CONTENTS

Preface xvii

Acknowledgments xxi

About the Author xxiii

Fire and Emergency Services Higher Education (FESHE) Grid xxiv

Chapter 1 Understanding the Historical Significance of Fires and Their Impact on Fire Codes 1

Key Terms 1
Objectives 1
Early Fire Codes 2
Fire Prevention in Colonial America 2
History of Fire Prevention 4

First National Fire Prevention Convention: 1913 4
President's Conference on Fire Prevention: 1947 5
Wingspread I–V Conferences: 1966 to 2006 6
Williamsburg Conference: 1970 6
America Burning: 1974 6

Tragedy and Code Development 7

Significant Fires Impacting Code Change 7

The Great Chicago and Peshtigo Fires: 1871 8
The Iroquois Theater Fire—Chicago, Illinois: 1903 8
Triangle Shirtwaist Fire—New York City: 1911 9
The Cocoanut Grove Fire—Boston, Massachusetts: 1942 9
Winecoff Hotel Fire—Atlanta, Georgia: 1946 10
Our Lady of the Angels School—Chicago: 1958 10
The Beverly Hills Supper Club Fire—Southgate, Kentucky: 1977 10
MGM Grand Fire—Las Vegas, Nevada: 1980 11
The Great Adventure Haunted Castle Fire—Jackson, New Jersey: 1984 11
Union Carbide Chemical Release—Bhopal, India: 1984 11
One Meridian Plaza—Philadelphia, Pennsylvania: 1991 12
The Station Fire—Warwick, Rhode Island: 2003 12
The Sofa Super Store Fire—Charleston, South Carolina: 2007 13
The World Trade Center—New York City: 9/11/2001 14

Summary 15
Review Questions 15
Suggested Readings 16
Endnotes 16

Chapter 2 The Code Enforcement System 17

Key Terms 17 Objectives 17

Introduction 18

Code Development 18

Factory Mutual 19

National Board of Fire Underwriters 19

Underwriters Laboratories 19

National Fire Protection Association 20

The Inspection Agency Environment 20

Federal Fire Agencies 20

State Fire Agencies 21
The Fire Inspector's Role 21

The Fire Code Development Process and the Legacy Codes 23

Building Officials Code Administration 23

International Council of Building Officials 24

Southern Basic Building Code Council 24

The International Code Council 24

National Fire Protection Association 25

Performance vs. Prescriptive Codes 26

Code Interpretations 27

Developing Local Code Strategies 28

Budgets, Fees, and Finances 30

Line Item Budgets 31

Budget Planning 33

Summary 34

Review Questions 34

Suggested Readings 34

Endnotes 35

Chapter 3 Understanding Statistics and Community Risk Reduction 36

Key Terms 36

Objectives 36

Analysis of Local Fire Risk 37

Organizing Statistical Data 42

Core Measurements of Fire Prevention 45

Data Presentation 46

Displaying Data 46

Bar Charts 48

Line Charts 48

Column Charts 48

Pie Charts 49

Pictographs 49

Community Risk Avoidance 50 Community Tolerance and Social Influences 53 Summary 55 Review Questions 55 Suggested Readings 56 **Endnotes** 56

Chapter 4 Organizational Effectiveness 57

Key Terms 57 Objectives 57 Introduction 58 The Organization 58 The Team Leader 60 Mission and Vision 63

> Maintain Your Integrity 64 Declare your Vision 64 Show Uncommon Commitment 64 Expect Positive Results 64 Take Care of Your People 64 Dedication to Duty 65 Lead from the Front 65

Organizational Evaluation 65

Preparing for Change 71

Organizational Development 72

Dealing with Problems and Issues in the Workplace 74

Developing Active Solutions 75

Effect on Firefighter Safety 76

Summary 77

Review Questions 77

Suggested Readings 77

Endnotes 78

Chapter 5 The Fire Inspection Process 79

Key Terms 79 Objectives 79

Introduction 80

The Fire Inspection Program 81

Use and Occupancy 81

Fire Inspection System Models 82

Establishing Inspection Priority 83 Routine Inspections 84 Scheduled Inspections 85

Fire Permit Inspections 85 Special Inspection 86

Tools and Equipment 88

Professionalism 89

Record Review and Files 89

Right of Entry 90

Starting the Fire Inspection 92

The Inspection Tour 93

Identifying Construction Types 93

Exterior 94

Roof Coverings 94

Roof Structures 94

Examining the Building Floors 94

Inspection of Portable Fire Extinguisher 97

Document and Certification Review 99

Closing Interview 100

The Fire Inspection Report 100

Certificate of Inspection 104

Fire Safety Permits 105

Summary 106

Review Questions 106

Endnotes 106

Chapter 6 Violation Correction Orders and the Legal Process 107

Key Terms 107

Objectives 107

Introduction 108

Record Keeping and Technology 108

Types of Corrective Orders 110

Preparing Notices of Violation and Fire Inspection Report 112

Reinspections 116

Fire Code Variations 116

Serving Notices of Violation 117

Unsafe Structure Orders 118 Abandoned Buildings 118

Imminent Hazard Orders 119

Fines and Penalties 120

Closing Properties 122

Legal Procedures and Due Process 122

The Board of Appeals Hearing 125

Injunctive Relief and Court Actions 125

Court Hearing Preparation 127

The Court Hearing 127 Rules of Evidence 128 Professional Demeanor 129

Summary 131

Review Questions 131

Suggested Readings 132

Endnotes 132

Chapter 7 Identifying Common Fire Code Violations 133

Key Terms 133

Objectives 133

Introduction 134

Purpose, Scope, and Applicability 135

Technical Assistance 136

Maintenance of Fire Protection 136

General Fire Code Provisions 136

Records 137 Obstruction of Egress 138 Ignition Sources 138 Combustible Waste 139

Open Burning Outdoors 139

Open Flames 140 Smoking Materials 143

Refueling Equipment 144

Vacant Structures 144

Vehicle Impact Protection 146

General Storage 147

Cooking 148

Fire Service Building Features 151

Inspection of Building Service and Systems 152

Summary 158

Review Questions 158

Suggested Readings 159

Endnotes 159

Chapter 8 Inspection of Hazardous Materials 160

Key Terms 160

Objectives 160

Introduction 161

Federal Regulations 162

Resource Conservation and Recovery Act 162 Comprehensive Environmental Response, Compensation, and Liability Act 162