Public Safety & Public Works Infrastructure Replacement CIP

Radio Communications

Rick Larson| Public Works & Mobility| September 15, 2021

Public Safety & Public Works Infrastructure Replacement CIP

- The City of Missoula's communications infrastructure is essential to Public Safety and Public Works operations.
- Existing equipment is past its service life:
  - Manufacturer's support and spare parts are no longer available
  - Poor radio communications within buildings and certain areas of town
- Failures of this equipment would result in loss of:
  - Police communications with 911
  - Fire department tactical communications
  - Public works operational communications

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- The County and City of Missoula systems share the same design but are separate systems
- Missoula County 9-1-1 is responsible for the infrastructure for the County and rural communications
- The City Public Works & Mobility Department maintains its radio system that supports the Missoula Police Department (MPD), Missoula Fire Department (MFD), and the Public Works & Mobility Department

Radio Communications Study

- The City of Missoula and Missoula County contracted with Mission Critical Partners, LLC (MCP) to assess the existing radio communications systems
- The goal of the assessment was to determine the ideal long-term strategy for the current County and City radio systems to improve radio and paging communications
- The assessment includes a review of how the County's system operates compared to the current issues experienced by City users.

Study Findings

- MCP evaluated several options and determined solutions to improve radio communications within the city and county
  - The current hardware is past end of life and support is difficult to obtain.
  - The City's and County's radio systems are on the same hardware and software versions. The systems were installed in (approximately) 2006. Each system uses third-party components that are not supported by the radio manufacturer.
  - Most equipment at the radio sites can be reused. The tower, uninterruptible power supplies (UPSs), and other civil support structures have useful life; however, some exceptions will require replacement.

Study Findings

- The City ’s radio system requires an immediate “lifeboat” solution. Numerous critical issues affect the City’s layers, including:
  - High noise floor at VHF (20+ decibels [dB])
  - Lack of in-building coverage due to new construction and large buildings
- Total Estimated Cost: $5,502,353
  - Included in FY22 Public Works & Mobility CIP
  - Financed by general fund debt service and other potential grant sources

Staff Recommendation Based on Study

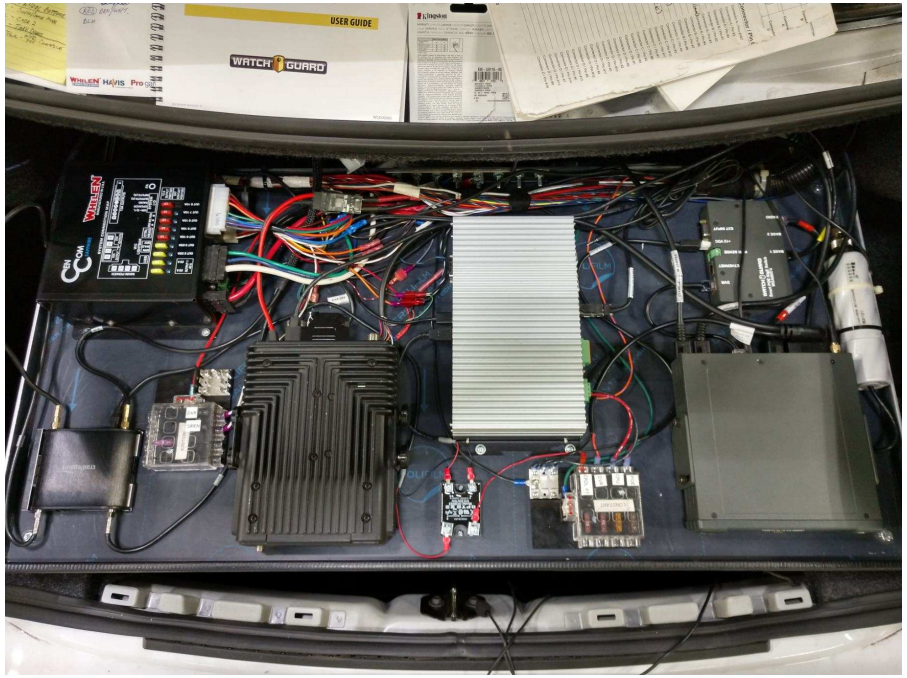
- Replace the current conventional simulcast system with P25 digital conventional simulcast
- Add sites to improve coverage
- Use 800 MHz in the city
- Refresh the paging system radio frequency (RF) components
- Total Estimated Cost: $2.9 to 3.2 million with City installation

First Steps

- Purchase new radios in anticipation of a dual-band radio system
  - Motorola has offered a one-time discount on purchasing portable and mobile radios through the State of Montana National Association of State Procurement Officials (NASPO) contract, if ordered by September 27, 2021.
  - Discounted pricing will save approximately $482,309.19 over the NASPO contract price if ordered after September 27, 2021.
- Total Price of Radios = $1,972,794

Lease-Purchase Agreement

- Vendor: Motorola Solutions
- Vendor shall supply products within 150-calendar days of order date
- City staff will be used for installation



Next Steps

- Communications Infrastructure Upgrades
  - Replace the obsolete infrastructure equipment at two City communications sites, as well as the two County sites
- Preliminary Estimate: $1,211,691.25
- Total Project Cost Estimate: $3,184,485.25
  - $2,774,543.88 less than original study estimates

Recommended Motion

Approve and authorize the Mayor to sign a Lease-Purchase Agreement with Motorola Solutions for radios at a cost not to exceed $1,972,794.00.