

MINNESOTA DEPARTMENT OF PUBLIC SAFETY



2012 Report

Statewide 911 Emergency Telephone Service Program

October 31, 2012

*Minnesota Statewide
9-1-1 Program*



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Statewide 911 Emergency Telephone Service Program 2012 Report

Division of Emergency Communication Networks (DECN)

Mission Statement

Fund and support interoperable public safety communication solutions that permit public safety officials, emergency personnel, state, federal and tribal agencies to communicate easily with each other to provide immediate responses to Minnesota citizens and visitors that request emergency assistance.

Background

The Division of Emergency Communication Networks (DECN) is a division of the Department of Public Safety (DPS). The DECN encompasses three programs that support emergency communications:

- Statewide 911 Program,
- Statewide shared radio communications network---Allied Radio Matrix for Emergency Response (ARMER)
- Statewide Interoperability Program

Services Provided

DECN provides multiple services by collecting 911 fees that are assessed on each Minnesota wired, wireless and Voice Over Internet (VoIP) customer access lines. Those services include:

- Providing a state-of-the-art voice and data communications backbone to 100 percent of Minnesota residents and visitors requesting emergency assistance
- Achieving 95 percent mobile radio coverage across all rural and metro counties, enabling emergency responders to communicate seamlessly with each other, as well as with every Public Safety Answering Points (PSAPS) when responding to requests for emergency assistance
- Providing grant dollars to local units of government to purchase necessary equipment for emergency responders
- Developing training applications to support comprehensive region-wide training and exercises for 911 dispatchers and emergency responders
- Supporting the established Statewide Radio governance structure to ensure that each user has a voice in how Minnesota's interoperable radio communications systems function through collaboratively-developed and implemented standards

I Executive Summary

Introduction

Minnesota's 911 emergency services telephone network is a vital component of the state's emergency response system. Dialing 911 provides rapid and effective access to public safety services. Citizens of Minnesota expect that dialing 911 will link them to the right public safety agency and that emergency personnel will have vital location information to help speed the responders to their calls for assistance. The commissioner of the Minnesota Department of Public Safety (DPS) is responsible for helping counties implement 911 service and for funding part of the costs of delivering 911 calls to the appropriate city, county or State Patrol public safety answering point (PSAP).

Reporting Requirement

Minnesota Statutes, Section 403.06, Subdivision 1a requires the commissioner of Public Safety to prepare an annual report to the Legislature. The annual report must include:

- Details of expenditures to maintaining the 911 system
- 911 fees collected
- Balance in the 911 Special Revenue Fund
- Administrative expenses of the 911 Program.

This report explains the 911 expense elements in Figure 1 and provides:

- (1) Required financial information as of December 31, 2012 (revenue projections based upon the December 31, 2013 revenue forecasts)
- (2) Projections of the 911 program financial position through June 30, 2013
- (3) Brief summary of the status of enhancements and improvements to the Minnesota 911 system
- (4) Other considerations and risks related to the 911 Program.

FY2012 Financial Update

The 911 fee increased to 80 cents per access line on July 1, 2010. The fee generated \$61,885,563 in total revenue during FY2012. The beginning balance in the 911 Special Revenue Fund was \$28,432,200 making the total available funding for fiscal year \$90,317,814. The total expenses for the year were \$65,055,525 of which \$609,842 were 911 Program administration expenses. The year-end balance in the 911 Special Revenue Fund was \$25,262,300.

Financial Projections (through June 30, 2013)

911 ARMER PROGRAM - SPECIAL REVENUE FUND HISTORICAL FISCAL YEAR FUNDING (\$ IN THOUSANDS)

	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010	Fiscal Year 2011	Fiscal Year 2012	Projected Fiscal Year 2013
Resources:						
Prior Year Ending Balance	\$17,952.3	\$22,553.5	\$22,905.6	\$25,399.8	\$28,432.2	\$25,262.3
911 Fee Collections	\$50,751.0	\$51,269.5	\$58,821.9	\$61,966.9	\$61,885.6	\$63,263.8
Transfers from Other Funds	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Prior Year Adjustments	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Subtotal Current Resources	\$50,751.0	\$51,269.5	\$58,821.9	\$61,966.9	\$61,885.6	\$63,263.8
Total Revenues Plus Prior Year Ending Balance	\$68,703.3	\$73,823.0	\$81,727.5	\$87,366.7	\$90,317.8	\$88,526.1
Authorized Expenditures & Transfers:						
Appropriation Transfers:						
Debt Service - Metropolitan Council	\$1,311.2	\$1,410.0	\$1,410.0	\$1,410.0	\$1,410.0	\$1,410.0
Debt Service - MMB	\$6,149.0	\$11,853.0	\$17,557.0	\$23,261.0	\$23,261.0	\$23,261.0
MnDOT - ARMER operating costs	\$3,110.0	\$3,110.0	\$5,060.0	\$5,060.0	\$8,300.0	\$8,650.0
Medical Resource Communication Center ⁽¹⁾	\$683.0	\$683.0	\$683.0	\$683.0	\$683.0	\$683.0
Subtotal Transfers	\$11,253.2	\$17,056.0	\$24,710.0	\$30,414.0	\$33,654.0	\$34,004.0
Expenditures: ⁽²⁾						
Compensation	\$506.7	\$614.1	\$651.8	\$656.6	\$609.8	\$719.1
Rent / State Operations / 911 Service Providers	\$15,324.4	\$17,097.4	\$14,208.9	\$13,616.5	\$14,198.0	\$12,846.5
Zone controller/ Project Dev./ Systems Design	\$5,401.5	\$2,485.9	\$2,854.0	\$0.0	\$0.0	\$0.0
Public Safety Answering Points (PSAP)	\$13,664.0	\$13,664.0	\$13,664.0	\$13,664.0	\$13,664.0	\$13,664.0
Next Generation 911	\$0.0	\$0.0	\$239.0	\$583.4	\$92.2	\$3,003.9
Grants to Local Units of Government	\$0.0	\$0.0	\$0.0	\$0.0	\$2,837.5	\$5,162.5
Subtotal Expenditures	\$34,896.6	\$33,861.4	\$31,617.7	\$28,520.5	\$31,401.5	\$35,396.0
Total Transfers and Expenditures	\$46,149.8	\$50,917.4	\$56,327.7	\$58,934.5	\$65,055.5	\$69,400.0
Fund Balance	\$22,553.5	\$22,905.6	\$25,399.8	\$28,432.2	\$25,262.3	\$19,126.1

Figure 1 911 Program Funding

Minnesota Statute 403.11 was amended in 2008 to increase the 911 fee cap in 2008, 2009 and 2010. This adjustment was made to accommodate the need to complete the construction of Minnesota's statewide public safety radio and communication system (ARMER or Allied Radio Matrix for Emergency Response). The fee cap was not raised on July 1, 2008; however it was raised to 75 cents on July 1, 2009 and it was raised to 80 cents on July 1, 2010. It will only be raised to 95 cents, if needed. The appropriation language of the 2007 Omnibus Public Safety Bill also provided funding for the costs of operating four phases of the ARMER backbone, for detail design and advanced site development, and to upgrade the existing backbone in the Twin Cities' metropolitan area.

The number of access lines, upon which the 911 fee is collected, is not expected to increase substantially as we move into the future based upon the fact that alternative services such as Voice over Internet Protocol (VoIP) and wireless services are essentially competing with the traditional landline services for the same customer base. The implications of a transition of legacy telecommunication networks to broadband VoIP networks over the next decade will have a substantial impact upon the costs of the 911 network. During the new network build-out that transition will require the simultaneous operation of both the existing 911 network and a new broadband VoIP network as the telecommunications network continues to evolve.

The costs in Figure 1 from FY2008 through 2011 are based upon the appropriations made to complete the ARMER system backbone. The transition of the 911 network from a traditional Time Division Multiplexing (TDM) to VoIP network will require both networks to operate

simultaneously. Therefore, it is of vital importance that the fund balance remain intact for the funding of Minnesota's transition to, and operation of, a Next Generation 911 (NG911) network.

Status of Enhancements and Improvements to the Minnesota 911 System

Maintaining, enhancing and expanding 911 services for both wireline and wireless technologies are provided for under Minnesota Statutes, Section 403.025, Subdivision 7. Significant further progress has been made to: integrate wireless 911 into the enhanced 911 systems; increase the interoperability of separate 911 systems; and position the state to be able to take advantage of enhanced 911 services for wireless and interconnected VoIP telecommunications services. More information about enhanced 911 is available on the Minnesota 911 Website at: <http://www.911.state.mn.us/>.

The telecommunications industry is migrating from circuit switched to packet-based digital communications over broadband connections. New standards are under development at this time for the Next Generation 911 (NG911) system to match the new technologies and to provide 911 functionality for all modes of communications, including traditional wire-line and wireless voice, Voice over Internet Protocol (VoIP), VoIP over wireless broadband, and text and image devices. In 2008, the Minnesota 911 Program contracted with L. Robert Kimball and Associates to conduct a detailed assessment of the state's existing network, identify any major gaps in the existing network, and make recommendations on how to proceed to implement a NG911 network. A NG911 Advisory Group representing various 911 and public safety stakeholders was established to oversee the development of a strategy for migrating to NG911. A copy of this report can be found on the Minnesota 911 Website at <http://www.911.state.mn.us> under NG911.

The NG911 project began in 2010 and will be carried out in three phases. The first phase, completed in September 2010, establishes interoperability between the two existing providers and a new VoIP backbone. The second phase will be to establish IP (Internet protocol) connectivity to a select group of trial Public Safety Answering Points (PSAPs). The third phase will build redundant IP paths to every PSAP across the state. This new IP network will allow advanced feature functionality such as text messaging, instant messaging, video, automatic crash notification systems and medical information to traverse the 911 emergency communications network. Once this Emergency Services IP Network (ESInet) is established in Minnesota, the long-term goal is to add the advanced feature functionality described above and establish connectivity with other state 911 networks to establish a nationwide Emergency Services IP Network (ESInet).

Conclusion

The success of the 911 Program is a product of extensive cooperation among legislators, regulators, state and local government administrators, and the telecommunications industry. Continued success will require further cooperation to maintain program effectiveness as new telecommunications technologies, services and service providers compete for market share and develop new technologies.

911 Program

II. Background

The 911 emergency telecommunications system provides rapid access to emergency services. It is a simple, concise way to reach police, fire and emergency medical services, which saves time for the caller and reduces overall response time for emergency service providers. The enhanced 911 system allows caller location to be displayed to the 911 call taker so help can be sent even if the caller does not or cannot provide an address, or, as in wireless calls, may be at a location that has no address. Statewide 911 answering is provided by 87 county 911 systems, 10 city systems, 10 public safety answering points (PSAPs) operated by State Patrol, and three PSAPs operated by other government agencies.

The universal emergency 911 number is available throughout the state of Minnesota on wire-line and wireless phone lines and VoIP services capable of dialing 911. For wireless telephones, Federal Communication Commission (FCC) rules (Title 47, CFR 20.18) require the wireless carriers to put all 911 calls through to a PSAP, even if the caller is a non-subscriber. During 2005, the FCC enacted rules to require access to 911 from interconnected Voice over Internet Protocol (VoIP) services to include location and callback number including the use of the wireless enhanced 911 technology where available (Title 47, CFR, Part 9). Because Minnesota had deployment of wireless enhanced 911 throughout the state, Minnesota PSAPs were prepared for the initial implementation of enhanced 911 service for interconnected VoIP services.

The 911 Program at DPS provides technical assistance to the cities and counties implementing, maintaining, and improving 911 systems, and oversees system standards. It also pays from money collected through a monthly statewide fee, the state's share of wireline and wireless 911 costs authorized by Minnesota Statutes, Section 403.11 and contracted for with carriers; and administers payments to 911 agencies in accordance with Minnesota Statutes, Section 403.113.

The 911 fee is set by the Public Safety commissioner with the consent of the commissioner of Finance. The fee collections are deposited in the 911 Special Revenue Fund, and these funds are appropriated by the Legislature to the commissioners of Public Safety and Finance to cover the expenses authorized by statute.

III. Fiscal Year 2012 Expenditures

M.S. 403.11: Enhanced 911 Program \$ 12,853,377

Reimbursements were made to local exchange carriers and 911 service providers (Qwest and Independent Emergency Services (IES)) for costs incurred connecting telephone central offices with 911 networks and for maintaining the network (selective routers, databases and connections to Public Safety Answering Points (PSAPs)).

- M.S. 403.113: Enhanced 911 Grants (PSAP payments) \$13,664,000

PSAPs in 87 counties, three other governmental entities, and State Patrol Communications centers receive grants from the state to help defray the costs related to providing enhanced 911 service.

- M.S. 403.27 & 403.275 Public Safety Radio Bond Debt service \$23,261,000

2005 Laws of Minnesota, Chapter 136 consolidated debt service provisions related to the Statewide Public Safety Communication System. Those provisions related to 911 revenue bonds previously sold by the Metropolitan Council and new revenue bonds authorized as part of the 2005 legislation.

- M.S. 403.11: Administrative Expenses Including Salaries \$609,842

Total cost is based upon administrative expense allocations, bargaining unit contracts, travel and other office expenses. Includes 8 full time FTEs: Director, 911 Program Manager, Statewide Interoperability Coordinator, Technical Coordinator, Standards and Training Coordinator, 911 Coordinator, Accounting Technician and SRB Administrative Assistant

- Laws 2005 c 136 art 1 s 9 sub 7, Medical Resource Communications \$683,000

Specific appropriation for grants to the Minnesota Emergency Medical Services Regulatory Board for the Metro East and Metro West Medical Resource Communication Centers that were in operation before January 1, 2000.

- Laws 2005 c 136 art 1 s 9 sub 7, Statewide Radio Board \$1,080,920

Specific appropriation for the Statewide Radio Board for costs of design, construction, maintenance of, and improvements to those elements of the first, second, and third phases that support mutual aid communications and emergency medical services, and for recurring charges for leased sites and equipment for those elements of the first, second, and third phases that support mutual aid and emergency medical communication services.

- Laws 2007 c 54 s 9 sub 7 911 Emergency Services/ARMER \$263,695

Specific appropriation for Allied Radio Matrix for Emergency Response (ARMER) to coordinate and plan for communication interoperability between public safety entities.

- Laws 2007 c 54 s 9 sub 7, ARMER State Backbone Operating Costs \$8,300,000

Specific appropriation to the commissioner of Transportation for costs of maintaining and operating the first and third phases of the statewide radio system backbone.

- NG911 Phase 1 Interoperability between 911 Service Providers \$ 92,200

Specific appropriation for the build-out of a NG911 high speed data and voice network to each of the PSAPs.

IV. Financial Outlook through June 30, 2013

Current projections of subscriber volumes are based on an assumption that the number of wire-line subscribers will continue to decline at around 5% as people abandon traditional phone service for wireless and VoIP services. This decline has been offset by wireless and VoIP subscriber growth in the past but the wireless growth is only about 4%, and is leveling off

compared to previous years as wireless lines have saturated the market. VoIP continues to grow at about 1% a year.

The June 29, 2005 FCC order requires interconnected VoIP service providers to integrate their services into the 911 systems.¹ That order also dealt with the matter of 911 fee collection from VoIP service providers² and has been interpreted in conjunction with Minnesota statute as requiring collection and submission of the 911 fee. The VoIP technology, however, allows companies to sign up customers, provide service and receive payments over the Internet, making the physical location of subscribers irrelevant to the business transaction. In order to meet the FCC 911 requirements, some VoIP services use self-reported subscriber information for Enhanced 911 location data and as the venue for fee collection. Increased effort will be required to identify VoIP providers serving Minnesota and to collect the correct 911 fees.

There is no cap on 911 system costs under Minn. Stat. Section 403.11, and current legislation allows carriers to request the 911 Program to compensate them for their connection to the 911 network. However, the spending authority is capped in session law by direct appropriations from the 911 Special Revenue Fund. Similarly, 911 revenues are capped at 80 cents a month on all wireless, wireline and VoIP customers. This continues to create some uncertainty in projecting 911 network costs. Preliminary costs for transition to an IP-based network have been identified. It will be necessary to maintain two 911 systems while transitioning, causing increased costs for the next three to four years while all three phases are completed.

V. 911 Initiatives

Goal: Efficient Use and Consolidation of Resources

A number of Minnesota PSAPs have taken advantage of the opportunity to engage in a full consolidation (two or more PSAPs combining to make one PSAP) or in a virtual consolidation (sharing technology resources and/or personnel using a unique hybrid).

PSAP Full Consolidation:

- Big Stone County consolidated their PSAP with Kandiyohi County
- St Louis County consolidated their Virginia and Duluth PSAPs into one regional PSAP in November 2011
- Hopkins PD PSAP merged into the Hennepin County PSAP in August, 2012

Status: Ongoing. The state of Minnesota's financial responsibility for network and infrastructure is decreased each time a PSAP or group of PSAPs either fully consolidates or works together to share technology resources. Not only have consolidation efforts produced a decrease to the legacy recurring network costs but will also decrease ongoing NG911 ESInet costs.

¹ [70 FR 37286](#), released June 29, 2005

² In the Matter of IP-Enabled Services, WC Docket No. 04-36 and E911 Requirements for IP Enabled Service Providers, WC Docket No. 05-196, Adopted: May 19, 2005, Released: June 3, 2005, FCC05-116 at page 30.

Goal: Implement the Next Generation of 911(NG911)

For more than 40 years, the Minnesota 9-1-1 system has served the needs of the public in emergencies. However, the evolution of emergency calling beyond the traditional 9-1-1 voice call has identified that our current E9-1-1 system is no longer capable of supporting future technological advances.

Next Generation 9-1-1 (NG9-1-1) will enhance the 9-1-1- system to create a faster, more flexible, resilient, and scalable system that allows 9-1-1 to parallel the communication technology used by the public today.

Today's 9-1-1 networks carry only voice. NG9-1-1 is an Internet Protocol (IP)-based system that allows digital information (e.g., *voice, text messages, photos, videos*) to flow seamlessly from the public, through the 9-1-1 network, and on to emergency responders.

The technology to implement NG9-1-1 systems is available now, but the transition to NG9-1-1 involves much more than just new computers. Implementing NG9-1-1 will include the initiatives of many skilled people, who will coordinate efforts to plan and deploy a continually evolving system of hardware, software, standards, policies, protocols, and training.

- **Next Generation 9-1-1 (NG9-1-1) Conceptual Architecture** consists of the following:
 - Design and implementation of new high-speed IP network infrastructure
 - Network support for voice, data, and video
 - Fully interoperable emergency network
 - Combined local, state, and national approach
 - Elimination of call transfer data problems
 - Enhanced capabilities for persons with disabilities
 - Remote network access
 - Enhanced redundancy

NG911 Conceptual Design



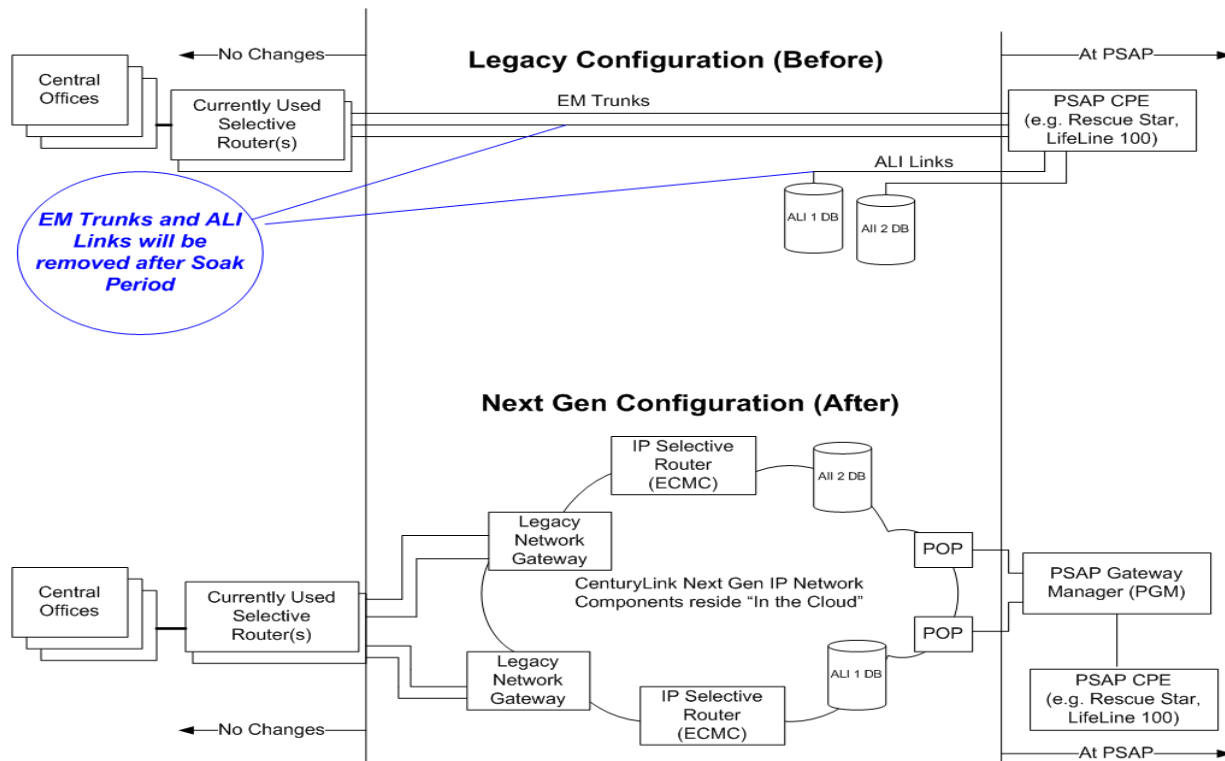
Status: Ongoing. In June 2009, a Request for Proposal (RFP) for a statewide NG911 System was released and evaluated by a group of eight made up of sheriffs, PSAP managers, deaf and hard-of-hearing community, Metropolitan Emergency Services Board, and DPS. The contract was signed with Qwest Communications August 2009 to build an IP backbone across the state to connect all PSAPs. The project will be completed in three phases. Phase 1 provides interoperability between the existing 911 networks and was completed 3Q10; Phase 2 consists of building a redundant IP network to designated trial PSAPs scheduled and was completed 3Q2011; and Phase 3 is to build out a redundant IP network to all PSAPs across the state scheduled to be completed in 4Q2013.

Goal: Maintain Reliability and Dependability of the 911 Network

The statewide legacy 911 network has evolved from a basic 911 system to an enhanced 911 system and is now undergoing implementation of a statewide Emergency Service IP Network (ESInet), a high speed, fully interoperable redundant and diverse IP network designed ultimately to support voice, data, and video. The current legacy 911 system is being asked to perform functions it was not designed to handle and is in need of a significant overhaul. Demands to modernize the 911 system are coming not only from national leaders including the President, Federal Communications Commissions (FCC) and U.S. Department of Transportation but also from the general public who expect to be able to communicate with the 911 system their personal communication devices, such as laptops, “smartphones”, iPads, and other non-traditional landline telephones.



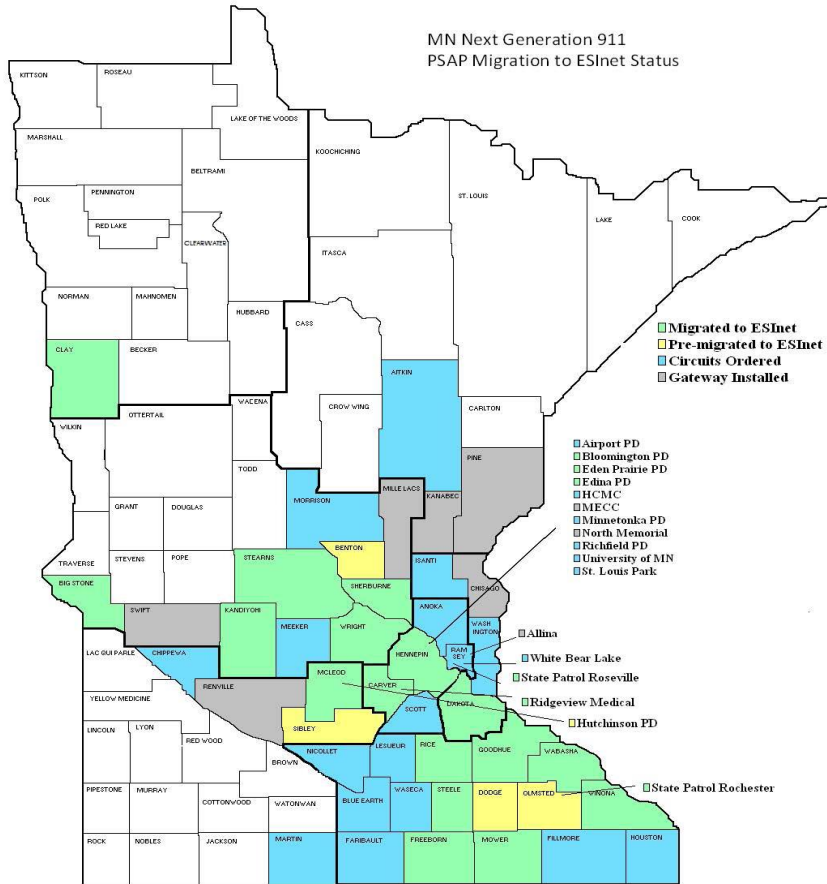
Implementation of an ESInet will provide a more robust network with improved flexibility for managing Requests for Emergency Assistance (RFEA) from diverse mediums. The 104 public safety answering points (PSAPs) within the state of Minnesota handle more than 2 million calls annually. The ESInet provides for concepts, methods and procedures which will improve the operation, monitoring, reporting and maintenance of the 911 network. Included in the design of the ESInet is redundancy and diversity of the network and selective routers that was not experienced in much of the legacy E911 network.



Status: Ongoing. Implementation of a Next Generation 911 capable ESInet requires a complete overhaul of existing network. As illustrated in the network diagram, the configuration of the IP selective routers, the legacy network gateways (LNGs), and diverse fiber network to each PSAP has incurred additional expenditures. During this implementation, portions of the legacy network must remain operational for a period of time. The existing legacy network for each PSAP will remain in place until the PSAP has been successfully migrated, tested and accepted on the new ESInet.

Goal: Migrate All Minnesota’s PSAPs to the NG9-1-1 High Speed Network


- As of January 18, 2013, twenty-four (23.3%) MN PSAPs are operating on the ESInet.
- The remaining seventy-nine (76.7%) of PSAPs projected to be fully operational on the ESInet by December 2013.
- Refer to our website www.ecn.state.mn.us for the latest project status.



Status: Ongoing

Goal: Cost Containment Resulting from Partnerships

The Next Generation 911 network is extremely complex and the process of administering changes and controlling the associated costs has been a challenge. Providing network resiliency and diversity to the PSAP is also a primary goal of the project and is a significant contributor to the cost to the project.

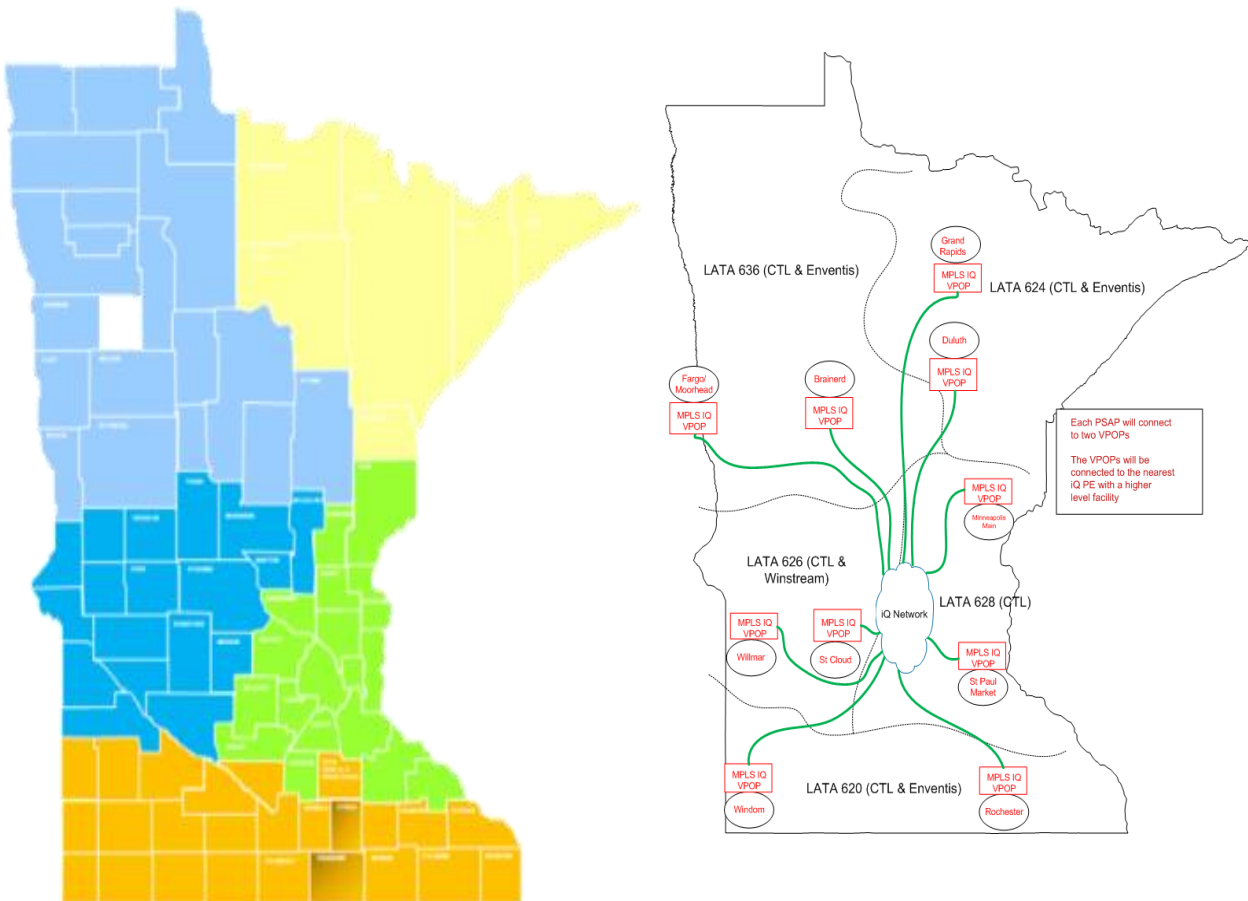
- Partner with  for the provisioning of a diverse network path for PSAPs identified as being deficient in diversity connectivity. In 2012, DPS engaged in service agreements for diverse network paths for 12 PSAPS, including the counties of Aitkin, Benton, Chippewa, Dodge, Meeker, Mille Lacs, Morrison, Renville, Sibley, and Swift, Rochester State Patrol, and Hutchinson PD.
 - Utilization of MN.IT network results in new opportunities for DPS to meet diversity challenges, particularly in rural areas of Minnesota where CenturyLink, the contracted ESInet vendor and system integrator is not able to provide sufficient diversity.

- Utilization of MN.iT network results in a cost sharing with the BCA and in turn a reduction to BCA's overall network costs.
- As the 104 PSAPs migrate from the legacy environment to the ESInet, the legacy network circuitry that previously delivered 911 calls with location information to PSAPs will be eliminated.
 - Legacy EM trunks and ALI links between the selective router and the PSAP will be disconnected providing for a cost savings of recurring monthly charges.

Status: Ongoing. As the migration progresses, segments of the obsolete legacy network will be decommissioned resulting in decreased monthly costs. First will be the ALI links to the PSAPs and the 911 trunks between the legacy selective routers and the PSAPs. This is currently being done as PSAPS migrate to the ESInet.

Goal: Implementation of Increased Diversity in Next Generation Network From Legacy Network

- Install two diverse virtual points of presence (VPOPs) in each of five existing telephone geographic boundaries (LATAs) in Minnesota to provide two redundant and diverse paths to connect the PSAPs in each LATA to the ESInet. The State of Minnesota advocated for this design to not only save costs but to provide the best possible service to the PSAPs in Minnesota.



Status: Complete. A total of 10 VPOPs have been installed in Minnesota to provide both diverse and redundant transport paths from the ESInet to the PSAPs for the transport of 911 ALI and voice connectivity.

VI. Added Considerations/Risks

While good progress to-date has been made in the conversion to enhanced 911, the following challenges jeopardize the future effectiveness of the 911 Program:

Increasing Costs for Maintaining and Improving 911

As the telecommunications industry continues to change, the costs of adding new technologies to the existing 911 network continues to increase. The cost of adding trunked circuits from an expanding number of carrier switches to each of the 911 selective routers within the state is not efficient and fails to address the changing character of the industry. Although DPS has successfully kept the cost of operating the current 911 network (selective routing, ALI database charges and circuits to the PSAPs) relatively stable over the last few years, there is a clear understanding that resources will be needed to implement fundamental changes in the 911 network. The 911 Program continues to work with carriers to reduce unnecessary trunking and to provide optimum services through increasing efficiencies in the existing 911 network. Wireless carrier consolidation has aided in stabilizing the costs of providing wireless access to the 911 network. Next Generation technology will also provide improved accessibility to the 911 network and a goal of reducing costs.

Additional Expense Potential in Migration to New 911 System

The 911 Program will begin to build out a high-speed data network and address interoperability concerns between 911 providers during the 2010-2014 budget years. During the transition it will be necessary to maintain both the existing 911 network and the new NG911 network for a period of time until the new network is fully tested — causing increased costs to maintain the 911 systems. This transition will take place in multiple phases.

The state of Minnesota has maintained a national leadership role in the deployment of enhanced 911 services. To ensure the integrity of the 911 system, the following objectives are important for the state:

- 1) It is important that policymakers at all levels commit to the development and deployment of the interoperable statewide Emergency Services network as a fundamental 911 and emergency communications policy objective.
- 2) 911 and emergency services authorities need to review existing legislation and regulations to ensure there are no barriers to, and sufficient authority for, the establishment of a statewide Emergency Services network. Statutes and regulations to enable a NG911 system statewide must be actively supported.
- 3) State, regional, local 911 and emergency services authorities should work cooperatively toward establishing a statewide interoperable NG911 system.
- 4) 911 funding should be safeguarded for the sole purpose of supporting the Emergency Services network which includes the ARMER radio build-out.

5) Further efforts to integrate the radio network with the secure Next Gen IP network and the existing state infrastructure that supports emergency applications to the counties should be supported.

Cost of Subsidizing Competitiveness in the Telecom Industry

As previously noted, the 911 Program has operated under a premise that the state collects a 911 fee and then pays all costs of maintaining the 911 network. With the continued expansion of Competitive Local Exchange Carriers (CLECs), we have noted a diminished effort by CLECs to structure 911 connectivity to the 911 network in an efficient and cost-effective manner. Similarly, the 911 Program now finds itself subsidizing the operating costs for CLECs that are literally marketing their services to VoIP telecommunication carriers based upon their access to the 911 network. These CLECs submit few 911 fees relative to the costs associated with connecting them to the 911 network and provide little assistance in assuring compliance with the 911 fee provisions.

Based upon the changing nature of telecommunications and the 911 network, it may be appropriate to examine the underlying reimbursement scheme. That scheme was developed in the highly regulated telecommunications environment of the 1960s and '70s where there was no obligation to outswitch 911 calls or to connect those calls to the 911 network. In 1996, the FCC held that wireless carriers were required to connect to the state's 911 network regardless of whether the state reimbursed those costs. That decision also established the selective router as the common access point where the state's network begins. Similarly, in its 2006 IP-enabled services decision requiring VoIP telecommunication providers to connect to the 911 network, the FCC articulates a presumption that the cost of providing access to these new providers would be negligible based upon the assumption that the state's network begins at this common access point. Many states provide no reimbursement to CLECs for outswitching 911 calls or for the cost of connecting those calls to the 911 selective router. One might argue that the idea of reimbursing carriers for the cost of outswitching 911 calls and connecting those 911 calls to the state's 911 network is a vestige of the past and contrary to the competitive nature of the telecommunications market.

Stability of 911 revenues

Revenue projections in this report are based on continued modest growth in wireless subscribers and a steady decline in wire-line subscribers paying the 911 fee. These revenue projections also reflect the fee increase in years 2010-2011. The increase is offset by the costs associated with the ARMER radio build-out. The fund balance represented is a result of initiatives by the 911 Program to stabilize and reduce costs for unnecessary circuits and other network elements. This fund balance is necessary for NG911 network improvements slated for 2010-2012.

VII Conclusion

The Department of Public Safety 911 Program has identified a strategy and plan for the migration to a Next Generation 911 network. In the Public Safety Act of 2007, Congress directed the U. S. Department of Transportation to create a plan to move the nation from the current 911 system to an interoperable IP-based emergency response network that can handle voice, video and data. Substantial changes have been made in some states, and many others are currently considering strategies to migrate from the existing legacy 911 network to the NG911 network of the future.

Even if access line counts remain stable, the continued proliferation of competitive telecommunication service providers has the potential to continue to drive up the costs of implementing and maintaining carriers' access to the state's 911 network. Similarly, if customer counts decline as voice services transition to wireless and unregulated data services over a broadband network, there is a potential for additional strain on the budget.

The success of the 911 Program is a product of extensive cooperation among legislators, regulators, state and local government administrators, and the telecommunications industry. Continued cooperation among these stakeholders is essential for ongoing success.

Appendix B: Wireline and Wireless 911 Status in Minnesota

Green-shaded counties indicate Qwest as the Enhanced 911 service provider for wireline and wireless. Aqua-shaded counties indicate Independent Emergency Services, LLC, as the E911 service provider for wireline and wireless 911. All wireless carriers are providing Phase 2 wireless enhanced 911 providing the latitude and longitude of the 911 caller. With few exceptions, all of these carriers are providing the location service in each of the 87 counties.

