



MINNESOTA PUBLIC SAFETY BROADBAND WIRELESS DATA NETWORK REQUIREMENTS STUDY

OVERVIEW

This comprehensive study was conducted through 2010-2012 to assess the needs of public safety wireless broadband in Minnesota. It is available in five sections, which each focus on a different interest area in public safety broadband. This study will form the foundation of Minnesota public safety broadband planning efforts and our interaction with national entities such as Firstnet.

To read this study, visit:

<https://dps.mn.gov/divisions/ecn/programs/armer/Pages/studies-reports.aspx>

SECTION 1: USER NEEDS ASSESSMENT

Minnesota has comprehensively assessed its user needs through hundreds of man-hours of face-to-face interviews and table-top exercises, hundreds of survey responses, detailed incident traffic modeling, and careful, analytical study.

SECTION 2: STATEMENT OF NETWORK REQUIREMENTS

Minnesota has developed a detailed statement of network requirements to form the foundation of an RFP or similar vehicle. These requirements include network performance criteria as well as LTE features and options.

SECTION 3: CARRIER ASSESSMENT

Minnesota has found that cellular operators are not able or willing to support public safety requirements over their commercial networks, such as by guaranteeing ruthless pre-emption. However, cellular operators are both capable of and willing to support public safety needs through various alternative options, including a separate RAN and/or hosted core.

SECTION 4: IMPLEMENTATION MODEL

Minnesota has developed a statewide, budgetary design for the public safety network in the state designed to requirements similar to its ARMER P25 radio network. Minnesota would require 521 sites to provide a baseline level of coverage and capacity, assuming some local investment to achieve in-building coverage in critical structures. As a comparison, ARMER is planned to have approximately 380 when fully completed in 2013.

Minnesota has determined the approximate costs to implement this design. Its design leverages all investments into its 380-site ARMER network and includes all capital and operating costs.

SECTION 5: FUNDING AND GRANTS REPORT

Minnesota sees that substantial investments in both cellular and land-mobile radio infrastructure can, and should, be leveraged for its broadband network and has already included these assets in its financial planning.

Minnesota has determined that the public safety network would require between 60,000-75,000 users to drive per-user-costs down to a level that would be competitive with commercial service offerings while still sustaining all capital and operating costs. This number is a similar quantity of users as planned to be on ARMER by 2013.

Additionally, Minnesota has determined there are multiple models suitable to meet its needs for the network, including completely government-owned, completely carrier-owned, or through an anchor-tenant relationship.



MINNESOTA PUBLIC SAFETY BROADBAND PRIORITIES AND NEXT STEPS FOR 2012:

1. Establish a body under the Statewide Radio Board to officially sanction public safety broadband planning activities and to represent the State before the FCC, NTIA, Firstnet, and standards bodies including 3GPP.
2. Develop a Minnesota Public Safety Wireless Broadband Plan based upon its existing planning activities and current research.
3. Develop applications and data interoperability standards, including standardized SDKs, APIs, and network interfaces as well as media codecs, signaling formats, and container formats.
4. Execute formal MOUs with potential partners for the public safety broadband network to clearly identify all feasible avenues for alternative financial models for both construction and maintenance of the network.
5. Expand public safety broadband planning on a regional basis to ensure interoperability with adjacent states and the provinces of Manitoba and Ontario.
6. Work actively in larger planning and standards-setting with organizations including the FCC Technical Advisory Board, PSCR, NPSTC, 3GPP, and Firstnet to support development of national standards and a national network model that fully support the needs of the state of Minnesota.
7. Continue requirements research and planning efforts including expansion of its existing financial models, network design, network requirements, and user needs.
8. In the near term, construct a small public safety wireless broadband pilot network to identify transition and implementation issues specific to Minnesota, collect live user data, and serve as test-bed for innovative end-user applications.
9. In the long term, facilitate, through whichever means best meet the needs of our public safety community, integration into the national safety broadband network that introduces operational and technological efficiencies and enhances the performance of public safety services in the state of Minnesota to maximize the protection of human health, property, and safety.