



Scanning Guidance

1. Introduction
2. When to scan
3. How to scan
4. Management issues
5. Admissibility
6. Summary

Version	Notes	Author	Date
0	Rough Draft	RM	01/12/06
0.1	First discussion draft	RM	20/02/07
0.2	Reviewed. Front page reformatted,	RMPO	22/01/15
1.0	Approved	CO- L&P	23/01/15
1.1	Admissibility section added	RMPO	11/02/15
1.2	Minor wording changes	RM	22/03/17
2.0	Changed document title to "Scanning Guidance". Updates and minor changes throughout.	SIIO	20/11/20

Name of Record	Scanning Guidance
Author	Senior Information and Improvement Officer
Owner	Chief Executive's Business Manager
Date of Publication	20/11/20
Review Date	20/11/22

1. Introduction

This document gives advice to officers considering scanning records currently held in paper form. It considers when to scan and gives advice on the process of scanning and other issues such as the retention of both the scanned images and the original documentation.

The guidance does not provide more general advice on the management of electronic records. It is primarily concerned with proposals to “back-scan” - that is the digitization of records which are currently held in paper format.

Also not covered here is advice on scanning procurement or on the relative merits of in-house or bureau scanning.

2. When to Scan

Holding information in electronic format as opposed to the paper originals can provide numerous advantages.

It can allow multiple access to the information, with different officers in different locations accessing the information when they require it rather than having to pass round, or take multiple copies of, a hard copy file.

Digitization is also required to bring the information within a work-flow process, allowing automated processing of a function which can bring real benefits in terms of efficiency and productivity.

Scanning can also be an important tool in considering contingency planning, providing a back-up or secondary access to vital Council information.

Paper consumes a lot of space, often using up busy and expensive office space which could be better utilised by staff or for another function. Scanning removes this problem, with all the paper replaced and the space freed up.

However, there are important issues that need to be considered *before* committing to a program of back-scanning paper records.

Storage

As for storage, it is cheaper to maintain hardcopy records in offsite storage than to scan the same files.

The Council has a safe and efficient records storage facility for records which need to be kept but which need not be retained at the office which created them. Scanning is *not* cheap, and proper storage of the current format is often a better solution than digitisation.

Unless there are reasons to scan beyond simple space issues - for example multiple access is required or the information is required in that format to be brought into a work-flow program, it is recommended that proper provision is made instead for the management of the information in its original media, rather than in scanning

Managing large and cumbersome volumes of paper presents challenges across all Council departments. This is best tackled by the use of the Council retention schedules (and the disposal of redundant material), the establishment of authority records (and the disposal of duplicate records), and the utilisation of the corporate records store. Scanning should only be undertaken in circumstances where there are additional benefits to be derived from digitisation other than simply tackling the space issue.

Cost of scanning

Scanning bureaux and hardware retailers aggressively promote scanning as a cost-effective approach to information management. It is most important, however, to properly cost and plan any back-scanning project.

The scanning itself is only a small part of the process. As well as hardware or bureau costs, you must also factor in:

- Time for pre-scanning preparation, including removal of staples, weeding and sorting files, developing of indexes, etc.
- Checking. As detailed below, it is important to conduct proper quality control of any scanning project. This means that a sample of the resultant images have to be compared to the original documents and that all documents have to correspond to their electronic equivalent. Resources have to be set aside to allow the storage of the originals while this process is conducted and time has to be allowed for it to be properly carried out. The cost and time of any rescanning required must also be factored in.
- Future management of the records. It is a common misconception that, once scanned, the issues of managing records have been dealt with. Consideration will have to be given to storage, access, retention and disposal. Moreover, as detailed at “future compatibility” below, particular caution should be exercised when considering scanning material which requires to be retained for an extended period of time (say ten years or more). The speed of the development of hardware, software, storage media and file types - and the resultant obsolescence of that which they replace - is such that no switch away from paper should be contemplated until long-term migration or emulation strategies have been agreed.
- It is not a case of scan once and then forget: the future costs of maintaining the records will need to be considered when costing a project.

Remember that the costs from a bureau, or for an in-house project, have to be adjusted to consider the original formats of the material being scanned. It is much easier and cheaper to scan a homogeneous series of records than in cases where there are occasional documents in landscape orientation, or which include oversize items. Some items such as images or maps and plans may require to be scanned at a higher resolution than text, other documents such as those on fax or coloured paper might require adjustment of brightness or contrast at the scanning stage.

Peter Emmerson, the Information Manager from Emmerson Consulting Limited, has stated “From experience, most back scanning projects take four times as long and cost three times as much as the figure in the business case”

This does not mean that the Council should not be back-scanning; simply that we should be aware of *all* the costs and consider all the alternatives before committing to any projects.

“Value” in the document

Scanning captures the information from a record, not the document. There are occasions, however, when there is a value in the original itself, rather than in just the information derived from it.

For example, Social Work’s adoption files can contain items such as original hand-written letters from the birth mother, or photographs and other ephemera. It would be important for any future access by the adoptee to be able to touch and handle the original material. An electronic copy would not have the same value.

Similarly, records which will have an indefinite retention as historic archives after their administrative utility has ended should be preserved in their original format. The evidential and historical importance of such objects as artifacts is diminished when we preserve only the information from them, and not the objects themselves.

This factor will not be relevant in relation to the bulk of day-to-day records which the Council generates, but again should be considered *prior* to committing to a scanning project.

Future compatibility

There have been problems in the past with the future compatibility of scanned files in terms of their compatibility with later hardware and software, and with scanned images stored on storage devices which become inaccessible after a relatively short period of time.

Paper, provided it is given proper basic care, can last indefinitely. Electronic records, however, require to be more actively managed if they are to remain accurate and accessible for the period of time that they are required.

There are several examples from within and beyond the Council where records “born digital”, or which were transferred to electronic format, could no longer be accessed within a few years. This can be because of software obsolescence, or updates to hardware, software or operating systems which are not backwards compatible.

This problem has been somewhat alleviated in recent years, but again, before any back-scanning projects are carried out, consider how long the data you are scanning will be required and what strategies of updating might be required across the lifetime of the electronic record.

3. How to Scan

Procedural Issues

Proper procedures are essential for demonstrating authenticity and maintaining the evidential value of your records. This is especially important if the records provide evidence of the Council's rights or responsibilities, and if any of the material might be later required as a production in any legal proceedings.

This means that for in-house scanning, proper training should be given to all staff involved in scanning, clear records should be kept of who did what and when and good systems of quality control should be developed (see below). A clear process flow should be established to support the later assertion that the scanned image which is presented is indeed an accurate reflection of the original document from which it is derived.

For external work by scanning bureaux, it is also important to ensure that a proper audit trail is maintained. This should involve all the steps above, but the chain of custody of the records should be maintained by setting up procedures such as signing for records when they are picked up by couriers or delivered to the bureaux.

Proper metadata should be consistently applied, recording information about the data being recorded. This will also ensure future interoperability between Council records or records systems and will facilitate, where appropriate, the development of inter-agency working.

There is a British Standard guidance, BSI BIP0008, which gives further details on procedures and technical requirements to ensure the legal admissibility and evidential quality of records stored electronically. This focuses more on the maintenance of the integrity of electronic records post-capture or creation, but its principles should be applied to the entire life-cycle of records, including those involved in back-scanning projects.

Technical Issues

Careful consideration should be given to the format in which the scanned image is to be stored. It is recommended that an open standard format such as [TIFF](#) is used as this is more likely to ensure future access to the record.

Consider, too, the resolution at which the document is to be scanned. While even a marginal increase in the resolution of a scanned image can greatly increase the size of the electronic files – leading to problems with storage and access times – it is recommended here that a resolution of at least 300 dpi is adopted for all records, to ensure consistent quality of the electronic record.

Higher resolutions may need to be considered for visually significant items such as plans or photographs.

Similarly, do not leave decisions as to whether to scan in colour or in black and white to the scanning bureaux or to the officer doing the scanning. Monochrome imaging or greyscale may be appropriate for many records, but if there are elements of colour in the

original which have an informational rather than decorative or incidental role, this must be captured at the scanning stage. Again, this can have a massive impact on the file size with knock-on effects for subsequent storage and delivery, as colour files are many times larger than those saved in black & white or greyscale.

Quality Control

To ensure that the relevant information has been properly captured, the scanned images should be checked and compared with the originals soon after scanning. A significant proportion of the images should be methodologically checked, ensuring that order, metadata, image quality, etc., are all accurately recorded. This process should be properly planned beforehand, documented during the process, and signed off on completion.

4. Management Issues

Management of scanned files

The scanned images should be held in a system which is able to robustly define them as a record, and which either does not allow subsequent changes to be made, or which provides a full audit trail that marks and attributes any post-scanning alterations.

Retention of originals

Unless specific requirements exist in relation to a particular series of records, and as long as the records have been properly scanned as described above, the originals should only be retained for as long as it takes to allow quality control checking of the process, and to ensure that the information has been properly transferred to the new system. A period of three months after scanning would normally be long enough. Thereafter, the originals should be appropriately disposed of.

If there are particular reasons why the originals *do* need to be retained, consider again whether a digitisation program is the most appropriate method of storage at all.

Retention of scanned images

Except to those who have to purchase and maintain the IT infrastructure, storage of electronic records is effectively invisible. There are, however, good information management and statutory compliance reasons for ensuring that the scanned records are not simply retained indefinitely. To that end, ensure that the retention schedule is followed, specifying how long each series or type of record is to be retained. Also, ensure that the system is able to dispose of redundant records when they come to the end of their period of utility. These retention periods should be independent of the media in which the records are stored: that is the period that you keep your electronic records should be the same as the period you kept the paper equivalent.

5. Admissibility

Legal evidence

In any civil court action, presenting the original document would be ideal; however scanned documents are admissible, with the procedure differing for civil and criminal court actions.

Civil action

In a civil court action copies such as paper, photocopies or scans can be produced, with the court deciding how much evidential weight can be given to each copy. If the authenticity of the document is challenged you would have to be able to demonstrate that the copy is a true representation. There must have procedures in place to ensure that, if necessary, you can demonstrate how the copy was made, and prove that it has not been tampered with since that point.

Criminal case

In a criminal case a certified copy of a document can be received in evidence as equal to the original, if properly authenticated. Any certified copy is open to challenge and it may be required for oral evidence to be given as to the way in which the copy was prepared, including the process by which the copies are produced. Therefore measures need to be in place so you can show that copies are definitely true copies of the originals.

6. Summary

- Establish a good business case for scanning prior to committing to the project.
- If the main issue is storage, remember that scanning may be less efficient than proper storage of the original material.
- Be aware of issues such as technological obsolescence and consider future access to the scanned records.
- Scan to proper technical specifications.
- Follow a proper audit trail.
- Unless particular considerations apply, the original documentation should be retained only so long as it is required to check the authenticity, accuracy, admissibility and usability of the scanned image.
- Scanned images should be retained in keeping with agreed retention schedules.