

Stop that car!

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Transport: New technological tricks and devices are being developed to enable police officers to track and halt suspect vehicles



Illustration by Belle Mellor

IT MAKES a spectacular sight. To stop a fleeing car, a pursuing policeman nudges the front of his own car against the rear corner of a fugitive vehicle. Then, by turning into the pursued car, the officer forces it into a jolting tailspin that brings it screeching to a halt. This manoeuvre, known as the pursuit-intervention technique, was developed in California in the 1970s. But it has dangerous repercussions, says Eddie Wren, a former traffic-control officer in Britain who is now the head of Advanced Drivers of America, a school for professional drivers in Williamsville, New York. Injuries are common and spun cars, unless rapidly boxed in by patrol vehicles, can zoom off again.

Furthermore, the manoeuvre may be becoming less effective as new traction-control systems become more widely deployed. At the same time, "run-flat" tyres are making another common method of stopping a vehicle—

placing a strip of spikes across its path—less effective. Even cars with ordinary tyres are not always incapacitated by the spikes. Some career along on their wheel-rims at up to 160kph (100mph), says Geoffrey Alpert, an expert in vehicle-pursuit litigation at the University of South Carolina, in Columbia. The result is a lot of desperate high-speed chases, one in four of which result in someone getting injured, and causing 400 deaths a year in America alone.

One way to avoid the need for chases would be to track felonious vehicles electronically, instead of running after them. StarChase, a company based in Virginia Beach, Virginia, has developed a way to do just that. A pneumatic cannon is mounted on the pursuit car. With the help of a guiding laser, it shoots a satellite-based tracking device, smothered in epoxy goo, onto the target vehicle, allowing the police to track the suspect without endangering the public. The Los Angeles Police Department plans to deploy the system this year.

From the police's point of view, however, it would be better if they could actually stop a runaway car by satellite, not just track it. General Motors plans to allow them to do just that. From September its OnStar service, which provides navigation and emergency services to drivers, will include a system called Stolen Vehicle Slowdown. Police who believe a car to be stolen can ask an OnStar operator to disable its accelerator, while leaving the steering and brakes in working order. Some people worry that hackers might take over the system. But Chet Huber, OnStar's boss, reckons that the benefits outweigh the risks.

Military systems could also find a civilian role. Ron Madrid, an expert on non-lethal warfare, says that a new laser-warning system has proved particularly effective in reducing casualties at checkpoints in Afghanistan and Iraq. The device, known as an "optical distractor", floods the windscreen of a vehicle with a blinding green light. It is often coupled with special loudspeakers that are able to project verbal instructions to halt into noisy vehicles from over 100 metres away.

Non-toxic, slippery chemicals, designed to prevent the wheels of a vehicle from gaining traction, are also in development, as are spiked nets which can be laid flat on roads to entangle wheels. But one of the American army's main areas of research is into devices that can shoot enough electromagnetic energy into a vehicle to shut off its engine.

According to Andy Mazzara, the director of the Institute for Non-Lethal Defence Technologies at Pennsylvania State University, prototypes of such devices use a laser to create an ionised channel of air through which an

electromagnetic pulse is directed. That pulse is capable of burning out the electronics in a car, including its engine-management system, without harming the occupants. Its deployment is still a few years away. But when it comes, runaway drivers will get a zapping they will never forget.

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