Status of GIS Readiness for Next Generation 9-1-1

Report to the Energy and Telecommunications Interim Committee
September 2024

Purpose

Next Generation 9-1-1 (NG9-1-1) is the next step in the evolution of the 9-1-1 system originally developed over 50 years ago. It migrates 9-1-1 from analog technology developed for wireline phones, to an Internet Protocol (IP)-based architecture capable of communicating with any network connected device. Of particular importance to local and tribal government public safety answering points (PSAPs) and GIS professionals that maintain GIS data for 9-1-1 is the transition from using tabular databases of addresses and phone numbers to GIS databases for 9-1-1 call location and routing. In NG9-1-1, GIS data are used in real-time within the 9-1-1 call flow for all location validation, call routing, and mapping. As a result, it is essential that GIS data meet NG9-1-1 standards and be complete, accurate, and up to date.

To facilitate the creation of the statewide GIS datasets required for NG9-1-1, MCA 10-4-310 created a 9-1-1 GIS mapping account and funded the account with an annual appropriation of 9-1-1 fees as provided for by MCA 10-4-304(5). The 9-1-1 GIS mapping account may be used only by the Montana State Library provided for in MCA 22-1-102 in carrying out its coordination and management responsibilities to collect, maintain, and disseminate GIS land information in the state as it pertains to supporting public safety answering points on the ongoing assessment and improvement of next-generation 9-1-1 GIS data sets. With funding from the 9-1-1 GIS mapping account, the Montana State Library (MSL) has focused on the two primary objectives below.

Objective 1

- Provide a cost efficient and standardized means for all PSAPs in Montana to regularly assess their 9-1-1 GIS data for Next Generation 9-1-1 (NG9-1-1) readiness and for local, tribal, and state 9-1-1 and GIS stakeholders to track progress of GIS data readiness statewide.

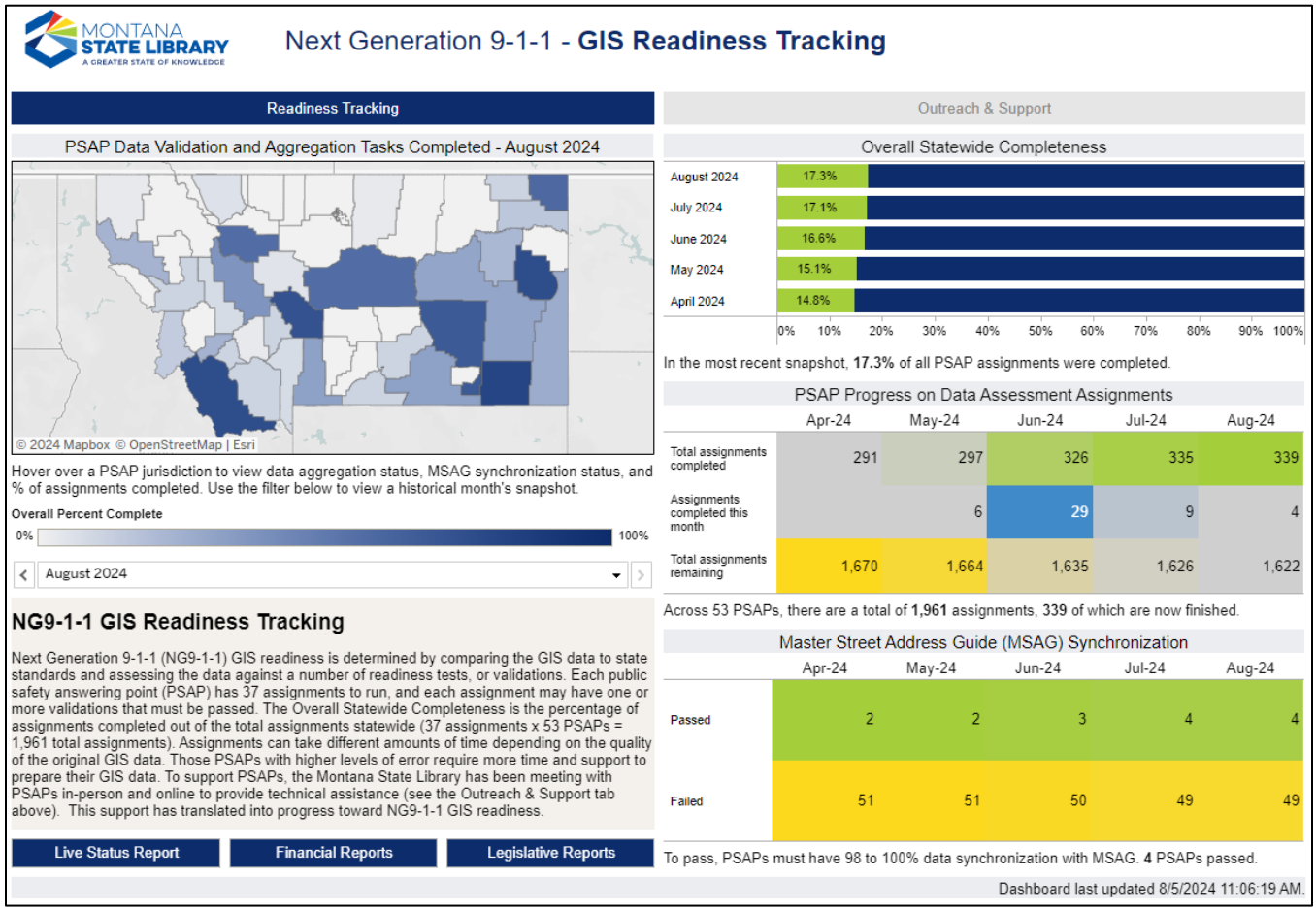
- MSL will procure a cloud-based service for use by all PSAPs to perform ongoing assessment of their 9-1-1 GIS data. This service will also enable MSL to track and report on NG9-1-1 GIS readiness at the state level.

Status: Cloud-Based Service Procured and Available

On February 14, 2022, following a state-led competitive RFP process, MSL awarded a contract to 1Spatial for the GIS data assessment service. 1Spatial was selected from the other proposals in part based on their experience doing other similar statewide NG9-1-1 GIS implementations (Arizona, Georgia, Minnesota) and the additional functionality their solution provides. In October of 2022, the

MSL GIS Data Validation and Aggregation Portal became available and MSL provided online training for all PSAPs.

Over 60% of the PSAPs in Montana have started to assess their GIS data. Two key indicators of NG9-1-1 GIS readiness are the Master Street Address Guide synchronization rate and a statewide PSAP boundary dataset. The Master Street Address Guide (MSAG) is the dataset used in the current 9-1-1 system for validating an address for 9-1-1. GIS data that are synchronized with the MSAG at 98% or higher indicates that GIS address data in a NG9-1-1 system can replicate the address data in the current 9-1-1 system. Call routing in NG9-1-1 relies on statewide PSAP boundaries that are coordinated with neighboring PSAPs and are free of gaps and overlaps. It is essential that all 53 PSAPs aggregate their jurisdiction boundary in a statewide layer to ensure a call placed anywhere in the state will route to the correct PSAP.



Readiness Tracking Dashboard, https://bit.ly/NG9-1-1_GIS-Readiness-Tracking

Key NG9-1-1 GIS Readiness Statistics	
Total PSAPs in Montana	**53**
PSAPs using Portal	33 (62%)
PSAPs passing Master Street Address Guide validation	4 (7%)
PSAP boundaries aggregated	7 (13%)
Total PSAP validation assignments	**1,961**
Validation assignments completed	339 (17%)

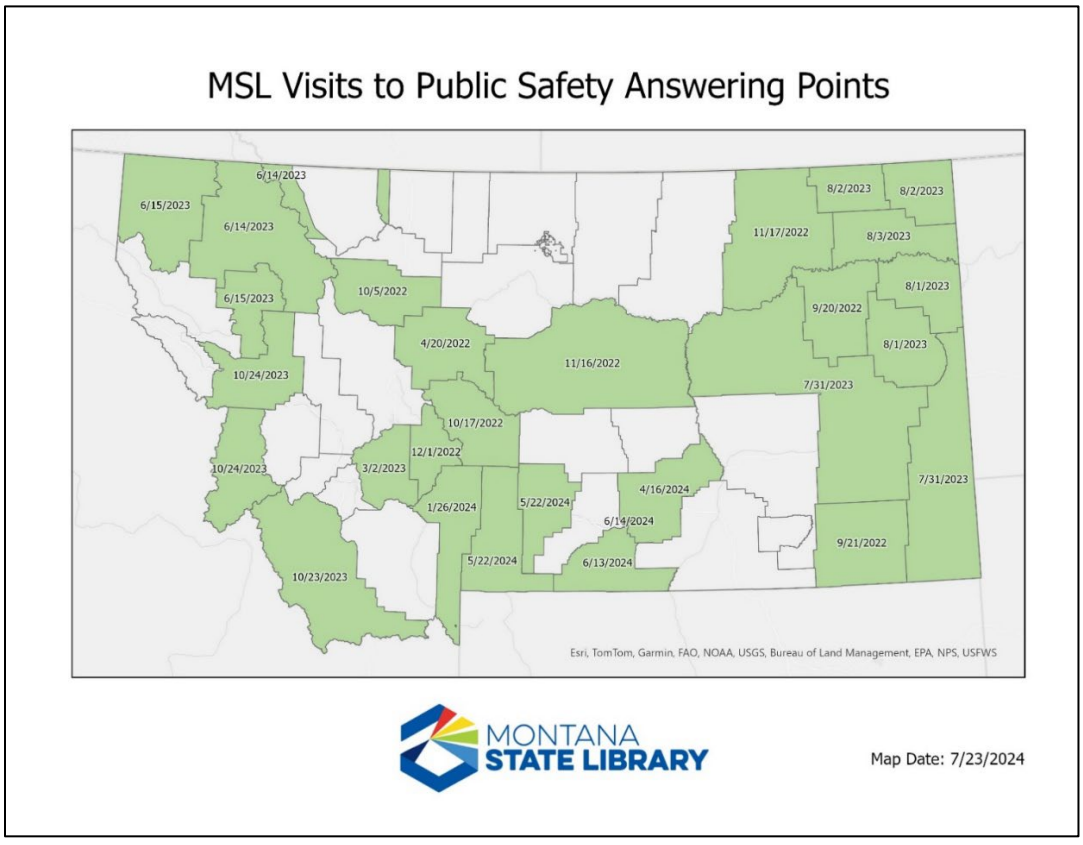
Objective 2

- Coordinate the development, improvement, and maintenance of local, tribal, and statewide GIS datasets required for NG9-1-1.
- Local and tribal governments will use the data assessment service to ensure the required GIS data meet national NG9-1-1 standards and aggregate their data to statewide datasets. MSL will support the PSAPs and their GIS data providers in this effort with a dedicated 9-1-1 GIS Analyst.

Status: PSAP Support Continuing

To support coordinating the development, improvement, and maintenance of NG9-1-1 required GIS datasets, MSL hired a dedicated 9-1-1 GIS Analyst in October 2021. Over the last biennium, the 9-1-1 GIS Analyst has:

- Assisted with the implementation of the GIS data assessment service
- Assisted with outreach to GIS and 9-1-1 stakeholders in Montana through in-person and virtual presentations to GIS and 9-1-1 stakeholder groups including:
    - Montana Association of Geographic Information Professionals (MAGIP)
    - Montana Chapter of the National Emergency Number Association (Montana NENA)
    - Montana Association of Public - Safety Communications Officials (Montana APCO)
- Directly supported PSAPs and their 9-1-1 GIS data providers through in-person visits and online meetings with GIS data editing workflows and GIS data standardization to improve and maintain required 9-1-1 GIS datasets.



Key MSL NG9-1-1 GIS Support Statistics	
MSL in-person visits to PSAPs	29 visits
MSL direct technical support to PSAPs, FY 23 and FY 24 (in person or online)	1,197 hours

Financial Report						
	FY 2023			FY 2024		
	Budget	**Actual**	**Balance***	**Budget**	**Actual**	**Balance***
Personal Services	$231,650	$228,254	$3,396	$237,715	$231,112	$6,603
Operating Expenses	$14,096	$4,143	$9,954	$10,026	$16,629	($6,603)
Contractual	$204,254	$204,254	$ -	$248,853	$248,853	$ -
Totals	$450,000	$436,650	**$13,350**	$496,594	$496,594	**$ -**

*Unspent funds remain in the 9-1-1 GIS mapping account