

The Civil Reserve Air Fleet: Trends and Selected Issues

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The Civil Reserve Air Fleet: Trends and Selected Issues

Executive Summary

The Civil Reserve Air Fleet (CRAF) is an essential component of the nation's strategic mobility forces, representing more than 90 percent of DoD's long-range international passenger airlift capability and one-third of its long-range international cargo airlift capability. In return for volunteering their aircraft, CRAF member airlines receive entitlements to DoD's peacetime charter airlift business¹ and the opportunity to compete for General Services Administration (GSA) air transportation contracts.

During the first half of the 1990s, the CRAF program successfully weathered its first activation, doubts about its future (expressed by the defense community), concerns about its policies (expressed by member airlines), fears of reduced funding for Air Mobility Command (AMC) peacetime charter airlift business, withdrawals from the program, and a deep financial crisis in the U.S. airline industry.

The program's success was facilitated by AMC initiatives to address airline industry concerns, spread the business risk associated with activation, and leverage available contract airlift funds. Prominent among these initiatives was making CRAF membership a prerequisite for award of GSA city-pairs and small-package contracts. CRAF's long-range international section responded promptly. Passenger participation now exceeds requirements. Cargo participation has grown substantially since the end of the Gulf War and now nearly meets requirements. While Stage III cargo capability falls slightly short of the requirement, AMC believes Stage III is unlikely to be activated under today's contingency scenarios.

In managing the CRAF program, AMC attempts to maintain a robust wartime capability and at the same time to obtain low-cost peacetime airlift for DoD customers. AMC's task is complicated not only by competing interests within the airline industry but also by other considerations:

- ◆ AMC would like to provide greater peacetime incentives and rewards for cargo carriers, but most peacetime requirements are for passenger airlift.
- ◆ AMC has no peacetime business that interests most major airlines. Since most of those airlines do not operate commercial charter missions, they choose not to operate AMC peacetime charter missions. Their principal

¹ DoD's charter airlift business is managed by Air Mobility Command.

financial incentive for joining CRAF is the opportunity to compete for GSA air transportation contracts. Revenue from GSA contracts far exceeds revenue from AMC peacetime charter contracts.

- ◆ For its charter missions, AMC compensates carriers under a set of uniform rates based on a weighted average of carrier costs. The weighting factor is each carrier's recent AMC charter revenue. Nonmajor airlines — some of whom have substantially lower-than-average costs — fly most of AMC's peacetime missions, receive the vast majority of AMC charter revenue, and therefore shape AMC's uniform rates. As a result, AMC's rates may not adequately compensate other airlines that would fly many of the missions once CRAF is activated.
- ◆ A number of airlines consider AMC's process for allocating charter business to be unnecessarily complicated, and some believe the process unfairly allows airlines that win GSA contracts to gain additional financial benefits at the expense of others.
- ◆ Activating CRAF can adversely affect individual airlines as well as the domestic and international economies. Full Stage III activation would withdraw from commercial service almost half of the U.S. airline industry's long-range international passenger capability and nearly two-thirds of its long-range international cargo capability.

On several issues, AMC clearly faces risks if it fails to act. However, because of the complexities of the CRAF program and the airline industry, AMC can also introduce new risks if it does act. Consequently, AMC must consider each proposed initiative from the perspective of all affected interest groups:

- ◆ We believe the most positive step AMC can take is to ensure that airlines receive adequate compensation when they fly AMC missions, either in peacetime or as a result of a CRAF activation. Alternative courses of action range from eliminating uniform rates in favor of individual, negotiated rates, to making uniform rates more representative of actual operating costs of all participating carriers. Any of several alternatives would provide AMC with better visibility over which airlines would be at financial risk as a result of activation.
- ◆ We believe AMC should also evaluate several possible courses of action that might remove even the perception that airlines winning GSA contracts unfairly gain additional financial benefits at the expense of others.
- ◆ Unfortunately, AMC has no practical near-term options for adding new sources of cargo airlift capability — and thereby lessening the financial risks of activation for both individual carriers and the economy. However, over the next 20 years, prospects are good that global air cargo business will triple and the world freighter fleet will double.

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Foreword

Since its inception in 1987, Logistics Management Institute's independent research and development (IR&D) program has provided funding for research on major logistics policy issues. The objective of this IR&D report is to clarify and assess selected airline industry issues related to the long-term health of the Civil Reserve Air Fleet (CRAF) program.

We undertook this effort because of our long-standing interest in strategic mobility and our concern for the robustness of the CRAF program:

- ◆ LMI's broad program in strategic mobility includes an earlier CRAF report; previous work related to the *DoD Mobility Requirements Study*, the Air Force's *Gulf War Air Power Survey*, and the *DoD Mobility Requirements Study Bottom-Up Review*; a wide variety of continuing projects for the Army Strategic Mobility Program; current work on mobility modeling and simulation; and ongoing work with the DoD Advanced Research Projects Agency on breakthrough transportation technologies.
- ◆ In the early 1990s, Air Force-sponsored studies questioned the long-term viability of a sizable CRAF. That uncertainty was precipitated by commercial air carrier concerns about actual, perceived, and potential adverse economic impacts from the first activation in the program's history. Additionally, Air Mobility Command faced the prospect of a decline in its peacetime international charter business which has served as an incentive to attract and sustain carrier participation. Furthermore, between 1990 and 1994, the U.S. airline industry experienced record financial losses.

This report discusses background information, recent trends, and current issues in the CRAF program as well as decisions affecting its future. Throughout, we have attempted to balance the interests of the government with those of the U.S. airline industry on which the CRAF program depends.

CHAPTER 1

Introduction

Because of changes in the international environment, U.S. military presence overseas has decreased significantly in recent years. With fewer forces permanently stationed overseas, the United States must proportionately increase its capability to project forces abroad. To accomplish that, DoD is pursuing four primary strategic mobility enhancements: increased airlift capability, additional pre-positioning of heavy equipment, increased surge sealift capacity, and a more ready and responsive sealift Ready Reserve Force.¹

Of these four enhancements, increasing airlift capability is the most costly. As the C-141 fleet approaches the end of its service life, DoD faces substantial investment requirements merely to sustain its current level of organic airlift capability.

During national crises, the Civil Reserve Air Fleet (CRAF) provides commercial augmentation for DoD military airlift. CRAF consists of commercial air carriers that voluntarily commit passenger and cargo aircraft to support airlift requirements that exceed the capabilities of Air Force organic aircraft.²

CRAF is an essential and cost-effective component of the nation's military airlift capability. When fully activated, CRAF represents 93 percent of DoD total passenger airlift capability and 35 percent of DoD total cargo airlift capability.³ The government does not have to buy, operate, or maintain these aircraft. In return for participation, CRAF member airlines receive entitlements to DoD's peacetime charter airlift business.⁴ Those airlines also receive the opportunity to compete, on a price and service basis, for General Services Administration air transportation contracts.

Air Force-sponsored studies have questioned the long-term viability of a sizable CRAF.⁵ Because National Military Strategy relies on strategic mobility more heavily today than ever before, strengthening partnership with the

¹ Chairman of the Joint Chiefs of Staff, *National Military Strategy of the United States of America: A Strategy of Flexible and Selective Engagement*, Washington, D.C., February 1995, pp. ii and 7.

² Appendix A presents basic details of CRAF structure, including segments, sections, stages, and activation authority.

³ Air Mobility Command estimates as of 1 October 1995.

⁴ DoD's charter airlift business is managed by Air Mobility Command.

⁵ RAND Report AR-3900-AF, *Project AIR FORCE Annual Report, Fiscal Year 1993*, p. 65.

U.S. airline industry is a major challenge facing DoD, the U.S. Transportation Command (USTRANSCOM), and Air Mobility Command (AMC).

The early 1990s strained this partnership more than any other period in the history of CRAF. The decade began with the first activation in the program's history. Commercial air carriers responded promptly for Operation Desert Shield and performed effectively throughout the Gulf War, but they expressed concerns about a variety of issues. Shortly after the war, major passenger carriers American and United Airlines dropped out of the program. To address airline concerns and revitalize participation, DoD, USTRANSCOM, and AMC launched a number of initiatives, and those actions began to show results in FY95. American and United rejoined CRAF, and long-range international passenger and cargo participation levels both nearly met stated requirements.

From 1990 through 1994, the U.S. airline industry experienced a deep financial crisis, losing \$13 billion. To restore economic health, U.S. airlines undertook aggressive cost-cutting campaigns. Aided by a recovering economy, airline efforts began to bear fruit in 1995 when the industry earned record high second and third quarter profits.

Although CRAF participation and airline industry profits both rebounded strongly in 1995, a number of issues remain. Not all airline concerns have been resolved, and the airline industry still faces some major financial issues. Nevertheless, there are bright spots for FY96. CRAF passenger capability substantially exceeds requirements. Although cargo capability dropped sharply when Federal Express cut its participation by more than 50 percent, it quickly returned to FY95 levels when a startup cargo carrier joined the program.

This report focuses on current trends and some of the issues that could threaten CRAF's future ability to provide essential long-range international passenger and cargo airlift in times of crisis:⁶

- ◆ Chapter 2 provides background information. It first identifies some of the factors that shape an airline's economic perspective. It then describes events of the early 1990s which heightened airline awareness of the economic risks involved in CRAF participation.
- ◆ Chapter 3 looks at today. It discusses recent participation trends and current economic issues that concern member airlines.
- ◆ Chapter 4 turns to the future. It considers decisions facing AMC and presents several alternative courses of action.

⁶ This report is concerned with strategic mobility and therefore deals exclusively with the long-range section of CRAF's international segment.

CHAPTER 2

Background

For most airlines, patriotism is the principal motivation for joining CRAF. However, once an airline has joined, its behavior is strongly influenced by economic concerns. Experience has shown that when it perceives the economic risks to be too great, an airline will either reduce its participation or withdraw from the program.

This chapter takes a brief look at three areas with economic implications for CRAF member airlines:

- ◆ Distinctions among the interests of different airlines participating in CRAF
- ◆ Problems associated with the first and only CRAF activation
- ◆ Airline financial difficulties in the early 1990s.

AIRLINE INDUSTRY INTEREST GROUPS

Within the U.S. airline industry, there are distinctions among the interests of

- ◆ major airlines and nonmajor airlines,
- ◆ passenger carriers and cargo carriers, and
- ◆ wide-body aircraft operators and narrow-body aircraft operators.¹

¹ Major airlines are those with annual revenue greater than \$1 billion. As of 1 January 1996, major passenger carriers belonging to the CRAF international segment, long-range section, included American Airlines, Continental Airlines, Delta Air Lines, Trans World Airlines, and United Airlines. Major cargo carriers included Federal Express Airlines and United Parcel Service Airlines. One major airline, Northwest Airlines, committed both passenger and cargo capability. Nonmajor passenger carriers included American Trans Air, Carnival Air Lines, North American Airlines, and Sun Country Airlines. Nonmajor cargo carriers included Air Transport International, Airborne Express, American International, Burlington Air Express, Atlas Air, Buffalo Airways, DHL Airways, Emery Worldwide, Evergreen International Airlines, Polar Air Cargo, Southern Air Transport, and Zantop International Airlines. Three nonmajor airlines, Rich International Airways, Tower Air, and World Airways, committed both passenger and cargo capability.

The Air Transport Association represents the interests of most major airlines. Its members transport passengers, cargo, and mail between fixed terminals on regular schedules. The National Air Carrier Association (NACA) represents the interests of many nonmajor airlines. Its members are a mix of narrow-body and wide-body aircraft operators. They specialize in low-cost passenger and cargo services in both domestic and international markets. All NACA members belong to the CRAF. When NACA was founded in 1962, its members were restricted to charter-only operations. Since deregulation of the U.S. airline industry, NACA members have expanded their services to include some scheduled operations.

GULF WAR ACTIVATION EXPERIENCE²

For the first 38 years of its existence, CRAF was never activated. Whenever a contingency arose, commercial carriers always volunteered all the airlift needed to augment the organic military airlift force. However, during preparations for the Persian Gulf War, the Commander in Chief, Military Airlift Command (CINCMAC), concluded that the combined volunteer commercial lift and organic military airlift force could not meet both deployment and other traffic requirements simultaneously. To provide the necessary additional long-range airlift, CINCMAC activated CRAF Stage I in August 1990. The Secretary of Defense activated the Stage II cargo portion in January 1991 and approximately half of the passenger portion in March 1991. Deactivation was ordered in May 1991.³

Different Interest Groups Contribute

During Operations Desert Shield and Desert Storm, U.S. commercial carriers provided *passenger* airlift through a combination of volunteered capability, CRAF Stage I for nine months, and approximately half of CRAF Stage II for two months. They provided *cargo* airlift through a combination of volunteered capability, CRAF Stage I for nine months, and CRAF Stage II for four months.

² This account is purposely abbreviated. For more detail, we suggest: Lieutenant Colonel William H. Sessoms, USAF, and Lieutenant Colonel Thomas J. Maxson, USAF, *Civil Reserve Air Fleet: Looking From Desert Storm to the Future*, Carlisle Barracks, Pennsylvania: U.S. Army War College, 1992; United States General Accounting Office Report GAO/NSIAD-93-12, *MILITARY AIRLIFT: Changes Underway to Ensure Continued Success of Civil Reserve Air Fleet*, Washington, D.C., December 1992; and Mary E. Chenoweth, *The Civil Reserve Air Fleet and Operation Desert Shield/Desert Storm: Issues for the Future*, RAND Report MR-298-AF, 1993.

³ Air Mobility Command, *Air Mobility Master Plan*, Scott Air Force Base, Illinois, 15 October 1993, p. 4-16. Also GAO Report GAO/NSIAD-93-12, pp. 4-5. After the Gulf War, the Military Airlift Command and the Strategic Air Command were inactivated on 1 June 1992. Most responsibilities and resources for airlift and air refueling were transferred to the Air Mobility Command, which was activated on the same date.

Based on data from 7 August 1990 through 4 April 1991, wide-body aircraft flew more than 60 percent of all commercial missions, delivered almost 98 percent of the commercially deployed passengers, and delivered almost 80 percent of the commercially deployed cargo tonnage.⁴ Based on data through June 1991, major airlines operated over 60 percent of the commercial passenger missions and approximately 30 percent of the commercial cargo missions.⁵

Airlines Discover Problems

The Gulf War highlighted both strengths and weaknesses in the CRAF program. Commercial air carriers performed effectively as they deployed 67 percent of all passengers and 25 percent of all air cargo, then redeployed 85 percent of all passengers and 42 percent of all air cargo.⁶ However, actual activation surprised a number of airlines, especially passenger carriers. Many airlines expressed strong concerns about insurance coverage gaps for both aircraft and aircrews, underutilization of aircraft, compensation for extraordinary expenses, business losses during activation, and joint venture liability.⁷

During the Gulf War activation, business losses occurred for a number of reasons:

- ◆ Air passenger business was down because of the continuing recession and heightened public concern over the Gulf War. International business travel dropped significantly, especially for U.S. and British airlines. Carriers most seriously affected were those supporting MAC or serving Middle East routes, where the threat of terrorism was greatest. Some nonmajor airlines were especially happy to get government business through the CRAF program.
- ◆ Activation removed aircraft from commercial service during the Thanksgiving and Christmas holiday travel and package shipping seasons.
- ◆ Excess capacity helped airlines limit disruptions caused by the buildup and the war, as did the extended buildup period and the orderly prosecution of the war. Nevertheless,

⁴ Lieutenant Colonel Bill Ewing, USAF, and Lieutenant John Walker, USAF, *Eight Months of Desert Shield/Storm*, Scott Air Force Base, Illinois: HQ MAC Command Analysis Group, June 1991, pp. 4-7.

⁵ Data provided by Federal Express charter programs personnel during meeting on 22 June 1995.

⁶ *Air Mobility Master Plan, op. cit.*, pp. 4-17.

⁷ GAO Report GAO/NSIAD-93-12, p. 7.

- meeting CRAF commitments left scheduled passenger carriers with no flexibility to meet holiday passenger demands, and
- United Parcel Service had to lease additional aircraft to handle commercial business and at the same time honor CRAF commitments.
- ◆ Many airlines claimed business losses to non-CRAF or foreign competitors.
- ◆ Foreign cargo carriers required some customers to sign long-term contracts, so those customers could not immediately return to U.S. carriers after CRAF deactivation.⁸

Unfortunately, airlines could not quantify losses due solely to CRAF activation because they were indistinguishable from losses due to the recession.⁹

From FY90 through FY92, the CRAF operated on the only multiyear contract in the program's history. Consequently, despite airline industry concerns raised during the Gulf War, CRAF participation remained stable. At the start of FY93, Stage III passenger capability stood at nearly 200 B747-100 equivalents. However, by the start of FY94, major carriers American Airlines and United Airlines had completely withdrawn from the program, and Stage III passenger capability had fallen to 120 B747-100 equivalents.¹⁰ Also during the early 1990s, because of continuing and predicted further U.S. force reductions, airlines expected a decline in funds for AMC's peacetime contract airlift services, traditionally regarded as the primary incentive for CRAF participation.

DoD, USTRANSCOM, and AMC Respond

To increase participation, address airline concerns, spread the business risk associated with activation, and leverage the remaining contract airlift funds, DoD, USTRANSCOM, and AMC undertook initiatives which included

- ◆ expanding DoD-backed aircraft insurance to provide more comprehensive coverage of contract airlift missions during CRAF activation;

⁸ *Ibid.*, p. 8. Also Evelyn Thomchick, "The 1991 Persian Gulf War: Short-Term Impacts on Ocean and Air Transportation," *Transportation Journal*, 33/2 (Winter 1993), pp. 15, 25-26.

⁹ GAO Report GAO/NSIAD-93-12, p. 8.

¹⁰ AMC HQ Form 312, *Civil Reserve Air Fleet (CRAF) Capability Summary*, HQ AMC/DOF, 1 October 1992 and 1 October 1993. AMC measures aircraft capabilities in comparison to B747-100 passenger and cargo models. On 1 October 1992, AMC considered one DC10-30 passenger model equivalent to 0.770 of a B747-100 passenger model. Similarly, AMC considered one DC10-30 cargo model equivalent to 0.787 of a B747-100 freighter.

- ◆ extending availability of DoD-backed aircraft insurance to include not only periods when CRAF is activated but also designated periods when CRAF is not activated but airlines are providing volunteer lift;
- ◆ supplementing inadequate Federal Aviation Administration (FAA) aircraft insurance reserves with defense business operating fund (DBOF) reserves to indemnify airlines for aircraft losses;
- ◆ for activated aircraft from the international segment, long-range section, guaranteeing airlines compensation for a minimum of eight hours average daily utilization;
- ◆ guaranteeing airlines at least 15 days advance notice prior to deactivation;
- ◆ establishing minimum commitment levels — 30 percent of passenger fleets and 15 percent of cargo fleets — as prerequisites for membership in CRAF;
- ◆ requiring CRAF membership for all carriers operating transport category aircraft and seeking DoD airlift business;
- ◆ eliminating the DoD program to prepurchase blocks of passenger seats on scheduled international routes and requiring DoD personnel to use the GSA city-pairs program for international as well as domestic travel;¹¹
- ◆ linking eligibility for GSA contracts — both passenger and freight — to CRAF participation;
- ◆ reevaluating passenger lift requirements based on the DoD 1994 *Mobility Requirements Study Bottom-Up Review Update* and, consequently, reducing total passenger aircraft requirements from 210 to 136 B747-100 passenger equivalents; and
- ◆ introducing a small number of nontraditional incentives (such as allowing commercial carriers to use military airfields as weather alternates when filing flight plans) to encourage CRAF participation.

Those initiatives began to show results in FY95. American Airlines and United Airlines rejoined CRAF, and overall participation rose to a level that nearly met stated requirements for both passenger and cargo capability.

¹¹ Under its city-pairs program, GSA annually solicits competitive bids from U.S. commercial carriers to provide reduced-fare air transportation for government employees traveling on official business between specified city pairs. When traveling on official business by air between those specified city pairs, government employees are expected to use the GSA-designated carrier.

Some Concerns Linger

The FAA and DoD regard the DBOF backup to FAA aircraft insurance reserves as a temporary approach, and both are searching for a more enduring solution.¹² The FAA considered proposing legislation to establish permanent borrowing authority for aircraft indemnification, but that idea was disapproved by the Office of Management and Budget. DoD subsequently proposed legislation authorizing the Secretary of Defense to use any DoD appropriated funds for indemnification purposes. Congress is currently considering that proposal.

Some airlines are still concerned about loss of market share during periods of activation. Also, when commercial air carriers respond to AMC calls for volunteer lift during crises or contingencies, they receive no legal relief from obligations to honor other contractual commitments, and they are not guaranteed any minimum level of aircraft utilization or revenue.¹³

Although it has come slowly, some progress has been made on the issue of insurance for crew members. The FAA has authority to issue replacement coverage upon the request of individual airlines and AMC. DoD must reimburse the FAA for any claims paid under that coverage. The FAA recently presented to the airline industry a proposal which included these provisions:

- ◆ DoD-backed insurance will be available for crew members or associated contractor personnel during the same CRAF missions or voluntary DoD contract flights where DoD-backed aircraft insurance is available for carriers.
- ◆ DoD-backed insurance will be replacement coverage only, on the same terms and conditions (minus a war-risk exclusion) as the commercial coverage lost while on or performing these DoD missions.
- ◆ Commercial coverage to be supplemented is limited to full-time policies for life insurance, accidental death and dismemberment, and business travel accident insurance. Policies must have been purchased by the individual

¹² "US Seeks Funds to Cover Military Use of Civilian Jets," *Journal of Commerce*, 19 July 1995, p. 7.

¹³ Meeting with National Air Carrier Association executives and member airline representatives, 5 January 1995.

and have been in effect for at least three months prior to CRAF activation or the start of voluntary contingency lift.

- ◆ The maximum coverage for one individual will be the face value of all replaced coverage or \$1 million, whichever is less.¹⁴

AIRLINE INDUSTRY FINANCES¹⁵

Airlines Respond to Record Losses

From 1990 through 1993, the U.S. airline industry lost nearly \$13 billion. Despite predictions for a profitable 1994, the industry lost another \$100 million.¹⁶ According to industry experts, a number of factors precipitated this financial crisis. Among those factors were leveraged buyouts that produced oppressive debt burdens and ill-timed expansion that led to excess capacity. The problem of excess capacity was exacerbated by the Persian Gulf War, which doubled fuel prices and discouraged air travel, and by the U.S. recession, which also discouraged air travel.¹⁷

During this period, U.S. airlines undertook aggressive cost-cutting campaigns. They attempted to restore economic health by

- ◆ curtailing capacity growth by grounding aircraft (some temporarily, others permanently), delaying new aircraft deliveries, and canceling new aircraft orders;
- ◆ reducing or eliminating unprofitable smaller hubs;
- ◆ handing off spoke routes to regional partners with aircraft better matched to market size;
- ◆ seeking wage and work rule concessions from unions; and

¹⁴ Letter, from Louise E. Mailett, Deputy Assistant Administrator for Policy, Planning, and International Aviation, Federal Aviation Administration, Re: CRAF Employee Life Insurance Endorsement, to Brigadier General Thomas L. Hemingway, Chief Counsel, USTRANSCOM, 24 March 1995. Also briefing, by Ken Harris, FAA, "Chapter 443, 49 U.S. Code Insurance Issues," to the 1995 Civil Reserve Air Fleet Mobilization Representatives' Conference, 26 September 1995.

¹⁵ This account is purposely abbreviated. For more detail, we suggest: The National Commission to Ensure a Strong Competitive Airline Industry, *Change, Challenge and Competition: A Report to the President and Congress*, Washington, D.C., August 1993.

¹⁶ "Global Airline Industry Predicts Soaring Profits," *Journal of Commerce*, 27 April 1995, p. 8A.

¹⁷ "Why Air Travel Doesn't Work," *Fortune*, 3 April 1995, p. 44. Also Delta Airlines, *Testimony of Ronald W. Allen Before the House Aviation Subcommittee on Financial Condition of the Airline Industry*, 17 February 1993, pp. 7-12.

- ◆ furloughing employees.¹⁸

These initiatives began to bear fruit in 1995 when the industry earned its highest second and third quarter profits ever.¹⁹

Some Problems Remain

At least in part, the current turnaround can be attributed to something the airlines do not control — fuel prices which are at a ten-year low.²⁰ In 1993, the federal government increased aircraft fuel taxes for domestic flights by 4.3 cents a gallon, but airlines were granted an exemption until October 1995.²¹ The airlines are now paying this increased tax, but the industry is working to get the increase repealed or the exemption extended. The outcome is still uncertain.

As a whole, the airline industry has never been highly profitable. Since 1970, it has never had more than three consecutive years of growing profits.²² In 1988, previously the industry's best year ever, its profit margin was only half what businesses in the Standard & Poor's 500 index averaged for the entire previous decade.²³

As long as operations remain profitable, airlines will find it difficult to gain further concessions from unions.

Oppressive debt burdens continue to plague many airlines. Between 1988 and 1995, the combined debt for American, United, Delta, and Northwest grew from \$14 billion to \$44 billion. During that same period, their combined equity dropped from \$9 billion to \$6 billion.²⁴

At the start of 1995, over 25 percent of commercial aircraft in service in the United States were more than 20 years old.²⁵ Airlines that can afford it are

¹⁸ Department of Transportation, *Airline Industry Overview: Factors Affecting Carrier Profitability and Financing of Capital Investments*, issue paper prepared for The National Commission to Ensure a Strong Competitive Airline Industry, 1993, pp. 8-9. Also *Change, Challenge and Competition: A Report to the President and Congress*, p. 13.

¹⁹ "Executive Summary," *The Airline Monitor*, December 1995, p. 11.

²⁰ "Profits Take Off, But Will the Flight Last?" *Washington Post*, 28 July 1995, p. C2.

²¹ "Global Airline Industry Predicts Soaring Profits," *Journal of Commerce*, 27 April 1995, p. 8A.

²² "U.S. Airline Profitability May Be Short-Lived," *Aviation Week & Space Technology*, 13 March 1995, p. 45.

²³ "Recovery in the Air: Airlines See A Profitable Year for a Change," *Wall Street Journal*, 27 March 1995, p. A12.

²⁴ *Ibid.*

²⁵ "Why Air Travel Doesn't Work," *Fortune*, 3 April 1995, p. 46.

modernizing their fleets to increase operating efficiency and reduce maintenance costs. Those that cannot still face substantial capital requirements to meet noise and maintenance mandates. Airlines must spend billions by the end of the decade for new aircraft and other equipment.²⁶

²⁶ *Change, Challenge and Competition: A Report to the President and Congress*, pp. 13-14.

CHAPTER 3

Current Trends and Issues

This chapter focuses on the following current trends and issues that affect the international segment, long-range section of CRAF:

- ◆ Participation trends among airline industry interest groups
- ◆ AMC's method for awarding long-range international charter business to CRAF participants
- ◆ AMC's method of calculating compensation rates for long-range international charter airlift services
- ◆ Distribution of AMC long-range international charter revenue among interest groups
- ◆ The potential economic impact of CRAF activation.

PARTICIPATION

Passenger Carrier Participation

In both FY95 and FY96, participation by passenger carriers met the long-range international capability requirements for CRAF Stages I and II.

At the beginning of FY95, passenger carrier participation nearly met long-range international capability requirements for Stage III (128 committed out of 136 required B747-100 passenger equivalents), even with only one major carrier participating above the 30 percent minimum commitment level.¹ Two major factors helped make this high level of participation possible:

- ◆ Major passenger carriers American Airlines and United Airlines rejoined the program (and United participated at the 40 percent commitment level). That more than offset Northwest's decision to cut its participation from 100 percent to the minimum 30 percent.
- ◆ Subsequent to DoD's 1994 *Mobility Requirements Study Bottom-Up Review Update*, USTRANSCOM recommended and the Joint Staff agreed to reduce

¹ *Civil Reserve Air Fleet (CRAF) Capability Summary*, HQ AMC/DOF, 1 October 1994.

total passenger requirements from 210 to 136 B747-100 passenger equivalents.

Between 1 October 1994 and 1 October 1995, the number of B747-100 passenger equivalents committed to Stage III grew from 128 to 163. That can be attributed principally to the fact that Northwest Airlines increased commitment of its long-range international passenger capability back to 100 percent. For FY96, Northwest's additional commitment included 20 B747-200s and 5 more DC10s. Continental Airlines also added 15 B757s to Stage III.²

Figure 3-1 reflects passenger capability trends over the past four fiscal years. Stage I and Stage II participation levels have grown slightly. At the first opportunity after the Gulf War, some carriers sharply cut their Stage III participation. However, Stage III participation picked up in FY95 and again in FY96.

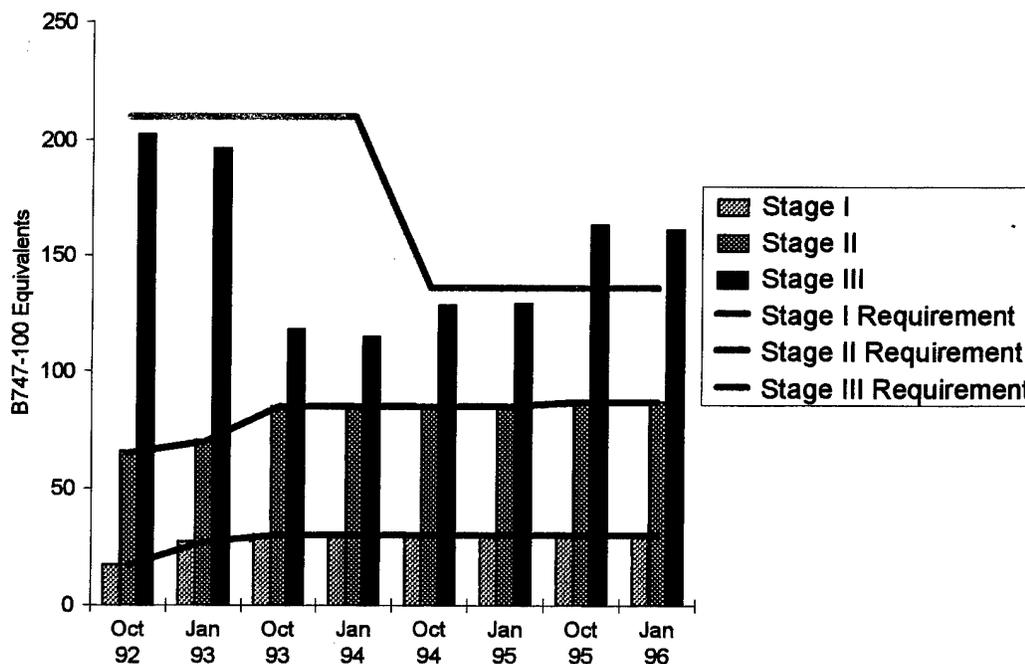


Figure 3-1.
FY93-FY96 Trends in CRAF Passenger Capability: Long-Range International Segment

² *Civil Reserve Air Fleet (CRAF) Capability Summary*, HQ AMC/DOF, 1 October 1994 and 1 October 1995.

Cargo Carrier Participation

For both FY95 and FY96, participation by cargo carriers met the long-range international capability requirements for CRAF Stages I and II.

At the beginning of FY95, cargo carrier participation also nearly met long-range international capability requirements for Stage III (116 committed out of 120 required B747-100 freighter equivalents). A significant portion of that capability was committed by a single major carrier — Federal Express.³

However, as may be seen in Figure 3-2, between 1 October 1994 and 1 October 1995, the number of B747-100 freighter equivalents committed to Stage III decreased from 116 to 100. That can be attributed principally to the fact that FedEx cut its commitment of long-range international cargo capability from 100 percent to 44 percent. At the beginning of FY95, FedEx contributed 10 of 22 actual wide-body cargo aircraft in Stage I, 25 of 53 in Stage II, and 52 of 86 in Stage III. At the beginning of FY96, FedEx contributed 7 of 24 actual wide-body cargo aircraft in Stage I, 20 of 56 in Stage II, and 30 of 78 in Stage III.⁴ Increased participation by both major and nonmajor cargo carriers maintained overall capability levels within Stages I and II.⁵

None of the carriers that were CRAF members at the time appeared to be realistic candidates to replace the Stage III wide-body cargo capability withdrawn by FedEx. Nonmajor members had already committed much of their long-range international cargo capability. Northwest and United Parcel Service were the only other major members with long-range international cargo capability, and Northwest had already committed most of its cargo fleet. UPS had consistently indicated that it did not intend to participate beyond the required 15 percent minimum commitment level unless it won a GSA small-package contract.

Some new nonmajor cargo carriers became eligible for membership at the start of calendar year 1996. Polar Air Cargo joined in January and committed 12 B747-100 freighters to Stage III.⁶ AMC expects other carriers to join soon and to commit at least 4 B747-100 freighter equivalents to Stage III.

Figure 3-2 reflects cargo capability trends over the past four fiscal years. Stage I capability has nearly doubled, Stage II capability has nearly tripled, and Stage III capability has grown by more than 25 percent. Capability growth in all stages has been steady, except for Stage III in FY96.

³ *Civil Reserve Air Fleet (CRAF) Capability Summary*, HQ AMC/DOF, 1 October 1994.

⁴ These are actual wide-body aircraft, not B747-100 freighter equivalents. FedEx's long-range international cargo fleet consists primarily of DC10 and MD11 aircraft.

⁵ *Civil Reserve Air Fleet (CRAF) Capability Summary*, HQ AMC/DOF, 1 October 1994 and 1 October 1995.

⁶ *Civil Reserve Air Fleet (CRAF) Capability Summary*, HQ AMC/DOF, 1 January 1996.

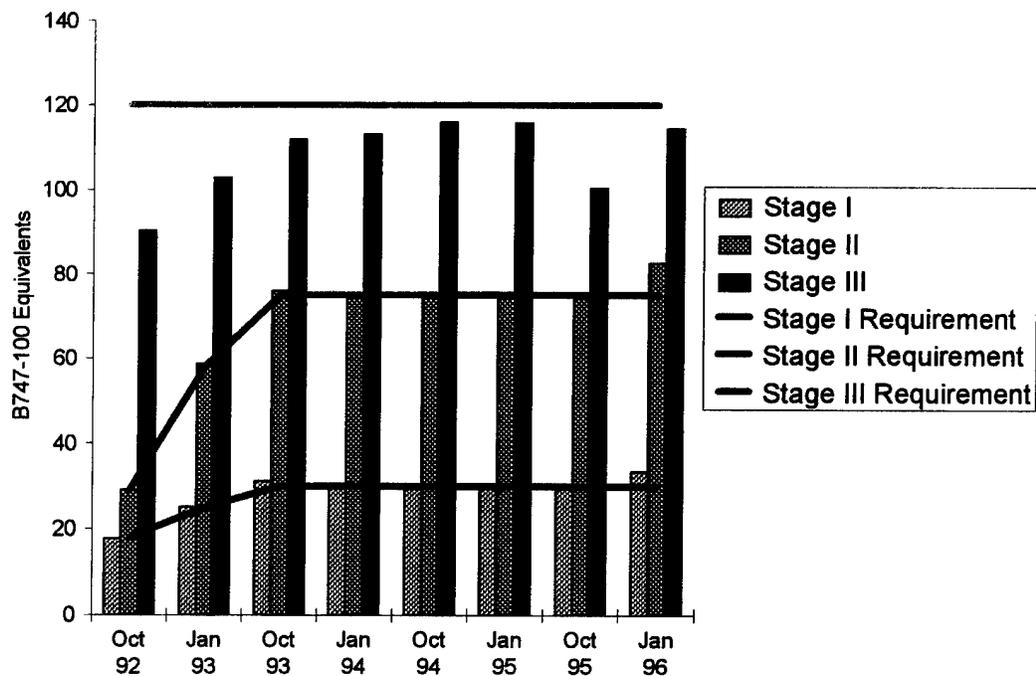


Figure 3-2.
FY93-FY96 Trends in CRAF Cargo Capability: Long-Range International Segment

Shortly after the end of the Gulf War, AMC recognized the political and economic realities surrounding CRAF activation and acknowledged that Stage II is probably the maximum level of activation under today's contingency scenarios. Consequently, early in FY93, AMC doubled the long-range international cargo capability of Stage II.⁷ Today, Stage II capability is only slightly less than Stage III capability at the end of the Gulf War.

Major and Nonmajor Airline Participation

With the exception of Continental Airlines' B757s, nonmajor airlines provide all of the narrow-body capability in the long-range international section of CRAF.⁸ For passenger lift, only a small portion of the committed aircraft are narrow bodies; for cargo lift, more than a third of the committed aircraft in each stage are narrow bodies.

⁷ *Air Mobility Master Plan, op. cit.*, p. 4-17.

⁸ *Civil Reserve Air Fleet (CRAF) Capability Summary*, HQ AMC/DOF, 1 January 1996.

Volunteer lift capability comes principally from nonmajor airlines. Those airlines commit most of their long-range international capability to the earlier stages of CRAF. According to a NACA spokesman, that commitment is a conscious decision to demonstrate dedication and flexibility. Additionally, according to the spokesman, nonmajor airlines absorb the "first risk" of activation, thereby insulating major airlines somewhat from potential business losses. However, nonmajor airlines also have an undeniable economic motivation to commit their aircraft to Stage I: in determining entitlements to AMC peacetime charter business, aircraft offered and accepted into Stage I count twice as much as similar aircraft offered and accepted into Stages II and III.

In the long-range international passenger subsection, nonmajor airlines provide most of the capability in Stage I. Major airlines commit only one aircraft each to Stage I; however, they provide the overwhelming majority of capability in Stages II and III. Aircraft committed to the CRAF long-range international passenger subsection as of 1 January 1996 are shown in Table 3-1.

Table 3-1.
CRAF Long-Range International Passenger Subsection Participation for FY96 by Aircraft Body Type, Airline Type, and CRAF Stage

Aircraft body type	Airline type (# of airlines)	Stage I	Stage II	Stage III
Narrow body	Nonmajor (3)	7	7	15
	Major (1)	0	0	15
Wide body	Nonmajor (6)	34	36	49
	Major (6)	6	73	175

Note: Totals by stage are cumulative, not incremental. Aircraft committed to Stage I are also included in Stage II, and aircraft committed to Stage II are also included in Stage III.

Source: AMC HQ Form 312, *Civil Reserve Air Fleet (CRAF) Capability Summary*, HQ AMC/DOF, 1 January 1996.

In the long-range international cargo subsection, nonmajor airlines provide most of the capability and most of the wide-body aircraft in all stages. Aircraft committed to the CRAF long-range international cargo subsection as of 1 January 1996 are shown in Table 3-2.

Table 3-2.
CRAF Long-Range International Cargo Subsection Participation
for FY96 by Aircraft Body Type, Airline Type, and CRAF Stage

Aircraft body type	Airline type (# of airlines)	Stage I		Stage II		Stage III	
		# of Acft	% of stage ton-mile capability	# of Acft	% of stage ton-mile capability	# of Acft	% of stage ton-mile capability
Narrow body	Nonmajor (10)	14	18	51	25	81	27
	Major (0)	0		0		0	
Wide body	Nonmajor (7)	17	82	35	75	50	73
	Major (3)	10		29		43	

Note: Totals by stage are cumulative, not incremental. Aircraft committed to Stage I are also included in Stage II, and aircraft committed to Stage II are also included in Stage III.

Source: AMC HQ Form 312, Civil Reserve Air Fleet (CRAF) Capability Summary, HQ AMC/DOF, 1 January 1996.

ENTITLEMENTS

In return for participation, AMC awards a carrier mobilization value (MV) points.⁹ Those MV points entitle the carrier to AMC charter business. The carrier can use its points by

- ◆ actually flying the charter business to which it is entitled,
- ◆ pooling its capabilities and points with other carriers in a teaming arrangement that flies the charter business, or
- ◆ selling its points to another carrier that can afford to buy the points and still make a profit flying the charter business.

⁹ MV points are a measure of participation. MV is the relative capability of an aircraft compared to a baseline aircraft (B747-100 for long-range aircraft). Cargo and passenger aircraft in Stage I receive double MV point credit. Cargo and passenger aircraft in Stages II and III receive single MV point credit. B747-400 and MD-11 aircraft receive a 20 percent bonus in MV points because of greater payload-range capability. See Air Mobility Command Solicitation Number F11626-95-R0002, *Solicitation for International Long- and Short-Range Passenger, Cargo and Aeromedical Evacuation Airlift Services for the Civil Reserve Air Fleet (CRAF) from 01 Oct 95 through 30 Sep 96*, Scott Air Force Base, Illinois, 22 February 1995, p. M-6.

In concept, that procedure resembles a simple retainer program; in reality, it is anything but simple, as shown below.

AMC Methodology

For these six charter business subcategories, AMC attempts to award contracts to CRAF carriers commensurate with each carrier's level of commitment:

- ◆ International passenger charters (wide body)
- ◆ International passenger charters (narrow body)
- ◆ International freight charters (wide body)
- ◆ International freight charters (narrow body)
- ◆ International scheduled freight (specifically pallets)
- ◆ Combination aircraft charters.¹⁰

AMC uses a multistep process to determine each carrier's (or teaming arrangement's) dollar entitlement to business within each of the six subcategories:

- ◆ First, AMC assigns each participating carrier (or teaming arrangement) a number of MV points based on the type of aircraft committed, the number of aircraft committed, and the stages to which the aircraft are committed. Points for cargo and passenger aircraft are added separately. Points are then adjusted so that cargo aircraft points equal 60 percent and passenger aircraft points represent 40 percent of the grand total.¹¹
- ◆ Second, AMC specifies the dollar amounts it plans to award in each subcategory and calculates the percentage of total business represented by each subcategory.
- ◆ Third, AMC distributes each carrier's (or teaming arrangement's) points across all subcategories by multiplying the carrier's (or teaming arrangement's) total points by the percentage of total business represented by each individual subcategory. (At some point prior to this step, a number of carriers sell their points to other carriers. Selling carriers are usually those

¹⁰ Air Mobility Command Solicitation Number F11626-95-R0002, p. G-1. Also, combination aircraft are specialized aircraft that can be configured to carry passengers, cargo, or a combination of the two.

¹¹ *Ibid.*, p. M-7.

that choose not to operate AMC peacetime charter missions. Buying carriers are usually teaming arrangement members that want to maximize their AMC peacetime charter business.)

- ◆ Finally, AMC determines the dollar entitlement for each carrier (or teaming arrangement) by subcategory. If an airline (or teaming arrangement) does not participate in a particular subcategory, it receives no entitlement in that subcategory. If an airline (or teaming arrangement) does participate in a particular subcategory, it receives an entitlement equal to its subcategory points, divided by the total subcategory points of all participating carriers (or teaming arrangements), multiplied by the dollar amount AMC plans to award in that subcategory. The total dollar entitlement for an airline (or teaming arrangement) is the sum of its entitlements from the individual subcategories in which it participates.¹²

Problems

AMC faces several problems in using its peacetime international charter business to reward current long-range international participation (or, if necessary, as an incentive to attract additional capability):

- ◆ Most eligible cargo carriers already belong to CRAF and participate above the minimum required level.
- ◆ While it prefers wide-body aircraft for most wartime missions, AMC directs considerable peacetime business to narrow-body aircraft operators. For some peacetime missions, narrow-body aircraft are more affordable. For those missions, DoD customers need limited payloads delivered at specified intervals, and the intervals are too short for AMC to build economical wide-body aircraft loads. For other peacetime missions, combining several narrow-body missions into a smaller number of wide-body missions may be more cost effective. (FedEx stated that such consolidation has taken place several times in the past.)
- ◆ In dollar terms, most AMC peacetime requirements for commercial augmentation are for passenger airlift since AMC has its own organic capability to provide cargo lift. While most of AMC's commercial augmentation dollars go for passenger airlift, almost none of them go to major passenger carriers. For major passenger carriers, the principal financial incentive to participate in CRAF is the opportunity to compete — on a price and service basis — for GSA city-pairs contracts.

GSA city-pairs and small-package contracts are not part of the entitlements process; they are awarded based on price and service competition. However,

¹² *Ibid.*, pp. M-8 - M-10.

carriers eligible for CRAF membership must commit their aircraft to the program as a prerequisite for award of a GSA contract.

- ◆ A passenger carrier participating at minimum level (30 percent of its eligible fleet in wide-body equivalents) can compete for and obtain any or all GSA city-pairs contracts.
- ◆ A cargo carrier participating at minimum level (15 percent of its eligible fleet in wide-body equivalents) cannot obtain a GSA freight or small-package contract. To be awarded those contracts, a cargo carrier must commit an additional 5 to 20 percent of its applicable fleet (in wide-body equivalents). Additional commitments required are 15 percent for the domestic freight "next business day/second day" contract and 5 percent for the domestic freight "second day/third day" contract. If single cargo carrier were to win both of the GSA freight and small-package contracts, it would have to commit 35 percent of its eligible fleet.
- ◆ Practical considerations dictate the differences in minimum participation requirements between passenger and cargo carriers. Major passenger carriers accept the 30 percent minimum. Major cargo carrier UPS has indicated reluctance to participate above the 15 percent level without some guarantee of scheduled business, such as a GSA contract. UPS reluctance to accept a minimum higher than 15 percent stems from at least two factors:
 - It does not operate commercial charter missions and therefore chooses not to operate AMC peacetime charter missions.
 - It experienced difficulties in regaining market share lost to non-CRAF or foreign carriers during the Gulf War.

To an even greater extent than AMC charter revenue, GSA contract revenue goes for passenger airlift. For FY96, three major passenger carriers are each expected to receive GSA city-pairs contract revenue worth more than the total estimated value of all GSA freight and small-package contracts.

AMC's entitlements approach somewhat compensates for the fact that most peacetime revenue goes for passenger business even though greater incentives are needed to attract cargo carrier participation. AMC awards most of the MV points to cargo carriers, entitling them to passenger business. This provides a mechanism for cargo carriers to gain revenue from passenger business — provided they can either form teaming arrangements with participating passenger carriers or sell their points.

To maximize their revenue from AMC peacetime missions, airlines with different capabilities join together in teaming arrangements which collectively have the capability to operate missions in all (or as many as possible) subcategories in which AMC awards charter contracts. Without teaming arrangements, many airlines would receive no entitlements for some of their

points. Member airlines are operating three teaming arrangements under the FY96 CRAF contract.¹³

The example below illustrates the basic financial arrangements within a teaming arrangement:

- ◆ Carrier A is a major cargo carrier that belongs to a teaming arrangement and operates both commercial and AMC charter missions. Carrier A has no aircraft that can fly the passenger missions to which it is entitled on the basis of its MV points.
- ◆ Carrier B is a nonmajor passenger carrier that belongs to Carrier A's teaming arrangement and operates both commercial and AMC charter missions. Carrier B has no aircraft that can fly the cargo missions to which it is entitled based on its points.
- ◆ By agreement among the teaming arrangement members, Carrier A trades its passenger entitlements to Carrier B in exchange for Carrier B's cargo entitlements. Carrier A's international passenger charter entitlements are projected to produce more revenue for Carrier B than Carrier B's international cargo charter entitlements will produce for Carrier A. Consequently, Carrier B also agrees to pay Carrier A a negotiated percentage of Carrier B's future AMC international passenger charter revenue.¹⁴

Some airlines perceive disadvantages to AMC's approach. They consider the entitlements process unnecessarily complex — even convoluted — and thus a disincentive to participation. Airlines receive entitlements in mission categories that they cannot operate or choose not to operate. Most major carriers (both passenger and cargo) do not operate commercial charter missions and therefore choose not to operate AMC peacetime charter missions. To avoid certain joint-venture liability issues, they also choose not to join teaming arrangements. Instead, those airlines can and do receive some revenue by selling their MV

¹³ For FY96, Teaming Arrangement 1 consists of Continental Airlines, Northwest Airlines, Rich International Airways, World Airways, Emery Worldwide Airlines, and Evergreen International Airlines; by agreement among the team members, major carriers Continental and Northwest do not operate AMC peacetime charter missions. Teaming Arrangement 2 consists of American Trans Air, Air Transport International, Federal Express Airlines, and Southern Air Transport. Teaming Arrangement 3 consists of Carnival Airlines, Tower Air, American International, Burlington Air Express, and Polar Air Cargo.

¹⁴ As the number of participants increases, the financial arrangements within a teaming arrangement can grow considerably more complex. Also, entitlements and cash are not the only media of exchange. For example, instead of a negotiated percentage of its future AMC international passenger charter revenue, Carrier B could have agreed to provide Carrier A with a negotiated level of en route and/or scheduled maintenance support at specified locations.

points to airlines that can afford to buy the points and then operate missions profitably at AMC's uniform rates.

A new problem has arisen from the combination of buying and selling MV points plus the recent linkage between CRAF membership and eligibility for certain GSA contracts. The example below illustrates that problem:¹⁵

- ◆ Carrier X is a major passenger carrier that does not belong to a teaming arrangement and does not operate either commercial or AMC charter missions.
 - Before FY95, AMC pre-purchased blocks of seats for official travel by DoD passengers on certain of Carrier X's scheduled international flights. The total number of seats was determined as part of AMC's entitlements process and was thus commensurate with Carrier X's level of commitment to the CRAF program. Carrier X was guaranteed revenue even if the seats were not filled.
 - Today, AMC no longer purchases these seats. Nevertheless, because of its GSA city-pairs contracts, Carrier X still receives considerable revenue when DoD passengers travel on scheduled international flights.
 - Carrier X's revenue from travel by DoD passengers on scheduled international flights no longer depends on its MV points. Since Carrier X operates neither commercial nor AMC charter missions, it chooses to sell its points. In fact, to increase its revenue, Carrier X participates at the 50 percent commitment level (20 percent above the required commitment) so it will have more points to sell.
- ◆ Carrier Y is a nonmajor low-cost cargo carrier that belongs to a teaming arrangement and operates both commercial and AMC charter missions.
 - If other carriers were not allowed to buy and sell MV points, Carrier Y would be entitled to \$30 million in AMC international charter business for the current fiscal year.
 - Carrier Y's competitors have all bought points from major passenger carriers. As a result, they may obtain a larger percentage of AMC international charter business. If Carrier Y does nothing, it will receive only \$18 million in AMC international charter business for the current fiscal year.
 - In order to assure getting at least \$30 million in AMC international charter business, Carrier Y buys Carrier X's points for \$400,000 plus a negotiated percentage of Carrier Y's future AMC international charter

¹⁵ While this example reflects the nature and scope of some actual agreements between carriers, it does not represent any specific carriers.

revenue. Carrier Y eventually achieves \$30 million in AMC international charter business, but only after paying approximately \$600,000 to Carrier X.

Critics call Carrier X's actions "double dipping" because AMC's entitlements process allows airlines who win GSA contracts to benefit twice from their MV points. To keep from losing significant shares of their AMC charter business, many airlines feel obligated to buy MV points from airlines that do not operate AMC charter missions. Consequently, some airlines that buy points believe they are paying an unfair extra cost to receive all the AMC charter business to which they are legitimately entitled on the basis of their levels of commitment to the CRAF program.

For FY96, several airlines requested that AMC consider in its uniform rates the commissions and fees incurred in buying mobilization points and in forming and administering teaming arrangements. Those airlines contended the expenses were necessary to receive some or all the revenue to which they are legitimately entitled. The AMC response did not address entitlements but did highlight differences in perspective between airlines and AMC. AMC took the position that airlines can qualify for DoD business without buying mobilization points or joining teaming arrangements. According to AMC, the associated commissions and fees are not a necessary and customary cost for obtaining a DoD contract, and they do not add value to the service provided by airlines. Therefore, AMC cannot allow these commissions and fees unless airlines prove that the scope of work required them to incur the costs.¹⁶

COMPENSATION RATES

AMC Methodology

For its charter flights, AMC compensates airlines under a set of uniform rates per passenger seat-mile and cargo ton-mile. Rates are calculated on the basis of a weighted average of airline costs (for those airlines that actually fly AMC charter missions) plus an allowance for return on investment. Rates are updated annually based on airline costs for the preceding year. The weighting factor is each airline's AMC revenue for the preceding fiscal year plus a portion of the current fiscal year.

Currently, long-range (and a new category — extended range) international service uniform rates are established for several types of missions: round trip, ferry, one way, and one-way contingency.

¹⁶ Headquarters Air Mobility Command/LGCA, *Final Long Range International Service Uniform Rates and Rules, Fiscal Year 1996*, Scott Air Force Base, Illinois, 2 August 1995, p. 5.

- ◆ Round-trip rates apply to missions on which passengers, cargo, or both are transported on two or more successive revenue flights and the last revenue flight terminates within 250 statute miles of the point of origin or, by mutual agreement between AMC and the carrier, within 250 statute miles of one of the carrier's principal operating bases.
- ◆ In the event a carrier operates a round-trip mission that terminates more than 250 statute miles from the point of origin, the carrier is paid the ferry rate for the distance from the termination point to the point of origin or, by mutual agreement, for the distance from the termination point to one of the carrier's principal operating bases.
- ◆ In all other cases, one-way rates apply. One-way rates recognize there may be no commercial backhaul opportunity following a one-way mission but there are some economies associated with flying empty. For FY96, the one-way passenger rate is 185 percent of the round-trip seat-mile rate, and the one-way cargo rate is 180 percent of the round-trip ton-mile rate.
- ◆ One-way contingency rates apply at the AMC commander's discretion, during situations such as war, other armed conflict, insurrection, civil or military strife, or similar conditions. For FY96, the one-way contingency passenger rate is 193 percent of the round-trip seat-mile rate and the one-way contingency cargo rate is 195 percent of the round-trip ton-mile rate.¹⁷

Problems

AMC's uniform rates clearly reward low-cost airlines more than higher-cost airlines; however, its uniform rates do not necessarily reward efficient airlines more than inefficient ones. For example, FedEx is efficient and profitable in its commercial business. Nevertheless, its costs are too high for it to be equally profitable when flying most AMC charter business.

At a January 1995 meeting, NACA members expressed general support for AMC's rate-making process. Since then, however, some nonmajor airlines have stated that AMC's uniform rates are too low. Major airlines Northwest and FedEx have both expressed dissatisfaction that low-cost nonmajor airlines have a disproportionate influence on the uniform rates.

For several years, FedEx has also contended that narrow-body aircraft operators receive an especially disproportionate share of AMC long-range international cargo business and thus have a correspondingly disproportionate influence on the uniform rates. For FY95 (through August), total AMC long-range international narrow-body cargo revenue was \$38.3 million and narrow-body combination aircraft revenue was \$52.5 million, while DC10 cargo revenue

¹⁷ *Ibid.*, pp. 6-7, Appendix A, pp. 1-4.

was \$13.0 million.¹⁸ FedEx operates over 85 percent of the DC10 freighters in the long-range international cargo segment.

The financial incentives for FedEx to maintain its 100 percent level of commitment to CRAF were always questionable. FedEx committed its top money-making aircraft. From July 1993 through June 1994, FedEx's wide-body cargo aircraft committed to Stage III averaged more than six revenue flight hours a day and flew approximately two-thirds of the company's total revenue ton-miles.¹⁹ According to AMC's calculations, FedEx's B747 costs per ton-mile are 35 percent higher than AMC's FY96 round-trip uniform rate and its DC10 costs per ton-mile are 28 percent higher.²⁰ As of FY96, FedEx no longer commits its B747s to CRAF.

In addition, FedEx contends that AMC has ignored in its cost estimates several key factors distinguishing express cargo carriers from passenger carriers:

- ◆ Trucks are an integral part of air cargo service.
- ◆ Cargo is almost never bi-directional.
- ◆ Nondirect routing is inconsequential to shippers and their customers as long as delivery schedules are met.²¹

For most carriers in the all-cargo air freight industry, capital costs are spread over a much smaller base (making older, used aircraft more attractive). In addition, express cargo carriers

- ◆ must fly at night to accommodate shippers on each coast and still make next-day deliveries,
- ◆ need a hub and spoke system,
- ◆ need about three hours of dead time daily for package sorting, and
- ◆ normally fly their aircraft fewer hours per day than other carriers.²²

¹⁸ Memorandum for all carriers, from HQ AMC/DOKR, Subject: *Contract Percentage Report*, 18 September 1995.

¹⁹ Based on data from Department of Transportation Research and Special Programs Agency Forms 41 for calendar quarters 93/3 through 94/2.

²⁰ *Final Long Range International Service Uniform Rates and Rules, Fiscal Year 1996*, Appendix B, p. 1, and Appendix H, pp. 7-8.

²¹ Federal Express Corporation, *Submission of Federal Express Corporation to The National Commission to Ensure a Strong Competitive Airline Industry*, 29 June 1993, pp. 3-4.

²² Air Freight Association, *Comments of the Air Freight Association Before The National Commission to Ensure a Strong Competitive Airline Industry*, Washington, DC, 4 June 1993, pp. 4-6.

Dissatisfaction with AMC's rate-making process was one reason FedEx cut its long-range international fleet commitment from 100 percent for FY95 to 44 percent for FY96. Other airlines do not commit their newer, more efficient aircraft to the program because they cannot be operated profitably at AMC's rates. To recover their investment costs, airlines prefer to operate those aircraft on scheduled routes that permit sustained high utilization rates and load factors. According to FedEx, it is difficult for some airlines to make a profit — or to break even — at AMC's round-trip rates. Some AMC missions may be profitable at one-way rates if they can be matched with commercial missions in the opposite direction.

In the future, if major airlines fly less AMC international charter business, low-cost nonmajor airlines will have an even larger impact on the rate-making process. Some of today's low-cost nonmajor airlines may eventually find their costs too high relative to the uniform rate, and they may be unable to profit from AMC business. AMC peacetime business could gravitate to an ever-smaller group of airlines who would make ever-smaller profits. In fact, as shown below, that may already be happening.

REVENUE

AMC's International Charter Business Is Better Suited to Nonmajor Airlines

For a variety of reasons, few major airlines choose to fly the AMC peacetime international charter missions to which they are entitled. In the decade of the 1990s, Northwest has been the only major passenger carrier to participate substantially in AMC's peacetime long-range international charter business. (Continental, Trans World, and Hawaiian Airlines have participated at low levels.) During the same period, FedEx has been the only major cargo carrier to participate in AMC's peacetime long-range international charter business. Through FY94, major passenger carriers participated in AMC's program to pre-purchase blocks of passenger seats on scheduled international service; that program was eliminated in FY95. Both domestic and international travel for individual DoD travelers now fall under the GSA city-pairs program.

Since the Gulf War, long-range international contract airlift business has not decreased as much as AMC had anticipated. AMC had expected that cuts in force size and forward deployment would lead to reduced peacetime business. It had not expected that operations other than war would generate such heavy requirements in places such as Somalia, Haiti, Rwanda, Kuwait, and others. Maintenance problems with the C-141 fleet also contributed to a continuing need for commercial airlift augmentation.

AMC's current peacetime long-range international contract airlift business is usually an equal mixture of fixed and expansion requirements. Fixed requirements are those known at the time AMC issues its annual solicitation for

international airlift services. Expansion requirements are unplanned, additional missions. AMC has made a conscious effort to sustain its peacetime business base and to maximize fixed requirements. Table 3-3 illustrates AMC's international charter business base for the 1990s (excluding Operations Desert Shield and Desert Storm):

Table 3-3.
AMC Long-Range International Charter Business: FY90–FY96
(then-year \$ millions)

Business type	FY90	FY91	FY92	FY93	FY94	FY95	FY96
Fixed	\$195	\$273	\$259	\$166	\$214	\$260	\$291
Expansion	\$206	\$293	\$242	\$368	\$472	\$286	\$320
Total	\$401	\$566	\$501	\$534	\$686	\$546	\$611
Ratio of Fixed to Total	49%	48%	52%	31%	31%	48%	48%

Source: Briefing by Colonel Murrell D. Porter, Assistant for Civil Air, Directorate of Operations, Headquarters Air Mobility Command, "U. S. Civil Reserve Air Fleet," 26 September 1995.

In military operations, unplanned, additional missions are unavoidable. These missions can arise from exercises, natural disasters, civil crises, military contingencies, or other conditions. In some cases, short-notice expansion requirements are serious in nature yet small in scope. In those cases, AMC may request airlines to volunteer their aircraft as an alternative to activating Stage I. Most frequently, AMC asks airlines to volunteer passenger aircraft.

For major airlines, fixed requirements are more attractive than expansion requirements. The lead time associated with fixed requirements allows airlines to integrate AMC requirements into scheduled commercial business. Since commercial carriers have limited or no excess capacity in their fleets, their ability to respond rapidly depends on their flexibility to reschedule resources. Major airlines usually have limited flexibility to reschedule resources to meet short notice expansion requirements.

For most nonmajor airlines, fixed requirements are also more attractive than expansion requirements, especially for those nonmajor airlines that have added scheduled service to their operations. Nevertheless, nonmajor airlines usually have greater flexibility than major airlines to respond to expansion requirements.

Some airlines have indicated that longer term contracts would be a positive incentive for both participation and fleet modernization; however, AMC surveys indicate that most airlines do not favor longer term contracts. In addition, AMC has stated that its military customers will not commit to longer term contracts because they cannot predict their requirements or their available funding. Consequently, AMC believes reduced fixed requirements would be an unavoidable byproduct of longer term contracts.

Most AMC Charter Revenue Goes to Nonmajor Airlines for Passenger Airlift

In determining weighted averages for its uniform rates, AMC weights each airline's costs (for those airlines that actually fly AMC charter missions) by revenue. Recent trends in revenue distribution support the contention that nonmajor airlines have a disproportionate influence on AMC's uniform rates. From FY93 through FY95, the AMC long-range international charter revenue used to calculate uniform rates was split 58 percent for passenger airlift, 35 percent for cargo airlift, and 7 percent for combination DC8 airlift. Nonmajor airlines received most of this revenue, and their overall relative share grew progressively larger:

- ◆ In FY93, nonmajor airlines received 75 percent of the passenger revenue, 66 percent of the cargo revenue, and 72 percent of the combined total revenue.
- ◆ In FY94, they received 80 percent of the passenger revenue, 73 percent of the cargo revenue, 100 percent of the combination DC8 revenue, and 78 percent of the combined total revenue.
- ◆ In FY95, they received 88 percent of the passenger revenue, 68 percent of the cargo revenue, 100 percent of the combination DC8 revenue, and 84 percent of the combined total revenue.²³

Most GSA Contract Revenue Goes to Major Airlines for Passenger Airlift

GSA contracts are powerful incentives for major airlines to participate in the CRAF program. Major airlines find GSA business profitable because it allows them to put additional passengers and cargo on flights that are already scheduled. For FY96, the estimated value of GSA city-pairs contracts is \$1,165 million, and the estimated value of GSA small-package and freight contracts is \$161 million.²⁴ For FY96, the estimated value of these GSA contracts is more than double the estimated value of all AMC international charter contracts.

²³ FY93 data from Headquarters Air Mobility Command/LGCA, *Final Long Range International Service Uniform Rates and Rules, Fiscal Year 1995*, Scott Air Force Base, Illinois, 1 July 1994, Appendix B, p. 1, and Appendix C, p. 1. FY94 data from *Final Long Range International Service Uniform Rates and Rules, Fiscal Year 1996*, Appendix B, p. 1, Appendix C, p. 1, Appendix D, p. 1, and Appendix E, p. 1. FY95 data from Headquarters Air Mobility Command/LGCA, *Proposed Long Range International Service Uniform Rates and Rules, Fiscal Year 1997*, Scott Air Force Base, Illinois, 3 April 1996, Appendix B, pp. 1-5.

²⁴ "GSA Awards Contracts for Federal Employee Travel to 16 Airlines," *Aviation Daily*, 20 September 1995, p. 464.

For FY96, almost \$900 million in city-pairs revenue is expected to go to the CRAF member airlines shown in Table 3-4. For perspective, Table 3-4 compares each airline's estimated FY96 city-pairs revenue with its actual 1994 total passenger revenue.

Table 3-4.
Estimated FY96 GSA City-Pairs Passenger Revenue for CRAF Long-Range International Carriers

CRAF long-range international carrier	Number of city pairs for FY96	Estimated revenue (\$)	Percent of 1994 total passenger revenues
American Trans Air	1	35,136,000	0.0
American	902	208,843,180	1.6
Continental	418	72,003,394	1.7
Delta	839	221,274,540	2.0
Northwest	649	114,535,890	1.5
TWA	318	68,930,638	2.4
United	946	209,854,385	1.7

Source: "GSA Awards Contracts for Federal Employee Travel to 16 Airlines," *Aviation Daily*, 20 September 1995, p 464. Also, "Traffic, Financial and Fleet Data for 62 of the World's Largest Airlines," *The Airline Monitor*, October 1995, pp. F1-F66.

ECONOMIC IMPACT OF CRAF ACTIVATION

Activation May Adversely Affect Economy

Activating CRAF can withdraw from commercial service a substantial portion of the U.S. airline industry's long-range international capability. Of the industry's long-range international passenger capability, AMC estimates that 8 percent is committed to Stage I, 26 percent to Stage II, and 46 percent to Stage III. Of the industry's long-range international cargo capability, AMC estimates that 19 percent is committed to Stage I, 46 percent to Stage II, and 58+percent to Stage III.²⁵

There is no consensus on the overall effect any level of CRAF activation would have on the domestic economy. For businesses that depend on air cargo, some adverse effect appears unavoidable with activation of Stages II and III. U.S. (and worldwide) businesses are adjusting their inventory policies and business practices to rely on overnight freight delivery to service both domestic and international markets. Also, new DoD logistics doctrine considers it more cost-effective to have fewer and smaller stockage points in a theater of operations and to rely instead on rapid, assured transportation from the continental United

²⁵ AMC estimates as of 1 March 1996.

States. DoD plans to reduce the overall value of its inventory as well as the quantity of storage to hold it. Success of this doctrine depends on DoD's capability to maintain visibility over materiel in storage and in transit and to transport stocks rapidly between theaters.²⁶

Activation May Also Adversely Affect Airlines

There is also no consensus on the impact that any level of CRAF activation would have on individual airlines. Gulf War activation experience does not serve as a useful model because we cannot differentiate between adverse effects that resulted from activation and those that resulted from the worldwide recession already in progress when the war started.

In assessing the potential impact of future CRAF activations on individual airlines, at least four individual factors appear relevant:

- ◆ First is the financial condition of each individual airline. CRAF activation removes airline assets from commercial service. The more profitable that commercial service, the greater the potential financial loss — and the more likely an airline might seek to avoid or limit activation. This is especially true if the airline has little or no excess capacity to apply to its commercial operation.
- ◆ Second is the cost structure of the individual airline relative to the applicable AMC compensation rate. Aggressive cost cutting in the early 90s has positioned many airlines to do no worse than break even at AMC rates. However, some airlines still find it difficult to make a profit at round-trip rates. Some missions may be profitable at one-way rates — if they can be matched with a commercial backhaul. For some higher-cost major passenger carriers, CRAF membership may be a calculated risk. They cannot afford to pass up peacetime revenue from GSA city pairs and from selling their MV points, so they accept the perceived low probability of wartime activation (and any attendant adverse financial consequences).
- ◆ Third is the infrastructure that may be underemployed or idled during activation. Examples include passenger reservation clerks, passenger baggage handlers, and cargo package pickup/delivery trucks. AMC does not allow for this infrastructure in its uniform rate calculations. However, airlines can neither quickly shed infrastructure made temporarily excess by activation nor quickly reconstitute it upon deactivation.

²⁶ United States Transportation Command, *Statement of General Ronald R. Fogleman, USAF, Commander in Chief, United States Transportation Command, Before the House Armed Services Readiness Subcommittee*, Scott Air Force Base, Illinois, 26 April 1994, pp. 8-9. Also, Office of the Under Secretary of Defense (Logistics), *Logistics Strategic Plan Edition 1994*, Washington, D.C., 1994, p. 14.

- ◆ Fourth is possible loss of market share as a result of activation. There is no evidence that loss of market share was a long-term problem after the Gulf War. However, the airline industry is capital-intensive, and even a short-term reduction in cash flow can be disastrous for some airlines. It appears that the nature of the relationship between airline and customer is a key element in an airline's ability to regain lost market share after deactivation. For passenger carriers, leisure travelers have surpassed business travelers as principal customers. Leisure travelers do not form long-term relationships with particular carriers; leisure travelers simply gravitate toward the lowest fares.²⁷ If it can regain access to its preactivation routes and if its fares are competitive, a passenger carrier should be able to reestablish its market share in a short time without difficulty. For cargo carriers, however, the key customers are businesses seeking consistent levels of service and reliability. For many of those businesses, price is certainly important but is not the primary concern. Cargo carriers and customers tend to form long-term relationships. When a cargo carrier cannot meet customer expectations — even when there is no fault on the part of the carrier — the customer will look for a different carrier. Before committing to provide the service, and before acquiring additional capability, the second carrier may reasonably demand a medium-to-long-term contract. Consequently, for a CRAF member cargo carriers, access to its preactivation routes plus competitive rates are not necessarily enough to quickly reclaim lost market share.

Any or all of these characteristics can make an airline vulnerable to adverse financial consequences during and after a CRAF activation:

- ◆ High profits from commercial operations
- ◆ Little or no excess capacity
- ◆ High cost structure
- ◆ Extensive infrastructure
- ◆ Dependence on long-term relationships with customers
- ◆ Heavy commitment to the CRAF program.

Among major cargo carriers in the international segment, long-range section, only FedEx provided AMC with cost data to use in calculating FY96 uniform rates. FedEx clearly has many of the characteristics that make an airline vulnerable to adverse financial consequences as a result of CRAF activation. It is a highly profitable company with all the costly infrastructure necessary to run an international express cargo operation. In FY95, FedEx aircraft committed to Stage III represented two-thirds of its revenue ton-mile performance. For FY96,

²⁷ "A Sixties industry in a Nineties economy," *Forbes*, 9 May 1994, p. 108.

FedEx aircraft committed to Stage III still represent more than 25 percent of its revenue ton-mile capability.

Based on their Gulf War experiences, UPS and Northwest Airlines both believe they could lose cargo market share and suffer adverse financial consequences as a result of CRAF activation.

Other risks are not as easy to determine. Many airlines can make a profit operating AMC peacetime international charter missions. Most avoid committing aircraft with high operating costs. Those airlines that cannot avoid committing such aircraft place them in Stages II and III so they are less likely to be activated.

Among major passenger carriers in the international segment, long-range section, only Northwest provided AMC with cost data to use in calculating FY96 uniform rates. Northwest is heavily committed to Stages II and III and may be slightly vulnerable to adverse financial consequences. According to AMC's calculations, Northwest's B747 costs per seat-mile are 3 percent higher than AMC's FY96 round-trip uniform rate for long-range international operations, and its DC10 costs per seat-mile are 12 percent higher. Northwest has 1 passenger B747 committed to Stage I, 17 committed to Stage II, and 20 committed to Stage III. Northwest has no passenger DC10s committed to Stage I, 2 committed to Stage II, and 29 committed to Stage III.²⁸

Among nonmajor airlines, World Airways may be slightly vulnerable to adverse financial consequences in both cargo and passenger operations. For cargo operations, World's DC10 costs per ton-mile are 6 percent higher than AMC's FY96 round-trip uniform rate for long-range international operations. World has two DC10 freighters committed to Stage II and five committed to Stage III. For passenger operations, its DC10 costs per seat-mile are 13 percent higher than AMC's FY96 round-trip uniform rate for long-range international operations, and its MD11 costs are 2 percent higher. In addition, World's MD11 costs per seat-mile are 5 percent higher than AMC's FY96 round-trip uniform rate for extended-range international operations. World has one passenger DC10 and four passenger MD11 aircraft committed to Stages I through III.

Among nonmajor passenger carriers, American Trans Air's B757 costs per seat-mile are 14 percent higher than AMC's FY96 round-trip uniform rate.

²⁸ Individual carrier operating costs referred to here were obtained from *Final Long Range International Service Uniform Rates and Rules, Fiscal Year 1996*, Appendices F, G, and H. Commitment levels were obtained from *Civil Reserve Air Fleet (CRAF) Capability Summary*, 1 January 1996. Comparing an individual carrier's operating costs to AMC's uniform rates allows both parties to determine whether the carrier's aircraft are likely to experience direct losses while operating AMC charter missions in peacetime or during a crisis. A more comprehensive method of estimating the economic effect of activation on an individual carrier would be to compare the carrier's total profits under activation with its total profits in commercial service. For additional discussion, see Appendix B.

American Trans Air has 4 of those aircraft committed to Stages I and II and 11 committed to Stage III.

Among nonmajor cargo carriers, Evergreen's DC8 costs per ton-mile are 2 percent higher than AMC's FY96 round-trip uniform rate. However, Evergreen has only one of those aircraft committed to Stages I through III.

CHAPTER 4

Looking to the Future

The CRAF has just emerged from its most turbulent period. It successfully weathered its first activation and overcame doubts about its future expressed by the defense community, serious concerns about its policies expressed by member airlines, and a deep financial crisis experienced by the U.S. airline industry.

Despite the program's recent difficulties, today's passenger carrier participation meets all stated long-range international capability requirements, and cargo carrier participation has grown substantially since the end of the Gulf War. Although Stage III cargo capability still falls slightly short of the stated requirement, Stage III is unlikely to be activated under today's contingency scenarios.

Consequently, as AMC looks to the future, we believe it can afford to focus less on increasing CRAF participation and more on consolidating its recent gains. One key in consolidating recent gains is for AMC to reaffirm and strengthen its partnership with the airline industry. Some airlines do not consider the CRAF program an equal partnership — they perceive that the program benefits the government more than it does the airline industry. By addressing certain financial and economic issues, AMC can take positive steps to dispel that perception.

ENSURING ADEQUATE COMPENSATION RATES

The most positive action AMC can take is to ensure that airlines receive adequate compensation for missions that they are either entitled or obligated to fly. The best interests of individual airlines, the airline industry, and the nation are not well served if any U.S. airlines consistently lose money on AMC missions, either in peacetime or as a result of a CRAF activation.

We will discuss three alternatives to AMC's current compensation approach:

- ◆ Replacing uniform rates with individual, negotiated rates
- ◆ Retaining uniform rates, but making them more representative of all CRAF member airlines
- ◆ Using a combination of individual and uniform rates.

Individual Rates

AMC's uniform rates are determined almost exclusively by the costs of low-cost nonmajor airlines that fly the majority of AMC peacetime charter business. That business includes volunteer lift provided for contingencies when CRAF is not activated. Once CRAF is activated, many cargo missions will be flown by airlines whose costs are not considered in AMC's uniform rate-making process. Once CRAF Stages II and III are activated, the overwhelming majority of passenger missions will be flown by major airlines whose costs are not considered in AMC's uniform rate-making process.

Uniform rates may have been appropriate during the period of airline regulation, but they may no longer be appropriate in this era of deregulation. The most straightforward way to fix uniform rates is to eliminate them. In determining its uniform rates, AMC already calculates costs plus a fair return on investment for some airlines by aircraft type. AMC could use the same methodology to arrive at individual, negotiated rates for all airlines, by aircraft type.¹

Compared with today's approach, these individual, negotiated rates offer the following potential advantages:

- ◆ Supporters could state that AMC is reinforcing the partnership aspect of the CRAF program.
- ◆ Airlines would be unlikely to lose money flying AMC missions.
- ◆ Airlines might be less likely to resist activation.
- ◆ Airlines might commit their more capable aircraft.
- ◆ AMC would have better visibility over which airlines would be at financial risk as a result of activation.

These individual, negotiated rates have the following potential disadvantages:

- ◆ Critics could argue (incorrectly, we believe) that AMC is punishing efficient airlines and rewarding inefficient ones.
- ◆ Some airlines would make less profit flying AMC missions.
- ◆ AMC's peacetime charter dollars might buy less lift.

¹ Round-trip, one-way, and contingency rates could still apply to individual, negotiated rates.

- ◆ Program administration would be more difficult for AMC.
- ◆ AMC would have to gather cost information from airlines that currently do not provide it.

More Representative Uniform Rates

A less dramatic way to improve uniform rates would be to change the rate-making approach to be more representative of all CRAF participants and their levels of commitment. For example, AMC could change the cost weighting factor, basing it on mobilization value points (prior to any sales) for each member airline instead of on prior years' revenue for only those airlines that flew AMC charter business.

Compared with today's approach, the use of a more representative uniform rate-making approach offers the following potential advantages:

- ◆ AMC is still reinforcing the partnership aspect of the CRAF program.
- ◆ Critics could not argue that AMC is punishing efficient airlines and rewarding inefficient airlines.
- ◆ Airlines would be less likely to lose money flying AMC missions.
- ◆ Airlines might commit more capable aircraft.
- ◆ AMC would have better visibility over which airlines would be at financial risk as a result of activation.

A more representative uniform rate-making approach has the following potential disadvantages:

- ◆ Some airlines could still lose money (but perhaps not as much as under the current system) flying AMC missions.
- ◆ AMC's peacetime charter dollars might buy less lift.
- ◆ AMC would have to gather cost information from airlines that currently do not provide it.

Combination Approach

AMC faces numerous obstacles as it attempts to balance the need for robust wartime capability with the need for affordable peacetime lift. AMC has indicated that the General Accounting Office might object to any uniform rate-making approach that does not link peacetime rates directly to the costs of those airlines providing the peacetime lift. AMC might be able to counter such

objections with a combination of uniform and individual negotiated rates. Uniform rates (as AMC calculates them today) would apply to peacetime lift, whereas individual, negotiated rates (as described above) would apply during activation. Thus, peacetime rates would still be linked to the costs of the airlines actually providing peacetime lift.

Compared with today's approach, the use of this combination approach offers the following potential advantages:

- ◆ At least for peacetime missions, critics could not argue that AMC is punishing efficient airlines and rewarding inefficient ones.
- ◆ Airlines would be unlikely to lose money on AMC missions they are obligated to fly during activation.
- ◆ Airlines might be less likely to resist activation.
- ◆ Airlines might commit more capable aircraft.
- ◆ AMC would have better visibility over which airlines would be at financial risk as a result of activation.

This combination approach has the following potential disadvantages:

- ◆ Some airlines could still lose money flying AMC peacetime missions; however, they are not *obligated* to fly peacetime missions.
- ◆ AMC would have to gather cost information from airlines that currently do not provide it.

The cost effects of these three options are not necessarily significant, but that cannot be determined conclusively until AMC obtains and evaluates cost information from airlines that do not now provide it.² These options are certainly not the only ones and they may not be the best ones, but they can be a starting point for serious discussion of an extremely important issue.

ELIMINATING DOUBLE DIPPING

Double dipping occurs when airlines that win GSA contracts receive more profit from their MV point than those airlines that do not win GSA contracts. This problem with AMC's entitlements process is discussed in Chapter 3.

By addressing double dipping, AMC may further its goal of treating all airlines fairly. Understandably, not all airlines perceive fairness the same way.

² For many of these airlines, approximate data can be extracted from Department of Transportation Research and Special Programs Agency Forms 41.

Proposals to eliminate double dipping unavoidably contain provisions to prohibit or limit the sale of mobilization value points. Such provisions could decrease revenue for some major airlines and increase revenue for some nonmajor airlines.

The simplest way to eliminate double dipping would be to prohibit altogether the sale of MV points. Under that proposal, the biggest losers would be major passenger carriers that do not belong to teaming arrangements, especially those carriers that commit more capability than the 30 percent minimum requirement. To gain any revenue for their points, these carriers would be forced into teaming arrangements.³ Such a prohibition, however, would be a return to the past: The concept of selling points was originally introduced to avoid liability issues associated with joint ventures.

The real objection to double dipping is that AMC's entitlements process allows airlines who win GSA contracts to benefit twice from their mobilization value points.⁴ A more equitable approach to eliminating double dipping might be for AMC to award no points for the extra capability commitment required of airlines that win GSA contracts.⁵ That approach would be relatively easy to implement in the long-range international cargo subsection, where there is already a clear relationship between GSA contracts and additional commitment levels.⁶ The approach would be more difficult to implement in the long-range international passenger subsection. The difficulty could be reduced if AMC were to modify its passenger participation requirements to parallel cargo participation requirements. For a passenger carrier, minimum commitment could be established at 15 percent of its eligible fleet. If that carrier won any GSA city-pair contract, AMC could require an additional commitment of 15 percent, for which it would award no additional MV points.

³ As discussed in Chapter 3, teaming arrangements provide a mechanism for team members to exchange their otherwise unusable entitlements for agreed-upon items of value. Those items can include entitlements, cash, or services. Within the context of the CRAF program, there is a fine but real distinction between this teaming arrangement mechanism and selling points.

⁴ This double benefit is not limited to airlines that sell their points. Airlines that do not sell their points receive entitlements to AMC charter business, which they can either fly themselves or exchange within a teaming arrangement.

⁵ This approach simply treats GSA contracts as an entitlement received in exchange for a specified level of commitment (and the associated number of points).

⁶ As mentioned in Chapter 3, additional commitments required are 15 percent for the GSA domestic freight "next business day/second day" contract and 5 percent for the GSA domestic freight "second day/third day" contract.

Before adopting this approach for eliminating double dipping, AMC should evaluate its potential impact on participation. Here are some relevant considerations:

- ◆ All major passenger carriers routinely win a large number of GSA city-pairs contracts. All major passenger carriers would lose some profits because they would have fewer points to sell or fewer entitlements to exchange within teaming arrangements. However, those losses would probably be inconsequential compared to their profits from GSA city-pairs contracts.⁷
- ◆ Many nonmajor passenger carriers would no longer need to buy as many additional points to keep their expected share of AMC charter business. On the other hand, very low cost carriers would be unable to buy as many additional points to obtain larger shares of AMC charter business.
- ◆ Some nonmajor passenger carriers might have to choose between GSA city-pairs contracts or AMC charter entitlements. For example, American Trans Air's profits from its one FY96 GSA city-pair contract could be considerably less than other profits it could generate from the points derived from 15 percent of its eligible fleet.
- ◆ FedEx receives both GSA cargo business and AMC charter entitlements for some of its points. This approach would reduce FedEx points, entitlements, and revenue. However, FedEx is one of the carriers that have raised the "double dipping" issue, and a FedEx representative has stated that FedEx would accept an approach that resolves the issue fairly.

This approach is relatively simple and straightforward. It eliminates double compensation for the same points, and we believe it will most likely have no negative impact on participation. Nevertheless, obstacles may have to be overcome before it can be implemented. This approach treats expected GSA revenue similar to an AMC entitlement under an AMC program and contract. AMC has indicated that obstacles may prevent that kind of treatment for revenue that AMC neither awards nor guarantees.

ADDRESSING CARGO CAPABILITY CONCERNS

Activation of Stages II and III can result in an inordinately large percentage of the U.S. airline industry's long-range international passenger and cargo airlift

⁷ Some major passenger carriers might actually increase their participation so that they would still have the same number of points to sell or entitlements to exchange. AMC might consider precluding this — as long as capability requirements were being met — by imposing a maximum participation limit on carriers that do not themselves fly some minimum amount of AMC peacetime charter business. Such a limit could further equalize the economic risks of activation among major passenger carriers.

capability being withdrawn from commercial service.⁸ The effect on the long-range international cargo segment of the industry could be especially serious since Stage II — which is a likely level of activation — represents nearly half of the industry capability.

Identifying New Sources of Cargo Capability

Unfortunately, DoD, USTRANSCOM, and AMC have no practical options for adding new sources of cargo capability — and thereby lessening the financial risks of activation for both the economy and individual carriers. Nearly all eligible cargo carriers are members. Nonmajor members have already committed much of their long-range international cargo capability. Northwest has also committed most of its cargo fleet. The United States has only two major all-cargo carriers: Federal Express and United Parcel Service. FedEx already commits more than 40 percent of its capability. AMC believes that increasing minimum participation requirements for cargo carriers could drive UPS out of the program and still not significantly increase participation by any other carriers. To increase UPS participation in the near term, AMC faces the challenge of accommodating UPS concerns about sustaining service to its commercial customers during activation and regaining market share after deactivation.

For the future, Boeing predicts that global air cargo business will triple and the world freighter fleet will double over the next 20 years. Greatest growth is expected in large freighter aircraft and in the international express business.⁹ According to Frederick Smith, FedEx chairman and chief executive officer, that forecast may be conservative.¹⁰ Perhaps additional major carriers will emerge. If capability were to double across all segments of the U.S. air cargo industry, enough capacity might exist to satisfy today's CRAF long-range international cargo requirements even if FedEx and UPS were to participate only at today's 15 percent minimum commitment level.

Not all new large freighters will be new aircraft. Most current freighters are converted used passenger aircraft. Many carriers plan to expand their cargo capability by converting more used passenger aircraft. AMC prefers new aircraft and is looking for incentives to convince carriers to buy B747-400 freighters.

⁸ As discussed in Chapter 3, full Stage II activation represents one fourth of industry passenger capability and almost half of industry cargo capability. Full Stage III activation represents almost half of industry passenger capability and nearly 60 percent of industry cargo capability.

⁹ Boeing Commercial Airplane Group, *1995 World Air Cargo Forecast*, Seattle, Washington, August 1995, pp. 2-4, 14-15, 63-65.

¹⁰ "U.S. Targets Europe for Free Trade Pacts," *Aviation Week & Space Technology*, 18 July 1994, p. 34.

Experiences with the CRAF Enhancement Program should make AMC wary of trying to influence carrier equipment decisions.¹¹

Maximizing Effectiveness of Current Capability

If CRAF Stage II is indeed the maximum level of activation likely under today's contingency scenarios, AMC must be prepared to do everything practicable to maximize utilization of any aircraft that are activated. Maximizing utilization means minimizing ground time, which maximizes throughput. Minimizing ground time means that aircraft should not sit idle waiting for support of any kind. Among many other things, minimizing ground time requires effective command and control, improved utilization of commercial airport facilities, and expanded destination support — for intelligence, weather, commercial communications, and materials handling equipment — especially at airports in underdeveloped or undeveloped objective areas.¹²

Maximizing the utilization of activated aircraft means fewer aircraft must be withdrawn from commercial service and demonstrates strong AMC commitment to an equal partnership with the airline industry. Additionally, AMC has an economic motivation to maximize utilization of any long-range international aircraft that are activated. Under the terms of the current CRAF contract, AMC must compensate an airline for an average daily aircraft flight utilization rate of eight hours, even if average utilization is lower.

Augmenting Current Capability

If political and economic factors limit activation to Stage II in a scenario which actually requires greater capability, at least one option is available for augmenting the capability of Stage II and perhaps obviating the need for Stage III. That option, which has been proposed periodically in the past, is a reserve force of stored commercial aircraft, similar to the stored ships in the Ready Reserve Force for sealift. That concept, which appears best suited to cargo

¹¹ Under this program, DoD paid airlines to modify their wide-body passenger aircraft with cargo convertible features. Between 1982 and 1990, 1 DC10 and 24 B747s were modified. Nineteen of the B747s belonged to Pan American Airlines, which declared bankruptcy in 1991. One Pan Am aircraft was destroyed in a crash. AMC has experienced considerable difficulty in its attempts to get the remaining Pan Am aircraft back into the CRAF program. As of 1 January 1996, AMC reports that 15 of the 18 have now returned to the program. See GAO Report GAO/NSIAD-93-12, p. 19.

¹² Under AMC's Senior Lodger program, designated airlines are to support all CRAF airlines operating through certain locations. AMC recognizes the current program is obsolete. AMC hopes revise the program and include an updated concept in its FY97 contract.

aircraft, would be difficult to implement. Appendix C presents a preliminary evaluation of the challenges involved.

COMMERCIAL OPERATIONS AT MILITARY AIRFIELDS

AMC is already implementing a limited number of nontraditional incentives as gestures of partnership and as incentives to influence participation by major cargo carriers.

The current contract allows CRAF airlines to use most military airfields as weather alternates when filing flight plans. Member airlines can also file flight plans to most military airfields for technical stops that do not involve enplaning or deplaning passengers or cargo. Permitted activities include refueling, changing crews, and performing minor maintenance.

In the future, CRAF airlines will be able to conduct commercial operations at specified military airfields within the United States. Congress has enacted the enabling legislation, DoD has published an implementation policy, and USTRANSCOM and AMC are completing details with the individual services. Implementation policy is detailed in DoD Instruction 4500.55, Subject: *Civil Reserve Air Fleet (CRAF) Carrier Commercial Access to Military Installations for Non-DoD Operations*, published in October 1995. This instruction is not meant to cover joint use, occasional, or one-time commercial air carrier operations at military installations.

To gain access to an installation, a carrier must agree to increase its minimum participation level in the CRAF program above that required by the annual international airlift services contract, GSA contracts, and other programs.¹³ The DoD Instruction identifies these responsibilities:

- ◆ The Department of the Air Force will determine the level of carrier interest, issue annual solicitations, and award contracts to specific carriers that agree to increase their required minimum commitments to the CRAF program.
- ◆ Carriers will respond to solicitations by indicating the installations at which they would like to operate, the scope of their proposed operations, and the number and type of additional aircraft they intend to offer to the CRAF program.

¹³ For those airlines that participate only at the minimum required level, increased minimum commitment requirements would also mean increased entitlements to AMC charter business. For those that participate sufficiently above the minimum required level, increased minimum commitment requirements would have no effect either on actual participation levels or on entitlements to AMC charter business.

- ◆ All Military Departments will evaluate the feasibility and acceptability of carrier proposals to use their airfields; establish fees for landing, use, and other airfield services; and, with Air Force concurrence, and generally simultaneously with related Air Force contracts, award contracts for actual use of specific airfields.
- ◆ Before the Air Force awards a contract, USTRANSCOM will determine whether the increased minimum commitment is appropriate.

A challenge facing USTRANSCOM and AMC is to determine the levels of increased minimum commitment that are appropriate; that is, USTRANSCOM and AMC must determine the levels of increased minimum commitment needed to protect the interests of the government and still provide a discernible benefit to the carriers. Since the carriers will be paying the military departments for use of their airfields, large additional commitments could be a disincentive and so could unclear or inconsistent guidelines.

Under current USTRANSCOM and AMC proposals, a carrier would incur an additional minimum fleet commitment of 4 percent for each installation with which the carrier contracts to conduct commercial operations. The duration of the additional commitment would be the same as the duration of the contract with the installation.

That approach is clear and unambiguous. However, it does not link the benefit to the government with any measurable benefit to the carrier — the carrier must make the same additional commitment whether it plans to use a particular installation for ten B747 operations every day or for only one DC8 operation every month. As a practical matter, that may not matter to most carriers. To date, only a few carriers have expressed strong interest in the program. Unfortunately, the program excludes some of the most preferred installations because they are on the base closure list. Of carriers expressing interest, only one would definitely have to increase participation. The others already participate substantially above required minimum levels.

AMC would probably consider this initiative a success if it did nothing more than slightly increase participation by UPS and stabilize participation by FedEx (through long-term contracts to conduct commercial operations at two or three installations).

AREAS FOR ADDITIONAL STUDY

The 1990s have thus far witnessed fundamental changes in the national military strategy, the CRAF program, and the airline industry. AMC and member airlines volunteer lift to be sought more frequently and the threshold for CRAF activation to be lowered. Fortunately, CRAF remains a viable program. However, AMC cannot take for granted continued participation by any of CRAF's component airline industry interest groups or individual airlines.

This study was purposely limited in scope. We did not raise every issue relevant to CRAF's future capability to support strategic mobility needs. Furthermore, we raised more issues in previous chapters than we discussed in this one. Of those issues not discussed, at least the following four merit additional study:

- ◆ Exactly what demands will the U.S. airline industry face *simultaneously* in future national emergencies? What are the effects of CRAF activation on the Department of Defense and on the international economy when both are increasingly more reliant on express air cargo delivery?
- ◆ Will CRAF Stage III requirements be reduced as a result of continuing reviews of national military strategy? Does Stage III remain relevant in an environment in which it is highly unlikely to be activated, especially when Stage II capability (cargo in particular) has grown so much since the end of the Gulf War?
- ◆ When AMC asks airlines to provide volunteer lift, should the airlines receive the same contractual protections and guarantees provided during activation?
- ◆ Is it possible for AMC to alleviate cargo carrier concerns about supporting their commercial customers during activation and regaining market share after deactivation?

APPENDIX A

CRAF History, Structure, and Activation Authority

Experiences in World War II, the Berlin Airlift, and the Korean War made it clear that U.S. military airlift capability was not adequate for all contingencies. To provide the Department of Defense with commercial airlift to augment military capability in times of national emergency, President Truman issued Executive Order 10219 in February 1951. That executive order directed the Department of Commerce, in conjunction with Department of Defense, to formulate plans and programs for using commercial aircraft to meet contingency airlift requirements. In response, the Secretaries of Commerce and Defense signed a memorandum of understanding that outlined the basic policies. In March 1952, the Secretary of the Air Force initiated the Civil Reserve Air Fleet (CRAF) program by providing essential details to top executives of U.S. airlines.¹

The Department of Transportation has now assumed CRAF responsibilities from the Department of Commerce. In addition, DOT can use those U.S. aircraft not committed to CRAF in the War Air Service Program (WASP). WASP keeps vital sectors of the domestic economy working in times of national emergency.²

Today, aircraft committed to CRAF are allocated to international, national, and aeromedical evacuation segments. The international segment is divided into two sections:

- ◆ The long range section supports global operations with aircraft capable of flying a productive payload a distance of 3,500 nautical miles. This section is further divided into passenger and cargo subsections.
- ◆ The short range section supports short haul operations from the CONUS to the Caribbean, Central America, Greenland, and Iceland.

¹ Lieutenant Colonel William H. Sessoms, USAF, and Lieutenant Colonel Thomas J. Maxson, USAF, *Civil Reserve Air Fleet: Looking From Desert Storm to the Future*, Carlisle Barracks, Pennsylvania: U.S. Army War College, 1992, pp. 1-2. Also Mary E. Chenoweth, *The Civil Reserve Air Fleet and Operation Desert Shield/Desert Storm: Issues for the Future*, RAND Report MR-298-AF, 1993, p. 4.

² Chenoweth, p. 4.

The national segment is also divided into two sections:

- ◆ The domestic section supports CONUS passenger, cargo, and aircrew movement requirements.
- ◆ The Alaskan section supports the unique requirements of the Alaskan theater.

The aeromedical evacuation segment supports worldwide aeromedical evacuation.³

Carriers must provide a minimum of four qualified cockpit crews per aircraft. These crews cannot include individuals with Reserve or National Guard commitments. In addition, carriers must provide sufficient material to enable the aircraft to operate an average of 10 hours per day.⁴

In accordance with procedures established in 1992, with approval of the Secretary of Defense, the Commander in Chief, U.S. Transportation Command (USCINCTRANS) can activate all stages of CRAF.⁵ These stages are:

- ◆ Stage I — Committed Expansion. This stage consists exclusively of airlift capability from the international segment, long range section, committed to the Commander, Air Mobility Command (AMC). It can be used to perform airlift services when the AMC airlift force cannot meet both deployment and other traffic requirements simultaneously. Aircraft committed to Stage I are also included in Stages II and III.
- ◆ Stage II — Defense Airlift Emergency. This stage consists of airlift capability identified for an airlift emergency not warranting national mobilization. Aircraft committed to Stage II are also included in Stage III.
- ◆ Stage III — National Emergency. This stage represents total CRAF airlift capability made available when required for DoD operations during major military emergencies involving U.S. forces.⁶

³ Air Mobility Command Solicitation Number F11626-95-R0002, *Solicitation for International Long- and Short-Range Passenger, Cargo and Aeromedical Evacuation Airlift Services for the Civil Reserve Air Fleet (CRAF) from 01 Oct 95 through 30 Sep 96*, Scott Air Force Base, Illinois, 22 February 1995, Attachment 9, pp. 3-4. Also Air Mobility Command, *Air Mobility Master Plan*, Scott Air Force Base, Illinois, 15 October 1993, p. 4-6.

⁴ Air Mobility Command Solicitation Number F11626-95-R0002, p. C-1.

⁵ United States General Accounting Office Report GAO/NSIAD-93-12, *MILITARY AIRLIFT: Changes Underway to Ensure Continued Success of Civil Reserve Air Fleet*, Washington, D.C., December 1992, p. 3.

⁶ AMC Solicitation Number F11626-95-R0002, p. B-1.

- ◆ The Secretary of Defense shall order USCINCTRANS to activate Stage III of the CRAF
- ◆ in time of war or during a defense-oriented national emergency declared by the President, or in time of a national emergency declared by Congress, or
- ◆ in a national security situation short of a declared defense-oriented national emergency.⁷

USCINCTRANS can activate CRAF stages incrementally, depending on the need. Individual carriers operate and support their aircraft, including supplying fuel, parts, and maintenance. AMC assumes mission control.⁸

⁷ *Ibid.*

⁸ GAO Report GAO/NSIAD-93-12, p. 3.

APPENDIX B

Evaluating Economic Risk of CRAF Activation for Individual Airlines

In Chapter 3, we noted that comparing an individual airline's operating costs to Air Mobility Command's (AMC's) uniform rates would allow both parties to determine whether the airline's aircraft are likely to experience direct losses while operating AMC charter missions in peacetime or during a crisis. This appendix discusses a somewhat more meaningful method of evaluating the economic risk of Civil Reserve Air Fleet (CRAF) activation for an individual airline. The method described below compares an airline's expected profits for activated aircraft with expected profits that the same aircraft could be generating in commercial service. The method is based on non-proprietary data.¹

SAMPLE RESULTS AND DISCUSSION

The figures below carry economic risk assessment beyond a simple comparison of an individual airline's operating costs and AMC's uniform rates. The precision of these figures is constrained by limitations in both data and methodology. Nevertheless, the figures are useful in estimating rough-order-of-magnitude dollar effects on individual airlines as a result of CRAF activation. The significance of the effects must be evaluated in terms of the airline's overall financial condition.

Figure B-1 shows that Federal Express's long-range international commercial cargo operations were highly profitable. For calendar quarters 93/3 through 94/2, aircraft committed to Stage III averaged about 7 hours a day commercial utilization and were responsible for about \$1.0 million per day of the company's \$1.5 million per day profit. Figure B-1 indicates that FedEx's Stage III operations would most likely have lost money. Operating costs would have exceeded AMC's round-trip uniform rate for long-range international cargo operations. FedEx would have made a profit only if AMC had failed to meet the guaranteed 8 hours average daily utilization and thus had to pay FedEx an underutilization penalty. Losses by Stage III aircraft may have negated any profit that could have been generated by the remainder of FedEx's fleet. (These results have not been verified by FedEx.)

¹ An even more comprehensive method of estimating the economic impact of activation on an individual airline would compare airline *total* profits under activation with airline *total* profits in commercial service. Such a method is beyond the scope of this report.

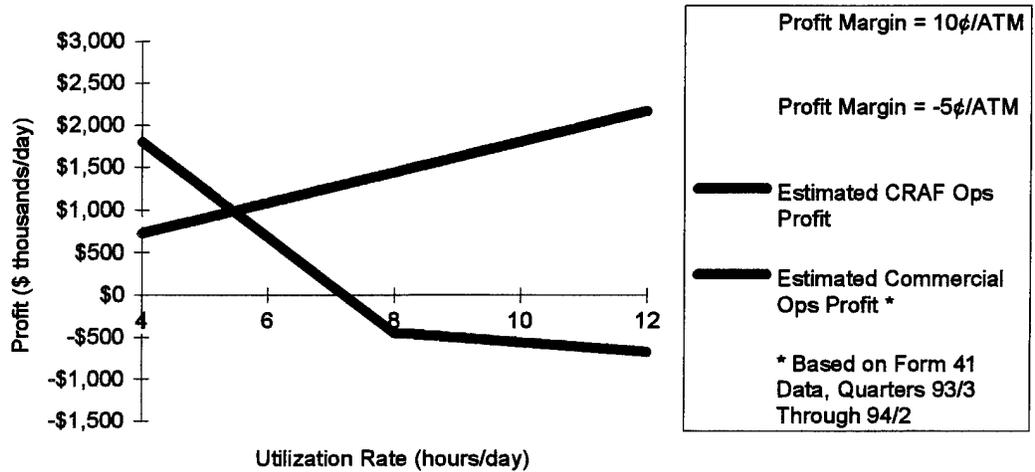


Figure B-1.
Estimated FedEx Profits: Commercial Operations vs CRAF Stage III

Figure B-2 shows that American Airlines' long-range international commercial passenger operations were marginally profitable. For calendar quarters 93/3 through 94/2, American's aircraft committed to Stage III were operating in a highly competitive environment characterized by frequent fare wars. Based on Figure B-2, American's Stage III operations would most likely have made more money. AMC's round-trip uniform rate for long-range international passenger operations exceeded operating costs by a better margin than did the return from commercial business. Profit margin would have been greater if AMC had failed to meet the guaranteed 8 hours average daily utilization and thus had to pay American an underutilization penalty. (These results have not been verified by American.)

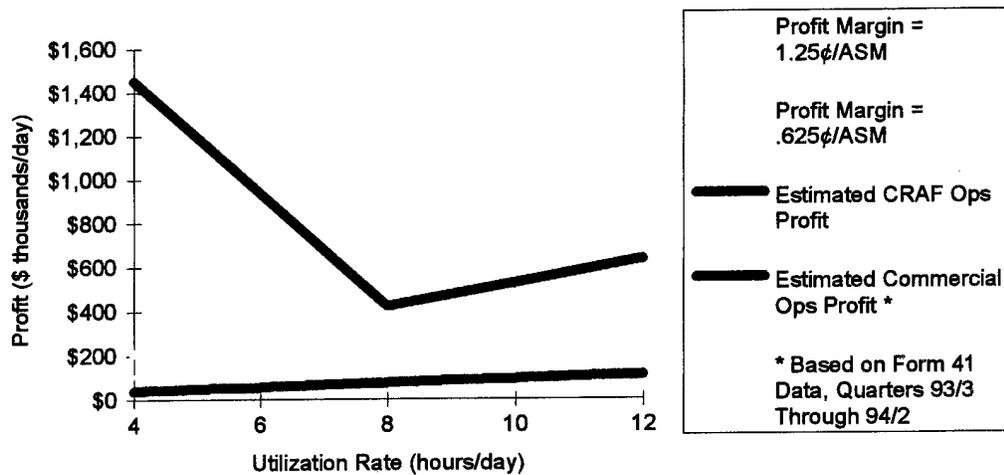


Figure B-2.
Estimated American Airlines Profits: Commercial Operations vs CRAF Stage III

METHODOLOGY

Estimating Airline Profits in Commercial Service

1. Using the AMC CRAF Capability Summary, determine the number and type aircraft the airline has committed to each CRAF stage.

Where the CRAF Capability Summary combines several models (such as passenger B767-200ER/300ER), more definitive data are available from the Department of Transportation Research and Special Programs Agency (RSPA) CRAF allocation reports. In the absence of such data, make a "best guess" allocation of models to each CRAF stage.

2. From RSPA Form 41 operations data, obtain available seat miles (ASMs) or available ton miles (ATMs) and revenue airborne hours (combined total for previous four quarters) for each type aircraft the airline has committed to each CRAF stage. Calculate ASMs or ATMs per aircraft per flying hour. Also obtain total ASMs or ATMs for the airline's Atlantic and Pacific Divisions (combined total for the previous four quarters).

3. From Form 41 financial data, obtain the airline's operating cost and operating profit (loss) for the Atlantic and Pacific Divisions (combined total for previous four quarters). To represent overall long-range international operations, combine ASMs or ATMs, cost, and profit data from Atlantic and Pacific Divisions. Calculate operating cost and operating profit (loss) per ASM or ATM for long-range international operations (combined Atlantic and Pacific Divisions).
4. Determine whether the results from Step 3 are reasonable:
 - a. Repeat Step 3 for other divisions/markets.
 - b. Compare results with combined Atlantic and Pacific Divisions.
 - c. Resolve any discrepancies or concerns before proceeding.
5. Use the results of Steps 2 and 3 to calculate airline profit (loss) per flying hour, for each type aircraft committed to each CRAF stage. (Multiply "ASMs or ATMs per flying hour" by "profit (loss) per ASM or ATM" to obtain "profit (loss) per hour" for each type aircraft committed to each CRAF stage.)
6. Using the results of Step 5, calculate airline profit (loss) per day, for daily utilization rates of 4, 6, 8, 10, and 12 hours per day, for the number and type aircraft committed to each CRAF stage.

Estimating Airline Profits Under CRAF Activation

1. Using the AMC Long-Range International Service Uniform Rates and Rules, determine the AMC rate for round-trip service and the AMC guaranteed minimum payload for each type aircraft committed to each CRAF stage.
2. Calculate approximate ASMs or ATMs per flying hour by multiplying the AMC guaranteed minimum payload x 500 mph, for each type aircraft committed to each CRAF stage.
3. Calculate an approximate cost per ASM or ATM for long-range international operations by using Form 41 data for combined Atlantic and Pacific Divisions:
 - a. Add total operating expenses (combined total for previous four quarters).

- b. Subtract the following (combined total for previous four quarters):
 - 1) Promotion and sales expenses
 - 2) 80% of aircraft and traffic servicing expenses, and
 - 3) Transport-related expenses (if they represent an inordinately large percentage of total expenses).
- c. Divide adjusted operating expenses by total ASMs or ATMs (combined total for previous four quarters).
4. Determine if the results are reasonable:
 - a. Repeat Step 3 for other divisions/markets.
 - b. Compare results with combined Atlantic and Pacific Divisions.
 - c. Resolve any discrepancies or concerns before proceeding.
5. Using the AMC rate for round-trip service and the approximate cost per ASM or ATM, calculate estimated airline profit (loss) per ASM or ATM, for each type aircraft committed to each CRAF stage.
6. Use the results of Steps 2 and 5 to calculate airline profit (loss) per flying hour, for each type aircraft committed to each CRAF stage. (Multiply "ASMs or ATMs per flying hour" by "profit (loss) per ASM or ATM" to obtain "profit (loss) per hour" for each type aircraft committed to each CRAF stage.)
7. Using the results of Step 6, calculate airline estimated profit (loss) per day, for the number and type aircraft committed to each CRAF stage, for utilization rates of 4, 6, 8, 10, and 12 hours per day. For utilization rates less than eight hours per day, increase profit (decrease loss) using AMC's formula for underutilization compensation.

LIMITATIONS OF METHODOLOGY

General

1. The accuracy and completeness of Form 41 data appear to vary among airlines. Data for nonmajor airlines were too incomplete to use this methodology; however, comparable calculations may be possible using data from the AMC Long-Range International Service Uniform Rates and Rules.
2. Form 41 data are not necessarily timely. Our calculations were performed in calendar quarter 95/1. Except as noted, our calculations were based on data for calendar quarters 93/3 through 94/2.

3. Form 41 data do not permit apportioning revenue and revenue categories among different aircraft types. Form 41 data also do not permit apportioning all cost categories among different aircraft types.
4. This methodology depends on linear relationships to represent processes that are not linear; consequently, it may extrapolate some projections beyond the range at which results are reasonable.
5. Profits should not necessarily be compared at the same utilization rates. For example, a FedEx DC10-30F currently averages about 7 hours a day in commercial service but should average at least 8 hours a day under CRAF activation. On the other hand, a FedEx MD11F currently averages about 11 hours a day in commercial service but might drop to 8 hours a day under CRAF activation.

Estimating Airline Profits in Commercial Service

1. This methodology bases most projections of future profit on Atlantic and/or Pacific Division profit margins experienced during calendar quarters 93/3 through 94/2. During that time period, for some airlines, a number of aircraft committed to the CRAF International Segment, Long-Range Section, were operating in other markets with different profit margins. Also, profit margins may vary over time.
2. This methodology uses Atlantic and/or Pacific Division system costs and profits per ASM or ATM to represent aircraft-specific costs and profits per ASM or ATM.
3. This methodology does not assume reduced profit margins for commercial service, even though reduced traffic levels or load factors might be expected in times of crisis serious enough to warrant CRAF activation.

Estimating Airline Profits Under CRAF Activation

1. This methodology assumes AMC reimburses all extraordinary expenses under the CRAF contract's equitable adjustment provisions.
2. This methodology assumes AMC compensation for underutilization is all profit.
3. This methodology does not assume any increased profits for economies of scale (reduced costs) that might result from concentrating activated aircraft in a specific route structure.

APPENDIX C

Concept for a Reserve Force of Stored Commercial Aircraft

U.S. military and commercial airlift capability could be augmented by a reserve force of stored commercial aircraft, similar to the Ready Reserve Force for sealift. The aircraft could be principally wide bodies, either owned or leased by the government, and stored at Federal Aviation Administration (FAA)-approved maintenance depots. In times of national crisis, either in parallel with or after activating CRAF Stage II, Commander in Chief, U.S. Transportation Command (USCINCTRANS) could activate these aircraft and their associated crews to fly military airlift missions.

The brief discussion below highlights some of the challenges that would be involved in implementing this concept.

Both short- and long-term aircraft storage is clearly feasible. Several FAA-approved maintenance depots operate aircraft storage facilities. For aircraft leasing companies and airlines, storage at those facilities has proven to be a cost-effective means of preserving the airworthiness of aircraft with some useful commercial life remaining.

Future availability of desirable wide-body aircraft — especially cargo aircraft — is unclear. Since most wide-body aircraft already meet the noise emission standards, FAA noise reduction mandates will force very few wide-body aircraft into retirement at the end of the decade. With continued growth predicted for the air cargo industry, any wide-body cargo aircraft available for this type of program will most likely be older aircraft no longer economically viable in commercial service. Nevertheless, some of these aircraft may still have military utility. One industry analyst estimates cumulative retirements through the year 2000 will include more than 150 B747s, 65 DC10s, 40 L1011s, and 15 A300s.¹ How many of these aircraft are expected to be cargo aircraft is unknown.

Availability of pilots is also uncertain. Current FAA work rules require U.S. airline pilots to retire at age 60, so there is a pool of recently retired airline pilots who are probably still eager and qualified to fly in other-than-airline (Federal Aviation Regulations Part 121) operations. Perhaps the FAA would allow them to continue training and flying in this type program, especially if missions were

¹ "The Airline Monitor Commercial Market Forecast: Projected Jet Airplane Retirements 1995 to 2010," *The Airline Monitor*, July 1995, p. 16

restricted to cargo only. A number of other issues would have to be resolved before using any source of pilots. These include, but are not limited to, the following:

- ◆ The status of individuals with respect to government (for example, contract employees)
- ◆ Group organization and management structure
- ◆ Pay and other compensation
- ◆ Life insurance
- ◆ Disability and death benefits
- ◆ Work rules
- ◆ Recurring training and standardization programs
- ◆ Response time between activation and reporting
- ◆ Content and duration of mission requalification programs (acceptable to the FAA).

The greatest need appears to be for cargo aircraft. If airworthy aircraft and enough qualified pilots are available, an all-cargo program would be easier to administer. Passenger missions would require flight attendants. We have not investigated potential sources of flight attendants, although many of the issues to be resolved would be the same as those for pilots.

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