Home Office

National ANPR Standards for Policing: Part 1 – Data Standards

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1   Introduction

1.1   In order to facilitate the development and integration of Automatic Number Plate Recognition (ANPR) systems used by law enforcement agencies (LEAs), a set of standards have been developed by the National ANPR Programme Team on behalf of the Association of Chief Police Officers of England, Wales and Northern Ireland (ACPO) and Police Scotland. These are the National ANPR Standards for Policing (NASP). The standards are consistent with the requirements of the CCTV Code of Practice issued under provisions of the Protection of Freedoms Act 2012.
It is expected that these standards will be adopted by LEAs throughout the UK.

1.2   NASP are divided into two parts:
Part 1 – Data Standards
Part 2 – ANPR Infrastructure Standards
Part 1 (this document) prescribes the standards with which data must comply in order for it to be accepted into the police National ANPR Infrastructure (NAI).
Part 2 (published separately) prescribes the standards for the components of the National ANPR Infrastructure including the operability standards required of Back Office systems that are to be used by LEAs and connected to the NAI.

1.3   This document supersedes any previously published versions. (Last previous version was National ACPO ANPR Standards - NAAS v 4.13)

2   Applicability

2.1   These standards apply to any ANPR systems operated by the police service and other LEAs, throughout the UK, that connect to the NAI. ANPR systems include the Number Plate Reading Device (NRD), the Back Office Facility (BOF), communications links, firewalls and other related supporting components, including those components that are under the ownership or control of other organisations.

2.2   An ANPR system must conform to Parts 1 and 2 of the NASP for it to be a candidate for supplying data to the National ANPR Data Centre (NADC).

3   Data Security

3.1   The Police have a duty to protect ANPR data to ensure its integrity to maintain its judicial standing from when it is captured. In 2010 it was agreed by the ANPR National User Group (NUG) that ANPR 'read' data had a protective marking of PROTECT – ANPR – READ DATA. However, it is not assessed as personal data at the point of capture or until such data is entered into a Police database system, e.g. BOF or NADC.

3.2   When loaded onto a Police database, other material could be accessed and personal details of persons associated with the ANPR 'read' data (vehicle) would be identified. Once ANPR 'read' data is available within a Police database, it is then to be treated as 'personal data' in the context of the Data Protection Act (DPA) 1998, and all ANPR data should be handled in accordance with DPA principles and should be handled as RESTRICTED data in accordance with the Government Protective Marking Scheme (GPMS).

3.3   Whilst in the custody of, or being transmitted to or from a LEA, ANPR data should be handled as follows:

    a.   Where the data has just been captured by an ANPR device and before it is entered onto a Police database system it is to be protected, as a minimum,

in transit either by commercial standard encryption or be sent unencrypted over a network accredited to process PROTECT data.

b.   Where the data has just been entered onto a Police database system it is to be protected, as a minimum, in transit either by an agreed commercial standard encryption or be sent over a network accredited to process RESTRICTED data in accordance with the Government Protective Marking Scheme (GPMS).

4   Capture Records

4.1   Composition

4.1.1   An ANPR capture record places a vehicle bearing a particular registration mark at a particular place at a particular time.

4.1.2   There are three key components:

Core data – Vehicle Registration Mark (VRM), time, location of capture and camera identifier (all mandatory)
Supporting imagery – overview (optional) and plate patch (mandatory for systems under the ownership or control of an LEA)
Other metadata – further information (some mandatory, some optional)

4.2   Core Data

4.2.1   Vehicle Registration Mark (Mandatory)

ANPR data must accurately represent vehicle registration marks (VRMs) of all vehicles with correctly represented EU and Schengen Community number plates. Systems must accurately record the VRM for vehicles passing through the field of each NRD to standards appropriate for each type of NRD as defined within Part2 NASP.
The required format must conform to the Standard Coding Format UTF-8 character set. The VRM must contain no spaces.

4.2.2   Vehicle Registration Mark – Not Read (Mandatory where functionality is in place)

Where a NRD has the capability to record images of vehicles passing within the field of view where no VRM is identified by the system, 'QQQQQQQ' must be recorded within the VRM field.
The required format must conform to the Standard Coding Format UTF-8 character set. The VRM must contain no spaces.

4.2.3   Time (Mandatory)

System audit provisions must provide evidence of synchronisation using standard time source techniques to Greenwich Mean Time (GMT) plus 0 (+0) at least once every 10 minutes, with accuracy to stratum level 3.
The required format is 'dd/mm/yyyy hh:mm:ss', in 24 hour format.
For the purpose of management and audit it is desirable for the BOF component of the ANPR infrastructure to record the time and date a vehicle capture is inserted into the database and for that information to be easily retrievable.

4.2.4   Location (Mandatory)

ANPR data must place a capture in a particular location, accurate to within 10 metres. This location should have been ascertained through a Global Positioning System

(GPS) device. In addition all fixed-site ANPR cameras must have their GPS co-ordinates accurately recorded to within 5 metres.

The required format is latitude and longitude in decimal degrees.

When a mobile ANPR system is unable to deliver an accurate GPS coordinate for a read, the GPS field must be populated with N0000000 E00000000.

4.3   Supporting Imagery

In order to assist with assessment of the accuracy of individual capture records, ANPR data can include images:

- Overview – showing the vehicle, to allow identification of the make, model and colour of the vehicle in the context of the capture zone (Optional)

- Plate patch – showing the number plate only, to allow comparison of the visual image with the textual representation interpreted (Mandatory for systems under ownership or control of an LEA)

- 'Geo Tagging', if an accurate GPS Geo Location is available, then this detail may be added to images using Exif (Exchangeable image file format) (Optional)

An overview image must be in JPEG format, no more than 25kB in size.

A plate patch must be in JPEG format, 120x60 pixels and be no more than 3kB in size.

All images must be linked to the corresponding capture record.

All Plate Patch images recorded must be forwarded to the NADC. Where no image has been recorded the capture record must include a reference to identify that no image is recorded.

4.4   Other Metadata

Other data to be provided as part of a capture record is detailed in the table below:

Column	Format	Mandatory	Details
Feed ID	Numeric	Yes	Short integer (range 1 to 9999) Also known as 'Force ID'
Source ID	Numeric	Yes	Short integer (range 1 to 9999)
Camera ID	Numeric	Yes	Short integer (range 0 to 9999) Camera ID zero (0) must be used to denote VRMs entered manually by the operator of the ANPR system.
Username	String	Yes	Username of operator using the ANPR system. When deployed in other circumstances, use 'Unattended'.

Column	Format	Mandatory	Details
Preset ID	Integer	No	Short integer Default value is 0 Used to indicate direction of travel on multi-use CCTV cameras

5   Record Retention and Deletion

5.1   All capture records received by LEAs must be supplied to the NADC (Mandatory components). LEAs must not operate multiple BOFs that contain ANPR data from different sources, managed separately for the retention of records that are not fully consistent with the requirements of NASP

5.2   Capture records must be deleted no later than two years after their initial capture, unless retained under provisions of the Criminal Procedure and Investigations Act (CPIA) 1996 or similar provisions in Scotland.

6   Performance Evaluation

6.1   An annual performance evaluation of all components within ANPR systems must be conducted to assure conformance with the data standards defined in NASP. Timescales for all performance evaluations must be defined in local policy and standard operating procedures. In addition systems should be monitored to enable early identification of any reduced levels of performance. Where performance falls below standards then this must be corrected and reassessed to confirm that performance conforms to data standards, within 30 days of that being identified. If not resolved within 30 days of identification, then the feed of data from those components must cease until corrected.

6.2   In addition to the above, the performance standards for all NRD that do not have the capability to provide supporting imagery must be evaluated at not less than 6 monthly intervals for at least 50 vehicles passing consecutively within the field of view.

6.3   A log for all performance evaluation activities must be retained in a form to enable the record of reviews for each component within ANPR systems to be identified and retrieved when required.

7   Further Details

Any enquires in relation to NASP should be addressed in the first instance to the National ANPR Programme Team at anpr@homeoffice.gsi.gov.uk.

Glossary of Terms, Abbreviations and Definitions

ACPO	Association of Chief Police Officers of England, Wales and Northern Ireland
ANPR	Automatic Number Plate Recognition
ANPR system	A collection of cameras, readers and Back Office Facility
BOF	Back Office Facility
Capture	The process by which a VRM is read
CCTV	Closed Circuit Television
CPIA	Criminal Procedure and Investigations Act 1996
DPA	Data Protection Act 1998
Exif	Exchangeable image file format
GMT	Greenwich Mean Time
GPS	Global Positioning System
GPMS	Government Protective Marking Scheme
JPEG	Joint Photographic Expert Group image format
LEA	Law Enforcement Agency
NASP	National ANPR Standards for Policing
NADC	National ANPR Data Centre
NAI	National ANPR Infrastructure
NRD	Number Plate Reading Device
PFA	Protection of Freedoms Act 2012
Scarab	Home Office software issued free to all England & Wales Forces to link third party ANPR devices to BOF
Schengen	The Schengen Information System will enable the authorities of signatory countries to have access to reports on persons and objects for the purpose of border checks and controls and other police and customs checks
UTF - 8	Unicode Character Set – Provides a standard coding format used in software applications and operating systems
VRM	Vehicle Registration Mark