

Location Tracking Systems for Community Supervision

The Criminal Justice Testing and Evaluation Consortium, a program of the National Institute of Justice (NIJ), released a four-part brief series on technologies that support agencies tasked with monitoring individuals released to community supervision. This document summarizes the brief, [Location Tracking Systems for Community Supervision](#).

Key Takeaways

The key findings of the consortium's Location Tracking Systems (LTS) research include:

- LTS are traditionally one-piece or two-piece ankle-worn devices; however, smartphone-based and wrist-worn devices are emerging as alternatives—each with benefits and limitations.
- Social and technology factors are fueling the increased use of location tracking; however, many challenges remain for the implementation of LTS, including agency resource constraints and high officer workload.
- The consumer electronics market will likely continue to enable smaller, lighter, and less expensive LTS devices with more features and capabilities.
- LTS are not a complete solution, but rather a tool to support a larger case management supervision approach.

Location Tracking Systems

This brief covers the type of systems that have been applied in community supervision for decades. Location Tracking Systems are used by agencies for individuals on pretrial release or diversion programs, for post-conviction as an alternative to detention (probation), and in post-incarceration situations (parole). Advancements in technology, increased familiarity with the systems, as well as manpower challenges for supervising agencies has resulted in more agencies using these systems.

The brief highlights how these systems should be part of an overall supervision strategy. It also mentions that certain legislation in mandating use, such as GPS tracking for sex offenders. The brief discusses the need for more studies on the effect of location tracking on reducing recidivism, and it describes, in general, the types of systems on the market, including systems that use radio frequency, GPS, Wi-Fi, cell tower triangulation, and mapping software. It also describes how some systems generate continuous alerts while others produce periodic alerts. The brief segments the systems into one-piece, two-piece, and smartphone technology, suggesting that two-piece systems are typically used for high-risk individuals, and smartphones for lower risk. The brief highlights the trend toward smaller, more consumer-like systems such as smartphones and smartwatches.

The brief also reviews advances in technology, including:

- Location accuracy and reliability
- Hardware miniaturization
- Charging technology and design
- Battery capacity and management
- Signal interference
- Tamper resistance and detection
- Advanced analytics
- User experience

The brief outlines practice considerations for agencies and provides a detailed checklist for agencies to review before implementing a program. Key considerations include cost, workforce training, data privacy matters, and legal and ethical matters.

Caution: High-security strap designs

Some segments of the market are demanding more robust security. Agencies appear to be increasingly specifying requirements for high-security straps and devices in procurement documents. Agencies should understand that these products would not conform to NIJ's Standard 1004.00 for Offender Tracking Systems.¹⁷ This voluntary standard specifies that conformant devices must be able to be removed with medical disposal scissors (commonly known as emergency medical service/emergency medical technician shears) within 1 minute. This requirement is in place to protect the health and safety of the individual on community supervision and to limit an agency's exposure to liability. To mitigate against potential liability, at least one manufacturer has chosen to not ship their devices with a hardened strap attached. If ordered, the supply of "cut-resistant" straps is provided separately, and the agency is made to acknowledge that if the hardened straps are used, the product will not comply with the NIJ standard (i.e., specifically, the safety specification).

BI Incorporated Solutions Match Trending Technology Usage

For more than four decades, BI Incorporated has developed and supported a comprehensive technology continuum. Below are BI systems that fall into the location tracking system category.

Location Tracking Systems

BI has made significant strides in location tracking technology for community corrections, expanding beyond traditional satellite-based solutions. Our software engineers have leveraged Global Navigation Satellite Systems (GNSS) to develop highly accurate and reliable monitoring solutions that provide real-time location tracking, geofencing capabilities, and historical movement data. This multi-constellation approach, which builds upon GPS technology, ensures consistent performance even in challenging environments such as urban areas with limited sky view.



BI LOC8® XT, an ankle-worn device that provides detailed information about an individual's movements in the community through GNSS, Wi-Fi, and cellular data. LOC8 XT is the only device available today with multiple tamper detection technologies including a proximity tamper. The strap meets NIJ standards and can be removed in less than one minute.



BI VeriWatch®, a discreet wrist-worn device that uses state-of-the-art technology to provide reliable real-time monitoring. Comparable in size to a consumer smartwatch, the device runs on a secure, custom operating system designed for the unique needs and rigors of community supervision.



BI Notifi®, an iOS and Android compatible mobile app, offers agencies a solution for individuals who are involved in a domestic violence situation. The mobile app continuously measures the proximity between the BI Notifi app user and a GPS-supervised client.

For more information, visit bi.com