



Radio System Replacement Executive Summary

Phase 1A - Subscriber Equipment - Began in 2018 and now COMPLETED

In Phase 1A of the project, KSP purchased mobile radios, and portable radios, along with a radio management solution to program and maintain all the radios. These multi-band radios are compatible with KSP's existing UHF radio system as well as the new P25, 700 MHz trunking system. The mobile radios are equipped with vehicular repeaters to improve radio coverage for KSP Troopers by using the higher-powered mobile radio to extend the range of the portable radios.

Highlights:

- [Mobile Vehicle Radios](#)
- [In-Car Repeater Systems](#)
- [Portable Handheld Radios](#)

Phase 1B - Cores & Consoles - Began in 2019 and now COMPLETED

In Phase 1B of the project, KSP purchased two master core systems for geo-redundant sites to be installed in Frankfort and Elizabethtown. The master sites are the central point for all radio traffic deployed in a dynamic digital conventional system configuration. This configuration will maximize uptime and ensure seamless operation in case of a catastrophic failure at either of the two locations. Under normal operating conditions, the redundant master core sites communicate with each other, exchanging voice and control traffic, network health, and management data. Configuration data is synchronized between the master sites so that both sites are up-to-date and ready to take over network operations at any time.

Phase 1B also included new dispatch consoles at all 16 Posts' dispatch centers, replacing KSP's existing consoles that had reached end-of-life. The new consoles will interface with both the new 700 MHz, trunking radio sites that will be deployed beginning in Phase 1C and KSP's existing digital conventional systems. This will allow KSP users to transition smoothly from the existing digital conventional systems to the new trunking system.

Two (2) key loaders for encryption were also included as part of Phase 1B.

Highlights:

- [Geo-redundant Master Site Cores \(Frankfort/Elizabethtown\)](#)
- [Dispatch Console Positions](#)



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PHASE 1C - Post 1 & 2 Buildout Began in 2020 and are projected to be completed March 2022:

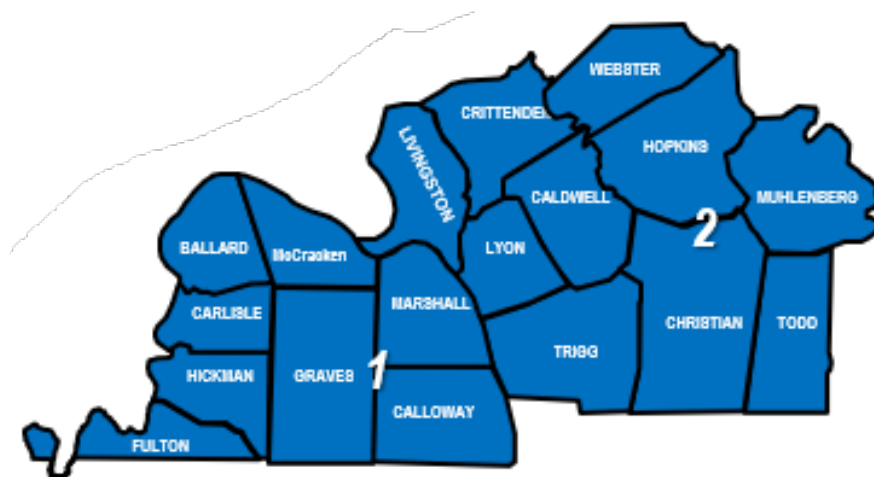
In Phase 1C of the project, KSP purchased infrastructure hardware for P25 trunking sites for Post 1 and Post 2. Phase 1C will replace the UHF conventional site infrastructure with P25, 700 MHz infrastructure, to allow Posts 1 and 2 users to transition to trunking operation. This infrastructure hardware has been delivered and installation at the existing tower sites is underway. The green site infrastructure will be installed after the sites have been developed and constructed.

Phase 1C's tower sites will connect to the master core sites in Frankfort and Elizabethtown by the microwave backhaul network currently provided by the Commonwealth of Kentucky. Phase 1C also includes a logging recorder solution to record the trunking audio traffic. The primary logger will be installed at the Frankfort master site and the backup logger will be installed at the Elizabethtown master site.

Highlights:

- Radio Tower Sites
- Multi-Channel/Talk Group Operation
- Logging Recording Solution

PHASE 1C





Phase 2 continues the build out of the P25 trunking tower sites in Posts 3, 4, 5, 6, 7, 12, 15 and 16. Across these eight Posts, both current tower sites will be used, and green site tower locations are being identified and developed to meet coverage design requirements. P25, 700 MHz, infrastructure equipment for all tower sites in these eight posts have been ordered as of June 2021. The existing tower sites' equipment will be installed upon delivery and acceptance of the equipment. The green site towers' equipment will be installed later, after the sites have been developed and constructed.

Highlights:

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- A map of Missouri showing its counties. The counties are colored in shades of blue and green, indicating different phases of reopening. The text 'PHASE 2' is written in large, bold, black letters across the center of the map. The counties are labeled with their names, and some are numbered with large white text. The numbers 3, 4, 5, 6, 7, 12, 15, and 16 are visible, corresponding to the phases mentioned in the text. The map shows that most of the state is in Phase 2 (blue), with some counties in Phase 1 (green) and Phase 3 (light blue).



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PHASE 3 - 6 Post Buildout

Phase 3's scope of work has been identified and Capital Project funding requested. This scope includes purchasing and installing new P25 700 MHz infrastructure equipment for existing towers and green site towers to be identified, developed, and constructed in the Eastern Kentucky post areas.

