CHAPTER 30: TRAFFIC SIGNAL RECORDS

30.1 INTRODUCTION

1 An essential component of any management system is its inventory of assets and the keeping of various types of records. Such information should be kept in a well-organised record system.

2 A variety of traffic signal records may be kept, depending on the purpose for which the records are required. The following are the minimum that should be kept by a road authority:

(a) Installation records.

(b) Fault log and advice records.

(c) Maintenance records.

(d) Controller logs.

More details of the above records are given in the following sections.

3 The traffic signal record keeping system can be either operated manually or it can be computerised (or both). Computerised record systems have the advantage that they can also be used for purposes such as the automatic scheduling of routine work and maintenance and the provision of statistics on a variety of aspects (such as the number of signals, maintenance response and repair times, etc). It is important that computerised systems be kept up to date and regularly backed up.

30.2 INSTALLATION RECORDS

1 According to the National Road Traffic Regulations, a record SHALL be kept for each traffic signal containing at least the following installation information:

(a) Scaled drawing of the layout of the junction or crossing, indicating lane markings and road layout.

(b) Number, type and location of traffic signal faces

(c) Number, type and location of pedestrian and pedal cyclist facilities, including pedestrian push buttons.

(d) Phasing, time plans and offset settings.

(e) Date of implementation.

(f) Name and registration number of the engineer or technologist (engineering) who approved the signal, and date of signature.

2 The above record should be that of the signal installation as it currently exists. Where a traffic signal installation has been modified or changed, a completely new record should be issued, and the older record archived for future reference.

3 Care should be taken to ensure that the installation record is a true reflection of the actual current traffic signal installation. It is relatively simple to check physical components of the installation, but it is more difficult to check traffic signal timings. It is therefore recommended that a record be kept of some unique code generated by computer software when timing plans are downloaded to a controller. Such a code could be a version number generated, or a checksum calculated by the computer.

30.3 FAULT LOG AND ADVICE RECORDS

1 *Fault log and advice records* contain information on all reported faults as well as the action taken in response to such reports.

2 Records should be kept of all faults and malfunctions reported by any person, including the public and the police. Records should also be kept of all faults reported by a remote monitoring system, if such a system is available.

3 The information recorded may contain the following:

(a) Dates and times of fault report and advice.

(b) Name of person handling fault report.

(c) Source of information.

(d) Location of the fault.

(e) Apparent nature of the fault.

(f) Description of action taken, including name of person requested to attend to fault.

(g) If police were contacted, the name, rank and number of the police officer.

30.4 MAINTENANCE RECORDS

1 A record should be kept of all maintenance and repair work undertaken by the road authority or a contractor. A maintenance record should be created for each separate signal installation.

2 The following information should be recorded in the maintenance records:

(a) Junction or crossing description and number.

(b) Date and time of repair.

(c) Maintenance team identification.

(d) Nature of fault or malfunction.

(e) Repairs and maintenance undertaken.

(f) Details of further work required.

30.5 CONTROLLER LOGS

1 Controller logs are kept in controller cabinets as a running record of all routine inspections, repair work, modifications as well as changes to the signal timing and phasing.

2 Provision should be made for the entry of the following information in the controller logs:

(a) Junction or crossing description and number.

(b) Date and time.

(c) Name and initials of person undertaking maintenance.

(d) Brief description of the modification or work undertaken.

(e) An indication if the work is complete or whether further action is needed.

3 Where signal timing plans are not downloaded from a central control system, a separate log should be kept of the dates and times timing plans were changed on a controller. The log should contain a version number (or checksum) of the latest timing plan installed on the controller. This log is particularly important where different maintenance personnel have access to the controller, and there is a possibility that an older timing plan may inadvertently be reinstalled.

30.6 ARCHIVING OF RECORDS

1 The responsible road authority should keep the current installation record of each traffic signal for as long as the traffic signal is in operation.

2 All other records described above, including older installation records that have been superseded by a new installation record, should be archived for a period of at least **5 years**.

3 When a traffic signal is removed, all records pertaining to the traffic signal should also be archived for a period of at least **5 years** after removal.

30.7 REFERENCING SYSTEMS

1 Traffic signal records require a relatively simple referencing system. A simple junction or pedestrian crossing number would normally be adequate for this purpose.

2 One method for numbering junctions or pedestrian crossings (nodes) is to subdivide an area into smaller zones. These zones could simply be the individual pages of a map book, or it could be the suburbs of a large city. Each zone is given an alphanumeric number, normally consisting of two or three letters. Each street in a zone is also numbered, also using a two or three letter alphanumeric code.

3 The junction number is determined as a combination of the zone number and two street numbers. Pedestrian crossings are numbered as a combination of the zone number and one street number, followed by a sequence number (to allow for the possibility of more than one crossing on the street).