TRANSPORTATION REFERENCE DATA

HEADQUARTERS, DEPARTMENT OF THE ARMY

DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

Field Manual No. 55-15 Headquarters
Department of the Army
Washington, DC, 27 OCTOBER 1997

TRANSPORTATION REFERENCE DATA

TABLE OF CONTENTS

| | | Page |
|--------------|---|------|
| PREFACE | | iv |
| CHAPTER 1. | MOVEMENT CONTROL | 1-1 |
| | Elements of Movement Control | 1-1 |
| | Movement Programming | |
| | Highway Regulation Planning | |
| | Fundamentals and Methods of Scheduling | |
| | Measuring Movements | |
| | Time-Distance Factors | 1-8 |
| | Distance, Rate, and Time Calculations | 1-10 |
| | Arrive and Clear Time Calculations | 1-10 |
| | Rest Halts | 1-11 |
| CHAPTER 2. | AIR TRANSPORT | 2-1 |
| Section I. | ORGANIZATION AND OPERATIONS | 2-1 |
| | Army Aviation | |
| | Airlift of Materiel | |
| Section II. | LANDING SITE SELECTION AND PREPARATION | 2-5 |
| | Site Selection | |
| | Site Preparation | |
| Section III. | CARGO-CARRYING AIRCRAFT | 2-11 |
| | External Transport Helicopters | |
| | Internal Transport Helicopters | |
| | Air Mobility Command Aircraft | |
| | Civil Reserve Air Fleet Aircraft | |
| | Characteristics of Standard Army Aircraft | |

 ${\bf DISTRIBUTION\,RESTRICTION:\,Approved\,for\,public\,release;\,distribution\,is\,unlimited.}$

^{*}This publication supersedes FM 55-15, 9 June 1986.

| | | Page |
|---|--|------|
| Section IV. | RESTRAINT CRITERIA | 2-45 |
| | Determining the Center of Gravity | |
| | Securing Cargo | 2-45 |
| Section V. | AIRDROP | 2-49 |
| | Delivery Operations | |
| | Types of Airdrop | |
| | Release Methods | |
| | Low Altitude Parachute Extraction System | |
| | Ground-Air Emergency Symbols | 2-51 |
| CHAPTER 3. | MOTOR TRANSPORT | 3-1 |
| Section I. | ORGANIZATION AND OPERATIONS | 3-1 |
| | Unit Administration | 3-1 |
| | Planning | 3-12 |
| | Transport Operations | 3-25 |
| Section II. | MOTOR TRANSPORT DATA | 3-46 |
| 2 | Vehicle Characteristics | |
| | Planning Statistics | |
| CHAPTER 4. | RAIL TRANSPORT | 4-1 |
| Section I. | ORGANIZATION AND OPERATIONS | 4-1 |
| | Railway Units | |
| | Administration | 4-1 |
| | Operations Planning | |
| | Equipment Requirements | |
| | Loading | |
| | Construction, Maintenance, and Supply | 4-12 |
| Section II. | RAIL TRANSPORT DATA | 4-17 |
| | Locomotive Classification | 4-17 |
| | Railway Equipment Characteristics | |
| | Clearances and Track Gauges | |
| | Bridge Capacity | |
| | Maximum Bulk Loads | |
| CHAPTER 5. | WATER TRANSPORT AND TERMINAL OPERATIONS | |
| | Water Transport and Terminal Units | 5-1 |
| | Management and Operation of Strategic, Common-User | - 1 |
| | Contingency Seaports | 5-1 |
| | Definitions for Marine Terminal Planning | |
| | Elements of Terminal Planning | |
| | Inland Waterway Planning | |
| | Logistics Over-the-Shore Planning | |
| | - · · · - · · · · · · · · · · · · · · · | |

| | | Page |
|------------|--|--------------|
| | Strategic Sealift Requirements | |
| | US Army Watercraft Fleet | 5-41 |
| APPENDIX A | TABLES OF ORGANIZATION AND EQUIPMENT | A-1 |
| APPENDIXB | ORDERS, PLANS, AND SOP FORMATS | B-1 |
| APPENDIXC | TRANSPORTATION RELATED DATA | C-1 |
| APPENDIXD | INTERNATIONAL MARKINGS AND ROAD SIGNS | D-1 |
| APPENDIXE | DOT CHART 10, HAZARDOUS MATERIALS MARKING, | |
| | LABELING & PLACARDING GUIDE | E-1 |
| GLOSSARY | | Glossary-1 |
| REFERENCES | S | References-1 |
| INDEX | | Index-1 |

PREFACE

This manual is both a planning guide for staff and unit officers and a digest of operational data for reference by operators and users of transportation. It gives characteristics of typical transportation equipment and facilities and methods for estimating capabilities and requirements for transportation equipment, facilities, and troop units. It provides personnel and equipment data for the modes of transportation and for transportation terminals; and data for computing requirements for staff, supervisor, and control activities. It also addresses administrative support requirements.

This manual contains report formats and examples of orders and standing operating procedures; loading data for water, rail, motor, and air movements; tables on weights, measures, and conversion factors; and miscellaneous information of general usefulness. Planning data contained herein may be modified as necessary to meet known conditions and requirements.

The Army's environmental strategy into the 21st century defines our philosophy and commitment in protecting and preserving the environment and natural resources for present and future generations. Sound environmental practices and considerations must be integrated into all Army documents, missions, and operations. In keeping with the Army's vision to be a national leader in environmental stewardship, commanders and leaders must ensure that all local, state, federal, and host nation laws and regulations pertaining to the environment are included in the planning process and strictly followed.

The proponent of this publication is HQ TRADOC. Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, USACASCOM, ATTN: ATCL-AT, Fort Lee, VA 23801-6000.

Unless otherwise stated, whenever the masculine gender is used, both men and women are included.

CHAPTER 1 MOVEMENT CONTROL

This chapter discusses key elements of movement control, including movement programming and highway regulation. See Appendix A for transportation movement control unit TOE data.

ELEMENTS OF MOVEMENT CONTROL

Movement control is the planning, routing, scheduling, coordinating, and in-transit visibility of personnel, units, equipment, and supplies moving over the lines of communication. Movement control requires the commitment of allocated transportation resources in keeping with command priorities. Staff planners and movement managers have primary responsibility for movement control. They, along with mode and terminal operators at each level, perform movement control functions.

Movement Control in the Communications Zone

In a theater army, the TMCA, subordinate transportation battalions (MC), and their MC detachments perform movement control functions. The TMCA serves as executive agent and primary staff element to the theater commander for planning and controlling theater transportation operations. It provides movement management services and highway regulation and coordinates personnel and material movements into, within, and out of the COMMZ or lodgment area. TMCA responsibilities include—

- Coordinating with HN and allied MCAs and transportation component commands.
- Providing technical assistance to corps MC battalion
- Ensuring proper use of available HN and military transportation assets.

Chapter 3, FM 55-10, details TMCA missions and functions

Movement Control in the Corps

The transportation battalion (MC) is the corps movement control organization. It provides centralized movement control and highway regulation for moving personnel and materiel into, within, and out of the corps area of operations. Responsibilities of the MC battalion include—

- Ensuring effective and efficient use of transportation resources.
- Commanding and supervising subordinate MC detachments.
- Planning, programming, coordinating, managing, and analyzing transportation and movement requirements.
 - Implementing corps priorities.
- Maintaining liaison with higher-level MC organizations.

FM 55-10 discusses the role of transportation movement management within the corps.

Movement Control in the Division

The DTO and the DISCOM MCO manage the division transportation system. The DTO advises the commander on transportation matters and highway