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## Satellite Tracking Of Offenders: A Study Of The Pilots In England And Wales

Stephen Shute

Professor of Criminal Law and Criminal Justice

Birmingham Law School, University of Birmingham

This process study evaluates the satellite tracking pilots that took place between September 2004 and June 2006 in three areas of England and Wales. The findings describe the implementation of the pilots, the offenders who were satellite tracked, and the experiences and views of criminal justice practitioners involved in the pilots.

### Key Points

- Satellite tracking was piloted, from September 2004 to June 2006, in three areas of England: Greater Manchester, Hampshire, and the West Midlands.
- The objectives of the satellite tracking pilots were 'to gain practical experience of tracking technology'; 'to learn how to implement and target tracking effectively'; and 'to introduce a new sentence – a stand-alone exclusion order'. The first two of these goals were substantially achieved, as was the third, although there was limited use of the new order.
- The average daily cost charged by monitoring companies to satellite track an offender 'passively' was about £42.
- The evaluation identified a mismatch between what the pilot areas sought from satellite tracking and what the monitoring companies had been resourced to provide.
- There were differences in the use of exclusion zones for satellite tracked offenders amongst the different pilot areas and variation as to whether these were monitored by satellite tracking. There were also differences in the use of curfews.
- Despite the limited use of court-ordered satellite tracking, the magistrates and District Judges who were interviewed regarded tracking as a helpful sentencing option.
- Field monitoring officers who were interviewed considered that the satellite tracking equipment had performed well. Offender managers were generally less enthusiastic about the equipment's performance. Nonetheless most offender managers were positive about the benefits of satellite tracking. There was another group, however, that regarded it as more of a hindrance than a help.
- When offenders were asked directly if satellite tracking had helped them 'to stay out of trouble', 46% replied 'yes'.
- The report describes some outcomes of offenders who took part in the pilots including: analysis of breach/recall/revocation data, further offences, and time spent unlawfully at large. 58% of the offenders were either recalled for breaching their licence/notice of supervision or had their community penalty revoked whilst being satellite tracked.
- The findings of this study are part of a description of what happened in the pilots. They have implications for any possible future national roll-out of satellite tracking.

The views expressed in this Research Summary are those of the author, not necessarily those of the Ministry of Justice (nor do they reflect Government policy)

## Satellite tracking pilots in England and Wales

Satellite tracking represents a new generation of electronic monitoring using satellite technology (and, in some cases, mobile phone technology) to monitor the location of offenders. It was piloted, from September 2004 to June 2006, in three areas of England: Greater Manchester, Hampshire and the West Midlands.

The objectives of the pilots were to:

- gain practical experience of tracking technology;
- learn how to implement and target tracking effectively; and
- introduce a new community sentence – the ‘exclusion order’.

When the pilots were launched in September 2004, it was suggested in the Government’s press release that satellite tracking would help to ‘deter offenders from breaking the law’ as well as providing public protection agencies with ‘extra intelligence’ about offenders’ movements which could ensure that there was a swift intervention if restrictions were ‘being flouted’.<sup>1</sup>

## Aims of the evaluation

The aims of the evaluation were to:

- describe and examine critically the implementation of the satellite tracking pilot schemes in the three areas;
- assess the technical performance of the equipment;
- examine the views of offenders;
- examine the views of key practitioners from the relevant criminal justice agencies;<sup>2</sup>
- assess (so far as was possible) the effect that tracking might have on offenders; and
- examine costs.

1 Home Office Press Release, 2 September 2004.

2 It had been also planned to interview 30 victims. However, because the three pilot areas in the end made little use of satellite tracking to protect ‘identified victims’, only four victims were interviewed. Their responses have not been analysed in this report.

## Programme of research

The main fieldwork phase of the study began in February 2005 and was largely concluded by the end of March 2006. All offenders from the three areas who had a satellite tracking requirement in their licence/notice of supervision or community order from September 2004 to 31 December 2005 were included: 336 offenders in all. The end date of 31 December 2005 refers to the commencement of a satellite tracking requirement not its conclusion and 81 of the 336 offenders continued to be satellite tracked after that date. Eleven of these offenders did not have their tracking equipment removed until the pilots ended in June 2006. Two-hundred-and-ninety-two of the 336 tracked offenders were interviewed.<sup>3</sup>

There were eight main sources of data for the research:

- files and electronic records held on tracked offenders by the probation service and the Youth Offending Teams. Key documents included: previous convictions, pre-sentence reports, licences/notices of supervision or court papers, risk assessments and breach documents;
- files and electronic records held by the three monitoring companies;
- information on tracked offenders held by the Parole Board;
- information on tracked offenders held by the Release and Recall Section of the Home Office;
- information on tracked offenders held on the Home Office Police National Computer;
- semi-structured, tape-recorded interviews carried out with 292 offenders (87% of those tracked), 75 staff employed by the various criminal justice agencies (including the national Tracking Pilot Project manager in the Home Office,<sup>4</sup> the local project managers, other members of the local project boards,

3 As this number was sufficiently representative of the larger group, missing data have been treated as missing at random.

4 Responsibility for offender management moved to the new Ministry of Justice on 9 May 2007. However, at the time of interview, responsibility lay with the Home Office. Other references made to the Home Office in this report reflect the situation at the time of the evaluation.

probation officers, police officers, YOT workers and senior staff employed by the monitoring companies), 11 magistrates and District Judges, and ten ‘field monitoring officers’ employed by the monitoring companies to fit and maintain satellite tracking equipment;

- observation of meetings held locally and nationally; and
- responses to questionnaires which were completed by local project managers.

The analysis that follows relates to ‘first periods’ on satellite tracking. Fifty of the 336 tracked offenders were released on other periods of satellite tracking during the evaluation period following their recall/revocation: 48 had two periods of tracking and two had three periods of tracking. Data on the 336 tracked offenders are reported as actual percentages and, because they are based on a census rather than a sub-sample of a larger group, are not supported by tests for statistical significance. The time-scale for the research meant that it was not possible to carry out a full reconviction study. Because of the heterogeneity of the tracked offenders and the special characteristics of the locally driven ‘prolific and priority offender’ (PPO) schemes from which many of the tracked offenders were selected, it was not possible to construct a control group.<sup>5</sup> Since offenders were not selected randomly for satellite tracking by the three pilot areas but were chosen according to certain criteria, the findings of this study cannot be applied to offenders in general.

## Technology used

Three different monitoring companies were involved in fitting the satellite tracking equipment at the start of the pilots with just two at the end. In all cases, the tracking equipment consisted of two separate devices: an ankle tag and a portable tracking unit

that the offender had to keep with him at all times. It was the portable tracking unit which received the Global Positioning System (GPS) signals and was thus able to monitor the offender’s shifting location. Details were stored in the unit’s built-in memory and periodically uploaded (by landline or mobile phone technology, depending on the equipment used) to the monitoring company. The ankle tag (known as a ‘personal identification device’ or ‘PID’) was fitted to the offender’s leg. If the offender forgot to keep his tracking unit with him or if the tag were removed or damaged, the tracking unit would transmit an alert to the monitoring company.

The technology could be used to provide location information in respect of an offender’s compliance with a defined exclusion zone only or to provide ‘general location information’ concerning the offender’s movements where no exclusion zone had been imposed or to do both things together. Exclusion zones were imposed on offenders in licences/notices of supervision or court orders so as to restrict their movements and keep them out of areas where they were considered most likely to re-offend. In May 2005 it became an offence for an excluded person found in an exclusion zone knowingly to contravene a direction by a police officer to leave that zone.

During the evaluation period, 24 per cent (80/336) of offenders were tracked on the basis that, other than in response to a specific request, location information would be provided only if the offender had been detected inside an electronically monitored exclusion zone; 12 per cent (39/336) were tracked on the basis that the monitoring company would provide ‘general whereabouts’ information in addition to information about any incursions into an electronically monitored exclusion zone; and 65 per cent (217/336) were tracked on the basis that the monitoring company would only provide ‘general whereabouts’ information (see Table 1 below).

Two ‘modes’ of satellite tracking were used during the pilots:

- ‘Passive’ tracking: With ‘passive’ tracking, information was uploaded from the tracking unit to the monitoring company one or more

5 For recent Home Office research into the PPO schemes, see Dawson, P. and Cuppleditch, L. (2007) *An Impact Assessment of the Prolific and Other Priority Offender Programme*, Home Office Online Report 08/07; and Dawson, P. (2007) *The National PPO Evaluation – Research to Inform and Guide Practice*, Home Office Online Report 09/07. Both are available from <http://www.homeoffice.gsi.gov.uk/rds>.

**Table 1: Location information provided by the monitoring companies for satellite-tracked offenders**

Location information	Adult offenders	Young offenders	Total	Per cent
Exclusion Zone Only	60	20	80 *	24
Exclusion Zone and 'General Whereabouts'	26	13	39 **	12
'General Whereabouts' Only	182	35	217 ***	65
<b>Total</b>	<b>268</b>	<b>68</b>	<b>336</b>	

Note: Percentages do not add up to 100 due to rounding.

\* In 20 of these cases (seven adults and 13 young offenders) the offender was satellite tracked as part of a community penalty. Since the purpose of court-ordered satellite tracking was to monitor compliance with a court-ordered exclusion requirement, it was not thought legally possible to obtain 'general whereabouts' information on these offenders.

\*\* In 15 of these cases the offender was 'hybrid' tracked' (explained below).

\*\*\* In 12 of these cases the offender had an exclusion zone but that zone was not monitored by satellite tracking technology via a specially created GPS monitoring zone (see below).

times during the day. That information was then made available by the monitoring company to the offender manager on a daily basis at an agreed time. The consequence of adopting this approach was that information received by offender managers could be up to 24 hours old. 'Passive' tracking was the cheapest form of tracking to provide and could be used with or without an exclusion zone.

- **'Hybrid' tracking:** 'Hybrid' tracking, in contrast, could be used only with an exclusion zone. So long as offenders complied with the requirements of the zone and did not tamper with their equipment or allow their tracking units to become separated from their ankle tags, 'hybrid' tracking worked in an identical manner to 'passive' tracking. In other words, data stored and processed by offenders' tracking units were uploaded retrospectively and then communicated to offender managers by the monitoring company on a daily basis at an agreed time. The difference was that under 'hybrid' tracking the offender's tracking unit would be programmed to transmit a 'real' time alert as soon as any violation occurred rather than having to wait until the next scheduled upload, as was the case with 'passive' tracking. Information about those violations could then be passed immediately by the monitoring company to an offender manager or the police. Since violations might occur at any time, 'hybrid' tracking required an operator to be available in the monitoring company's control

centre at all times to respond to any alerts. Furthermore, if more than one offender were being 'hybrid' tracked, several operators might be needed just in case breaches occurred simultaneously. This made 'hybrid' tracking a more expensive option than 'passive' tracking.

*Active tracking*, whereby an offender's general movements are followed in 'real' time, was not used at any stage during the pilots due to the high level of resources needed for its operation.

Three different makes of tracking equipment were used during the pilots:

**iSECUREtrac (model 2150):** This equipment required a landline installed in the offender's home for the tracking unit to upload its information. Uploading would occur every 24 hours when the offender placed the device in a 'docking unit' for recharging. Because the tracking unit was not connected to the cellular system, it was capable of 'passive' tracking only.

**ElmoTech STaR:** This tracking unit was linked to cellular networks and could therefore be used for 'hybrid' tracking as well as for 'passive' tracking. It was also able to provide 'secondary location data' based on cell sites concerning an offender's whereabouts. Thus, if the tracking unit lost GPS signals, some location information would still be available, although the 'fix' was not as precise as that possible with GPS. The *ElmoTech STaR* equipment could be programmed to communicate

with the offender by means of a bleep, a light or a text message on its integrated display panel. An improved version of the *STaR* unit (*STaR II*) was gradually introduced during the second part of 2005. With its more sensitive microchips, it was much better at receiving GPS signals than its predecessor and hence provided better quality location information and more accurate plots. When in ‘passive’ mode, the *STaR* unit uploaded its information to the control centre four times a day.

**Benefon:** Resembling a somewhat old-fashioned mobile phone, the *Benefon*, like the *STaR* unit, was connected to the cellular network and so had the capacity for either ‘passive’ or ‘hybrid’ tracking, although it was not used to provide ‘hybrid’ tracking during the period of the research. The cellular link also meant that the offender could be contacted on the tracking unit by a text message or by a phone call. The messaging system was not installed during the pilot but offenders were occasionally phoned on the unit by the monitoring company to ask them about suspected ‘PID leave violations’ (i.e. where the tracking unit appeared to have been separated from the ankle tag by more than the permitted distance). When in ‘passive’ mode, the *Benefon* was programmed to upload its information to the monitoring company four times a day.

The types of equipment used during the pilots and their capacities are summarised in Table 2 below.

### Capabilities and limitations of the technology

The Home Office, which had tested the satellite tracking equipment prior to the start of the pilot, understood both its capabilities and its limitations, as did the monitoring companies and at least some staff in the various criminal justice agencies in the three pilot areas. In ideal conditions, the technology was capable of pin-pointing the location of a tracking unit to an accuracy of between two and ten metres. However, conditions were not always ideal and it was recognised that tracking units would have difficulty picking up signals when located within buildings and that, even when carried in the street, the presence of tall structures could impede or distort the signals that they were able to receive. It was also recognised that offenders who were determined to commit crime could forcibly remove their ankle tags or leave their tracking units behind, although such action would be detected.

### Target offender groups

Four offender groups were targeted for satellite tracking during the life of the pilots, although not all were tracked from the start:

- ‘prolific and priority offenders’;
- sex offenders;
- violent offenders; and
- domestic violence offenders.

**Table 2: Functions and types of satellite tracking equipment used during the pilots**

Type of equipment	Uploading mechanism	Uploading interval	Tracking ‘modes’ used	Interactive capability?	Area/period used
<i>iSECUREtrac (model 2150)</i>	Landline	24 hours	‘Passive’ only	No	<i>West Midlands:</i> Sept 2004-Sept 2005; <i>Hampshire:</i> Sept 2004-April 2005
<i>ElmoTech STaR</i>	Cellular network	Four times a day (in ‘passive’ mode)	‘Passive’, ‘hybrid’	Yes	<i>Greater Manchester:</i> Sept 2004-June 2006; <i>Hampshire:</i> April 2005-June 2006
<i>Benefon</i>	Cellular network	Four times a day (in ‘passive’ mode)	‘Passive’ only	Yes	<i>West Midlands:</i> Sept 2005-June 2006

Satellite tracking was used not just on adult offenders but also on young offenders (those under the age of 18) who were subject to the Intensive Supervision and Surveillance Programme (ISSP), some of whom did not fall into the above categories.

## Contractual arrangements

The contractual arrangements for satellite tracking caused a number of problems during the pilots. One arose from the fact that there was a mismatch between what the pilot areas sought from satellite tracking and what the monitoring companies had been resourced to provide. The monitoring companies' contractual expectation was that satellite tracking would be a high-volume, largely automated service. They envisaged daily 'compliance' reports which could be generated electronically and would not require much, if any, manual intervention. Occasionally, these reports – which would provide confirmation that the equipment was working properly and would alert the offender manager of any violations that had been detected – could be augmented by the provision of maps, but that would be on an 'exception reporting basis' only. This assumption formed the basis of the monitoring companies' costings.

On the other hand, two of the pilot areas expected daily reports containing information and maps which had been manually prepared and checked by control centre staff. This mismatch became even more apparent after April 2005 when the tracking service started to be delivered under the new general electronic monitoring contracts which had been signed with the Home Office. The service requirements for these contracts had been set out several months before the start of the pilots in 2004 and therefore did not reflect the experience of the pilots or define certain key aspects of the service. For the most part, the monitoring companies responded to this situation by providing a higher level of service on a 'grace and favour' basis. But it is clear from interviews conducted with the contractors that such an approach could not be sustained over the longer term.

Thinking not just of the pilots but also of the viability of any possible national roll-out, one senior monitoring company manager explained this in the following way:

*'I cannot carry on developing [location] reports by 10 am every day for every single offender and e-mailing them out and double checking them for accuracy before they go ... You couldn't run 2,000 offenders in that way. Well, you could, but the service wouldn't be cost effective. You'd have to have a new building for all the new people ... [and] it's not just the production of [location] reports, it's the queries you've got coming back round the rest of the day, so the workforce would be untenable.'*

One solution to some of the contractual problems would be to provide direct web-based access to staff in the various criminal justice agencies and not to require the monitoring companies to process manually information that is uploaded from offenders' satellite tracking units. All parties were keen to explore this option in any future development of satellite tracking, although the extra costs and resource implications to the probation service and police would need to be considered.

## Costs of satellite tracking

- The average daily cost charged by monitoring companies to satellite track an offender 'passively' was about £42.
- Offenders (excluding those who had been 'hybrid' tracked) spent an average of 72 days on tracking, therefore the average cost charged by the monitoring companies to satellite track an offender 'passively' was £3,024.

These were the costs charged by the monitoring companies for providing the tracking service. They do not include the costs to the probation service or the Youth Offending Teams (YOTs) of supervising the offenders or interpreting the data received from the monitoring companies. The costs charged by the monitoring companies for providing satellite tracking during the pilots are unlikely to be representative of the costs that the monitoring companies would

charge should there be a national roll-out of satellite tracking. Costs would depend on the level of service required from the monitoring companies and there would be economies of scale which were not achievable in the context of a pilot.

### The use of ‘hybrid’ and ‘passive’ tracking

Ninety-six per cent (321/336) of satellite-tracked offenders were ‘passively’ tracked; only four per cent (15/336) were ‘hybrid’ tracked. The limited use made of ‘hybrid’ tracking was in part due to local stakeholder concerns about the tracking equipment and the systems of communication where an ‘identified victim’ was being protected by the exclusion zone.

### Who was satellite tracked and what risk did these offenders pose?

In total, from September 2004 to December 2006, 336 offenders were ordered to be satellite tracked. Of these, 94 per cent (316) had been released from prison on a licence/notice of supervision and six per cent (20) were tracked as part of a non-custodial sentence. Table 3 provides a breakdown of the type of licence/notice of supervision/community penalty received.

Of the 336 satellite-tracked offenders:

- 80 per cent (268) were adults; 20 per cent (68) were young offenders;
- the two oldest were aged 70 and the five youngest were aged 13;

- 99 per cent (331) were male;
- 72 per cent (242) were ‘prolific and priority offenders’: 81 per cent (218/268) of adult offenders and 35 per cent (24/68) of young offenders;
- 35 per cent (116) had been convicted of burglary, 17 per cent (57) of robbery, 13 per cent (43) of violent offences, 12 per cent (39) of sexual offences, nine per cent (31) of motor vehicle offences, seven per cent (23) of offences of theft, handling or fraud, and the remainder (8%, N=27) of possession of an offensive weapon or a firearm, criminal damage, breach of an ASBO or bail, or perverting the course of justice.

Satellite tracking was targeted primarily at high-risk offenders with prolific offending histories: only four per cent (11/268) of adult satellite-tracked offenders were not considered ‘high’ risk by at least one of the following risk assessment tools: Offender Group Reconviction Scale (OGRS), Offender Risk Assessment System (OASys) risk of reconviction, or OASys risk of harm.

### How was the risk of tracked offenders’ re-offending managed?

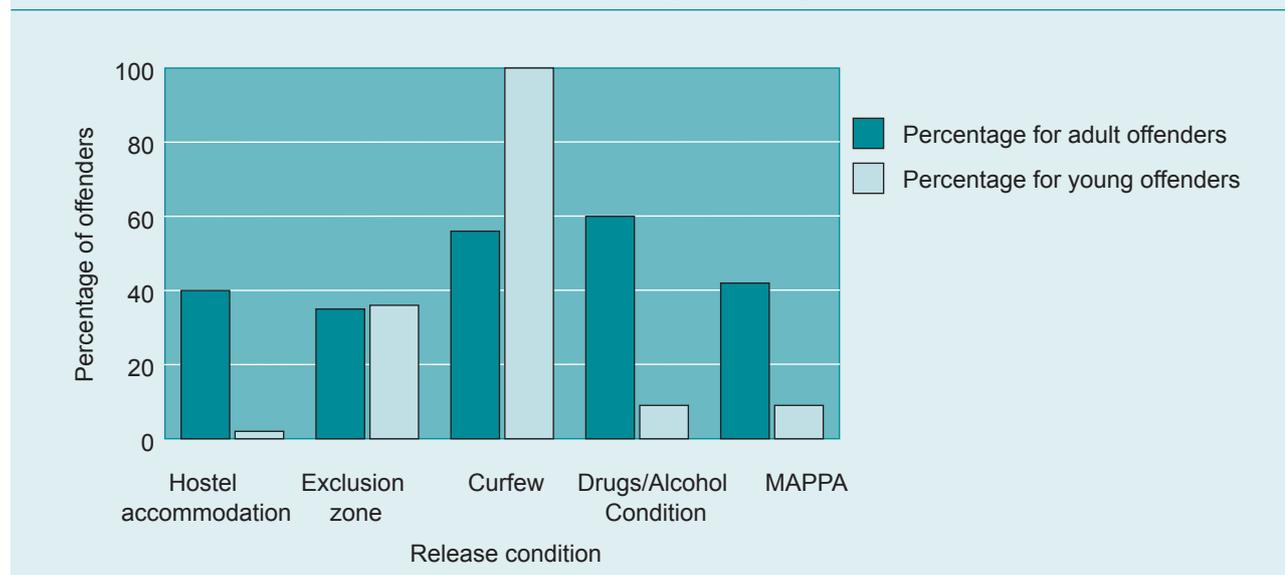
Satellite tracking was used as an ‘additional tool’ to other risk management techniques such as the use of hostels (i.e. ‘approved premises’), exclusion zones, curfews, drugs conditions and oversight under the Multi-Agency Public Protection Arrangements (MAPPA) (see Figure 1). Figure 1 only gives information about tracked offenders released from custody, since those given satellite

**Table 3: Type of licence/notice of supervision/community penalty for satellite-tracked offenders**

Type of licence/community penalty	Adult offenders	Young offenders	Total	Per cent
Parole licence	11	0	11	3
Non-parole licence	56	0	56	17
ACR licence	173	1	174	52
Notice of supervision (18- to 21-year-olds)	21	-	21	6
DTO notice of supervision (YOT: 10- to 17-year-olds)	-	54	54	16
Community penalty	7	13	20	6
<b>Total</b>	<b>268</b>	<b>68</b>	<b>336</b>	<b>100</b>

Note: ACR = Automatic conditional release; DTO = Detention and Training Order.

Figure 1: Release conditions for satellite-tracked offenders on licence/notice of supervision (N=261 for adult offenders and 55 for young offenders)



tracking as part of a community penalty all had to have an exclusion zone.

#### Approved accommodation:

Forty per cent (104/261) of satellite-tracked adult offenders who were supervised on licence/notice of supervision were required to live in a hostel on their release from custody. Only one of the 55 young offenders who was released from custody had this requirement.

#### Exclusion zones:

Guidance given by the Home Office, both at the start of the pilots and at the end of the first year of their operation, stated that for tracked offenders released on licence/notice of supervision it was 'envisaged that supervising probation officers or ISSP/YOT will normally request an electronic monitoring condition in support of an exclusion zone condition or non-contact condition'.<sup>6</sup> Exclusion zones were, however, used in only 35 per cent (111/316) of cases where satellite-tracked offenders were released on licence/notice of supervision: 35 per cent (91/261) of adult offenders and 36 per cent (20/55) of young

offenders.<sup>7</sup> The size of the zones ranged from a single shop to a single street to the whole of a relatively large town.

There was considerable variation in the use of exclusion zones between the different pilot areas: 93 per cent (50/54) of satellite-tracked adult PPOs released from custody in one area had an exclusion condition in their licence/notice of supervision, compared with eight per cent (12/144) and one out of 16 in the other two areas.<sup>8</sup> Practice also varied over whether exclusion zones were always monitored by means of specially created satellite tracking (GPS) 'monitoring zones'. In two of the areas all offenders with exclusion zones in their licences/notices of supervision had those zones monitored in this way, using 'passive' GPS technology. But in the third area – the only area where 'hybrid' tracking was used during the period of the research – 40 per cent (12/30) of tracked offenders with exclusion zones in their licences/notices of supervision did not have those zones so monitored (whether 'passively' or in 'hybrid' mode). In some cases (N=6) this was because the excluded

6 See *Guidance on the Piloting of Satellite Tracking Technology to Monitor Exclusion Orders and Prisoners on Licence* (London: Home Office, 24 August 2004 and 25 August 2005), section 7. The Guidance added that, where a non-contact condition was requested, it was 'also envisaged that in most circumstances ... the condition would be supported by an exclusion zone'.

7 These figures relate only to exclusion requirements in licences/notice of supervision. The 20 offenders who were required to be satellite tracked as part of a court order had to have an 'exclusion order' before they could be eligible for satellite tracking.

8 Not surprisingly, all the domestic violence offenders (N = 4) who were satellite tracked following their release from custody had an exclusion condition, as did 56 per cent (19/34) of the tracked adult sex offenders.

area was regarded as too small for an effective electronic-monitoring zone to be constructed.<sup>9</sup> In one case, it was because the excluded area was outside the jurisdictional boundaries of the local probation service. For the remaining cases (N=5), however, no conclusive evidence was available at the time of the evaluation to explain why they had not been so monitored.<sup>10</sup>

#### Curfews:

Curfews are regarded as another way of controlling risk. One of the perceived advantages is that they keep offenders indoors at times when many offenders are thought to be most likely to re-offend. Home Office guidance explained that it was 'likely in most cases that there will also be a curfew period specified'.<sup>11</sup>

Curfews can be imposed either as a specific condition in a licence/notice of supervision or as a condition of hostel residence. The hostels which housed satellite-tracked offenders during the pilots all imposed curfews on their residents, and the practice in YOT cases was to impose a curfew on all young offenders who were undergoing ISSP. The use of curfews for adult offenders, on the other hand, differed markedly between the three pilot areas. One area used curfews routinely for all satellite-tracked adult offenders released on licence/notice of supervision (N=56), whereas in a second area they were used with 76 per cent (22/29) of adult-tracked offenders released on licence/notice of supervision and in the third area they were used with 38 per cent (67/176).

Overall, 63 per cent (200/316) of satellite-tracked offenders supervised on licence/notice of supervision had a curfew condition: 56 per cent (145/261) of adult tracked offenders and all of the 55 young tracked offenders.<sup>12</sup>

9 The *Service Processes* for satellite tracking stated that, because of the known limitations in accuracy of GPS plots, any exclusion zone 'should be at least 100 metres in diameter'. See Home Office (2004) *EM Tracking Pilots: Service Processes, Appendix B*.

10 Of the 18 tracked offenders in this area who did have their exclusion zones monitored by means of an electronically created GPS monitoring zone, 15 were 'hybrid' tracked and three were tracked 'passively'.

11 See *Guidance on the Piloting of Satellite Tracking Technology to Monitor Exclusion Orders and Prisoners on Licence* (2004 and 2005).

12 Of the 20 offenders who were satellite tracked as part of a court order, 15 were made subject to a curfew requirement: all 13 of the young offenders and two of the seven adult offenders.

#### MAPPA:

A further important way of managing high-risk offenders is by engaging the protective apparatus of MAPPA. The function of MAPPA is to 'identify who may pose a risk of harm; share relevant information about them; [and] find ways to manage that risk effectively, protecting victims and reducing further harm'.<sup>13</sup> MAPPA supervision operates on three levels, depending on the risk that the offender is considered to pose:

**Level 1:** Ordinary Risk Management – for those whose risk is considered manageable without a significant degree of inter-agency involvement;

**Level 2:** Local Inter-Agency Risk Management – for those whose risk is such that the 'active involvement' of more than one agency is required but for whom 'the level of risk or the complexity of managing the risk is not so great as to require referral to the Level 3';

**Level 3:** Multi-Agency Public Protection Panel (MAPPP) – for the so-called 'critical few'.

Of the 336 satellite-tracked offenders, 36 per cent (120/336) were regarded as sufficiently risky to require MAPPA oversight: 42 per cent (112/268) of adult offenders and 12 per cent (8/68) of young offenders (see Table 4 on Page 10).<sup>14</sup> All of the sex (N=39) and violent (N=9) offenders who were satellite tracked were subject to oversight by MAPPA, compared with 26 per cent (64/242) of PPOs.

Nationally, there were 47,653 offenders in the community within the remit of MAPPA in 2005-2006: 33,870 (71%) at Level 1; 12,505 (26%) at Level 2; and 1,278 (3%) at Level 3.<sup>15</sup>

13 See HM Prison Service, ACPO, National Probation Service, *Preventing Serious Harm: Managing risk through MAPPA – protecting communities from violent and sexual offenders* [online information sheet]. Available from: <http://www.probation.homeoffice.gov.uk/files/pdf/Preventing%20Serious%20Harm%20Leaflet.pdf>

14 The figures in Table 4 are for all 336 offenders, including those tracked as part of a community penalty (N=20). The percentages thus differ from those in Figure 1 which relate only to offenders who were released from custody on a licence/notice of supervision (N=316).

15 Scott, J., Grange, T. and Robson, T. (2007) *MAPPA – The First Five Years: A National Overview of the Multi-Agency Public Protection Arrangements 2001-2006*. Available from: <http://www.probation.homeoffice.gov.uk/files/pdf/MAPPA%20-%20The%20First%20Five%20Years.pdf>

Table 4: MAPPAs status of satellite-tracked offenders

MAPPA status	Adult offenders	Young offenders	Total	Per cent
<b>MAPPA case</b>	<b>112 (42%)</b>	<b>8 (12%)</b>	<b>120</b>	<b>36</b>
MAPPA Level 1	48	2	50	15
MAPPA Level 2	37	6	43	13
MAPPA Level 3	24	0	24	7
CPPC	3	0	3	1
<b>Not MAPPA case</b>	<b>156</b>	<b>60</b>	<b>216</b>	<b>64</b>
<b>Total</b>	<b>268</b>	<b>68</b>	<b>336</b>	<b>100</b>

Note: CPPC = Critical Public Protection Case (known as the 'critical few of the critical few', these are the very small number of MAPPA Level 3 offenders whose risk is such that its management requires national co-ordination).

## Satellite tracking outcomes

In common with a number of other techniques of offender management, both breach action and completion of satellite tracking could be regarded as a success. If based on information obtained from satellite tracking, breach action showed that the technology was able to indicate inappropriate behaviour which might otherwise have gone undetected. Completion showed that an offender with a high probability of re-offending had managed to last the course (although not necessarily remained crime free).

Analysis of the recall/revocation data for tracked offenders revealed that:

- 58 per cent (194/336) were either recalled to prison for breaching their licence/notice of supervision or had their community penalty revoked during the period that they had been ordered to be satellite tracked: 61 per cent (163/268) of adult tracked offenders and 46 per cent (31/68) of young tracked offenders; and
- tracked offenders with the greatest probability of recall/revocation during the period that they had been ordered to be satellite tracked were adult 'prolific and priority offenders' who had been ordered to live in a hostel, 82 per cent (50/61) of whom were recalled/revoked.

## Reasons for recall/revocation

- 19 per cent (36/194) of the satellite-tracked offenders who were recalled/revoked during the period they had been ordered to be tracked were recalled/revoked solely on the basis of tracking evidence.
- A further 26 per cent (51/194) were recalled/revoked on evidence from tracking and from other sources.
- For 55 per cent (107/194) tracking evidence played no part in the recorded reasons for the recall/revocation.

Where breach action was based on satellite tracking evidence, it was founded on a violation of one of the various satellite tracking requirements (71/194, 37% of all recall/revocation cases), an incursion into an exclusion zone which had been detected by satellite tracking (9/194, 5% of all recall/revocation cases), or a combination of the two (7/194, 4% of all recall/revocation cases). Violations of the satellite-tracking requirements included refusing to allow the equipment to be fitted, damaging or tampering with the equipment, removing the 'personal identification device' (PID) from ankle, allowing the battery to shut down, allowing the tracking unit to become separated from the PID, or failing to 'allow whereabouts to be monitored by GPS'.

## Offenders unlawfully at large

Once an offender is recalled from a licence/notice of supervision, an arrest warrant will be issued but it may take some time before that offender is then apprehended by the police and returned to custody. This provides an important reminder of the limitations of satellite tracking, and indeed of community supervision generally, whatever its level of intensity. Once unlawfully at large, if an offender does not continue to carry a tracking unit or keep it charged during this time, it will not be possible to monitor the offender electronically and any protection that satellite tracking can provide will be lost.

The evaluation of the satellite tracking pilots found that 32 per cent (48/149) of adult satellite-tracked offenders who were breached and recalled via the Release and Recall Section of the Home Office during their period of tracking spent some time unlawfully at large:

- 12 tracked offenders were unlawfully at large for between one day and six days;
- 18 tracked offenders were unlawfully at large for between seven days and 27 days;
- 13 tracked offenders were unlawfully at large for between four weeks and 12 weeks; and
- five tracked offenders were unlawfully at large for between 12 weeks and 34 weeks.

The period of time that satellite-tracked offenders spent unlawfully at large ranged from between one and 233 days.

This is a description of what happened to the tracked offenders who were included in the evaluation; conclusions relating to the efficacy of satellite tracking whilst these offenders were being monitored by the technology should not be drawn from these figures.

In its recent audit of the criminal justice system, the Government acknowledged that 'it still takes too long in some areas for offenders to be returned to prison' once a decision on recall is made and pledged to 'speed the return to custody of offenders who breach their licence conditions, including a tough new target

for serious offenders'.<sup>16</sup>

## Further offences

Reconviction data from the Home Office Police National Computer (HOPNC) as of 30 September 2006 were examined for all 336 tracked offenders. Adopting this strategy allowed a minimum of three months for convictions relating to offenders who had finished their tracking in June 2006 to be recorded on the HOPNC, a minimum of four months for offenders who had finished their tracking in May 2006, a minimum of five months for offenders who had finished their tracking in April 2006, and so on. If a longer period had been available, more convictions would almost certainly have been detected.

- 26 per cent (86/336) of satellite-tracked offenders were either reconvicted for an offence committed during their period of tracking (17%: 58/336) or while unlawfully at large following their recall/revocation (4%: 12/336) or were considered by their offender managers (in giving reasons for taking breach action) to have committed an offence during their period of tracking (5%: 16/336).
- 72 per cent (42/58) of those who were convicted of a further offence committed during their satellite-tracked period received a custodial sentence and 28 per cent (16/58) a non-custodial penalty. Ten out of 12 of those who were convicted of a further offence committed while unlawfully at large received a custodial sentence and two out of 12 a non-custodial penalty.
- Of the 42 tracked offenders who received custodial sentences for offences committed during their satellite-tracked period, one committed a very serious offence for which he received a sentence of life imprisonment. Of the ten tracked offenders who received custodial sentences for an offence committed while unlawfully at large, two committed very

<sup>16</sup> See *Rebalancing the Criminal Justice System in Favour of the Law-abiding Majority: Cutting Crime, Reducing Reoffending and Protecting the Public*, Home Office, July 2006, Page 21, para. 2.45 and Page 5.

serious offences for which they received indeterminate sentences of imprisonment for the protection of the public.

## Court-ordered satellite tracking

Only 20 offenders (6% of the 336 offenders who were satellite tracked) were satellite tracked as part of a community penalty (13 young offenders and seven adults). The reasons why so few offenders were ordered to be satellite tracked by the courts included:<sup>17</sup>

- concern that there would be unrealistic expectations on the part of victims, and possibly the press and the general public, about what satellite tracking could deliver;
- that court-ordered satellite tracking could only be imposed on offenders for whom an exclusion zone was deemed appropriate;
- that some of the offenders who had been identified by the probation service or YOT as potentially suitable for a community penalty with a satellite tracking requirement were considered by the court to have offended in such a serious way that only a custodial sentence could be justified; and
- that it was difficult to ensure that good information and training reached all who were in a position to make decisions about satellite tracking.

Nonetheless, the magistrates and District Judges (N=11) who were interviewed for the research regarded satellite-tracked exclusion orders as a helpful sentencing option. The main advantages of using satellite tracking were thought to be that it:

- gave meaning to court orders by providing hard evidence of non-compliance;
- might deter offenders from committing further crimes; and
- might keep offenders out of their excluded areas.

One magistrate said:

*'I think it is all about enforcing the court order and ensuring that further offences are not committed... The whole point of making an exclusion order is either as a punishment or because it helps reduce re-offending ... Satellite tracking is the one way of policing it.'*

Magistrates and District Judges said that the availability of a satellite-tracked exclusion order might sometimes make the difference between sending an offender to prison and imposing a community order but that the equipment must be shown to be reliable. As one magistrate put it:

*'I suspect that if we were aware that the effectiveness is quite high, then people may well in their decision-making say that it is just the swing over that we need to say "not in custody".'*

The experience of the pilots suggests that without a strong lead from those holding senior positions in the criminal justice system, and without proper promotion and proper training and support for all those involved in the decision-making process, a national roll-out of satellite tracking as a requirement of a community penalty is likely to encounter difficulties getting off the ground. Interviews with magistrates and District Judges suggested that courts might be encouraged to make greater use of satellite tracking if, in addition to having the power to order satellite tracking to monitor an offender's compliance with an exclusion zone, they were given the power to order the satellite tracking of an offender's general whereabouts as a requirement of a community order. This could then be used separately or together with an exclusion requirement, as appropriate.

<sup>17</sup> These explanations are based on the following research data gathered for the evaluation: files and other records held by the probation service and YOTs; email correspondence between key parties which was made available to the author; observations by the author of meetings held locally and nationally; interviews with the main stakeholders; and written responses to a questionnaire which was completed by the local project managers.

## Satellite tracking as an aid to supervision

Offender managers (N=25) and police officers who were members of 'prolific and priority offender' management teams (N=10) were asked what they thought was the primary purpose of using satellite tracking to monitor the movements of offenders released on licence/notice of supervision. The views they expressed included to:

- provide a better way for offender managers to monitor exclusion zones, which they said had been 'hit and miss' before;
- provide offender managers with general information on offenders' whereabouts which could be used to challenge and manage their movements and help them avoid dangerous situations;
- serve as a reminder to offenders that they were responsible for their actions and to provide a 'psychological reinforcement' when they found themselves tempted to re-offend;
- deter offenders from committing crime;
- protect victims; and
- enable the police to gather intelligence about offenders which could be used to link them to crimes or eliminate them from inquiries.

Most of the offender managers who were interviewed for the research were positive about the benefits of satellite tracking: of the 35 offender manager and police officer members of 'prolific and priority offender' management teams who were interviewed, 21 said that the information generated by satellite tracking had been either 'very useful' (N=7) or 'useful' (N=14) in assisting them with the supervision and management of tracked offenders in the community. In their view, the new technology provided a hitherto unavailable insight into the lives of the offenders for whom they were responsible, which in turn put them in a better position to take informed decisions about how to manage the risk that they posed. There was another group (N=14), however, who regarded satellite tracking as more of a hindrance than a help. Their complaint was largely that supervision sessions tended to become dominated by offenders 'complaining about the restrictive aspects of [their] licence coupled with

technological problems caused by the equipment'. They regarded this as an impediment to carrying out more 'offence-focused work' with the offender.

When interpreting these comments it should be borne in mind that most interviews with agency staff were carried out at a relatively early point in the life of the pilots, when mapping and communication systems were still being developed and the more sophisticated *Benefon* and *STaR II* units had yet to be introduced. If interviews had been undertaken at the end of June 2006, rather than in early or mid 2005, a somewhat more positive picture might have emerged. Certainly, local project managers took the view that much of the scepticism that offender managers in their pilot areas had initially had about satellite tracking had evaporated by the end of the pilot.

## Evaluation of the performance of the satellite tracking technology

Field monitoring officers employed by the monitoring companies who were interviewed for the evaluation considered that the satellite tracking equipment had performed well. They said that many of the problems had arisen not because the equipment had malfunctioned but because offenders had failed to pay sufficient attention to the instructions they had been given at installation.

However, probation officers, police officers and YOT workers were generally less enthusiastic about the way that the satellite tracking equipment had worked. They were particularly worried about GPS 'drift' (where GPS plots are, for a short period of time, wildly aberrant) and signal loss. Both created uncertainty in their minds: had the offender tampered with the equipment, had the equipment broken down in some way, or had the signal been blocked by a tall building or other obstruction? Their other concerns were that maps of offenders' movements were sometimes unclear, insufficiently detailed or difficult to interpret; that battery life was limited; that ankle tags frequently needed changing; that communications between offender managers and the monitoring companies were not as good as they ought to be; and that tracking units were 'intrusive' and infringed civil liberties.

Fifty-one per cent<sup>18</sup> (135/266 ) of the satellite-tracked offenders who were interviewed said that their tracking equipment had broken down at some point but many admitted that these problems had arisen only after they had dropped or damaged their tracking unit or allowed it to become immersed in water.

## What role did satellite tracking play in the prevention and detection of crime?

Interviews with tracked offenders provided some grounds for thinking that satellite tracking did help to check (although not eliminate) re-offending. The most common response from tracked offenders when asked to choose a phrase from a given list that best described what being satellite tracked felt like, was that satellite tracking was like 'being watched' (52%: 148/285): 46 per cent (100/217) of those providing a single response and 71 per cent (48/68) of those providing multiple responses agreed with this expression.<sup>19</sup> When asked directly whether being satellite tracked had helped them 'to stay out of trouble', 46 per cent (129/283) said 'Yes'. One offender said: 'It's like having a probation officer on your leg'. Another said:

*'It helped me stay out of trouble because it was always at the back of my mind that they knew where I was and I thought if I do this I will go back to jail.'*

In all three areas, there were cases where satellite tracking provided evidence which helped the police and the Crown Prosecution Service in the detection, investigation and prosecution of crime: it helped to secure convictions in circumstances where convictions would otherwise have been difficult to obtain; and it also assisted the police in several cases to eliminate tracked offenders from inquiries where they would otherwise have been suspects.<sup>20</sup>

## Conclusion

The objectives of the satellite tracking pilots were 'to gain practical experience of tracking technology'; 'to learn how to implement and target tracking effectively'; and 'to introduce a new sentence – a stand-alone exclusion order'. The first two of these goals were substantially achieved. Between September 2004 and December 2005, 336 offenders were satellite tracked and much was learnt about how the satellite tracking equipment works and how it can best be used by criminal justice agencies to assist in the supervision and monitoring of high-risk offenders. Knowledge about how to implement and target satellite tracking effectively has also increased. However, issues surrounding the use of 'hybrid' tracking were left unresolved. Although there may be a role for this form of tracking in providing an added layer of protection for victims assessed as particularly at risk, the limited use to which it was put during the pilots meant that no firm conclusion could be reached. On the other hand, if the main purpose of satellite tracking is to provide information on offenders' whereabouts in order to challenge them about their movements and help them avoid dangerous situations, or to provide robust evidence of violations of exclusion zones, then this can be achieved through 'passive' tracking and may not even require the daily flow of information from the monitoring company to offender managers that was made available in some areas during the pilots.

18 This question was only put to offenders who had been fitted with the equipment: 25 tracked offenders were recalled/revoked before this could be done.

19 A list of six answer options were provided: like 'being in prison'; like 'being watched'; like 'being deterred from committing crime'; like 'being protected'; like 'being free'; or had they had 'some other feeling' about it.

20 The evidence for this came from a number of sources: correspondence between the author and the police, statements made at meetings attended by the author, responses to questionnaires completed by local project managers, interviews with police officers, and observation by the author of a magistrate's court trial of a tracked offender and of the subsequent (successful) appeal in the Crown Court.

The introduction of a new 'stand-alone exclusion order' monitored by satellite tracking was less successful. Only 20 orders were made between September 2004 and December 2005, although the magistrates and District Judges interviewed for this study (N=11) offered support, at least in the lower courts, for the idea that these orders should be made more generally available.<sup>21</sup> There may also be scope for introducing a new requirement to monitor an offender's general whereabouts. This could be either used separately or in conjunction with an exclusion requirement and might lead to some offenders being diverted away from custody.

There is evidence from this study to suggest that satellite tracking may offer further protection for the public from those released from custody and known to be high risk. This is reflected in the evidence relating to the percentage of tracked offenders recalled/revoked on the basis of tracking evidence (either solely or along with evidence from other sources): 45 per cent (87/194) in total. It is also reflected in the fact that evidence from satellite tracking helped to secure convictions in circumstances where convictions would otherwise have been difficult to obtain and that 46 per cent (129/283) of tracked offenders who were interviewed, when asked whether being satellite tracked had helped them 'to stay out of trouble', replied 'Yes'.

The technical performance of satellite tracking equipment will continue to improve. Tracking units will get smaller and better at picking up signals from satellites, battery life will be enhanced, and reliable one-piece units will become available. The major outstanding issue from the pilots, however, is whether the benefits that can be obtained from satellite tracking can be delivered at a price which warrants it being rolled out nationally. Key here is to produce a much more automated system, capable of providing offender managers and police officers with location information on offenders when they need it but without requiring too much manual intervention by monitoring company staff. It needs to be recognised, however, that reducing the burdens

carried by the monitoring companies could add to the burdens borne by staff in the relevant criminal justice agencies.

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21 The magistrates interviewed represent one pilot area only due to the fact that all but three of the 20 offenders in receipt of court-ordered satellite tracking were supervised in this area.

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Stephen Shute  
Birmingham Law School, University of Birmingham

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