

# Contents

<b>1</b>	<b>Introduction</b> . . . . .	1
<b>2</b>	<b>Study Questions and Research Methods</b> . . . . .	5
2.1	Time-to-Task Completion . . . . .	5
2.2	Factors Influencing Mobilization Time . . . . .	6
2.3	Research Methods . . . . .	6
<b>3</b>	<b>Recruiting Participants</b> . . . . .	9
3.1	Invitations . . . . .	9
3.2	Screening Questionnaire . . . . .	10
3.3	Participant Survey . . . . .	10
3.4	Final Participants . . . . .	11
<b>4</b>	<b>Data Collection</b> . . . . .	15
4.1	Historical Response Data . . . . .	15
4.2	Baseline Turnout Exercise . . . . .	17
4.3	Station Information . . . . .	19
<b>5</b>	<b>Data Analysis</b> . . . . .	21
5.1	Data Preparation . . . . .	21
5.2	SAS Procedures . . . . .	22
5.3	Quality Analysis . . . . .	23
5.4	Assumptions and Limitations . . . . .	24
5.5	Data Sets Applied to Study Questions . . . . .	26
5.5.1	Fire Versus EMS Response . . . . .	26
5.5.2	Daytime Versus Nighttime Response . . . . .	27
5.5.3	Firefighter Crew Proficiency in Baseline Turnout Exercise . . . . .	27
5.5.4	Effects of Station Layout on Turnout Response . . . . .	27

- 6 Primary Findings . . . . . 29**
  - 6.1 Fire Versus EMS Response. . . . . 29
    - 6.1.1 Alarm Handling Time . . . . . 29
    - 6.1.2 Turnout Time . . . . . 36
    - 6.1.3 Mobilization Time . . . . . 41
  - 6.2 Daytime Versus Nighttime Response . . . . . 44
    - 6.2.1 Alarm Handling Time . . . . . 45
    - 6.2.2 Turnout Time . . . . . 50
    - 6.2.3 Mobilization Time . . . . . 57
  - 6.3 Firefighter Crew Proficiency in Baseline Turnout Exercise. . . . . 60
  - 6.4 Effects of Station Layout on Turnout Response. . . . . 61
    - 6.4.1 Horizontal Travel . . . . . 61
    - 6.4.2 Vertical Travel . . . . . 63
    - 6.4.3 Station Layout. . . . . 63
- 7 Conclusions . . . . . 65**
- 8 Future Study Questions . . . . . 69**
- Appendix A: Standardized Ideal “Turn Out” Time Drill Layout . . . . 71**
- Appendix B: Treatment of Extreme Outliers in the Mobilization  
Study Historical Data . . . . . 77**
- About The Authors . . . . . 83**



<http://www.springer.com/978-1-4614-4441-1>

Quantitative Evaluation of Fire and EMS Mobilization  
Times

Upton, R.; Notarianni, K.A.

2010, XX, 85 p. 46 illus., Softcover

ISBN: 978-1-4614-4441-1