



**ALTERNATIVES TO CURRENT STRUCTURE
FOR
AIR MOBILITY OPERATIONS SQUADRONS**

GRADUATE RESEARCH PROJECT

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AFIT/GMO/ENS/01E-1

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GRADUATE RESEARCH PROJECT

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Robert T. Boquist

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Abstract

Within Air Mobility Command, Air Mobility Operations Squadrons are tasked to fill core positions in the Air Mobility Division within a Joint Air Operations Center. Specifically, these positions include airlift planners, tanker planners, and command and control specialists. However, due to manpower and budget constraints, coupled with recent changes in doctrine, Air Mobility Command has not organized, trained, nor equipped its forces well to fill Air Mobility Division roles. This project explores alternative solutions to current structure for the Air Mobility Operations Squadrons using a two round Delphi study to generate consensus among a group of experts in Air Mobility Operations Squadron, Tanker Airlift Control Center, and Air Mobility Division duties. The consensus of this panel provides the best current solution Air Mobility Command can employ to best organize its forces in peacetime to achieve greater wartime effectiveness.

Respondents were chosen based upon an initial self-rating assessment of knowledge level in areas under study. The top seven respondents were then surveyed using quantitative and qualitative questions. Results were aggregated to generate controlled feedback. The feedback on group ideas was then given to respondents in a phone interview to generate consensus. This consensus forms the conclusions for the research.

ALTERNATIVES TO CURRENT STRUCTURE
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I. Introduction

Background

Over the past decade, the Department of Defense and the United States Air Force (USAF) have made significant reductions in personnel and realignments of organizations to respond to the post-Cold War environment. The major commands within the Air Force have executed most of these cuts and changes. Air Mobility Command (AMC) is no exception. Since its inception on 1 June 1992, AMC has reduced its force structure substantially.

One of the most sweeping changes made in AMC was to establish the Tanker Airlift Control Center (TACC). Prior to the formation of the TACC, worldwide planning and control of strategic airlift operations was fractured into two geographically separated airlift divisions. Now, the TACC provides a central point for the scheduling and command and control of all AMC airlift and air refueling missions. This centralization gives the command's customers easier access to air mobility forces. It also streamlined

the chain of command, reduced planning and execution delays, and, thus, increased the responsiveness of the strategic airlift system. Furthermore,

The command reorganized from three numbered air forces (two for airlift and one for tankers) into two air mobility numbered air forces, Fifteenth and Twenty-First, both of which contain airlift and tanker units. Finally, the en route support structure has been redesigned, reducing by more than two thirds the number of AMC people at fixed overseas locations and cutting the number of locations from 39 to 13. ***Simultaneously, air mobility operations groups were established under each numbered air force to deploy people and equipment to expand the en route structure during surges in peacetime or contingency operations*** [emphasis added]. (Air Mobility Command, 2000:np)

With the reduction of fixed en route support structure came the requirement for AMC to create units to establish a deployable en route capability. This capability can move to any theater of operations on the planet and establish a contingency airlift operation. These units reside mainly in the Air Mobility Operations Groups (AMOGs). Primary mission support forces deployed from the AMOG in a contingency include the Tanker Airlift Control Elements (TALCEs) and elements of the Air Mobility Division (AMD). Specifically, Air Mobility Squadrons (AMSs) provide TALCE forces to run airlift operations at a single location, and Air Mobility Operations Squadrons (AMOSs) provide core AMD forces for an Air Operations Center (AOC) to coordinate the entire airlift effort for the Joint Force Air Component Commander (JFACC) in a contingency. This paper focuses on the AMOSs and the AMD.

The direction of this focus centers on current Air Force doctrine, which sets forth an important principle for organizing forces:

The Air Force organizes for wartime with global capabilities and responsibilities [sic]. Its organizational structures and processes must be simple, responsive, and flexible. *The Air Force will normally operate as a member of an interdependent team of land, naval, air, space, and special*

operations forces [sic]. ***This interdependence demands attention to joint and multinational requirements when organizing, training, and equipping the Air Force*** [emphasis added]. (Air Force Doctrine Document 1, 1997:61)

This principle has been neglected in the structuring of AMC forces to provide personnel organized, trained, and equipped for the AMD. This problem was highlighted in a recent draft of a concept of operations (CONOPS) by AMC for AMD augmentation by AMC units: “At the present time, the 615th and 621st Air Mobility Operations Squadrons (AMOSs) can provide a cadre of trained and experienced personnel for the AMD, but both AMOSs lack sufficient personnel for a full AMD (Air Mobility Command, 2001:2).” Furthermore, this CONOPS outlines the stress placed on the current structure:

During past contingency operations (Bosnia and Kosovo), the 24-hour/7day operations required significant augmentation to fill all AMD positions. Many of the augmenting personnel lacked training and experience and required substantial on-the-job-training while assigned to the AMD. With the accelerated tempos experienced in recent operations, it is necessary to provide the JFACC with an immediate capability. The AF Chief of Staff declared AOC a weapon system to provide the JFACC with an immediate capability without using pickup teams. (Air Mobility Command, 2001:2)

Thus, the current structure seems to violate Air Force doctrinal principles.

Problem Statement

With AMD core personnel resident in squadrons (AMOSs) based in the continental United States (CONUS), geographically and mission-separated from the TACC and the theater components of the AMD, AMC has not organized its forces for wartime

effectiveness. Is there a better solution to the current AMOS administrative structure AMC uses to support core AMD responsibilities?

Research Objectives

This paper will examine alternate strategies for integrating the mission of the AMOS (thus, core AMD personnel) into other organizations to provide greater effectiveness in wartime. To discover these alternate strategies, it will be necessary to ask several questions:

1. What is the current mission of the AMOSs? This effort will focus on capabilities the AMOSs provide the AMD. Communications capabilities within the AMOSs are beyond the scope of this paper, but are addressed minimally.
2. How is the organization currently structured administratively within AMC?
3. What alternatives to the current organizational structure exist? Specific alternatives include leaving the AMOS as is, incorporation into a mobility Numbered Air Force (NAF), or integration into the TACC. Other alternatives were also solicited from a panel of experts, including disposition of AMOS communications capabilities.
4. What are the benefits and drawbacks of each alternative? Analysis of the alternatives allows insight into the most appropriate administrative structure for wartime effectiveness.
5. Which alternative do the experts agree is the best solution? Using a two round Delphi study, this paper will present the “best” solution proposed by a panel of experts in the field.

II. Literature Review

Overview

In order to understand the purpose of the current AMOS strategy and structure, it will be necessary to clarify some key concepts, including command structures, organizational strategy and structure, and the mission of the AMOS.

Command Structures

Two command structures come into play when considering current military organizations: operational structure and administrative structure.

First, current *operational structure* organizes the military into nine unified commands (also known as combatant commands), under control of the National Command Authority (NCA). Five of these are geographic Unified Commands (see Figure 1). The commander in chief (CINC) of each unified command (known as a “warfighter”) has the responsibility to prosecute military operations within his AOR.

Additionally, there are four functional unified commands. “Functionally oriented commands can operate across all geographic regions or can provide forces for assignment to other combatant commands (Joint Pub 3-0, 1995:II-11).” These functional unified commands control assets and missions of a global nature, and therefore do not fall under the scope of a geographic unified command. United States Strategic Command controls nuclear forces. United States Space Command controls space assets. United States Special Operations Command controls special operations (Joint Pub 3-0, 1995:II-11).

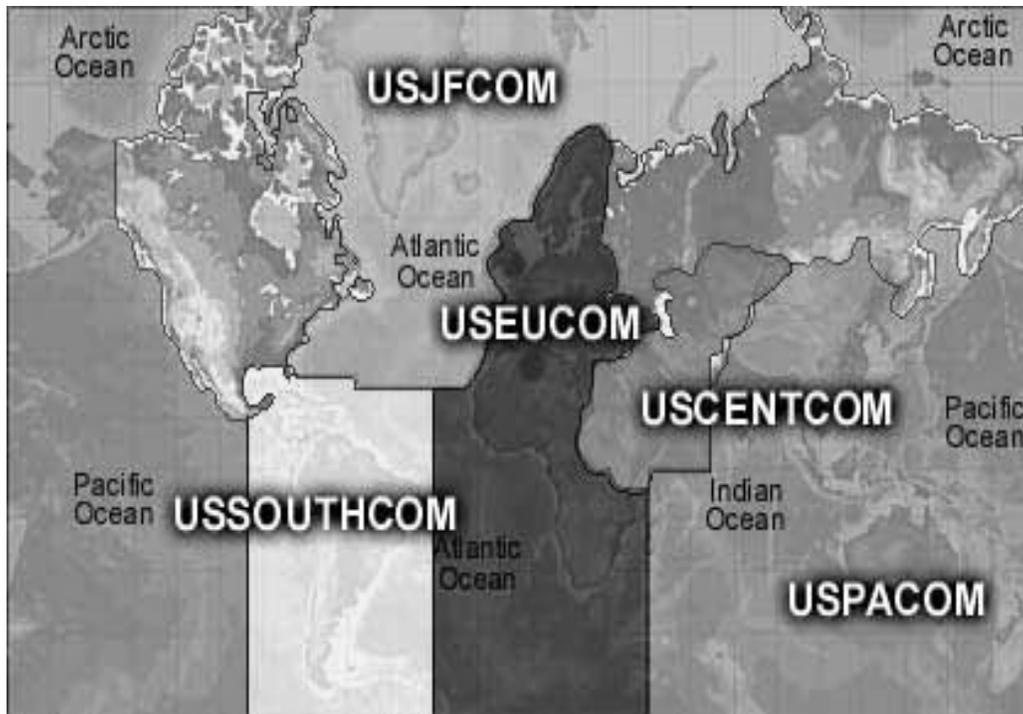


Figure 1. Geographic Unified Commands (Defenselink, 2001:np)

Finally, United States Transportation Command (USTRANSCOM) is the single manager for transportation within the Department of Defense (Joint Pub 4-01, 1997:I-2).

USTRANSCOM is comprised of a land component, a sea component, and an air component. The air component is Air Mobility Command. “As a transportation component of USTRANSCOM, AMC provides common-user airlift, air refueling, and strategic aeromedical evacuation transportation services to deploy, employ, sustain, and redeploy US forces on a global basis (Joint Pub 4-01, 1997:II-3).” This mission is carried out daily by AMC.

Within AMC is the Tanker Airlift Control Center. “The TACC operates a mobility center to plan, schedule, and direct organic and commercial contract aircraft executing

AMC's worldwide airlift and air refueling missions (Air Mobility Command Mission Directive 723, 2000:1)." The TACC also tasks and deploys the air mobility ground forces necessary to support the global commitments of USTRANSCOM. Figure 2 illustrates this relationship.

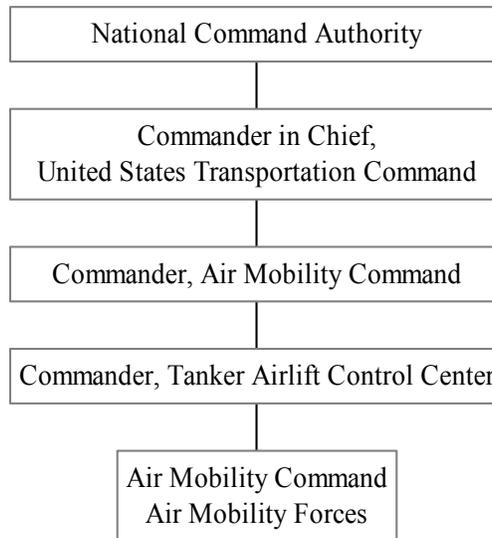


Figure 2. Air Mobility Command Forces Peacetime Operational Structure

To complicate matters, theater CINC's have mobility forces already assigned or attached in a separate airlift system, their intratheater structure. Figure 3 illustrates the chain of command for these forces. From the bottom, theater air mobility forces are controlled by the Air Mobility Operations Control Center (AMOCC) Commander, the theater air component commander, through the theater CINC to the NCA.

In peacetime, these two different airlift systems operate with coordination between the TACC and the AMOCC. However, when a contingency breaks out, the CINC of a

unified command usually sets up a Joint Task Force (JTF) to handle the surge in military operations. Within the JTF, a Joint Air Operations Center (JAOC) is set up to plan and

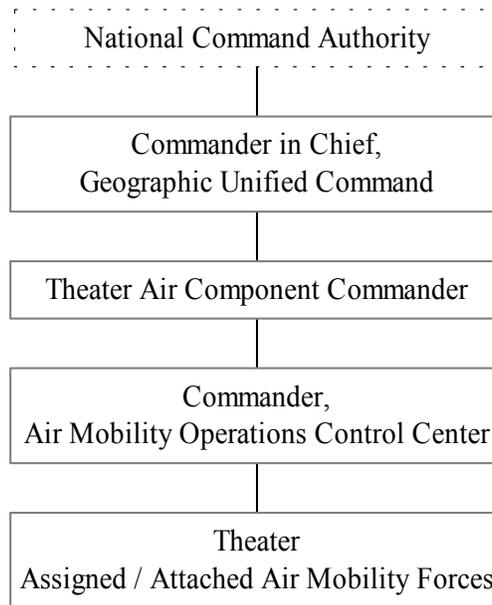


Figure 3. Theater Air Mobility Forces Peacetime Operational Structure

execute all facets of the air campaign, including the theater airlift portion. The airlift, both intertheater and intratheater, must be coordinated effectively to provide optimum capability for the warfighter and ensure effective use of scarce airlift assets. Within the AOC, the Air Mobility Division performs this mission.

The AMD, headed by the Director of Mobility Forces (DIRMOBFOR), is normally composed of four teams: the Air Mobility Control Team (AMCT), the Airlift Control Team (ALCT), the Air Refueling Control Team (ARCT), and the Air Mobility Element (AME) (Air Force Doctrine Document 2 - 6.3, 1999:16). The AMCT, deployed primarily from AMOS assets, provides tasking and command and control for all airlift

The shading of command relationships in Figure 4 indicates the level of war at which these structures operate. A detailed discussion of these relationships is not necessary for understanding the concepts in this paper. At the top of the command structure, in black (purple for color copies), sit command levels directing the strategic level of warfare. Those forces in the middle and on the right of the figure, in dark gray (blue for color copies), function at the operational level of war. Those forces on the left, in light gray (yellow for color copies), operate at the tactical level of war. See Air Force Doctrine Document 2-6.3, [Air Mobility Support](#), dated 10 November 1999, and related publications, for detailed explanations of command relationships.

The current air mobility mindset separates airlift into a strategic portion and a theater portion. A strategic airlift mission launches from the CONUS with a load of cargo and passengers destined for a combat zone. The strategic airlifter, an asset of United States Transportation Command (USTRANSCOM), under the operational control of the TACC, lands at a large airfield in the AOR and unloads its cargo. From here the load is divided and shuttled throughout the theater on transports under the operational control of the supported commander. This transition point, the change from strategic to theater focus, is called a seam. During contingencies, the AMD, a division within the AOC, coordinates mission requirements between the strategic and theater portions, bridging the gap between the two, and attempting to make the process “seamless”.

Next, there is the *administrative structure*. Administrative structure within the military exists for the purpose of organizing, training, and equipping forces for wartime. The administrative chain of command structure for the Air Mobility Operations Squadron is illustrated in Figure 5.

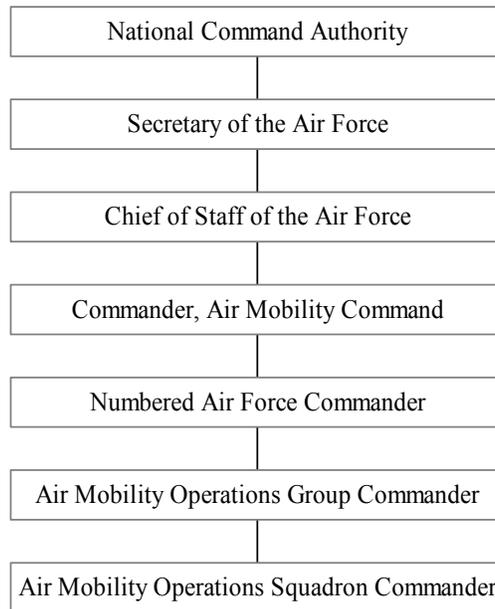


Figure 5. AMOS Administrative Structure

The National Command Authority (NCA) (President and Secretary of Defense) exercises command through the Secretary of the Air Force and the Chief of Staff of the Air Force to AMC. From AMC, the chain of command extends through the Numbered Air Force to the AMOG, and ends at the AMOS. This is a clear and direct administrative chain of command for the AMOS, in contrast to the contingency operational structure.

Organizational Strategy and Structure

In theory, organizational structures are formed to implement the strategies of that organization. Here, “*Strategy* can be defined as the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals (Chandler, 1990:13).” The

development of strategy lies in all levels of the command structure of the military.

Commanders at every echelon develop strategies to carry out their assigned missions.

However, power to change organizational structure does not rest in each level of command. “*Structure* can be defined as the design of organization through which the enterprise is administered (Chandler, 1990:14).” In the military, this determination of structure is in the hands of the leaders with overall responsibility for the organization, the strategic apex. “The strategic apex is charged with ensuring that the organization serve its mission in an effective way, and also that it serve the needs of those people who control or otherwise have power over the organization (Mintzberg, 1979:25).”

Furthermore, two roles of this identifiable strategic apex include resource allocation and design of the organizational structure. Within Air Mobility Command, this power, this strategic apex responsibility, rests ultimately on the Commander, Air Mobility Command. Any organizational structure design or redesign within Air Mobility Command must be approved by this commander, or an authority designated by him. Now, the AMC Commander is also dual-hatted as the Commander-in-Chief of United States Transportation Command (USCINCTRANS) (Air Mobility Command Mission Directive 710, 2000:1). This further complicates matters, as USCINCTRANS must deal with many more issues (than just those in AMC) under the current constraints of shortages in manpower and reductions in funding.

Yet, the change in strategy from a cold war paradigm to the new world order demands a fresh look at the administrative organizational structure that supports operations at the airlift seam. Chandler poses a serious question in his research that applies here: “If structure follows strategy, why should there be a delay in developing the new

organization needed to meet the administrative demands of the new strategy?”

(Chandler, 1990:14) He concludes in his research that,

...the reasons for delays in developing the new organization rested with the executives responsible for the enterprise's long-range growth and health. Either these administrators were too involved in day-to-day tactical activities to appreciate or understand the longer-range needs of their enterprises, or else their training and education failed to sharpen their perception of organizational problems or failed to develop their ability to handle them (Chandler, 1990:15).

Given the force reductions and the multiple responsibilities today's commanders, it is likely that the former explanation applies. This is a prime result of our military forces being constrained to do "more with less".

AMOS Mission

Every Air Force unit required to deploy personnel and/or equipment in wartime is assigned a Designed Operational Capability (DOC) statement (Air Force Instruction 10-403, 2001:80). The DOC outlines the unit's mission, and provides a standard of measurement for commanders to determine unit wartime readiness levels. Furthermore, "The DOC statement is used for the purposes of organizing, training and equipping the unit." (Air Force Instruction 10-403, 2001:80) By design, the 615th AMOS and the 621st AMOS have identical DOC statements. The current DOC (UNCLASSIFIED) states part of these units' missions to

Deploy trained personnel and equipment to standup and operate an Air Mobility Element (AME) to manage air mobility assets in an AOR for the AMC TACC; support global air mobility operations; coordinate with the DIRMOBFOR. Provide air refueling expertise to an Air Mobility Division; establish or augment initial and sustaining communications

requirements for three Global Reach Laydown locations (SORTS DOC Statement, 2001:1).

Mission specifics relating to communications capabilities have been omitted here, but are available in the unit DOC. Since current reported levels of readiness measured according to the DOC for all units are classified CONFIDENTIAL, they will not be discussed in this paper.

III. Methodology

Research Design

In order to determine the organizational structure alternatives available, this study employed a qualitative research method to develop hypothesis, a two round Delphi study, supported also with quantitative data. This technique has been used extensively and perfected by the RAND Corporation. “The Delphi technique uses an anonymous, orderly program of sequential individual interrogations, to elicit and refine group judgments where exact knowledge is unavailable” (Brown, Cochran, Dalkey, 1969:12). It involved questioning a selected group of experts using a survey questionnaire. The results were aggregated and controlled feedback (compiled from the aggregation) was issued to the survey respondents. At that point they were allowed to revise their initial judgments. In this way, a consensus was reached. This consensus forms the best solution to the stated problem, and generates conclusions for the research. The questionnaire and controlled feedback given to respondents for this project is included in Appendices A and E.

Threats

Several threats existed in the design of this research. First, sampling bias could have introduced error due to the fact that the researcher had to select the sample of respondents. This is perhaps the greatest threat to the validity of the results, as the researcher’s personal opinions could have influenced the selection of survey candidates. However, the nature of the Delphi study dictates that the sample cannot be truly random.

One way to partially negate this sampling bias was to select a sufficiently large pool of respondents to generate enough varied opinions. This ensured an appropriate variation of backgrounds existed among the group of “experts”. A set of 25 potential respondents was chosen for this study. Current or previous assignment to an AMOS and/or the TACC in the area of tanker, airlift, or command and control operations (with at least three years experience) were the criteria used for selection. Demographic data for the panel chosen will be discussed shortly.

The next threat was another type of bias. Interviewer bias could have introduced error into the study if the researcher conducts personal interviews. To counter this type of bias, the initial information was gathered using a written survey questionnaire. Controlled feedback based on initial round responses was done in a phone interview in the second round to generate consensus among the experts. Since the initial survey primarily determined the direction the research would take, the potential threat of bias introduced in the second round was significantly reduced.

The use of a questionnaire also introduced a threat to construct validity. Special attention was paid when designing the questionnaire to ensure that format was easy to follow, and that items were worded clearly and their order did not affect responses. The thesis advisor and the Air Force Personnel Center approved the questionnaire in Appendix A. This helped to reduce threats to measurement construct validity.

The construct validity of the research could also have come into question based on the selection criteria for the group of “experts”. This was countered by using a self-rating system to generate the pool of respondents that were then solicited for further information. That is, when respondents were given the initial survey, they were asked to

rate themselves as to their level of expertise and qualification to make judgments on the individual questions (See Appendix A). These self-rating questions asked respondents to rate their own knowledge level on a scale of 1 to 10 (1 is novice, 10 is expert) concerning areas related to the substance of the survey. RAND Research has shown that "...a significant improvement in the effectiveness of the Delphi procedures can be obtained using self-rating information..." (Dalkey, Brown, and Cochran, 1969:18). Furthermore, their research found that 7 respondents would be the lower limit to achieve accurate results (Dalkey, Brown, and Cochran, 1969:6). Therefore, the initial respondent surveys were grouped according to their answers to questions 1 through 7 (see Appendix A). The top seven respondents were taken as the final pool of experts to be used for the rest of the survey. A spreadsheet with the entire group's self-ratings is attached in Appendix B, with more thorough explanation in Chapter IV.

A further significant threat to construct validity existed if the respondents were allowed to confer with one another. Conference among respondents could have diluted the opinions, or caused a respondent to hide his true opinions due to the influence of another respondent. Since no stringent controls were imposed over the survey respondents, the only means of negating this threat was by instructing respondents to answer without consulting others. When initially contacted for this study, respondents were instructed not to consult with others concerning the survey.

This study will have little external validity, other than to reinforce the already proven Delphi technique. Generalizability, however, is not a concern here, as the research itself applies to a unique organization, the Air Mobility Operations Squadron. No attempt should be made to extrapolate the results of this Delphi study to another population.

IV. Data Description and Analysis

Overview

Information for this study was gathered using a combination of quantitative and qualitative data. Appendix A contains the entire survey. Responses are summarized in tables in Appendices B, C, and D. Please note that survey respondents are guaranteed anonymity. The survey was approved by the Air Force Personnel Center and was assigned control number USAF SCN 01-135.

Preliminary: Analysis of Self-Ratings

Each survey respondent was ranked using the sum of his self-rating scores. The maximum possible self-rating score was 70 points, if the respondent rated himself at a knowledge level of 10 (expert) in all 7 areas. Of the field of 25 potential respondents, the top seven were chosen to continue the survey. Their ratings are summarized in Appendix B. Figure 6 presents a comparison of respondent average self-rating scores. There is a marked difference between the top seven respondents and the rest of the field, therefore these seven were chosen to form the expert panel. The lowest cumulative self-rating in this group was 49 (or, an average rating for seven questions of 7.00). In this group of respondents, it is also interesting to note that no individual rated himself less than 5 (middle of the scale) in a single area. Additionally, the highest self-rating for those eliminated at this point was 43, or an average knowledge level of 6.14. Thus, the group

chosen fits the minimum criterion of seven respondents for a Delphi study, and forms a pool capable of generating “expert” input for the survey.

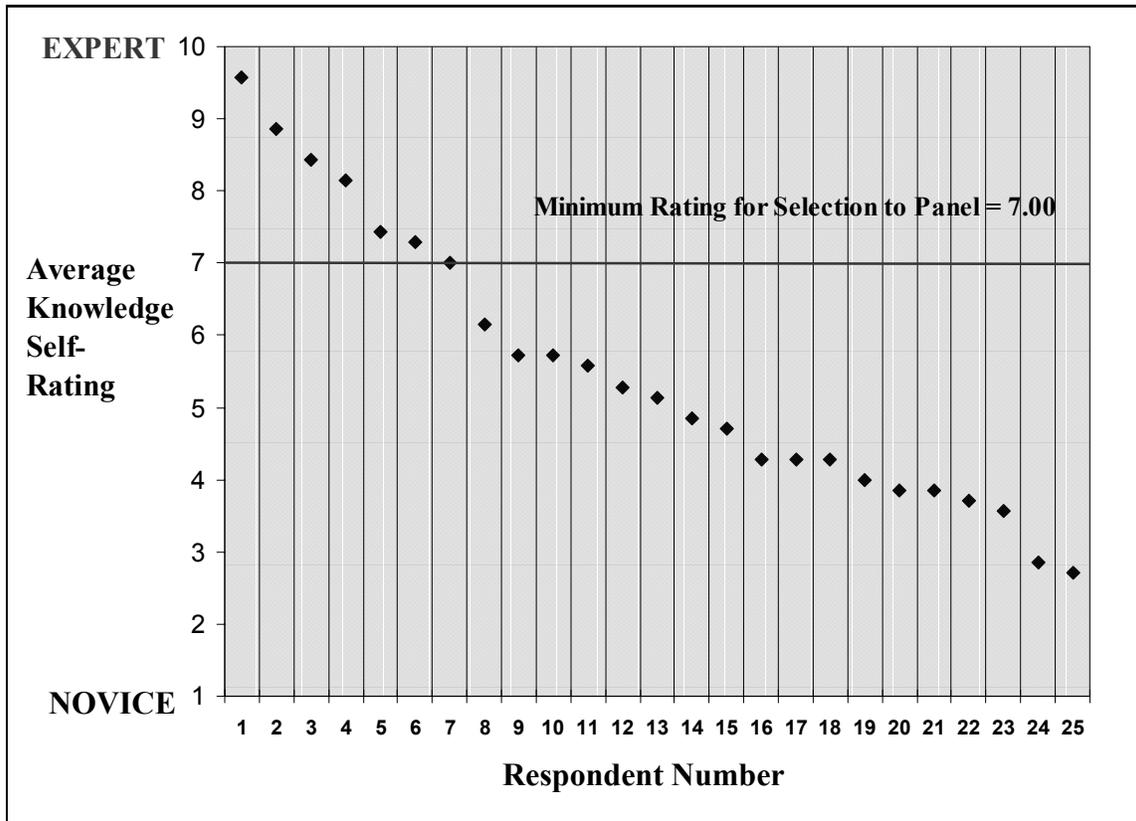


Figure 6. Comparison of Self-Rating Averages

Panel Demographics

Minimal demographic data is provided (to preserve anonymity) to portray the panel. Table 1 gives a summary of experience levels and aggregate averages for each column. Letters were randomly assigned to the panel of seven in this table in order that no connection can be made to their survey responses. The seven final panelists are all rated officers. (Although C2 personnel were included in the initial rating, none scored

themselves highly enough in the self-rating to qualify as a panelist.) The average time in the Air Force for the panel was 19.7 years. The average experience dealing with AMOS, TACC, and AMD operations was 5.1, 6.3, and 5.0 years, respectively. “Experience” is defined as time in an assignment where the respondent dealt regularly with policies, procedures, or job tasks directly related to one of the three categories (AMOS, TACC, or AMD). Note also that time assigned in an AMOS or at the TACC can generate experience in all three categories, due to the required interactions to execute missions.

Table 1. Summary of Demographic Data for Panelists

Respondent	Total Years in Air Force	Total Years AMOS Experience	Total Years TACC Experience	Total Years AMD Experience
A	22.5	4	9	6
B	23	4	2	4
C	20.5	5	5	3
D	13	7	10	4
E	18	4	4	9
F	19	6	6	6
G	22	6	8	3
TOTAL	138	36	44	35
AVERAGE	19.7	5.1	6.3	5.0

Round One: Analysis of Seven-Point Scale Items

Questions 8 through 23 in Appendix A were used to measure various attitudes of the expert panel quantitatively. Appendix C contains a spreadsheet with values for responses to these items. Respondents were asked to rate their agreement with the given statement on a seven-point scale with value 1 corresponding to “strongly disagree” and value 7 corresponding to “strongly agree”. For each question, the mean represents the average of

the opinions of the experts. However, this number by itself could be deceiving. Therefore, the mode is presented in the table to show the answer most often given, and the range is given to show the span of the answers given. With such a small data set, deviation from the mean does not present much information from which to draw conclusions. However, a bar chart for each question can give a pictorial view of where the majority opinion lies for each question. For the second round of the Delphi, consensus was sought only for qualitative inputs, and this will be discussed later.

Question 8 measured agreement with this statement: “Historically, AMC has used AMOS personnel (tanker, airlift, and C2) effectively to support AMD operations.” Although one expert varied greatly from the majority, the other five answers showed a tip of the scale toward the negative end in Figure 7. An average response of 3.29 suggests AMC could use AMOS resources more effectively to support AMD responsibilities.

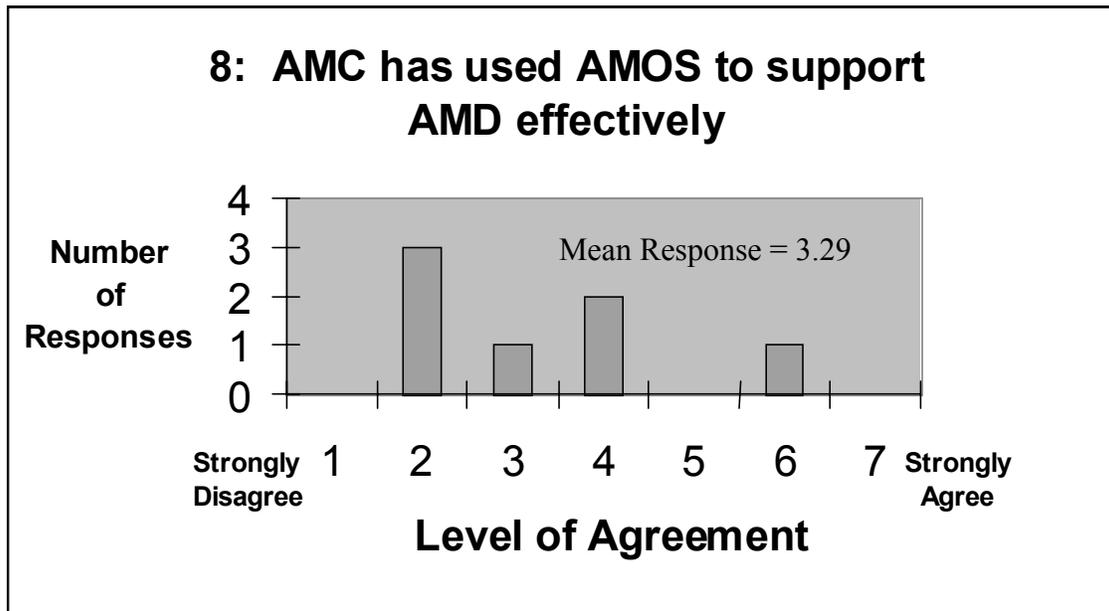


Figure 7. Bar Chart for Responses to Question 8

Tanker Planning

Questions 9, 12, 15, 18, and 21 were designed to measure expert opinion on the best use of tanker planner expertise. Question 9 asked if “Tanker planners in the AMOS would be better used to support AMD operations if they were part of some other organization (NAF, TACC, etc.).” Figure 8, with mean response of 5.57, shows that expert opinion suggests tanker planners would be used better in a different organization

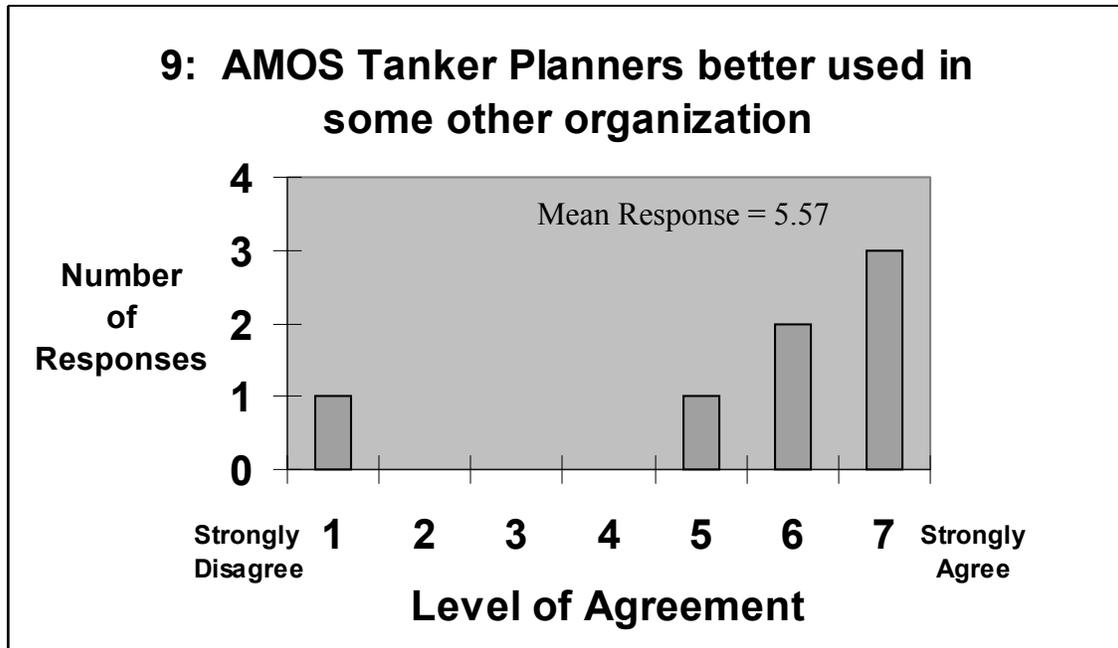


Figure 8. Bar Chart for Responses to Question 9

than the AMOS. Measuring this same idea, but asked in a different way, question 12 polled the panel asking whether “AMC’s tanker planning expertise is used most effectively for contingency operations only when it is resident in the AMOS.” Figure 9,

with an average response of 2.57, suggests tanker planning expertise need not be resident in the AMOS to be effectively used in contingency operations.

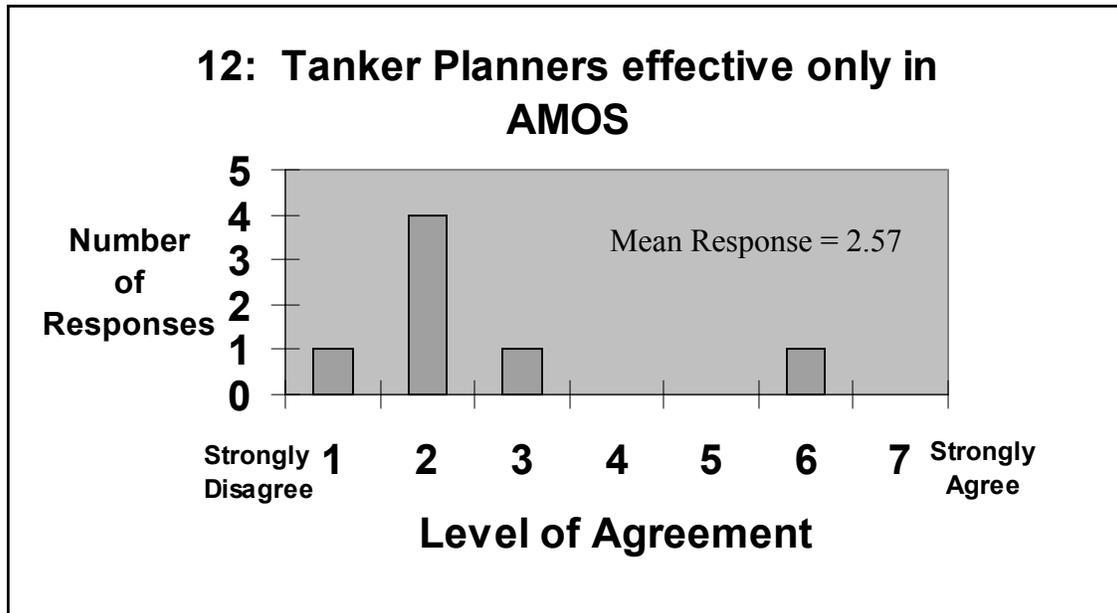


Figure 9. Bar Chart for Responses to Question 12

Questions 15, 18, and 21 were designed to measure expert opinion on possible alternatives for placement of tanker expertise to support AMD doctrine. The alternative presented in question 15 asked whether “Assigning tanker planners to the NAFs on mobility status to support the AMD is the best solution to implement current doctrine.” Figure 10 shows a wide array of responses and does not provide a good basis for conclusion. This question will be examined more closely in the qualitative discussion on related items. Question 18 explored whether the alternative of “Assigning tanker planners to the TACC on mobility status to support the AMD is the best solution to implement current doctrine.” The chart in Figure 11 shows that, although the experts

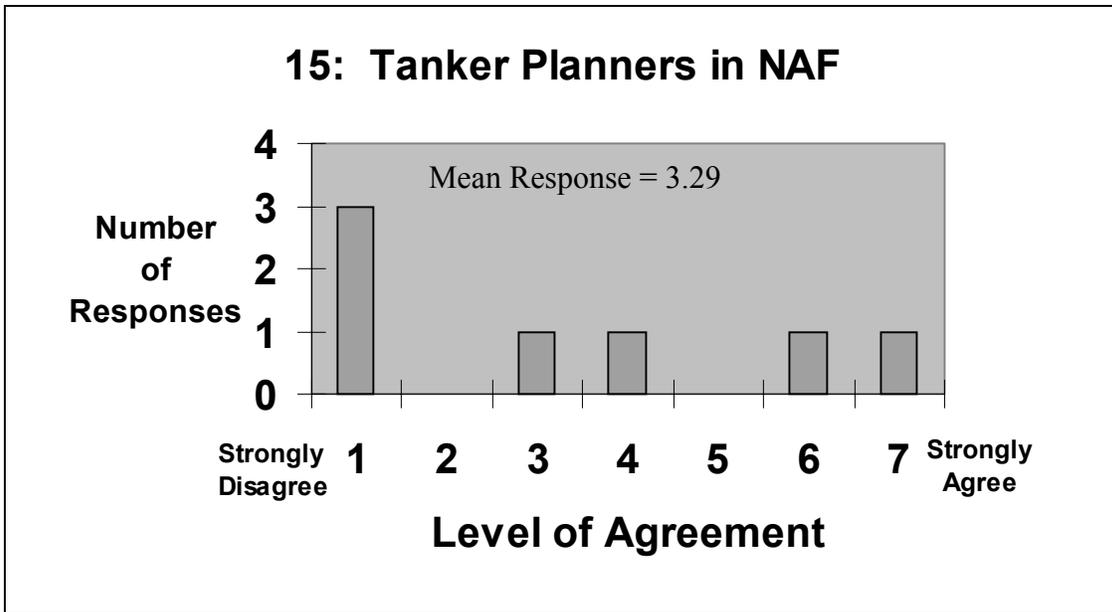


Figure 10. Bar Chart for Responses to Question 15

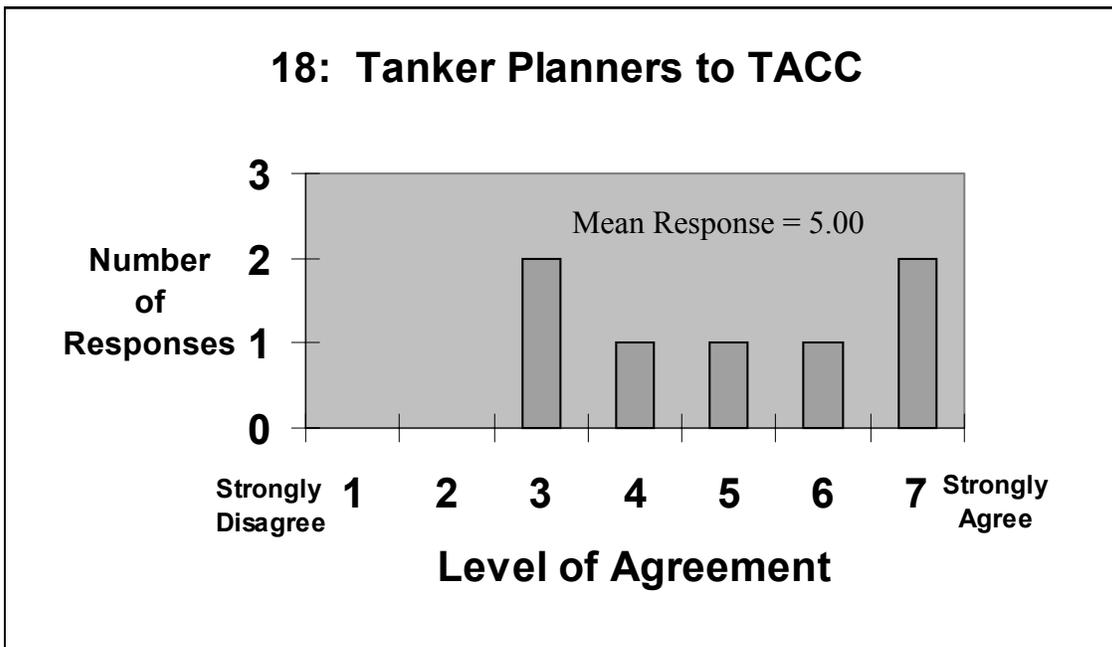


Figure 11. Bar Chart for Responses to Question 18

vary in opinion, a mean response of 5.00 suggests a trend toward agreement with moving tanker planners to TACC. Question 21 allowed the panel to express whether “Assigning tanker planners to the AMOS on mobility status to support the AMD is the best solution to implement current doctrine.” This question represents the status quo, that is, making no change to current structure. Figure 12 suggests, with an average response of 3.14, that the panel tends to disagree with maintaining the current structure.

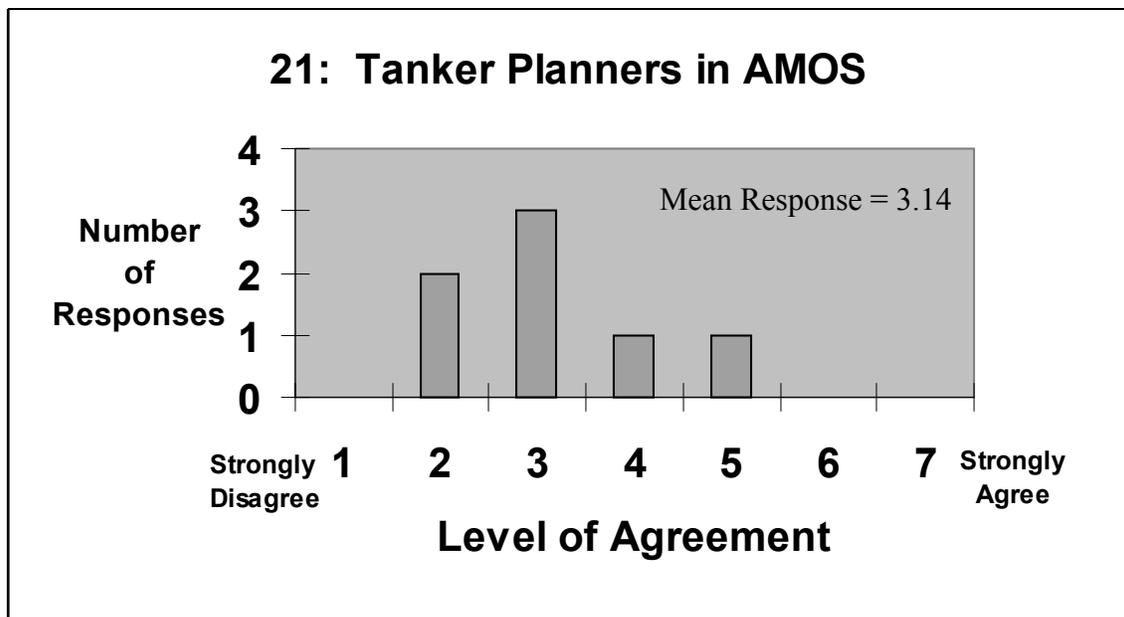


Figure 12. Bar Chart for Responses to Question 21

Airlift Planning

Questions 11, 13, 17, 20, and 23 follow the same vein as those for tanker planning. Item 11 asks whether “Airlift planners in the AMOS would be better used to support AMD operations if they were part of some other organization.” Figure 13 strongly

suggests, with one outlier from a mean response of 6.00, that the panel believes airlift planning expertise should be moved from the current structure. Similarly, Figure 14 shows, with a mean response of 2.43, a strong trend in the panel toward disagreement with statement 13 that “AMC’s airlift planning expertise is used most effectively for contingency operations only when it is resident in the AMOS.” Next, question 17 asked whether “Assigning airlift planners to the NAFs on mobility status to support the AMD is the best solution to implement current doctrine.” Figure 15, with a mean response of 2.00, shows the panels clear disagreement with this move. With question 20, and a mean

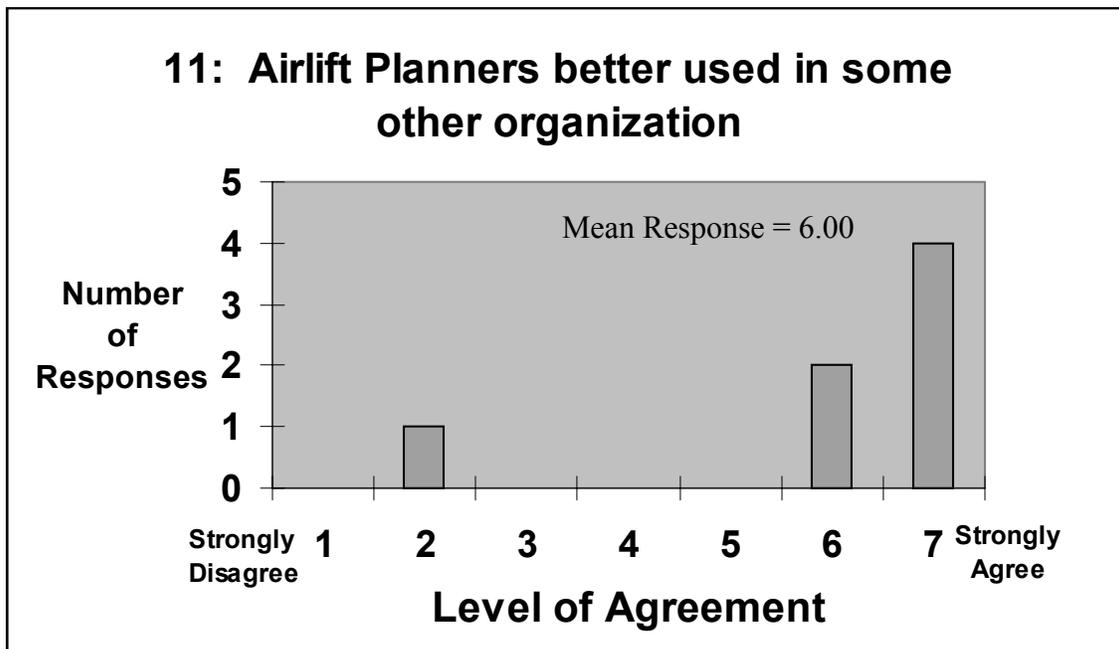


Figure 13. Bar Chart for Responses to Question 11

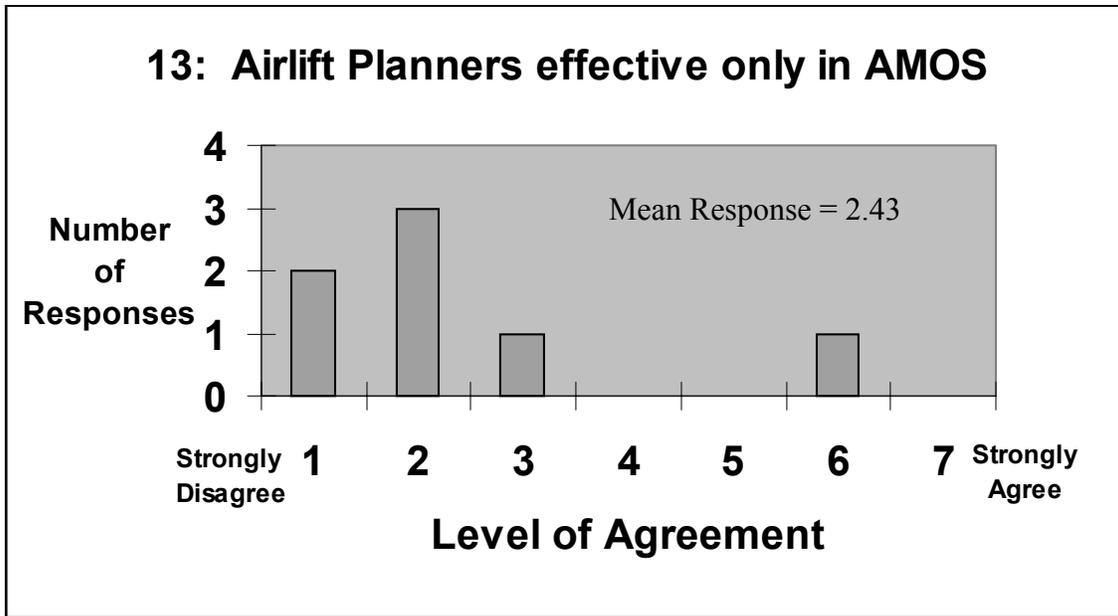


Figure 14. Bar Chart for Responses to Question 13

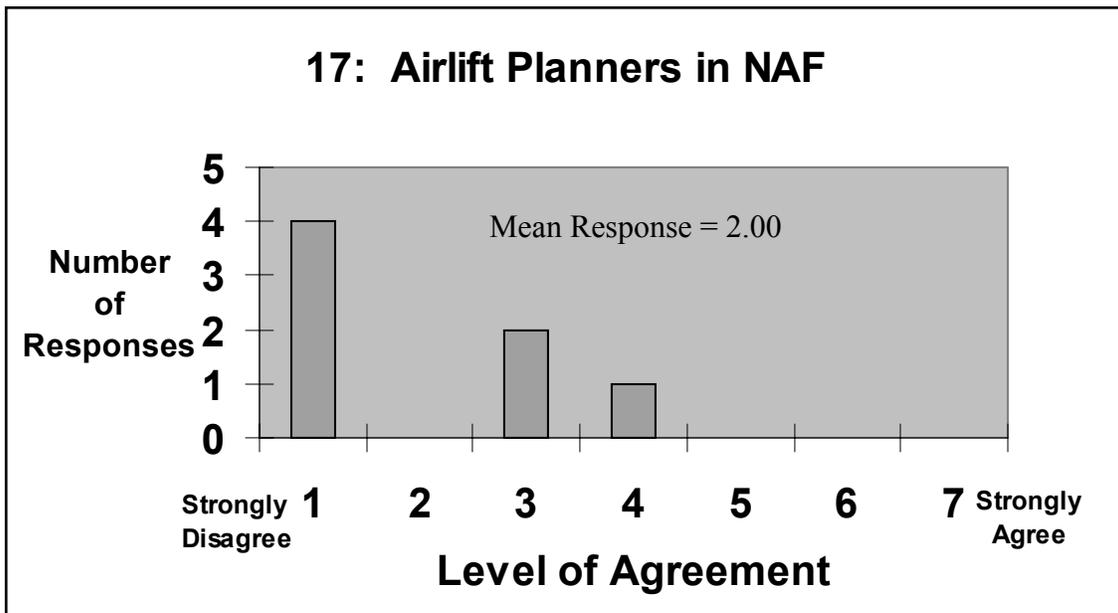


Figure 15. Bar Chart for Responses to Question 17

response of 5.57, the panel showed a trend towards agreement that “Assigning airlift planners to the TACC on mobility status to support the AMD is the best solution to implement current doctrine.” Figure 16 shows this bar chart. Finally, question 23 addressed the panel’s opinion whether “Assigning airlift planners to the AMOS on mobility status to support the AMD is the best solution to implement current doctrine.” Figure 17, with a mean response of 2.71, shows the trend toward disagreement in maintaining the status quo.

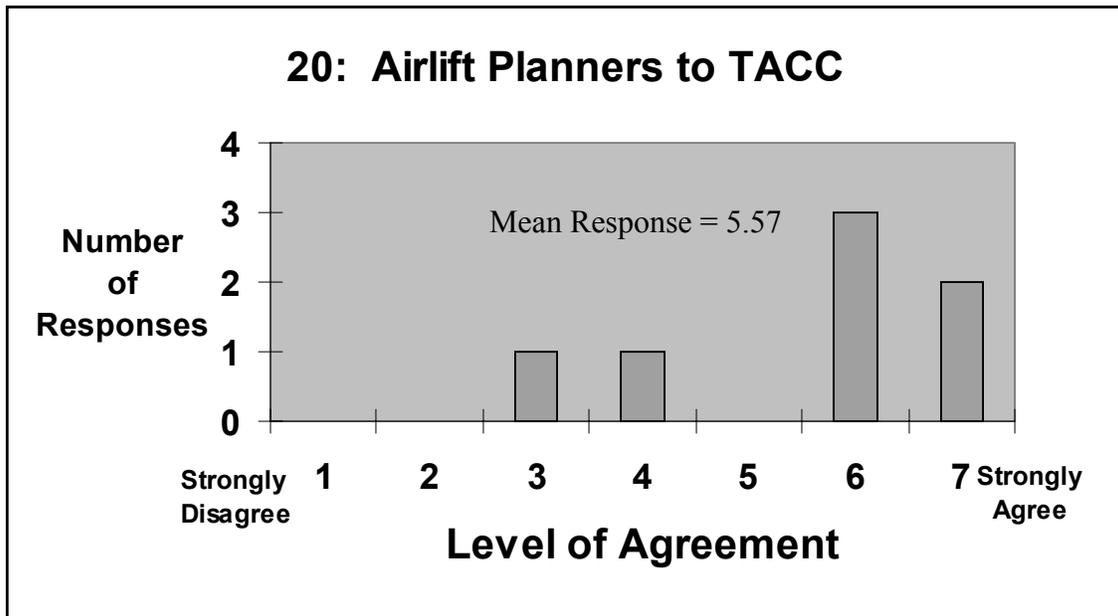


Figure 16. Bar Chart for Responses to Question 20

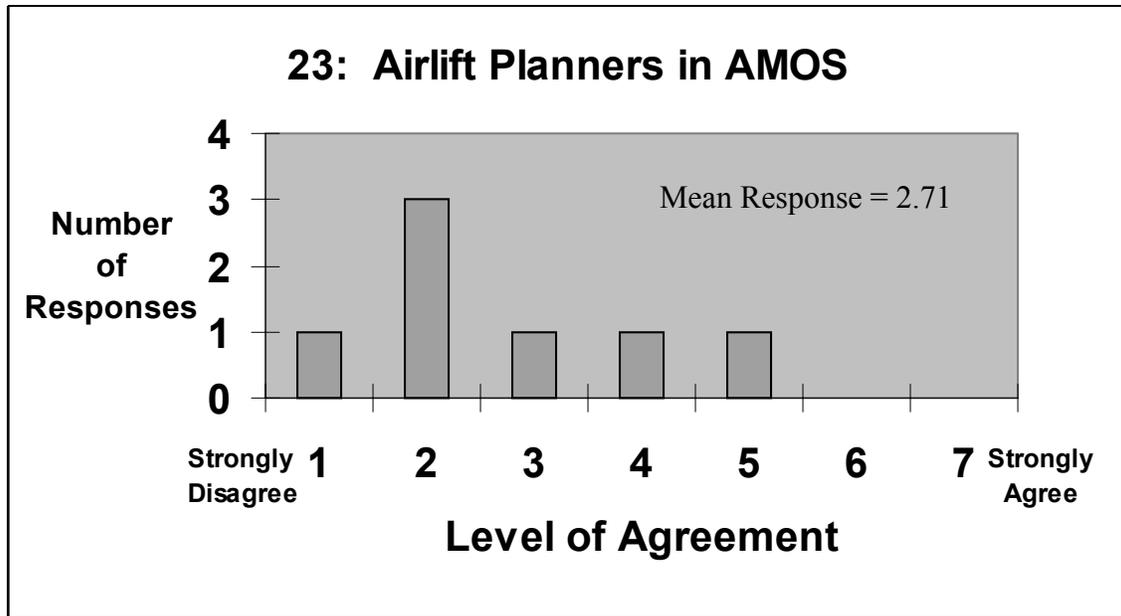


Figure 17. Bar Chart for Responses to Question 23

Command and Control

Questions 10, 14, 16, 19, and 22 followed the same pattern of inquiry as those for tanker and airlift planning. In question 10, the experts showed generally strong agreement that “C2 personnel in the AMOS would be better used to support AMD operations if they were part of some other organization.” Figure 18 shows the mean response of 6.00 with one person in disagreement. When asked in item 14 whether “AMC’s C2 expertise is used most effectively for contingency operations only when it is resident in the AMOS”, the panel showed its disagreement, with a mean response of 2.43, as shown in Figure 19. Next, the experts were asked if “Assigning C2 personnel to the NAFs on mobility status to support the AMD is the best solution to implement current doctrine.” Figure 20 shows the results for question 16. Here, the experts trended toward

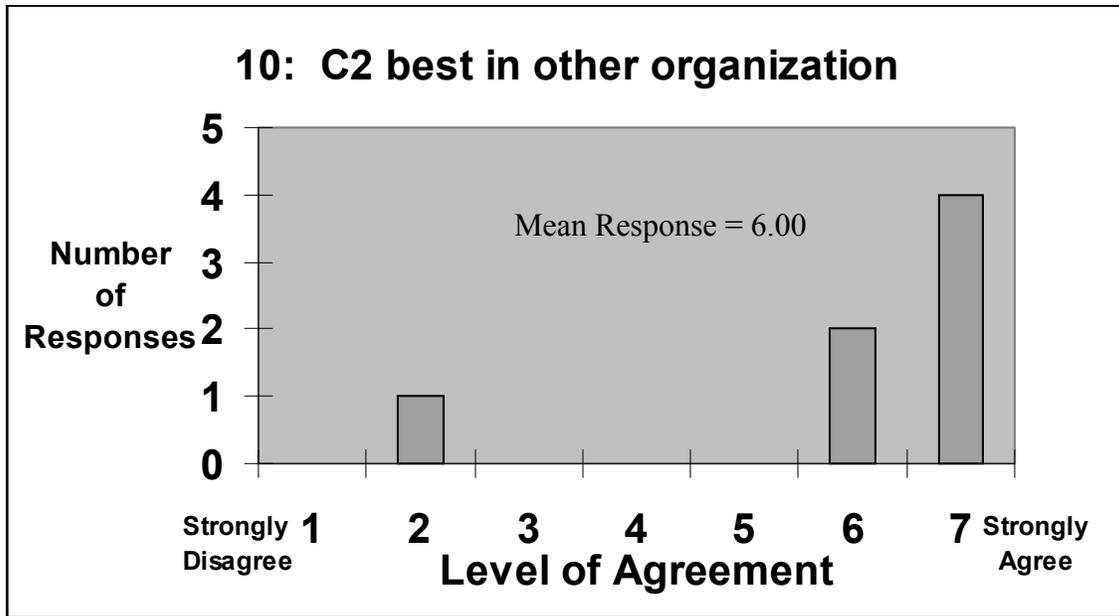


Figure 18. Bar Chart for Responses to Question 10

strong disagreement with a mean response of 2.00. Item 19 addressed whether “Assigning C2 personnel to the TACC on mobility status to support the AMD is the best solution to implement current doctrine.” The panel, as indicated in Figure 21, with a mean response of 5.57, showed a trend toward agreement with this move. Figure 22 presents the picture for item 22: “Assigning C2 personnel to the AMOS on mobility status to support the AMD is the best solution to implement current doctrine.” Here, the experts trended toward disagreement with the statement, giving a mean response of 2.71.

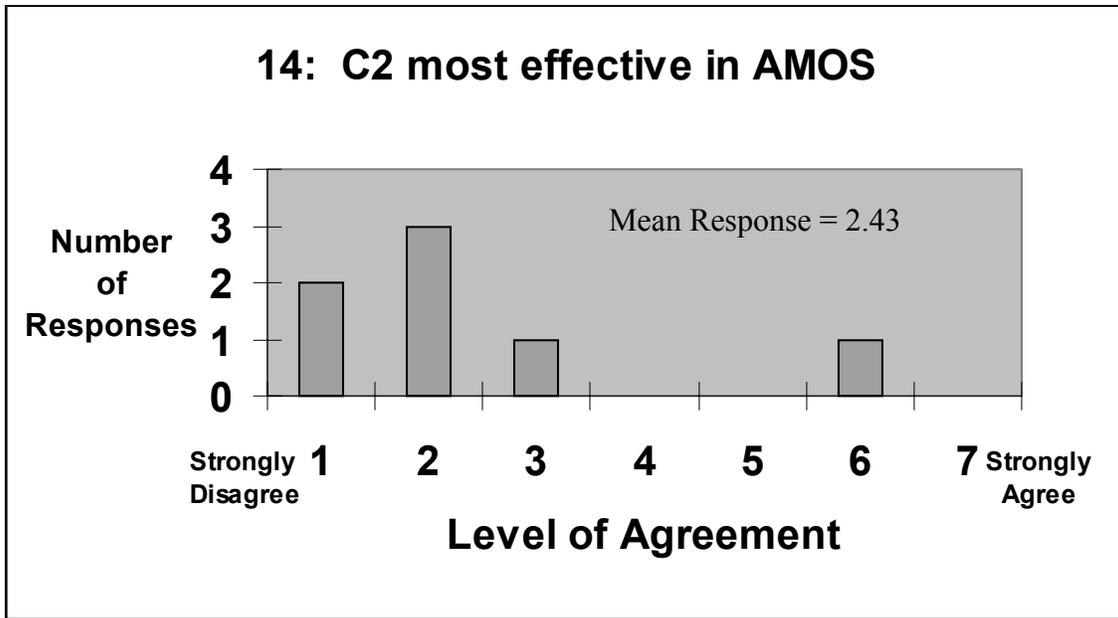


Figure 19. Bar Chart for Responses to Question 14

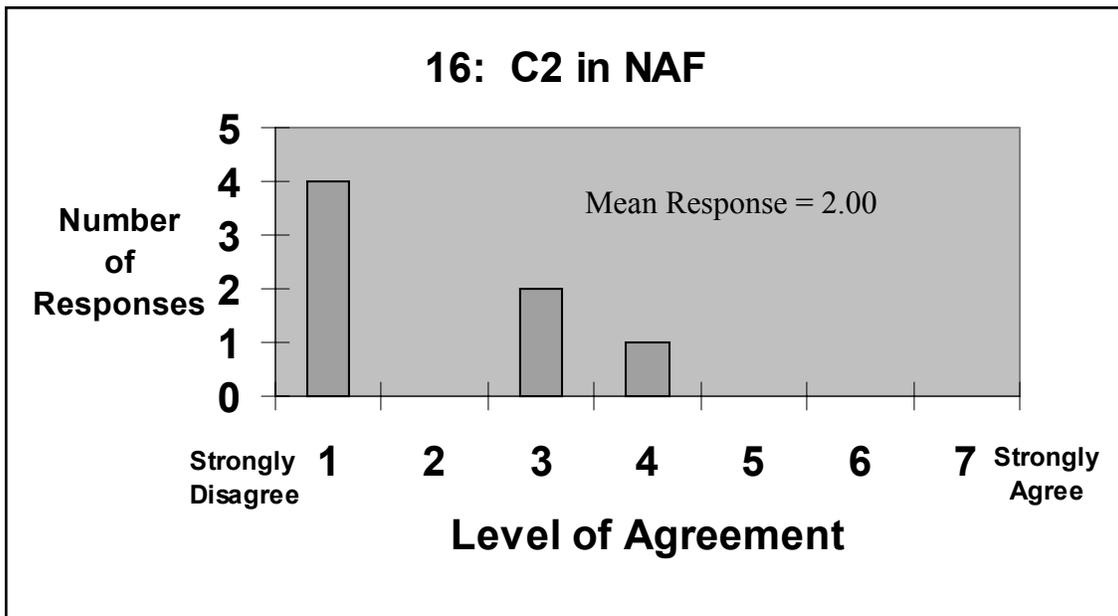


Figure 20. Bar Chart for Responses to Question 16

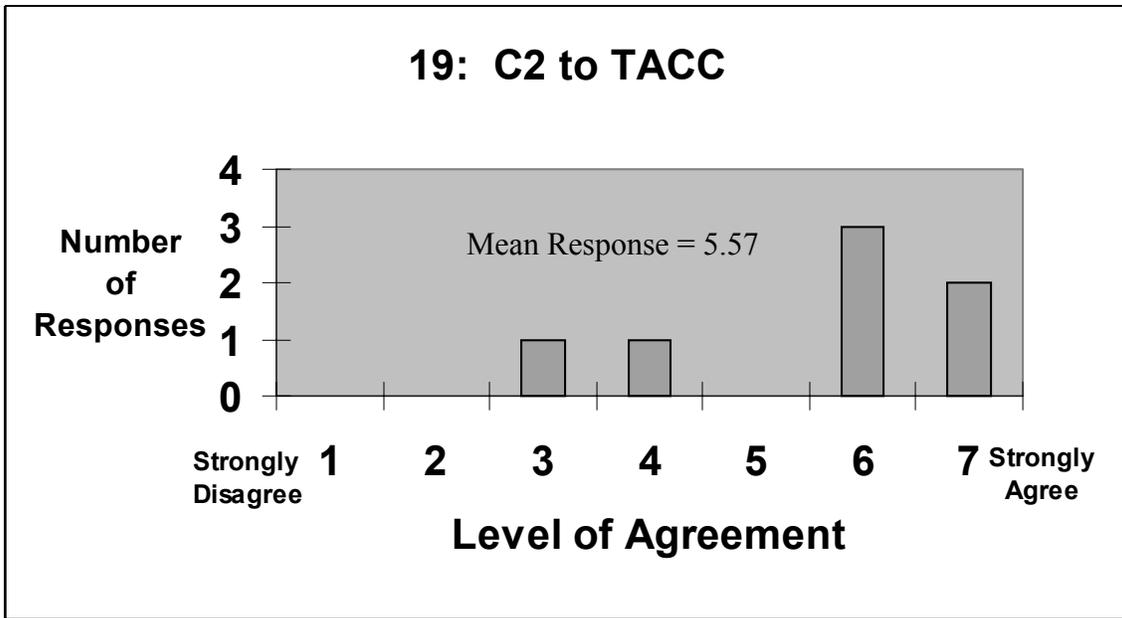


Figure 21. Bar Chart for Responses to Question 19

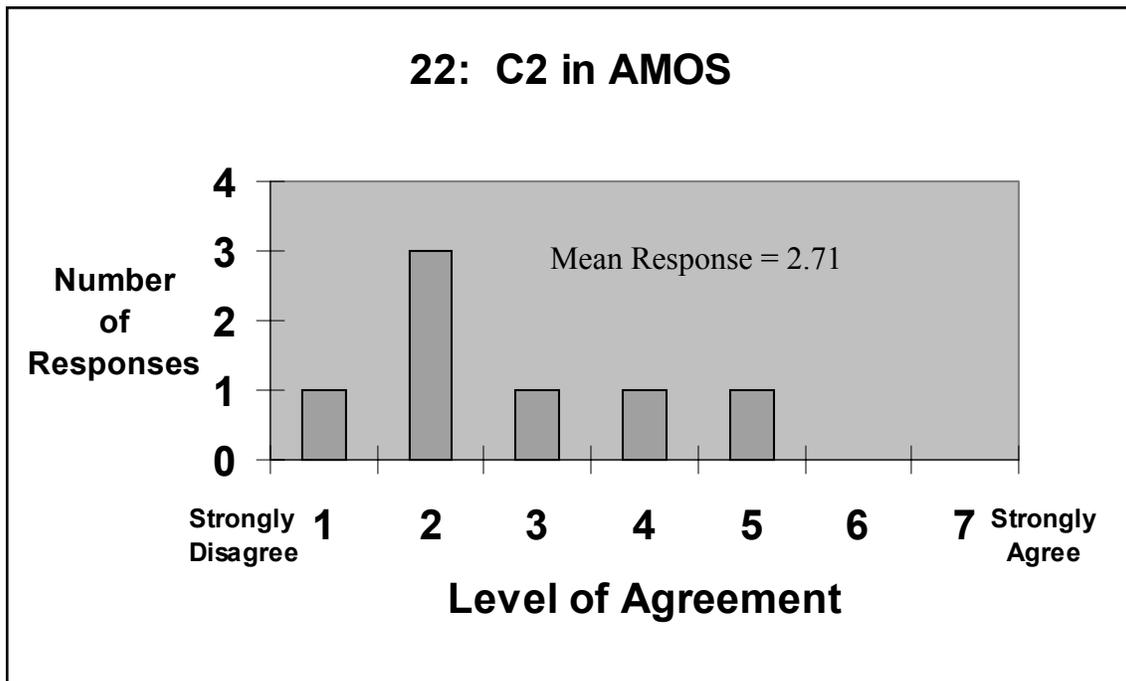


Figure 22. Bar Chart for Responses to Question 22

Quantitative Summary

All quantitative inputs were solicited to portray where the majority opinion of the panel of seven lay. Interestingly, of the 16 items presented here, all but five response sets had an answer more than two units away from the mean. These “outliers” were provided by six of the seven respondents, confirming a variety of opinion within the respondent group. To avoid introducing a bias from the interviewer, consensus was not sought for these questions in round two. That is, the interviewer could introduce bias into the responses by helping the respondents interpret questions, or drawing out responses other than those the respondents wished to provide.

Questions 24, 25, and 26 were used to measure the similarity between AMD and TACC core tasks. However, the information given by respondents reflects their best guess as to a measure of similarity. Since the similarity between the two could be obtained more readily by direct measurement of training tasks, the responses are provided here only for the reader’s interest. This data is not needed to generate conclusions for this study, and has no effect on the outcomes. Table 2 summarizes the panel’s responses.

Table 2. Summary of Responses for Questions 24, 25, and 26

Question: Respondent:	24	25	26
1	80	50	95
2	60	30	90
3	30	30	95
4	90	25	75
5	75	75	75
6	90	75	95
7	80	50	90
Average	72.14	47.86	87.86
Mode	80	50	95
Lowest Value	30	25	75
Highest Value	90	75	95
Range	60	50	20

Qualitative Analysis and Round Two

Questions 27 through 31 solicited expert opinion concerning benefits and drawbacks of various alternatives and proposed solutions to answer the need for a change in administrative structure. Responses are summarized in Appendix D. From this data, clear key points were drawn on the majority opinion. These formed the basis for the controlled feedback of round two to gain consensus of the panel. The round one analysis and controlled feedback used for round two is presented in Appendix E. Consensus was reached among all seven panelists and is discussed in the findings and conclusion, Chapter V.

V. Findings and Conclusion

Is There a Better Way to Organize Air Mobility Operations Squadrons?

The study presented several alternatives to the current administrative structure of the AMOSs. The alternatives presented for consideration by the questionnaire included keeping the current structure, incorporating AMD capabilities in the mobility NAFs, and integrating directly into the TACC. However, the panel of experts, through a Delphi study, eliminated all of these alternatives. Instead, a new solution was presented, and consensus of the panel was reached concerning this new alternative.

Alternative 1: Keep the Current Structure

Clearly, responses to the quantitative data pointed to changing the status quo. None of the experts believed keeping the current administrative structure in place was a sound alternative to organize, train, and equip AMD forces for wartime. The data portrayed in Figures 7, 8, 9, 12, 13, 14, 17, 18, 19 and 22 all support this. The experts bolstered this position further in their responses to open-ended questions. When asked about the structure of the AMOS as it is now, one expert said, “The current structure removes us from all operational level opportunities to train. We do not have access to proper equipment to train...We are organized as a tactical level squadron which really needs to be...part of an operational level unit.” (NOTE: Quotes from respondents are not cited in order to preserve anonymity.) Another said,

The current AMOS organization really contains no inherent benefit. It is a small unit which does not allow wide association with personnel performing like duties and no inherent training opportunities within an organization (AMOG) with no like mission. The mismatched missions of communications and C2 within the squadron create further disjunction.

These sentiments pervaded the responses of the entire panel, shown in Appendix D.

Alternative 2: Integrate into Numbered Air Forces

Setting up a deployable arm of the mobility NAFs was another alternative presented. Although the idea received mixed support when considering tanker planner personnel (see Figure 10), the panel unambiguously negated the idea of placing airlift planners and command and control personnel in the same type of structure (see Figures 15 and 20). In the open-ended question phase, only one respondent showed support for placing tanker personnel in the NAFs. This type of move garnered no firm support from the rest of the panel as the “best” solution, and was therefore, discarded.

Alternative 3: Integrate Directly into TACC

The third alternative presented integrated AMD personnel directly into the TACC. Initially, this idea received strong support from the panel, as indicated in Figures 11 16, and 21. Additionally, in the open-ended questions, most respondents saw this move as a step in the right direction. However, three respondents raised the possibility of AMD personnel disappearing in the ranks of TACC, or, as one specifically put it, “...there’s the risk of absorption to the point of non-existence.” On another front, two respondents raised the likelihood of further manpower cuts within the TACC, and that the AMD

capability would suffer from this. Yet, this type of structure would be feasible if the TACC were assigned a DOC statement requiring the capability to deploy these assets. That is, with a DOC required capability, the TACC/CC would have a measurable capability he would be obligated to maintain. Furthermore, this capability would be tested and exercised through the Inspector General inspections. Yet this idea could not garner a consensus of opinion in round two, but instead gave way to the solution proposed by a majority of the panel.

Findings: The Panel's Proposal, Alternative 4

The expert panel reached consensus in round two of the Delphi study with a five-step solution. First, AMC should combine both AMOSs into one unit. This move would allow for better standardization of training and processes, particularly since the Air Force has designated the AOC as a weapons system (Alford, 2000:C6). Combining these units could also help alleviate some of the manpower problems the AMOSs currently experience, and provide a unit more responsive to contingency taskings. These by-products of the solution warrant further examination, but were not addressed in this Delphi study.

Next, AMC should take the majority of the communications personnel from the AMOSs and create new combat communications squadron in each of the AMOGs. This idea received whole-hearted consensus from the panel due to the disjointed nature of the current AMOS missions. A small contingent of communications assets required for an

AMD deployment should reside in the new unit. This issue could also stand further study, but, again, was beyond the scope of this research.

The panel also gave unequivocal support to the necessity to man this unit at 100%. If AMC is to take its AMD responsibilities seriously, it must make this third move. As one respondent said, “We are stretched so thinly that we have trouble training. We need our manning up to an operational unit vice a staff level organization.” Another said, “The ‘O’ in AMOS stands for operations. Man the AMOS as an operational squadron, i.e., 100%, not as a staff with a staff with a 73% authorization, which is never reached.”

The fourth facet of the solution constituted moving this new unit to Scott AFB to co-locate with the TACC. All seven persons on the panel put forth this idea in the first round of the study, and reiterated support in the second. Given the similarity in roles between the AMD and the TACC this move naturally makes sense. The panel agreed the benefits to AMD capabilities of this undertaking include better computer systems training and expertise, and currency on airlift and tanker issues, policies, and regulations. Moving to Scott (either as part of the TACC, or a DRU) would also provide higher level visibility on AMD issues. Figure 23 represents the AMOS as a DRU to the TACC. Notice that this structure eliminates two levels from administrative structure in Figure 5, and more closely resembles operational command lines in Figures 2 and 4. This could also ease the tasking process and the transition from peacetime to contingency operations, because, as the panel agreed, it would provide AMD personnel a better understanding of the CONOPS and deployment requirements since they would be working alongside the TACC personnel developing these. The sole negative voiced by the panel was a loss of opportunity for command, since one commander’s and one director of operations’

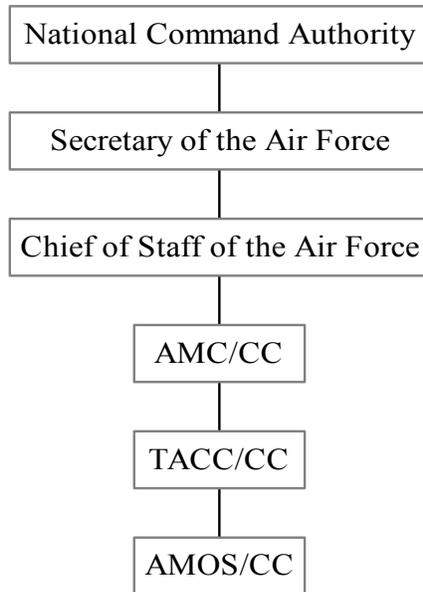


Figure 23. Proposed AMOS Administrative Structure

position would be lost. All agreed this drawback was far outweighed by the benefits that could be realized.

The final segment of the proposed solution involves making the new hybrid unit a direct reporting unit to either the TACC, or the AMC/DO. Five of the panel gave unreserved support for this idea. Two gave their consensus but wished to express reservations. One respondent believes, with a DRU move, that the unit will not be integrated well into TACC operations, and thus lose the most significant potential benefit, that of interaction and forming working relationships with the TACC personnel who perform a similar mission. A second expert said that if working in the TACC was not part of the AMD person’s primary duty, there was significant risk to the “team concept”. However, both agreed that the DRU move was a step in the right direction, and that, if

managed properly, could produce the same benefits as full integration into the TACC. On this basis, they gave consensus.

Limitations and Conclusion

The methodology and findings of this study include limitations that provide the basis for further research on this topic. First, a repeated study with a panel of more respondents, ten according to research (Dalkey, Brown, and Cochran, 1969:7), would provide a solid confirmation of the results. This could potentially lend additional weight to the findings.

Next, an analysis of costs associated with adopting the proposed solution was beyond the scope of this study. Research into this area would provide AMC decision-makers more information upon which to base resolutions when evaluating current structure.

Furthermore, no discussions of timelines, processes, political factors, or detriment to capabilities were engaged. Each of these could be pursued in further research, with recommendations to alleviate any potential problems in making the move to the proposed structure.

Still, the AMC staff could resolve most of these limitations with staff work, and move forward on the proposal. The recommendations of these seven experts forming a Delphi study panel form a reasonable solution to the research question. Combining both AMOSs into one direct reporting unit co-located with the TACC and manned as an operational unit is a better way for AMC structure its forces to support core AMD responsibilities.

Appendix A: Survey Questionnaire

Thank you for participating in this survey. I appreciate your time and straightforward candid answers. There are a few things you need to know before completing this questionnaire:

- 1) Survey responses are anonymous. Your identity will remain confidential and will not be associated with any responses you give. This questionnaire complies with AFI 36-2601, *Air Force Personnel Survey Program*. This survey is “non-attribution”, and you have “academic freedom” to tell me what you really think.
- 2) Summarized responses are releasable to the public under the Freedom of Information Act, but, again, your identity will not be associated with a questionnaire.
- 3) Please complete the survey electronically, and e-mail it back to me. If you choose, you may print it and write your responses. In that case, please send it to me at:

Major Robert Boquist
Advanced Study of Air Mobility
AMWC/WCDA
Bldg 5656 Texas Avenue
Fort Dix, NJ 08640

- 4) Some items may seem to ask the same question. This is a necessary research technique.
- 5) There are 31 questions. Use whole numbers for questions requiring numerical responses.
- 6) I need the following information in case I have questions about your survey:

NAME:
RANK/GRADE:
DUTY TITLE:
DAYTIME COMMERCIAL PHONE:
DAYTIME DSN PHONE:
EMAIL:

- 7) For questions, call me at DSN 944-4101, ext 445, or e-mail:
robert.boquist@mcguire.af.mil

- 8) This survey was approved by HQ AFPC/DPSAS, control number USAF SCN 01-135.

On a 10-point scale (1 is novice, 10 is expert), please rate your knowledge level for:

- 1) AMOS operations in garrison:
- 2) AMD command and control operations:
- 3) AMD airlift planning operations:
- 4) AMD tanker planning operations:
- 5) TACC command and control operations:
- 6) TACC airlift planning operations:
- 7) TACC tanker planning operations:

Please rate your level of agreement with the following statements using the scale below.

Note: For electronic responses, use the highlighter option to select your answers.

1	2	3	4	5	6	7
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Disagree nor Agree	Slightly Agree	Moderately Agree	Strongly Agree

8. Historically, AMC has used AMOS personnel (tanker, airlift, and C2) effectively to support AMD operations.	1	2	3	4	5	6	7
9. Tanker planners in the AMOS would be better used to support AMD operations if they were part of some other organization (NAF, TACC, etc.).	1	2	3	4	5	6	7
10. C2 personnel in the AMOS would be better used to support AMD operations if they were part of some other organization (NAF, TACC, etc.).	1	2	3	4	5	6	7
11. Airlift planners in the AMOS would be better used to support AMD operations if they were part of some other organization (NAF, TACC, etc.).	1	2	3	4	5	6	7
12. AMC's tanker planning expertise is used most effectively for contingency operations only when it is resident in the AMOS .	1	2	3	4	5	6	7
13. AMC's airlift planning expertise is used most effectively for contingency operations only when it is resident in the AMOS .	1	2	3	4	5	6	7

14. AMC's C2 expertise is used most effectively for contingency operations only when it is resident in the AMOS .	1	2	3	4	5	6	7
15. Assigning tanker planners to the NAFs on mobility status to support the AME is the best solution to implement current doctrine.	1	2	3	4	5	6	7
16. Assigning C2 personnel to the NAFs on mobility status to support the AMD is the best solution to implement current doctrine.	1	2	3	4	5	6	7
17. Assigning airlift planners to the NAFs on mobility status to support the AMD is the best solution to implement current doctrine.	1	2	3	4	5	6	7
18. Assigning tanker planners to the TACC on mobility status to support the AMD is the best solution to implement current doctrine.	1	2	3	4	5	6	7
19. Assigning C2 personnel to the TACC on mobility status to support the AMD is the best solution to implement current doctrine.	1	2	3	4	5	6	7
20. Assigning airlift planners to the TACC on mobility status to support the AMD is the best solution to implement current doctrine.	1	2	3	4	5	6	7
21. Assigning tanker planners to the AMOS on mobility status to support the AMD is the best solution to implement current doctrine.	1	2	3	4	5	6	7
22. Assigning C2 personnel to the AMOS on mobility status to support the AMD is the best solution to implement current doctrine.	1	2	3	4	5	6	7
23. Assigning airlift planners to the AMOS on mobility status to support the AMD is the best solution to implement current doctrine.	1	2	3	4	5	6	7

Please answer the following with your best estimate in percent of similarity between AMD and TACC: (0% to 100%)

24) What percentage of core tasks are the same when comparing AMD airlift planning functions with TACC airlift planning functions. _____

25) What percentage of core tasks are the same when comparing AMD tanker planning functions with TACC tanker planning functions. _____

26) What percentage of core tasks are the same when comparing AMD C2 functions with TACC C2 functions. _____

Please answer and elaborate on the following:

27) Other than an AMOS, a NAF, and the TACC, is there some other organizational structure AMC should put the tanker, airlift, and C2 pieces of the AMD in to be more effective? Discuss benefits and drawbacks you see.

28) If you could make any changes you wanted, name the most important things (3 maximum, please) you would change about the AMOS.

29) What benefits and drawbacks do you believe are inherent in the current structure (AMOS) for organizing, training, and equipping personnel to perform AMD duties?

30) What benefits and drawbacks do you believe are inherent in setting up a mobility arm of the NAF for organizing, training, and equipping personnel to perform AMD duties?

31) What benefits and drawbacks do you believe are inherent in setting up a mobility arm of the TACC for organizing, training, and equipping personnel to perform AMD duties?

After surveys are analyzed, you will receive your answers compared to a synopsis of those provided by other Air Force members taking the survey. At that time, you will have the option of revising your answers and providing additional input to support your answers.

THANK YOU for your time.

This concludes the survey.

Appendix B: Summary of Responses for Self-Rating of Knowledge

Question #:	1 (AMOS ops in garrison)	2 (AMD C2 ops)	3 (AMD airlift plans)	4 (AMD tanker plans)	5 (TACC C2 ops)	6 (TACC airlift plans)	7 (TACC tanker plans)	Total Score	Average Knowledge Level
Respondent #:									
1	10	10	10	9	10	10	8	67	9.57
2	10	10	8	8	10	8	8	62	8.86
3	10	10	9	9	7	7	7	59	8.43
4	10	10	7	8	9	7	6	57	8.14
5	8	8	8	6	8	8	6	52	7.43
6	9	9	9	9	5	5	5	51	7.29
7	8	8	6	8	7	6	6	49	7.00
Total	65	65	57	57	56	51	46	397	56.71
Average	9.29	9.29	8.14	8.14	8.00	7.29	6.57	56.71	8.10
Low Value	8	8	6	6	5	5	5	49	7.00
High Value	10	10	10	9	10	10	8	67	9.57
Range	2	2	4	3	5	5	3	18	2.57
8	6	8	3	8	7	3	8	43	6.14
9	3	7	6	7	7	6	4	40	5.71
10	10	10	7	3	7	2	1	40	5.71
11	8	7	4	4	8	4	4	39	5.57
12	8	3	3	7	4	4	8	37	5.29
13	8	7	3	8	6	2	2	36	5.14
14	3	3	5	3	5	9	6	34	4.86
15	2	4	4	6	4	4	9	33	4.71
16	2	5	3	4	6	5	5	30	4.29
17	6	5	2	5	5	2	5	30	4.29
18	4	3	3	3	7	3	7	30	4.29
19	2	4	5	4	5	4	4	28	4.00
20	3	3	3	3	5	5	5	27	3.86
21	4	4	3	2	6	5	3	27	3.86
22	2	5	3	7	3	4	2	26	3.71
23	5	4	4	2	4	4	2	25	3.57
24	2	2	3	3	3	3	4	20	2.86
25	2	3	3	1	4	4	2	19	2.71

Appendix C: Summary of Quantitative Responses

Question: Respondent:	8	9	10	11	12	13	14	15
1	4	5	7	7	2	1	1	1
2	2	6	6	6	2	2	2	4
3	2	7	7	7	2	2	2	3
4	3	1	2	2	3	3	3	1
5	2	6	6	6	6	6	6	1
6	6	7	7	7	2	2	2	6
7	4	7	7	7	1	1	1	7
Total	23	39	42	42	18	17	17	23
Average	3.29	5.57	6.00	6.00	2.57	2.43	2.43	3.29
Mode	2	7	7	7	2	2	2	1
Low Value	2	1	2	2	1	1	1	1
High Value	6	7	7	7	6	6	6	7
Range	4	6	5	5	5	5	5	6

Question: Respondent:	16	17	18	19	20	21	22	23
1	1	1	5	6	6	3	2	2
2	4	4	6	6	6	2	2	2
3	3	3	3	3	3	5	5	5
4	1	1	4	4	4	4	4	4
5	1	1	7	7	7	2	2	2
6	3	3	3	6	6	3	3	3
7	1	1	7	7	7	3	1	1
Total	14	14	35	39	39	22	19	19
Average	2.00	2.00	5.00	5.57	5.57	3.14	2.71	2.71
Mode	1	1	3	6	6	3	2	2
Low Value	1	1	3	3	3	2	1	1
High Value	4	4	7	7	7	5	5	5
Range	3	3	4	4	4	3	4	4

NOTE: Shaded responses indicate answers that fall more than two units from the mean of all responses.

Appendix D: Summary of Qualitative Responses

Question: Survey #:	27: Proposed alternate structure	28: What AMOS changes would you make?	29: Benefits / drawbacks to current structure	30: Benefits / drawbacks to NAF	31: Benefits / drawbacks to TACC
1	In theater, as in USAFE (perfect world, not realistic)	<p>1: Man this operational unit at 100% versus staff manning levels (621st currently 61%)</p> <p>2: Train better for mission</p> <p>3: Update DOC statement to reflect current doctrine</p>	<p>Benefits: NONE</p> <p>Drawbacks: No operational level training</p>	<p>Benefits: NONE</p> <p>Drawbacks: - AMC NAF/CC has no JFACC role - No expertise for organizing, training, or equipping - Never deploy under AMC NAF leadership</p>	<p>Benefits: - Access to AMC systems and training - Experience in daily ops issues - Current skills, procedures, and regulations - Perfect place for AME piece</p> <p>Drawbacks: - Risk of absorption - Reluctance to CHOP</p>
2	Place in TACC on mobility status	Co-locate with TACC	<p>Benefits: NONE</p> <p>Drawbacks: - Organization has no depth - Cannot train</p>	<p>Benefits: NONE</p> <p>Drawbacks: - Same problems exist as in AMOS</p>	<p>Benefits: - Better training - Direct link for issues - Larger pool to deploy - Bring AMD personnel together for standardization</p> <p>Drawback: Less command opportunity</p>

Question: Survey #:	27: Proposed alternate structure	28: What AMOS changes would you make?	29: Benefits / drawbacks to current structure	30: Benefits / drawbacks to NAF	31: Benefits / drawbacks to TACC
3	Combine both AMOSs into squadron at Scott AFB, make a DRU to TACC or AMC/DO	Man at 100%	Benefits: - Deploys as integral team if fully manned Drawbacks: - Due to poor manning, augmentation required to fill commitments	Benefits: NONE Drawbacks: - Severely limited due to ceiling of 99 personnel - Untenable OPTEMPO to fill taskings	Benefits: - Direct liaison with TACC for issues in contingency - Current on airlift issues, methods, and TACC mindset - Attuned to changes in planning and execution of missions Drawbacks: - Not all same computer systems - Vulnerable to manpower cuts if integrated into TACC

Question: Survey #:	27: Proposed alternate structure	28: What AMOS changes would you make?	29: Benefits / drawbacks to current structure	30: Benefits / drawbacks to NAF	31: Benefits / drawbacks to TACC
4	Hybrid combination of AMOS and TACC, at Scott AFB, single squadron DRU	<ol style="list-style-type: none"> 1. Man at 100% 2. Remove majority of communication assets from AMOS 3. Remove AMOSs from AMOGs and consolidate at Scott 	<p>Benefits: NONE</p> <p>Drawbacks: - No liaison with personnel doing like duty - No inherent training opportunities - No like mission with rest of AMOG - Mismatched missions of C2 and comm create disjunction</p>	<p>Benefits: NONE</p> <p>Drawbacks: - NAF has no capability to support a deployable organization</p>	<p>Benefits: - Ability to organize and train with a unit with like mission - Better trained AMD</p> <p>Drawbacks: Loss of identity as AMD could impact deployability</p>
5	Flight embedded in the TACC	Move organization and functions into TACC	<p>Benefits: Team concept within unit</p> <p>Drawbacks: - Not part of TACC "team" - Inability to build vital relationships for contingencies - Manpower</p>	<p>Benefits: NONE</p> <p>Drawbacks: - NAF not prepared for this responsibility - Re-inventing the wheel; Airlift division used to be under NAF, TACC was combined from these and has worked well.</p>	<p>Benefits: - Relationships with people in same functional areas; vital for contingency operations - Equipment, procedures, and policies standardized - Deployable capability more "seamless" with mother ship</p> <p>Drawbacks: Extremely susceptible to manpower cuts</p>

Question: Survey #:	27: Proposed alternate structure	28: What AMOS changes would you make?	29: Benefits / drawbacks to current structure	30: Benefits / drawbacks to NAF	31: Benefits / drawbacks to TACC
6	Combine both AMOSs into squadron at Scott AFB	<ol style="list-style-type: none"> 1. Combine both AMOSs into one unit 2. Move to Scott AFB 3. Make them more productive when not deployed 	Benefits: Team concept Drawbacks: <ul style="list-style-type: none"> - Underutilized manpower when not deployed - No real day-to-day continuation training - Far removed from NAF and TACC, no visibility on contingency requirements until deploying; results in poor support for warfighter 	Benefits: Working directly with NAF they will support in conflict; however AMC NAFs currently have no role in conflicts Drawbacks: Mobility personnel tend to get lost; they end up doing everything except mobility	Benefits: <ul style="list-style-type: none"> - Keeping current - Similar functions when deployed - Building relationships - Gainfully employed when at home - Some similar computer systems Drawbacks: Will become "lost" in TACC
7	Tanker cell in mobility NAFs; Airlift and C2 personnel to TACC; Comm in new AMOG squadrons, or make a DRU of TACC	<ol style="list-style-type: none"> 1: Disband 2: Interweave tanker capabilities with NAF 3: Only man with TALCE, TACC, or command post experienced people 	Benefits: NONE Drawbacks: Unit does not perform mission well; could be better elsewhere	Benefits: Good for tanker ops only Drawbacks: NAF has no contingency role	Benefits: TACC experience is invaluable Drawbacks: NONE

Appendix E: Aggregated Data and Controlled Feedback

Solution Attribute:	Combine both AMOSs into one unit.	Move capabilities to Scott AFB to co-locate with TACC	This operational level unit must be manned at 100%	Leave majority of communications capabilities in new AMOG squadron	Make new unit a DRU to TACC/CC or AMC/DO
Proposed By Respondents	3, 4, 5, 7,	1, 2, 3, 4, 5, 6, 7	1, 3, 4	4, 5, 6, 7	3, 4, 6, 7
Consensus in Round Two? NOTE: Asterisk denotes agreement to adopt solution, but with caveats	1, 2, 3, 4, 5, 6, 7	1, 2, 3, 4, 5, 6, 7	1, 2, 3, 4, 5, 6, 7	1, 2, 3, 4, 5, 6, 7	1*, 2*, 3, 4, 5, 6, 7
Caveats	NONE	NONE	NONE	NONE	<p>1. Potential for unit not to be integrated in TACC operations</p> <p>2. If TACC role is not part of primary duty, there is risk to “team concept”</p>

<p>Solution Attribute:</p>	<p><u>Benefits:</u></p> <ul style="list-style-type: none"> - Better systems training and expertise - Currency on airlift / tanker issues, policies, and regulations - Higher level top cover, more visibility on AMOS/AMD issues - Better standardization on AOC and AMD operations. - Better understanding of deployment CONOPS and requirements 	<p><u>Drawbacks:</u></p> <ul style="list-style-type: none"> - Less opportunity for command
<p>Consensus in Round Two?</p>	<p>1, 2, 3, 4, 5, 6, 7</p>	<p>1, 2, 3, 4, 5, 6, 7</p>

Appendix F: Compendium of Acronyms Used

AFB - air force base

ALCT - Airlift Control Team

AMC - Air Mobility Command

AMCT - Air Mobility Control Team

AMD - Air Mobility Division

AME - Air Mobility Element

AMOCC - Air Mobility Operations Control Center

AMOG - Air Mobility Operations Group

AMOS - Air Mobility Operations Squadron

AMS - Air Mobility Squadron

AOC - Air Operations Center

AOR - area of responsibility

ARCT - Air Refueling Control Team

C2 - command and control

CC - Commander

CHOP - change of operational control

CINC - commander in chief

COCOM - combatant command

COMAFFOR - Commander, Air Force Forces

CONOPS - concept of operations

CONUS - continental United States

DIRMOBFOR - Director of Mobility Forces

DO - director of operations

DOC - designed operational capability

DRU - direct reporting unit

GAMSS - Global Air Mobility Support System

JAOC - Joint Air Operations Center

JFACC- Joint Forces Air Component Commander

JFC - Joint Forces Commander

JTF - Joint Task Force

NAF - numbered air force

NCA - National Command Authority

OPCON - operational control

OPTEMPO - operations tempo

RAND - research and development (name of a research corporation)

SORTS - status of resources and training

TACC - Tanker Airlift Control Element

TACON - tactical control

TALCE - Tanker Airlift Control Element

USAF - United States Air Force

USAFE - United States Air Forces in Europe

USCENTCOM - United States Central Command

USCINCTRANS - Commander in Chief, United States Transportation Command

USEUCOM - United States European Command

USJFCOM - United States Joint Forces Command

USPACOM - United States Pacific Command

USSOUTHCOM - United States Southern Command

USTRANSCOM - United States Transportation Command

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Vita

Major Robert T. Boquist was born in Fort Campbell, Kentucky. He graduated from the Academy of Richmond County in Augusta, Georgia in June 1984, and earned the rank of Eagle Scout in August 1984. Major Boquist entered undergraduate studies in the Bell Honors Program at Georgia Southern University in Statesboro, Georgia. He graduated cum laude with a Bachelor of Science in Mathematics and cum laude with a Bachelor of Arts in German, both in June 1988. He was commissioned through Officer Training School at Lackland AFB, Texas, in May 1989, where he was recognized as a Distinguished Graduate and nominated for a Regular Commission.

His first assignment was at Vance AFB, as a student in Undergraduate Pilot Training in May 1989. He earned the aeronautical rating of Pilot in May 1990, and was assigned to the 8th Flying Training Squadron at Vance as a T-37B Instructor Pilot. In January 1993, he was assigned as a C-12F Aircraft Commander to the 13th Airlift Squadron, Kadena AB, Japan. In October 1993, upon unit closure, he was reassigned to the 15th Airlift Squadron, Charleston, South Carolina, flying the C-141B, in which he became an Evaluator Pilot. In February 1997, upon unit closure, he was assigned to the 821st Air Mobility Squadron, McGuire AFB, New Jersey, as a Tanker Airlift Control Element Commander, and Assistant Director of Operations. In May 2000, he entered the Advanced Study of Air Mobility at the Air Mobility Warfare Center, Fort Dix, New Jersey. Major Boquist is a Senior Pilot with over 2500 flying hours. Upon graduation, he will be assigned to Headquarters, Air Mobility Command, Scott AFB, Illinois.

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14. ABSTRACT Within Air Mobility Command, Air Mobility Operations Squadrons are tasked to fill core positions in the Air Mobility Division within a Joint Air Operations Center. Specifically, these positions include airlift planners, tanker planners, and command and control specialists. However, due to manpower and budget constraints, coupled with recent changes in doctrine, Air Mobility Command has not organized, trained, nor equipped its forces well to fill Air Mobility Division roles. This project explores alternative solutions to current structure for the Air Mobility Operations Squadrons using a two round Delphi study to generate consensus among a group of experts in Air Mobility I Operations Squadron, Tanker Airlift Control Center, and Air Mobility Division duties. The consensus of this panel provides the best current solution Air Mobility Command can employ to best organize its forces in peacetime to achieve greater wartime effectiveness. Respondents were chosen based upon an initial self-rating assessment of knowledge level in areas under study. The top seven respondents were then surveyed using quantitative and qualitative questions. Results were aggregated to generate controlled feedback. The feedback on group ideas was then given to respondents in a phone interview to generate consensus. This consensus forms the conclusions for the research.					
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