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WHAT'S WRONG
WITH ANPR?

```
++AUTOMATED CHECKPOINT++

# YOUR NUMBER PLATE
# SCANNED
# YOUR CAR
# YOUR DVLA RECORD
# YOUR JOURNEY
# STORED FOR 2 YEARS
# NO OFFENCE
# NO REASONABLE SUSPICION
# NO PROBABLE CAUSE

ENJOY THE FREEDOM OF THE
OPEN ROAD...
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A Report by No CCTV into
Automatic Number Plate
Recognition Cameras

v1.0 October 2013

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Better community reduces crime, technology does not

WHAT IS ANPR?

ANPR stands for Automatic Number Plate Recognition.

ANPR cameras, as currently used in the UK, read the number plates of passing vehicles and in real time extract the characters and convert them into computer data so that they can be stored and compared with databases of vehicles and people, such as the Driver and Vehicle Licensing Agency (DVLA) database or the Police National Computer (PNC). As well as storing the car number plate ANPR cameras may also store an image of the whole vehicle and driver.

In North America ANPR is known as Automatic License Plate Recognition (ALPR).

POLICE scientists have set up a secret experiment on a bridge spanning Britain's M1 motorway. Video cameras placed inside a small cabin on the bridge record the registration numbers of all vehicles passing along the motorway. They pass this information down a cable to a hut 100 metres from the bridge and tucked out of sight of motorway drivers. The hut contains a powerful minicomputer that

Keeping its eyes on the road: one eye for each lane as the computer scans for suspect vehicles

New Scientist 12th Jan 1984, Photo by Pete Addis

POLICE USE OF ANPR AS A MASS SURVEILLANCE TOOL

ANPR is a broad term that encompasses a variety of applications of number plate reading technology, which causes much confusion and misunderstanding. This report focuses on the police use of ANPR as a mass surveillance tool. This is a network of police ANPR cameras that are used alongside a variety of databases that can be used to identify cars and their occupants. The data collected from the cameras is stored in local force databases (known as Back Office Facility or BOF) and in a centralised database the (National ANPR Data Centre or NADC). The data can then be used alongside data mining tools. The details of all vehicles passing police ANPR cameras are stored in these databases - the time, date, location and direction of travel of the vehicle and the image of the license plate are stored for two years and a photograph of the whole car and driver is stored for 90 days.

This report is not about ANPR cameras used by private companies, for example in car parks, by the Highways Agency for average speed cameras or by local councils for congestion monitoring/charging or traffic enforcement fines.

THE ISSUES

To better understand the concerns of civil liberties groups with regards to ANPR cameras it is useful to consider a time when there was no national ANPR network. In the 1980s a few privacy writers became aware of early tests of number plate recognition cameras by the police. Below are some extracts from what they wrote.

CONCERNS FROM THE PRE ANPR PERSPECTIVE

The Home Office Scientific Development Branch (HOSDB) began development of ANPR in 1976[1]. Though early experiments were detailed in Her Majesty's Inspectorate of Constabulary (HMIC) reports of the early 1980s, several years passed before a trial caught the attention of journalists and privacy advocates. The reason given for ANPR was to screen motorway traffic for stolen vehicles but concerns were immediately raised about the dangers of such a technology.

The HMIC report for the year of 1980[2] stated:

> "Work on an automatic number plate reader project is progressing well and a model of the prototype is now being built on contract. Arrangements have been made with a police force for the equipment linked to the Police National Computer to be installed in an operational setting for a controlled experimental period."

1984 NEW SCIENTIST

In 1984 Journalist Steve Connor wrote an article for the New Scientist entitled 'Secret eye scans motorway'[3], he wrote:

> "Police scientists have set up a secret experiment on a bridge spanning Britain's M1 motorway. Video cameras placed in a small cabin on the bridge record the registration of all vehicles passing along the motorway. They pass this information down a cable to a hut 100 metres from the bridge and tucked out of sight of motorway drivers. The hut contains a powerful minicomputer that checks each registration number against a list of vehicle numbers supplied from the Police National computer (PNC)."

> […]

> "A spokeswoman said: "At the moment there is no intention of using it for anything other than detecting stolen cars." But, she added, this is flexible. As she put it: "When the Russians take over next week things might change.""

> […]

> "The equipment is probably the most advanced of its kind in civilian hands and has been developed by the Home Office's Scientific Research and Development Branch."

> […]

> "The Home Office says it has not finalised plans for the equipment, should the experiment prove successful. If it is, then Britain's motorists can look forward to a network of cameras monitoring all the major routes around London."

1984 'POLICE COMPUTERS AND THE METROPOLITAN POLICE' REPORT

In a report for the Greater London Council Police Committee entitled 'Police computers and the metropolitan police' (adopted by the Greater London Council on 17th July 1984) Dr Chris Pounder wrote[4]:

> "Random vehicle checking reflects a change in philosophy. Before the technology was available, checks were carried out when a police officer was suspicious. Now, no grounds for suspicion are necessary in the vast majority of cases, and checks are carried out at the whim of individual officers, in case anything has been recorded. Thus without an announcement, explanation or debate in Parliament, the police have set up, through the PNC's vehicle indexes, the essentials of a country wide intelligence system that can monitor the movement of vehicles of 'interest' to them.
>
> Vehicle checking is soon to be completely automated. Between July and October 1982, trials took place on the approaches to the London's Dartford Tunnel of a device which would automatically read car number plates and check them against the list of wanted vehicles obtained from the PNC. This has been superceded by a prototype device on the M1, which takes 15 seconds to check a car against a list of vehicles held. The Home Office are working on the electronic circuitry necessary to reduce that time to under one second. The ease with which this device processes information makes *every* car a potential 'suspected' vehicle to be checked against police records without any grounds of suspicion to justify the check. Every vehicle becomes 'of interest' until the computer says that it is 'not of interest' to the police. Many police forces have expressed interest in this apparatus, which in production will cost approximately £10,000, well within the multi-million pound budgets of most police forces."

Pounder goes on to say[5]:

> "The development of automated PNC use with a hidden national security application is most alarming. The 22 million vehicle checks that pass through the Stolen and Suspect Vehicle Index can be seen as a random car check against those vehicles of interest to the Special Branch. The increasing rate of vehicle checking by the ordinary police officer therefore acts to enlarge the scope of Special Branch surveillance. Although it is not general police policy to gather and collate information on every vehicle of 'interest' to the police, the structure of the PNC's indexes, and the use of devices that read car number plates automatically, leave mass surveillance as a policy to be determined independently by the police. This possibility in a democracy is unacceptable."

1985 'TECHNOCOP'

In the 1985 book 'TechnoCop: New Police Technologies' written by the British Society for Responsibility in Science (BSSR)[6] they wrote of the 1984 M1 number plate camera trial:

> "The author of a technical description of this system wrote that 'Police interest in this project is very high', and it is not hard to see why. Imagine it expanded, as it may well be, throughout the motorway network, and possibly to major non-motorway roads as well. Imagine it extended, as it probably could be, to make a permanent record of each vehicle passing each monitoring point. The secret eyes of the state would have multiplied with a

vengeance, and with them the mass of data available for targeting the activities of the police and security services.

Consider the massive operation to frustrate the miners' flying pickets during the 1984-85 dispute. If the automatic number plate recognition system had been in operation nationally, the police could, with advantage, have put all known miners' cars on the SSVI [Stolen and Suspect Vehicle Index] – their numbers either noted down at earlier incidents, or obtained by collating information from the NCB management with data on the PNC. The system would then have flagged to police all suspicious movements, making their interceptions still more effective.

[…]

This type of technology clearly represents a significant increase in the power of the state. Instead of civil liberties, we have the police taking liberties. We no longer have the individual presumed innocent until found guilty, or at least until found suspicious. Increasingly we will have the individual presumed guilty, or at least suspicious, until (temporarily) cleared by the electronic message of 'NO TRACE'. And it doesn't take much imagination to see how the same principle could be extended to other areas of social life."

1986 'ON THE RECORD'

n their 1986 book 'On the Record: Surveillance, Computers & Privacy'[7] Duncan Campbell and Steve Connor wrote:

"After the presence of the M1 installation was first suspected, the Home Office deliberately misled Parliament when Michael Meacher MP enquired about the operation in 1983. Meacher was referred only to the Dartford experiment, which had by then been removed, and notified of 'further development work'. But, nine months later, one of the authors fortuitously spotted the scanner installation, and further questioned the Home office about their intentions for the system. It was claimed that details of stolen vehicles only were being fed into the Flamstead scanner from the PNC. Official statements were ambiguous, however, about whether the computer was attempting to detect only stolen vehicles or all vehicles on the stolen and suspect vehicles index.

The Flamstead scanner ceased operation in 1985, after two years' 'successful' testing. The scanner worked, officials said, but was too expensive 'to justify its widespread operational use'. (In the magazine *Crime Prevention News*, the cost of a working system was quoted as £60,000.) It had also been hoped that the experiment might lead to the development of a more discreet and easily portable system, which might have been moved between locations to suit both security and operational purposes. The Home Office said that they were not ruling out the project for the future, should the electronics become cheaper – which is inevitable. The automatic vehicle scanner, for which prototype hardware and software has now been developed and proven, and for which a clear police rationale exists, is likely to be prominent in the future development of clever systems."

THE CURRENT SITUATION

Over a quarter of a century later many of the predictions about the scale of the ANPR network have come true whilst there has still been no meaningful public or parliamentary debate about the technology.

The current police ANPR databases, at the local and national level, were constructed in the years running up to 2008 with millions of pounds of government funding. As of April 2012 the National ANPR Data Centre is receiving more than 18 million number plate 'reads' each day and the database holds details of 11.2 billion vehicle sightings[8]. The national system is currently capable of storing the details of 50 million number plates per day[9].

There is a perception that the public supports ANPR cameras. At first glance this might appear true but upon closer inspection many of the surveys cannot be relied upon. No CCTV's evidence to the Protection of Freedoms Bill Committee[10] states:

> "Much of the discussion of surveillance cameras by parliamentarians refers to the widespread public support for CCTV. For instance in the Bill Committee Vernon Coaker MP referred to a memorandum submitted to the Committee by the European Vehicle Security Association (EVSA), when he said: "The evidence put before us by the ESVA shows that the vast majority of the public are happy with ANPR". We hope that the Committee have had time to read the underlying surveys upon which the ESVA based this assertion. As you will have seen the surveys suffer from what Jason Ditton of the Scottish Centre for Criminology termed "skewed contextualising" (whereby the question in a survey and the way it is asked influences the answer). In addition the thesis from which the second survey is derived states that: "Findings in the current study indicate that, although the majority of people indicate awareness of ANPR (i.e. 66%), they seem to have inadequate understanding of the aims and consequences of ANPR surveillance to make reasonable judgements about ANPR's effectiveness in tackling crime." What this example highlights is that it is all too easy to be misled by surveys that fail to capture the deeper issues at stake."

The reasons given for police use of ANPR have changed many times since the early experiments. At first it was to find stolen vehicles, then incorrectly registered, untaxed or uninsured vehicles but as the network of thousands of cameras was quietly constructed across the country another use was stated in the Association of Chief Police Officers (ACPO) ANPR Strategy documents, that of gathering "Vehicle Intelligence" - meaning tracking vehicle movements (see 'ANPR Strategy for the Police Service – 2005/2008'[11] and 'ANPR Strategy for the Police Service – 2007/20010'[12], ACPO).

The police ANPR network tracks the movements of all vehicles "just in case" under the catch-all of the prevention or detection of crime but this flies in the face of a fair and just society. In 2001 following an investigation of video surveillance activities by the Royal Canadian Mounted Police (RCMP) in Kelowna, British Colombia, George Radwanski, then Privacy Commissioner of Canada in a letter of finding to the Information and Privacy Commissioner of British Columbia[13] articulated this point when he wrote:

> "the broad mandate to prevent or deter crime clearly does not give police authorities unlimited power to violate the rights of Canadians. They cannot, for instance, compile

detailed dossiers on citizens "just in case." They cannot force people at random to identify themselves on the street. They cannot enter and search homes at will, without proper authorization.

It is equally clear, in my view, that police forces cannot invoke crime prevention or deterrence to justify monitoring and recording on film the activities of large numbers of the general public.

In the normal course of law enforcement, cause (reasonable grounds) is a basic precondition for the collection and retention of personal information. In the case of video surveillance, information is recorded regardless of the existence of specific cause. By recording continuously, as opposed to recording only selective incidents related to law enforcement activities, the RCMP was unnecessarily collecting information on thousands of innocent citizens engaged in activities irrelevant to the mandate of the RCMP."

In the past totalitarian regimes instituted road blocks to check citizens' papers at a series of internal borders. The police use of ANPR as a mass surveillance tool to record the movements of all cars is surely equivalent to an automated checkpoint system that should have no place in a free and fair society.

IS ANPR LEGAL?

The UK ANPR network was constructed by the police - no act of parliament or statutory instrument was introduced to enable its construction. This is not to suggest that if ANPR were mandated by legislation then it would be okay, but this demonstrates the lack of political and public debate concerning the use of this mass surveillance tool. The police claim that ANPR is legal by virtue of Section 163 of the Road Traffic Act 1988 (which enables a police officer, in uniform, to stop motor vehicles on a road) and Section 4 of The Police and Criminal Evidence Act 1984 (which enables a road check to take place in certain circumstances)[14]. It is hard to see how these two pieces of legislation make a system of automated checkpoints legal.

In 2011 No CCTV along with Privacy International and Big Brother Watch lodged a complaint with the Information Commissioners Office (ICO) with regard to a "ring of steel" of ANPR cameras around the town of Royston in Hertfordshire[15]. In July 2013, the ICO ruled that the cameras around Royston were unlawful (though in different terms to our complaint) and asked Hertfordshire police to justify the use of the cameras[16]. It remains to be seen whether this ruling will have any impact on the cameras around Royston or the wider ANPR network.

THE BIGGER PICTURE

To better understand the police use of ANPR, it should be seen as part of a move towards a style of policing known as "Intelligence led Policing".

Whilst working on the construction of a national network of ANPR cameras, the Association of Chief Police Officers (ACPO) was promoting a new model for policing - the National Intelligence Model (NIM). Successful lobbying of the Home Office by ACPO led to the insertion of NIM into the guidance documents under the Police

Image by Anita Lasoka

Reform Act 2002 which led to all police forces adopting the new model. The NIM cemented a growing trend within the police to treat information as intelligence when in reality it is rarely more than hearsay or gossip.

The police moved from a system of collators, who cross-referenced information on index cards, to the use of computerised databases where information is stored just once but can be manipulated and mined with a variety of software tools. These tools have become a part of the new, much hyped field of 'Big Data' – a term used to describe the use of computers to look for patterns in large data sets, increasingly used to allegedly predict crime, as if this could or even should ever be possible.

One of the reasons for the shift towards "Intelligence led Policing" was a 1993 Audit Commission report entitled 'Helping with Enquiries: Tackling Crime Effectively'[17]. This report announced that recorded crime had risen 74% in the previous decade and suggested that police adopt a more pro-active or "intelligence led" approach. However the report also pointed out that the rise in reporting of crime was driven by an increasing amount of car and household insurance and that accordingly the vast majority of recorded crime was property crime, whilst crimes against the person (violence, sexual assault and robbery) accounted for only about 5% of all recorded crime. The conclusions of the report, ignoring its own findings regarding the truth behind reported crime statistics, played well with a government which, like so many others since, focussed excessively on crime in society.

Effectively the same system of spies and lies that exists in the security services has been systematised in mainstream policing and as a result notions of "nothing to hide, nothing to fear" show a ludicrous degree of naïvety.

ANPR WITHOUT MASS SURVEILLANCE

There is no need for ANPR cameras to be equipped with mass surveillance capabilities. If ANPR cameras are to be used at all then it is possible to use the cameras for the stated aims, namely enforcement of motoring issues such as unpaid road tax or insurance as well as stopping vehicles of known wanted criminals without tracking the movements of law abiding members of the public. To do this it is not necessary for the system to store **ANY** data.

A model of such an ANPR system has been detailed in a paper 'ANPR: Code and Rhetorics of Compliance'[18] by Christopher Parsons, Joseph Savirimuthu, Rob Wipond, and Kevin McArthur. The authors explain that "all collected data would be the result of normal policing records that follow a traffic stop/investigation of a vehicle". This means that no ANPR databases would exist. The below figure shows the data flow for such a system.
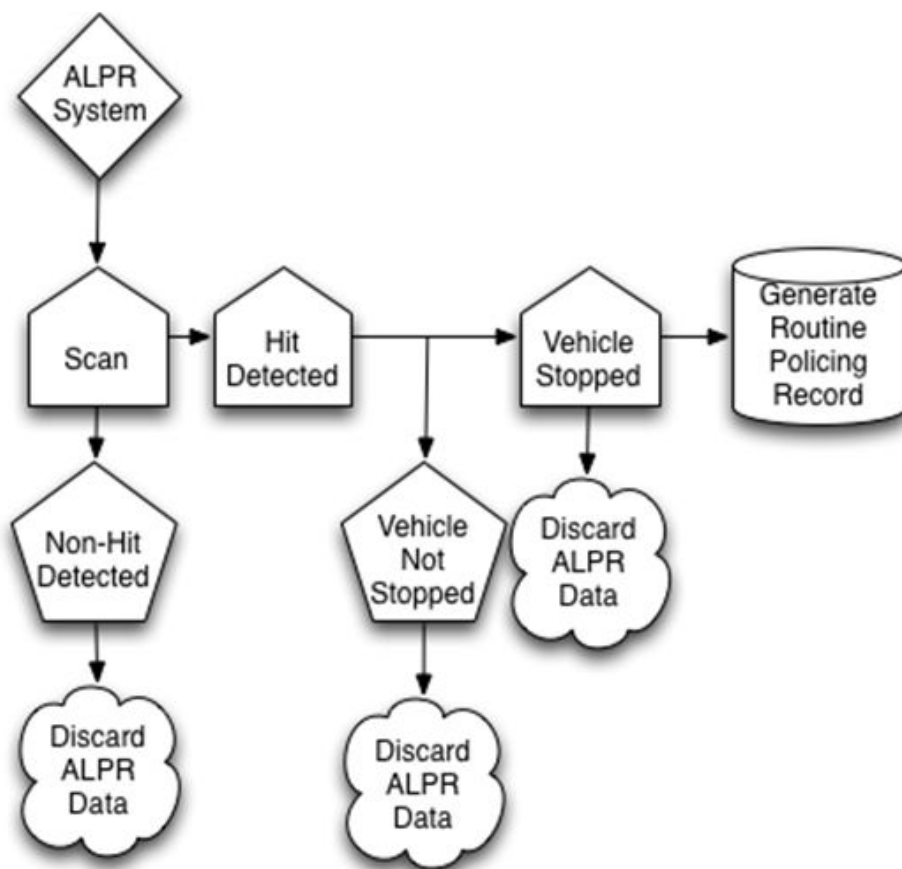
Enforcement-Based ALPR / ANPR Data Flow from 'ANPR:
Code and Rhetorics of Compliance' by Parsons et al.

It is interesting to note that in 2008 Dr Roger Clarke of the Australian Privacy Foundation detailed another alternative ANPR system to the Queensland Parliament's Travelsafe Inquiry[19]. Clarke proposed a 'blacklist-in-camera' approach that would prevent the generation of a vast mass surveillance database. And in Canada, Privacy Commissioners in British Columbia and Ontario have asked the police to stop collecting ANPR data on law abiding members of the public.

CONCLUSIONS

Since the first trials of ANPR much has changed. Successive governments have continued to erode individual freedoms whilst focussing on social control under the guise of crime prevention, despite the very small part that crime plays in most people's day to day lives.

Alongside this, opposition to authoritarian measures has weakened to the point where there is almost no political discourse relating to freedoms let alone open dissent to unconstitutional policies.

In 1818 a parliamentary select committee[20] wrote on the concept of an organised police force, which they feared would be focussed on preventative measures, or what has now become known as "Intelligence led Policing":

> "It is no doubt true, that to prevent crime is better than to punish it; but the difficulty is not in the end but the means, and though Your Committee could imagine a system of police that might arrive at the object sought for ; yet in a free country, or even in one where any unrestrained intercourse of society is admitted, such a system would of necessity be odious and repulsive, and one which no government could be able to carry into execution. In despotic countries it has never yet succeeded to the extent aimed at by those theorists ; and among a free people, the very proposal would be rejected with abhorrence : it would be a plan which would make every servant of every house a spy on the actions of his master, and all classes of society spies on each other."

Surely in a free country, or even in one where any unrestrained intercourse of society is admitted, a mass surveillance tool such as the network of ANPR cameras would of necessity be odious and repulsive.

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