U.S. Department
of Transportation

**Federal Highway
Administration**

Guidelines for Preparing Federal Highway Administration Publications

Excerpts from the Publications and Printing Handbook
(FHWA Order H 1710.4)

Chapter 5. Guidelines for Preparing Federal Highway Administration Publications

Attachment 4. Technical Report Documentation Page

Examples from the Graphic Standards for the U.S. Department of Transportation
(DOT Order 1360.6)

January 1988

Report No. FHWA-AD-88-001

Publications and Printing Handbook

The Publications and Printing Handbook (FHWA Order H 1710.4) prescribes the responsibilities for and the management of the Federal Highway Administration (FHWA) Publications and Printing Program. Contractors preparing publications for the FHWA are provided excerpts from this handbook, along with other pertinent information from the Graphic Standards for the U.S. Department of Transportation (DOT Order 1360.6). These guidelines are provided to achieve a consistency in the presentation of the FHWA publications.

Excerpts from Publications and Printing Handbook
FHWA Order H 1710.4

CHAPTER 5. GUIDELINES FOR PREPARING FEDERAL HIGHWAY ADMINISTRATION PUBLICATIONS

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ATTACHMENT

Attachment 4. Technical Report Documentation Page (DOT F 1700.7)

CHAPTER 5. GUIDELINES FOR PREPARING FEDERAL HIGHWAY ADMINISTRATION PUBLICATIONS

1. GENERAL. The guidelines in this chapter are provided to achieve a consistency in the presentation of the FHWA publications. They are derived from applicable DOT and FHWA directives, and are in compliance with DOT Order 1360.6, Graphic Standards for the U.S. Department of Transportation.

   a. Availability to Contractors. Contractors preparing publications for the FHWA can obtain copies of this chapter, without charge, from the Office of Contracts and Procurement, HCP-30, Federal Highway Administration, Washington, DC 20590.

   b. Availability of Graphic Standards Manual (DOT Order 1360.6). Contractors can obtain a copy of Graphic Standards for the U.S. Department of Transportation (DOT Order 1360.6) from the Contracting Officer's Technical Representative (COTR). No fee is charged for the manual.

2. PUBLICATION DEFINITIONS

   a. Camera-Ready Copy. The finished manuscript (final text pages), including all art work (illustrations, photographs, charts, or tables) ready for printing by photographic or other means.

   b. Perfect Binding. Binding by which the pages of a book are held together with adhesive along the back edge, and a spine is added.

   c. Publications. Printed matter such as manuals, reports, periodicals, scientific and technical materials, public information pamphlets, procedures, and posters. (News releases, speeches, documents, and articles submitted to nongovernmental publications are excluded).

   d. Reproduction. Producing copy of an original document by mechanical or photomechanical methods or process.

   e. Running Head. A line at the top of a page showing the title of the book, the chapter, or the subject.

f. Saddle Stitch. To fasten a booklet by stitching it through the spine of the pamphlet. Always done using signatures.

g. Side Stitch. A binding method in which the stitch is run from the front to back. This method can be used with signatures or single sheets.

h. Signature. A sheet of paper folded so that, when cut, it will produce a certain number of pages (in any multiple of four).

3. KINDS OF PUBLICATIONS

a. General Information Publications. Publications written in nontechnical language and often prepared for distribution to the general public.

b. Technical Publications. Reports, manuals, or studies that consist primarily of scientific, engineering, or statistical data, analyses, or discussions. Technical publications do not contain statements of policy.

c. Mandated Reports. Publications prepared for Congress or in response to specific statutory requirements.

d. Manuals. Directives or other publications that contain policies, procedures, instructions, or technical information and provide comprehensive coverage of a single subject area or a series of related subject areas.

e. Nonrecurring Publications. Publications printed on a one-edition basis. This includes pamphlets, brochures, books, booklets, monographs, reports, leaflets, folders, Bulletins, journal articles, and similar nonrecurring publications, including those reprinted or revised.

f. Periodicals (Recurring Publications). Publications issued annually or more often with a consistent format, content, and purpose for official use by the FHWA in the transaction of its routine business (e.g., annual reports, newsletters, newspapers, journals, or magazines).

4. COPYRIGHT REQUIREMENTS

a. Written Release Required

(1) Copyrighted material may not be used in an FHWA publication unless written permission of the copyright owner is obtained. Prior use of copyrighted material in another Federal Government publication does not necessarily constitute permission to use it in the FHWA publication.

(2) If a contractor-prepared publication contains copyrighted material, the contractor is responsible for identifying it, obtaining the copyright owner's written permission to use it, and including a footnote giving credit to the owner. The written permission must be provided to the Contracting Officer's Technical Representative (COTR).

(3) The program office is responsible for identifying copyrighted material and obtaining written permission for its use in in-house prepared publications. The language of the written release should comply with the statements in paragraph 4b.

b. Release Language

(1) The following release language should be used for contractor-prepared publications:

(Name of copyright owner) hereby grants to (name of contractor) and to the United States Government a royalty-free, nonexclusive, irrevocable right to use, reproduce, distribute, and sell (identify the copyrighted work, or the portion of it to which rights are granted) throughout the world.

(2) For in-house prepared publications, the following release language should be used:

(Name of copyright owner) hereby grants to the United States Government a royalty-free, nonexclusive, irrevocable right to use, reproduce, distribute, and sell (identify the copyrighted work, or the portion of it to which rights are granted) throughout the world.

(3) This wording has been approved by the NTIS. If the release is not properly worded, the NTIS may refuse to stock and sell a report that contains copyrighted material.

5. ASSIGNMENT OF PUBLICATION NUMBER

a. Each publication printed at the expense of the U.S. Department of Transportation is required to have a publication number under Policy and Procedures Governing DOT Printing, Duplicating, and Copying (DOT Order 1360.5). The number aids in identifying publications, determining costs, providing an easy system for ordering items, and keeping inventory of stock.

b. Each FHWA program office is responsible for assigning a publication number to each of its publications projects and keeping a log of the assigned numbers. This number is assigned in the beginning of the fiscal year as part of the Planned Publications Report. (See Planned Publications Report, Chapter 4, paragraph 1a.)

c. The FHWA Contracting Officer's Technical Representative (COTR) is responsible for providing the publication number to the contractor.

d. All forms requesting work relating to a publication (editorial, graphics, photography, typography, composition, design, and printing) must carry the pre-assigned publication number. For nonpublication work submitted to the P&VA Branch, place "Publication No. N/A" on forms (to indicate that a publication number is not applicable).

e. The numbering system is based on the following elements:

Agency Prefix	Program Office	Fiscal Year Printed	Sequential Number
FHWA	RD	87	001

(1) The number appears in the following form:

FHWA-RD-87-001

(2) Each year the sequence number (001) begins again with 001.

(3) Individual designations are used to number multivolume publications. For example, a publication with two volumes would be given the sequence number 001 for volume 1 and 002 for volume 2 (see following example).

FHWA-RD-87-001	(for Volume 1)
FHWA-RD-87-002	(for Volume 2)

(4) For purposes of the FHWA publication number, the following codes will be used:

AD - Administration
CC - Chief Counsel
CR - Civil Rights
DF - Direct Federal Programs
DP - Demonstration Projects
ED - Engineering and Program Development
HI - National Highway Institute
IP - Implementation
MC - Motor Carriers
OA - Office of the Administrator
PA - Public Affairs
PL - Policy
PR - Program Review
RD - Research, Development, and Technology
TS - Technology Sharing
RE - Right-of-Way and Environment
SA - Safety and Operations
RT - Rural Technical Assistance Program (RTAP)

6. IDENTIFICATION OF PUBLICATION

(a) Departmental Mark and Signature. All publications printed at the FHWA's expense shall have the full Department signature printed on the front or back cover, title page, and spine (space permitting). The full signature includes the DOT mark, the Department's name, and the Administration's name (the Administration's name is in bold typeface), as designated in the Graphic Standards for the U.S. Department of Transportation (DOT Order 1360.6). (See Figure 5.1 for an example.)

U.S. Department
of Transportation

**Federal Highway
Administration**

Example 1. Preferred Mark and Signature

U.S. Department of Transportation

Federal Highway Administration

Example 2. Mark and Signature — Used when space does not permit use of example 1

Figure 5.1. Mark and Signature — Acceptable Variations

(b) Publication Date. The publication date shall appear on the front cover, Technical Report Documentation Page, and title page.

(c) Publication Number. The publication number shall appear on the front or back cover, Technical Report Documentation page, and title page. If sufficient space is available, the publication number should appear on the spine.

(d) Originating Office. The name of the originating or sponsoring element may appear in the publication.

7. ACKNOWLEDGING CONTRIBUTORS AND AUTHORS: Credit Lines and Bylines

a. Credit Lines

(1) Courtesy or credit lines are permissible for materials loaned or contributed by nongovernment sources.

(2) No credit lines or acknowledgments shall be given when such materials have been purchased by the FHWA.

(3) Credit lines or acknowledgments are placed on the Technical Report Documentation Page or in the preface. Such credit lines shall be set in the smallest practical typeface so that they shall be subordinate both to text and illustrations. If the acknowledgments are long they may be put on a separate page following the preface. (See Figure 5.13.)

(4) No credit lines or acknowledgments shall be permitted for the sole purpose of giving credit to any author or FHWA employee, except in in-house newsletters or similar morale type publications.

b. Bylines

(1) Government Agencies. If the contractor preparing the FHWA publication is a State, Federal, or local government agency, the agency's seal or logo may appear to the right or directly below the DOT seal, if the agency so requests.

(2) Private Contractors. Names of private contractors are not permitted on the covers of the FHWA publications. The contractor's name may be placed on the Technical Report Documentation Page (see paragraph 10c(1)) or title page. (See Figure 5.11 for an example of a title page with bylines.)

(3) Employees. Bylines are not permitted for the sole purpose of giving credit to any author or an FHWA employee.

8. USING ADVERTISEMENTS IN THE FHWA PUBLICATIONS. No printed matter produced by, or at the direction of the FHWA, shall contain any advertisement for any private individual, firm, or corporation; or contain any material which implies in any manner that the Federal Government endorses or favors any specific commercial product, commodity, or service.

9. STYLE MANUALS

a. Editorial Style for the FHWA Publication. For consistency and uniformity in all Federal Government publications, the guide for editorial style is the United States Government Printing Office (GPO) Style Manual. This manual is a standard of spelling, hyphenation, capitalization, punctuation, abbreviation, numerals, and other style concerns.

b. Additional Style References. When an additional style reference is needed, the recommended guide is the Chicago Manual of Style. For spelling, the GPO Style Manual recommends Webster's Third New International Dictionary. Another excellent resource is Webster's New World Dictionary.

c. Other Style Manuals. When preparing FHWA publications, the GPO and Chicago manuals should be followed. Style guides or orders designed for the specific use of preparing FHWA directives or correspondence should not be used for publications. Style and punctuation rules in these guides may differ from the GPO and Chicago manuals.

d. Writing/Editing Resource Library. The P&VA Branch has a Writing/Editing Resource Library for use by in-house staff. The reference books in this library are not

circulated or loaned but are available for use within the P&VA Branch office area.

10. FORMAT FOR PREPARING TECHNICAL BROCHURES, MANUALS, REPORTS, AND STUDIES. The format guidelines in Figure 5.2 apply to all technical manuals, reports, brochures, guides, and studies prepared by FHWA offices or by contractors. They are the standard order of elements included in a publication.

a. Covers. A publication has four covers and a spine (if the volume of pages creates a need for a spine). Cover 1 is the front cover. Cover 2 is the inside of the front cover. Cover 3 is the inside of the back cover. Cover 4 is the back cover. Several elements are required on the covers and spine of a publication.

(1) Front Cover (Cover 1). The front cover follows the style for technical publications shown in Figure 5.3. The title, subtitle (if any), DOT mark and signature, and publication date are on the front cover. Depending upon the design of the report, manual, or study, the publication number may be placed on the front cover or the back cover. All FHWA publications require a publication number (see Publication Number, paragraph 5).

(2) Inside Front Cover (Cover 2). Publications containing technical material must have a foreword. All technical manuals, reports, guides, and studies also must have certain disclaimer notices. (See Figure 5.4 for a sample technical inside cover.)

(a) Foreword. The foreword and disclaimer notices in FHWA technical publications must be limited to the inside front cover. They may not continue on to other pages or other cover surfaces of the publication. The foreword contains the following information:

1 The reason for publishing the report, manual, or study.

2 A short summary of the contents.

3 A statement identifying the audience.

Cover 1	**Outside Front Cover**
Cover 2	**Inside Front Cover**
	Front Matter
Page i (Unnumbered)	Technical report documentation page or title page
Page ii	Preface
Page iii	Metric conversion factors
Page iv	Table of contents, list of tables, list of illustrations, and list of figures
Page v	List of abbreviations and symbols
	Body of Publication
Page 1	Introduction and/or abstract
	Main text
	Conclusions
	Recommendations
	Back Matter
	Appendixes
	Glossary
	References
	Bibliography
	Index
Cover 3	**Inside Back Cover**
Cover 4	**Outside Back Cover**

Figure 5.2. Standard Order of Elements in a Publication

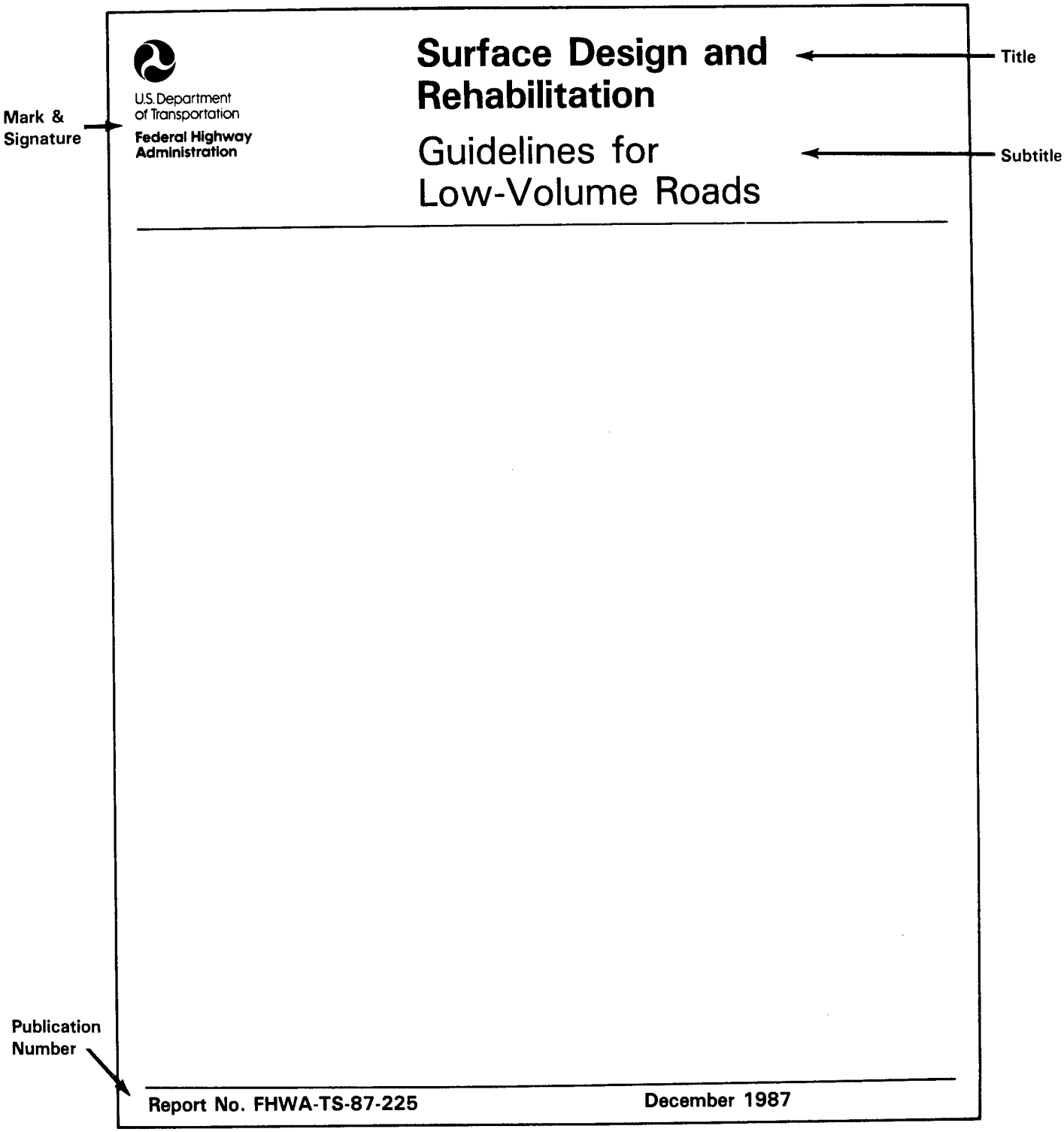


Figure 5.3. Example of a Technical Publication — Front Cover (Cover 1)

Foreword

This report presents the results of a comprehensive investigation of the performance of pile driving systems. It is an inspection manual for impact hammers and includes pile cushions, helmets, and leads. The manual also includes pile hammer data sheets for use on the job site. This report will be of interest to bridge engineers and geotechnical engineers concerned with the inspection of pile driving operations.

Sufficient copies of the report are being distributed by FHWA Bulletin to provide a minimum of two copies to each FHWA regional and division office, and five copies to each State highway agency. Direct distribution is being made to division offices.

Foreword

Richard E. Hay, Director
Office of Engineering and Highway
Operations Research and Development

Notice

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

The contents of this report reflect the views of the contractor who is responsible for the accuracy of the data presented herein. The contents do not necessarily reflect the official policy of the Department of Transportation.

This report does not constitute a standard, specification, or regulation.

The United States Government does not endorse products or manufacturers. Trade or manufacturers' names appear herein only because they are considered essential to the object of this document.

Disclaimer Notice

Figure 5.4. Sample of an Inside Front Cover (Cover 2)

4 Whether the publication supersedes another.

5 Whether the publication is preliminary, interim, or final.

(b) Disclaimer Notices. (See Figures 5.5, 5.6, and 5.7 for sample disclaimer notices.) The following disclaimer notices will be used when applicable:

1 Departmental Disclaimer. A departmental disclaimer under the caption "Notice" must be added to the inside front cover.

Notice

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

Figure 5.5. Departmental Disclaimer

2 Disclaimer for Product Names or Manufacturers. If any names of products or manufacturers appear in the publication, the following disclaimer also must be used.

Notice

The United States Government does not endorse products or manufacturers. Trademarks or manufacturers' names appear herein only because they are considered essential to the object of this document.

Figure 5.6. Disclaimer for Product Names

3 Optional Notices. The following notice also may be added at the option of the FHWA program office or contract manager.

Notice

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official policy of the Department of Transportation.

This report does not constitute a standard, specification, or regulation.

Figure 5.7. Optional Notices

(3) Inside Back Cover (Cover 3). The inside back cover does not require any special elements. The cover can be blank, or a design element may be added, such as an illustration or photograph or a final page of text.

(4) Back Cover (Cover 4). The back cover does not require any special elements. It can be blank, or a design element may be used, such as an illustration or photograph. Depending upon the overall front and back cover design, the DOT mark and signature, and publication number may be placed on the back cover. For mailing purposes, a self-mailer can be placed on the back cover. The self-mailer portion of the page must occupy no more than one-third of the page. See Figure 5.8 for a sample self-mailer back cover.

b. Spine. If the publication contains 95 pages or more, a spine usually is required. The title, volume number (if any), and publication number are placed on the spine. This information is arranged on the spine to read from top to bottom, when the publication is placed upright on a bookshelf. (Omit publication number if sufficient space is not available.) See Figure 5.9 for examples of spine titles.

c. Front Matter. The front matter contains preliminary pages prior to the main text of the report.

U.S. Department
of Transportation

**Federal Highway
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

Official Business
Penalty for Private Use $300

Postage and Fees Paid
Federal Highway
Administration
DOT 512

U.S. MAIL

NOTE: A self-mailer can occupy a full page, or 1/2 of a page, but no less than 1/3 of a page on an 8 1/2'' x 11'' publication. On a 4'' x 9'' or a 5 1/2'' x 8 1/2'' publication, a self-mailer must occupy the full back cover.

Figure 5.8. Sample Back Cover (Cover 4) when used as a Self-Mailer

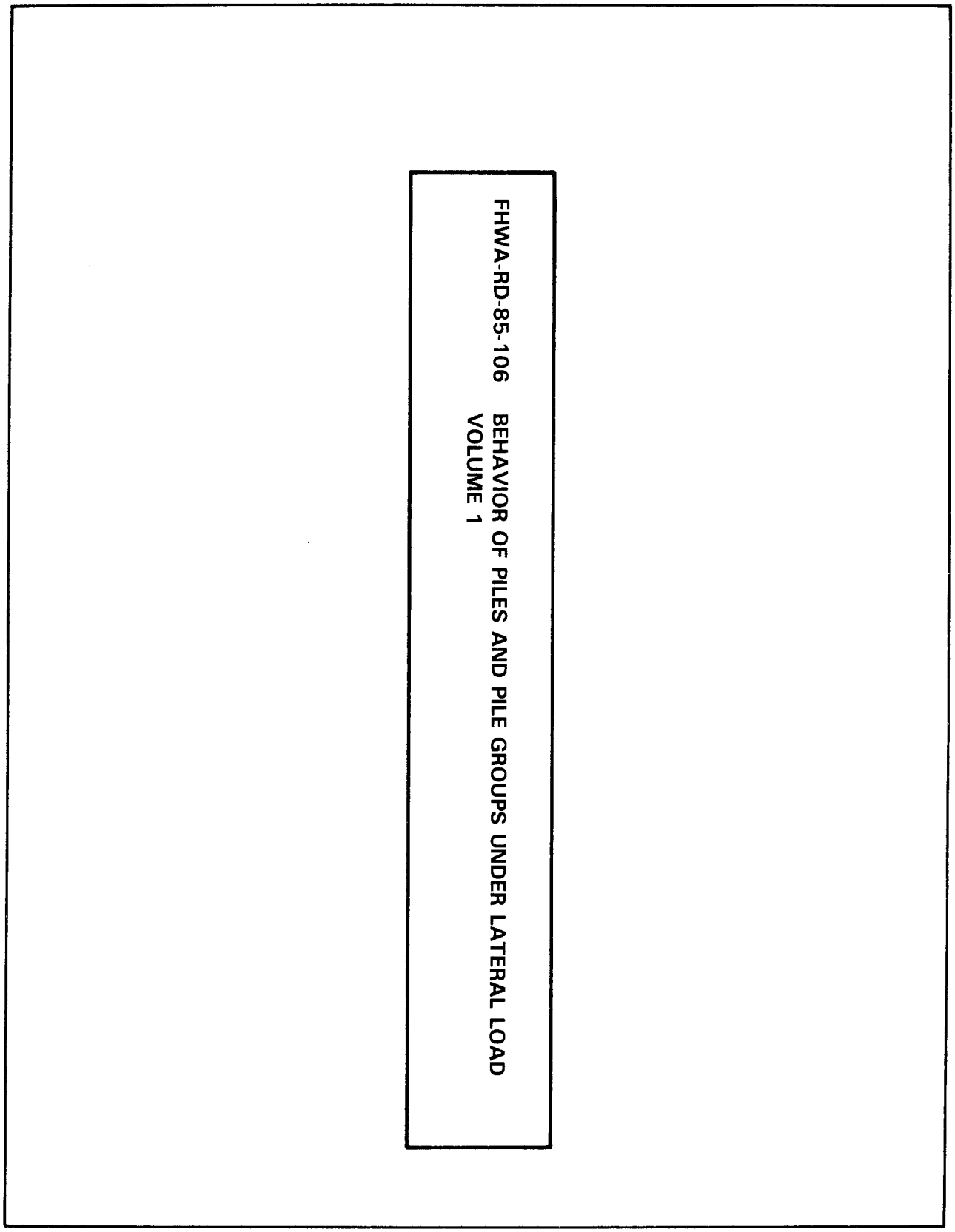


Figure 5.9. Spine Title

(1) Technical Report Documentation Page. All technical publications require a Technical Report Documentation Page, Form DOT F 1700.7. This page is unnumbered page (i), which indicates it is the first page of the publication. ("Unnumbered" means the number (i) is not actually typed on the page. It is only designated the (i) page for placement in the publication when the book is printed.) The Technical Report Documentation Page replaces the need for a title page; however, a title page may be added. (See Title Page, paragraph 11C (2).) See Attachment 4 for a copy of Form DOT F 1700.7, Technical Report Documentation Page and instructions for completing this form.

(2) Title Page. The title page is optional in a technical publication. If it is included in addition to the Technical Report Documentation Page, the title page is the third page in the book and is an unnumbered (iii). The title page is always placed on the right-hand page. (Order of pages: Technical Report Documentation Page, blank page, title page.) See Figure 5.10 for a sample title page.

(a) The following elements are required on the title page:

1 Title

2 Subtitle (if a subtitle is used)

3 Publication Number

4 Publications Date

5 Administration's Name

6 Department's Name

(b) A byline may be added to the title page following the guidelines in paragraph 7b (see Figure 5.11).

(3) Preface. Among possible uses, a preface may show the relation of the work reported to associated efforts, give credit for the use of copyrighted material, and acknowledge significant assistance

Title → **Nondestructive Testing Methods for Steel Bridges**

Subtitle → **Participants Training Manual**

Publication Number → Report No. FHWA-TS-88-225

Signature → U.S. Department of Transportation

Federal Highway Administration

Date → June 1986

Figure 5.10. Sample Title Page

Title → **Transportation Revenue Forecasting Guide**

Publication Number → Report No. FHWA-TS-88-001

Prepared by

Contractor's Name → Joint Center for Urban Mobility Research
Rice Center
Nine Greenway Plaza, Suite 1900
Houston, Texas 77046

Prepared for

Administration's Name → Federal Highway Administration and
Urban Mass Transportation Administration
U.S. Department of Transportation
Washington, D.C. 20590

Date → April 1987

Figure 5.11. Sample Title Page with Byline

received (see Credit Lines, paragraph 7a). If acknowledgments are too long, they may be put on the page following the preface. See Figures 5.12 and 5.13 for examples of a preface and separate acknowledgment page.

(4) Metric Conversion Factors Page. Include a Metric Conversion Factors page (Figure 5.14) in the report, if measurements are used in the publication. This page provides the reader with information for converting to metric measures. Additional units may be included as they apply to the contents of the report. Figure 5.14 may be reproduced. Copies also can be obtained from the P&VA Branch. The Metric Conversion Factors page may be included on reverse of the preface.

(5) Table of Contents. A table of contents (Figure 5.15) is useful in most publications of more than 10 pages and required in all publications of 30 or more pages. In preparing the table of contents, these rules should be followed:

(a) Front matter preceding the table of contents should not be listed. Begin with the introduction or first section, which follows the table of contents.

(b) List every section or subsection title. All capitals or initial capital letters may be used for the titles, but each level of headings must be consistent (e.g., main headings in all capitals, subheadings in initial capitals, etc.). If both headings and subheadings are used, bold typeface is recommended for the main headings. The relationship between the levels of headings and subheadings also can be emphasized by indenting the subheadings.

(c) Use titles identical to the headings in the publication.

(d) Use numbers or letters identical to those found in the publication.

Preface

The Nationwide Personal Transportation Study (NPTS) is an investigation of the characteristics and personal travel patterns of the U.S. population. The NPTS derives its information from a nationwide home interview survey of households. The NPTS is a unique source of information on personal travel, both as a reference on key travel measures such as trip rates and vehicle occupancy levels, as well as being a source for linking the characteristics of households with their travel by all modes of transportation.

This report presents summary findings from the 1983 NPTS Survey conducted between February 1983 and January 1984. The 1983 survey obtained data from a national sample of 6,438 households. The survey sample was selected and the results presented in such a manner as to be representative of the nation as a whole. Previous NPTS surveys were conducted in 1977 and 1969. Comparing results from these three surveys provides a good picture of how the country's population and travel habits have changed over time.

This report presents principal findings from the 1983 survey, and offers a comparison of the same measures with the 1977 and 1969 surveys where the data are comparable. Topics covered by the report include drivers and their vehicles, household and person travel patterns, vehicle ownership and usage, journey to work, vehicle occupancy, long distance travel, and use of vehicle safety devices. Whereas the previous NPTS surveys were also accompanied by summary reports, the 1983 effort is different in two respects: a consolidation of the findings into a single report instead of individual subject reports, and a more extensive effort in comparing the results of the current survey with the previous surveys.

The survey is sponsored by four agencies within the U.S. Department of Transportation--the Federal Highway Administration, the Office of the Secretary of Transportation, the National Highway Traffic Safety Administration, and the Urban Mass Transportation Administration. The U.S. Census Bureau also had a significant role in the study. Working under an interagency agreement with the Department of Transportation, Census designed the survey and the sample, conducted the survey, and developed the basic data files. COMSIS Corporation, under contract to the Federal Highway Administration, had the responsibility of processing and analyzing the data and prepared the reports and the users' guide for the survey data tapes.

Figure 5.12. Sample Preface

Acknowledgments

We would like to express appreciation to the following organizations and individuals for either granting permission to copy publications or for providing information used for the development of this training program:

Complete copies of their publications can be obtained from:

The American Welding Society
550 N.W. LeJeune Road
P.O. Box 351040
Miami, FL 33135
(305) 443-9353

Materials Evaluation
The Official Journal of
The American Society for
Nondestructive Testing (ASNT)

The American Society of
State Highway Transportation
Officials (AASHTO), Washington, D.C.

National Institute for Certification in
Engineering Technologies, NICET,
Alexandria, Virginia

The following State Departments of Transportation:

Connecticut
Idaho
Maryland
Massachusetts
Michigan
New York

Figure 5.13. Sample Acknowledgments Page

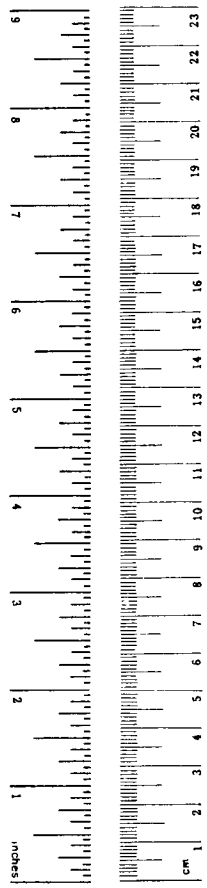
METRIC (SI*) CONVERSION FACTORS

APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
	LENGTH			
in	inches	2.54	millimetres	mm
ft	feet	0.3048	metres	m
yd	yards	0.914	metres	m
mi	miles	1.61	kilometres	km
	AREA			
in^2	square inches	645.2	millimetres squared	mm^2
ft^2	square feet	0.0929	metres squared	m^2
yd^2	square yards	0.836	metres squared	m^2
mi^2	square miles	2.59	kilometres squared	km^2
ac	acres	0.395	hectares	ha
	MASS (weight)			
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams	Mg
	VOLUME			
fl oz	fluid ounces	29.57	millilitres	mL
gal	gallons	3.785	litres	L
ft^3	cubic feet	0.0328	metres cubed	m^3
yd^3	cubic yards	0.0765	metres cubed	m^3

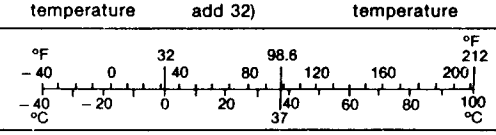
NOTE: Volumes greater than 1000 L shall be shown in m^3.

	TEMPERATURE (exact)			
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C



APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
	LENGTH			
mm	millimetres	0.039	inches	in
m	metres	3.28	feet	ft
m	metres	1.09	yards	yd
km	kilometres	0.621	miles	mi
	AREA			
mm^2	millimetres squared	0.0016	square inches	in^2
m^2	metres squared	10.764	square feet	ft^2
km^2	kilometres squared	0.39	square miles	mi^2
ha	hectores (10 000 m^2)	2.53	acres	ac
	MASS (weight)			
g	grams	0.0353	ounces	oz
kg	kilograms	2.205	pounds	lb
Mg	megagrams (1 000 kg)	1.103	short tons	T
	VOLUME			
mL	millilitres	0.034	fluid ounces	fl oz
L	litres	0.264	gallons	gal
m^3	metres cubed	35.315	cubic feet	ft^3
m^3	metres cubed	1.308	cubic yards	yd^3
	TEMPERATURE (exact)			
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



These factors conform to the requirement of FHWA Order 5190.1A.

* SI is the symbol for the International System of Measurements

Figure 5.14. Metric Conversion Factors Page

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		Page
I.	**Introduction**	1
	General	1
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Figure 5.15. Sample Table of Contents

(6) Lists of Tables and Figures. Lists of tables and figures are required in publications of 30 or more pages following the table of contents. These lists should include the table or figure number, title, and page number. If the lists are short, both lists can be placed on the same page (see Figure 5.16).

(7) List of Abbreviations and Symbols. When symbols and abbreviations are numerous, provide a separate list with definitions (Figure 5.17). Then define symbols and abbreviations where first introduced in the text. If a list is used, include organization symbols (e.g., FHWA, ANSI, etc).

d. Body of Publication. The body of the publication includes the introduction, discussion, and the conclusion and recommendations.

(1) Introduction. The introduction includes the following:

(a) Background information on the subject.

(b) Scope of the project, research, or study.

(c) Organization of the contents.

(2) Discussion

(a) Divisions. The discussion (the main text of the publication) answers the "who, what, where, when, and how" of the subject. The "why" is answered in the foreword. The amount of detail in the discussion depends upon the subject, purpose, and scope of the publication. The discussion is divided into sections and subsections, with varying levels of headings and subheadings. This division allows easy identification of the subject matter by the reader.

(b) Headings and Subheadings. The format of the headings varies depending on the number of levels used. The point is for the heading to be easily distinguishable. Bold typeface increases the readability and attractiveness of a publication. A heading should (1)

List of Tables

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1	Summary of effectiveness for various utility pole countermeasures	11
2	Impact speed probability distribution by functional class	25
3	Proposed compliance tests for breakaway utility poles	26
4	Compliance tests for breakaway utility poles	98
5	Injury rate levels for compliance tests	99
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Figure		Page
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3	Projected trend toward smaller vehicles	20
4	Trends in vehicle weight distribution	21
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11	Injury rate as a function of vehicle acceleration values	29
12	Function of the Hawkins Breakaway System during a	34

Figure 5.16. Lists of Tables and Figures

List of Abbreviations

amt.....amount
amp.....ampere
APU.....authorized pickup
arr.....(1) arrive, (2) arrival
art.....article
ATA..American Trucking Associations, Inc.
av.....average
avg.....average
A/W.....actual weight
BB.....break bulk
BBC.....length of tractor in inches from bumper to back of cab
bbl.....barrel
BC.....distance in inches from back of cab to end of frame
BHP.....brake horsepower
BL or B/L.....bill of lading
bls.....bales
BTW.....behind-the-wheel
bu.....(1) bushel, (2) bureau
bx.....box
CA....distance in inches from back of cab to centerline rear axle
CAE.....cab-alongside-engine
COE.....cab-over-engine
CBE.....cab-beside-engine or cab-behind-engine
con.....conventional
chg.....charge
ck.....(1) cask(s), (2) check
CL.....(1) connecting line, (2) car load
c/o.....care of
COD.....cash (or collect) on delivery
coll.....collect
comb.....combination
com'l.....commercial
cr.....(1) credit, (2) creditor
CR.....carrier's risk
cty.....county
cu ft.....(1) cubic foot, (2) cubic feet
cwt.....hundred weight
cyl.....cylinder
dba.....doing business as
dely.....delivery
diam.....diameter
diff.....differential
disc..... discount
disp.....(1) dispatch, (2) dispatcher
dist.....(1) district, (2) distance
div.....division
dk.....dock
DOT.....Department of Transportation
EB.....eastbound
eg.....exempli gratia (for example)
eq.....equal
est.....estimated
est wt.....estimated weight
ETA.....estimated time of arrival
etc.....et cetera (and other things; and so forth)
ETD.....estimated time of departure
ex.....(1) exchange, (2) example
ex BL.....exchange bill of lading
exp..(1) export, (2) express, (3) expense
FA....(1) free astray, (2) freight astray
FB.....Freight Bill
FHWA.....Federal Highway Administration
FMCSR.....Federal Motor Carrier Safety Regulations
FOB.....free on board
frt.....freight
ft.....(1) feet, (2) foot, (3) fort
gal.....gallon
GCW.....gross combination weight
gen'l.....general
gr.....gross
GT.....gross ton
GVW.....gross vehicle weight
hdqrs.....headquarters
hgt.....height
hhd.....hogshead
HP.....horsepower
HQ.....headquarters
ht.....heat or height
ie.....id est (that is)
IB.....(1) inbound, (2)in bond
ICC.....Interstate Commerce Commission
IL.....Interline
imp.....import
inc.....(1) inclusive, (2) incorporated
ins.....insurance
inter.....interstate
intra.....intrastate
inv.....invoice
it.....item
KD.....knocked down
LCF.....low cab forward of engine
LCL.....less than a car load
liq.....(1) liquor, (2) liquid
L&D.....loss and damage
lg tn.....long ton (2,240 lbs)

55

Figure 5.17. Sample List of Abbreviations and Symbols

indicate the importance of the section, (2) be identical in form to headings of the same relative importance, (3) be readily distinguishable from the order of other headings, and (4) be clearly distinguishable from the text. One recommended format for headings and subheadings is as follows:

1 Chapter headings - bold type, all capitals, and centered at the top of the page. Underscoring is not necessary.

2 First-level main headings - bold type, all capitals, and flush left on the page.

3 Second-level headings - bold type, initial capitals and flush left on the page.

4 Third-level headings - initial capitals. Do not use bold type. The heading can be underscored, italic, or roman type. The heading should be flush left or the first line leading into a paragraph.

(c) Running Heads. Running heads are used at the tops of pages in a book as signposts, telling readers where they are. The contents of running heads in the text depends on the structure of the publication. Subject headings that may be used for left and right pages are as follows:

LEFT	RIGHT
Part title	Chapter title
Chapter title	Subhead
Chapter title	Chapter title
Subhead	Subhead

(3) Conclusions and Recommendations. Conclusions and recommendations may be required in some publications, depending upon the subject matter. A conclusion is an opinion based on the results; a recommendation is a suggestion for action.

e. Back Matter. The back matter includes the reference material and index.

(1) Appendixes. Supplemental material may be needed in some publications. This information should be placed in the appendix. Information in the appendix should be indirectly related to the subject; directly related information should be part of the discussion.

(2) Glossary. Define special terms where first introduced in the text. When such terms are numerous, list them as a glossary in alphabetical order.

(3) References. Include complete identification of references as footnotes on bottom of page where first cited to aid the reader. When references are numerous, include a reference list in the back of the report. Present entries in a uniform style, with complete identifying data, in accepted bibliographic format. Each entry includes the author, title, source, identifying number, pagination, and publication date. Abbreviations are not recommended and should be used sparingly .

(4) Bibliography. A bibliography is useful to (a) direct readers to sources of material, (b) permit authors to acknowledge sources of information, and (c) aid persons using the publication as a reference to locate additional writings on the subject. The U.S. Government Printing Office Style Manual is the required reference for format of bibliographies and footnotes.

(5) Index. If an index is included for a lengthy report, make it as complete as the nature of the report and its usage requires.

11. DESIGNING THE LAYOUT OF THE TECHNICAL PUBLICATION. The DOT Graphic Standards Manual suggests the vertical format for most publications. Horizontal or album formats should be avoided unless the content cannot be adapted to the vertical alignment. Cover designs for horizontal format publications also follow the guidelines of the DOT Graphic Standards Manual (see General, paragraph 1).

a. Standard Size Pages. Standard trimmed size for manuals, reports, guides, and studies is 8 1/2 inches wide by 11 inches long. To provide for adequate margins, the typed material on the page must not exceed 7 inches by 9 1/2 inches including page numbers and running heads. These measurements apply to all pages, regardless of content. All text pages must be submitted on stock of the same size.

b. Foldout Pages. Foldout pages are expensive and should be avoided. Use foldout pages only for oversize tables and illustrations (not text), which if reduced would sacrifice legibility. It is better to use facing pages where feasible. If foldouts are necessary, follow these requirements:

(1) Foldouts must be sized to require folding in one direction only (folds parallel to binding). The length of the foldout page should not exceed the size of the publication (usually, 11 inches). The maximum width permitted horizontally is 18 inches, when the page is unfolded.

(2) Foldout pages may be placed throughout the text; however, the preferred placement is to gather all such pages at the end of the volume. Each foldout page should be assigned a page number. Printing on the back of the page is permitted, but should be avoided.

(3) Each foldout page must be folded so that the page number and caption are immediately visible to the reader when opening the book, without unfolding the page.

c. Column Formats

(1) Two- and Three-Column Formats. The two-column format should be used for manuals, reports, guides, or studies. A two-column format increases the readability, attractiveness, and professional look of a publication. A three-column format also can be used. (The shorter line in a three-column format improves readability.)

(2) One-Column Format. The one-column format is permissible, but it is the least desirable. (The one, long line of text across the page decreases readability and the professional look of a

publication.) Using two columns of text on a page is preferable. Consider typing the text in a two-column format on oversize paper for photographic reduction.

d. Typefaces and Type Arrangement for the Text

(1) Typefaces. Standard typefaces rather than cursive, italic, or other ornamental typefaces should be used for the main text. Cursive or italic typefaces are only appropriate for emphasis of specific words, terms, or subheadings. Use elite, pica, or similarly sized type (10 to 12 characters per inch).

(2) Type Arrangement. Typefaces and spacing in the text must be uniform throughout each volume. Indent paragraphs uniformly. The right-hand margin is not required to be justified but should be as smooth as possible.

12. PREPARING THE FINAL TEXT FOR TECHNICAL PUBLICATIONS. Two methods can be used to prepare the final text of a manuscript for printing. The text can be prepared on a typewriter or word processor. (This includes publications produced through a word processing program on a personal computer). Or the text can be submitted to the FHWA Publications and Visual Aids Branch for typesetting.

a. Typing the Manuscript. Text matter must be typed using typewriters or word processing equipment. The end product (from a typewriter or printer) must produce copy acceptable in uniformity, color, neatness, and legibility for printing. Variations in ink color or density likely to cause noticeable discrepancies in the final printing are not acceptable. The typed text should not contain excessive white space, double spacing, unnecessary wide margins, or blank pages. Single spaced text is required in most cases.

b. Dot Matrix Type. If dot matrix type from a printer is used, the print should not have ragged edges. Use a letter quality printer with type that is similar in weight, texture, and form to typeset composition. See Figure 5.18 for examples of type.

c. Typesetting. Typeset composition generally produces a better quality typeface than a typewriter or word processor. Typeset composition should always be

INTRODUCTION

Recently, the Federal Highway Administration has endorsed using full-scale crash tests as the basis for determining bridge railing acceptability. In this study, current State designs were investigated and evaluated for structural continuity in rail, geometry, vehicle snagging potential, and effective rail height. From these designs, seven were selected to be crash-tested to NCHRP criteria.

Acceptable

USE NEW CRASH FACILITY

With the current trend toward smaller, lighter automobiles, the Federal Highway Administration recognized that alternative test methods needed to be developed to reduce test costs and improve the repeatability of test results. The Federal Outdoor Impact Laboratory (FOIL) was constructed to meet these needs.

UNIQUE FEATURES OF THE FOIL

Unacceptable

Figure 5.18. Acceptable and Unacceptable Type

considered when 3,500 or more copies of a publication are printed. Typesetting condenses the text and reduces the number of pages used, resulting in a substantial savings in paper and printing costs. Use FHWA Form DOT F 1700.8, Duplicating Request, to request typeset composition. Note: When having a publication typeset, the publication should be in final form and all required clearances signed because additional changes to typeset copy is expensive.

d. Selecting What Method to Use

(1) Typewriter or Word Processor. Technical publications are usually prepared on a typewriter or word processor. Publications (brochures, pamphlets, flyers, bulletins, etc.) requiring a small quantity of copies also are generally typed.

(2) Typeset Composition. Large quality publications (8 1/2 by 11 inch format), such as magazines and some reports, require typeset composition. Most brochures, booklets, and other publications designed for the general public are typeset.

(a) Washington Headquarters. The Typography and Design Section, Office of the Secretary, has the ability to scan typed pages with an optical character reader, instead of rekeying (or retyping) the pages. This saves both time and money. However, typed pages must be submitted in a certain format to be scanned effectively. Printed instructions on this format are available from OST's Typography and Design Section.

(b) Field Offices. When contracting for typesetting services in the field, field offices should consult contractors early in the development of a project. Contractors may have the ability to scan type, using an optical character reader. Scanning type instead of rekeying the type can save time and money.

13. PREPARING ARTWORK FOR TECHNICAL PUBLICATIONS: Line Drawings, Graphs, Charts, Figures, and Tables. Artwork incorporated in publications may be in forms such as line drawings, graphs, charts, figures, and tables.

a. Criteria. Artwork is used to further explain the text. Use the following criteria to select appropriate art.

(1) Submit only clean line art. Original art is preferred, although copies can be used. Use of copies or printed clippings in place of prepared original artwork requires permission from the FHWA Contracting Officer's Technical Representative (COTR) (for contract reports) or the FHWA project manager (for in-house reports).

(2) Select artwork that relates directly to the subject matter and is necessary to explain the text.

(3) Do not use artwork that serves to aggrandize an individual.

(4) Blueprints, diazo prints, and translucent prints intended for diazo reproduction are not acceptable. This restriction does not apply to original drawings on mylar or to full-sized prints of engineering drawings to be reduced at reproduction, provided that lettering and details in such prints or drawings are legible after reduction. (Lettering smaller than 6-point type after reduction is not considered legible.)

b. Figure and Table Captions. Each figure and table must have a title or caption, duplicated by no other figure or table caption in the publication. The caption must be within the text page area, never in the margin.

(1) Figures. On a figure page, (including line drawings, charts, graphs), the caption is centered at the bottom and is parallel to the lines of the text when the figure is upright.

(2) Tables. On a table page, the caption is centered at the top of the table.

(3) Page Placement for Figures and Tables

(a) Figures and tables should be placed on pages as near as practical to textual references, except in special situations, such as when a report only contains a few pages and many illustrations. In such cases, place the

illustrations in numerical sequence in the back of the report.

(b) It is preferable that artwork is placed so it is viewed without turning the page sideways. If a figure or table must be placed sideways on a page, place it so the top of the art is at the left side of the page.

(c) Place captions on the page where they cannot be confused with text. Use adequate space between the caption and text to indicate the difference, or use a different type style or size from the text.

c. Multipage Figure and Tables. Though such treatment is not encouraged, a figure or table can occupy two or more consecutive full pages. If only two pages are required, use facing pages (place the first page of the figure or table on an even numbered page). In all such multipage figures and tables, repeat the captions on each page, followed by the unabbreviated word "continued" in parentheses without quotation marks.

14. PREPARING PHOTOGRAPHS FOR TECHNICAL PUBLICATIONS

a. Use. When designing a publication, the presentation of photographs should be fresh and imaginative. A photograph must have impact. It should convey an idea. If multiple photographs are used, they should not be redundant. One good photograph is better than several mediocre ones. The layout should not force the use of photographs just to fill space. Photographs add significantly to the production costs of a publication.

b. Quality Requirements. Sharp, clear, black-and-white glossy, positive photographic prints are acceptable for artwork. They should contain a full tonal range.

c. Submitting Photographs for Final Printing

(1) Photographs not cemented in place to the page for same-size reproduction must be adequately identified by a figure number, page number, and percentage or size reduction requested.

(2) Loose photographs must be adequately packaged to prevent loss and damage. Individual mounting of each piece, including protection with tissue

overlays, is recommended. (Note: If a publication includes both photographs that must be reduced and ones that are the correct size, it is preferred that all the photographs be left loose and treated as described above.)

(3) Color transparencies are usually not acceptable. A color or black-and-white positive must be made from the transparency prior to printing. Avoid selecting overexposed slides or prints with thin, washed-out color, or underexposed ones with dark tones.

(4) Color photographs should have true color. Color prints to be reproduced in black and white are acceptable but to insure they will reproduce sharply and with adequate contrast, black-and-white prints or enlargements from the negatives or contact prints must be made before printing. Avoid submitting originals that must be enlarged to printing size because the quality of the photograph is reduced.

15. PAGE NUMBERING FOR TECHNICAL PUBLICATIONS

a. Typing Numbers. The Technical Report Documentation Page and title page are included in the numbering of a publication for placement only. Actual page numbers should not be typed on these pages. All other pages should have numbers actually typed on the page. Page numbers should be centered on the bottom of every text page, 1/2 inch above the bottom margin.

b. Page Numbering. Only two series of numbers in a single volume are permitted: one series of lowercase Roman numbers (i, ii, iii, etc.) for front matter and one series of Arabic numbers (1, 2, 3, etc.) for the body (discussion) of the publication. (Looseleaf publications may be numbered differently. See Looseleaf Publications, paragraph 15d.) Front matter includes Technical Report Documentation Page, title page, preface, Metric Conversion Factors page, table of contents, and introduction.

c. Odd- and Even-Numbered Pages. Odd-numbered pages must always fall on the right-hand side page. Even-numbered pages fall on the left side.

d. Looseleaf Publications. Only in looseleaf material may the sections be numbered individually or a combination of section numbers and page numbers used: a different series for each chapter or appendix, hyphenated or decimal numbers, numbers combined with letters (e.g., 1-2, A-1, 1.2, etc.). (These numbering systems should not be used for other publications.)

e. Technical Report Documentation Page/Title Page.

(1) When the Form DOT F 1700.7, Technical Report Documentation Page is used, it is always the unnumbered page (i). The use of a title page in addition to the technical documentation page is optional.

(2) If both a Technical Report Documentation Page and title page are used, the title page follows the Technical Report Documentation Page and is unnumbered (iii). (Note: The back of the Report Documentation Page is blank and is an unnumbered ii.) The back of the title page may be left blank or additional front matter may be added. This page is numbered iv. (See Technical Report Documentation Page, paragraph 10c(1).)

f. Body of the Publication. Page 1 of the body of the publication (the discussion) must be numbered, as must the first page of each chapter of other major subdivisions of the document. (Page 1 of the body of the publication begins the series of Arabic numbers.)

g. Using Blank Pages. Publications must be printed on both sides of the page. Use blank pages only so a chapter or section will begin on the right-hand side. Blank pages are assigned a page number, but this number is not printed on the page.

h. Chapters/Sections/Appendixes. For a better appearance, start chapters, sections, and appendixes on odd-numbered (right-hand) pages. In looseleaf material, the first page of a section following a tab must be a right-hand page. In multivolume or series reports, pagination starts anew with each volume.

i. Multivolume Publications. "Volume" designates an individually bound book. When a publication exceeds 400 pages of repro copy (including artwork, tables, front and back matter), it is divided into two or more

volumes. Each volume is to be designated a separate publication number. (See Publication Number, paragraph 5). Each volume is given a number (Volume 1, Volume 2, etc.) as part of the subtitle.

(1) Definition. Do not designate individual volumes of multivolume publications as section, part, chapter, or other kinds of subdivision. Even if the volume contains only one chapter or one appendix, it is still to be designated as a volume.

(2) Volume Size. Avoid splitting the main parts of the publication when dividing publications into volumes. For example, if the body of a report fits into one volume, appendixes can then be grouped in a second volume. Exceptionally long publications may require each appendix (or each of several groups of appendixes) to have its own volume, or that individual chapters (or groups of chapters) have their own volumes. Avoid splitting long publications into volumes of vastly disproportionate size. For example, it is better to break a 450-page publication into two volumes of approximately equal size, or even into a 150-page volume and a 300-page volume, than to divide it into one of 400 pages and one of 50 pages.

(3) Table of Contents. Complete tables of contents, lists of figures, and lists of tables for all volumes. If feasible, a table of contents should be contained in each volume. Where individual volumes are produced consecutively (and the detailed contents and pagination of later volumes are not known when the earlier ones are submitted for publication), the later volumes should include this information. If Volume 1 of a series has already been printed when the rest of the series is completed, it is recommended that the table of contents, etc., for the entire series be printed as an addendum to Volume 1.

16. PREPARING THE CAMERA-READY COPY (FINAL PAGES) FOR PRINTING

a. Camera-Ready Copy. A camera-ready page must be made up for every page in the report, including all text, figure and table captions, and page numbers. Figures and tables, submitted in the size they will appear in

the publication, are placed on the page. Those requiring reductions or alterations are submitted separately, marked by a figure or table number, page number, and the required reduction. "Windows" for reduced artwork are necessary. (Windows are red or black rectangles of transparent film. They are the exact final size of the artwork and are placed on the camera-ready page where the artwork will appear.)

b. Preferred Form. The preferred form for camera-ready copy is clean, black on white copy on one side of the paper only. Any notations, guidelines, or instructions to the printer (not to be printed in the final publication) must be in nonphoto blue pencil.

c. Reproductions. Any reproductions submitted as camera-ready copy for printing must be of a quality that the reproduction is essentially indistinguishable from the original copy. Reproduced material used in this manner must be sharply outlined; have good contrast; be without flaws, breaks, dim patches, stains, or spots; and be close enough in color to original material to make the final product uniform in appearance. Reproductions made on copiers such as Xerox, IBM, or Kodak are rarely acceptable as camera-ready copy. The exceptions are reproductions produced by copy cameras (photocopies) designed for reducing and enlarging artwork in graphic shops.

d. Color Original Artwork or Photographs. For black-and-white printing, color originals are acceptable only if they can be reproduced satisfactorily in black and white.

e. Corrections. Corrections made to camera-ready copy must not compromise the quality of the final printed product. Corrections made with white opaquing fluid are not acceptable because of the fluid's unreliable opacity. Careful erasure, patching, and correction tape are more reliable.

17. LAYOUT FORMAT FOR NONTECHNICAL PUBLICATIONS: General Information Brochures and Booklets, Magazines, Newsletters, and Newspapers. The format of general information publications varies widely. The intent of these publications is to be informative with the overall presentation and format developed to promote the interest of the reader. As part of the DOT Graphics Standards Program, the individual design of each of these publications must

maintain a consistent DOT look. For requirements regarding format, publication size, typography, layout, and other applicable standards see Graphics Standards for the U.S. Department of Transportation (DOT Order 1360.6.). See Availability of Graphic Standards Manual, paragraph 1b.

18. CONTENT FORMAT FOR MAGAZINES, NEWSLETTERS, AND NEWSPAPERS. In addition to the layout format, the contents of magazines, newsletters, and newspapers must follow specific guidelines and restrictions.

    a. Magazines. Magazines cannot contain editorials, book reviews, or articles that are intended solely to foster or obtain the support of persons outside the Federal Government or that can be construed as advocacy of increased appropriations or of legislation.

    b. Newsletters. Newsletters are used to report recent developments in the FHWA program. Material of a personal interest or social nature should not be published. Each issue is devoted entirely to specific program areas.

    c. Newspapers. Newspapers may be used as internal or external house organs to convey timely information either to the FHWA employees or to allied groups outside the agency. They should be timely, economical, and quickly produced.

19. FORMAT FOR TRAINING PUBLICATIONS

    a. Training publications are manuals, guides, reports, or studies used by instructors and students in a training course or session. These publications will be prepared in a consistent manner in compliance with the DOT Graphic Standards for the U.S. Department of Transportation (DOT Order 1360.6). See Availability of Graphic Standards Manual, paragraph 1b.

    b. If several publications are prepared for one course or a series of courses, the project manager should coordinate the writing style and format to create a consistent, effective, and usable product. The format style chosen depends largely on preference and individual course need.

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle		5. Report Date
		6. Performing Organization Code
7. Author(s)		8. Performing Organization Report No.
9. Performing Organization Name and Address		10. Work Unit No. (TRAIS)
		11. Contract or Grant No.
12. Sponsoring Agency Name and Address		13. Type of Report and Period Covered
		14. Sponsoring Agency Code
15. Supplementary Notes		
16. Abstract		
17. Key Words	18. Distribution Statement	

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price

Form DOT F 1700.7 (8-72) **Reproduction of completed page authorized**

DOT F 1700.7, Technical Report Documentation Page

Examples from the Graphic Standards for the U.S. Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

EXAMPLES FROM THE GRAPHIC STANDARDS
FOR THE U.S. DEPARTMENT OF TRANSPORTATION

DOT ORDER 1360.6

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Foldouts: Design Examples

Grid A--Format: Large Quality Publications, Manuals, Magazines, and Reports
Grid B--Half-Size Format: Brochures, Booklets, and Directories
Grid C--Format: Leaflets and Pamphlets
Grid D--Technical Format: Reports and Studies

Foldouts: Grid Formats

Grid A--Large Publication Format
Grid B--Half Size Format
Grid C--Pamphlet Format
Grid D--Technical Publication Format

Introduction

The first contact most people have with the Department of Transportation 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.

Experience in other federal agencies has proven that significant cost savings can be achieved by adopting graphic standardization programs. The National Endowment for the Arts has estimated that graphic standards programs can reduce design and printing costs by as much as 15 percent, and even more on some individual projects.

This manual establishes a visual system for integrating each of DOT's separate Administrations into an overall framework. This will help create strong employee identity with the Department and identification with its goals and objectives.

The manual is designed to be a teaching tool, workbook, and standard reference guide to be followed in preparing all DOT graphics. As such it should be used by every element of the Department and every contractor engaged in visual communication work, not only to facilitate projects but also to solve in advance many of the problems routinely encountered in design production.

Standard items such as stationery are shown with tight production specifications. For publications and forms design, standard formats and design principles are provided, with latitude for the designer to make specific design decisions applicable to that particular problem.

The manual has been divided into a number of sections. The first section describes the signature, the primary graphic identifier to be used on all DOT visual communications. Each of the following sections describes application of the signature to specific areas. Contained in the back of the manual are reproduction art and format aids, along with applicable DOT correspondence and reference material.

Publication of the DOT Graphic Standards Manual is part of the Federal Design Excellence Project, a presidentially mandated effort to improve visual communications throughout the federal government. 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 the visual guidelines contained in this manual 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 manual will help all of us create better, more consistent products that will aid DOT in accomplishing its mission.

The Signature

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 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.)

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

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.

U.S. Department of Transportation

U.S. Department of Transportation

Administration Signature

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 stationery, 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. For information on the U.S. Coast Guard Signature and its graphic standards refer to Section 10 of this manual.

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 located on the left (the stacked version) will look better than the horizontal version 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 reproduction artwork at all times. Avoid second-generation reproductions.

For detailed guidance on the application or use of the signature, refer to the applicable section of this manual. Contact the DOT Graphics Coordinator for advice and counsel on unique or special applications of the signature.

U.S. Department of Transportation

Federal Highway Administration

U.S. Department of Transportation

Federal Highway Administration

Reproduction Art

This page contains camera-ready reproduction artwork. This artwork should be used at the same size shown. Sizes indicated are for size of signature typography. Reductions and enlargements will alter the character of the typography.

For additional pages of reproduction art, contact the DOT Graphics Coordinator.

6 pt.

U.S. Department of Transportation
Federal Highway Administration

7 pt.

U.S. Department of Transportation
Federal Highway Administration

8 pt.

U.S. Department of Transportation
Federal Highway Administration

9 pt.

U.S. Department of Transportation
Federal Highway Administration

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Federal Highway Administration

11 pt.

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Federal Highway Administration

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Administration**

12 pt.

U.S. Department
of Transportation
**Federal Highway
Administration**

Signature Construction

The Department and Administration signatures have been constructed to exact specifications. Each signature has been individually assembled with careful attention given to the spacing between letters, the sizes of words, and the relationship between lines and spaces so the integrated unit will have the most pleasing visual effect. This effect cannot be duplicated by simply setting the words with conventional typesetting, even though the type face is the same. Therefore, always reproduce the signatures from approved artwork in Section 8 of this manual by photographic reproduction techniques. If, however, you must reproduce a signature at a large scale for special application, refer to the adjacent signature diagram and guide.

U.S. Department of Transportation

U.S. Department of Transportation

U.S. Department
of Transportation

**Research and
Special Programs
Administration**

U.S. Department of Transportation

**Research and Special Programs
Administration**

The Department of Transportation supplies information to offices within the Department, to other federal agencies, to Congress, to industry, and to the general public. This transfer of information requires a major publishing effort by the Department.

The following are general guidelines for the DOT publications system. This system is a major part of the Graphic Standards Program of the Department of Transportation.

Included in the system are guidelines for signature placement, publication size and format, and selection of typography. This system was conceived as a working tool for publication designers within the Department. The system provides a consistent framework or understructure for all the Department's publications, but does not attempt to solve the specific creative problems inherent in designing each publication. Working within the system will help a designer deal effectively with his major challenge, the graphic interpretation of content.

Consistent and intelligent use of this system will result in a family of publications that are readable and appealing and that reflect a high standard of design professionalism throughout the Department.

Signature Use Guide

The signature is to be placed on all Department publications. When placed on a publication cover, it will generally be aligned with the left margin. The position of the signature on a cover will always relate to the publication's main title as well as to the interior grid format as shown in subsequent illustrations.

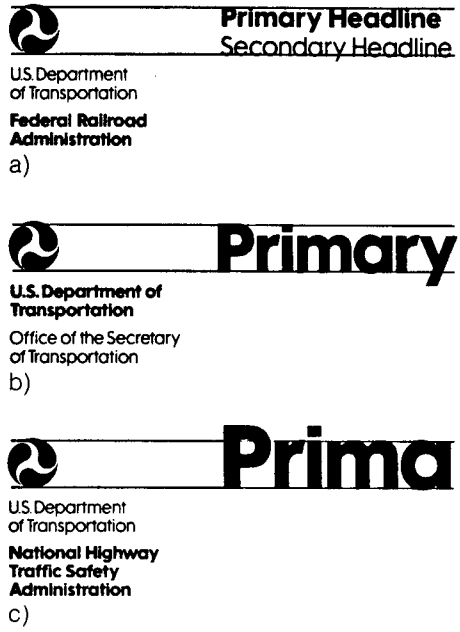
The selection of the size of signature to be used and the size of the publication headline typography are interdependent. For each signature size, there are three recommended headline type sizes that can be used. This relationship of signature size to headline size is important to the uniform visual balance of covers and mastheads.

The following three examples and reference tables will assist your selection of the appropriate signature and headline type size.

a) Small-size headline or title typography as used on forms and small typographic mastheads should be set in one or two lines of type and aligned with the top edge of the overall height of the mark. The combined height of these two lines should be equal to the diameter of the mark. When the title is only one word set in a small-size type, hang the headline off the line created by the top of the mark.

b) For larger-size publication and masthead titles, the height of the capital letters in the title should be equal to the diameter of the mark.

c) For large-scale magazine titles and newsletter bannerheads, the size relationship of the type to the mark can be increased. In this case, the diameter of the round lower case letters is to be equal to the diameter of the mark.



This reference table specifies the three different sizes of headline/display typography recommended for use with each standard signature size. Use this table when selecting the size of headline type that visually relates to a specific signature size.

a) Height of capital letters is one-half the diameter of the mark.

b) Height of capital letters is equal to the diameter of the mark.

c) Height of lower case letters (x height) is equal to the diameter of the mark.

Signature: type size in points	**Headline:** size in points a) Small	b) Medium	c) Large
6	9	22	28
7	11	24	32
8	12	28	36
9	14	32	42
10	16	36	48
11	18	42	54
12	20	48	60
14	22	54	66
20	32	72	96

This reference table specifies which size signature is to be placed on standard format items.

Publication	**Signature Size** 6	7	8	9	10	11	12
Letterhead					x		
Notepaper			x				
Business Card		x					
No. 10 Envelope					x		
Self-Mailer					x		
Large Envelope							x
Mailing Label		x					
Typographic Masthead					x		
Memorandum					x		
News Release							x
Route Slip					x		
Forms		x					
Identification Card				x			
Uniform Patch						x	
Certificates							x
Magazine Cover					x		
Binder Cover					x		

Publication Sizes

Three sizes have been established that will accommodate the majority of the publication types and formats to be produced by the Department. These sizes are 8½" x 11", 5½" x 8½", and 4" x 9". Each size can be used for many kinds of publications. Pages of these sizes are economical because they fit comfortably into the standard sizes of sheet-fed printing paper with little waste to be trimmed off. These sizes also conform to the current 8½" x 11" standard for federal stationery and publication formats.

Publication Formats

The vertical format has been adopted for all DOT publications. Horizontal or album formats should be avoided unless the content cannot be adapted to the vertical alignment. Cover designs for horizontal-format publications should still use the principles established for the vertical format.

Publication Layout Grids

The uniformity and consistency of the Department's publications is achieved by providing an underlying framework for the layout and composition of pages. Each publication size has been assigned a format grid. This grid divides the page uniformly, establishing column widths, margins, gutters, and horizontal base lines. The grid is a tool used to plan the placement and interrelationships of headlines, body text, illustrative material, and captions, along with the conscious use of white space, to make the publication readable and to give it a pleasing and inviting appearance. The DOT format grid system for publication design includes:

Grid A—8½" x 11", used for large quality publications, manuals, magazines, and reports. Accommodates one-column, two-column, three-column, and four-column formats.

Grid B—5½" x 8½", used for brochures, booklets, and directories. Accommodates one-column, two-column, and three-column formats.

Grid C—4" x 9", used for pamphlets and leaflets. Accommodates one-column and two-column formats.

Grid D—8½" x 11", used for technical reports and studies. Accommodates one-column, two-column, and three-column formats.

To use the grid a designer should begin the design of a publication by acquiring a thorough knowledge of the material to be presented, including both text and illustration. The designer should discuss the editorial attitude with the author and know how the client intends to use the publication.

The choice of size and grid format will often be determined by the publication's intended use. For example, a large technical forecast prepared on the use of equipment by transportation systems may use Grid D. Grid C may be used appropriately for a small consumer guide on seat belts. A photographic history of aviation would use Grid A, and a telephone directory for a regional center would take advantage of the compact two-column format contained in Grid B.

First, decide on a grid format that will present the contents effectively. Lay out a rough thumbnail sketch to test your concept. As necessary, revise the concept until you are satisfied that all elements can be arranged in an inviting and readable layout.

When locating the signature, headlines, columns of type, captions, and illustrative materials, place them flush to the left margin on the vertical rules of the selected grid format.

Each column is horizontally divided into one-sixth and one-quarter column units. Each of these units has a top and a bottom margin. Text typography and headline material that is hung from the top of a horizontal unit should generally be placed so the x height of the type is aligned with the top horizontal line of the unit. When using a bottom margin within the page, the base of the type line should rest on the bottom horizontal line of the unit.

Do not deviate from whichever grid format you choose for a particular publication. Consistency is critical for a sense of visual order, both within the specific publication and throughout all the Department's publications.

Limit sizes and styles of typography to as few as possible.

Do not use unnecessary graphic devices. Embellishments detract from the message to be communicated.

The sections that follow show selected grid formats by publication size and type. These examples demonstrate many of the alternatives available to the DOT communicator.

Photography and Illustration

Photographs and illustrations are high-impact visual elements. Select images that reflect the message or idea being communicated. Images must be of high reproduction quality and must become an integral part of the layout.

When you begin to visualize the design format, your ideas for using photos and illustrations should be fresh and imaginative, not worn-out or hackneyed. The photograph must have impact. It must either convey an idea that is part of the overall story but not stated in the article or illustrate an idea presented in print.

If multiple illustrations are used, they should not be redundant. One good photograph is better than several mediocre ones. Your layout should not force the use of photographs just to fill space. A good layout may justify the use of a necessary but not superb photograph.

When using more than one photograph, crop, size, and place them according to their value and image quality. Contrasts in shape, size, and implied direction of the photographs can be very effective.

When selecting a photographer or an artist for an assignment, try to match the person's style or talent to the requirement. Select the best talent possible for the job. Review the project and the editorial requirements with your photographer or illustrator before beginning the assignment.

Images of all illustrations and photography must be of best quality. High-quality printing and reproduction will not improve a poor-quality photograph. Each repro-

duction step lessens the tone, color, and line quality of the original.

Black-and-white prints should contain a full tonal range. Avoid washed-out or high-contrast prints. For best quality, use black-and-white photographs for single color reproduction. Color transparencies should have true color that is saturated. Avoid using slides or prints with thin color for print reproduction, especially duplicate slides.

Line artwork should be sharp and clean. Multiple-generation photostats, xerographic copies, or photographs containing a screen from prior use should always be avoided.

When preparing the layout, photographs and illustrations must fit into the grid you have selected. Size and align illustrative material according to the boundaries set by this preplanned structure.

Paper

Paper selection is an important factor that will affect the quality and appearance of your publication.

For economy and standardization, federal procurement policies may limit the variety and weights of papers available. Within these constraints, select the paper that fits your job best. If none of the papers available seem to be what you are looking for, consult the DOT Graphics Coordinator for assistance.

The characteristics of a specific paper will affect the reproduction of one or two flat colors, as well as half-tones and four-color process work. Sharp, well-inked images with maximum ink holdout (surface retention) are the preferred end result. All categories of paper specifications should be for "middle to top of the line" qualities (coated or uncoated).

A coated paper with either dull or gloss finish is recommended for four-color reproduction jobs that require first-quality, high resolution of halftones, as well as for those jobs that require a large amount of ink coverage in solid areas.

Flat color reproduction that contains only line work may be printed on either coated or uncoated paper.

For booklets of 32 pages or more, a different or heavier cover stock may be considered. With perfect-bound booklets or reports of 40 pages or more, bulk must be considered as more pages are added. Stock should not be too rigid, and it should not be difficult to open the booklet or lay it flat. However, when you reduce the paper weight to cut the bulk, it is advisable to retain maximum opacity so the ink doesn't show through from the back of the page.

Texture or surface quality of the paper should not compete with the design or images. In most cases, a plain, smooth surface is recommended.

White paper is preferred for most applications. Use of a colored stock should be limited to a beige or warm-tone gray. Pastel or primary colored stocks should be avoided.

Before you make final decisions on paper specifications, request a paper dummy of the publication in the intended weight and paper stock from your printer or paper supplier.

Production Procedure

The procedure for designing a publication and preparing it for reproduction is different for each individual job. There is, however, a logical series of tasks that apply to the design and completion of most publications. The steps listed below should be used as a guide.

1) Receive all copy, text, and editorial materials. Know attitude and goals of author and client.

2) Know subject and intent. Gather available photographs, illustrations, or other art for review.

3) Evaluate editorial attitude, copy length, and method of illustration.

4) Lay out a rough schematic indicating selected grid format. Prepare a thumbnail layout so you can see all spreads in sequence. Indicate typographic treatment of heads, text, use of illustrations, color, and other graphic devices.

5) Prepare a written specification indicating quantity, size, binding method, paper stock, color, and schedule. Review production requirements with printer.

6) Count copy and fit to schematic. Revise copy as needed, specify the type, and have copy set.

7) Proofread the typeset galleys. Circulate "readers" or type proof for necessary approvals, and correct as needed.

8) Size all photographs and illustrative materials to fit the layout using selected grid. Lay out a full-size comprehensive that has corrected type proof, headlines, photostats, C-prints (relatively inexpensive color prints), and other graphic devices in place.

9) Review comprehensive with client and receive approvals. Make corrections or revisions as requested and present again, if necessary.

10) Prepare mechanicals (original copy in place and ready for reproduction).

11) Release mechanicals to printer with specifications and production instructions for such things as color, binding, and pagination. Request blueprint and receive an accurate production schedule.

12) Check blueprint for stripping errors, position of halftones, margins, broken type, and dirt.

13) Supervise production. Check overall ink coverage, color balance, halftones, and alignment.

Typography

Typography is the basic visual element a designer uses to communicate a message.

The first requirement is that typography be legible. Different typographic problems require different overall treatments. Publications should be both similar, because of a typographic consistency, and different, because the designer has been free to adapt the typography to a particular set of editorial and illustrative needs. Technical journals and reports require an economical use of the page without sacrificing readability. On posters, typography is often used as an illustrative element. Also, size and space relationships between key words and other material contained on the poster are critical to communication. Typography used on forms must be readable and must not compete with the more important information placed on the form when it is being completed.

The Department's typographic system has been designed to accommodate a wide range of diverse needs, yet maintain a general consistency in application and appearance.

This system uses seven typefaces, each of which has a bold weight and a light or book weight. Each typeface is intended to accommodate a particular requirement within the system. For general publications, these requirements are often similar, allowing the designer to select the most appropriate face.

The following is a description of each typeface in the system.

1) Headline/Display Typeface: TransBold with TransBook

The Trans typeface was developed for its use in the DOT signatures. TransBold and TransBook typefaces are recommended on DOT publications and permanent applications to items such as signs, vehicles, etc., as an extension of its use in the signatures. Repeated use of the alphabet in DOT graphics amplifies its role and effectiveness as a major identity element. This sans serif face is available in bold and light weights. Its principal characteristics are a large lower-case letter height, an even stroke width, and a full circular letter form that gives the face an open, distinctive character. This typeface is used in all Department and Administration signatures.

The TransBold weight is intended for use in display type and headline applications on items of permanence including publication titles, periodical mastheads and banners, identification signage, vehicle markings and special applications for which a coordinated DOT look is required.

The TransBook or light weight face is intended as a complement to the TransBold weight on applications such as mastheads, subtitles, certificates, and invitations. It is not recommended for long text settings or for combinations with any typeface other than TransBold.

For text and general publication typography, including magazines, forms, reports, and pamphlets, six versatile and attractive typefaces can be used. They are Helvetica, Univers, Times Roman, Garamond, Century Schoolbook, and Memphis.

2) Sans Serif Typeface: Helvetica Light with Helvetica Medium

Helvetica was designed in 1957 by Edouard Hoffman and Max Miedinger for the Haas type foundry in Switzerland.

Helvetica is a uniformly proportioned sans serif type. It has a simple, contemporary character. Helvetica light is a superb typeface for brochures and general information publications. The Helvetica lower-case letters are large. With adequate leading, as shown in the typeface display on page 3.6, this typeface is highly legible.

Helvetica Light complements the Department and Administration signatures and is to be used for all ancillary text on stationery. It is also to be used for all typography on business forms. The Helvetica Medium typeface may be used as a compatible bold weight for titles and headlines.

3) Sans Serif Typeface: Univers 45 Light with Univers 65 Bold

Univers is an easy to read, functional sans serif typeface for general interest publications and for charts in technical material. Designed by Adrian Frutiger in 1957, Univers was developed as a typographic system with varying weights from light to very bold, each with corresponding italic, condensed, and expanded alphabets. The examples shown in the manual are the normal light and bold weights. Because of the variation between its vertical and horizontal stroke widths, Univers projects a cursive or hand-wrought character which sets it apart from many of the modern, uniformly proportional sans serif typefaces.

4) Serif Typeface: Times Roman with Times Roman Bold

Times Roman is an excellent typeface for reports and booklets containing large amounts of text. Times Roman is very readable. As its compatible accent face, Times Roman Bold is to be used for headlines and subheads to accent the regular (book) weight.

Times Roman was designed in 1932 for the London Times Newspaper. It is traditional in character and is an attractive, highly legible typeface. It has a large x height with moderate contrast in stroke width. The circular letter forms are slightly condensed.

5) Serif Typeface: Garamond with Garamond Bold

Developed for manuscript composition by Jean Jannon in 1615, the design was originally attributed to Claude Garamont, another type designer of the period, and, as a result, still bears a variation of his name.

Used for text settings, this three-century-old typeface is extremely legible. The rounded, old-style characters are slightly condensed. Stroke weight contrast is minimal, with a small black slope at the contrast position. Garamond's classical beauty comes from its small body height; its long ascenders, which extend beyond the height of the capital letters; and its prominent serifs.

Garamond Bold and Garamond Italic may be used to complement text set in Garamond book weight.

6) Serif Typeface: Century Schoolbook with Century Schoolbook Bold

Century Schoolbook was one of the first modern text typefaces designed for machine setting and for reproduction on high-speed printing presses. The goal was to create a typeface with optimal legibility and readability as well as being adaptable to modern technology.

Designed in 1894 by Lynn Boyd Benton for *Century Magazine*, this alphabet, with uniform weight in each character, large lower-case letters, and heavily bracketed serifs, has survived the test of time. Century Schoolbook is a superb typeface for manuals and regulatory material text settings that must be both attractive and highly legible.

Century Schoolbook Bold and Century Schoolbook Italic may be used with the regular weight for headlines or for emphasis in the typeset material.

7) Serif Typeface: Memphis Light with Memphis Bold

Memphis is a slab or square serif typeface. It was designed by Rudolf Weiss in 1929 to reflect the hard edge of modern architecture and industrial technology. It is a classic revival of the Egyptian typeface designed in 1815. The original Egyptian was a capitals only alphabet and was intended for headline use exclusively whereas Memphis is an attractive upper- and lower-case type face for use in both text and headline settings. Memphis does not have the readable utility of the other serif faces shown in this section. It is a decorative typeface and should be used selectively.

Memphis Light has a companion Bold weight and Italic.

These six typefaces, if used properly, will give a useful flexibility and the necessary legibility to Department publications. Refer to examples throughout the manual for recommended applications.

The following group of general principles describes how to select and set type for legibility and ease of reading:

Legibility of Type
The legibility of type depends on the physical characteristics of letters and words. Each typeface has different letter forms, proportions, and weight emphasis. As a result, there are only guides, but no definitive rules, for the specific selection and use of typography.

Letter forms are recognized by their outside shape. A medium (book) weight face provides the necessary shape delineation and letter weight for easy reading but does not fill in the interior of enclosed letters as much as a bold weight does. Serifs tend to amplify the character of a letter form's outside shape. The relationship between thick and thin sections of stroke width should be moderate, with weight emphasis on the vertical. The height of the lower-case letters (x height) should be 60 percent to 66 percent of the overall height of capital letters. Ascenders or descenders that are too long in relation to the x height confuse the eye by pulling it upward or downward from the line of type. Round letter forms should be slightly condensed. Elongating or tightly condensing a letter form distorts its recognizable characteristics.

Moderation should be the guide for letter spacing and word spacing. Words break up visually if there is too much space between letters. Tight or touching letter forms in text sizes will appear to bleed into each other.

The selection of type size, line length, and leading (space between lines) is determined by the general character and layout of the publication. For use in text, type is generally set within the nine- to 12-point range. The size of text type should not simply be determined mathematically. The type selected must reflect the tone of the layout and content of the page.

In text settings, the length of the lines should be comfortable to read in the selected type size. If lines are too long, readers are forced to search for their place at the beginning of each line. Short lines in text type may cause distracting breaks in words and phrases. Studies have shown that line lengths of 40 to 65 characters are the most comfortable to read. Appropriate line length is one factor in selecting which grid configuration to use.

It is recommended that typography be set unjustified or "ragged right." This lightens the visual weight of the block of type on the page without affecting readability. Typographic color, the apparent lightness or darkness of a unit of type on a page, as well as that unit's general readability, is determined by line spacing or leading. Text type usually has one to three points of leading, depending on the size of the type and the length of the line. The white space created by leading makes it easier for the reader to follow the line of type.

There are fewer limitations on the use of headline typography. Headlines may be used as much for graphic effect in a layout as for content. Heavier weights are used for headlines than for the text, and letter spacing may be tighter. Use of all uppercase letters should be avoided.

Typographic Composition Methods
The Department's graphic system requires the use of two methods of composition.

Display/Headline It is recommended that the Trans typeface, in both Book and Bold weights, be set using a typositor machine. With this method the typeface is on a negative film master and is exposed manually, one character at a time, using optical spacing. The result of this process is a positive print if the typography is in the form of a strip. These strips are then assembled and sized as finished artwork ready to be placed in a mechanical and reproduced in final form.

Items recommended for the typositor method of typesetting include headlines, cover titles, mastheads, signage, and vehicle markings. Typography may be ordered from the Department's Publishing and Graphics Division. The DOT Graphics Coordinator will provide a list of available supply locations for your Administration or region.

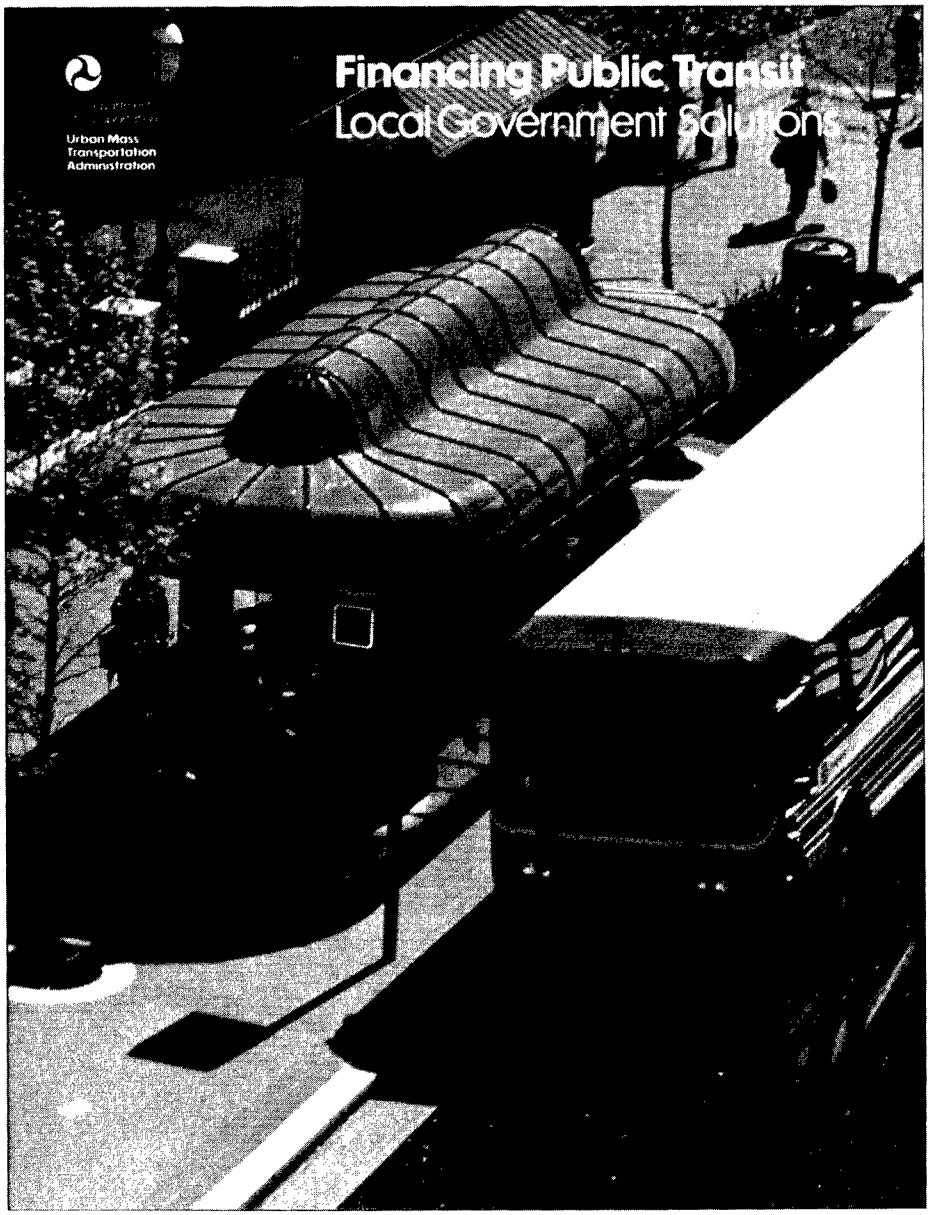
Do not attempt to imitate or duplicate the character of the Trans typeface in selecting a substitute style. If TransBook and TransBold are not available, select one of the six other typefaces in the DOT typeface system.

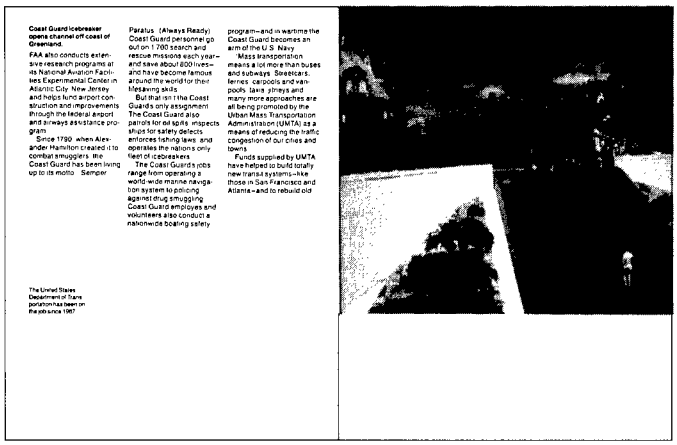
Text The recommended method for setting text typefaces is keyboard photo typesetting. These typefaces–Helvetica Light and Medium, Univers 45 and 65, Times Roman and Times Roman Bold, Garamond and Garamond Bold, Century Schoolbook and Century Schoolbook Bold, Memphis Light and Memphis Bold–are readily available and can be set on photo typesetting machines from every major manufacturer.

The look of a typeface will vary from one manufacturer to another. When specifying type for a publication, refer to a sample setting from the type of machine to be used. Do not mix type set on two different machines in the same publication.

Typography is the primary graphic element in visual communications. When effectively used, typography presents the message in a highly readable form–while the basic character and specific use of the particular typography selected visually support the idea being communicated. Successful use of typography integrates the principles of type legibility with subjective design decisions that are carefully made to amplify the visual effect of that particular design problem. The final result tastefully combines headlines, subheads, illustrations, captions, text, and white space to reflect the message with straightforward simplicity.

Grid A—8½" x 11" Format: Large Quality Publications, Manuals, Magazines, and Reports





Coast Guard icebreaker opens channel off coast of Greenland.

FAA also conducts extensive research programs at its National Aviation Facilities Experimental Center in Atlantic City, New Jersey and helps fund airport construction and improvements through the federal airport and airways assistance program.

Since 1790 when Alexander Hamilton created it to combat smugglers, the Coast Guard has been living up to its motto: Semper Paratus (Always Ready). Coast Guard personnel go out on 1,700 search and rescue missions each year—and save about 800 lives—and have become famous around the world for their lifesaving skills.

But that isn't the Coast Guard's only assignment. The Coast Guard also patrols for oil spills, inspects ships for safety defects, enforces fishing laws, and operates the nation's only fleet of icebreakers.

The Coast Guard's jobs range from operating a world-wide marine navigation system to policing against drug smuggling. Coast Guard employes and volunteers also conduct a nationwide boating safety program—and in wartime the Coast Guard becomes an arm of the U.S. Navy.

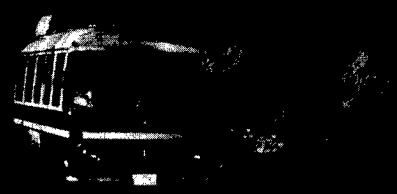
Mass transportation means a lot more than buses and subways. Streetcars, ferries, carpools and vanpools, taxis, jitneys and many more approaches are all being promoted by the Urban Mass Transportation Administration (UMTA) as a means of reducing the traffic congestion of our cities and towns.

Funds supplied by UMTA have helped to build totally new transit systems—like those in San Francisco and Atlanta—and to rebuild old

The United States Department of Transportation has been on the job since 1967

Grid B–5½″ x 8½″ Half-Size Format: Brochures, Booklets, and Directories

Rural Passenger Transportation
Selected Topics



U.S. Department of Transportation
National Highway Traffic Safety Administration

Auto restricted pedestrian malls bring cities to life.

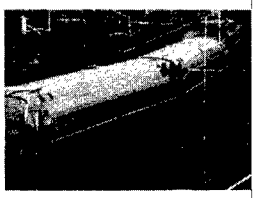
FAA also conducts extensive research programs at its National Aviation Facilities Experimental Center in Atlantic City, New Jersey, and helps fund airport construction and improvements through the federal airport and airways assistance program.

Since 1790, when Alexander Hamilton created it to combat smugglers, the Coast Guard has been living up to its motto, "Semper Paratus" (Always Ready). Coast Guard personnel go out on 1,700 search and rescue missions each year—and save about 800 lives—and have become famous around the world for their lifesaving skills.

But that isn't the Coast Guard's only assignment. The Coast Guard also patrols for oil spills, inspects ships for safety defects, enforces fishing; ranges from operating a world-wide marine navigation system to policing against drug smuggling. Coast Guard employees and volunteers also conduct a nationwide boating safety program—and in wartime the Coast Guard becomes an arm of the U.S. Navy.

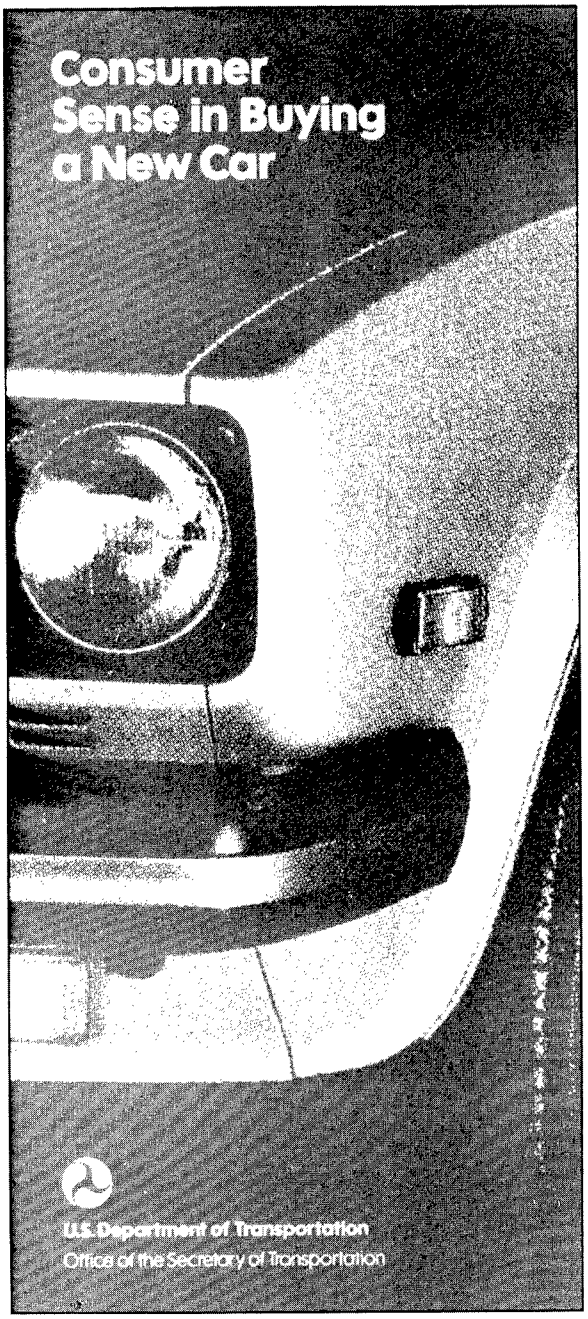
"Mass transportation" means a lot more than buses and subways. Streetcars, ferries, carpools and vanpools, taxis, jitneys and many more approaches are all being promoted by the Urban Mass Transportation Administration (UMTA) as a means of reducing the traffic conges-

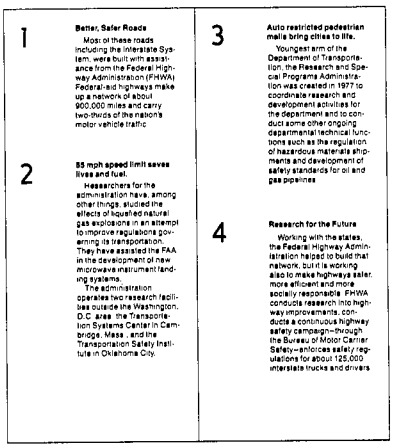
Special emphasis is also placed on programs aimed at reducing fatalities caused by drunk drivers, developing model safety programs in fields such as driver education and vehicle inspection. NHTSA provides funds to help the states conduct these programs.



1)

Grid C—4″ x 9″ Format: Leaflets and Pamphlets.





1 **Better, Safer Roads**

Most of these roads including the Interstate System, were built with assistance from the Federal Highway Administration (FHWA). Federal-aid highways make up a network of about 900,000 miles and carry two-thirds of the nation's motor vehicle traffic.

2 **55 mph speed limit saves lives and fuel.**

Researchers for the administration have, among other things, studied the effects of liquefied natural gas explosions in an attempt to improve regulations governing its transportation. They have assisted the FAA in the development of new microwave instrument landing systems.

The administration operates two research facilities outside the Washington, D.C. area: the Transportation Systems Center in Cambridge, Mass., and the Transportation Safety Institute in Oklahoma City.

3 **Auto restricted pedestrian malls bring cities to life.**

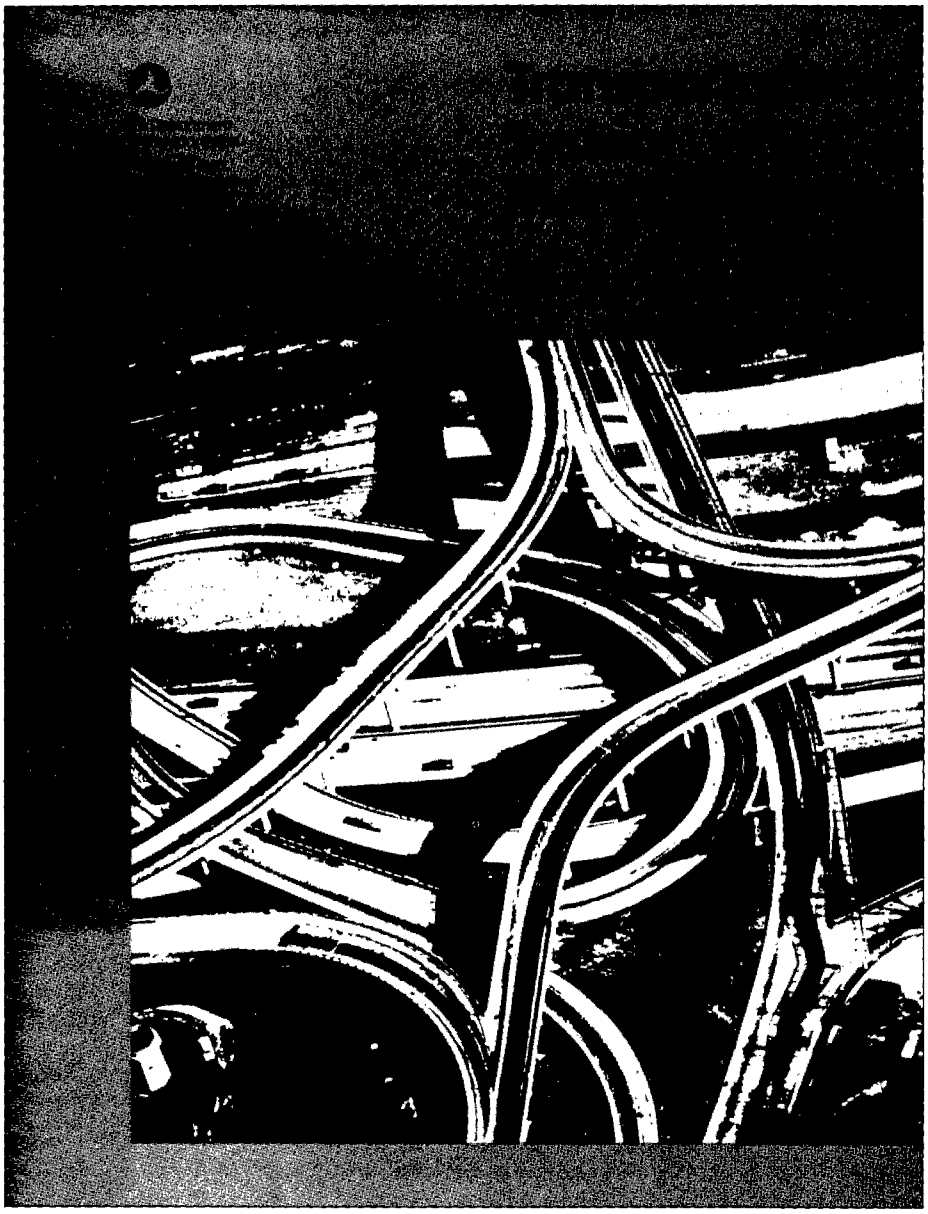
Youngest arm of the Department of Transportation, the Research and Special Programs Administration was created in 1977 to coordinate research and development activities for the department and to conduct some other ongoing departmental technical functions such as the regulation of hazardous materials shipments and development of safety standards for oil and gas pipelines.

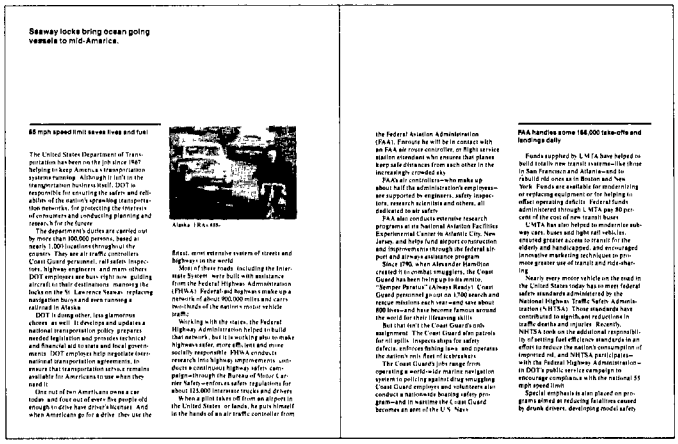
4 **Research for the Future**

Working with the states, the Federal Highway Administration helped to build that network, but it is working also to make highways safer, more efficient and more socially responsible. FHWA conducts research into highway improvements, conducts a continuous highway safety campaign—through the Bureau of Motor Carrier Safety—enforces safety regulations for about 125,000 interstate trucks and drivers.

1)

Grid D—8½″ x 11″ Technical Format: Reports and Studies





Seaway locks bring ocean going vessels to mid-America.

55 mph speed limit saves lives and fuel

The United States Department of Transportation has been on the job since 1967 helping to keep America's transportation systems running. Although it isn't in the transportation business itself, DOT is responsible for ensuring the safety and reliability of the nation's sprawling transportation networks, for protecting the interests of consumers and conducting planning and research for the future.

The department's duties are carried out by more than 100,000 persons, based at nearly 1,000 locations throughout the country. They are air traffic controllers, Coast Guard personnel, railroads inspectors, highway engineers and many others. DOT employees are busy right now guiding aircraft to their destinations, manning the locks on the St. Lawrence Seaway, replacing navigation buoys and even running a railroad in Alaska.

DOT is doing other, less glamorous chores as well. It develops and updates a national transportation policy, prepares needed legislation and provides technical and financial aid to state and local governments. DOT employees help negotiate international transportation agreements, to ensure that transportation services remains available for Americans to use when they need it.

One out of two Americans owns a car today and four out of every five people old enough to drive have driver's licenses. And when Americans go for a drive, they use the

Alaska | RAs 485-

finest, most extensive system of streets and highways in the world.

Most of these roads, including the Interstate System, were built with assistance from the Federal Highway Administration (FHWA). Federal-aid highways make up a network of about 900,000 miles and carry two-thirds of the nation's motor vehicle traffic.

Working with the states, the Federal Highway Administration helped to build that network, but it is working also to make highways safer, more efficient and more socially responsible. FHWA conducts research into highway improvements, conducts a continuous highway safety campaign—through the Bureau of Motor Carrier Safety—enforces safety regulations for about 125,000 interstate trucks and drivers.

When a pilot takes off from an airport in the United States or lands, he puts himself in the hands of an air traffic controller from the Federal Aviation Administration (FAA). Enroute he will be in contact with an FAA air route controller, or flight service station attendant who ensures that planes keep safe distances from each other in the increasingly crowded sky.

FAA air controllers—who make up about half the administration's employees—are supported by engineers, safety inspectors, research scientists and others, all dedicated to air safety.

FAA also conducts extensive research programs at the National Aviation Facilities Experimental Center in Atlantic City, New Jersey, and helps fund airport construction and improvements through the federal airport and airways assistance program.

Since 1790, when Alexander Hamilton created it to combat smugglers, the Coast Guard has been living up to its motto, "Semper Paratus" (Always Ready). Coast Guard personnel go out on 1,700 search and rescue missions each year—and save about 800 lives—and have become famous around the world for their lifesaving skills.

But that isn't the Coast Guard's only assignment. The Coast Guard also patrols for oil spills, inspects ships for safety defects, enforces fishing laws, and operates the nation's only fleet of icebreakers.

The Coast Guard's jobs range from operating a world-wide marine navigation system to policing against drug smuggling. Coast Guard employees and volunteers also conduct a nationwide boating safety program—and in wartime the Coast Guard becomes an arm of the U.S. Navy.

FAA handles some 156,000 take-offs and landings daily

Funds supplied by UMTA have helped to build totally new transit systems—like those in San Francisco and Atlanta—and to rebuild old ones as in Boston and New York. Funds are available for modernizing or replacing equipment or for helping to offset operating deficits. Federal funds administered through UMTA pay 80 percent of the cost of new transit buses.

UMTA has also helped to modernize subway cars, buses and light rail vehicles, ensured greater access to transit for the elderly and handicapped, and encouraged innovative marketing techniques to promote greater use of transit and ride-sharing.

Nearly every motor vehicle on the road in the United States today has to meet federal safety standards administered by the National Highway Traffic Safety Administration (NHTSA). Those standards have contributed to significant reductions in traffic deaths and injuries. Recently, NHTSA took on the additional responsibility of setting fuel efficiency standards in an effort to reduce the nation's consumption of imported oil, and NHTSA participates—with the Federal Highway Administration—in DOT's public service campaign to encourage compliance with the national 55 mph speed limit.

Special emphasis is also placed on programs aimed at reducing fatalities caused by drunk drivers, developing model safety

1)

Grid A 8½″ x 11″ Large Publication Format

Grid C 4″ x 9″ Pamphlet Format

Grid D–8½″ x 11″ Technical Publication Format

Grid D–8½″ x 11″ Technical Publication Format

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