



Alert - GPS Tracker Jamming Devices

To: All Transport contacts from England, Scotland, Wales and Northern Ireland.

Key Issues

- Local authorities are becoming more reliant of the use of GPS Tracking technology for vehicle security and to locate and assign vehicles over the working day.
- Through the use of cheap and accessible jammers, it is relatively easy to 'knock-out' the GPS signal leaving the vehicle and driver untraceable
- Councils should ensure they use both physical and electronic means to secure vehicles and plant.
- Vehicles irregularly disappearing from GPS/tracking should be investigated further

Introduction

The use of GPS tracking devices has become common place for council owned vehicles and plant over the last decade. Their use has also found its way into Pay-as-you-drive and young driver insurance through a vehicle 'black-box'.

The use of GPS trackers has two main themes

- To recover stolen vehicles and plant
- To track vehicles/drivers over the working day

Unfortunately, the technology is relatively easily deceived, facilitating theft and potential employee fraud. Local Authorities should be aware of the pitfalls and take appropriate action to secure vehicles, plant and machinery and deter employees from abusing their access to vehicles.

Jammers

GPS jammers broadcast white noise at or across the same radio frequency used by GPS and mobile phones and this effectively cancels out the satellites signal. Despite being a low powered device, the combination of high efficiency and low power makes them a relatively cheap piece of equipment. They can be bought for as little as £15 from eBay and other websites and are simply plugged into the vehicles cigarette lighter. Even the low cost ones can cause GPS and mobile phone disruption up to 500m from the vehicle. It is calculated that a 3W device places in Central London would wipe out GPS within the centre and cause errors and disruption across most of Greater London.



Theft

Most high value vehicles are fitted with tracking devices. These are not located in the same place on each vehicle making their speedy detection difficult for any would-be thief. Currently 80% of vehicles with a tracker are recovered compared to 50% of all vehicles.

Commercial vehicles and plant and machinery tend to have fewer places with a power feed to locate a device and therefore tend to be disabled more frequently leading to lower detection rates. Vehicle and Plant theft is a large international operation mostly through Organised Crime Gangs (OCG's). Many vehicles are exported of which few are recovered

Stolen	Recovered	Recovered Trackers
All Cars	50%	80%
Commercial Vehicles	37%	50%
Plant & Agricultural	8%	25%

(Source Hampshire Police)

To combat the possibility of a vehicle containing a tracking device, thieves are resorting to the use of RF Jamming devices which effectively render the tracker inoperable and uncontactable

Vehicle Operations

There are many good reasons to track vehicles over the working day to ensure efficient use of fleet and resources and personnel. Not all staff like the thought of being tracked and in a few cases disabling the tracker enables the less scrupulous to:

- Take company vehicles without consent
- Commit employee fraud; Night workers, sleeping; work not done; sites not visited; overtime claimed but not worked

The use of a jamming device will disable the GPS signal and make it impossible to determine the location of the vehicle. In many cases it will also make mobile phone connection problematic or impossible.

GPS

GPS requires at least 4 satellites to obtain an accurate location of a vehicle. The signals sent by these satellites are fairly weak and usually no more powerful than 60-70 watts, relying completely on solar energy for power. So a vehicle tracking blocker signal, does not require a great deal of power to override the signal. It has been likened to receiving the power emitted by a 20-watt lightbulb 12,000 miles away

Legal

Ofcom states ' The use of any apparatus, whether or not wireless telegraphy apparatus, for the purpose of interfering with any wireless telegraphy, is an offence under the Wireless Telegraphy Act 2006. The unlicensed transmission of radio signals and the interference with licensed services would cause offences under, respectively, sections 8 and 68 of the Act'

Furthermore Ofcom is not able to grant authority for the sale, purchase or use of mobile phone jammers in the UK. Placing them on the market and putting them into service are criminal offences under the Electromagnetic Compatibility Regulations 2016 (the EMC Regulations), and their use will involve commission of a criminal offence under the Wireless Telegraphy Act 2006 (section 68). In simple terms this doesn't stop the sale or purchase of jammers but makes their use illegal.

Detection

Several companies including Chronos have developed handheld detection devices, however these are relatively expensive.

Action by Local Authorities

Whilst the use of trackers is becoming routine on vehicles and plant, vehicle theft remains a risk and should rely on a balance of both physical electronic security. Trackers should, where practical, be hidden in less obvious locations.

Where a vehicle is actively tracked this should be for a clear reason and sufficient time to allow for toilet, food and statutory breaks. Use of technology that intentionally interferes with the legitimate use of a tracker, whilst illegal in itself, should be included within a Trade Union agreed council policy on use of tracking devices and potentially classified as gross misconduct. Use of jammers is most likely to occur when GPS tracking is linked to targets or a payment system. Loss of GPS location data at odd times of the day or night or at a higher frequency than equivalent operatives should be monitored and if necessary investigated further.

Rob Bailey

Principal Advisor