The 911 System: An Overview

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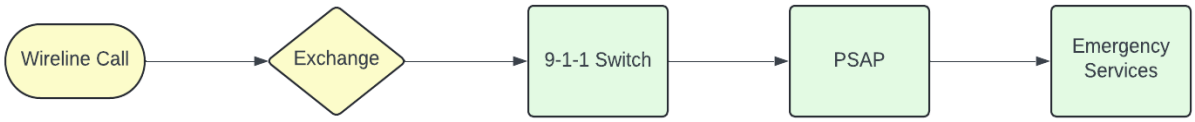
Introduction

Despite the ubiquity of 911 today, the first national recommendation for a single emergency number was not made until 1967.[1] Before the enactment of a national emergency phone number, individuals were left to call their local fire department, police department, or hospital directly to be rerouted to someone available to assist. This process was slow, inefficient, and sometimes entirely ineffective.[2] Since the implementation of 911,[3] those in need can now access emergency services from a variety of devices. Furthermore, as outdated, analog 911 systems face ongoing hardships,[4] progress has been made toward building a stronger, digital network allowing for the transfer of photos, videos, and text messages via a 911 communication as well.[5]

Brief History of 911 Services

In the initial version of standardized 911 services, referred to as basic 911,[6] calls were forwarded to a 911 call center, also known as a public safety answering point (PSAP),[7] based on the caller's local telephone exchange.[8] Because local telephone exchange boundaries and the jurisdiction of emergency responders rarely matched, a 911 call could end up at a PSAP not serving the caller's location.[9] In addition, the emergency and its location were communicated solely by voice,[10] leaving the potential for miscommunication.

Figure 1 - Basic 911 Process Map



[1] NENA: The 9-1-1 Association, *9-1-1 Origin & History*, https://www.nena.org/page/911overviewfacts (last visited July 23, 2024).
[2] National 911 Program, *The History of 911*, https://www.911.gov/about/the-national-911-program-celebrates-50-years-of-911/ (last visited July 23, 2024); see also Thomas I. Dayharsh et al., *Update on the National Emergency Number 911*, 28 IEEE Transactions on Vehicular Technology 292–297, https://doi.org/10.1109/t-vt.1979.23804 (1979);
The Journal of Emergency Dispatch, *Adoption of 911*, https://www.iaedjournal.org/adoption-of-911 (April 1, 2018).
[3] Industry Council for Emergency Response Technologies, *History of 911 and What It Means for the Future of Emergency Communications*, https://www.911.gov/assets/History-of-911-And-What-It-Means-for-the-Future-of-Emergency-Communications.pdf (last visited July 23, 2024).
[4] Stephanie Armour, *The nation's 911 system is on the brink of its own emergency*, South Dakota Searchlight, https://southdakotasearchlight.com/2024/07/17/the-nations-911-system-is-on-the-brink-of-its-own-emergency/ (July 17, 2024).
[5] National 911 Program, *Next Generation 911*, https://www.911.gov/issues/ng911/ (last visited July 23, 2024).
[6] *See* SDCL 34-45-1(1).
[7] *See* SDCL 34-45-1(15).
[8] South Dakota 9-1-1 Coordination Board, *South Dakota State 9-1-1 Master Plan* 1, https://boardsandcommissions.sd.gov/bcuploads/PublicDocs/SD-911-Master-Plan.pdf (August 15, 2013).
[9] Id.
[10] Id.; see also NENA: The 9-1-1 Association, *Cell Phones and 9-1-1*, https://www.nena.org/page/911Cellphones (last visited July 23, 2024).

A significant advancement in 911 technology came with the introduction of enhanced 911 (E911)[11] in the 1980s, which enabled 911 calls to be selectively routed to the PSAP serving the caller's location.[12] 911 calls could also be delivered with automatic number identification (ANI) and automatic location information (ALI),[13] improving the efficiency and accuracy of the response. However, the initial E911 network was designed to support 911 services for the *wireline* telephone system, which could only handle a small amount of data per call.[14] By 2021, only 11.8% of 911 calls in the state were from wireline telephones.[15]

As cell phone usage became more prevalent, the E911 network continued to adapt. Location data was collected via triangulation between cell towers, known as Phase I,[16] and then from a device's GPS receiver, known as Phase II.[17] Through federal legislation,[18] E911 was further refined to create Dynamic E911, which provides "dispatchable information" in situations where current location information needs to be more detailed to ensure a proper response.[19] These situations include calls from multi-level buildings or large campuses where responders need to know from what building and what floor the call was made.[20]

With E911, a wireline 911 call travels to several places to gather information, specifically ANI and ALI, all of which is presented to the responder taking the call. First, the call moves through a telephone exchange and then, with the additional information, to a selective router.[21] During this process, a Master Street Address Guide[22] is queried using ANI to find the caller's address.[23] The selective router[24] uses ANI and ALI to direct the call to the most appropriate PSAP for providing emergency services.[25] When a cell phone is used, a 911 call is delivered to the PSAP, again via a selective router, in voice and data separately.[26] While the caller's voice and ANI are sent directly, location data must first go through a separate database. The location database can be anywhere in the United States, depending on the wireless carrier, but the process is nonetheless quick enough to avoid delays.[27]

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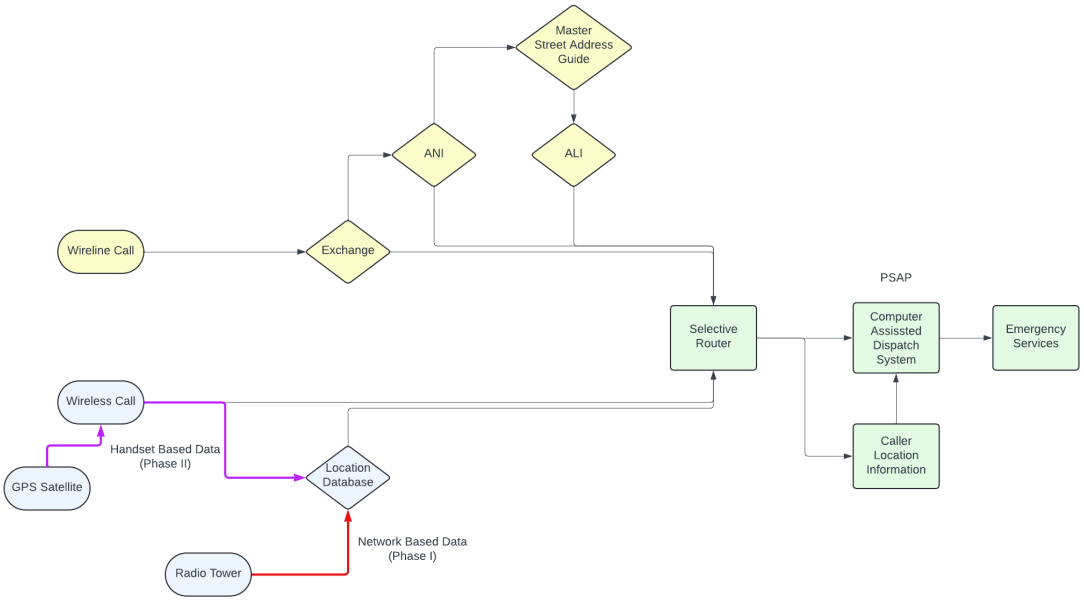
[11] See SDCL 34-45-1(3). The state has required the provision of E911 since at least July 1, 2010. See SDCL 34-45-34.
[12] South Dakota 9-1-1 Coordination Board, supra note 8.
[13] Id.
[14] Id.
[15] National 911 Program, *National 911 Annual Report: 2021 Data* 11–12, https://www.911.gov/assets/2021-911-Profile-Database-Report_FINAL.pdf (last visited July 23, 2024).
[16] See 47 CFR § 9.10(d).
[17] See 47 CFR § 9.10(g); see also Federal Communications Commission, *911 and E911 Services*, https://www.fcc.gov/general/9-1-1-and-e9-1-1-services (last visited August 7, 2024); OnSIP, *What Is Enhanced 911 (E911)?*, https://www.onsip.com/voip-resources/voip-fundamentals/what-is-enhanced-911-e911 (last visited July 23, 2024).
[18] National 911 Program, *Kari's Law and RAY BAUM's Act*, https://www.911.gov/issues/legislation-and-policy/kari-s-law-and-ray-baum-s-act/ (last visited July 23, 2024).
[19] Kelsie Anderson, *Understanding standard and dynamic E911 for VoIP*, Telnyx, https://telnyx.com/resources/e911-requirements-voip (last updated May 17, 2024).
[20] See id.
[21] Commercial Electronics, *9-1-1 Technology for Non-Engineers: How the Magic Happens*, https://comelectronics.com/blog/911-technology-for-non-engineers-how-the-magic-happens (last visited July 23, 2024); see also Robert Pleasant, *E911: What Is It & How Does It Affect My Business?*, Nextiva, https://www.nextiva.com/blog/e911-for-voip.html (January 2, 2024).
[22] RedSky Technologies, *MSAG (Master Street Address Guide)*, https://www.redskye911.com/glossary/msag-master-street-address-guide (last visited July 23, 2024).
[23] Commercial Electronics, supra note 21.
[24] RedSky Technologies, *Selective Routing*, https://www.redskye911.com/glossary/selective-routing (last visited July 23, 2024).
[25] Commercial Electronics, supra note 21.
[26] Id.
[27] Id.

Figure 2 - Enhanced 911 Process Map



As phone technology continued to evolve, certain gaps in E911 coverage emerged. For example, the advent of Voice over Internet Protocol (VoIP), which allows for calls to be made using an internet-based system, raised challenges for a phone-based 911 system.[28] In particular, VoIP services may not connect to the correct PSAP or transmit ANI or ALI.[29] In 2021, 8,608 VoIP 911 calls were made in the state.[30]

In response to the changing communication landscape, significant progress has been made on the newest update to 911 infrastructure—Next Generation 911 (NG911). Unlike the analog 911 system, NG911 runs on a fully digital system, similar to that used by VoIP, which allows for the exchange of more information between callers and PSAPs.[31]

The NG911 system is comprised of an emergency services IP network (ESInet) supporting next generation core services, such as software applications, databases, and data management processes, interconnected to PSAP equipment to appropriately route 911 calls.[32] Next generation core services include:

- A Border Control Function, which provides security and control over the influx of emergency calls and the presentation of information to the PSAP;[33]
- A Location Validation Function, which validates an individual's location by comparing it to information from a geographic information system, a computer-based infrastructure designed to map and visualize various types of data to enhance location mapping;[34] and

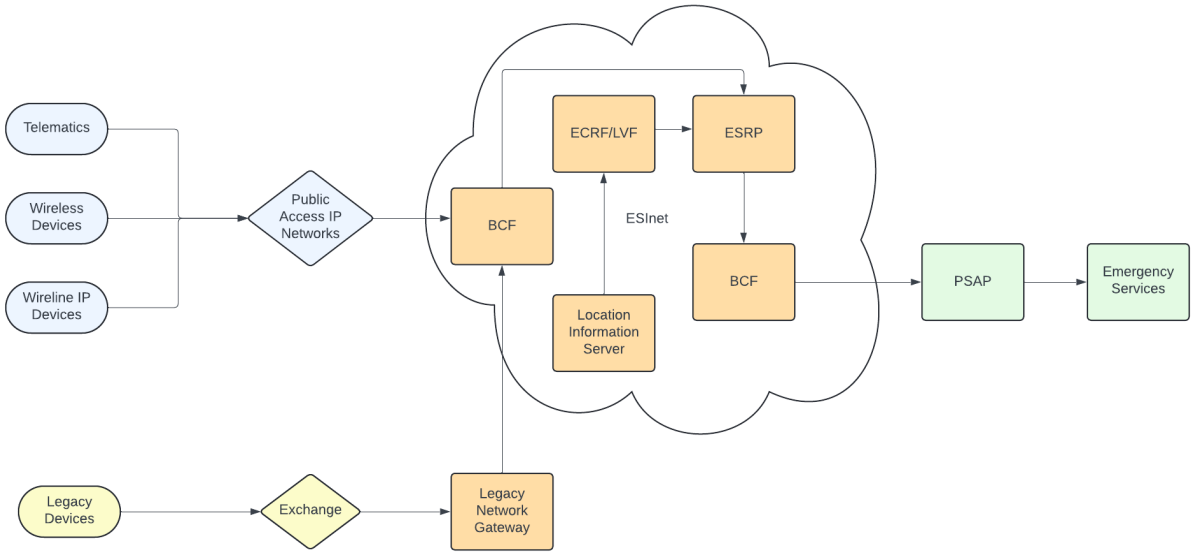
[28] Federal Communications Commission, *VoIP and 911 Service*, https://www.fcc.gov/consumers/guides/voip-and-911-service (last visited July 23, 2024).
[29] Id.
[30] National 911 Program, supra note 15, at 14.
[31] National 911 Program, supra note 4.
[32] NENA: The 911 Project, *NG9-1-1 Project*, https://www.nena.org/page/ng911_project (last visited July 23, 2024).
[33] Next Generation Advanced, *NG9-1-1 Back to Basics: What Are Next Generation Core Services?*, https://nga911.com/blogs/post/ng9-1-1-back-basics-what-are-next-generation-core-services (February 10, 2021).
[34] Next Generation Advanced, *NG911 GIS: The Role of Geographic Information Systems in Next Generation 911*, https://nga911.com/blogs/post/ng911-gis-role-geographic-information-systems-next-generation-911 (July 17, 2023).

- An Emergency Call Routing Function and an Emergency Services Routing Proxy, which route and process the call based on the individual's location.[35]

Connecting callers to PSAPs via the internet allows for the sharing of not just a caller's voice and identifying information, but also digital media.[36] NG911 further enables PSAPs to more easily transfer calls and manage call overload automatically,[37] and better connect to new wireless devices, such as smart alarm systems and telematics service providers like OnStar,[38] and emergency resources such as poison control centers.[39]

With NG911, devices connected to the internet can contact emergency services directly via an ESInet and deliver the call, number, location, and any other data sent by the person in need to NG911-compliant PSAPs.[40] The ESInet uses next generation core services to validate and leverage the caller's location to transport all available data to the most relevant PSAP.[41] For those calls coming in from legacy devices—i.e. wireline phones not connected to the internet—a legacy network gateway provides an interface between the non-IP originating network and the newer NG911 network.[42]

Figure 3 - Next Generation 911 Process Map



[35] Florida Department of Management Services, *Next Generation 911*, https://www.dms.myflorida.com/business_operations/telecommunications/public_safety_communications/emergency_communications_board/next_generation_911 (last visited July 23, 2024).
[36] National 911 Program, supra note 4.
[37] National Telecommunications and Information Administration, *Next Generation 911*, https://www.ntia.gov/category/next-generation-911 (last visited July 23, 2024).
[38] National 911 Program, *NG911: What to Expect* 3, https://www.911.gov/assets/Next_Generation_911_for_Telecommunicators_2.pdf (last visited July 23, 2024).
[39] South Dakota 9-1-1 Coordination Board, supra note 8, at 10.
[40] National 911 Program, *Unlocking the Power of ESInet*, https://www.911.gov/assets/Unlocking-the-Power-of-ESInet.pdf (last visited July 23, 2024).
[41] Next Generation Advanced, *NG911 ESInet: A Comprehensive Introduction*, https://nga911.com/blogs/post/ng911-esinet-comprehensive-introduction (January 12, 2024).
[42] Emergency Communication Networks, *Legacy 911 to NG9-1-1 Network*, https://mnecb.org/DocumentCenter/View/2622/DRAFT-NG911-Network (last visited July 23, 2024).

911 Funding

Dedicated funding for 911 services in South Dakota was enacted in 1989.[43] SDCL 34-45-4 permitted counties to impose a monthly 911 emergency surcharge of up to $0.75 per local exchange access line, "to pay for nonrecurring and recurring costs of the 911 related service."[44] As was, and still is, the case, "[n]o 911 emergency surcharge may be imposed upon more than one hundred service user lines or equivalent service, per customer account billed, per month."[45] This surcharge revenue was not initially collected by the state. Instead, it stayed with the county imposing the surcharge for the county's immediate use.[46] Prior to 2012, all counties with a surcharge were levying the maximum amount per line.[47]

In 2012, the Legislature overhauled the mechanics of 911 funding. Firstly, the monthly 911 emergency surcharge was increased to $1.25 per service user line and included wireline, wireless, and VoIP services.[48] Secondly, a new surcharge was added for prepaid wireless service: 2% of the gross receipts of each retail transaction.[49] Thirdly, counties were to remit surcharge revenue to the Department of Revenue (DOR).[50] Presently,[51] the DOR transfers the surcharge revenue to the Department of Public Safety (DPS), which then gives 70% of the 911 emergency surcharge revenue back to the county from which the revenue was collected.[52] The DPS places the remaining 30% of the monthly 911 emergency surcharge revenue into the public safety 911 emergency fund.[53] Moneys in the fund are continuously appropriated to implement a separate distribution formula.[54]

Of the remaining 30%, the DPS distributes 26% to eligible PSAPs that are "in compliance with the standards for operation and utilization of public safety answering points . . . and either serve[ ] a population of more than thirty thousand or cover[ ] an area that includes three or more counties."[55] The state currently supports a total of 32 PSAPs, including four tribal centers.[56] As of 2024, 11 meet the requirements of SDCL 34-45-8.7 to be eligible PSAPs and receive part of the 26%.[57]

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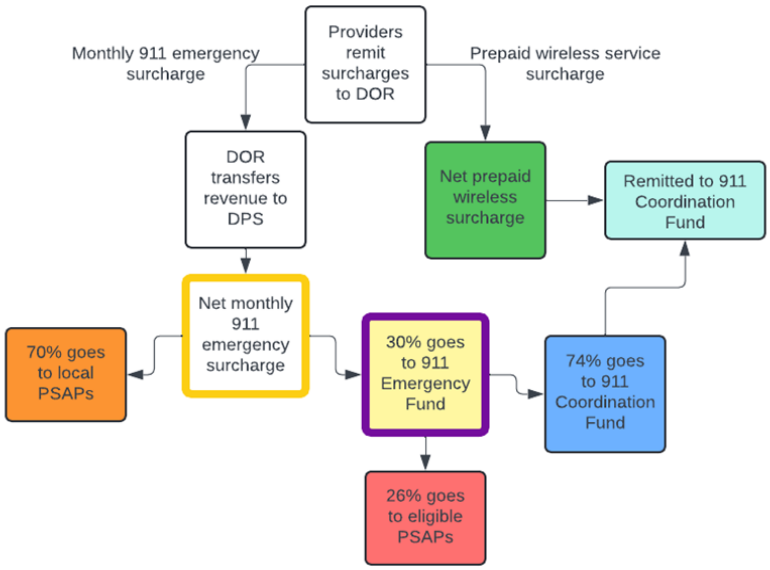
[43] South Dakota 9-1-1 Coordination Board, supra note 8, at 4.
[44] Justia, *2006 South Dakota Code - 34-45-4 — Monthly uniform charge--Use of proceeds.*, https://law.justia.com/codes/south-dakota/2006/34/34-45-4.html (last visited July 23, 2024).
[45] SDCL 34-45-4.
[46] Justia, supra note 44; see also Justia, *2006 South Dakota Code - 34-45-1 — Definitions.*, https://law.justia.com/codes/south-dakota/2006/34/34-45-1.html (last visited July 23, 2024).
[47] South Dakota 9-1-1 Coordination Board, supra note 8, at 4.
[48] SDCL 34-45-4.
[49] SDCL 34-45-4.2.
[50] SDCL 34-45-4.3; see also SDCL 34-45-5; 34-45-8.3.
[51] While this distribution structure was intended to be repealed in 2018, (see SD SL 2012, ch. 188, § 29), SD SL 2018, ch. 208, § 3 permanently enacted it instead.
[52] SDCL 34-45-8.6.
[53] SDCL 34-45-8.7.
[54] Id.
[55] Id.; see also ARSD 50:02:04:13.
[56] South Dakota Department of Public Safety, *Public Safety Answering Points*, https://dps.sd.gov/application/files/6317/1511/5666/sd-psap-contact-sheet-coverage-map-0524.pdf (last updated May 2024).
[57] See South Dakota Department of Public Safety, *Incentive Fund Distribution Report through 06/28/2024*, https://dps.sd.gov/application/files/7217/1992/8331/may-2024-911-incentive-fund-distribution-report.pdf (last visited July 24, 2024).

The other 74% is deposited into the 911 coordination fund,[58] which also includes all revenue from the prepaid wireless service surcharge.[59] Per statute, "Any money in the South Dakota 911 coordination fund is continuously appropriated for reimbursement of allowable nonrecurring and recurring costs of 911 service and operating expenses of the [911 Coordination Board]."[60] Figure 4 shows how the surcharge revenue is distributed.[61]

Figure 4 - 911 Surcharge Distribution



911 Surcharge Revenue

Surcharge revenue for 911 services has grown approximately 0.1% each year since fiscal year 2014.

Figure 5 - 911 Surcharge Distributions by Fiscal Year

Fiscal Year	Net Monthly 911 Emergency Surcharge Collected per SDCL 34-45-4 (100%)	Surcharge Allotted to Counties (70% of 100%)	Surcharge Allotted to Emergency 911 Fund (30% of 100%)	Incentive Funds to Eligible PSAPs (26% of 30%)	911 Coordination Funds for NG911 (74% of 30%)	Net Prepaid Wireless Surcharge to 911 Coordination Fund	Total Deposited in 911 Coordination Fund
2014	$ 12,288,327	$ 8,601,830	$ 3,686,497	$ 958,489	$ 2,728,008	$ 909,407	$ 3,637,415
2015	$ 12,087,768	$ 8,461,439	$ 3,626,329	$ 942,846	$ 2,683,484	$ 886,861	$ 3,570,345
2016	$ 11,946,759	$ 8,362,732	$ 3,584,027	$ 931,847	$ 2,652,180	$ 1,094,809	$ 3,746,989
2017	$ 11,846,462	$ 8,292,524	$ 3,553,938	$ 924,024	$ 2,629,914	$ 1,170,557	$ 3,800,471
2018	$ 11,965,993	$ 8,376,196	$ 3,589,797	$ 933,347	$ 2,656,450	$ 1,212,583	$ 3,869,033
2019	$ 12,028,452	$ 8,419,917	$ 3,608,535	$ 938,219	$ 2,670,316	$ 1,254,358	$ 3,924,674
2020	$ 12,003,237	$ 8,402,267	$ 3,600,970	$ 936,252	$ 2,664,718	$ 1,274,658	$ 3,939,376
2021	$ 11,951,269	$ 8,365,890	$ 3,585,379	$ 932,199	$ 2,653,181	$ 1,239,210	$ 3,892,391
2022	$ 12,111,022	$ 8,477,717	$ 3,633,306	$ 944,659	$ 2,688,646	$ 1,220,805	$ 3,909,452
2023	$ 12,470,839	$ 8,729,588	$ 3,741,251	$ 972,725	$ 2,768,526	$ 1,181,789	$ 3,950,315

[58] SDCL 34-45-8.7.
[59] SDCL 34-45-12.
[60] Id.
[61] See South Dakota 9-1-1 Coordination Board, *Annual Report* 9, https://boardsandcommissions.sd.gov/bcuploads/PublicDocs/FY2023%20911%20Coordination%20Annual%20Report%20%20(1).pdf (August 2023).

The balance of the 911 coordination fund grew steadily until 2020, when the state settled a civil lawsuit with Comtech Telecommunications Corp. (Comtech) regarding a series of 911 failures.[62] The state received $3.45 million, which was deposited into the 911 coordination fund.[63]

Figure 6 - 911 Coordination Fund Balance by Year

Fiscal Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fund Balance	$6,491,546	$7,574,248	$7,148,194	$7,288,365	$7,066,888	$7,514,588	$12,693,598	$12,538,713	$11,323,682	$10,101,105
Growth Year-over-year	---	16.68%	–5.63%	1.96%	–3.04%	6.34%	68.92%	–1.22%	–9.69%	–10.80%

During the 2024 session, the Legislature passed HB 1092, which increased the monthly 911 emergency surcharge from $1.25 to $2.00 per service user line.[64] The increase expires on July 1, 2026.[65] From the increase, an additional $7.5 million per year in surcharge revenue is expected.[66]

911 Nonrecurring and Recurring Costs

The 911 coordination fund may be used for nonrecurring and recurring costs. Nonrecurring costs are defined as "any capital or start-up expenditure such as telecommunications equipment, software, database, initial training, and the purchase or lease of subscriber names, addresses, and telephone information[.]"[67] Recurring costs are defined as "any costs such as network access fee and other telephone charges, software, equipment, database management, maintenance, charges to maintain database of subscriber names, addresses, and telephone information from the local exchange access company."[68] Recurring costs also include a PSAP's personnel expenses.[69]

While these statutory definitions share evident overlap, they are expanded and better distinguished in administrative rule. Nonrecurring costs are limited to four categories:

- Real property, pro-rated to the percentage occupied by the PSAP;
- Major improvements or remodeling;
- Furniture and equipment, including vehicles, office equipment, computers, phone systems, radio systems, and recording equipment; and
- Software necessary to PSAP operations.[70]

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[62] Bob Mercer, *South Dakota 911 system gets $3.45 million from companies in settlement*, KELOLAND, https://www.keloland.com/news/capitol-news-bureau/south-dakota-911-system-gets-3-45-million-from-companies-in-settlement/ (March 17, 2020).
[63] South Dakota Government Operations and Audit Committee, *2022 Other Fund Information by Agency* 236, https://mylrc.sdlegislature.gov/api/Documents/GOAC%20Bluebook/243106.pdf (last visited July 24, 2024).
[64] SD SL 2024, ch. 144, § 1.
[65] Id., at § 4.
[66] South Dakota Legislative Research Council, *Fiscal Note 2024-FN1092A*, https://mylrc.sdlegislature.gov/api/Documents/262964.pdf (January 29, 2024).
[67] SDCL 34-45-1(8).
[68] SDCL 34-45-1(16).
[69] Id.
[70] ARSD 50:02:04:10.

Only radio systems allowing a PSAP to communicate with emergency responders are eligible radio equipment. Radio equipment only for use by emergency responders or other local agencies, and other communication devices like pagers and cell phones, are not eligible.[71]

PSAPs, as part of their recurring costs, may pay for the many components of personnel costs, including salaries and wages, old age and survivor insurance, Medicare, retirement, workers' compensation insurance, health and life insurance, and unemployment compensation insurance.[72] They may also cover several operational costs, such as insurance, consulting services, recruitment and testing, publishing, rentals, maintenance, supplies, postage, travel, training, membership dues, and utilities.[73]

Both recurring and nonrecurring costs "must be necessary and reasonable for proper and efficient performance and administration of a PSAP."[74] According to the rules promulgated by the 911 Coordination Board, "[a] cost is reasonable if, in nature and amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision was made to incur the cost."[75] Only the board has the authority to determine whether a recurring or nonrecurring cost is allowable.[76] The board's most recent annual report states the fund is used to support costs such as NG911 project management and related expenses, including all contractor and vendor fees for the installation, maintenance, and deployment of the NG911.[77]

911 Coordination Board

The 911 Coordination Board is tasked with setting minimum operational standards for PSAPs, determining reimbursement criteria for moneys from the 911 coordination fund, and overseeing 911 services coordination in the state.[78] The board consists of eleven individuals described in SDCL 34-45-18.1. All must be appointed by the governor for three-year terms at staggered intervals.[79] The board also employs a state 911 coordinator within the DPS to work on the 911 system with PSAPs, counties, vendors, and telecommunication companies.[80]

As part of its duties, the 911 Coordination Board is required to:

- Evaluate PSAPs and their ability to administer the state 911 system;
- Conduct PSAP performance audits;
- Monitor PSAPs and their use of 911 emergency surcharge moneys;
- Develop plans for implementing a statewide 911 system; and
- Report annually to the governor and Legislature about 911 service operations and potential recommended changes.[81]

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[71] ARSD 50:02:04:11.
[72] ARSD 50:02:04:9.
[73] Id.
[74] ARSD 50:02:04:8.
[75] ARSD 50:02:04:8
[76] Id.; see also South Dakota 9-1-1 Coordination Board, *Frequently Asked Questions: 9-1-1 Surcharge Usage in South Dakota,* https://dps.sd.gov/application/files/2015/0246/3241/Policy-on-Use-of-9-1-1-Funds-for-Public-Safety-Software-Systems.pdf (last updated December 2013).
[77] South Dakota 9-1-1 Coordination Board, supra note 61, at 8.
[78] SDCL 34-45-18.
[79] SDCL 34-45-18.1.
[80] South Dakota 9-1-1 Coordination Board, supra note 61, at 6; see also State 911 Assessment Program, *South Dakota Report* 5, https://boardsandcommissions.sd.gov/bcuploads/PublicDocs/National%20911%20Program%20State%20Self%20Assessment%20Report%20SD%20Final.pdf (September 2021)
[81] SDCL 34-45-20. Documents published by the 911 Coordination Board can be found here: https://boardsandcommissions.sd.gov/publicdocuments.aspx?BoardID=2.

The Legislature also granted rulemaking authority to the 911 Coordination Board to fulfill its mission.[82] Included in its administrative rules are standards for general operations, call taking, communication with field units, facilities and equipment, and finances.[83] Under the rules, the board requires PSAPs to establish written procedures on prioritizing calls for service, requesting and recording relevant information, and dispatching appropriate responders; keep an alternative power source to ensure at least two hours of continued operation in the case of a power outage; and account for the use of surcharge moneys.[84]

While the board has primary control over 911 services in the state, it is not in charge of establishing qualifications for the employment and training of 911 telecommunicators. That duty rests with the Law Enforcement Officers Standards and Training Commission.[85] The commission retains the authority to refuse the application of any individual who applies to be a 911 telecommunicator and to revoke any certification.[86] The 911 telecommunicator training fund is continuously appropriated to the commission for training and certifying 911 telecommunicators.[87] Unlike the 911 coordination fund, the 911 telecommunicator training fund receives ongoing funding via fees collected by the clerk of courts.[88]

NG911 in South Dakota

The 911 Coordination Board finalized and approved a master plan to implement NG911 in 2013.[89] In November 2014, the board contracted with GeoComm, Inc. to build and maintain a geographic information system database to be used with the NG911 system.[90] The following month, Comtech was contracted to design and maintain the statewide call-handling system for PSAPs, an ESInet, and managed services.[91] By the end of June 2018, all PSAPs were live on Comtech's call-handling system.[92]

However, Comtech's slow response to issues with the call-handling system from 2017[93] through 2018,[94] along with difficulties facing rural carriers in connecting to the ESInet,[95] were causes for concern. In October 2018, NG911 services experienced an outage, cutting off 911 services to 19 PSAPs in eastern South Dakota.[96] Western South Dakota PSAPs faced similar connection problems within two weeks of the first incident, motivating all but three PSAPs in the state to leave Comtech's ESInet.[97] The following year, the 911 Coordination Board contracted

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[82] SDCL 34-45-18.2.
[83] ARSD ch. 50:02:04.
[84] Id.
[85] SDCL 34-45-24; 34-45-26.
[86] SDCL 34-45-27.
[87] SDCL 34-45-31.
[88] SDCL 23-3-53.
[89] South Dakota 9-1-1 Coordination Board, supra note 8; see also South Dakota 9-1-1 Coordination Board, *Annual Report*, https://mylrc.sdlegislature.gov/api/Documents/RequiredReport/125117.pdf?Year=2014 (June 30, 2014).
[90] South Dakota 9-1-1 Coordination Board, *Annual Report* 14, https://boardsandcommissions.sd.gov/bcuploads/PublicDocs/9-1-1%20Annual%20Report%202015%20FINAL1.pdf (June 30, 2015).
[91] Id., at 14–15.
[92] South Dakota 9-1-1 Coordination Board, *Annual Report* 11, https://boardsandcommissions.sd.gov/bcuploads/PublicDocs/FY18%209-1-1%20Annual%20Report-%20Signed%20.pdf (June 30, 2018).
[93] Id., at 11–12.
[94] South Dakota 9-1-1 Coordination Board, *Annual Report* 11–12, https://boardsandcommissions.sd.gov/bcuploads/PublicDocs/9-1-1%20Annual%20Report%202019%20-%20Signed.pdf (June 30, 2019).
[95] South Dakota 9-1-1 Coordination Board, supra note 92.
[96] South Dakota 9-1-1 Coordination Board, supra note 94.
[97] Id. at 12.

Lumen as the new NG911 provider.[98] By February 2020, all PSAPs migrated to Lumen's ESInet, a platform which further allowed for the introduction of Text-to-911 services.[99] Statewide Text-to-911 services were launched for all PSAP coverage areas by March 2021.[100]

Recently, new outages have occurred in South Dakota and across other states relying on Lumen for NG911 services. After an outage in the southeastern portion of the state in January 2024, another outage across South Dakota, Nebraska, Nevada, and Texas occurred in April. The outage lasted approximately three hours and was caused by the installation of a light pole in Kansas City.[101] Despite the outage, emergency response times were not affected in South Dakota, and Text-to-911 services remained active.[102] Indeed, the advent of NG911 should help prevent outages in the future due to the existence of more contingencies in the system.[103]

Conclusion

In 2021, approximately a dozen states, including South Dakota, had fully implemented NG911.[104] During a review of the state's 911 system that same year by the State 911 Assessment Program, strengths included:

- "Significant progress towards NG911 with the implementation of the ESInet and the common [call processing equipment] platform for PSAPs;"
- "An effective PSAP evaluation and compliance program consistent with State Administrative Rules;"
- "Active engagement by [the] State 911 Coordinator to implement NG911;" and
- "Sustainable funding through 911 fees[.]"[105]

While other states now move to modernize their 911 systems[106] in the wake of crises, South Dakota has already taken the necessary steps to ensure NG911 is active and prepared to handle 911 services.

The Legislative Research Council provides nonpartisan legislative services to the South Dakota Legislature, including research, legal, fiscal, and information technology services. This issue memorandum is intended to provide background information on the subject. For more information, please contact Joey Knofczynski, Senior Fiscal Analyst.

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[98] Id.; see also *State of South Dakota Consulting Contract*, https://open.sd.gov/contracts/14/20-1400-002.pdf (June 21, 2019).

[99] South Dakota 9-1-1 Coordination Board, *Annual Report* 10, https://boardsandcommissions.sd.gov/bcuploads/PublicDocs/FY2021%209-1-1%20Coordination%20Board%20Annual%20Report.pdf (August 2021).

[100] Id. at 11.

[101] Makenzie Huber, *Company with $36 million SD 911 contract says outage caused by Missouri light pole installation*, South Dakota Searchlight, https://southdakotasearchlight.com/2024/04/18/centurylink-lumen-sd-911-outage-phone-service-missouri-light-pole-installation/ (April 18, 2024).

[102] Id.

[103] Stefanie Armour, supra note 4.

[104] Andy Castillo, *South Dakota upgrades to statewide next-generation emergency telecommunication system*, American City & County, https://www.americancityandcounty.com/2021/08/24/south-dakota-upgrades-to-statewide-next-generation-emergency-telecommunication-system/ (August 24, 2021).

[105] State 911 Assessment Program, supra note 80.

[106] Stefanie Armour, supra note 4.