

Staff Report

To: Board of Directors
From: Colin Woodrow
Date: September 25, 2025

Agenda Item: 5.5 Staff Report – Land Mobile Use Radio Update

Attachments:

- 5.5.1 Redtail Communications Proposal
- 5.5.2 Waterworks Hill Coverage Map
- 5.5.3 Waterworks Hill Photographs

Recommendation:

Discussion only.

Discussion:

The agency is working to upgrade the Land Mobile Radio system used primarily by the operations and maintenance departments to communicate detours, rider transfers, vehicle changes, accidents, emergencies and other critical service information. The current system does not adequately cover the agency's service area, often resulting in poor communication between drivers, operations, and the maintenance team. Requests for repeat transmissions are regular and sometimes others listening need to step in to relay messages. The current system offers limited coverage, with notable gaps in coverage in Bonner and on the south side of Missoula. Coverage is also limited due to the tower locations (currently at Shakespeare and the downtown transfer center) as opposed to being on hillsides or mountaintops.

To address this, staff have been working with communications contractor Redtail Communications since February 2024 to design a system that will meet current needs and grow as the agency expands in the future. Redtail had provided a proposal for the equipment needed to accomplish this, and the board approved the execution of a contract for \$560K in February 2025 that used existing 5339 federal funds. Since then, the staff has determined that the project scope was incomplete, given some shifts in tower space availability. This staff report provides an update as to the next steps.

Towers/Sites

To establish adequate coverage, this new system requires two locations beyond the existing repeater sites at the operations base (currently Shakespeare and the future new facility location) and the transfer center, where equipment can be installed. Finding and procuring space at two locations for this project

has been difficult. In the discovery phase, the staff learned that several different entities are involved with LMR sites in the area: Missoula County, the City of Missoula Communications Department, and the City of Missoula Wastewater Utility, working with a third-party consultant for the city. The two best locations identified are Waterworks Hill and Mt. Sentinel. See attached map for reference.

- Mount Sentinel location is located at Longitude: 113°55'44.37"W and Latitude: 46°51'11.11"N.
- Waterworks location is at Longitude: 113°59'14.05"W and Latitude: 46°52'51.14"N.

The staff explored constructing a fenced-off structure and tower on Waterworks, but it has recently been established that, in keeping with the city's goals, internal rack space is available at the city-controlled structure. As the city and county using this facility undergo a transition to a new system over the next two months, the agency will know whether space is available on the tower itself. If space on the tower is not available, the agency will be responsible for purchasing equipment, contracting design, and installing that equipment. Redtail is best prepared to carry out this work scope in coordination with the city, and a spring 2026 installation date is targeted.

Staff will continue working with the city as the scope of this equipment comes into focus this autumn. A memorandum of agreement will be developed this autumn in coordination with the city legal and public works departments. The agency will pursue the MOA in November or December to obligate the federal funds by year end.

Equipment

An updated proposal for Redtail is attached. The agency intends to procure this equipment through a cooperative purchasing agreement, using funds from an FTA 5339 grant. The funds with contracts need to be obligated by the end of calendar year 2025. Redtail has determined that MUTD will require half a rack, 24 rack units, and access to the front and rear of the rack. Staff prefer this equipment to be installed on a full-height rack, 48 rack units (approximately 84" x 24") and will be built and tested by Redtail before installation at the tower sites. The city public works department will allocate the space for the rack-mounted equipment installation at each site.

The updated proposal includes five years of annual preventative maintenance, annual subscriber review, and system monitoring through Redtail. Additionally, the equipment includes support from Motorola for seven years based on the National Associate of State Procurement Officials contract from which the agency pulls terms. The expected minimum lifespan for this system is ten years, with the possibility of several more years with recurring service work. Cost savings on the equipment portion have been achieved, but it must be noted that this updated proposal does not include the tower equipment which is explored below.

Ordering this equipment in October would provide adequate time to receive, set up, and test the equipment for a spring 2026 rollout. Redtail estimates all components could be received by the end of January, allowing for staging and testing equipment in February. As soon as the weather permits access to each tower location, the staff can install the equipment in April. The goal is to complete the testing and system integration in April, followed by a fully operational system in May 2026.

Next Steps/Board Action

In December, the staff will present an MOA for the tower space and a secondary contract with Redtail for the tower space equipment, design, and installation. These costs are allocated to the 5339 federal funds within the federal Transportation Improvement Program and are adequate to complete this project.

Financial Impact and Funding Source:

Currently this project in totality is estimated to cost between \$550,000-\$650,000, dependent on the tower scope. These 5339 allocated funds have been dedicated to the LMR, security cameras, and bus stop improvements, following the shop truck obligation, \$718,056 remains. Please be aware that additional 5339A funds have also been dedicated in the Transportation Improvement Program to the bus stop improvement plan and the security camera project is in scoping phase. Funds are adequate for the execution of this project.

DBE Certified: Not applicable.


RED TAIL
COMMUNICATIONS

5340 Holiday Ave. Billings, MT 59101

Phone (406) 247 - 0723

1314 Russell St, Missoula MT 59808

**MOTOROLA****Proposal****Customer**
Name
Address
Cty,St,Zip
Phone
Mountain Line
Date 3/11/2025
Sales Person Brian Mehus
Phone 406.591.0723
Email brian@redtailcomm.com

Qty	Model	Attn: Jason Blodgett jblodgett@mountainline.com	Sourcewell Discount Pricing	TOTAL
		<u>Mountain Line 2 Site Trunked Radio System Budgetary</u>		
		<u>Sourcewell contract 042021-MOT</u>		
		<u>Missoula Urban Transportation District Account # 234613</u>		
		<u>Portables</u>		
8	R7	Motorola UHF R7 portable radio includes: Impress battery, single unit charger, antenna, belt clip, programmed and FIVE year warranty. List: \$1516	\$ 1,287.00	\$ 10,296.00
1	PMPN4284	IMPRES 6 pocket, 1 display charger (suggested replacement for WPLN4212 and WPLN4219)	\$ 601.00	\$ 601.00
		<u>Mobiles</u>		
60	XPR5550e	Motorola XPR5550e 45 watt mobile radio includes: compact microphone, low profile bracket, 10ft power cable, programmed and FIVE year warranty. List: \$1514	\$ 1,287.00	\$ 77,220.00
		<u>Deskset</u>		
8	MCD5000	MCD5000 Deskset - Note - Depending on the location of desksets, we may use a combination of control radios and base stations to reduce costs. TBD	\$ 5,000.00	\$ 40,000.00
		<u>Base Stations</u>		
8	AAM02QPH9JA1	Motorola XPR5550e 45 watt mobile radio includes: compact microphone, low profile bracket, 10ft power cable, programmed and FIVE year warranty. List: \$2399 All Hardware Included	\$ 2,039.00	\$ 16,312.00

		<u>System</u>		
1	MOT DIG INFRA STRUCTURE	4 SLR8000 100W 4 MOTOTRBO LINKED CAPACITY PLUS 2 HP PROCURVE 2530-24 SWITCH 2 HP MSR2003 AC ROUTER US 2 SPD, SHIELDED RJ-45 JACK, SINGLE LINE GIGE PROTECTOR 2 RACK MOUNT GROUND BAR, 19 IN FOR TSJ AND WPH SERIES DATA SPDS 2 PDU, 120V HARDWIRE (8) 20A OUTLET PDU WITH TYPE 3 SAD PROTECTION 2 RACK MT ADAPTER PLATE, 19 IN FOR DSOP820B, DSOP820B2 & DSNSOP820B 2 450-470MHZ 2 CH DUPLEX/HYV COMB/RX AMP & SPLITTER SINGLE TRAY AC PWR 2 2 POST 7FT RACK BLACK WITH GROUND BAR 2 UPS, 9PX, 900W, 120V, SOFTWIRED, 64 MIN RUNTIME RACK MOUNT (8RU each) Microwave Connectivity	\$ 269,934.00	\$ 269,934.00
		System Monitoring with GW3-TRBO (Allows Industrial Communications 24/7 System Monitoring) - GW3-TRBO CAP PLUS - Additional Simultaneous Client License - GW3 Desktop Host HW - Includes 5 Years Support System Maintenance Contract 5yrs Per YEAR includes: - Annual Preventative Maintenance on site and subscribers - Reprogramming of subscriber radios - 24/7 Response to Radio System Issues FCC Licensing		
1	MOT DIG INFRA STRUCTURE	7yr MotoTRBO Care Onsite MOT Installation Services Pre-Staging and Installation of System- - System Design Review - Network Config and Test - Equipment Config and Verification - RF Site Optimization - Spectrum Snapshot - Quality Install Audit (informal R56 audit) - Radio Programming	\$ 102,060.00	\$ 102,060.00
		System Total - Budgetary =		\$ 516,423.00

Redtail Communications, Inc.

1812 Monad Rd
Billings, MT 591025768
(406) 721-2255
brian@redtailcomm.com



Quote

ADDRESS	SHIP TO	QUOTE	2148
Mountain Line	Mountain Line	DATE	09/19/2025
MISSOULA, MT 59802	MISSOULA, MT 59802		

PURCHASE ORDER NUMBER
Radio System Support/Maint

DATE	SKU	DESCRIPTION	QTY	RATE	AMOUNT
09/19/2025		Radio System Maintenance Contract (Additional 2 Years added to 5 year contract)	2	6,000.00	12,000.00

There will be a 3.5% surcharge added to all credit card payments.
Thank you for choosing Redtail Communications. We appreciate your business.

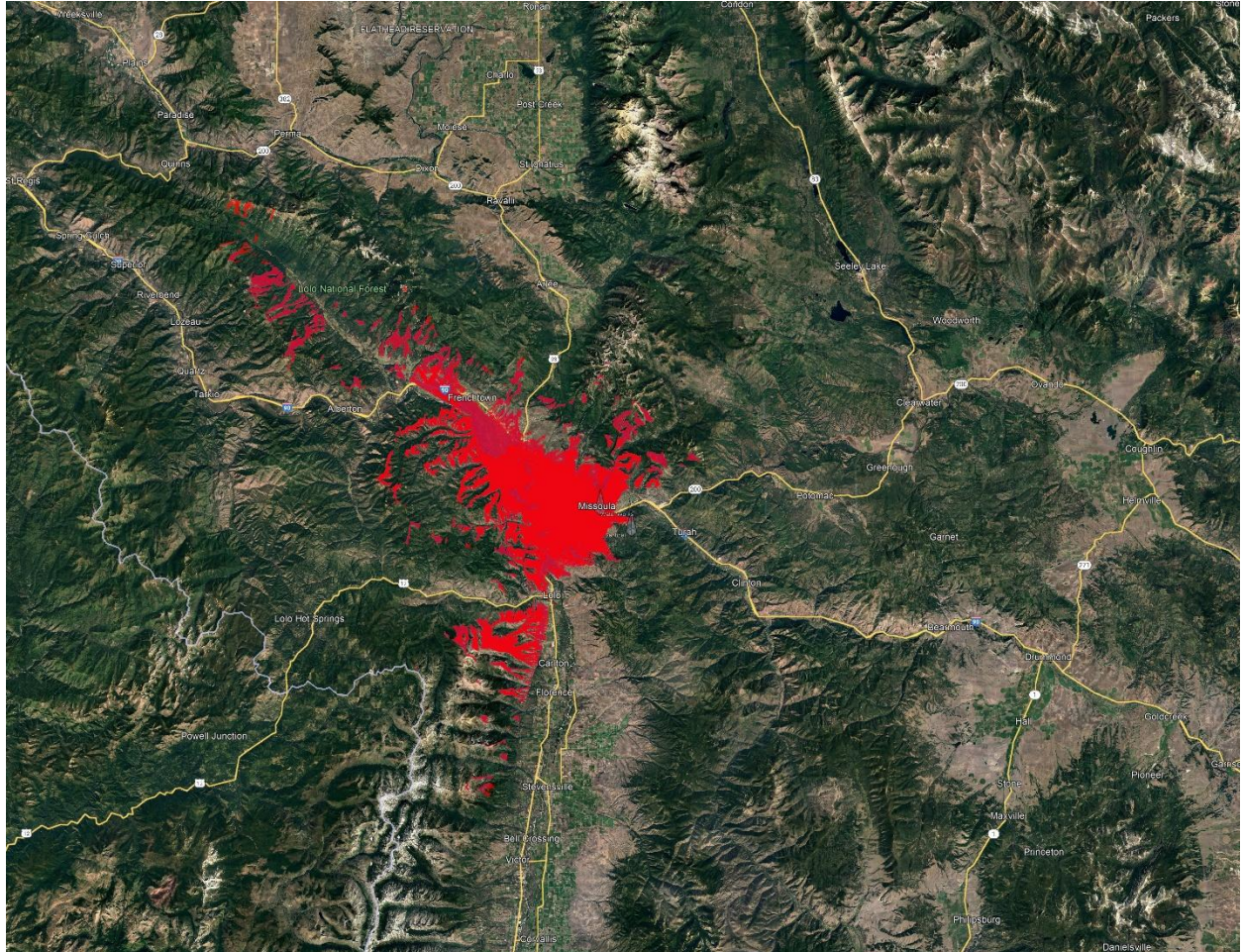
TOTAL

\$12,000.00

Accepted By

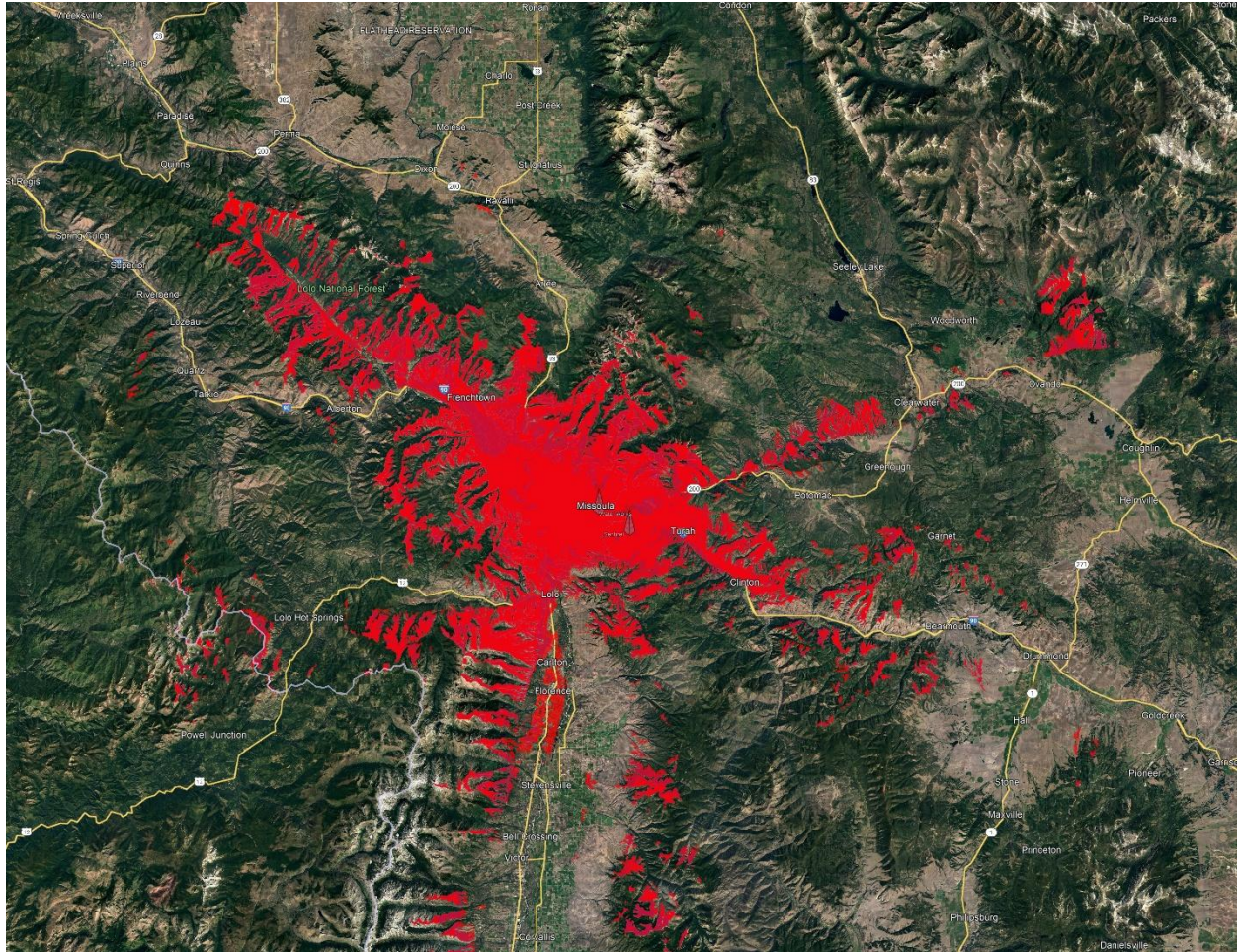
Accepted Date

Waterworks Only Coverage



An aerial photograph of the Sierra Nevada region in California, showing the distribution of red and blue patches across the mountainous terrain. The map includes labels for various towns and geographical features, such as Frenchtown, Mammoth, and the John Muir Wilderness. The red patches are concentrated in the central and western parts of the range, while blue patches are more scattered, particularly in the eastern and southern areas. The terrain is rugged with deep valleys and steep slopes. Major roads and highways are visible, along with some smaller settlements and agricultural areas at the base of the mountains.

Combined Sentinel & Waterworks Coverage



Waterworks Site Photos – 4/24/2025











Sentinel Site Photos – 5/7/2025





