

The use of tracking technology

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Scope of presentation

- How tracking technology works
- How it can be used in managing offenders
- Some issues that need addressing

How tracking technology works

Tracking – general points

- Tracking is the remote surveillance of a person's location as he or she moves from place to place
- It uses locational technology more often associated with tracking ships and vehicles
- It is more sophisticated than standard RF monitoring – but expectations are higher too

How tracking works – 1

- Tracking uses objects such as satellites or radio masts which transmit signals containing time and location data



How tracking works – 2

- The offender carries a personal tracking device which receives satellite or other signals and calculates its own location



How tracking works – 3

- The tracking device transmits location data to a control centre in one of a number of ways—
 - in real time (“active tracking”), or
 - retrospectively (“passive tracking”), or
 - some combination of the two (“hybrid tracking”)

Active tracking

- The tracking device contains GSM or GPRS technology allowing the immediate transmission of location data
- Advantage: allows a quick response to violations
- Disadvantage: additional telecoms cost; possibly additional staff cost too, depending on the procedures used

Passive tracking

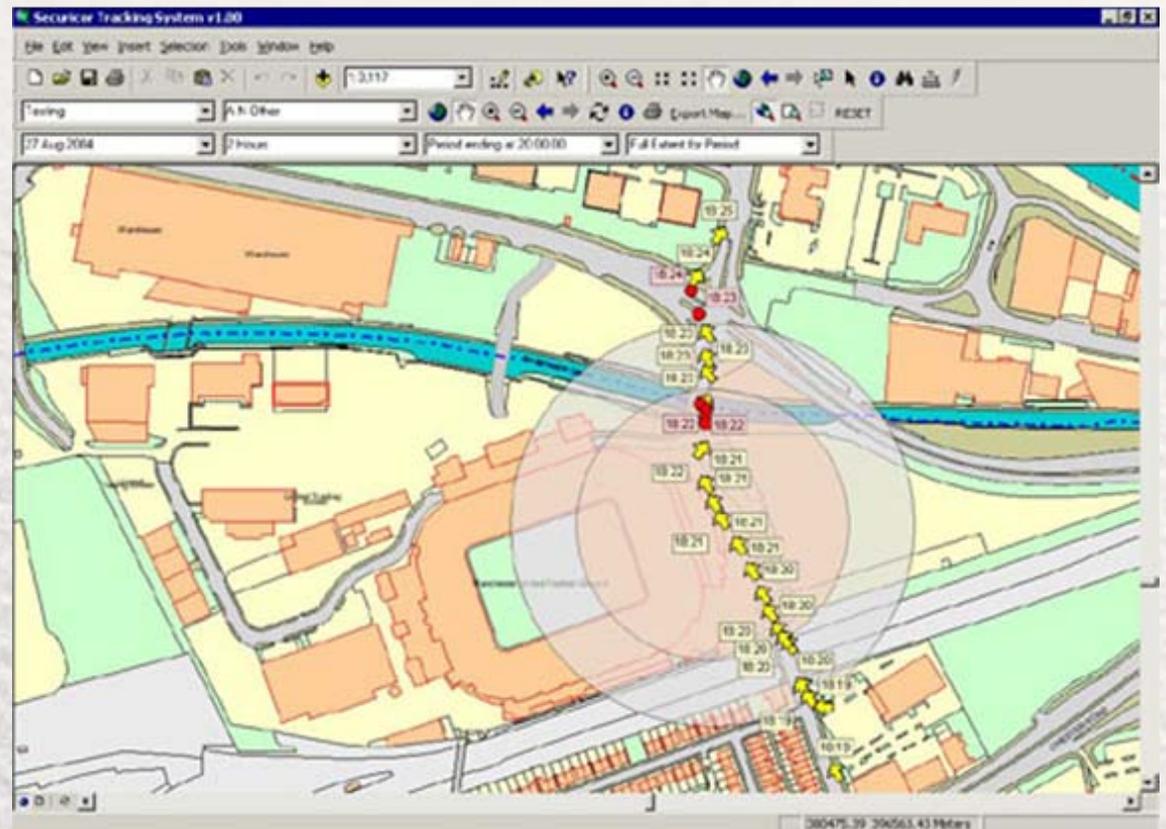
- Location data is not transmitted in real time (even though the tracking device may have the capacity to transmit it)
- Instead it is stored and transmitted retrospectively when the tracking device is attached to a fixed telephone line
- Cheaper to operate – but location data generally not available to supervisors until the next day

Hybrid tracking

- The tracking device contains GSM or GPRS technology and is capable of behaving in active mode
- But as long as the offender is compliant, the device behaves in passive mode and will transmit data retrospectively
- If the offender violates the tracking conditions (e.g. enters a prohibited area), the tracking device transmits the violation in real time and switches to active mode until the violation is cleared

Displaying location data

- Whatever the mode of transmission, the end product is a detailed map showing the offender's movements while tracked



The uses of tracking

The uses of tracking – 1

- The most obvious application is to monitor compliance with specific requirements:
 - to observe a curfew
 - to stay out of an exclusion zone
 - to attend specified programmes or other activities
- The supervisor can fill the offender's schedule with requirements and monitor them all using tracking

The uses of tracking – 2

- Tracking could in theory be used to watch an offender's movements all the time, as they happen...
- But if you need to know where people are, 24 hours a day, surely they should be in prison anyway
- And to have one person watching a screen all day would be extremely staff-intensive

The uses of tracking – 3

- Location data can be useful to supervisors in managing offender programmes
- The data can be useful to the police in confirming offender involvement in other crimes – or eliminating them from the investigation
- And the sense of being watched may potentially deter offenders from further crimes

Some issues

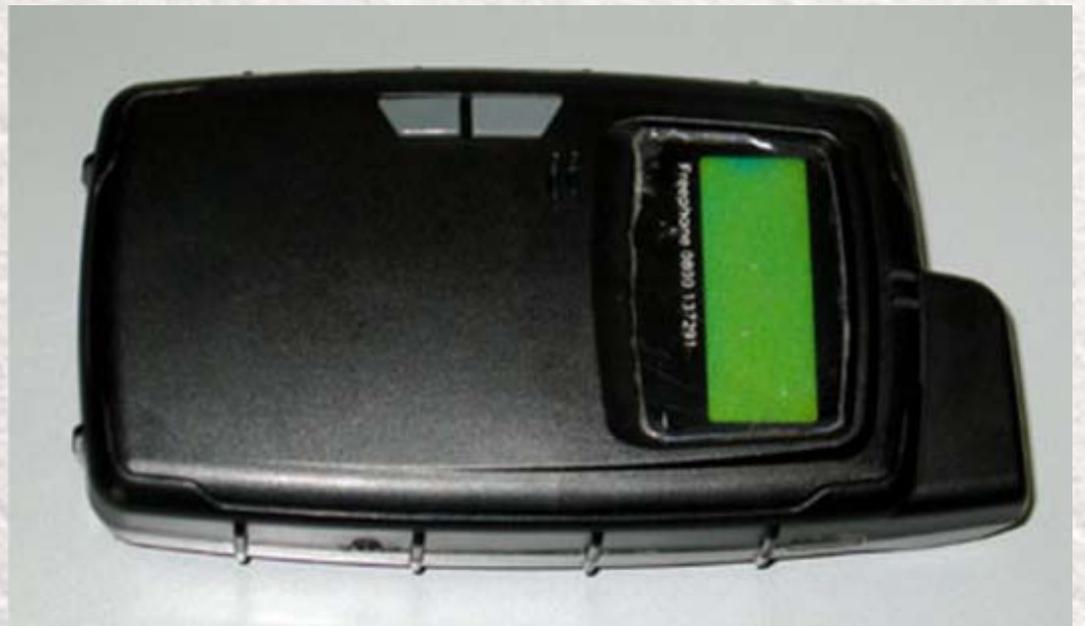
1- The tracking device

- The device clearly has to stay with the offender while he or she is being tracked
- This can be achieved with either a two-piece or a one-piece device
- Each solution has advantages and disadvantages

The two-piece device



- Non-removable standard radio transmitter; removable tracking device



The one-piece device

- Non-removable tracking device



2 – The battery

- The tracking device is battery-powered and needs recharging overnight. Two issues:
 - How long does it take to recharge?
 - How long does the battery last before it needs recharging?

3 – The limitations of GPS

- In ideal conditions GPS can be very accurate.
But...

- It doesn't work indoors or underground
- Even outdoors the signal can be patchy
- Sometimes the signal is inaccurate ("GPS drift")

- ...All of which reduces confidence in GPS and makes agencies less likely to use it

4 – The cost

- In England and Wales, tracking is still much more expensive than standard RF monitoring
- This rules out national implementation in the near future, or its use on a large scale anywhere
- So although tracking can do everything that RF monitoring can do and more, it's not going to replace RF monitoring where it's used at present

5 – Public expectations

- Tracking is capable of so much – but it does not have the incapacitative effect of prison
- There's a disaster in the making if a child sex offender slips the leash and abducts a child
- Tracking works best as a means of supporting other interventions
- Public and political expectations of tracking have to be managed

Conclusion

- In 2004 the previous Home Secretary, David Blunkett, described tracking as “the future of electronic monitoring”
- He may be right: but there is still a gap between what the technology can deliver and what we want it to do; and between what it costs and what we can afford
- For now, the best we can do is try it out on a small scale, and see how well it works