



Report on Initiative Eight

Use of Available Technology to Improve Levels of Firefighter Health and Safety

Incident Command Operations and Accountability Conference
Monterey, California
June 22-24, 2014

Prepared by Crandell Research Solutions™





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1. Purpose of the Conference

The purpose of the Incident Command Operations and Accountability Conference held in Monterey California on June 22-24, 2014 (Conference) was to develop understanding of the use of available mobile device and software application technology to increase levels of firefighter safety and health. Due to financial constraints, the scope of this meeting was focused on tablets and one software application for incident command operations on the fireground.

This report focused on the use of tablet and software application technology to support command processes including accountability of personnel, tracking of assignments, location, function by operating unit, time tracking of operating unit activity by responding unit and command decision-making functions including command checklists and assignment of two way communications resources (i.e. radio channels, cell phones, mobile computers, etc.)

2. Background of the Conference and This Report

The command functions addressed during the conference included accountability of units responding to an incident, accountability of tasks by which unit(s) were assigned and by location, supervision, time and duration of assignment.

Additional command functions that were addressed during the conference included use of images and maps in creating a time stamped disposition of units at an incident scene.

The conference activities included three simulations using mobile device tablet based software as the sole means of accounting for assigned units, tasks, including locations, time stamping assignments to units, and an overall chronology by time stamped activity.

The command functions that were supported by the use of available technology in the form of mobile device tablet based software have been identified in reports prepared by NIOSH Firefighter Fatality Investigation and Prevention Program. The command functions addressed during the conference have been identified as critical to effective command practices.

This report describes practices, preferences, and perceptions, including that of performance change that resulted from coached repetition based training, that were reported by the participants of the conference. The results of the report are appropriately used to understand the experiences of the participants in their own departments in the time leading up to the study and the perceptions of the participants of their performance during the study.

The sample sets of participants were selected purposefully and represent the unique demographics as described below. The group is representative of its members, and not of any specific population or populations. The results published in this report are intended to provide general understanding.

Crandell Research Solutions™ of Bozeman, Montana prepared this report for the National Fallen Firefighters Foundation.



3. Conference Participants

National Fallen Firefighter Foundation (NFFF) staff invited participants for the study who were described as follows

1. Chiefs from departments with established relationships to the NFFF were asked to select a command officer to attend.
2. Officers with a known background and interest in technology were invited.
3. Two scholarship winners to Tampa 2 who had been previously identified by ISFSI as future fire service leaders were also invited to attend.
4. Several local (to Monterey) fire departments were asked to send an officer.

4. Methods Used During the Conference

Methods used in the study included an initial survey (completed prior to the Conference) to gather demographic information about the participants and their experiences with incident management processes and technology.

The study also used data gathered during 4 surveys completed by the participants during a two-day Conference held in central California on June 22 through 24, 2014. The participants' expenses were reimbursed by the NFFF.

All results from the surveys referenced in the report were self-reported by the participants of the study.

5. Summary of Selected Results from Preconference Survey and Surveys 1-4:

1. Age and Total Years of Service of Participants

30 of 33 participants reported their age between 35 and 65 years, with 24 of 33 participants reporting ages between 35 and 54 years old. The participants reported their total years of service as between 10 and 40 years.

2. Position and Years of Service in Position of Participants

7 of 33 participants reporting their current position as a company officer, 24 of 33 participants reporting their current position as chief officers, and 2 reporting as fire chiefs.

The participants reported their years of service in their current rank ranging from 1 to 20 years, with 19 of 33 participants reporting 1-5 years of service in their current rank, and 12 of 33 participants reporting 6-10 years of years in their current rank.



3. Participant pre-conference competence with, and disposition toward, technology

The group was made up of members who predominantly reported themselves intermediate to advanced users of technology (25 of 31 participants). Members of the group reported themselves as having a generally favorable disposition toward the use of technology in managing emergency responses (25 of 31 participants).

4. Participants' pre-conference actual current use of technology for incident command and personnel accountability

Members of the group reported that they rarely or never used mobile or tablet software for incident command or personnel accountability (24 of 31 participants).

5. Participants' pre-conference disposition regarding Technology improving safety on the fireground

26 of 31 participants either agreed or strongly agreed with the statement, "Technology can improve safety on the fire ground."

6. Command Training Curricula Participants had Personally Used

Participants listed the following training curricula they had personally used in their training in Command: NIMS, agency or regionally based ICS, Blue Card, FIRESCOPE, and National Wildlife Coordinating Group (NWCG).

7. Frequency of Command Training Participants had participated in

13 of 31 participants reported training in the use of accountability and ICS simulations weekly or monthly. 11 of 31 participants reported training quarterly or once a year.

7 of 31 participants reported training infrequently or reported no training in the use of accountability and ICS simulation.

8. Participants' perception of importance of recording the amount of time a unit is assigned to a particular task during a structure fire

27 of 28 participants agreed or strongly agreed with the statement, "It is important to record the amount of time a unit is assigned to a particular task during a structure fire." 1 of 28 participants disagreed with the statement.

9. Participants' actual practice, when commanding fire units, of accurately timing each of their tasks using a stopwatch, atomic clock or other timing device

8 of 28 participants selected "Most of the time" or "Always" to describe their actual practice. 20 of 28 selected "Sometimes," "Rarely," or "Never" to describe their actual practice, when commanding fire units, of accurately time each of their tasks using a stopwatch, atomic clock or other timing device.



10. Participants' perception of proficiency in finding out how long units have been assigned a task following one repetition of a simulation using Tablet Command software

26 of 28 participants agreed or strongly agreed with the statement "In learning this software, I feel proficient at finding out how long units have been assigned to a task.", after completing one coached repetition of a command simulation practice session. 2 of 28 participants were neutral regarding the statement.

11. Participants' Perception of ability to perform at an Enhanced Level in Tracking Crews (After the third round of coached practice using Tablet Command software during a command simulation)

23 of 26 participants agreed or strongly agreed with the statement, "Using this type software (Tablet Command) would allow me to perform at an enhanced level compared to my current methods of tracking Location, Function, Supervision and Timing of crews at structure fires." 2 of 26 participants were neutral in response to the statement, and 1 of 26 participants disagreed with the statement.

12. Participant Perception of Effectiveness of Repetition Based, Coached Practice Training Methods used during the Conference

26 of 27 participants agreed or strongly agreed with the statement, "Frequent repetition of functional tasks (assigning units, using checklists, creating Sectors, Divisions, and Groups) in this software makes it increasingly easier to navigate and use." 1 of 27 participants selected "Neutral" to describe their response.

6. Observations:

1. The participants were experienced incident commanders with an intermediate to advanced proficiency using technology, and were positively disposed to the usefulness of technology improving firefighter health and safety. More than half of the participants did not use mobile device technology today to support command functions including accountability, unit tracking, or checklists.
2. As a group, the participants recognized the importance of accountability and the use of command decision-making support including tactical worksheets and checklists. Less than half of the group reported using standard accountability processes, such as time stamping task assignments at structure fires, always, or most of the time or some of the time in their work as incident commanders.
3. Participants perceived the software used during the Conference to enhance their ability to account for the assignments, location, function, and supervision of units including time stamping.
4. Numerous participants identified a lack of training as a barrier to implementing technology to improve levels of firefighter health and safety.
5. Numerous participants described the repetition-based coached practice training methods used during the conference as making the use of mobile command technology increasingly easier to navigate and use.



6. The participants identified the NFFF as a resource in the use of technology to improve firefighter health and safety.
7. The participants provided unanimous positive feedback regarding the conference, the presenters, and the organization of the conference by the NFFF.

7. Recommendations:

1. Further research is needed to determine the effectiveness of technology in supporting command functions including accountability, time tracking unit assignments, locations, communications and supervision, and checklists.
2. Further research is needed to identify command competencies necessary for effective management of local incidents.
3. Further research is needed to identify effective training methods in the use of technology to improve firefighter health and safety.
4. Further research is needed to develop successful implementation strategies for the use of technology to improve firefighter health and safety.
5. The NFFF should continue to develop resources, including further research, related to the use of available technology to improve firefighter health and safety.
6. The NFFF should plan and host a technology summit to address broader uses of technology that can enhance firefighter safety.
7. Decision makers including Fire Chiefs, within the fire service need to be educated on the available technology and the need to utilize the technology.

8. Compilation of Factors Related to Challenges When Implementing Technology

Participants reported the following challenges when implementing technology:

Challenge 1 **Failure of Technology to Perform/Not meeting users' needs/poor user interface**
(reported by 9 participants)

Examples included:

- Not meeting needs of user
- Difficulty in user interface
- Lack of product development
- Unreliable performance of technology
- Inability to get real time or updated information
- Lack of interoperability/interface between technologies i.e. auto dispatch and command software, staffing software and command operations and mapping software



- Challenge 2 **Training**
(reported by 7 participants)
- Challenge 3 **General resistance to change among firefighters**
(reported by 7 participants)
- Challenge 4 **Costs/Funding**
(reported by 5 participants)
- Challenge 5 **Organization's Information Technology Departments and IT infrastructure**
(reported by 3 participants)
- Challenge 6 **Policy and procedure not synchronized with technology**
(reported by 1 participant)

9. Compilation of Factors Related to Successes When Implementing Technology

Participants reported the following successes when implementing technology:

Success 1—**Effective Performance of Technology:**

- Technology meeting operational needs of users
- Search out others who are using the technology, get real world feedback about technology (testimonials)
- (Technologies that...) Help ICs with command work
- Ongoing dialogue with vendors regarding technology and performance of technology
- Support, Support, Support (for the technology through the implementation process)
- Fact gathering (describe the operational needs, and the capability of the technology to address the underlying needs)
- Cost benefit analysis (determine if the gain created by the technology is worth the cost)

Success 2—**Backing of Agency Leadership—The Tone from the Top:**

- Full backing of the Chief of Department

Success 3—**Member Involvement:**

- Listen to feedback staff provides, remain open minded
- Opportunity for members to provide feedback and improve product, policy and procedure related to technology



Success 4—**Training Support:**

- Blue Card Command very successful with neighboring departments, having a formal curriculum(Blue Card) for ICS (common operating system & aligned training curriculum)
- Training program for new technology
- Peer instructor/mentor/coach led small group simulations prior to implementation of technology
- Training with new equipment and procedures
- Popularity of iOS in personal use by firefighters supports training of firefighters in fire department applications

Success 5—**Change Management Engaging Members:**

- Explaining to personnel the reasons for a change
- Don't take failure or challenges personally
- Expect change and new ideas (mindset about change)

10. Results Used For This Report

10.1 Demographics of Participants

10.1.1 Background on Demographics of Participants

The conference included 33 participants, although not every participant participated in the entire conference nor completed every survey. Further, not every participant responded to every question. As a result, the tally of responses may not total the number of participants.

The information presented in this section was gathered prior to the NFFF Incident Command Operations and Accountability Conference held in Monterey, California in June of 2014 and from surveys during and at the conclusion of the conference.

The identities of the respondents to the surveys were not tracked for participation in each of the 5 surveys during the conference. The information gathered were the responses provided by those participants who completed the specific surveys. Where relevant, the source survey is identified with the corresponding responses.

10.1.2 Total Years of Fire Service Experience

The participants had a range of fire service experience ranging from 10 to 40 years

10.1.3 Ranks of Participants

7 of 33 participants reporting their current position as a company officer,
24 of 33 participants reporting their current position as chief officers, and
2 reporting their current position as fire chiefs.



10.1.4 Years of Service in Current Rank

The participants had a range of years of service in their current ranks from 1 to 20 years, 19 of 33 participants reporting 1-5 years of service in their current rank, and 12 of 33 participants reporting 6-10 years of years in their current rank.

10.1.5 Age Ranges of Participants

30 of 33 participants reported their age between 35 and 65 years, with 24 of 33 participants reporting ages between 35 and 54 years old.

10.1.6 Fire Department Staffing

26 of 33 participants reporting their departments as staffed by career members, 7 of 33 participants reporting their departments as staffed by a combination of career and volunteer members, No participant reported their department staffed with all volunteer members.

10.1.7 Fire Department Size

Participants reported their departments having a total number of members between 24 to 1,000 members, with one department having more than 10,000 members.

6 of 33 participants reported their departments having 1-50 members,
2 of 33 participants reported their departments having between 51 and 100 members,
6 of 33 participants reported their departments having 101-200 members,
9 of 33 participants reported their departments having between 200-299 members,
5 of 33 participants reported their departments having between 300 and 899 members,
2 of 33 participants reported their departments having between 900-999 members,
2 of 33 participants reported that their departments had between 1,000 and 1,099 members,
1 participant reported their department having more than 10,000 members.



10.1.8 Staffed Units

The participants reported that their departments had between 1 and 600 staffed units.

2 of 33 participants reported their department staffed 1 unit,

1 of 33 participants reported their department staffed 3 units,

4 of 33 participants reported their departments staffing 4 units,

4 of 33 participants reported their departments staffed between 6-10 units,

6 of 33 participants reported their departments staffed between 11-15 units,

6 of 33 participants reported their departments staffed between 16-20 units,

2 of 33 participants reported their department staffed between 21-25 units,

7 of 33 participants reported their departments staffed between 41 and 70 staffed units,

1 of 33 participants reported their department staffed approximately 600 units.

10.1.9 Number of Fire Stations

9 of 33 participants reported having 1-5 fire stations,

14 of 33 participants reported their departments having 6-15 stations,

8 of 33 participants reported their departments had between 21 and 50 stations,

1 participant reported their department had approximately 250 fire stations,

10.1.10 Population Protected

3 of 33 participants reported their department served populations of 5,000 to 19,999,

4 of 33 participants reported their departments served populations between 20,000 and 49,999,

7 of 33 participants reported their departments served populations of between 50,000 and 99,999,

2 of 33 participants reported their departments served populations of between 100,000 and 149,999,

1 participant reported their departments served a population of between 150,000 and 199,999,

3 of 33 members reported populations served of between 200,000 and 299,999,

5 of 33 participants reported their departments served populations between 300,000 and 499,999,

5 of 33 participants reported populations served by their departments between 500,000 and 749,999,

2 of 33 departments reported their departments serving populations between 1,000,000 and 2,000,000,

1 Participant reported their department serving a population of more than 8,000,000.



10.1.11 Total Working Fires Per Year

2 of 33 participants reported their department responded to between 0-10 working structure fires per year,

3 of 33 participants reported their department responded to between 11-20 working structure fires,

8 of 33 participants reported their department responded to between 21-50 working structure fires,

3 of 33 participants reported their department responded to between 51-100 working structure fires,

10 of 33 participants reported their department responded to between 101-500 working structure fires per year, and

7 of 33 participants reported their department responded to between 500 or more working structure fires per year.

10.1.12 Incident Commander at Structure Fires

1 of 33 participants reported being the Incident Commander(IC) of between 0 and 5 confirmed structure fires during their careers,

2 of 33 participants reported being the Incident Commander(IC) of between 6 and 10 confirmed structure fires during their careers,

13 of 33 participants reported being the Incident Commander(IC) of between 11 and 50 confirmed structure fires during their careers,

7 of 33 participants reported being the IC of between 51 and 100 confirmed structure fires during their careers,

9 of 33 participants reported being the IC of more than 101 confirmed structure fires during their careers,

1 participant did not respond to the item.

10.2 Command Training Experience

10.2.1 Type(S) of Command Simulations Training Participants Participated in at Participants' Department/Agency

Participants were asked to select all that apply.

28 of 31 participants selected tabletop exercises,

24 of 31 participants selected command worksheets with audio visual aids,

28 of 31 participants selected computer-based simulations,

11 of 31 participants selected commercial methods such as Blue Card,

11 of 31 participants selected self-paced training aids,

15 of 31 participants selected off-site training courses.



10.2.2 Command Curricula Their Department/Agency Has Used or is Currently Using

Participants were asked to select all that apply.

- 10 of 31 participants selected FIRESCOPE,
- 6 of 31 participants selected NWCG,
- 24 of 31 participants selected ICS,
- 11 of 31 participants selected Blue Card,
- 11 of 31 participants selected agency or regionally based ICS.

10.2.3 Command Curricula Participants Have Personally Used or Studied

Participants were asked to select all that apply.

- 12 of 31 participants selected FIRESCOPE,
- 9 of 31 participants selected NWCG,
- 27 of 31 participants selected NIMS,
- 30 of 31 participants selected ICS,
- 12 of 31 participants selected Blue Card,
- 16 of 31 participants selected Agency or regionally based ICS.

10.2.4 Training Frequency for Accountability and ICS Simulations

- 8 of 31 participants reported training in the use of accountability and ICS simulations weekly,
- 5 of 31 participants reported training monthly,
- 7 of 31 participants reported training quarterly,
- 4 of 31 participants reported training once a year,
- 4 of 31 participants reported training infrequently, and
- 3 of 31 participants reported no training in the use of accountability and ICS simulation.

10.3 Technology Experience

10.3.1 Level of Technology Competency

- 21 of 31 participants reported considering themselves intermediate to advanced users of technology,
- 6 of 31 participants reported considering themselves having a skill level less than intermediate to advanced,
- 4 of 31 participants reported considering themselves being a source of technology support for their friends,
- 2 participants did not respond to the item.



10.3.2 “Technology can improve safety on the fireground.”

26 of 31 participants either agreed or strongly agreed with the statement, “Technology can improve safety on the fireground,”

5 of 31 participants neither agreed nor disagreed with the statement,

0 of 31 participants disagreed or strongly disagreed with the statement,

2 of 33 did not respond to the statement.

10.3.3 “I think that mobile technology such as tablets could support or are supporting the following during emergency response.”

Participants were asked to select all that apply,

30 of 31 participants selected “Incident Command,”

31 of 31 participants selected “Personnel Accountability and Tracking,”

28 of 31 participants selected “Time Tracking and Time Stamping,”

20 of 31 participants selected “Situation Awareness,”

29 of 31 selected “Mapping,”

23 of 31 selected “Standard Operating Procedures and Guidelines,”

28 of 31 participants selected “Benchmarks,”

31 of 31 participants selected “Checklists.”

10.4 Command Practices: Uses and Perception of Technology*

(*Sources include the pre-conference survey, and the 4 surveys completed during the conference)

10.4.1 Command Materials Actual Use by participants when they were IC

30 of 32 participants reported using tactical worksheets,

20 of 32 participants reported using checklists,

26 of 32 participants reported using mobile data terminal (MDT)/mobile data computer (MDC) information,

22 of 32 participants reported using paper and pencil,

22 of 32 participants reported using dry erase markers.



10.4.2 Frequency of Actual Use of Mobile Device Tablet Software for Incident Command or Personnel Accountability

- 20 of 31 participants selected “Never,”
- 4 of 31 participants selected “Rarely,”
- 1 of 31 participants selected “Sometimes,”
- 1 of 31 participants selected “Most of the time,”
- 5 of 31 participants selected “Always.”

10.4.3 Use of Maps

- 9 of 27 participants selected “Always” to describe their response to the statement, “Currently, when I am commanding a fire, I use maps as a part of a command set of tools,”
- 11 of 27 participants selected “Most of the time” to describe their response to the statement,
- 5 of 27 participants selected “Sometimes” to describe their response to the statement,
- 2 of 27 participants selected “Rarely” to describe their response to the statement.

10.4.4 Map Types Used

The participants were asked what maps they used. Because of the structure of the question it is not clear how many of the participants use some form of maps. Participants were asked to select all that apply.

- 32 of 33 participants responded to the item,
- 1 of 33 participants did not respond to the item. Given the responses by the participants, it is reasonable to infer that all but 1 of the participants use some form of maps,
- 26 of 32 participants reported using department supplied pre-plan maps,
- 24 of 32 participants reported using local GIS generated maps,
- 5 of 32 participants reported using topographical maps,
- 5 of 32 participants reported using Thomas Brother’s maps,
- 4 of 32 participants reported using hand drawn maps.

*(a map publisher providing mapping for geographic areas).

10.4.5 Performance Enhancement as a Result of Use of Map Feature Of Tablet Command When Compared to Current Traditional Drawings

- 20 of 27 participants agreed or strongly agreed with the statement, “Using the map feature in this software (Tablet Command) would allow me to perform at an enhanced level compared to using my current traditional drawings,”
- 5 of 27 were neutral with regard to the statement,
- 2 of 27 participants disagreed with the statement.



10.5 Time Stamping Tasks of Units

10.5.1 Actual Practice of Time Stamping Tasks of Units when Commanding Units Working at Fires

3 of 28 participants selected “Always” in response to the statement, “When I am commanding fire units, I accurately time each of their tasks using a stopwatch, atomic clock, or other timing device,”

5 of 28 participants selected “Most of the Time” in response to the statement,

4 of 28 participants selected “Sometimes” in response to the statement,

8 of 28 participants selected “Rarely” in response to the statement,

8 of 28 participants selected “Never” in response to the statement.

10.5.2 Importance of Recording the Amount of Time a Unit is Assigned to a Particular Task During a Structure Fire

27 of 28 participants agreed or strongly agreed with the statement, “It is important to record the amount of time a unit is assigned to a particular task during a structure fire,”

1 of 28 participants disagreed with the statement.

10.5.3 Accurately Timing Each of Their Tasks Using a Stopwatch, Atomic Clock or Other Timing Device When Commanding Fire Units

8 of 28 participants selected “Most of the time” or “Always” to describe their actual practice, when commanding fire units, have accurately timed each of their tasks using a stopwatch, atomic clock or other timing device,

20 of 28 selected “Sometimes,” “Rarely,” or “Never” to describe their actual practice.

10.5.4 Proficiency at Finding Out How Long Units Have Been Assigned to a Task

26 of 28 participants agreed or strongly agreed with the statement “In learning this software, I feel proficient at finding out how long units have been assigned to a task,” after completing one coached repetition of a command simulation practice session,

2 of 28 participants were neutral regarding the statement.

10.5.5 Tracking Assignment Time Proficiency

24 of 28 participants agreed or strongly agreed with the statement, “After this training, I am proficient at viewing the length of time a unit has been assigned to a task and this allows me to perform at an enhanced level over my current methods of tracking assignment times,”

4 of 28 participants were neutral regarding the statement.



10.6 Personnel Accountability

10.6.1 Importance of Understanding the Number of Personnel Assigned to Each Unit

27 of 28 participants agreed or strongly agreed with the statement, “It is important to understand the number of personnel assigned to each unit,”

1 of 28 participants was neutral regarding the statement.

10.6.2 Tracking the Number of Personnel Assigned to Each Unit Using Traditional Methods

26 of 28 participants responded “Always,” or “Most of the Time,” to the statement, “When I am commanding a fire, I track the number of personnel assigned to each unit using traditional methods,”

1 of 28 participants responded “Sometimes,” to the statement,

1 of 28 participants responded “Never” to the statement.

10.6.3 Tablet Command Software Proficiency

22 of 28 participants agreed or strongly agreed with the statement, “With this software training, I have become proficient at knowing how many personnel are working in each unit,”

5 of 28 participants were neutral regarding the statement,

1 of 28 participants disagreed with the statement.

10.6.4 Enhanced Levels of Personnel Accountability at Structure Fires

After the first round of coached practice using command simulations,

27 of 28 participants agreed or strongly agreed with the statement, “Software of this type is capable of supporting incident commanders to maintain higher levels of personnel accountability on structure fires,”

1 of 28 participants were neutral in response to the statement,

After the second round of coached practice using command simulations,

26 of 28 participants agreed or strongly agreed with the statement,

2 of 28 participants were neutral in response to the statement,

After the third round of coached practice using command simulations,

25 of 26 participants agreed or strongly agreed with the statement,

1 of 26 participants were neutral in response to the statement.



10.7 Tracking Location, Function and Supervision of Units

10.7.1 Location, Function, and Supervision of Each Unit at the Incident

8 of 26 participants selected “Always” in response to the statement, “When I am commanding a fire, I am confident at all times of the Location, Function and Supervision of each unit assigned to the incident,”

15 of 26 participants selected “Most of the Time” in response to the statement,

3 of 26 participants selected “Sometimes” in response to the statement.

10.7.2 Enhanced Level of Performance of Tracking Location, Function, Supervision, and Timing of Crews at Structure Fires With Tablet Command Software

After the first round of coached practice using command simulations,

21 of 28 participants agreed or strongly agreed with the statement, “Using this type software (Tablet Command) would allow me to perform at an enhanced level compared to my current methods of tracking location, function, supervision and timing of crews at structure fires,”

5 of 28 participants were neutral in response to the statement,

2 of 28 participants disagreed with the statement.

After the second round of coached practice using command simulations,

24 of 28 participants agreed or strongly agreed with the statement,

3 of 28 participants were neutral in response to the statement,

1 of 28 participants disagreed with the statement.

After the third round of coached practice using command simulations,

23 of 26 participants agreed or strongly agreed with the statement,

2 of 26 participants were neutral in response to the statement,

1 of 26 participants disagreed with the statement.

10.7.4 Enhanced Accuracy of Tracking Assignments, Compared to Current Tools With Tablet Command Software

22 of 28 participants agreed or strongly agreed with the statement, “This software offers enhanced accuracy in tracking assignments over my current tools (white boards, note pads, tactical worksheets),”

5 of 28 participants were neutral regarding the statement,

1 of 28 participants disagreed with the statement.



10.8 Checklists

10.8.1 Usefulness of Pre-Made Checklists While Commanding Structure Fires

15 of 28 participants selected “Always” when responding to the statement, “When I am commanding at structure fires, I find it useful to use pre-made checklists,”

10 of 28 participants selected “Most of the Time” when responding to the statement,

3 of 28 participants selected “Sometimes” when responding to the statement.

10.8.2 Proficiency With Checklists Provided by Tablet Command Software

25 of 28 participants agreed or strongly agreed with the statement, “After this training session I am proficient in using the checklists provided by the software (Tablet Command);”

2 of 28 participants responded that they were neutral regarding the statement,

1 of 28 participants disagreed with the statement.

10.8.3 Enhanced Performance by Using the Checklists Feature of This Software

23 of 28 participants agreed or strongly agreed with the statement, “Using the checklists feature in this software (Tablet Command) allows me to perform at a higher level than when I use traditional checklists (paper check-sheets, laminated or prefabricated checklists);”

2 of 28 were neutral with regard to the statement,

3 of 28 participants disagreed with the statement.

10.9 Time Stamping

10.9.1 Usefulness of Time Stamping Critical Benchmarks

28 of 28 participants agreed or strongly agreed with the statement, “Being able to time stamp critical benchmarks is useful during the command process.”

10.9.2 Assess Performance Sooner With Time Stamped Checklist Items

27 of 28 participants agreed or strongly agreed with the statement, “After structure fires, having immediate feedback of checklist items or benchmarks would be helpful for crews to assess their performance sooner;”

1 of 28 participants was neutral regarding the statement.

10.9.3 Use Of Timing Device To Time-Stamp Critical Checklist Items

7 of 28 participants selected “Always” when responding to the statement, “When I am commanding, I use a stopwatch or other timing device to time-stamp when critical checklist items or benchmarks have been achieved;”



6 of 28 participants selected “Most of the time” when responding to the statement,
3 of 28 participants selected “Sometimes” when responding to the statement,
7 of 28 participants selected “Rarely” when responding to the statement,
5 of 28 participants selected “Never” when responding to the statement.

10.9.4 Accessibility of Time Stamped Chronology of Checklist Items

12 of 28 participants agreed or strongly agreed with the statement, “I can immediately access a time stamped chronology of checklist items or benchmarks that occurred during structure fires with my current tools and resources,”

1 of 28 participants reported they were neutral regarding the statement,
15 of 28 participants disagreed or strongly disagreed with the statement.

10.10 Use of Sectors/Divisions/Groups

10.10.1 Use of Sectors/Divisions/Groups During Structure Fires

11 of 28 participants selected “Always” in response to the statement “I utilize Sectors/Divisions/Groups during structure fires,”

10 of 28 participants selected “Most of the Time” in response to the statement,
5 of 28 participants selected “Sometimes” in response to the statement,
2 of 28 participants selected “Rarely” in response to the statement.

10.10.2 Enhanced Accuracy in Tracking Sectors/Divisions/Groups Using Tablet Command Software Over Current Tools

23 of 28 participants agreed or strongly agreed with the statement, “This software (Tablet Command) offers enhanced accuracy in tracking Sectors/Divisions/Groups over my current tools (white boards, note pads, tactical worksheets),”

3 of 28 participants selected “Neutral” when responding to the statement,
2 of 28 participants disagreed with the statement.

10.11 Training Methods, Learning, and Improved Performance

10.11.1 Effectiveness of Repetition Based, Coached Practice Training Methods Used During the Conference

26 of 27 participants agreed or strongly agreed with the statement, “Frequent repetition of functional tasks (assigning units, using checklists, creating Sectors, Divisions, and Groups) in this software makes it increasingly easier to navigate and use,”

1 of 27 participants selected “Neutral” to describe their response to the statement.



10.12 Potential Implementation of Tablet Technology

10.12.1 Usefulness of Tablet Command Software on the Fireground

22 of 26 participants agreed or strongly agreed with the statement, “This software contains enough functionality to be useful on the fireground now,”

4 of 26 participants selected neutral in response to the statement.

10.12.2 Deployment Likelihood of This Type Of Software by Their Department for Use During Emergency Incidents in the Next 1-2 Years

16 of 26 participants selected “Very Good Chance” in response to the statement, “My department will deploy this type of software to be specifically used during emergency incidents in the next 1-2 years,”

10 of 26 participants selected “Some Chance” in response to the statement.

10.13 Usefulness and Value of Mobile Technology Software

10.13.1 Usefulness of Tablet Command Software for Roles Within the Incident Command System (Participants were instructed to select all that apply.)

19 of 26 participants selected “Division/Group/Sector Supervisors” in response to the statement, “Based on my experience in Command and in the Fire Service, it appears this software is useful for the following members of the Incident Command System,”

21 of 26 participants selected “Branch Managers” in response to the statement,

23 of 26 participants selected “Staging Area Managers” in response to the statement,

19 of 26 participants selected “Rehab Group Managers” in response to the statement,

20 of 26 participants selected “Logistics Section Chiefs” in response to the statement,

19 of 26 participants selected “Planning Section Chiefs” in response to the statement,

0 of 26 participants selected “None” in response to the statement.

10.13.2 Usefulness of the Tablet Command Software Versus Time Required for Training and Implementation of the Software

25 of 26 participants agreed or strongly agreed with the statement, “The amount of training required to implement this type of software (Tablet Command) is worth the effort given because the software yields a greater return in usefulness,”

1 of 26 participants selected Neutral in response to the statement.



NFFF Mission

Our mission is to honor and remember America's fallen fire heroes and to provide resources to assist their survivors in rebuilding their lives and work within the fire service community to reduce firefighter deaths and injuries.

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Everyone Goes Home® is a program of the National Fallen Firefighters Foundation to reduce the number of preventable firefighter line-of-duty injuries and deaths. This program is made possible through DHS/FEMA's Grant Program Directorate for Assistance to Firefighters Grant Program - Fire Prevention and Safety Grants and the generosity of Fireman's Fund Insurance Company.

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Acknowledgments

Battalion Chief Kevin Conant, San Jose Fire Department (ret.), contributed to this report.

Thanks also to:

AirWatch

Community Hospital of Monterey

Otterbox

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