

WHAT IS SIRN?

STATEWIDE INTEROPERABLE RADIO NETWORK



SIRN: Is a statewide solution for delivering an interoperable radio system for public safety community

SIRN: Is a collaborative effort by state, county, and municipal public safety agencies



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK



PUBLIC SAFETY COMMUNICATIONS IN ND



PUBLIC SAFETY COM MUNICATIONS IN ND



230,000 Calls to 9-1-1 each year



9-1-1 Calls are received every 2 MINUTES24 hours a day, 365 days a year

CHALLENGES IDENTIFIED

- Lack of Coverage
- "End of Support" for 40% of communications equipment in 2018-2020
- Dozens of fragmented systems
- Lack of features required by public safety community

- Cumbersome Interoperability
 - Limited communication

capabilities between jurisdictions

STATEWIDE

INTEROPERABLE

& disciplines

• Interference

Unreliable "In-Building" Service







Example of Communication Challenge During Crisis Response Situation:

Three Responders could see each other but were unable to communicate using the current radio network because they were from different agencies.

This jeopardizes the safety of public and first responders.

TIMELINE

- **2011** Exploratory Study Focused on Land Mobile Radio Interoperability
- 2015 Legislature Authorizes
 Feasibility Study
- **2016** Televate Study Conducted; Recommendations Provided
- 2017 Legislature Authorizes and Governor Signs into Law - Execution of SIRN 20/20
- 2017 SIRN 20/20 Program Initiated



- 2018 Requests for Proposals
- 2019 January Contract Awarded to Motorola
- **2019** April Legislature Authorizes and Governor Signs SIRN Project Funding into Law
- 2019 May Project Kick Off
- 2019 August Construction on Phase 1 Begins
- 2020 August Phase 1 Group 1 Completed

TELEVATE STUDY FINDINGS

SER No

NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

STUDY PURPOSE:

Evaluate viability of statewide interoperable radio network (SIRN) to consolidate the myriad State and Local systems into a common network

STUDY FINDINGS:

- State & Local systems based on legacy technologies
 - Limited functionality
 - Diminishing Service Lifespans
- Systems unable to keep pace with population increase & rise in public safety incidents & activities
- > New system must provide:
 - Performance
 - Reliability
 - Interoperability

STUDY SOLUTION: SIRN 20/20

Holistic evolution of State & Local communications networks into single integrated statewide solution

- Adequate & affordable replacement
- Significant State funding allocation
- Proper Governance
 - Transparency
 - Responsiveness to local partners

CONTRACT

- Contract with Motorola
- Provides single, statewide solution
- Coverage challenges mitigated
- End of life challenges mitigated
- Interoperability challenges mitigated
- No frequency transfers required
- 5 Year project
- Emphasis on phased functional deliverables







SOLUTION



- 800 MHZ Frequency Band
- Project 25 Technology
- 99.999 Reliable is the national standard for public safety communications hardware
- Hardware Meeting Standards Usable on SIRN System



- Guaranteed Coverage
 - 95% Mobile Coverage
 - 85% Portable Coverage
- Addresses End of Life & End of support of Equipment
- Future Integration with LTE & Wi-Fi Technology
- Guaranteed System Support for 25 years





- 140 Tower Sites
- Better In-Building Penetration
- Reduces Congestion
- Open Spectrum No Channel Scarcity
- Lessens Interference
- Eliminates VHF Skip
- Lower Noise Floor
- Consistent Predictable Coverage

SIRN HISTORY CONVENTIONAL VS TRUNKING



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

Conventional Radio System:

- User chooses a frequency
- Bound to a specific set of towers
- Assigned to a specific purpose



Trunked Radio System:

- User chooses a specific trunk group
- Assigned to a specific purpose
- Not bound to a frequency
- Not bound to a specific set of towers
 - System programmable
- Can be local, county, regional, state, federal



Citizen makes 9-1-1 Call



Dispatcher at PSAP sends message to responders



HOW SIRN WORKS

Dispatch information sent out using all required towers to cover incident area

Message can reach responders regardless of location in state



Message delivered to responders



Responders can communicate within and outside jurisdictional boundaries

SIRN FUNDING



NORTH DAKOTA

STATEWIDE

INTEROPERABLE

RADIO NETWORK



COMPONENT	STATE APPROP.	BUDGETS	GOVERNMENT
Core Infrastructure & RF Network (Bismarck, Fargo, State Radio, & Towers)	\$90 MILLION		
PSAP Equipment (Includes Equipment & Training)			\$8.5 MILLION
Local & State Public Safety Devices	\$30 MILLION (\$1500 local cost share)	Individual Agency Responsibility	Local Responsibility Minus \$1500 cost share

RADIO REIMBURSEMENT

- 2019 Legislature provided funding for radio's in HB 1435
- Anticipate most agencies will purchase radios in 2022-2023
- > \$1,500 cost share per radio
 - City/County Law Enforcement, Fire, Emergency Medical Personnel
- \succ Eligibility:
 - Agencies must complete ITD radio survey
 - Available for radios purchased between 4/2019-1/2024
 - Agencies purchase <u>approved radio</u> & submit receipts for reimbursement







RADIO ENCRYPTION REQUIREMENT

FBI Security Policy Requires <u>ALL</u> Communication of FBI Criminal Justice Information (CJI) to be **encrypted**

ND BCI memo issued 1/3/20

Examples of CJI that could be communicated over a radio include:

Warrants, Missing Persons, Wants & any information obtained from NCIC.







- Law Enforcement required to purchase encrypted radios
 - \$700 approximated increased cost for each mobile & handheld device

SIRN BUILD-OUT: BY THE NUMBERS



PROJECT STATUS



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

PHASE 1: CORE & PSAPs

- Bismarck Core-Completed
- Fargo Core Completed
- Core Encryption, GPS, IV&D, OTAP, OTAR Completed
- Group1 PSAPs-Completed

(Grand Forks, Minot, Stutsman, Barnes, & Richland)

- Group 2 PSAPs Planned End Date Est. 1/2021
 - Cavalier (Completed)
 - UMRRDC -Williston/Williams
 - Bottineau/Renville (Completed)
 - Central Dakota Communications
 - Stark/Dickinson
 - State Radio



PROJECT STATUS

PHASE 2: Radio Frequency Buildout

Group 1 - Planned End Date 1/23

- 40 DOT Towers
- Group 2 Planned End Date 11/21
 - 5 DOT Towers + 16 Leased Towers
 - Simulcast Towers
 - Grand Forks, Minot, Williston, Bismarck/Mandan

Group 3 & 4 - Date TBD

• 78 Tower sites TBD





PROJECT STATUS

- 2019 May Project Kick Off
- 2019-2021 Phase 1 : Core & PSAPs
 - Group 1 PSAP's (5) Complete
 - Group 2 PSAP's (6) ETA to completion February 2021
- 2019 October Construction begins on Phase 2: RF Network
- Estimated completion 2023-2024



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

EARLY ADOPTERS TO BE COMPLETE IN 2020



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK



PROJECT TIMELINE



	ID Task Name		2020		2021		2022		2023			2024				2025			
	Task Name	Q1	Q2 Q3	Q4	Q1	Q2 Q3	Q4	Q1	Q2	Q3 Q4	Q1	Q2	Q3 Q4	Q1	Q2	Q3	Q4	Q1	Q2
1	Group 1 PSAPs)																	
2	Group 1 Towers (DOT Towers))						
3	Group 2 Towers (Early Adopters)																		
4	Group 2 PSAPs)															
5	Lease Tower Sites (estimate)																		
6	Group 3 PSAPs (Not Baselined)					0													
7	Group 4 PSAPs (Not Baselined)							0											

SOLUTION





Contract Requires Coverage:

- 95% Mobile Coverage with 95% reliability
- 85% Portable Coverage with 95% reliability
- Major Highways
- 127 Largest Cities
- All County Seats
- Communities with Law Enforcement, Fire & EMS

ADVANTAGES

- Maintain contact with dispatch center while out of jurisdiction
- PSAP Redundancy across the state
 - Capability to dispatch & maintain communicate if dispatch center is out of service
- Interoperability with surrounding states & internationally
- Guaranteed voice audio quality of 3.4 means 95% of communications will be very clear





• More efficient management of frequencies means greater availability of channels

SIRN advantages





- The ability to communicate with <u>ANY</u>
 <u>PUBLIC SAFETY PERSONNEL, AS NEEDED,</u>
 <u>ANYWHERE</u> in the state
- 95% coverage for mobiles and 85% coverage for portables for each region with 95% Reliability within the state
- SIRN readily incorporates the future of technology
- Interoperability between existing VHF & 800 MHZ SIRN system during transition
 - VHF system will reach end-of-life
 - Date TBD

ADVANTAGES

- Far superior coverage throughout ND than existing systems
 - Guaranteed coverage in all
 cities with populations 500+
 & county seats
- Capable of over the air programming and re-keying
- Improved in-building coverage in dense areas





GOVERNANCE



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK



GOVERNANCE



7 Workgroups made up of 75+ volunteers - "Users" of SIRN

- Provide subject matter expertise and direction to SIEC subcommittee
- Develop standards recommendations for SIEC subcommittee



Workgroups include: Simulcast/Fire, Fleet Mapping-Talk Groups, Radio, Encryption, Public Info/ Education/Training, PSAP-Users, EMS/Hospitals

GOVERNANCE



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

SIEC Governance structure allows for INVOLVEMENT at all levels

User involvement is critical to successful implementation of SIRN



SIRN advantages



NORTH DAKOTA STATEWIDE INTEROPERABLE RADIO NETWORK

No single ND entity could construct, operate and maintain a statewide communications system with the **coverage, capacity**, **capabilities and redundancy** of SIRN



SIRN2020.ND.GOV

Dakota Information Techn Be Legendary."	nology In Enter Keywords								
Home Support - Servi	ces - Statewide Alliances - News Standards About Us -								
Statewide Alliances	Home / Statewide Interoperability Executive Committee (SIEC) / SIRN 20/20								
Enterprise Architecture GIS Hub	SIRN 20/20								
Health Information Technology/Network	Recent news								
State IT Advisory Committee (SITAC)	SIRN Buildout & Transition (January 2022)								
 Statewide Interoperability Executive Committee 	Project Status as of January 2022								
Contact SIRN	Project Status as of November 2021								
SIRN 20/20 Statewide Longitudinal Data	SIRN - Infographic								
System	2021 Tower / RF schedules: Pending Replan								
	Televate Landscape Survey Summary Report ⁽²⁾ and SIEC Briefing ⁽²⁾ 2021								
	- 75% of Dispatch Centers Upgraded to new Consoles								
	- 66% of Mobile Buildout Completed - 3 Dispatch Centers Transitioned to 800Mhz (Williston, Grand Forks, Minot)								



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