Lancaster County is working to increase public safety by upgrading our 12-year-old radio system. We will be moving from a Phase 1 system to a Phase 2 system. Public Safety Communications Technology has progressed significantly since our system was first designed and this upgrade is necessary to ensure that we are on the leading edge of public safety for residents and first responders.

Phase 1 technology, which is a one for one frequency talk in and frequency talk out technology is what our system is currently. By remaining on phase one, it puts a significant limit on the number of people who can talk on the radio system. Equipment and parts for this type of technology are rapidly becoming harder to find and will soon be end of life. By switching to Phase 2 technology, it will provide for 2 talk-paths in and out per frequency thus allowing more users on the radio system. This technology doubles the capacity of a Phase 1 radio system without purchasing additional infrastructure such as radio towers or repeaters. You may have seen or heard of this upgrade in technology as many of our neighboring counties have Phase 2 radio systems. This becomes significant as we are starting to see during busy times, that the radio system is approaching capacity in certain portions of the county.

For us to fully transition to a Phase 2 radio system, we need to convert the way that we send out our digital messages to the radios. We need to convert from the old technology called C4FM (Continuous Four Level Modulation) to the more modern and efficient LSM (Linear Simulcast Modulation). LSM will provide a better radio system with increased, clarity, and stability of our radio transmissions. LSM transmissions will also go a long way in reducing TDI (Time Delayed Interference) which we have at various locations around the county and to increase radio coverage around the county including in buildings.

The components in getting to a Phase 2 system involve 4 steps.

1. Upgrade of the County radio system. This was completed in May of 2024
2. Subscriber radios have LSM and GPS activated in their radios
3. Subscriber radios, municipal & first responder radios, have Phase 2 activated in their equipment
4. Possibly adding additional tower sites around the county if radio coverage issue still remain.

EVERY radio on the system will need to be "Touched" by the programmer for your radio. The Touch will include checking the radio for frequency drift and bring it back into alignment if needed and turning on LSM and Phase 2 within the radio.

After ALL of the radios in the county, and out of county, have been Touched, the County can then begin to operate as a Phase 2 system. However, radios that have not been purchased or prepared for Phase 2 will significantly disrupt the implementation and potentially delay or even interrupt communications.

We have compiled a list of which radios will need to be replaced. We encourage you to evaluate your inventory to identify if your radios will need to be replaced. Generally, these radios will need to be replaced, others should be capable of moving to Phase 2 but confirmation will occur with a Touch by the programmer.

- All BK Radios built before 2016. (2016 and 2017 possibly can operate in Phase 2)
- Mobile Tait radios located in fire and EMS units as part of the 2012 County Fire Chief's grant.
- BK KNG2 radios will work in Phase 2.

What you need to do to prepare:

1. Begin to look at your radio inventory.
2. Contact your radio vendor and make sure that the radios that you currently have can be upgraded to LSM and Phase 2.
3. Determine which, if any, radios need to be replaced and begin that process.

We plan to have full Phase 2 implementation by January 1, 2027. We will continue to keep you informed throughout this project and serve as a resource to answer any questions you may have. For any questions or comments please contact us at 717-664-1100 or email Matt Shenk at mshenk@lcwc911.us.