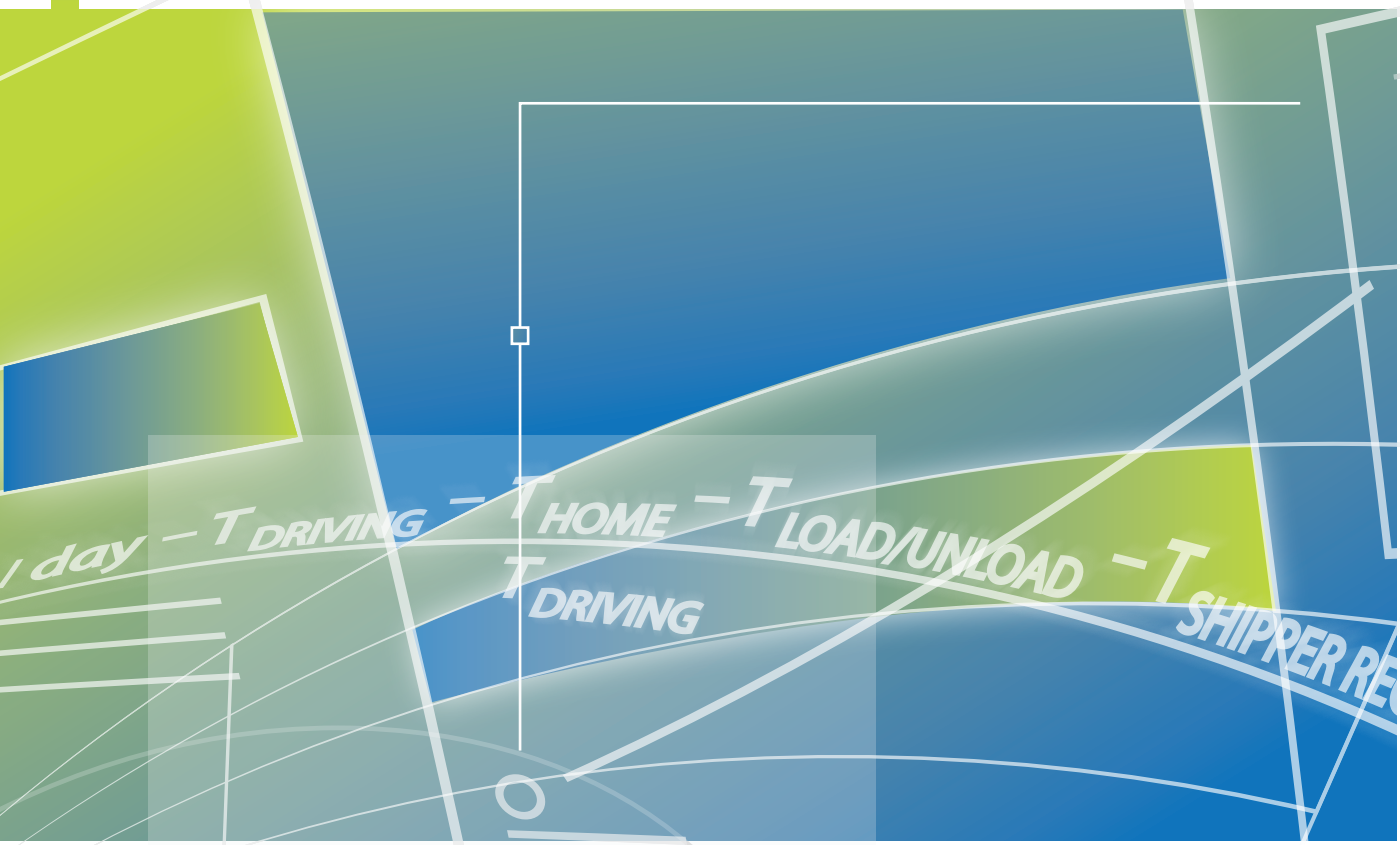

FHWA Publication Style Guide

U.S. Department
of Transportation

Federal Highway
Administration

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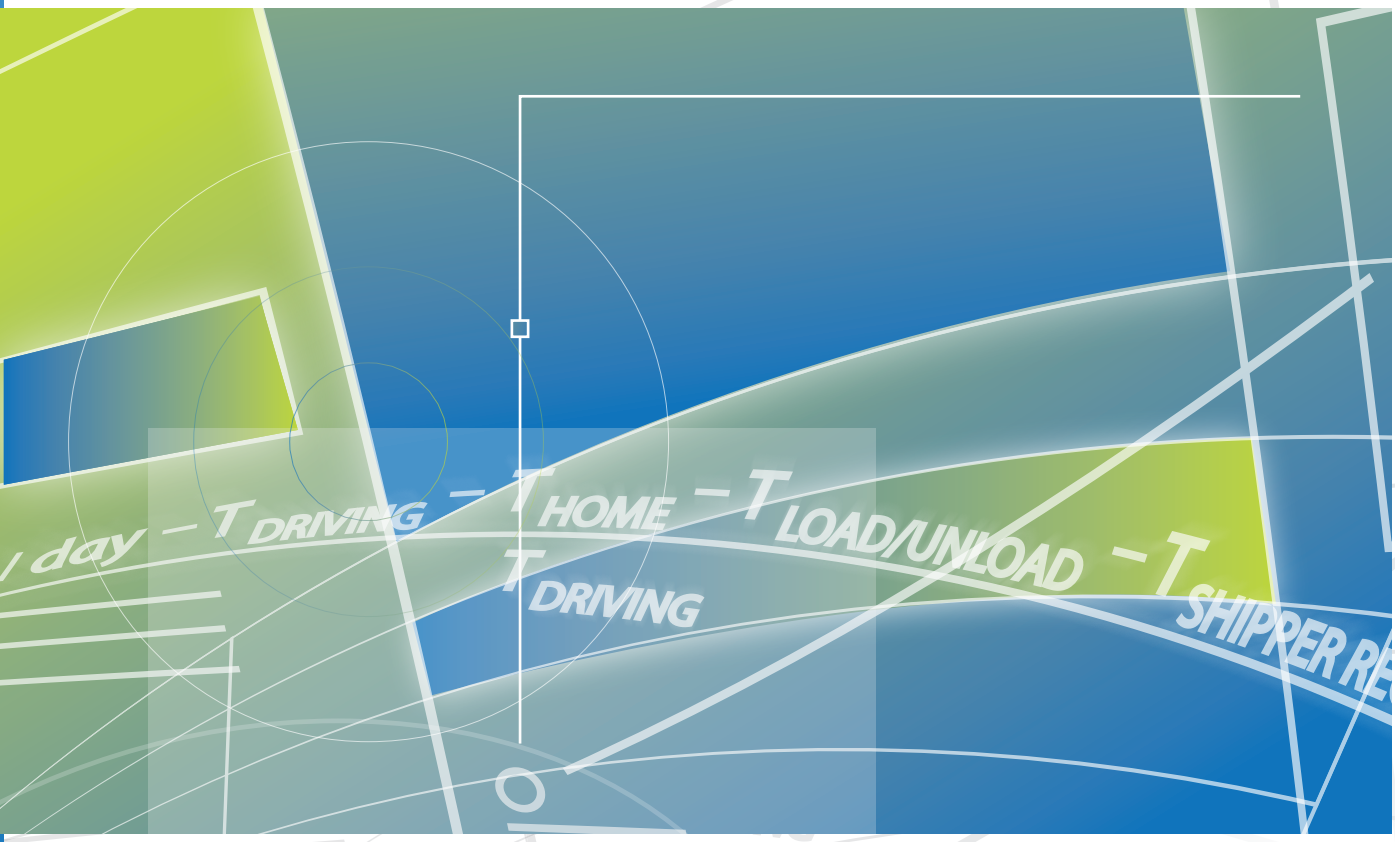

Introduction

The first contact most people have with the Department of Transportation (DOT) is not with a person, but with something visual— perhaps a news release, a consumer brochure, or a letter. Maybe it's a sign, an exhibit, or a flag. If what they see is attractive, easy to read, and clearly identified as coming from DOT, they will have formed a favorable impression of the Department, and the Department will have been successful in reaching another segment of the public. Clear communication is no less vital within the Department itself, in its forms, memoranda, awards, and identification cards.

Attractive, readable communications don't just happen. They have to be planned and carried out according to carefully established guidelines that create a sense of unity, so that everything looks as if it comes from the same Department, but that leave room for creativity, so that everything doesn't look rigidly the same. This Graphic Standards Manual has been prepared to help DOT communicate better by giving a unified and consistent look to all the Department's many and varied ways of reaching its employees and the public.

In addition, establishment of a visual communications system throughout the Department will offer many other important benefits.

The DOT Design Improvement Program was initiated in 1977 upon the recommendation of the Department's Ad Hoc Task Force on Design, Art, and Architecture in Transportation and was endorsed by the Secretary.

The implementation of visual guidelines can be effective only with the understanding and cooperation of each person involved with the creation and production of the Department's visual communications. This will help all of us create better, more consistent products that will aid DOT in accomplishing its mission.

Mark (triskelion)

The DOT mark is the key graphic element in the uniform graphic identification system of the Department of Transportation. Its spinning triskelion shape has been adapted from the traditional symbol used by the Department since its inception and is based on the theme of motion.

The mark has been modified to achieve a greater visual balance with more implied forward motion. Constraining elements have been removed.The shapes have been simplified so they can be reproduced clearly at both large and small scales.

The mark is used primarily as the common graphic element placed above the names of the Department and the Administrations (All of the subordinate elements that make up the Department of Transportation, including the Office of the Secretary of Transportation and the Saint Lawrence Seaway Development Corporation, will hereafter be referred to as Administrations.) in their respective signatures.

The mark may stand alone on publication covers and other Departmental graphics as a tasteful visual element. It should not, however, be used decoratively on the same page or surface that also contains a full signature. When using the mark by itself on a publication, carefully place the full signature in another appropriate position, such as the back cover, book spine, or title page.

Some notes to remember when using the mark:

- The mark has been carefully drawn and should be reproduced only by photographic processes from the approved reproduction art in Section 8 of this manual.
- If the mark must be produced at a scale too large for photographic reproduction, prepare an enlarged version based on the grid drawing of the mark on page 1.7 of this manual.
- The mark should never be reproduced at less than 3/ie" in diameter.
  The mark should be used only on its proper axis and never rotated to a new position.
- Refer to the approved reproduction artwork in Section 8 of this manual.
- No prior versions of the DOT symbol or seal may be used.
- Contact the DOT Graphics Coordinator for advice and counsel concerning specialized or unique applications of the mark.

The Signature

U.S. Department of Transportation

The primary purpose of the signature is to provide a way to consistently identify the Department and its Administrations in a clear and uniform way.

All signatures are a combination of the DOT Mark and the name of the Department, either by itself or with the name of a specific Administration, with the exception of the U.S. Coast Guard's, which has its own mark. No additional elements, typography, or graphic devices should ever be added to the basic signature configuration.

Department Signature

U.S. Department of Transportation

The Department signature consists of the mark and the Department's name set in the TransBold typeface. Both elements are placed flush to the left. This signature is to be used as the graphic identifier on those items common to the entire department.

Administration Signature

U.S. Department
of Transportation
Federal Highway Administration

There are individual signatures for the Office of the Secretary and for each of the Administrations in the Department. The Administration signature is the principal graphic identifier to be used by the Administrations on all stationary, publications, signage, and vehicles.

Each Administration signature is a modification of the basic Department signature. It is formed by placing the name of the particular Administration below the Department's name. Emphasis is placed on the Administration by setting the Department's name in lighter type and the Administration's name in bold type. In this way, the Administration's name becomes the dominant element in the signature.

All Administration signatures share the common elements of typographic style and the DOT mark. Each Administration, in effect, has its own visual identity and, at the same time, is clearly related to the Department as a whole.

There are two acceptable configurations of the signature for the Department and each Administration. They may be used interchangeably; however, you will find that the signature with vertical emphasis (stacked version) will look better in most applications.

The signature has been adopted to replace all other Department and Administration identification graphics on publications, vehicles, signage, etc. Try to avoid redundant or repeated placement of the Department or Administration names when the signature is used.

There are no other acceptable versions of the signatures. Do not alter the typography, the size of the mark, or the general configuration of the signature. Use original or approved reproduction artwork at all times.

For detailed guidance on the application or use of the signature in FHWA publications, contact the Office of Publications and Visual Communications Team (HAIM-23) for advice and counsel on unique or special applications of the signature.

Incorrect Use of Mark & Signature

The mark and the Department/Administration signatures are the primary visual elements in the DOT graphic communication system. These elements are common to all visual communications and identification throughout the Department. For this reason, it is absolutely critical that the general guidelines established on the preceding pages be maintained with uniformity and consistency.

To maintain this uniformity, reproduction artwork for all Department and Administration signatures, in the most common sizes used for publications, is provided in Section 8 of this manual. These should be clipped and used without alteration. If the signature size you require has been removed from the manual, additional reproduction artwork pages are available through the DOT Graphics Coordinator. Contact the Graphics Coordinator for advice and counsel on all questions concerning acceptable use of the mark, the signature, and color.

To help you avoid incorrect uses, the following guide shows some of the most common violations of both mark and signature configuration and some misuses of typography and color.

Official Seal

The official seal of the Department of Transportation is to be used only in situations for which authentication by seal is required (secretary of Transportation). The ollicial seal is to be used only by authorization of the Secretary, Deputy Secretary, General Counsel, Agency Administrators, the Commandant of the Coast Guard, and the Chairman of the Board of Contract Appeals (OST).

Consult the current orders contained in Section 11 of this manual for specified uses of the official seal. Permission to use the official seal for purposes not included in the order must be requested in writing from the Assistant Secretary for Administration. The seal is not to be used as a substitute for the signature which is the approved identification for the Department and each Administration.

The configuration of the official seal is a borderless circle. The seal is dominated by a positive version of the Department mark which fills the center area. The outside circle of the seal is formed by the words "Department of Transportation" cresting over the top half and "United States of America" around the bottom half. The letters are typeset in capitals using the Trans-Book face. The seal has been designed in the traditional circular shape without constraining the sense of motion contained in the mark. This configuration must not be altered.

Reproduction Guidelines

The three officially accepted printed versions of the seal are shown below.

- The seal may be reproduced as a blind embossed (raised) image on certificates and official documents.
- The seal should never be reproduced in negative form (white type and mark with black background).
- The seal should not be reproduced in colors other than those specified.
- The seal should never be surrounded by any borders, lines, or other shapes.
- Never substitute or add another typographic message, such as names of offices, agencies, or positions, around the perimeter of the mark.
- The seal must *not* be adapted for use by any other Federal, State, or local government agency or private concern.

1. One color reproduction should always be in black

2. For two-color reproduction, the mark is to be in DOT blue and the typographic parameter in black.

3. The typographic parameter may be reproduced in a warm, middle-value gray, only when the mark is printed in DOT blue.

Color Standards

The official color for the Department is DOT Blue. The color used in this manual is for illustration only: it is not to be used as a standard. DOT Blue shall match "PANTONE®285" found in the current PANTONE® Matching System Formula Guide (Pantone. Inc.).

The adjacent group of demonstrations establishes a guide for color use in DOT publications. As presented, the top three sets of examples are the preferred ones.

The use of other colors should be limited to deep saturated primary (red, yellow, and blue) and secondary (green, purple, and orange) colors. Avoid the use of pastel, diluted, or thinned colors. Do not print in or drop the signature out of a screen tone that contains less than 133 lines per inch.

Pure white paper stock should be used for signature background. Gray and beige-tone papers may be used, but soft-or pastel-colored papers should be avoided.

Shown here are both positive and negative versions. The signature may be reproduced in other colors. However, the following guidelines should be followed carefully.

1. The only acceptable two-color versions of the signatures are shown here: One has the mark reproduced in DOT Blue and the signature type in black. The signature typography may also be reproduced in a middle-value warm gray, as shown, when the mark is printed in blue. No other two-color versions of the signature are acceptable. Do not print the mark in gray or black and the type in blue.

2 & 3. The preferred one-color reproduction of the signature is in DOT Blue or black.

4. The signature shall be overprinted in a solid color when the background is no darker than the equivalent of a 50 percent gray. The signature shall be dropped out (reversed) when the background is no lighter than a 50 percent gray.

5 & 6. This tone guide also applies when using colors other than DOT Blue, black, and middle-value warm grays.

Light backgrounds in gray or earth tones may be superimposed with a darker saturated primary or secondary color, if the background is not darker than a 50 percent tone.

The signature may also be dropped out of a saturated dark-value primary color that is no lighter than a 50 percent tone. Preferred background is white. Acceptable background colors are light-tone warm gray and beige.

Screened tones with less than 133 lines per inch are not acceptable for printing the signature or its background.

®PANTONE, INC.'s check-standard trademark for color standards, color data, color reproduction, and color reproduction materials.

Dot Blue Specifications:

PANTONE 285
RGB = 0 / 87 / 153
CMYK = 91c / 43m / 0y / 0k
HEX = 005799

Deliverables

All work produced should meet the standards for electronic deliverables as specified in the statement of work. The Federal Government has unlimited rights in all data first produced in the performance of this contract and all other data delivered under this contract. The Contractor grants to the Government, and others acting on its behalf, a paid-up, nonexclusive, irrevocable worldwide license for products completed under this contract, to reproduce, prepare derivative works, distribute copies to the public, perform publicly and display publicly, by or on behalf of the Government.

All publications funded by FHWA must show the proper departmental "mark and signature" on the front cover, title page, and (space permitting) the spine. Internet documents must show the mark and signature at the beginning of the document or on the document's "cover" page.

The full "mark and signature" must be used, which includes the DOT mark (the triskelion), the Department's name, and the Administration's name. The Administration's name must appear in bold typeface. The logo may be reproduced in any color that is appropriate to the color themes of the publication, as long as the elements of the color used allow for sufficient contrast to read and understand the sign and accompanying text. The "same color is used for the entire "mark and signature (logo), including the DOT/FHWA names. **The only exception to the one-color rule is the use of DOT blue (Pantone 285) for the triskelion, and black for the text. No other two-color combinations can be used.** The logo may not be rearranged, altered, added to, or edited.

If the publication is a jointly prepared document, the FHWA logo must appear if FHWA has contributed to the publication, and, especially, if FHWA pays for the printing. Logos from other DOT modes or Federal agencies may appear along with the FHWA logo on jointly prepared publications. If another agency is a co-author, then that agency's seal or logo should appear to the right or directly below the FHWA logo.

To ensure that publications produced via contractual services will be acceptable for future publication by others it is important that the original publication adhere to generally accepted "Standard Printing Practices" acknowledged by the printing industry. Some of these practices are described below. To ensure that the deliverable produced by the contractor is acceptable to the FHWA we ask that you have the FHWA Office of Information and Management Services, Publishing and Visual Communications Team review it (typically a CD) before accepting the deliverable. The Publishing and Visual Communications Team HAIM-23 may be contacted at (202)366-9125 and is physically located at E61-301 of the US DOT Building (1200 New Jersey Avenue SE, Washington, DC).

GENERAL: FHWA uses the Microsoft Operating System (MS OS). Other operating systems, including Macintosh/Apple are not acceptable as final deliverables to the FHWA Office of Information and Management Services. Please have all work done by contractors delivered in the MS OS editable file formats. All fonts used in the publication must also be accessible on the MS OS. At this time, the Office of Information and Management Services, Publishing and Visual Communications supports only Adobe InDesign and PageMaker for print job purposes. It does NOT support Quark Express, MS Publisher, or any other layout/design software for final print jobs.

Graphics to be included in print publications should not be embedded in the design software (i.e. Adobe InDesign, etc.). All graphic elements must be linked from a separate "links" (or other suitably named) folder.

Photographs and other graphic elements must be a minimum of 300 dpi for standard print jobs. Photos and other raster images should be displayed in a publication at the same size (or smaller) than the physical size of the element. Enlarging raster images will cause pixilation.

Color used in full-color (process) production must be in CMYK—not RGB. All fonts and graphics must be included in the final CD. A separate list of all fonts and linked graphics must accompany the CD for printer identification.

All illustrations are to be done as vector drawings, and all final design and layout deliverables from contractors must include all original source files in their native software configuration. As with all layout publications, original vector artwork that includes text must also include the original fonts used in the element, even if the final print file is utilizing font-outlines. Adobe Illustrator is the preferred choice for vector drawings, and Adobe InDesign the accepted choice for print layout applications.

Adobe PDFs as a substitute for originals are NOT acceptable and should never be used as a final deliverable without the accompanying original files.

In the case that final deliverables include layered raster elements, the original layered version of the element is to be included in the final deliverables statement. The preferred software for layered raster elements is Adobe Photoshop (.psd), or Adobe Fireworks (.png—layered).

The final electronic files for printing shall be delivered to the FHWA on CD-ROMs, or other acceptable media **to be determined and agreed upon prior to contract ratification.** The disk shall include all necessary files for producing the printed document, and be accompanied by the standard **GPO Form 952, Desktop Publishing - Disk Information.**

If the contractor fails to provide explicit instructions and all needed files and information with the final deliverables (printer's dummy and printers disks) the printing process will be delayed until the FHWA receives corrected files or information from the contractor. The FHWA is not responsible for any additional costs which may be incurred as a result of missing or incomplete information provided by the contractor.

General Contract 508 Amendment

All solicitations and contracts for purchases or orders over $3,000 (and for any dollar level after 10/1/2004) must contain the following:

"All electronic and information technology (EIT) procured through this Contract must meet the applicable accessibility standards at 36 CFR 1194, unless an Agency exception to this requirement exists. 36 CFR 1194 implements Section 508 of the Rehabilitation Act of 1973, as amended. EIT is defined as any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion, or duplication of data or information, or used in the automatic acquisition, storage, manipulation, management, movement,

control, display, switching, interchange, transmission, or reception of data or information. EIT includes, but is not limited to, telecommunications products (such as telephones), information kiosks and transaction machines, World Wide Web sites, multimedia, office equipment such as copiers and fax machines. It includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources."

In accordance with the above, in addition to the work requirements specified in the Statement of Work, contractors/vendors must ensure that all EIT that they provide either (1) meets the technical provisions of the Section 508 Access Board Standards applicable to a given procurement [see below] or (2) uses designs or technologies as alternatives to those prescribed in the specified technical provisions, provided they result in substantially equivalent or greater access to and use of a product for people with disabilities.

The following standards have been determined to be applicable to this contract [check appropriate block]:

- ☐ 1194.21 Software applications and operating systems.
- ☐ 1194.22 Web-based intranet and internet information and applications.
- ☐ 1194.23 Telecommunications products.
- ☐ 1194.24 Video and multimedia products.
- ☐ 1194.25 Self contained, closed products.
- ☐ 1194.26 Desktop and portable computers.
- ☐ 1194.31 Functional performance criteria.
- ☐ 1194.41 Information, documentation, and support.

[Note: The standards do not require the *installation* of specific accessibility-related software or the attachment of an assistive technology device, but merely require that the EIT be compatible with such software and devices so that it can be made accessible if so required by the Agency in the future.]

All deliverables for posting on the **World Wide Web** must conform with the *Minimum Requirements for FHWA Web Pages*. Deliverables will be evaluated for 508 compliance. Non-conforming deliverables will be returned to the contractor to be brought into conformance at the contractor's expense.

Exemptions to Section 508 Compliance

All government Agencies must follow the mandatory requirements of Section 508 of the Rehabilitation Act and the Federal Acquisition Regulation; Electronic and Information Technology Accessibility.

By law, if you choose to file an exemption, it must fall into one of a few allowable categories. For every task or electronic information product that is not compliant with Section 508, you must document the exemption in writing and provide the contracting officer with a copy of the exemption for the contract folder. Projects worked on (even partially) by Federal employees may need to be fully compliant.

For information and GSA FAQs about allowable exemptions and undue burden, go to http://www.section508.gov.

ALT Tags

This attribute contains a text string alternative to display on browsers that cannot display images. An ALT tag shows up on a Web page (HTML file) as a small, temporarily visible "pop-up box" next to a cursor when a person hovers a mouse over a graphic in an HTML file. ALT tags give the text replacement for non-text elements (i.e., photos, charts, graphs, equations). An ALT tag can be read by assistive technologies, such as screen readers, for people with visual disabilities. For more information see Section 508 of the Rehabilitation Act.

Fhwa Minimum Standards for Web Page Development Are:

- FHWA Web Pages will be encoded to conform to HTML 4.01 Transitional or higher, as defined by the World Wide Web Consortium.
- File names will not exceed 20 characters in length. File names will be lower case, consist solely of letters, numbers and the underscore and will not contain slashes, spaces, tildes or hyphens. File extensions are to be 3 characters or less whenever possible (i.e., .htm instead of .html).
- All Web pages will have a title in the head section of HTML documents. The title should be unique (to the server), brief, and descriptive—not to exceed 150 characters in length.
- Web pages must be free of broken links or missing images. All links to pages within the server will be relative.
- Web pages posted on the public Internet will have a standard header and footer. Web pages posted on StaffNet will use the standard templates.
- FHWA Web pages will comply with Section 508 Web accessibility standards as established by the Architectural Transportation Barriers Compliance Board.
- All textual files posted on the FHWA Internet server will be available in HTML format. All other formats (i.e., PDF, Word, Excel, PowerPoint, etc.) will have HTML equivalents.
- The bodies of Web pages will use sans-serif fonts, e.g., Arial or Helvetica.
- Internet Web pages will feature "exit doors" on links to non-government web sites (anything other than a Federal, State or local government).
- All entry point web pages on the Internet will feature a privacy policy statement (or a link to the Agency privacy policy statement on the main server).

Guidelines for Preparing FHWA Publications: Technical Reports

Purpose

To communicate the full details of an experiment or research project, its results, data collected from analysis, or findings and recommendations.

Audience

Transportation technical staff.

Style

- Usually more than 30 pages.
- One-color cover

Format for Research Reports

Standard research reports must follow the guidance in this CRG regarding formatting and font, type size, symbols, margins, page numbering, bullets, columns, and other elements as the preferred style. The report must be consistent throughout in format and style. The author of a research report should adhere to these preferences unless there is a clear, compelling reason to deviate. Any deviation from the specified standards must be accompanied by a written explanation that specifies the reason that a format requirement was not followed (An author may need to reformat a document if the Publishing and Visual Communications (P&VC) Team determines that the standard format or style is preferred.).

All reports are to be submitted as an Adobe InDesign file (Microsoft Windows platform), and the document will be printed in black ink unless otherwise specified. Should a report need to be printed in color, FHWA must receive a justification in writing indicating why color is necessary. After special permission, the author must layout the document in an acceptable graphic format.

Order of Elements in Reports

As discussed earlier, documentation adheres to both *GPO Style Manual* standards and FHWA-specific style requirements as outlined in this guide. All of the components of a document are listed in this section in the order in which they should appear. However, please note that it is not necessary to use all elements in all reports. (For example, if a report does not contain references, there would be no need for a reference section in the report.)

Covers	Front Cover Inside Front Cover (Foreword and Disclaimer Notice)[1]
Front Matter	Technical Report Documentation Page (Form DOT F 1700.7) Preface (if any) Metric Conversion Chart Table of Contents List of Figures (including equations) List of Tables List of Abbreviations and Symbols
Body of Report	Page 1 Introduction Main text separated into chapters Conclusions Recommendations
Back Matter	Appendices (Use consecutive pagination, do not use A-1, etc.) Glossary Acknowledgements References Bibliography Index
Back Covers	Cover 3 (blank) Cover 4 (Publication number and printing information)

Note: Contractors' names may not appear in the report, except in block 9 of the Technical Report Documentation Page (form DOT F 1700.7). Contractor logos may not appear at all. Paid consultants should not be acknowledged anywhere else in FHWA publications.

If an acknowledgement page must be used, it must be part of the appendix; however, it should not contain contractor, author, or company names. See appendix I for a sample.

The Foreword

Publications containing technical material must have a foreword on the inside front cover. The foreword, signed by the office director, should contain information useful to readers:

- Purpose of the report, manual, or study.
- Content summary.
- Interested audience.
- Previous printings of the publication.
- Publication status: preliminary, interim, or final.

Every FHWA report must contain the standard disclaimer notice and quality assurance statement below:

Notice

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Type Arrangement and Typefaces

- The preferred font is Times New Roman, sized at 12 point for both headings and text.
- Type styles in the text must match those in the front matter and table of contents for all headings and subheadings. This includes font, capitalization, punctuation, bolding, italics, and other attributes.
- Margins must be at least 25 mm (1 inch) on all sides, including on pages with figures and tables.
- Single-spacing is preferred if superscript and subscript do not touch the next line of type. Use the superscript and subscript features in Microsoft Word.(sample superscript)
- Paragraphs are not indented. There should be two returns (i.e., one blank line) between paragraphs.
- Right margins should not be justified because type with ragged margins is easier to read and edit.
- Use a laser or letter-quality printer.
- Ensure that words are correctly divided, mathematical symbols or formulas are not divided between lines, and spacing is not excessive or erratic.
- Widows and orphans should be avoided. Please do not leave a single line of text at the top or bottom of a page.

Note: When using special math or scientific fonts in equations and formulas, create a .jpg, .bmp, or .gif graphic file of the equation and insert it into the document as a figure. Not all computers, printers, and operating systems can interpret special math and scientific fonts.

Volume Format

Volume designates an individually bound book. When a report exceeds 400 pages of reproduction copy (including figures, tables, appendices, and front matter), it should be divided into two or more individual volumes, with each containing a separate publication number and Roman numeral (i.e., Volume I, Volume II, etc.) as part of the subtitle. It should also be listed on the Technical Report Documentation Page (form DOT F 1700.7) in the abstract portion of the form. Indicate the following information within the abstract:

This volume is the first in a series. The other volume in the series is:

FHWA-HRT-##-### Volume II: *Name of Publication*

References and Bibliography

- References and citations in the text should use superscript numbers enclosed in parentheses or brackets. Place them after the end punctuation. If there is more than one reference, separate them with commas, but no spaces. Example:
- "This guide contains many references.[1,5,7] "
- For more than three references, use a separate sentence in parentheses. Example:
- "This guide contains many references. (See references 1, 5, 7, and 18.)"
- In the list of references in the appendix and in the bibliography, any style may be used as long as it is consistent and all reference elements are included (i.e., authors, title, publication number, publisher's name and city, publication date).
- References must be consistent in punctuation, the order of elements, and the amount of information supplied. When chapters or articles in larger volumes are referenced, please be mindful to provide inclusive page numbers, which can shorten the time it takes a reader to track down a particular reference. If the editors find that the reference style in the document is inconsistent, FHWA's standard style will be required.
- Use a single series of Arabic numbers beginning with 1 and continuing through the document and appendices.
- Each reference must be cited. Materials not cited may be listed in a bibliography placed at the end of the volume on the page(s) following the references.

Pagination

- The Technical Report Documentation Page (form DOT F 1700.7) is always numbered page i. (See sample form in appendix D.)
- Include front matter in the page count in the number of pages (block 21) of the form 1700.7.
- Front matter should use lower case Roman numerals such as ii, iii, etc. Start numbering with Arabic "1" at the introduction or, if there is no introduction, at the start of chapter 1.
- Use only one series of Arabic numbers from the first page of the report to the last. *Do not number appendix pages as A-I, B-I, etc.*
- Decimal numbers, hyphenated numbers, or numbers combined with letters for chapters, sections, or subsections should not be used as page numbers. Minimize the use of paragraph and subparagraph numbers.
- Page numbers should be centered 12.7 mm (0.5 inches) up from the bottom edge of each page and should stand alone with no dash on either side of the number. Page numbers are centered for consistent appearance in single and double-sided printing.

- Chapters must begin on the right-hand page (i.e., an odd-numbered page). Insert blank pages to achieve this effect. Blank pages are counted in the page number sequence, but no number is printed on the page. Do not label "this page intentionally left blank" when adding a blank page to start a new chapter on a right-hand page. Individual chapters, appendices, etc., should not have title pages.

Table of Contents

- A table of contents is useful in most reports of more than 10 pages and is required in all reports of 30 or more pages.
- At a minimum, chapter headings and first level headings should be included in the table of contents, and the text and punctuation in the table of contents must reflect the exact text used in the body of the document. The idea is to create a section that is useful to the reader. See the table of contents sample in appendix F.
- Do not list front matter on the table of contents. List only the body of the text from page 1 through the appendices.
- Type styles in the table of contents should match those used in the report. Like the headings in text, each level of subordination must consistently use a particular type treatment, such as all capitals, bold, etc.

Headings

- To delineate different parts of a lengthy document, material is separated into chapters, and lengthy chapters are separated internally with subheadings. Because the titles of chapters and the next level of heading will be presented in the table of contents, it is important to use headings that will be most useful to readers.
- Do not number subheadings. There are four levels of headings; each is a subset of the level above it. See the following box for preferred heading styles.

CHAPTER 1. MAJOR SECTION HEADING

The chapter headings are all caps, bold, and centered. Chapter numbers, when used, may be Arabic or Roman and may be followed by a period and one or two spaces (please be consistent throughout all chapter heads). There should be three returns (i.e., two blank lines) after a chapter heading.

FIRST LEVEL HEADING

All caps, bold, and flush left (i.e., at the left margin). No numbering is required. There are only two returns (i.e., only one blank line) after this and all subordinate headings.

Second Level Heading

Initial caps, bold, and flush left. Follow with two returns.

Third Level Heading

Initial caps, bold, italics, and flush left. Follow with two returns.

Fourth Level Heading: Initial caps, bold, followed by a colon, and flush left. Follow with two returns. This subhead level is not often required.

Figures and Tables

A figure is a non-text visual element shown as a graph, photo, formula, equation, chart, diagram, illustration, etc. Each visual element must be separate and must have its own figure number and caption. Do not combine multiple graphic elements into one large figure. In addition, text elements should not be grouped as part of the figure. See figure 1.

Table Heading	Table Heading
12	122
13	133

Figure 1. Unacceptable graphic. Sample of table depicted as part of the graphic.

Figure 2. Photo. Sample of separate graphic.

Merriam-Webster's Dictionary defines a table as "a systematic arrangement of data usually in rows and columns for ready reference."[3] Do not incorporate a table and table information into a figure (picture). A table should be depicted in a Microsoft Word or Excel text table format rather than as part of a figure or graphic. See table 2 and figure 2.

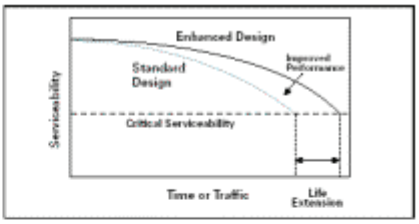
Table 2. Sample of separate table.

Table Heading	Table Heading
12	122
13	133

Text such as notes or tables should be included in the body as text rather than as part of a figure. For example, figure 1 and the combination of table 2 and figure 2 look similar, however, when an user clicks on figure 1 in Microsoft Word, it shows that the table and photograph are combined into a single figure. Instead, the figure and the table should be separate—one as a Microsoft Word table, and the other as a graphic (picture) as shown in table 2 and figure 2. (The easiest way to determine if a table or text is formatted correctly is to try to change information. A Microsoft Word table or text will allow someone to change information, while a picture format will not.)

Do not combine more than one graphic element such as a photo, an illustration, and graph. Each element must be separated with its own figure number and caption. For example, do not do what is shown in figure 3.

The correct method to depict multiple elements is as separate figures, each with its own figure number and caption. Figures 4, 5, and 6 and table 3 show examples of this:



Bold Symbol Signs	
	• W1-1 - Turn • W1-2 - Curve • W1-3 - Reverse Turn • W1-5 - Winding Road • W1-6 - Large Arrow (One Directions) • W1-7 - Large Arrow (Two Directions) • W1-8 - Chevron • W1-9 - Turn & Advisory Speed • W1-10 - Horizontal Alignment & Intersection • W2-1 - Cross Road • W2-2, W2-3 - Side Road • W2-4 - T Intersection • W2-5 - Y Intersection • W2-6 - Circular Intersection • W3-1a - Stop Ahead
	• W3-2a - Yield Ahead • W3-3 - Signal Ahead • W4-3 - Added Lane • W6-1 - Divided Highway Begins • W6-2 - Divided Highway Ends • W6-3 - Two-Way Traffic • W10-1, -2, -3, -4 - Highway-Railroad Intersection Advance Warning • W11-2 - Pedestrian Crossing • W11-3 - Deer Crossing • W11-4 - Cattle Crossing • W11-5 - Farm Equipment • W11-5p, -6p, -7p - Pointing Arrow Plaques • W11-8 - Fire Station • W11-10 - Truck Crossing • W12-1 - Double Arrow

Figure 3. Multiple elements. Do not merge multiple elements as one figure.

Figure 4. Photo.
Correct format 1.

Figure 5. Photo.
Correct format 2.

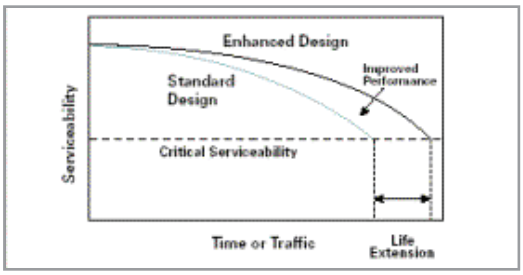


Figure 6. Chart. Sample of correct chart.

Table 3. Correct way to depict table from figure 3.

Bold Symbol Signs	• W1-1 - Turn • W1-2 - Curve • W1-3 - Reverse Turn • W1-5 - Winding Road	• W3-2a - Yield Ahead • W3-3 - Signal Ahead • W4-3 - Added Lane • W6-1 - Divided Highway Begins

- **Every table must have a unique caption *centered at the top*.** All tables must be numbered in a single sequence from the beginning of the volume through the appendices. Use this format for writing, punctuating, capitalizing, and centering table captions:

  Table 1. [Insert caption for table.]

- All captions must be in the same type style and font size.
- A figure or table should be placed near the first mention in the text.
- Spacing before and after captions should be consistent throughout the document.
- For reports of 30 pages or more, lists of figures and tables are required and are placed immediately following the table of contents. Lists of figures and tables can be on the same page if both fit completely.
- Entries in the list of figures and the list of tables (in the front matter) must match the captions within the document exactly (i.e., same wording, capitalization, punctuation, and type style).
- **Every figure must have a unique caption *centered at the bottom*.** All figures must be numbered in a single sequence from the beginning of the volume through the appendices. Figures include graphs, photos, formulas, equations, charts, etc. Use this format for writing, punctuating, capitalizing, and centering figure captions:

  Figure 1. Graph. [Insert caption for graph.]
  Figure 2. Photo. [Insert caption for photo.]
  Figure 3. Formula. [Insert caption for formula.]
  Figure 4. Chart. [Insert caption for chart.]
  Figure 5. Equation. [Insert caption for equation.]

Note: Do not use special symbol, math, or scientific fonts for equations. Instead, insert an equation as a figure (.jpg format) and number the equation as a figure, instead of at the right-hand side as in older report formats.

Notice the similarity between the abbreviated figure captions and the 508 captions (text for non-text elements). The only difference between the two is the additional description of the figure.

Equations and Formulas

When using special symbol, math, or scientific fonts in equations and formulas, create a .jpg graphic file of the equation and insert it into the document as a graphic/picture. Keep in mind that not all computers, printers, and operating systems can interpret special math and scientific fonts. All equations must be numbered and captioned as a figure. See the following example:

$$PR_{LH} = \frac{8days \cdot 24hr/day - T_{DRIVING} - T_{HOME} - T_{LOAD/UNLOAD} - T_{SHIPPER\,RECEIVER}}{T_{DRIVING}} + \frac{5\min}{60\min} = 0.7833$$

Figure 7. Equation. PR subscript LH.

Notice that the equation was created as a graphic object (figure) and pasted into this document as a picture. It was not created as "text" or a "text box" using a special font through Microsoft Word. The caption above shows the normal equation and caption, which would be reflected in a report.

On the other hand, the 508 caption for the above equation would show the exact same information, but it would be more detailed than simply providing the name of the type of figure depicted and the name of the equation. The 508 caption (which would be deliverable in a separate Microsoft Word file) would be the following:

Figure 7. Equation. PR subscript LH. PR subscript LH equals the sum of the following: 8 days times 24 hours per day minus T subscript driving minus T subscript home minus T subscript load/unload minus T subscript shipper/receiver, end of sum, that sum divided by T subscript driving, to that quotient add the quotient of 5 minutes divided by 60 minutes, the sum of which equals 0.7833.

Lists

Lists should be bulleted unless the sequence of items is critical; in which case Arabic (i.e.,1, 2, 3, etc.) numerals followed by periods and one space may be substituted for bullets. In either case:

- Place a colon at the end of the text sentence preceding the list.
- Use the standard (Microsoft Word) round bullets.
- Use parallel rhetorical and grammatical structure, as in this list. Begin each entry with a verb.
- Begin each entry with a capital letter.
- End each entry with a period even if it does not form a complete sentence.
- Do not end the next-to-last item with "and" or "or."
- Put two returns (i.e., one blank line) after the bulleted list. Short bulleted items (words, phrases, sentences) should be followed by a single return. Long bulleted items (paragraphs) should be followed by two returns.

Footnotes

- Use superscript figures without parentheses or brackets for footnote references (see *GPO Style Manual*).
- In each chapter, footnotes to text are numbered starting with "1" (see *GPO Style Manual*). Footnotes to tables or figures begin with 1 for each table or figure. Use superscript numbers (see *GPO Style Manual*).
- Footnotes must begin on the page carrying the footnote number. Avoid breaking a footnote between pages (see *GPO Style Manual*).
- Footnotes should be single-spaced. Indent the first line of each footnote four spaces.
- Asterisks, daggers, or italic superior letters may be used only when a numeral in a table or figure might cause confusion, such as being mistaken for an exponent (see *GPO Style Manual*).

Table 4. Research report—what to submit.

Black/White Print (.doc)	Two- or Four-Color Print (.doc and .qxd)	Web Site Only (.doc)	Deliverables for Research Reports
X	X	X	HRTM Service Request Form
X	X	X	Microsoft Word file of report and printed copy of report
X	X	X	Microsoft Word file of 508 captions and printed copy of captions
X	X	X	Completed Form DOT F 1700.7 (Technical Report Documentation Page)
X	X	X	Metric chart
X	X	X	Foreword (signed by office director) and Disclaimer
X	X		FWHA Distribution Form and either labels or a Microsoft Excel file with names and complete addresses
X	X	X	Tables, charts, graphs in separate native file formats (Microsoft Excel files for tables and .jpg or .tif files for graphic and computer-aided design (CAD) files)
X	X	X	Illustrations, equations, photos, figures in .jpg, .tiff*, .eps*, .ai*, .psd* or .bmp file format
	X		GPO Form 952 (if you provide graphic layout of any files)
X	X	X	PDF file of the document after final edit
	X		Adobe® InDesign file after the files have been edited. Include all text, font files, graphic files

*Preferred

Do not submit second-generation or previously printed materials as graphics. Do not use correction fluid, tape, photocopies, or artwork that is fuzzy, dark, or faded. Refer to the section titled *Deliverables* on page 3. Do not submit CAD drawings; export them to a .jpg or .tif format.

[1] Use the statement shown on the inside front cover of this guide in all research reports.

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