1.1 Activity 1. Identify, Procure, and Test Advanced Technology Communications for FAA Safety Data Transmittal

The intent of this subtask is to identify cellular and other wireless communications devices that could enhance the data collection performance and reference data access for the Aviation Safety Inspectors (ASI). The research team has evaluated various products and services that could have an application for AFS operations. Several products and services were procured and underwent testing.

Advanced communications technologies hold tremendous promise to better meet the information needs of the ASIs. The ability to remain connected to, or gain access to, the computer and database resources of the District Office through wireless connectivity have the potential to improve the efficiency of the ASI in accessing data to expedite the completion of an inspection or investigation.

The communication technologies that are available today consist of cellular, packetized radio, spread spectrum radio, infrared transmission, and wireless LANs. These technologies have been divided into two categories: (1) Long Distance Data Communication, and (2) Short Distance Data Communication. Each technology was researched and analyzed for appropriate application to ASI needs. Recommending a wireless data service for the AFS will be based upon such criteria as service availability, coverage, roaming capability, transmission speed, network capacity, air-link confidentiality, interoperability, and available hardware and software. However, most wireless data communication services available today are still in their early stages and will require more time to mature and expand coverage. The following is a series of descriptions of each of these communication technologies and what applications show promise to improve ASI performance. For those technologies that were deemed promising, a description of the subsequent evaluations are included.