These notes sum up research and experience in designing paper documents for visually impaired people. Written in September 2001, they are based on recommendations from the Royal National Institute for the Blind, The Lighthouse Inc, other research and, where there is no better guide, our own taste and prejudice.

typography for visually impaired people

typeface

The choice of typeface is less important than contrast, type size, weight and the spacing of characters.

Quirky, unusual, script and titling faces are highly inappropriate for legible continuous text.

There is no valid research to support the preference for a sans serif typeface (such as Arial or Helvetica) over a seriffed one (such as Times or Century). However, seriffed faces are regarded as more 'readable' in continuous text for regular reading. This may equally apply to large print texts.

type size

16pt Arial   16pt Perpetua

The point size of a typeface is not the same as its apparent size

For the partially sighted 9–12 pt type (or an average x-height of 2.5mm) is suggested as a minimum by RNIB.

These recommendations depend on the typeface and weight used. For the general reader type sizes between 8 and 10pt are frequently used.

Remember that different types with the same 'point size' have different apparent sizes. The effective size of a typeface is actually related to the height of the lowercase x.

type weight

The tendency has been to set text in bold because of its contrast on a white page. However, more recent findings suggest that a medium weight or semi-bold may be more legible. The RNIB's 'See it right' was set in New Baskerville semi-bold.

We suggest avoiding weights of fonts that appear very light. Also, aside from the weight of the stroke, the counters of letters are important – they should be open to help legibility.

italic

Traditional italic type should not be used for continuous text for any group of readers. It's more appropriate as a means of emphasising important words or phrases. This is particularly important if body text is in a semi-bold, where the use of bold for emphasis will not be enough. Titles of books etc. should be italicised as in text for general readers.

Text Matters
37 Upper Redlands Road
Reading RG1 5JE
United Kingdom

t: (+44) 0118 986 8313
f: (+44) 0118 931 3743
e: post@textmatters.com
w: www.textmatters.com

Baskerville italic

Arial italic

Italic of a seriffed typeface versus a sans serif italic

Gill Sans regular **I I ! I**

Baskerville regular **1 l ! I**

Joanna MT regular **1 l ! I**

Meta-Normal regular **1 l ! I**
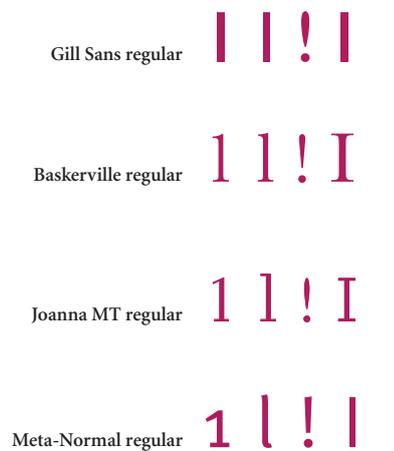
Characters that are not always easily distinguished in a font: the numeral '1', letters 'l' and 'I', and the symbol '!'

Remember that the italic versions of most seriffed fonts are very different from their roman equivalents; some would be tough going for visually impaired readers. 'Italic' versions of sans-serif fonts are normally just sloped versions of the roman and should not have the same potential problems.

capital letters

Text set in capitals is much harder to read than normal-case continuous text. However, one or two words set in capitals do not create reading problems. Because they are bigger, capital letters are easier to see than lower-case letters, so may be suitable for labels.

numerals

It is important that numbers are as distinct as possible. This is particularly vital for documents such as bills, bank statements, and accounts. Some typefaces have figures that are easily misread: 3, 5 and 8, as well as 0 and 6 can be easily confused. Also the figure one '1' can be confused with I, and l and even ! A 'hooked' number one is more distinctive than a straight vertical stroke '1'.

Choose a typeface with distinctive numbers. The RNIB publication 'See it right' had its New Baskerville figures redrawn to improve readability and help increase the distinction between different figures.

interlinear space

Leave reasonable space between lines of type. RNIB suggests interlinear space should be at least +2pt for type sizes between 14pt and 20pt (eg. 14pt type with 16pt leading). This of course depends on line length and on the x-height of the type you are using. Lighthouse recommends adding 25 to 30 per cent of the text point size between lines. We're with Lighthouse on this one. Text set in longer lines needs more interlinear space than text set with a narrow measure (see 'Line length and line endings').

line length and line endings

This should ideally be in the range of 50–65 characters. Some visually impaired people may prefer even shorter lines than this.

Avoid splitting words at the ends of lines. Switch hyphenation off.

setting mode

Use unjustified, ragged right, text setting with even word spacing. Do not justify text: this creates uneven word spaces and makes the text harder to read. This appears to reflect research among regular readers which suggests that unjustified text is easier to read at the margins of reading ability: with beginning readers and those reading in poor light.

word spacing

Always use even word spacing. In some documents for the visually impaired there has been a tradition to use double word spacing. This has not been fully researched. While it may help some readers, others may find double word spacing actually hinders reading.

paragraphs

Leave space between paragraphs. There should be more space between paragraphs than between lines. Other ways of setting paragraphs such as only indenting the first line or out-denting the first line may make text less easy to read for visually-impaired readers.

headings

Headings should be clearly differentiated from the main text using some combination of size, weight and space.

A second typeface such as a sans serif in contrast to a serif body text could be used. Headings in bold are clear as long as there is plenty of contrast between the weight of the heading and that of the text.

Headings seem easiest to read when ranged left with the text. It has not been established whether centred headings are harder to read than headings that are ranged left.

Extra space around headings helps to differentiate them from main text.

In the past, documents for visually impaired readers often used underlined headings. There is no conclusive evidence that this assists readability.

design and layout

Layouts should be simple and clear with recognisable patterns for levels of heading, numbering systems, and treatment of specific information. Generous margins for pages of text help reading as they don't lead the eye off the page.

If text is set in columns make sure the space between columns is generous. If space is limited, use a vertical rule.

It is helpful to provide 'navigational aids' for the reader such as a contents list for multi-page documents, and rules to separate unrelated sections.

forms

On forms, visually impaired people often need generous space to fill in hand-written details. Their handwriting tends to be larger than average, and visual impairment, particularly in older people, is often accompanied by other physical problems which make it hard to write neatly. This means they need more widely spaced lines or larger boxes to fill in than those on conventional forms. This also applies to tick boxes.

other issues

This brief overview is by no means comprehensive. There is now a wealth of information about designing for visually impaired users. A good starting point is the RNIB website (www.rnib.org.uk) and their own publications.

your knowledge

Please tell us more about designing for visually impaired people: we will revise these guidelines to reflect the information you contribute.