FirstNet™
U.S. DEPARTMENT OF COMMERCE

# Programmatic Environmental Impact Statement

## What are the Project Alternatives?

### Mixed Technologies Alternative:

FirstNet intends to construct a long-term evolution (LTE) nationwide public safety broadband network (NPSBN) using a combination of the following methods:

- Collocation of the network equipment on existing towers, poles and structures, some of which would require structural hardening or reinforcement to improve disaster resistance and resiliency;
- Construction of new communication towers, poles and associated structures to include generators, equipment sheds, fencing, and concrete pads;
- Collocation on existing fiber facilities, including lighting dark fiber and installation of new fiber on existing poles and in existing conduit;
- Installation of new conduit and fiber using trenching (including vibratory plowing) or directional boring (including horizontal directional drilling);
- Deployment of satellite phones and other portable satellite technology;
- Installation of microwave facilities for cell-site backhaul communication; and
- Utilization of deployable technologies to reach rural and remote areas. Deployable technologies encompass a range of items, generally characterized as the following:
  - Cell on Wheels (COW): a cellular base station on a trailer with an expandable antenna mast and usually a microwave or satellite link back to the main controller;
  - Cell on Light Truck (COLT): a cellular base station on a light truck platform with an expandable antenna mast and usually a microwave or satellite link back to the main controller;
  - System on Wheels (SOW): a full base station and controller on a trailer/truck/big rig/etc. A SOW is a fully self-contained cellular system that can provide an island system with no need for satellite/microwave link back; applicability of this type of deployable technology may be limited if there is no internet connectivity; and,
  - Deployable Aerial Communications Architecture: Aerial vehicles, including, but not limited to, drones, weather balloons, and blimps, which would be deployed at high altitudes and are capable of providing wide-area coverage, although with relatively low capacity/throughput.

### Deployable Technologies Only Alternative:

Procure, deploy, and maintain a nationwide fleet of mobile communications systems to provide temporary coverage in areas not covered by existing, usable infrastructure, as there would be no collocation of equipment or new construction. Generally, these units would be deployed at times of an incident to the affected area. These mobile communication units would be temporarily installed and may use existing satellite, microwave, or radio systems for backhaul.

### No Action Alternative:

Under the No Action Alternative, the Nationwide Public Safety Broadband Network (NPSBN) would not be constructed; there would be no nationwide, coordinated system dedicated to public safety interoperable communications. The existing multiplicity of communications networks would remain in place, as would the current, known limitations and problems of existing communication networks during times of emergency or disaster. This alternative would require an act of Congress to revise the Act, which currently requires the NPSBN.