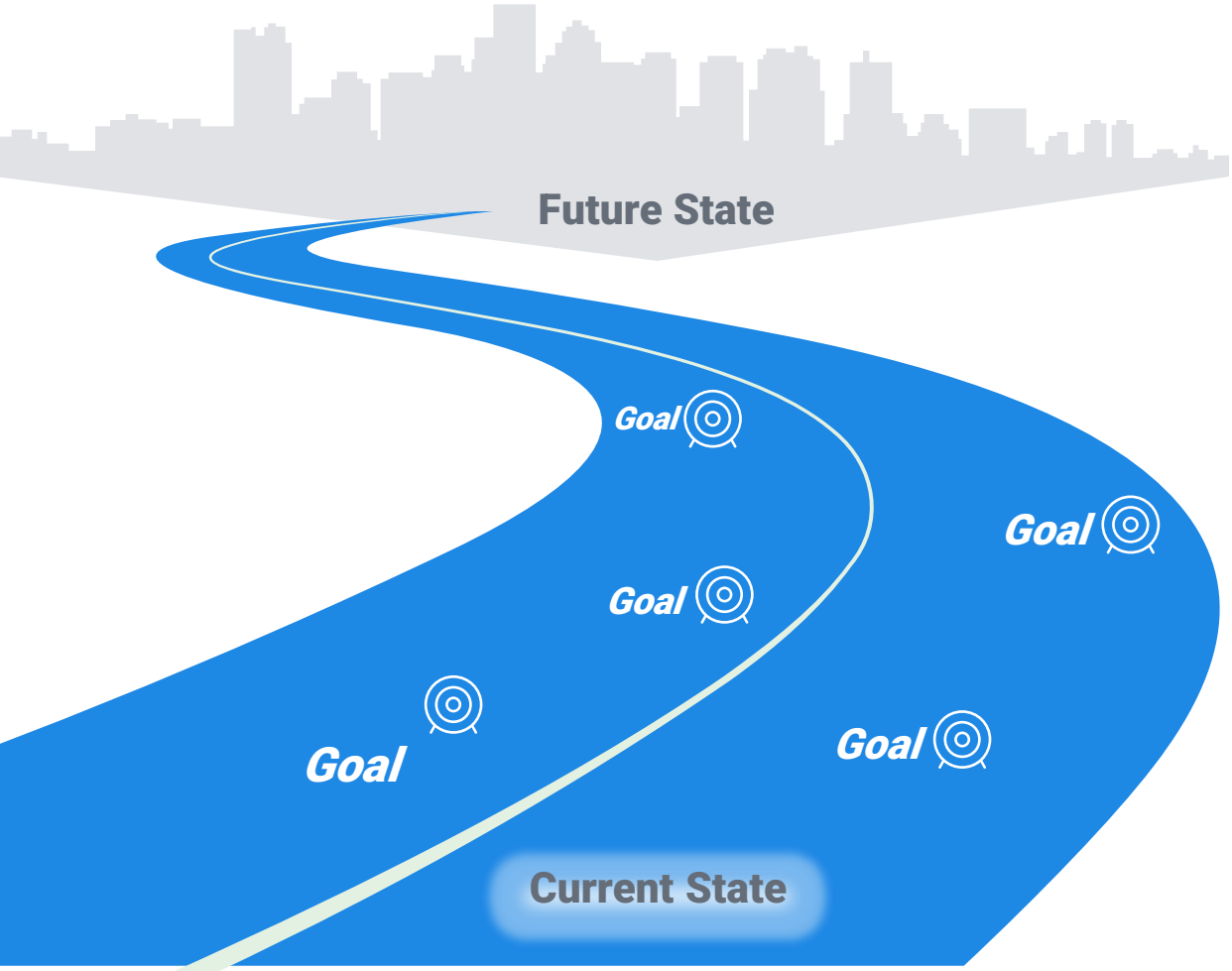
10 Minutes

Nicki Tidey

How To Set Actionable Goals

State Breakout Session 3

Overarching Goals (Strategy)



- Work together to establish goals that will move you from the Current State to your Desired Future State
- Target of 3-4 goals
- Identify spokesperson to share when we report out

Break

10 Minutes

Admiral David Simpson, Chad Adams

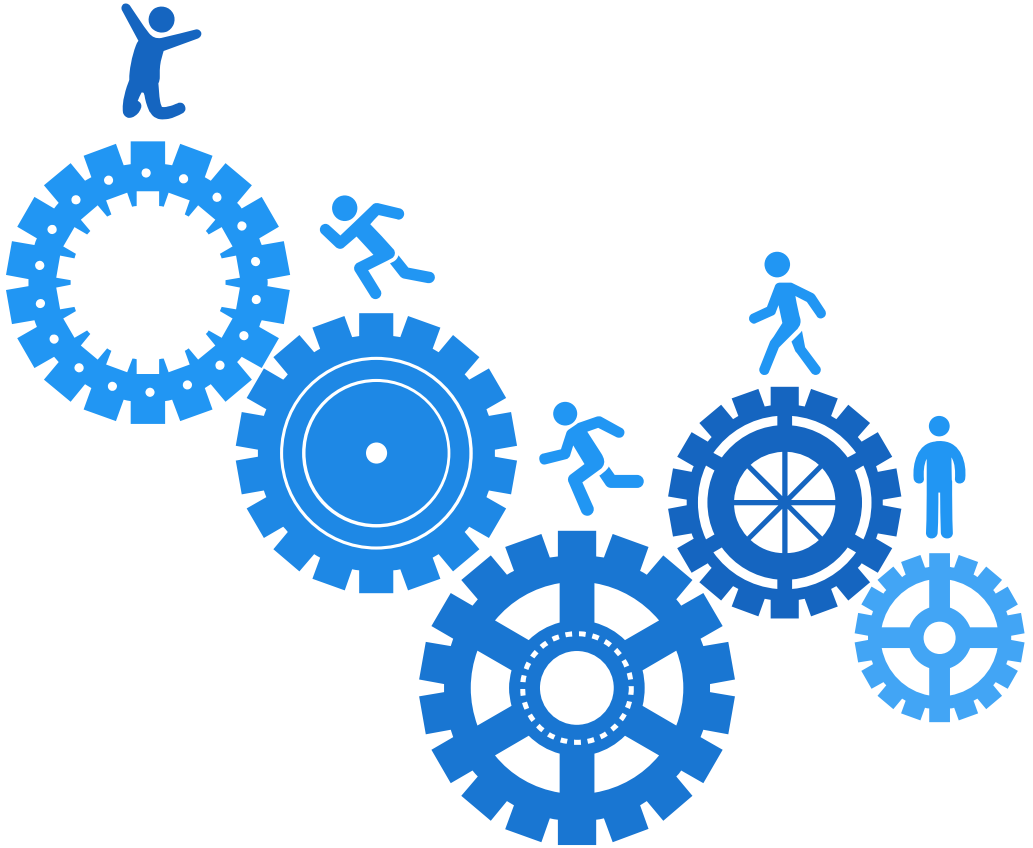
Cybersecurity Discussion

State Report Out

Let's talk about how it went.

Share:

One **easy goal**
One goal your state is **working on**
One **aspirational goal**



Thank you!

Hooray! You did it.