

SABBATICAL LEAVE REPORT

Fall Semester, 1991
(August 19 - December 20)

Faculty Member
Submitting Report:

DONALD L. KLINKER

AN AIR TRANSPORTATION PROJECT:
A Survey and Study of U. S.
Air Carriers and Their Present
and Future Plans and Needs

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ACKNOWLEDGEMENTS

I would like to thank the Mount San Antonio College Board of Trustees and the Administration for affording me the opportunity of conducting this research project. I have been anxious to do this for quite some time.

Further, I wish to thank the Salary and Leaves Committee, chaired by Peter Parra. He and members Barbara Crane, Gil Dominguez, Ralph Greenwood, Anita Millspaugh and Walter Mix were most helpful in their expert guidance.

While part of that committee is no longer here at MSAC, I wanted to credit each one.

Lastly, I wish to thank my Dean, Larry Schrock, and my Department Chairperson, Wayne Lutz, for their encouragement in this endeavor.

Thanks to all of the above.

MT. SAN ANTONIO COLLEGE
Salary and Leaves Committee

APPLICATION FOR SABBATICAL LEAVE

Name of Applicant Donald L. Klinker

Address 11230 Arrowood, Arcadia, CA 91006

Employed at Mt. San Antonio College beginning September, 1971.

Dates of last sabbatical leave:

From September, 1978

To June, 1979

Department Aeronautics and
Transportation

Division Applied Science Technology

Length of sabbatical leave requested:

Purpose of sabbatical leave:

One semester X
Fall X Spring _____

Study _____ Project X

Two Semesters _____

Travel _____ Combination
(specify) _____

NOTE: Sabbatical periods are limited to contractual dates of the academic year.

Effective dates for proposed sabbatical leave:

From September, 1991

To January, 1992

and (if taken over a two school year period)

From _____

To _____

Attach a comprehensive, written statement of the proposed sabbatical activity(ies) including a description of the nature of the activity(ies), a timeline of the activity(ies), an itinerary, if applicable, the proposed research design and method(s) of investigation, if applicable.

Attach a statement of the anticipated value and benefit of the proposed sabbatical activity(ies) to the applicant, his/her department or service area, and the College.

Any change or modification of the proposed sabbatical activity(ies) as evaluated and approved by the Salary and Leaves Committee must be submitted to the Committee for reconsideration.

Ronald L. Klinker
Signature of Applicant

December 3, 1990
Date

APPLICATION FOR SABBATICAL LEAVE

Page 2

Applicant's Name Donald L. Klinker

THE ACKNOWLEDGMENT SIGNATURES REFLECT AWARENESS OF THE SABBATICAL PLAN FOR THE PURPOSE OF PERSONNEL REPLACEMENT. COMMENTS REQUESTED ALLOW FOR RECOMMENDATIONS PERTAINING TO THE VALUE OF THE SABBATICAL LEAVE PLAN TO THE COLLEGE.

APPLICANTS MUST OBTAIN THE SIGNATURES OF ACKNOWLEDGMENT PRIOR TO SUBMITTING APPLICATION TO THE SALARY AND LEAVES COMMITTEE.

ACKNOWLEDGMENT BY THE DEPARTMENT/DIVISION

Signature of Department Chairperson *Margaret J. Lutz* Date 12/3/90

Comments:

Signature of Division Dean *Lawrence E. Schrock* Date 12/3/90

Comments:

ACKNOWLEDGMENT BY THE OFFICE OF INSTRUCTION

Signature of Asst. Superintendent/Vice President, Instructional & Student Services _____ Date 12/3/90

Comments:

NOTE: DIVISION DEANS ARE REQUESTED TO SUBMIT A STATEMENT OF RECOMMENDATION REGARDING THE VALUE OF THE SABBATICAL PLAN TO THE COLLEGE, DIVISION/DEPARTMENT, AND INDIVIDUAL, IN CONSULTATION WITH THE APPROPRIATE DEPARTMENT CHAIRPERSON.

FINAL ACTION BY THE SALARY AND LEAVES COMMITTEE:

_____ Recommend approval to the Board of Trustees

_____ Not recommend approval to the Board of Trustees

Signature - Chairperson, Salary and Leaves Comm. Date _____

Signature - Authorized Agent of the Board Date _____



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STATEMENT OF PROPOSED SABBATICAL LEAVE ACTIVITY

Nature of the Activities

This leave will consist of contacting U. S. Domestic Air Carriers, Aircraft Manufacturers, Airline Consultants, Federal and International Air Transportation Organizations and two Universities. The purpose for these contacts will be to obtain primary and secondary data necessary to remedy a difficult situation that has developed in recent years.

Prior to 1984 (the final year of U. S. Airline Regulation), there were five airlines (Continental Airlines, Flying Tiger Line, Air Cal, Pacific Southwest Airlines and Western Airlines) and two aircraft manufacturers (Lockheed and McDonnell-Douglas) headquartered here in the Southern California area. These companies provided a professional source of information, resource speakers/contacts, tours and field trips, advisory committee members and employment opportunities for our students. Today, no U. S. Domestic Air Carrier is located in this area, and only McDonnell-Douglas (Long Beach) survives in the aircraft manufacturing business. Our contacts have disappeared. I believe the activities planned for this leave will provide the basis for relief of the problem.

Timeline of the Activities

For purposes of this project, the U. S. will be divided into four geographical regions. One month of the period will be devoted to each region.

First Month: Mid-September to mid-October, 1991
Second Month: Mid-October to mid-November, 1991
Third Month: Mid November to mid-December, 1991
Fourth Month: Month of January, 1992

After preliminary telephone contact with the sources listed above, an appointment schedule will be generated. The goals here will be to arrange personal interviews, telephone interviews, placement on professional mailing lists, subscriptions to company magazines and newspapers, tour(s) of facilities and the naming of contacts to be utilized in the future. As to the monthly periods shown above: the first month will be assigned to the eastern region; the second month will be assigned to the midwestern region; the third month will be assigned to the south-southeastern region; the fourth month will be assigned to the western region.

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Walnut, California
91789

(714) 594-5611



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Scope of the Activities

The following is a list of the contacts that will be made in the course of this project. Emphasis will be placed on the ranking:

- first--personal interview
- second--telephone interview
- third--arrangement of future tour(s)
- fourth--acquiring professional subscriptions

During the personal/telephone interviews, every effort will be made to secure names of resource individuals that can be named to advisory committees or called upon as presenters or speakers for our students. A special effort will be made to establish liaison with personnel in useful positions.

The following air carriers will be contacted:

- American Airlines, Dallas, Texas
- America West, Phoenix, Arizona
- Alaska Airlines, Seattle, Washington
- Aloha Airlines, Honolulu, Hawaii
- Burlington Express, Seattle, Washington
- Consolidated Freight, Los Angeles, CA
- Continental Airlines, Houston, Texas
- Eastern Airlines, Miami Florida
- Federal Express, Memphis, Tennessee
- Hawaiian Airlines, Honolulu, Hawaii
- Northwest Airlines, St. Paul, Minnesota
- Pan American World Airways, New York
- Purolator Courier, Indianapolis, Indiana
- Trans World Airlines, New York, New York
- United Airlines, Chicago, Illinois
- United Parcel Service, Contact City Unknown
- U. S. Air, Arlington, Virginia

The following aircraft manufacturers will be contacted:

- Boeing Aircraft, Seattle, Washington
- McDonnell-Douglas, Long Beach, California

The following airline consultants will be contacted:

- Robert Moore and Associates, Newport Beach, CA
- R. Dixon Speas, Chicago, Illinois
- Simat, Hellison and Eichler, Washington, D. C.



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The following Federal/International organizations will be contacted:

Air Transport Association, Washington, D. C.
Department of Transportation, Washington, D.C.
Federal Aviation Administration, Washington, D. C.
International Air Transport Association, Montreal
International Civil Aviation Organization, Montreal

The following Universities will be contacted:

Northwestern University, Transportation
Center, Evanston, Illinois
Purdue University, Krannert School of
Industrial Management, West Lafayette, Indiana

Methodology of the Activities

Through personal interviews and telephone interviews, all available primary data will be obtained. These interviews will also be utilized to establish liaison with useful sources within the industry; valuable personal contacts will also be established. The feasibility for future contact will be discussed. Information will be transformed into pedagogical aids for use in the classroom. From previous experience with individuals in the industry, I believe the personal contact will be most valuable.

All secondary data collected will be used to construct a current bibliography/reading list that will be used in the classroom and made available to the student.

All data collected and all contacts made will contribute to solving an overall problem that includes a weakened program in the Air Transportation area, lack of adequate inputs for course revision and student job counseling, a shortage of available professionals for advisory committee assignment, and last, but not least, MSAC's eroding reputation as the leading Community College in this discipline.



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STATEMENT OF ANTICIPATED VALUE AND BENEFIT

I believe that this project will be of great benefit to me, my department and division, my students and Mount San Antonio College.

Benefit to the Applicant

The value and benefit to me will be the reestablishment of professional contact with most segments of the industry. When I started at MSAC in 1971, these contacts were both numerous and of high quality. Today, it's difficult to get above the manager/administrative assistant level for information. While there are still a few individuals I can contact now, there are virtually none locally or at arm's length. With this leave, I can renew the older ones and find new ones. My resources will be updated, allowing me the opportunity to serve my students better. I will have better tools with which to do my job.

Benefit to my Department and Division

Within the Applied Science Technology Division, a weak link will be strengthened in my opinion. The term "Transportation" will be receiving more than just lip service in the future. After all, transportation in the U. S. accounts for one of every twelve jobs in our economy; we have a Secretary of Transportation and a Department of Transportation in Washington. It deserves a better emphasis at MSAC. I believe the Aeronautics and Transportation Department will benefit through the updating and restructuring of the Air Transportation Major. New course development is one area that will benefit; The Major can be expanded in several ways to reflect and answer the needs of the 1990's. This department is well-known nationally; yet, the declining enrollment, for whatever reasons, has been significant. I think we'll have a better product as a result of this effort.

Benefit to my Students

I think when we come down to the real reasons we are here, it's simple; it's for our students. The real reward in this profession (at least for me) is when a student walks into the office, smiling and confident, making the announcement that he/she has been hired! Training starts next week! If I can establish just one more valuable contact, improve just one more course, provide just one more source of high-value information for just a few more students each semester, then I will feel this little project was worthwhile.

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My students come to MSAC because they want more than a minimum-wage job; they want a high-quality employment opportunity. That's not doublespeak, either. I will provide future students with an updated "recommended reading" list, current information on employment, an improved class content and a more well-informed approach to career counseling.

Benefit to Mt. San Antonio College

MSAC is paying for this leave, and therefore, should devise some benefit. When I was at Purdue University in the 1950's, the only two-year institutions ever mentioned were Wilbur Wright Junior College in Chicago, and Mount San Antonio College "out west". The same was true during my seventeen years in the airline industry. Today, our MSAC Flying Team and the MSAC Relays are still well-known. Our aviation program is still well-known, and the Air Transportation program has been an important part of it. Locally, however, it seems we are a best-kept secret. We need to revitalize the program that used to draw over 300 students; where we used to have six or seven sections of a course filled each semester, we now have one. If we've lost any of our fine reputation in the aviation field, it needs to be reestablished. MSAC hasn't lost anything nationally, but it is not drawing locally in this field. I believe I will be providing a valuable service to the College, and I believe the College, along with me, my students and my department, will benefit from this endeavor.

MT. SAN ANTONIO COLLEGE
Salary and Leaves Committee

TO: Donald Klinker
Aeronautics and Transportation

FROM: Salary and Leaves Committee

Barbara Crane
Gil Dominguez
Ralph Greenwood

Anita Millspaugh
Walter Mix
Peter Parra (Chairperson)



DATE: December 14, 1990

SUBJECT: PRELIMINARY EVALUATION OF SABBATICAL APPLICATION

The Salary and Leaves Committee has completed its preliminary evaluations of sabbatical applications for the 1991-92 school year. The evaluations are based upon the criteria as listed in the informational packets provided to sabbatical applicants and as described in the sabbatical orientation program.

After careful and extensive review of all applications the Salary and Leaves Committee has evaluated your sabbatical application as follows:

<u>X</u>	Acceptable for consideration
—	Acceptable with information
—	Questionable
—	Unacceptable

Please review the sabbatical information packet for the definitions of the above rating scale.

Based upon the above noted rating, the Salary and Leaves Committee requests the following revisions be made before the Committee makes its final evaluation of your application:

RECOMMENDATIONS FOR REVISION OF SABBATICAL APPLICATION

Your application is well-organized. Please submit the following as an addendum:

1. Be specific in what you will ask in interviews.
2. Where will you travel each month?
3. How will you insure you will see the persons you need to see?
4. Provide a statement of value from the division dean.
5. How do you intend to disseminate the information you get from the project? i.e. presentations to staff members, distribute a summary of your findings.

Donald Klinker
December 14, 1990
Page 2

If any clarification of the above is needed, please feel free to contact any member of the Salary and Leaves Committee for assistance. If you believe necessary, a special meeting of the Committee will be scheduled in order for you to meet with the Committee.

Please return application materials to the Personnel Office by January 4, 1991. The Committee plans to make its final recommendations known to applicants by February 5, 1991. Final recommendations will be submitted to the Board of Trustees at the February meeting.

myw
cc Salary and Leaves Committee



MT. SAN ANTONIO
COMMUNITY COLLEGE DISTRICT

TO: Salary and Leaves Committee

Barbara Crane Anita Millspaugh
Gil Dominguez Walter Mix
Ralph Greenwood Peter Parra (Chairperson)

FROM: Donald L. Klinker
Aeronautics and Transportation

DATE: January 11, 1991

SUBJECT: ADDENDUM TO APPLICATION FOR SABBATICAL LEAVE

The revisions to the above-referenced application are attached as ADDENDUM (pages 8 and 9) and a statement of value to the committee from Larry Schrock, Dean, Applied Science and Technology.

If the committee should require further information or clarification, my home telephone number is (818) 444-4047, and my office extension is 4775.

Donald L. Klinker



MT. SAN ANTONIO
COMMUNITY COLLEGE DISTRICT

APPLIED SCIENCE AND TECHNOLOGY DIVISION

January 11, 1991

TO: Salary and Leaves Committee:

Barbara Crane	Anita Millspaugh
Gil Dominguez	Walter Mix
Ralph Greenwood	Peter Parra (Chairperson)

FROM: Lawrence E. Schrock, Dean,
Applied Science and Technology Division

SUBJECT: **STATEMENT OF VALUE FOR DONALD L. KLINKER SABBATICAL LEAVE**

I believe this Sabbatical Leave will be of significant value to Donald L. Klinker, his students, the Aeronautics and Transportation Department and the Applied Science and Technology Division.

The need for this type of project is urgent. We are faced with declining enrollment at a time when most companies in the Air Transportation Industry are searching for qualified people. Reacting to changes within this industry, and keeping up with those changes present a difficult task at best.

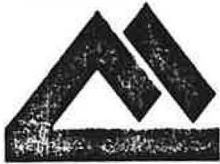
For one to remain current and teach effectively, a constant input of new information is needed. In order to keep our curriculum up to date, we must have a steady stream of current information. If at all possible, we must establish liaison comprised of middle and upper level contacts within the Industry. This would allow us the opportunity to better train our students and provide potential job placement.

I believe that Donald L. Klinker can accomplish much of this valuable need with his Sabbatical Leave activity/endeavor, and I hereby recommend that he be approved.

LES:mm

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MT. SAN ANTONIO
COMMUNITY COLLEGE DISTRICTADDENDUM

This is in response to the Committee's request for five specific revisions. I will state each of the five, giving my best estimate/answer for each.

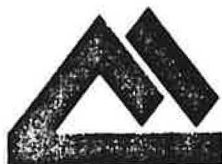
1. Be specific in what you will ask in interviews.

I do not wish to set up a specific format as if I were interviewing as a news reporter. I believe it will depend largely upon the administrative or operating level of the individual contacted; I'll have to make it a judgment call. I will be inquiring into the long- and short-range plans that have been formulated. This will include staffing, new equipment on order with delivery dates, forecasts regarding traffic levels anticipated, etc. I will attempt to acquire information as to new routes and/or additional cities into which the carrier intends to enter. I will request that I (MSAC) be placed on mailing lists of company information sources (Company House Organs, In-flight Material, Press Releases, etc.). I will push for the designation of one or more resource persons we can contact on a regular basis. I will emphasize our needs, and solicit all available aid.

This "outlines" the general approach I will use when interviewing at an airline. I feel I have the necessary skill(s) to alter the specific approach when interviewing a representative from the other areas of the industry, namely, Aircraft Manufacturers, Consultants, Government and Independent Organizations, Regulators and/or Universities.

2. Where will you travel each month?

Under Timeline (ref: Page 3), general areas of the U. S. were already submitted. Under Scope (ref: Page 4), Air Carriers, Manufacturers, etc. were already submitted. Until I have made preliminary contact (See answer to #3, next page), I cannot supply a daily itinerary. If the committee wishes an itinerary, I will furnish it at the earliest date possible. I do intend to make use of all possible discount and promotional fares available this fall, to stay within a reasonable budget. (Please note further that the dates mentioned on referenced page 3 will change in compliance with the revised college calendar.)



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ADDENDUM (cont.)

2. Where will you travel each month?

I stated in the APPLICATION that the second month would be assigned the midwest region. Referring to referenced pages 3 and 4, my plan would be to visit Federal Express in Memphis, Purolator Courier in Indianapolis, United Airlines in Chicago, R. Dixon Speas in Chicago, Northwestern University in Evanston and my alma mater, Purdue University in Lafayette, IN. I may also include Northwest Airlines in St. Paul, the International Air Transport Association and the International Civil Aviation Organization in Montreal. The other industry contacts would be made in a similar geographic pattern consisting of the four (in total) regions referred to at the bottom of page 3.

3. How will you insure you will see the persons you need to see?

I will be contacting middle to upper management people. Manager, Supervisor, Director, Staff- or Assistant-Vice President levels will comprise my target area. I will set up these contacts by telephone and by letter. In cases where I feel I'm being "stiff-armed", I intend to contact peer-level individuals at other companies to prepare the ground for me. I do not anticipate any difficulty in seeing the management level(s) I wish to see.

4. Provide a statement of value from the division dean.

See attached letter from L. E. Schrock.

5. How do you intend to disseminate the information you get from the project?

Upon return from leave, I will write the required report. When that report gets final acceptance, I will run several dozen copies in addition to the copies to the committee. All physical documentation collected while on leave, and all recurring data and subscriptions will be made available to my division, department and peers, probably located here in my office in Building 28B, 101F. To those outside this discipline, these information sources will be available at their request.


END OF REQUESTED ADDENDUM

MT. SAN ANTONIO COLLEGE
Personnel Services

TO: SABBATICAL LEAVE PARTICIPANTS, 1991-92

Darrelle Cavan Donald Klinker

FROM: Salary and Leaves Committee

Barbara Crane Anita Millspaugh
Gil Dominguez Walter Mix
Ralph Greenwood Peter L. Parra, Chairperson 

DATE: March 19, 1991

SUBJECT: APPROVAL OF SABBATICAL APPLICATIONS

I am pleased to inform you that, at its meeting of February 21, 1991, the Board of Trustees gave final approval of your sabbatical leave. The Salary and Leaves Committee wishes to express its appreciation for your cooperation in the application process.

MSAC has a quality sabbatical program due in part to the high standards maintained in the overall application, implementation and reporting procedures. The following points are presented to assure the successful completion of your sabbatical program.

1. The granting of your sabbatical was based upon the activities as stated in your approved application. You will be requested to sign an agreement between you and Mt. San Antonio Collge District. In part, the agreement requires that you perform service of a professional nature as delineated in your sabbatical application. It is important that you make no change in the approved sabbatical plan without advanced approval of the Salary and Leaves Committee. If it becomes necessary that your plans be revised, or if you are unable to complete a component of your sabbatical plan, you must notify the Salary and Leaves Committee immediately (contact the chairperson). The Committee will give careful considertion to your request for sabbatical plan modification. Following this contractual procedure will avoid or minimize problems for you and the District.
2. Sabbatical reports are due no later than the first working day of the second school month of the next school year (*Monday, September 14, 1992). Due to the contractual timelines for completing its work, the Salary and Leaves Committee must receive your reports on or before this deadline date.

*As the 1992-93 calendar has not been established, this is an assumed date. If the date changes, you will be notified.

SABBATICAL LEAVE PARTICIPANTS, 1991-92

March 19, 1991

Page 2

3. Sabbatical participants are advised to review the following documents before commencing this sabbatical program:
 - a. Collective bargaining agreement between MSACCD/Faculty Association, Article XI, "Leaves of Absence."
 - b. "Sabbatical Leave Informational Packet" (If you do not have a packet, one may be obtained in the Personnel Office).
 - c. Review your approved application proposal to be sure you meet your commitments.
 - d. Read carefully the agreement you will be requested to sign.
 - e. If you have any questions regarding the sabbatical program, members of the Salary and Leaves Committee will be pleased to assist you.
4. Marilyn Walker in the Personnel Office will notify you when your sabbatical agreement is prepared for your signature.

The Salary and Leaves Committee wishes you a successful and enjoyable sabbatical leave.

myw

cc Salary and Leaves Committee

INTRODUCTION

On August 19, 1991, I commenced a research project which resulted in visits to eight Major Airlines (those airlines with over one billion dollars in annual revenues), three National Airlines (those airlines with over 75 million dollars, but less than one billion dollars in annual revenues), and six Regional Airlines (those airlines with less than 75 million dollars in annual revenues).

I also visited two major aircraft manufacturers, four airline industry consultants and two universities.

In addition to personal visits, I conducted telephone interviews with representatives of three Major Airlines, three National Airlines, two All-Cargo Airlines, four Regional Airlines and two Federal organizations. The remainder of my research activity was divided about equally between mail contacts and airline industry magazines and periodicals.

The itinerary and time line of these activities is detailed on the following couple of pages. It was necessary to deviate from the original time line as submitted in the original application due to the revisions in the College Calendar for the 1991-1992 School year.

TIME LINE AND ITINERARY

I divided my intended activities into six periods of three weeks each. I was able to hold to that schedule quite well throughout the semester, as is shown below.

August 19 - September 7:

During this period, I flew to Atlanta, spending three days there with Delta Airlines. I also spent two additional days with friends I knew from the several years I had worked at Western Airlines here in Los Angeles. (Delta and Western merged in the late 1980's.) I drove from Atlanta to Arlington, Virginia in order to see representatives from USAir, and then to Reston, Virginia to visit Avitas Aviation Consultants. Telephone, mail and reading research was also part of my total activity in this time period.

September 9 - 28:

I flew from Washington, D. C. to Chicago for a very busy three weeks, visiting United Airlines and Northwestern University while in the Chicago area. I drove to Lafayette, Indiana, visiting my alma mater, Purdue University. Then a trip to Indianapolis resulted in a very informative

day with American Trans Air. On the return trip to Chicago, I spent most of a full day with Midway Airlines before returning to Los Angeles. I experienced a "flashback" here as Midway Airlines occupies the facilities formerly occupied by United Airlines in 1954 when I started my career.

September 29 - October 20

I spent this time period traveling first to Phoenix to see representatives of America West Airlines. From there, I proceeded to Farmington, New Mexico, to visit Masa Airlines. I drove on to Denver, enjoying the fall scenery of the Rockies. While in Denver, I was able to interview personnel at both Rocky Mountain Airways and United Express. I was given the opportunity to tour the site of the new Denver International Airport being built just northeast of the city. Representatives from United Airlines and Continental Airlines were so very helpful and responsive. It was suggested that I stop at Sky West Airlines on my way back to Los Angeles, and I did visit their facility in St. George, Utah. On my arrival back here, I decided to devote my fourth time period to the local area.

October 21 - November 8

Here in Southern California, I was successful getting interviews at McDonnell Douglas in Long Beach, Burlington Air Express in Irvine, a local representative for Pan American World Airways, MGM Grand Air, and Wings West Airlines in San Luis Obispo. I also talked with Lockheed Aircraft in Burbank, but that company is currently out of the commercial aircraft business. They were still very helpful in their information.

November 9 - 24

When I first moved to the west coast, I worked for Western Airlines in Seattle. Some of the folks I worked with are now employed by Boeing Aircraft, Alaska Airlines or Airborn Freight. I was able to visit all three companies, and I was especially impressed with Alaska Airlines. (I'll comment on that further in the detailed portion of the report.)

December 2 - 14

This last period involved a trip to Dallas-Fort Worth to try to renew/re-establish past

contacts at American Airlines. While in the area, I also conversed at great length with several very sharp people employed with Southwest Airlines. I also spent many hours talking with a great variety of airline people. Just as I was ready to return home on December 14, a Sales Director of Metroflight, (an American Airlines Regional Carrier) offered to buy me lunch, and invited me to a sales meeting.

General -

In this endeavor, I found it quite difficult to cover as much ground as I had outlined in the proposal, but on December 14, 1991, I felt I had been able to cover it well.

The one thing I did not expect was the number of changes that occurred within the industry as my research progressed. Pan American World Airways and Midway Airlines, two of the airlines visited, no longer exist. They ceased operations just after I talked with them. Midway died on November 14 and Pan American followed on December 4. It is well to point out here that Braniff International and Eastern Airlines, two Major Airlines, had ceased operations the year before. It is a dynamic industry to be sure.

RESEARCH FORMAT

The research on this project was approached as informally as possible, but it investigated all of the subjects that were mentioned in the original application and addendum. Primary data were generated during the in-house interviews at locations outlined in my itinerary. Telephone interviews were conducted from my home. Secondary data were gathered through requests by mail and individual research activity on my part; additional data were picked up during my travel activity.

Each of the following categories was explored to the extent that it was relevant, although not in the order presented. I prefaced each interview with a brief description of the college, our department, our own goals and objectives, an opening statement as to the purpose of my visit and began the questioning. The categories were:

- *What is the condition of your company and the airline industry today?
- *What has marketing and corporate planning done recently in forecasting the next few years?
- *Are any mergers or acquisitions planned?
- *How many aircraft are on hand/on order?
- *How many employees do you have at present?
- *How many employees do you forecast you will need in the next few years?

- *What skills will you be seeking in the new hire?
- *I've outlined our curriculum at MSAC. What area or areas of expertise should we emphasize?
- *Should we be adding to/deleting any part(s) of our program? Where? How?
- *If it would be to your advantage as well as ours, would you be interested in naming a liaison person we could contact on a regular/recurring basis?
- *Do you have anyone in the Los Angeles area that we could contact as a resource person/guest speaker?
- *If you were advising college-age individuals as to careers in the Industry, how would you counsel?
- *Do you foresee re-regulation in the near future?
- *Would you put my name on any mailing list(s) for books, pamphlets, in-house publications that are not confidential in nature?
- *Is the present system adequate to handle the future demand as you see it?
- *Is there anything you might wish to add, given the information I have presented to you regarding our offering at MSAC?

After thanking the individual(s), I invited each of them to visit the campus if ever in the area.

ORDER OF PRESENTATION

Although my research occurred by geographic breakdown, I believe it is more understandable when presented in the following form:

- I THE AIRLINES
 - A. Major Airlines, including all linkages with specific National Airlines or Regional Airlines
 - B. National Airlines, including all linkages with specific Regional Airlines
 - C. Regional Airlines, including any linkages with other Regional Airlines, if any existed
 - D. All-Cargo Airlines
- II AIRCRAFT MANUFACTURERS
- III AIR CARRIER CONSULTANTS
- IV FEDERAL/INTERNATIONAL ORGANIZATIONS
- V ACADEMIC INSTITUTIONS
- VI CONSENSUS
 - A. Positive Aspects
 - B. Negative Aspects
- VI BENEFIT AND/OR VALUE OF THIS PROJECT

I

THE AIRLINES

MAJOR AIRLINES:

American Airlines	America West
Continental Airlines	Delta Airlines
Federal Express	Northwest Airlines
Pan American Airways	Southwest Airlines
Trans World Airlines	United Airlines

USAir

NATIONAL AIRLINES:

Air Wisconsin	Alaska Airlines
Aloha Airlines	America Trans Air
Hawaiian Airlines	Horizon Airlines
Markair	Midway Airlines
Midwest Express	Southern Air Transport
Tower Air	Trump Shuttle
UPS	West Air

World Airways

REGIONAL Airlines:

Most of the Regional Airlines, at least the largest ones, are linked in one or more ways with the Major and/or National Airlines. Because there were 124 Regional Airlines operating at the end of 1991, plus another 43 newly formed/founded Regionals to be operational in 1992, it would be impossible to cover them; perhaps it could be a study all its own.

Only those having linkage(s) with another Regional Airline, a National Airline or a Major Airline are covered in this report.

ALL-CARGO AIRLINES:

Airborne Express	Burlington Air Express
Federal Express	Southern Air Transport
United Parcel Service	Zantop

NOTE: Some of the All-Cargo Airlines are also found in one of the other categories. This is due to the method the U. S. Government applies in "sizing" an airline, i. e., by annual revenues generated.

AMERICAN AIRLINES

For the year 1991, American Airlines was ranked number one in system traffic (passengers and passenger miles carried), and number one in total operating revenue. American carried 76 million passengers a total of almost 82 billion passenger miles. Average trip length for each boarding passenger was approximately 1,075 miles. Despite these large numbers, the company lost \$165 million net.

When one looks at the above numbers, it is easy to draw a quick conclusion: American is in big trouble. "Not so", say the people at American. They point out that they presently have 622 jet aircraft operating, and another 156 on firm order. (Recent media announcements have stated that many of the airlines, including American, have canceled their orders, but American has canceled only some of their options, and arranged other aircraft in the option to a later delivery date.)

American Airlines has no immediate plans for any mergers or reorganization. Since their merger with Air Cal, the acquisition of some of the previous Eastern Air Lines and Pan American World Airways routes in Central and South America and the addition of many new European routes, the company seems set to go with what they have for a number of years.

American has an excellent support system serving communities throughout the United States. These smaller cities receive airline service which connects them to American's larger hub-city connecting airports. This sub-system (called American Eagle) enables the parent company to control a large market. These five Regional Airlines share the airline code (AA) with American Airlines for reservations purposes, and share airport space, giving the passenger an easy connection.

Command Airlines and Nashville Eagle have merged to form Flagship, and now operate 113 aircraft. Another four airlines, Executive (19 aircraft), Metroflight (40 aircraft), Simmons (49 aircraft), and Wings West (48 aircraft) comprise the remainder of the connecting system. All five airlines are d/b/a (doing business as) American Eagle. Four of the five Regional Airlines had a net profit for 1991.

Of these Regional Airlines, I was able to interview at Metroflight in Dallas and Wings West in San Luis Obispo. I received much the same enthusiasm regarding the future as I had experienced at American. Most of the employees from top to bottom were younger than their counterparts at the parent company. In conversations, both private and group, I got the impression that the company cross-utilizes many employees, and those employees approve of that arrangement.

At this time, American Airlines has approximately 100,000 employees. Attrition will account for most of the career openings within the company, most occurring at the entry-level. These entry-level jobs would involve customer service and aircraft servicing, including Reservation Sales Agents, Flight Attendants, Ramp Personnel and Clerical. Most of the companies emphasized that, since they are all corporations, many openings take place throughout the company, and college-trained individuals are preferred, especially those with four-year degrees. Hundreds of pilots were hired in the 1950's and 1960's that will reach mandatory retirement age from this date forward and beyond the year 2000.

The individuals I contacted found nothing lacking in our program. I requested suggestions regarding both course- and major-related content. They suggested the addition of business courses, especially marketing or sales-oriented courses. They commented that many young individuals can not read and spell to a grade 13 to 16 level, and that this is a very real problem today. Another area in which the applicant has been weak is in geographical knowledge.

I succeeded in my efforts to be placed on several mailing lists that originate at American Airlines. Further, I was able to secure several contacts that will be useful to me, both in teaching and in counseling my students.

AMERICA WEST

Operating currently under Chapter 11 bankruptcy, this airline is the only employee-owned airline in the U. S. Ranking tenth among the eleven Major Airlines in both system traffic and total operating revenue, this airline has a fleet of 102 aircraft today. The company has canceled all aircraft it has on option, but its firm orders for 72 new aircraft still stands. America West had significant increases in number of passengers (+8.2%) and operating revenue (+7.5%) in 1991, but the net loss was three times that of the previous year.

In my discussion with them, they were most optimistic about the future if we didn't include 1992. As far as future hiring is concerned, they pointed out that they are a young company with younger employees than the average organization, so attrition will not take a large toll over the next few years. Expansion of service area is not an option for the company at this time, and no plans are in the offing to merge with or into any other airline. However, they have heard of MSAC, and have hired some of our students, especially in the Los Angeles area. They were not fully aware of the program we have here, but stated that they would consider our graduates for employment when present financial considerations are behind them.

America West has no support system to provide connecting passengers from smaller communities located within their service area. They operate almost completely depending on origin-destination passengers. The company has just recently reorganized its top management, and has decided to concentrate its connecting efforts to three airports, Phoenix, Las Vegas and Columbus, Ohio as major hubs. A new addition to America West's network is service between Midway Airport (Chicago) to Orlando and Tampa. It has also added Milwaukee.

Efforts to establish a continuing contact were not successful, or at least not what I would have preferred. I was successful in renewing an old acquaintance I had established when I was employed with United Airlines many years ago. He is now chairman of America West, and he was the individual who founded the company.

America West employs about 15,000 people today.

CONTINENTAL AIRLINES

This is a second Major Airline that is operating under the protection of Chapter 11 Bankruptcy and the U. S. Bankruptcy Court. Continental Airlines has been under heavy criticism, mostly media-generated, since the 1970's. It has been plagued by labor discord almost that long. The airline is the result of merging Continental Airlines, Frontier Airlines, People Express and Eastern Airlines. With all the gloom and doom that has been forecast for this airline, it has one of the best safety records in the industry.

For 1991, Continental Airlines ranked sixth in system traffic and seventh in operating revenue. The Airline carried 38 million passengers a total of 42 billion miles, for an average trip length of 1,114 miles. All of these figures were up slightly from the previous year. For the year, Continental experienced a net loss of \$341 million.

These statistics were generated utilizing 337 aircraft in operation. There are another 95 advanced technology, twin engine aircraft on firm order, and the aircraft manufacturers have not canceled any part of that order. However, Continental has canceled all of its option aircraft as of the end of 1991.

The company has no plans, present or future, to merge or to acquire any other airline, and is not planning to be acquired or merged into any existing airline.

Continental Airlines has a support system similar to that at American Airlines, but about half the size. Four previously Regional Airlines (Britt Airlines, Bar Harbor Airlines, Rocky Mountain Airways and Southern Jersey Airlines) were merged a few years ago to form Continental Express. This airline, with 117 aircraft and about 4,000 employees, is a connector airline for Continental Airlines. It provides service between small communities and nearby connecting hubs served by Continental, and others, too. Continental Express uses the same airline code (CO) for reservation and sales purposes as does Continental Airlines. The name Continental gets saturation coverage over the entire domestic system.

I interviewed Continental Airlines managers at both the Dallas/Ft Worth Airport and at the Denver Airport. In addition, I was able to talk to the Director of Personnel for Continental Express, Rocky Mountain Airways at the Denver Airport. If Continental's system was in any kind of trouble, I would not have known it. I seldom "heard a discouraging word" while talking with these individuals. All were optimistic about the future, and were very receptive. Two employees drove me to the site of the new Denver Airport, which was most impressive. Several of Continental's employees were aware of MSAC, and certainly left me with the impression that future contact would be welcomed. They assured me that they would forward to me any future exercises/studies/analyses they might create.

Further, they encouraged me to contact the Houston home office to get my name on the appropriate mailing lists.

I was most impressed with the people and with the company's plans, but I realize that none of the information released to me should be used without verification from Houston. I regret that my timetable did not allow for a side trip to the corporate headquarters, but I have contacted them by telephone, and I expect they will follow through as they indicated they would.

Continental Airlines employs 35,000 people, and Continental Express employs another 4,000. The positive attitude(s) shown led me to believe that we can "do business".

DELTA AIR LINES

Regardless of the method of measurement, Delta Air Lines has been the beacon of the Airline Industry in the U. S. during the past twenty years. Ranked second in system traffic and third in total operating revenue, Delta Air Lines boarded over 74 million passengers, carrying them a total of over 67 billion passenger miles for an average of 907 miles per passenger. In the past year, 1991, Delta acquired the Pan American Shuttle (Boston, New York and Washington, D. C.) and 50 new routes across the Atlantic. This added 21 destinations around the world to Delta's system, and they plan to add a minimum of five more destinations in 1992.

At present, Delta Air Lines operates 537 aircraft, with firm orders for 190 more. With this operation, and all of the acquisitions and new service inaugurations, Delta experienced a net loss of \$239 million in 1991. This is normal according to experts who study these types of disruptions. Delta experienced the same kind of results on merging with Western Airlines in the late 1980's. There are 64,000 people employed at Delta Air Lines.

The Delta Connection is a different story. This is a group of four National Airlines that provide Delta with the strongest support system. Notice that these are National Airlines, not Regional Airlines.

Atlantic Southeast Airlines operates 62 aircraft with nine on order; Business Express operates 70 aircraft with 68 on order; Comair operates 69 aircraft with 22 on order, and Sky West operates 50 aircraft with eleven on order. The aircraft in The Delta Connection have seating configurations that exceed the average in the industry. The Delta Connection utilizes 251 aircraft (with 110 on order) to connect 5.6 million passengers to its parent Delta Air Lines.

There are no assumptions in Delta's 2-year, 5-year or ten-year plan to expand the company further. It does plan to improve on its connecting hubs in the U. S. There will be expansion within its system, and there will be several thousand job openings between now and the year 2000. Those openings are expected to be "across-the-board" in nature. Openings in sales, reservations, ramp service, other customer service and flight operations will all occur at a faster rate than mere attrition. The job market should start improving in late 1992 or early 1993.

The Delta people felt the industry was in pretty good shape, and any talk of reregulation brought on a negative result.

It was generally advised that, when dealing with our students and their careers, it should be emphasized that the four-year graduate is much more desirable than anything less. I noticed numerous framed degrees, seminar certificates and memberships throughout the office area. This reflected the emphasis on the four-year degree. One other thing was most

noticeable; this was a preponderance of southern accents. It was pointed out to me that most applications tendered did not have either a satisfactory cover letter or a complete resume. They hastened to add that more than half of those to whom a Delta Air Lines application form was given/sent did not return it. They did not single out MSAC for this criticism, but it was presented forcefully enough to get a message across.

I asked that my name be placed on their mailing list, and they were very truthful in letting me know that internal publications are not available to the general public. I asked about liaison people or resource people, and they told me to feel free to contact any of their district directors. This would include those directors at Los Angeles or Ontario. I was also invited to call or drop in any time. I spent a good portion of my time with some of the people in Marketing Development; these folks were very sharp and most helpful.

As far as our program at MSAC is concerned, they felt that we were covering Transportation/Air Transportation adequately. At the end of two or three of the discussions, one more recommendation was offered: computer competence. They indicated that this was a problem even with many four-year college graduates.

FEDERAL EXPRESS

Federal Express Corporation, located in Memphis, TN, is a U. S. Major Air Carrier, but carries virtually all cargo loads (Express, Freight and Airmail). The company did carry about 350,000 passengers in 1991, but that business was all military charter. Federal Express inherited some military contracts as a result of its takeover of the Flying Tiger Line in the 1980's. Ranked last (11th) among the Majors in passengers boarded, Federal ranked fourth in total operating revenue (\$7.6 billion) for 1991.

The company operates a fleet of 456 aircraft, and it has firm orders for 27 more. There are approximately 80,000 persons employed by Federal Express.

Only a few people at Federal Express were aware of MSAC and our Aeronautics and Transportation Program. They indicated a willingness to keep in touch, send brochures, provide speakers from the Los Angeles area when possible and generally, to help out whenever they could. Most of the employees at Federal Express are younger than average for an airline. This is probably due to the fact that it was founded in the late 1970's as a small-package company carrying only three specific items: Federal's tube, box and padded envelope. If your shipment didn't conform to one of those small containers, you could not send it on

Federal Express Overnight Service. Most of the employees were hired to sort express at the Memphis hub; others were persons working the ramp, driving vans between shipper and airport throughout the U. S. There has been no need for customer service employees that passenger air carriers require: flight attendants, ticket counter sales people or "Good Will" representatives roaming the terminal area. As one of the managers explained to me, "Cargo doesn't need the service, and it doesn't complain. It just sits there. Our job is to get it to its destination, whatever that takes. We keep our promise to the shipper, delivering the shipment, and doing it a time we've promised". Even though most of the job openings at Federal are at or near the bottom rung of the ladder, their fringe benefits and general treatment of the employee, along with a policy of promotion from within, result in a low rate of attrition.

As Federal Express grows larger (it now serves 16 cities in Europe and the United Kingdom), it will require entry-level persons to assure continuation of the personal service it now offers. If properly handled, I believe that some of our students could be placed with Federal Express.

NORTHWEST AIRLINES

Annual 1991 figures reveal that this Major U. S. Air Carrier had virtually a break-even year (\$3 million net loss) on total revenues of \$7.5 billion. Northwest ranked fifth in passengers boarded (just over 41 million) and fourth in passenger miles (53.9 billion). This resulted in an average trip length of 1315 miles. Northwest Airlines operates 345 jet aircraft, with firm orders for 178 more.

Northwest is a result of the old parent company, Northwest Orient Airlines and a merger with Republic Airlines (which was a company formed when it merged with Hughes Airwest). Both Hughes and Republic were companies formed when each was created by merging, in each case, three smaller airlines. Many airlines of the 1980's and 1990's were created in much the same procedure.

As is the case with American Airlines, Continental Airlines and Delta Airlines, Northwest has its support system, consisting of Airlines that operate under their own names, but do business as Northwest Airlink. Express Airlines (owning 52 aircraft with 22 more on order), Mesaba Airlines (owning 31 aircraft with 70 on order), Northeast Express (operating 19 aircraft with four on order) and Precision Airlines (which owns and operates 17 aircraft) make up the Airlink. These four airlines provide Northwest with connecting traffic at hub airports throughout the system.

Northwest Airlines operates from its corporate offices in St. Paul, Minnesota. It employes just over 35,000 people throughout its system; another 2,500 employees work in the Airlink, which generates another \$185 million annually.

Northwest Airlines' planning is on a two-year, five-year and ten-year basis. The company is planning aggressive marketing efforts to improve their share of the total air-carrier market. While they are not hiring a large number of new employees at this time, they were most interested in qualified graduates from any two- or four-year college or university. They were impressed with our program and its course content. They received copies of our offerings and reacted positively when I suggested liaison or resource personnel they may furnish from time to time. They indicated that individuals from Los Angeles and Ontario Airports should be available to us. They will be hiring more employees in 1993 and 1994 according to present plans. Even though this interview was done by telephone, I feel I was able to set a fairly good foundation for further contact.

Northwest and Northwest Airlink form a very solid airline system, and should provide MSAC with at least an available source for future graduates in our program. They did make one suggestion regarding our program, and that was to add an Airport/Airline Planning course.

PAN AMERICAN WORLD AIRWAYS

I interviewed Pan American's Director of Information Services on October 21, 1991, here in Los Angeles. At that time, he and another representative from Airline Planning were so very optimistic that 1992 was the year for the company to rebound and become the leader again in international service. They spoke glowingly enough that I was also positive that everything had turned around for the company. Pan Am had sold its Pacific system to United Airlines, and most of the European and South American Routes to Delta and American. Further, the Pan Am shuttle had been purchased for a very favorable price.

Then, so very bluntly came the announcement: Effective December 4, 1991, Pan Am would cease operations completely, and for the last time. There would be no reprieve; it was over for one of the oldest companies in the U. S. The remainder of this air carrier system would be absorbed by several other air carriers within a few weeks. Pan Am's employees would also meld into the remaining system, and its aircraft stored until sold. There wasn't much more to the announcement.

It should be noted here that several healthier airlines have "ceased operations" by joining another healthy airline in a very favorable merger. Pan Am had attempted

several actions similar to these mergers. Either powerful unions or the U. S. Justice Department succeeded in frustrating these efforts. Pan Am began to "sell itself off", i. e., sell complete or partial routes in order to survive. The unions fought it at every turn. Finally, time ran out, and no action could have been successful. Creditors wanted their money, the banks would not lend another dollar, losses mounted, and, most important, the cash flow dropped to zero.

Pan Am is gone now. Over the past several years, employees of Pan Am went out of their way to accomodate MSAC by coming on campus to lecture, interview and just to make themselves available to us and our program. We placed quite a few graduates with Pan Am. It's a shame.

SOUTHWEST AIRLINES

Among all of the Major U. S. Air Carriers, Southwest Airlines ranks tenth out of eleven in passengers carried at 24.2 million for 1991. These passengers generated a total of 11.3 billion passenger miles, which results in an average passenger trip length of 467 miles. This average is rather low, yet the company had total operating revenues of \$1.3 billion, and turned a modest profit of \$27 million for the year. This happened in a year in which the loss for the eleven Major Air Carriers exceeded \$2 billion.

Southwest Airlines began much like California's Pacific Southwest Airlines and Air California. While the California carriers specialized in carrying the traffic in the Los Angeles-San Francisco corridor, Southwest Airlines specialized further, providing service between Dallas Love Field and Houston Hobby Field, ignoring the major airports in serving those cities. Public preference was for commuting service using the smaller, but more conveniently-located airports.

Today, Southwest serves that market and several other markets in the southwest, south and southeast; recently, the carrier added services to Chicago, Detroit, Indianapolis and a few Ohio destinations. Southwest serves 18 states now, and the company is researching other possible markets.

Southwest accomplishes this utilizing just one type of aircraft, the Boeing 737. They own and operate 124 of the aircraft, and have 39 more on firm order. They have not canceled any of their options (68 more), as most of the other airlines have done. The Southwest people told me that it makes more common and economic sense to utilize the 737 in their operations. The public is very familiar with the aircraft, and they love it. Maintenance is simplified due to commonality of parts and the close similarity of repairs and programmed maintenance. There are three models of the same aircraft being utilized, the -200, the -300 and the -500. The aircraft has "grown up" since the original B-737-100 was introduced in the mid to late 1960's, with the higher number identifying a greater number of seats and an aircraft with a greater range.

Southwest employes 9,000 employees, and is headquartered at Love Field in Dallas, Texas. They plan to expand in any area that shows promise and a demand for their approach to service. As this expansion occurs, additional staffing will be required, especially at the entry-level positions. These would include some pilots, as each aircraft requires a minimum of four scheduled crews and one reserve. It is more likely, for planning purposes, to say a minimum of five crews and one reserve. In addition to pilots, flight attendants and mechanics, they will need airport gate

attendants, customer service personnel such as sales and reservation agents, ticket agents and ramp personnel. A few openings occur from time to time in the corporate offices and in flight operations.

They had suggestions for our program after I had explained it to them; they were not all that familiar with MSAC. A real need exists for graduates having a very good picture of just how involved an airline can be. They felt it was "O. K." that a young person has a desire to travel, but it should be emphasized to a greater degree that the benefits are not the main reason to desire employment at an airline. They suggested the student take a management course and a basic marketing course as part of the requirements. Most of their employees are Texas or southwest born; therefore, there does exist a regionalism that may bother some prospective employee. I might point out here, that, in some seventeen years with the airlines, I noticed this to be the case, although I don't recall it ever becoming a big problem.

Southwest has no secondary or support system to provide feed or connecting traffic. They specialize in origin-destination service, but they can also compete in several connecting markets with the larger carriers, and they seem to be doing it effectively. They indicated a sincere willingness to cooperate with us and provide needed support.

TRANS WORLD AIRLINES

Operating under Chapter 11 Bankruptcy for the past three years, TWA has become one of the weaker of the Major Air Carriers in the U. S. The company has been plagued with union troubles, steadily declining revenues coupled with steadily increasing costs, and, most notably in recent history, the object of several takeover attempts by interests outside the transportation industry. The most recent takeover was by financier Carl Icahn in the late 1980's. Apparently, his interest was not to acquire and operate an airline, but to fragment it, turning a profit on each of the pieces. This has not been favorable to him or to TWA. Also among the woes of the company were two highjacking incidents that held the front page spaces in most newspapers for several weeks. All of these negative aspects have offset anything positive that has happened during this time period.

With the above as a backdrop, let's examine the numbers. TWA was among the "big three" in the airline industry between the early years (late 1920's/early 1930's) until the early 1980's. Most domestic markets in the U. S. were dominated by American Airlines, United Airlines and TWA. TWA and Pan American World Airways led U. S. Carriers in international traffic carried by a wide margin. Today, TWA Ranks eighth in total boarding passengers (20.8 million),

generating 28.6 billion revenue passenger miles, an average trip length of 1377 miles. TWA ranks eighth in total operating revenue at \$3.7 billion, and did report a small profit for 1991, but that profit occurred as a result of sales of several aircraft.

The TWA fleet consists of only 192 aircraft, and only 20 aircraft on order. The company has canceled all of its options, and has no plans to order more.

TWA's support system exists in two regional airlines, Trans World Express with 37 aircraft and Virgin Islands Seaplane Shuttle with three old amphibious aircraft. The former was a merger with Pan Am Express and Trans World Express. The latter is barely surviving as a result of its near-destruction by Hurricane Hugo several years ago.

TWA employed just over 29,000 (including the regional carriers) when I conducted my telephone interview. It was emphasized that this figure is less than half the number employed during better times. They have no specific plans for near-term or long-term; there are no plans whatsoever to hire employees until all furloughed personnel have been called back.

This corporation is still in the middle of a power struggle involving the unions, the banks and the U. S. Justice Department. The Justice Department has been the "thorn

in the side" of TWA in any merger application made during that time. It is the interest of the government that TWA find a strong, financially-sound airline willing to accept all of the outstanding obligations, all of the routes regardless of profitability and assurances that no employee will be laid off as the result. Further, none of the surviving carrier's routes will be permitted to form a monopoly or near-monopoly. No carrier today is interested in such a deal.

I don't believe we at MSAC can expect much active support from TWA in the next few years. Locally, they have helped us in the recent past, and several of our graduates have been hired and are still employed. The feeling around TWA is that they are somewhat thankful to be in business, but optimism is a little difficult to cultivate or retain.

UNITED AIRLINES

My visit to United Airlines was one of the high points of this Project. While only a few of my fellow employees of the 1950's and 1960's were still with the company, those few that were there brought back many memories. Also, I have kept in touch since leaving United, and have made many acquaintances during that time.

United is a very strong airline today, even in an era when all U. S. Air Carriers are experiencing marginal profits or a loss. It is ranked third in total passengers carried in 1991, with 62 million; this generated a total of over 82 billion revenue passenger miles, the highest of all Major Airlines. (American Airlines had 82 billion also, but the unrounded number was highest for United, as they were eager to point out.) These figures result in an average passenger trip length on United at 1,322 miles. The profit picture for 1991, however, was terrible. While there were several one-time expenses (non-operating expenses), United experienced a net loss of \$335 million.

United Airlines operated 486 jet aircraft, and has standing firm orders for 238 more. Most options have been put on hold for now, but those options amount to 200 more. The fleet is being modernized at a fast rate; with the exception of some of the B-727's and B-747's (total of

44 aircraft), all of the aircraft are an advanced-technology version. This has become a prominent factor recently due to media pressure regarding the "average age of today's aircraft". (Properly maintained according to today's Federal Aviation Administration safety requirements, no aircraft is considered technically old.)

United Airlines serves over 200 cities on its domestic and international route system. With service to South and Central America, Europe, The Pacific and its Domestic routes, United is a world-wide airline. But it also has a very effective support system. Air Wisconsin and WestAir are both National Air Carriers, not Regional Air Carriers. Between these two companies, they operate 96 aircraft, and have 44 aircraft on order. A Regional Air Carrier, Mesa Airlines, is also a support carrier; it operates 25 aircraft and an order for nine more. All three of these companies operate doing business as (d/b/a) United Express.

United Airlines employs 74,000 persons, and United Express has 7,200 employees.

United has been a friend of MSAC for many years, and I was assured they would continue to maintain that level of cooperation in the future. Despite recent losses, the management expressed an optimistic future. We are welcome to request field trips, resource speakers and liaison personnel as we have done in the past. I would like to note here that

dozens of United employees in the Los Angeles area have volunteered their time off to address classes, meetings and make presentations at career days. Also, in the past, we had "Classroom in the Sky", where United furnished the aircraft, and we offered a one- or two-unit credit class for taking an extended air trip. Once we went around the world, but most trips were not that ambitious. We have had a long-time relationship with United, and I would expect that to continue.

No one at United had any suggestions to improve the program, except to suggest that we reinstate the Air Cargo class and add a course that would involve planning within the industry. They recommended strongly that the student should pursue a four-year degree for favorable placement in available positions. The more likely areas of employment are in Marketing (Sales, ticketing and other customer service positions), In-Flight Service (Flight Attendant), Corporate Headquarters (Accounting and Information Systems), Airport Operations (Ramp Service and Gate Area) and all positions system-wide as the result of attrition. Pilots will be needed in relatively large numbers as a result of requirements for retirement at age 60.

United expects the industry to rebound during 1993 and 1994.

USAIR

Probably the most successful airline emerging since the Airline Deregulation Act of 1978 has been that of USAir. At the time of deregulation, this company was known as Allegheny Airlines. It had operated successfully in the eastern one-third of the U. S. since its founding, which occurred in the late 1940's. Over several years, it absorbed several unsuccessful airlines such as Lake Central and Mohawk. After deregulation, Piedmont Aviation, Pacific Southwest Airlines (PSA) and Allegheny Airlines were joined to form USAir.

USAir is ranked fourth in total passengers boarded in 1991, with 55.8 million passengers and 34.4 billion passenger miles, yielding an average trip length of 616 miles. Also sixth in total revenues, USAir had \$6.1 billion and experienced a net loss of \$260 million. Again, the reader has to keep in mind that the eleven Major Air Carriers lost over \$2 billion in 1991.

The company accomplished this result operating 436 aircraft. They have placed firm orders for 105 more aircraft, but the standing options they had for even more aircraft are presently on hold. All of the USAir aircraft presently comprising the fleet are later-generation models of the original design. Like United Airlines, the USAir fleet is considered one of the "newest" in the industry.

The next step here is to look at the underlying support companies. All of the companies discussed here operate doing business as (d/b/a) USAir Express. There are 11 companies headquartered throughout the USAir system, providing a connecting system that is the most effective in the industry. A short sketch for each follows.

*Allegheny Commuter Airlines, Reading, Pennsylvania

Operates fifteen aircraft--None on order/option

Employs 400; Carried 965,000 passengers in 1991

*Air Midwest; Kansas City, Kansas

Operates fifteen aircraft--None on order/option

Employs 360; Carried 423,000 passengers in 1991

*CCAir, Charlotte, N. C.

Operates twenty-two aircraft--Four on order

Employs 460; Carried 753,000 passengers in 1991

*Chautauqua Airlines, Jamestown, New York

Operates nineteen aircraft--None on order/option

Employs 200; Carried 469,000 passengers in 1991

*Commutair, Arlington, Virginia

Operates eighteen aircraft--None on order/option

Employs 235; Carried 343,000 passengers in 1991

*Crown Airways, Falls Creek, Pennsylvania

Operates ten aircraft--None on order/option

Employs 195; Carried 350,000 passengers in 1991

*Henson Aviation, Salisbury, Maryland

Operates 38 aircraft--None on order/option

Employs 1,100; Carried 2,058,000 passengers in 1991

*Jet Express, Atlantic City New Jersey

Operates six aircraft--None on order/option

Employs 75; Carried 14,000 passengers in 1991

*Jetstream International, Dayton, Ohio

Operates 35 aircraft--15 on order

Employs 385; Carried 635,000 passengers in 1991

*Pennsylvania Airlines, Middletown, Pennsylvania

Operates 25 aircraft--None on order/option

Employs 430; Carried 889,000 passengers in 1991

*StatesWest Airlines, Phoenix, Arizona

Operates 22 aircraft--None on order/option

Employs 350; Carried 349,000 passengers in 1991

To summarize this support system, there are eleven airlines; each in a different city. They presently operate some 225 aircraft in daily operation, with orders for only 19 additional aircraft at this time. Total employment at this time is 4190 persons. In 1991, these airlines carried 7,248,000 passengers. All of the airlines in the USAir support system are Regional Airlines, i. e., each has annual revenue of less than \$75 million. This overall system is efficient, and allows for a high level of dependable connecting service. A very high percentage of the aircraft in operation are state of the art commuter

airliners. They were designed to provide efficient, low-cost operation, and they were developed for the role they play in this industry. The aircraft are relatively new, and very few replacement aircraft will be required in the near term. The passenger load factors (percentage of the available seats filled) run from the high 40% to the lower 50% range. With just the aircraft operating in 1991, these smaller airlines can almost double the number of passengers carried without purchase of even one more airplane.

I enjoyed my trip to Arlington, Virginia to interview and just chat with the people at USAir. I only knew two individuals personally before I arrived, but I did make a lot of new acquaintances. Most of those to whom I talked/interviewed were not aware of MSAC. Nearly everyone there was optimistic and upbeat about the future of the company and the industry, and had positive attitudes toward the possible interest in MSAC graduates. They emphasized their need for future employees with a good education, pleasant attitude and a good work ethic. I think this is the only airline contacted that singled out the work ethic. It was my impression that they have been getting too many applicants who want to collect a pay check, get their fringe benefits and their free passes to travel the world. Then, if they have some time, they're willing to do a little work. USAir has a preference for the four-year graduate, but it is not cast in stone, especially for non-management entry-level jobs.

THE MAJOR AIRLINES

Of the eleven U. S. Air Carriers categorized as Major Airlines, I was able to interview personally at least one representative from eight of the total: American Airlines, America West, Continental Airlines, Delta Airlines, Pan American World Airways, Southwest Airlines, United Airlines and USAir. I conducted telephone interviews with Federal Express, Northwest Airlines and Trans World Airlines.

As stated earlier in this report, one of those Major Airlines, Pan American World Airways, ceased operations permanently on December 4, 1991. I hated to see that happen; I've been close to the industry, and, in my own opinion, that didn't have to happen.

The largest portion of our airline system seems to be in pretty good shape, and also seems to welcome future contact and cooperation with MSAC. I was happy to see that.

The next part of this report will deal with those airlines categorized as our U. S. National Airlines.

THE NATIONAL AIRLINES

AIR WISCONSIN

Located in Appleton, Wisconsin, this airline is a part of United Airlines' support system. It operates 37 aircraft and has three on order. It has existed as Air Wisconsin for over a decade, only recently becoming a United Express affiliate, d/b/a Air Wis Services of United Express. In 1991, 2.5 million passengers were carried, generating a total of 528 million passenger miles; this resulted in an average trip length of 211 miles. While the airline had \$211 million in 1991 revenue, a profit (or loss) figure was not available; preliminary figures indicated a loss of approximately \$24 million. Whatever the actual results, the company is expected to have a net income in 1992.

ALASKA AIRLINES

My visit to Alaska Airlines in Seattle was a most pleasant experience. This company has been one of the most successful and popular airlines in the U. S., and these qualities have been evident for many years. With 1991 total operating revenues of \$934 million, and a net income of \$11 million, Alaska is not only performing above most of the other carriers today, but seems sure to become one of the U. S. Major Air Carriers in 1992 or 1993. (Recall that it requires \$1 billion in revenues to be designated a Major Air Carrier.) Alaska Airlines carried 5.9 million

passengers a total of 4.9 billion passenger miles for a 838-mile trip average per passenger. They accomplished this with a fleet of 63 aircraft (aircraft on order will add 47 more to that fleet, but a few of the older aircraft will be phased out). Nevertheless, fleet size is increased. New services during 1991 included service to Eastern Russia cities from Anchorage, and extensive new services between Los Angeles and Toronto. 1992 and 1993 planning includes several city-pairs not previously served.

This company has been one of the most cooperative and eager in the whole industry, where MSAC is concerned; they assured me that they would continue. Many of our previous students are working there now, or have worked there, and gone on to other pursuits. Alaska sees nothing ahead but continued growth and improvement in their service. All of the people I talked with were energetic and forward-looking in their attitudes. In the past, most of the Alaska personnel at Ontario have been helpful beyond expression. I will avail myself of their services even more in the future endeavor of getting our students placed in the industry. I am sure that the relationship between Alaska and MSAC will continue to improve.

ALOHA

Travel to Hawaii leveled off in 1991, and the Hawaii-based airlines have felt it. Aloha, the smaller of the two,

carried 4.9 million passengers a total of 683 million passenger miles, an average of 139 miles per trip. This figure is quite low due to the limited system served by Aloha, namely, inter-island only. However, even with this limitation, Aloha derived a \$7.7 net income on revenues of \$214 million in 1991. The main reason for this favorable outcome is the fleet: 21 B-737 aircraft operating and 4 additional B-737's on order. Just like Southwest Airlines (see page 45), having only one aircraft type results in much lower costs for the system.

My contact with the Hawaiian carriers was by mail only, and in both cases, my inquiry into the company planning, staffing and other future requirements were not very successful. They did send the statistics referred to above, and I cross-checked them for accuracy; they seem to be valid.

AMERICAN TRANS AIR

This airline is the largest U. S. charter carrier. They publish no schedule/timetable, and participate only on the supplemental level.

My visit to American Trans Air in Indianapolis was a real eye-opener in that I had never had any dealings with an operation quite like it. This summer, for instance, this carrier is operating somewhere between 70 and 100 weekly

Trans Atlantic flights, offering more than 23,000 seats. Yet, there will be other time periods when virtually none of its aircraft will be flying. It would seem impossible to operate with a profit; but, American Trans Air does it. How? With only 2,500 employees, 23 aircraft operating (and only two on order), no schedule to depend upon and almost no in-company advertising budget! The representatives I interviewed were "can-do people" (their words; not mine), and their sense of responsibility was accompanied by such a healthy sense of humor. One quoted his un-named boss as saying: "If there is a cornerstone to our philosophy, it is cowardice. We will avoid the airlines and any small or large temptation of scheduled service at any cost." This is the philosophy, and it works. The employees, at least most of them, are committed to a 365-day year if necessary. Today, 85-90% of their revenue is derived from civil and military charters. The remainder of their revenue comes from two company travel clubs, a maintenance facility and third-party pilot training.

How does the company get all of those civil and military charters? Tour operators generate about 70%, a few retailers purchase about 15%, and the other 15% occurs directly from military business (American Trans Air reserves three aircraft for the military at all times). They know exactly who their customers are, and they make certain

that those customers are serviced. In 1991, American Trans Air carried 2.4 million passengers an average of 1,915 miles each, generating 4.6 billion passenger miles. The total operating revenue was \$422 million; the net income was a little over \$9 million. This airline, although non-scheduled, did realize a net income; most carriers did not.

As the reader may have realized, there is little chance that MSAC could derive a substantial benefit from American Trans Air. Their hiring pattern runs along the same line as the level of business. Most of their employees are cross-utilized, some in three or four roles. These openings, when they occur, are made available to applicants with at least some training. The individuals I interviewed thought the MSAC program, as I outlined it to them, was a pretty good offering. They extended a welcome hand to anyone, at any time, to stop in and look over the operation at the Indianapolis International Airport. They also operate two other companies: American Trans Air Execujet and American Trans Air Training Corporation. This was a very interesting and educational visit.

HAWAIIAN AIRLINES

The second Hawaii-based airline, and the largest, is Hawaiian Airlines. This air carrier is not limited to inter-island

traffic, and it operated both short-range and long-range aircraft, the fleet size totaling 36 with no pending orders for new aircraft. In 1991, Hawaiian flew 4.1 million passengers for 2.57 billion passenger miles. This figures to an average trip length of 627 miles. Because of its less-restricted route system, Hawaiian's average of 627 miles was much higher than Aloha's inter-island average of 139 miles. Generally, the greater the average trip length, the greater the aircraft utilization.

As with the information on Aloha, my success at getting much input beyond operations for 1991 was limited. The response looked much like a form letter with the blanks filled in. I don't think they wanted to release planning information, beyond relating the expectation of a much improved 1992/93 time period. Also, there was some reluctance to give any information on their Honolulu to Fukuoka, Japan route. From what I was able to determine, it is flown today by Northwest Airlines, utilizing aircraft owned by Hawaiian. I believe I would have had a little more success in a face-to-face interview.

I was able to obtain 1991 financial data from Department of Transportation releases as published in other sources. To the best of my knowledge, Hawaiian had \$365 million in total revenues which generated a net loss of \$98.5 million for the year; this was an improvement compared to the 1990 net loss of \$121 million.

HORIZON AIRLINES

Horizon Air is considered to be Alaska Airlines' "sister carrier", and is not a subsidiary in any sense of the word. During 1991, it operated with total revenues of \$181 million, and a net income of \$3.6 million. It serves throughout the Pacific Northwest, utilizing 53 aircraft and only two on order. Horizon carried 2 million passengers a total of 404 million miles, an average of 202 miles. While this Seattle-based airline did provide a lot of connecting traffic to Alaska Airlines, they indicated that much of their traffic, maybe half, was simple origin-destination business.

Horizon's short- to mid-term plan is to continue to serve the existing system with more frequency of flights, and very little route expansion. They admitted that much of their decision-making is a result of changes they witness or perceive coming from Alaska Airlines.

The interviewee at Horizon expressed a vague awareness of MSAC, and gave a strong indication that, with expansion in the next few years, they would be happy to consider our graduates for hire. Horizon presently employs 1,800. We had an interview of a couple of hours, and I detected no insincerity in any of their responses.

As I conversed with both Alaska and Horizon, I realized that these people exhibited a high level of drive and enthusiasm. I would like to work with them in the future.

MARKAIR

Markair is the smallest of all the U. S. National Airlines. They are located in Anchorage, along with an operating subsidiary, MarkAir Express. The parent company operates 14 larger, longer-range aircraft, and the subsidiary operates 48 aircraft, 41 of those are single-engine, propeller aircraft. The majority of the express carrier's business is bush-pilot activity to remote areas. The two companies combined employ a force of 900, and had a total revenue of \$121 million (\$3.1 million net profit). They carried 386 thousand passengers an average of 462 miles each, generating just over 179 million passenger miles.

My research on these airlines consisted of two short telephone interviews and several mailings. They saw no near-term need for additional personnel, and they were most polite and patient in answering my questions. I appreciated their candor.

MIDWAY AIRLINES

This air carrier, founded in 1979, was interviewed by me in Chicago in September, 1991. At that time, they were operating a fleet of 70 jet aircraft, of which 27 were in a late-model category. They were working on a pending merger with Northwest Airlines after having experienced heavy loss in 1990 (\$37 million loss on revenues of almost \$300 million), and 1991 was looking worse. In late October, Northwest

backed out of the agreement, and on November 13, 1991, Midway Airlines ceased operations and was liquidated. It had been a popular airline, serving Chicago's lesser-known airport, but expansion costs caught up with it, and a two-year loss of over \$75 million could not be overcome.

I enjoyed my visit with them, and as stated earlier, it did take me back to 1954 when I was hired out of college by United airlines. The same facility, 5959 South Cicero, was, remarkably, unchanged.

MIDWEST EXPRESS

Midwest Express, based in Milwaukee, operates thirteen aircraft, and employs 900. On revenues of just \$125 million, it had a net profit of \$102,000. While this is less than modest, it is a profit made in a year when most carriers did not fair as well. Midwest carried 789 thousand passengers a total of 628 million miles, averaging 796 miles. I interviewed Midwest by telephone, but was not able to reach anyone above Director of Passenger Service. He spent some time with me, but was not in a position to comment on anything other than the above figures. He pointed out that most airlines started as a small operation, and that we should keep Midwest in mind; also, he would keep MSAC in mind.

SOUTHERN AIR TRANSPORT

This airline carries no passengers, and is classified as an All-Cargo Airline, regardless of being categorized by the Department of Transportation as a U. S. National Air Carrier based on annual revenues. (See Page 82).

TOWER AIR

Tower Air operates from JFK Airport in Jamaica, New York. This airline operates just five B-747 aircraft, and at the time of this writing, was looking for one more. As an Air Carrier, it has both scheduled and charter service available, but most of the scheduled service is to Israel. In fact, Tower was the only non-Israeli airline to operate into Tel Aviv during the Gulf crisis. It also operated during Desert Storm. It serves Paris-New York regularly. By selecting specific markets very carefully, Tower has shown a net profit in both 1990 and 1991, and expects a profitable 1992. Tower Air has only 500 employees, and most are scattered over a thin system, except for the unit at corporate headquarters. This is an interesting operation, but we at MSAC cannot expect any hiring from Tower.

TRUMP SHUTTLE

This air carrier was founded by Donald Trump, the financier. As the name implies, it is shuttle service in the northeast corridor, serving the Boston-New York-Washington market. It has operated somewhat loosely in the past, and information on this carrier is inconsistent. In 1991, its last full year under this name, it operated with 22 aircraft (all B-727 fleet with none on order), served 557 thousand passengers, and reported 2.5 million passenger miles. This is an average of 453 miles per passenger trip, which is inconsistent with the distances involved in a short-haul shuttle operation. When I questioned the figures, I was told that there was service

for part of the year including Barbados. I was further advised that Mr. Trump had sold his interests to USAir, and that they would be operating the company as a part of the USAir Express system. In my conversations with USAir (see pp 53-56), they had not mentioned this in the area we covered regarding their eleven USAir Express airlines. I did call them back, and they confirmed that the company had purchased Trump Shuttle for \$16.2 million, and would forward additional data to me. At this writing, I have not received such data.

WESTAIR

As with Air Wisconsin, WestAir is a U. S. National Air Carrier, but regardless of category, it is in the United Airlines support system, doing business as (d/b/a) United Express. WestAir, operating out of Fresno, operates 59 commuter aircraft and has 32 more on order. This is no small operation. In 1991, WestAir carried 2.9 million passengers a total of 623 million miles, a per-passenger average of 215 miles. This activity generated total revenues of \$226 million and a net income of \$4.5 million. WestAir is scheduled to be merged into Mesa Airlines, another of the United Express support system, in mid-1992. When and if that occurs (or has occurred), the main thrust of service on previous routes will be to concentrate on feeding United Airlines hubs rather than serving local markets as WestAir has done for several years.

I have no feel for attitudes reflected by the people at WestAir (soon to become Mesa Airlines). It would seem

that since the company has numerous ties with the California markets, there would be some interest in hiring our graduates because of familiarity with those markets, about 36 in number. In this case, we will have to wait and see. If a large portion of the merged company remains in California, we will have a lot better chance than if it would be located in Mesa's headquarters in Farmington, New Mexico.

WORLD AIRWAYS

World Airways is a charter passenger and cargo operator. I will discuss the passenger portion here. World operates nine DC-10 aircraft in mixed service patterns. There is no schedule involved, and a large portion of the total traffic is military charter. World carried 481 thousand passengers in 1991, generating one million passenger miles. The resulting trip average of 2,126 miles is consistent with charter service, especially military.

The dollar figures are: total revenue, \$227 million; net income, \$15.2 million. No conclusions can be made here, because about 106 million freight ton miles are buried in the financial data.

World Airways' location (Herndon, Virginia) and the nature of their operation (non-scheduled air carrier) does not indicate a viable source of entry-level positions for our graduates here at MSAC. I did not spend a great amount of time pursuing other detailed data from this company.

THE REGIONAL AIRLINES

While the Regional Airlines are the smallest of the air carriers, they are the largest in numbers of companies and number of aircraft. Some of these carriers may have five aircraft and a dozen employees; others operate as many as 230 aircraft and employ four or five thousand employees. Each of the 38 carriers involved directly as a support system for a National or Major Airline as discussed in this report has need for pilots, co-pilots, flight attendants and ground support personnel that parallel the needs of larger carriers. About 140 other Regional Airlines have similar personnel needs, but on a smaller scale.

How does this affect the prospects of employment for MSAC graduates? Here at MSAC, we train students in all of these areas of expertise. If the student is fortunate enough to secure a position with one of these Regional Airlines, the opportunity presented to that student is chance to function in many different phases and facets of this industry. This "extra" opportunity is created through cross-utilization of employees by these smaller carriers. Granted, a specialized position with a larger airline may result in a higher starting salary, with the salary increases that surely follow. I think that we offer to the student a greater variety and a greater challenge when we counsel or recommend securing a position where the on-the-job experience and the salary and fringe benefits, taken together, offer career enhancement that we can offer in no other way. In perusing the next nine or ten pages, the reader is invited to keep the above comments in mind. Most of today's airlines started with one airplane.

THE REGIONAL AIRLINES

The Regional Airlines affiliated with either a U. S. Major Airline or a U. S. National Airline have been covered in prior sections of this report. The Regional Airlines of record at the end of 1991 will be listed on the following few pages with brief pertinent note(s) for each.

1. Aero Coach--33 Cessna 402 aircraft; liquidated
2. Airlift International--9 mixed type jet aircraft;
Filed for final liquidation in Bankruptcy Court
3. Air Midwest--15 Beech 1900 aircraft; d/b/a
USAir Express
4. Air Nevada--11 mixed type Cessna aircraft; provides scenic flights, especially over the Grand Canyon
5. Air Sedona--3 mixed type Cessna aircraft; small scheduled passenger carrier
6. Airways International--20 Cessna 402 aircraft; scheduled passenger and cargo carrier
7. Alaska Island Air--One DHC-5 aircraft; scheduled and charter passenger and cargo carrier
8. Allegheny Commuter--15 mixed type commuter aircraft; d/b/a USAir Express
9. Aloha Island Air--8 DHC-6 aircraft; Subsidiary of Aloha Air Lines
10. Alpine Air--10 mixed type propeller aircraft; scheduled passenger and cargo carrier
11. Atlantic Coast--34 mixed type commuter aircraft; scheduled passenger carrier
12. Atlantic World Airways--11 mixed type commuter aircraft; scheduled and charter passenger carrier

13. Aviation Services--9 mixed type propeller aircraft; scheduled and charter passenger and cargo carrier
14. Baker Aviation--6 mixed type Cessna aircraft; Alaskan bush carrier operation
15. Barrow Air--3 Cessna 207 aircraft; Alaskan bush carrier operation
16. Bellair--3 mixed type propeller aircraft; Alaska bush carrier operation
17. Bemidji Aviation Services--24 mixed type propeller aircraft; scheduled and charter passenger carrier
18. Bering Air--16 mixed type commuter aircraft; a scheduled and charter passenger and cargo carrier
19. Big Sky Airlines--6 mixed type commuter aircraft; scheduled passenger and cargo carrier
20. Camai Air--9 mixed type commuter aircraft; scheduled passenger carrier
21. Cape Smythe Air--16 mixed type commuter aircraft; scheduled passenger and cargo carrier
22. Carnival Air Lines--8 mixed type jet aircraft; scheduled and charter passenger carrier
23. Christman Air--2 mixed type propeller aircraft; scheduled and charter passenger and cargo carrier
24. Conquest Airlines--9 Beech 1900 commuter aircraft; scheduled passenger carrier
25. Discovery Air--Filed for liquidation--August, 1991
26. East Hampton Aire--Grounded by FAA--July, 1991
27. Emerald Air--5 DC-9 aircraft; scheduled passenger and cargo carrier
28. Empire Airlines--41 mixed type commuter aircraft; scheduled and charter passenger and cargo carrier

29. Enterprise Airlines--6 Cessna Citation aircraft; scheduled and charter passenger and cargo carrier
30. ERA Aviation--14 mixed type large commuter air-scheduled and charter passenger and cargo carrier; specialized in scheduled and bush mail delivery
31. ExecExpress--9 mixed type commuter aircraft; scheduled passenger carrier
32. Express One--13 passenger jet aircraft; scheduled passenger carrier
33. L'Express--9 Cessna mixed type aircraft; scheduled passenger and cargo carrier
34. Federal Airlines--2 passenger aircraft; scheduled passenger and cargo carrier
35. Flamenco Airlines--14 mixed type propeller commuter aircraft; scheduled passenger and charter cargo carrier
36. Flight Line--16 mixed type aircraft; scheduled and charter passenger and cargo carrier
37. Frontier Flying Service--9 mixed type aircraft; scheduled and charter passenger and cargo carrier
38. GP Express--8 Beech 99 aircraft; scheduled passenger carrier
39. Great American--2 DC-9 aircraft; charter passenger carrier
40. Great Lakes Airlines--20 Beech 1900; scheduled passenger carrier; will d/b/a United Express in 1992
41. Gulfstream International--6 Cessna 402 aircraft; Scheduled passenger carrier
42. Jet Fleet--4 mixed type small jet aircraft; scheduled passenger and charter cargo carrier
43. Kenmore Air--18 mixed type propeller aircraft; scheduled and charter passenger carrier

44. Ketchikan Air--7 mixed type propeller aircraft; scheduled passenger and cargo carrier and charter cargo carrier
45. Key Airlines--10 B-727 aircraft; scheduled and charter passenger and cargo carrier
46. L.A.B. Flying Service--22 mixed type propeller aircraft; scheduled and charter passenger and cargo carrier; air ambulance and bush carrier
47. Lake Union Air Service--11 deHavilland aircraft; scheduled passenger carrier
48. Larry's Flying Service--5 mixed type propeller aircraft; scheduled passenger carrier
49. Las Vegas Airline--5 Chieftan aircraft; charter passenger carrier
50. Lone Star--9 Metro III aircraft; scheduled passenger carrier
51. MGM Grand Air--6 jet aircraft; scheduled and charter passenger and cargo carrier
52. Midway Commuter--Ceased operations on November 13, 1991, when parent Midway Airlines failed
53. Mohawk Airlines--9 Beech commuter aircraft; scheduled and charter passenger carrier and charter cargo carrier
54. North American Airlines--2 B-757 aircraft; scheduled passenger carrier
55. Pacific Coast Airlines--5 Chieftan aircraft; Scheduled and charter passenger carrier
56. Paradise Island Airlines--3 DHC-7 aircraft; scheduled passenger and charter cargo carrier
57. Peninsula Airways--32 mixed type propeller aircraft; scheduled passenger and cargo carrier; bush carrier

58. Private Jet Expeditions--5 jet passenger aircraft;
scheduled passenger carrier
59. Reeve Aleutian Airways--8 mixed type large aircraft;
scheduled passenger and cargo
carrier; Alaska carrier of
long standing
60. Rich International--5 DC-8-62 aircraft; scheduled
and charter passenger and car-
go carrier
61. Ross Aviation--9 mixed type aircraft; scheduled and
charter passenger and cargo carrier
62. Ryan Air--13 mixed type Cessna aircraft; scheduled
passenger carrier
63. Scenic Airlines--29 mixed type aircraft; scheduled
and charter passenger carrier
64. Sierra Pacific Airlines--5 B-737 and 7 CV-580 air-
craft; scheduled passen-
ger carrier; by contract
65. Skagway Air Service--8 mixed type aircraft; sched-
uled and charter passenger
carrier
66. Skyway--9 Beech 1900 commuter aircraft; scheduled
passenger and cargo carrier; will become
Mesa Airlines subsidiary in 1992
67. South Central Air--13 mixed type aircraft; sched-
uled and charter passenger and
cargo carrier; bush carrier
68. Sunaire--12 DHC-6 aircraft; scheduled and charter
passenger and cargo carrier
69. Sun Country Airlines--8 large jet aircraft; sched-
uled and charter passenger
carrier; charter cargo carrier
70. Temsco Airlines--21 mixed type aircraft; scheduled
and charter passenger carrier;
bush carrier
71. Trans States Airlines--52 mixed commuter aircraft;
scheduled passenger carrier
72. Valley Flying Service--12 mixed type aircraft; sched-
uled and charter passenger and
cargo carrier

73. Wilbur's, Inc.--8 mixed type aircraft; scheduled passenger carrier; bush carrier
74. Wings of Alaska--16 mixed type aircraft; scheduled passenger and cargo carrier; bush carrier
75. Wright Air--12 mixed type aircraft; scheduled passenger and cargo carrier; bush carrier
76. Yute Air Alaska--9 mixed type aircraft; scheduled passenger and cargo carrier

A total of 38 other carriers were covered in the report as the support systems for larger airlines. Ten other carriers proved too difficult for me to "pin down" as to whether they were operating, merging or in some other suspense position I was not able to determine.

I stated earlier in the report (see p 25) that another 43 known carriers anticipated the start of service in 1992. A short sketch of each is included in an attempt to present as complete a picture of the industry as possible.

NEW AIRLINES PLANNED FOR 1992

1. Advantage Air is planned as a new service out of Provo, Utah.
2. Air Alpha is planning a new service involving Detroit, Cincinnati and Cleveland.
3. Alliance Air is planned as a new service to islands in the Micronesia/Polynesia area.
4. Allied will serve several destinations to and from Midway Airport in Chicago.

5. American Dream will provide service between New York and Miami and Fort Lauderdale.
6. Arizona Airways proposes a service pattern in San Diego, Santa Ana, Albuquerque and Tucson.
7. Arizona Pacific will offer service between Phoenix and Prescott.
8. Aviation Services West will specialize in tours of Lake Powell, Monument Valley and Grand Canyon.
9. Baltia is an ambitious planned service between the U. S. to republics in the former U.S.S.R.
10. Caribbean Airboats will provide service to St. Croix and St. Thomas, and scheduled airboat service between the two.
11. Centennial Express will introduce service from Denver Centennial Airport to Atlanta's Fulton County Airport to fill a void in service between the two.
12. Dash Air is Virginia-based, and has applied to schedule service between Miami, Turks and Caicos, Nassau, New York and Atlantic City.
13. Destination Sun will set up an operating base and serve points in the Caribbean from Florida and other points on the eastern seaboard.
14. Dulles Express plans to serve several cities on a shuttle basis from Dulles International Airport.
15. Family Airlines plans to serve several "high-density" domestic markets.

16. Fine Airlines will be an all-cargo carrier.
17. Florida Air proposes service between Ft. Lauderdale, Nassau, Tampa and Orlando.
18. International Charter Express will operate as a charter carrier out of Baltimore.
19. KC Air will offer service between Kansas City, Minneapolis, St. Louis and Dallas.
20. Keene Airways will have just one route, Keene, N.H. to New York.
21. Kiwi International plans a service pattern including Newark, Orlando Ft. Lauderdale, Chicago and Atlanta.
22. Leisure International will operate between Las Vegas and the Caribbean.
23. MidGulf will serve point-to-point service in the southeastern portion of the U. S.
24. Midwest Leisure Travel will operate as a charter carrier.
25. New Eastern is a planned reincarnation of Eastern Airlines, with Atlanta as its hub and headquarters.
26. Patriot plans all-cargo operations from San Francisco.
27. Pegasus International will launch service to South Africa.
28. Ram will serve Kotzebue and Noatak, Alaska.
29. Reno Air will operate a schedule pattern involving Reno, Los Angeles, Portland, San Diego and Seattle.
30. Resort Air, a New Mexico start-up, will serve the cities of Albuquerque, Santa Fe, Ruidoso, Taos, Raton, El Paso and Denver.

31. Rio Grande Airways' service pattern will cover San Antonio, Austin, Houston, Harlingen, Corpus Christi; also Monterrey, Tampico and Veracruz in Mexico.
32. Savannah will provide Africa-New York-Washington services abandoned when Pan Am failed.
33. Sierra Nevada will operate tours from Las Vegas to the Grand Canyon and will introduce other schedules to be announced at a later date.
34. Skybus will serve major cities from Florida points.
35. Southeast will operate as on-demand/charter carrier.
36. Southeastern Express, one of the most ambitious new endeavors, will inaugurate Southwestern U. S. service with 37 turboprop and 25 jet aircraft.
37. Southern Airways has acquired six routes from Atlanta. It also plans to acquire another certificate.
38. Sunbird Express will fly between the cities of Islip, New York, and San Juan and Miami.
39. Sun Express reports service plans that will service the Northeast U. S. to points in Florida.
40. Trans African plans to serve destinations in North and West Africa from Atlanta.
41. Ultrair will start business class only service between the cities of Houston, New York, Los Angeles, Boston and Washington.
42. U.S.-Africa Airways hopes to fly between Johannesburg and New York with other cities added later.
43. Worldwide Airline Services plans to launch both a scheduled service and operate as a charter carrier.

THE ALL-CARGO AIRLINES

AIRBORNE EXPRESS

Airborne Express of Seattle operates 70 aircraft, and experienced a successful 1991. On total operating revenue of \$1.4 billion, the company had a net income of \$30 million. At the end of the year, employment stood at 12,000. Airborne is operated much the same as Federal Express (see pp 38 and 39), in that it covers the entire country and serves international markets utilizing one sorting hub, this one located in Wilmington, Ohio. Airborne serves 183 countries, and handles in excess of 45 million shipments annually.

Airborne's people were aware than we have a program here at MSAC, but they understood that it was for Flight Attendant, Air Traffic Control and the Pilot programs, only. They will be hiring a few pilots over the next few years to cover attrition, but will need personnel for positions in the company headquarters. With the increase in Pacific Rim shipments, they also are planning some expansion, but did not relate any of their specific plans. Naturally, they felt that our program as I outlined it to them lacked much in the area of shipping and receiving, and felt that a well-rounded program should cover those areas. They invited me back whenever I wished, and also invited me to see their facility in Ohio. The visit benefited me personally, and I hope I can pass that on to my students.

BURLINGTON AIR EXPRESS

Burlington operates out of Irvine, California, so I had no difficulty in interviewing there. They operate 12 of their own aircraft, with the remainder of their business being in the role of forwarder, that is, to accept shipments and contract for the transportation through other scheduled air carriers. The company has recently opened a new Toledo sorting hub, which has increased its operational level. Burlington employs just over 5,000 people on its system.

As Burlington Air Express grows, it will need employees for its expansion, along with inevitable attrition. To expect a significant amount of hiring in the next two years was, in their opinion, a little too soon. However, beginning in mid-1994, there will be additional service throughout the Pacific Rim to handle the expected air express increases.

Concerning specific operational figures, both traffic and financial, I hit a stone wall here. I was able to determine that 1991 revenues were about \$876 million, and operating profit was about \$19.8 million (operating profit and net income/profit are not the same). I was unsuccessful in getting on mailing lists or subscription lists, but that had happened with other carriers I contacted, and to a greater degree than I had expected.

FEDERAL EXPRESS

Federal Express is covered under the Major Air Carrier portion of this report. At this later stage of writing the report, I have nothing to add to that account (please see pp 38 and 39).

SOUTHERN AIR TRANSPORT

This company is one of the oldest in the U. S., and it has always engaged in the carriage of cargo, with a smattering over the years of military troop transport. For the past seven or eight years, SAT has concentrated on air cargo only. Operating out of Miami, with a total of 800 employees, with a fleet of 34 aircraft, Southern Air Transport succeeds year after year, and 1991 was a perfect example.

Southern Air transported over 214 million freight ton miles, generated total operating revenue of \$175 million, which resulted annual net income just over \$26 million. I interviewed the Sales Director here in Los Angeles, and was informed that Southern Air Transport was a great place to work, had great management personnel and was planning expansion in the international aspect of the business. I had remarked how surprised I was to see solid financial results accomplished with such a modest employment. I was reinforced in the same terms as mentioned above. I didn't come away from the interview with anything promising for our students, but it was a very impressive hour or so.

UNITED PARCEL SERVICE

United Parcel Service (UPS) is an airline company that is a small part of a larger organization known as UPS of America. The parent company has annual sales of over \$13 billion, and employs 244,000 persons. It is in the business of world-wide document, package and freight distribution. UPS as we know it is the largest of the U. S. National Air Carriers, and discussion of this company is covered in this section of the report.

UPS operates a fleet of 140 modern jet aircraft, with orders for 30 more. This effort requires a staff of over 7,800 employees, and this effort is predominantly a small package distribution. In 1991, the total operating revenue was over \$1.1 billion, and the net income was \$28 million. As a part of such a large parent company that specializes in distribution, this is more than satisfactory. UPS carried 1.8 billion freight ton miles, all of the business comprised of small packages. This company was founded in the 1977-1980 period, utilizing a fleet of small jet aircraft that no one wanted due to the high cost of operation. UPS was determined at that time to provide Federal Express with some real head-to-head competition. Today, some of those small packages travel on one of the UPS's B-747, the largest commercial aircraft flying today.

Many of our students are working or have worked for UPS here in the Los Angeles area. I interviewed the Air Cargo

Manager in Louisville, Kentucky, and found that UPS would be happy to cooperate now and in the future to help us with our program. They felt that there just wasn't enough operations content, and that it looked as if we were interested only in pilot and customer relations, admitting that those areas are important, but comprise only a small fraction of the needs of today's airline, specialty carrier or not. I've been invited to Louisville, and I even received an invitation to come to Greenwich, Connecticut where the parent company is headquartered.

ZANTOP

For many years, I've known of Zantop's existence, and I knew that it was a family business, but I did not expect to talk to one of the Zantop family personally. I called and talked to the Director of Cargo Operations, a Zantop. After a short interview, I had the information that follows. The company operates 34 aircraft; none, however, are jet aircraft. There are 1,500 employees, including many with the company name. There are five Zantops in top management. The 1991 results were \$79 million in revenue, a \$7.7 million net profit and traffic totaling 55 million freight ton miles. Zantop has been in business since World War II, and is headquartered at the old airport in Ypsilanti, Michigan.

I do not believe we at MSAC can plan on a long-term working relationship with Zantop that would benefit our students in securing employment. They were very nice people, but the company seemed to be a tightly-knit organization, accomplishing its goals and objectives using 1950's aircraft. And, by the way, at a profit for the corporation, and for future generations of the family. It was interesting.

All of those airlines referred to as U. S. All-Cargo Air Carriers generated total operating revenues in 1991 of \$11.6 billion; the six All Cargo Airlines reported in this project generated \$11.2 billion, or 96.5% of the total. I want to caution the reader of an important aspect of the distribution business. There are thousands of Air Cargo Forwarders in business today, and most are quite successful. They accept all kinds of Air Cargo, but mostly express, mail, small parcel and specialty items to be transported. They consolidate these relatively small shipments into large shipments with the same destination. The person tendering the shipment pays according to published tariff. The Forwarder gets a huge discount on the overall shipment to a destination, say, Chicago. Any airline or a cargo specialist will give the Forwarder a volume rate. The difference between the tariff rate on all those small packages and the volume rate the Forwarder pays the carrier comprises that Forwarder's income. In this very efficient win-win situation, all parties come out ahead. That's the beauty of it.

This concludes Section I - THE AIRLINES. This section comprises about seventy-five percent of the total. In the sections that follow, I will discuss my contacts with three aircraft manufacturers, four airline consultants, three federal/international organizations and two academic institutions.

This will be followed by my thoughts incorporated into a concensus of what I found. I will try to consolidate my findings into results or a result of this project. Lastly, I will construct a statement regarding the benefit(s) to my students, myself and the college.

II

AIRCRAFT MANUFACTURERS

THE BOEING COMPANY

BOEING COMMERCIAL AIRPLANE GROUP

Boeing Aircraft of Seattle is actually a very complex organizations with divisions in Everett, Wichita, Lake Charles, LA, Macon, GA, and Cocoa Beach, FL. Most of the design, development and production of commercial jet aircraft are located in Seattle.

Boeing today is head and shoulders above any aircraft manufacturer anywhere in the world. Annual revenues in the past five years have been in the \$20 to \$25 billion range. When anyone sees the "B" prefix on any of today's jet airliners, he/she knows it is a Boeing aircraft. We fly short- to medium-haul distances in aircraft we know as a 727 or a 737 (it's common these days to eliminate the "B"); we can also make reservations on a 757, a more recent model. I mention these three types together, because they are the conventional (referred to as "narrow-body" aircraft by the press today) design, the result of many years of "look-alikes" in the industry. We also have the 747 (four engine), the 767 (twin engine), and the soon to be delivered 777 (twin engine) aircraft, all of which are the wide-body aircraft ("jumbo" if you wish), and possess long-range capability. The first of the Boeing jetliners, the B-707, is seldom seen in passenger service today, but we often see "Air Force 2" the

aircraft utilized by the Vice President of the U. S., in film/video clips on the five o'clock news. The 707 has had a long and safe career: it was introduced as an Air Force tanker in the early 1950's, and converted for use as a commercial passenger airliner in the late 1950's.

When I visited Boeing in November, I received a very informative tour of the Everett facility where the advanced design of the B-747 was in virtually full production. I was also able to see the start-up activities of the new B-777. I had already toured both Seattle and Renton plants, and did not repeat that, as I was pressed for time. Employment in the commercial aircraft activities is 83,000 persons, about half of the aircraft-aerospace enterprise in total.

Boeing's projections for the domestic airline industry are much more optimistic than information offered by the airlines; however, that was to be expected because Boeing is manufacturing the aircraft that are required to replace and add to existing fleets. U. S. Air Carriers operate 4,951 Boeing aircraft at this writing. Those same carriers have 1,476 on order. Boeing feels strongly that this level of orders will take them past the year 2000, and, with that fact as a backdrop, the airline industry, at least in the U. S., is alive and healthy. I was not permitted to see the latest forecast, as it was still in its preliminary stages. Boeing, based on my description of the MSAC program, feels we are definitely in the right direction, but that we may want to expand it a little more.

LOCKHEED CORPORATION

The Lockheed Commercial Aircraft ceased to exist after the L-1011 (three engine, wide-body aircraft) program was concluded about three years ago. There are 205 of the aircraft in service today, and, obviously, no new orders. I interviewed the previous Director of Commercial Marketing, and I was assured that Lockheed had not ceased production of commercial jets because they felt the industry was unhealthy. They were faced with a significant level of competition in the commercial area, and could not fulfill their obligations to the government on military contracts.

They chose not to comment on our program at MSAC, other than to encourage us to continue it, and keep emphasizing that this industry will continue to search for competent people with good college, trade school and university backgrounds.

DOUGLAS AIRCRAFT COMPANY

This corporation manufactures commercial aircraft at its Long Beach facility. However, it is only a part of the larger McDonnell Douglas Corporation. When we see an aircraft today with a prefix "DC", it signifies an aircraft designed and developed before the companies joined. The aircraft would range from the DC-1 (in 1934) through the DC-10, introduced in the late 1960's. There have been several derivations of many of these aircraft, but that is not part of the report. All aircraft with the desig-

nator, "MD", are those aircraft built under the new name of the company. These aircraft would include the MD-80 series aircraft (twin engine, conventional design), and the MD-11 (three engine, wide-body) aircraft. Another aircraft in the news today is the MD-12 (four engine, wide-body) aircraft; final decision on this aircraft are pending.

Nearly everyone I interviewed at McDonnell Douglas was aware of the MSAC program, and they were very supportive of it. Several references were made regarding past and present employees of the company that graduated or received some training at MSAC.

Their future projections, much like those at Boeing, were optimistic and encouraging. They pointed out that the airlines must be looking forward to some hefty increases in both passenger and cargo traffic, or there would be no reason for the number of outstanding orders for aircraft. At present, there are orders for 411 aircraft. The 2,178 aircraft presently in service indicate positive outlook, at least for the next five to ten years.

OTHER AIRCRAFT MANUFACTURERS

There are several other aircraft manufacturers in the world that provide aircraft for U. S. and foreign competing carriers. They are: Airbus Industrie, British Aerospace, Fairchild, Fokker, Saab and Shorts. These companies manufacture products ranging from four engine, wide-body aircraft down to small commuter aircraft containing only thirty seats.

III

AIR CARRIER CONSULTANTS

As one of the planned sections to this report, contact with these consultants was the least productive, and can be capsulized on one page. I personally visited AVITAS in Reston, Virginia for an "interview". The other three were interviews by telephone, and I can't be sure I talked with anyone occupying a position that would have been helpful to me or to MSAC in the future.

In addition to AVITAS, I contacted three "giants" in the industry that specialize in air carrier consulting. The other three were Simat, Hellieson & Eichner, Inc., billed as "World's Leading Aviation Consultant, in Waltham, MA; PRC Aviation (formerly R. Dixon Speas and Associates), a respected firm in the industry; and lastly, Aviation Consulting Services in Park Ridge Illinois.

I did not spend a great amount of time in this endeavor. I was informed they are in the business of answering such questions as I was asking, and doing it for a fee. I did inquire into the fee schedule, and it was several thousand percent above my sabbatical budget.

Most of these people were aware of MSAC, and many of our activities and aviation-connected programs. They pointed out, as did the manufacturers, that the only direction expected in the next ten years was "up". It is possible that I should have pushed a lot harder, but I gave it up, and I'm not sorry I did.

IV

FEDERAL/INTERNATIONAL ORGANIZATIONS

FEDERAL AVIATION ADMINISTRATION

The FAA, under which both our Commercial Pilot and Air Traffic Control programs already operate, was extremely helpful to me. They sent several books, pamphlets and industry studies that gave me the opportunity to cross-check other information I was receiving from other segments of the industry. These information sources from FAA will be most helpful to me and interested students, and will become part of my office library.

The industry is expected to grow from a 1990 base to equal or surpass the figures that follow:

<u>Item</u>	<u>1990</u>	<u>1992</u>	<u>2002</u>
<u>Air Carriers, National and Majors</u>			
<u>Enplanements (millions)</u>			
Domestic	424	435	669
International	41	47	82
System	465	482	751
<u>Revenue Passenger Miles (RPM's in billions)</u>			
Domestic	339	349	552
International	115	133	243
System	454	482	795
<u>Regional/Commuter Carriers</u>			
<u>Enplanements (millions)</u>	37	43	79
<u>Revenue Passenger Miles (RPM's in billions)</u>	7	8	16

As the reader can plainly see, the increase in U. S. Air carrier traffic will be substantial between 1992 and 2002. Total enplanements (boardings) will increase from 482 million in 1992 to 751 million in 2002, a percentage increase of almost 56 percent. This is the most important figure because this is the number of passengers we must deal with, one by one. But we are not finished, yet. The above figures deal only with Major and National airlines. We must add the Regional Carriers to this total. Their 1992 total of 37 million, and the 2002 total of 79 million must be added to the total; therefore, we have an increase from 525 million in 1992 to 830 million in 2002. The resulting increase in passengers boarded/enplaned/handled is a little over 58 percent.

FAA predicts that 33 of the largest hub airports in the country will have to undergo major improvement, rebuilding, or both. The answer in some cities like Chicago, is to add another air carrier airport. Nearly all of the existing air carrier airports, regardless of traffic level, will have to be improved to some extent. The infrastructure throughout the system must undergo major improvements, just to keep pace with the increase in traffic, both passenger enplanements and fleet size.

FAA was emphatic in saying that there will be more hub airports designated as such over the next five to ten years. All of this will be necessary to accomodate the expected increases.

The conclusions here were obvious, and we discussed the MSAC interests, but not at any great length. Add a 58+ percent increase in people that must be handled just ten years from now, and you can readily see the implications. If there are approximately 500,000 people employed today, there will be between 700,000 and 800,000 employed in ten years just to satisfy the expected/forecast increase. Add to that growth of 200,000 to 300,000 employees the factor of attrition. The figure could reach up to half a million more employees.

The FAA is most interested in its own responsibility or air transportation safety, and it will carry out that responsibility with a certain amount of vigor that will force cities, air carriers and manufacturers to find ways to comply. There is no reason to believe that the forecast is unreachable; it will probably be exceeded.

AIR TRANSPORT ASSOCIATION

ATA was interviewed by telephone, and the figures forecast by the FAA were the figures used by ATA to form its own picture of future needs. MSAC is on a mailing list that will furnish us with quarterly and annual information regarding the industry. There is seldom a difference between industry forecasts, because these people consult each other at regular intervals for information. Under normal conditions, historical data comes from ATA, and forecast information comes from FAA, the airlines, the manufacturers and the consulting firms. Large banks sometimes enter the picture, too.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

I called Montreal to interview ICAO, and as the name implies, they were working on a long-term worldwide forecast of passenger and cargo volumes for 1995 and beyond. As far as the U. S. is concerned, I suspect they were just parroting some of the information I had already received from domestic sources. ICAO sets international standards for the world industry. These standards are things like airport codes (LAX=Los Angeles), airline codes (DL=Delta Airlines) and airplane identification codes (U. S. aircraft numbers must begin with the letter N). Outside of that, I didn't get much useful data from this source.

ACADEMIC INSTITUTIONS

PURDUE UNIVERSITY

In September I paid a visit to my alma mater, Purdue University in my home town, West Lafayette, Indiana. I interviewed both teaching and research personnel in the areas of Aviation Technology, Aeronautics and Astronautics and Industrial Management. Most of the astronauts who have walked on the moon have spent some or all of their graduate time at Purdue. The Krannert Graduate School of Management is closely linked to the other programs, and many airline employees today have completed one or more of those programs.

Everyone I interviewed was familiar with our department here at MSAC. They were somewhat surprised to learn that we no longer offered an Air Transportation or a Transportation and Traffic Management Major. They did look over our present programs offered, and suggested that we consider reinstating at least the Air Transportation Program, offering several options within the major. They made this recommendation fully aware that many of our courses are terminal, are non-transferrable, or both. They also suggested that we might reinforce the major with some basic business and human relations courses.

They were most sincere in their suggestions, reminding me that I had asked, and they were answering. I appreciated everything we discussed and the way in which I was treated during the visit. At no time did I feel there was a formal exchange going on. Several of the lecturers from the Krannert School said they'd be happy to keep in touch by letter or telephone; further, they volunteered to talk to any of our classes when in our area (which for some of them, was often). I was quite reluctant to leave at the end of the afternoon. It was almost like they had an informal lunch, just for me.

NORTHWESTERN UNIVERSITY

Northwestern's Transportation Center and J. L. Kellogg School of Management are well-known in the Transportation Industry. They provide degrees up to Master of Science in Transportation (MST). I met with several faculty members at the Transportation Library (what a library!) in Evanston, IL duringg my midwest stay. I was introduced to several industry people who were in residence for several executive programs that were offered. This program was initiated in 1954, but today it is a huge operation.

We discussed their educational offerings, and then it was my turn, and I told them about MSAC. As was the reaction at Purdue, they felt we made a mistake by reducing, and then abandoning the Transportation Major. I explained

the budget constraints, and they were very understanding. They looked over our course descriptions, and most felt that we should not be having the problem we have with regard to transferability. They suggested the possibility of Federal or State Grants that would buoy up the financial needs to resume the major(s), and also suggested the possibility of directed/independent study credit courses for students who might otherwise be deprived of transportation courses.

These people were so professional and so helpful. They made sure that I understood that their suggestions and any other input was being given to me in spite of the fact I had gone to Purdue. This contact was the most pleasant of any I can recall during the sabbatical period.

VI

CONSENSUS - POSITIVE ASPECTS

MSAC graduates will benefit greatly if industry projections for growth and profitability materialize. The conservative forecasts of at least 250,000 job openings in the 1992-2002 time period is heartening; the most optimistic figures are about twice that number. We have had an excellent program in place for many years, and continuation of that program is paramount to MSAC's standing in industry's eyes. Our Pilot program is successful and well-known; our flying team has competed with the best, many times outscoring even the four-year institutions in national competition. The same holds true for Air Traffic Control program. In interviewing industry representatives, I found that our program in Air Transportation (flight attendant, reservation agent, travel agent training), along with our Transportation and Traffic Management program are all well-known in the industry. With few exceptions, the importance of continuing these programs was recommended. It is in these latter areas that significant ground work must be done in order to bring about change sufficient to return these programs to their previous standing. Our marketing effort needs to be increased to insure sufficient enrollment, but courses must be offered to our community without the threat of canceled classes semester after semester. This is a problem area that will require a better appreciation of industry's concerns. These areas of study will be successful only to the extent that the faculty and the administration make them so.

Other positive areas exist outside the control of MSAC. The

economy, demographic trends and the transportation infrastructure will be the forces that generate employment opportunities in the Air Transportation Industry.

The economy has grown slowly for several years; the same is true for the inflation rate. This is both good and bad, in that the economy is not stimulated, but remains rather stagnant. In my interviews, most sources agreed that the Cold War is over, imports have hit a level that is flat or nearly so, Pacific Rim and European Community trade is at a growth threshold, and non-tariff trade between and among the U. S., Canada and Mexico is also at a growth threshold, due to the proposed North American Free Trade Association (NAFTA). There is a population of over 350 million in the three countries.

U. S. Air Carriers have grown in number to over 150. All have updated existing fleets or introduced new fleets, especially the newly-certificated carriers. Virtually all new aircraft are popular jet aircraft for the larger companies and new state-of-the-art commuter airliners for the short-haul carriers. Many new commercial airports are now under construction or on the drawing board. Where these new airports are built, surely there will be the hotels, motels, rental car companies, complex restaurants with meeting and convention facilities. All of these transportation-generated support businesses represent job opportunities for our students in Aeronautics and Transportation majors. In areas remote from these airports, new travel agencies

spring up during and after airport construction. These newly created jobs are over and above the numbers regarding just the airlines.

Transportation: The entire country is in a mess where transportation is considered. Our roads, Interstate System, railbeds, bridges, transportation pipelines and our airports have already exceeded the use level for which they were created. Both political parties have been carping on this subject for many years, but over those years it has worsened. It is not just speculation on my part, but a hard fact of life, that the transportation system and its infrastructure will be a focus by both political parties during the next ten years.

Population Mix: From a demographic standpoint, transportation has to grow. The mature market (ages 60 and above) is growing and comprises a group that has a higher income than in any other period of time. The young market (ages 18-24) is traveling more than ever before. Between these two groups, we have the "baby boomers" and the "yuppies", all of whom have incomes higher than ever before in our history. Granted, when adjusted for inflation, the income levels are also flatter than in previous time periods. Nevertheless, discretionary income throughout the population represents a substantial level of income over and above shelter, food and clothing.

Now to the Negative Aspects that I perceived from my leave.

NEGATIVE ASPECTS

Government interference in the non-safety areas seemed to be the more-often mentioned aspect. The Justice Department is a large part of that aspect. The companies and organizations involved in the Air Transportation Industry feel that, just given the number of U. S. airlines in operation, the over-emphasis on monopoly routes is not in the interest of the country or airlines involved. It is almost habit, dating back to the years of the cartels, monopolies and the other anti-trust activities of the railroad and maritime industries.

Media negativity and controversy-creating was another of the aspects mentioned. The companies felt, as I do, that they are in the business of transportation, and not in the business of having to react to every claim, charge or innuendo thrown by a (usually) uninformed, misinformed or misguided cub reporter. They didn't object to legitimate news-gathering or coverage of major occurrences.

Within the industry, the subject of constantly-changing fare levels came up. The problem here is that the fare structure is so complicated straight from the tariff; when one airline after another changes a fare or fares for a short period of time, the travel agencies and the reservation systems are impacted heavily, sometimes breaking down. When we already have a system/structure that yields several hundred fares between just two cities, it does create havoc when these short-term changes are created. It's not a matter of wanting to charge

a high fare or a low fare; it is the resulting confusion on the part of the public (and rightly so) as to whether or not they are being treated fairly. It should be noted here that the average yield (Revenue Passenger Miles divided by Revenue) is in the ten to fifteen cent category. That means, simply, that the passenger is paying ten to fifteen cents per mile for him/her and his/her luggage being transported. A person cannot match that in a personal automobile, bus train, ship or any other form of transportation. It can, or at least, should be advertised widely that there is no cheaper way to go. This little discussion does not make the problem go away, but is inserted here as food for thought.

The only other negative expressed was the lack of gate positions throughout the system. As I had mentioned before, some airlines are paying for a part of a public airport, just to assure sufficient positions. The extreme here is with American Airlines. They are paying Denver for gate positions, and when the airport is finished, they will donate the "ownership" of the gates back to the city and pay lease rates to the city for as long as the airline occupies those gates.

That's about the story on the significant positive and negative aspects discussed. I would categorize any other aspects as "wish lists" or maybe legitimate concerns. There were a few "one issue" concerns stated that might apply to only one airline; also, most of these concerns were minor.

BENEFIT AND/OR VALUE OF THIS PROJECT

The Salary and Leaves Committee cautioned me to limit the scope of my project to that which I could handle in a one semester leave. In warning me, they were prudent; and, I did go beyond a point that would have been comfortable. If there is a next time, I will follow their sage advice more judiciously. One can learn valuable lessons when on sabbatical leave.

First and foremost are my students; trailing that, I would rank personal benefits derived. Next would be my department and division, and last would be MSAC. I hesitate to list MSAC last, but the reader should be advised that I am most grateful to Mount San Antonio College for the opportunity.

My office door is always open; most of my students feel free to come in at any time I'm there, not just office hours. They have concerns; some past or returning students have concerns. They like to talk about school, the industry, the job market, their future(s); they are concerned, and they are troubled. How do I get a job? To whom should I write? What companies are hiring? Can you help me with my resume? Can you help me with my cover letter? Are the airlines in trouble? Why would they hire me? What area? What location? Can I get full-time employment to start?

These are just the questions about the employment possibilities. Many are concerned also by the reduced number of classes offered, and the limited selection of sections offered. How can I get my Certificate/Degree when my classes get canceled or when they are offered at one time, conflicting with another class I need, one section offered at one time only? A returning student, gainfully employed in the industry will inquire as to why the program is a skeleton compared to its health when they were here. What happened to it?

Other students are concerned that their classes in our major areas are not transferrable; they have been working in the industry and realize that the four-year degree is necessary for movement up the corporate ladder.

The information I can impart to these students is much improved. Their lectures will be more informative, and, hopefully, more interesting. I feel I can answer them more accurately than a year ago. As to the question of reduced offerings and/or classes canceled in the first week of a semester, I cannot answer for those decision-makers. Opinion: What I do know is, if one has a full glass of water, and pours out one-eighth of it every August and January, eventually, there will be no more water to pour. That's bad when we have a thirsty student preparing for his/her career.

It's difficult to separate my students' benefits and my own benefits. In addition to references to myself above, I feel that this opportunity gave me a better grasp of the industry, its plusses and minuses, its capabilities, its value and its energy. If I can impart just a little of that rejuvenated feeling to them, I will have succeeded. I feel current up to and including 1992; since most text material is dated four to five years prior to Copyright date, I am confident I gained valuable contemporary tools to carry me through several years.

I have established several dozens of contacts within the industry that I can use to set up tours, resource speaker assignments; most of these contacts will be able to advise and counsel me as to where the industry stands and where it is going at any point in time.

I can't formulate a time agenda, but I believe both my department (Aeronautics and Transportation) and my division (Applied Science Technology) have benefited and will continue to benefit from this project, or I should say, the contacts and procedures that were required to complete it. I was able to refresh the memories of individuals in the industry that MSAC is still here, and can still provide those in the industry with a pool of entry-level employees, well trained and aware of the job(s) to be done. Also, if anything I've said or done can be used to enhance and stimulate our program here, I am satisfied.

How did this project create benefits or value for MSAC? I promoted the college everywhere I visited. For those who already knew us to some extent, I think I succeeded in bringing them up to date and, with some, accomplished a sales or public relations task. After visiting those mentioned in this report, I think I left them with a good picture of MSAC, academically, vocationally and professionally. Those who didn't know us before have a very good idea of who we are now, where we are and what we are accomplishing. I even feel confident today that I could operate very effectively as an outside sales representative for the college, the faculty and administration, my close colleagues, my division and department and myself.

I'd like one paragraph for some last thoughts. When I undertook this project, I was a bit naive regarding the accessibility to companies, individuals and semi-confidential data. I feel I've done a good job; however, in a long look back I wish I'd had more time, and, failing that, I regret lacking persistence necessary to get some binding commitments from industry. I happy with what I could accomplish, and I have a lot to give my students. I just wish there was more. Thanks again to everyone here who was instrumental in helping me.

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NOTE: The above sources were utilized to verify primary data gathered for this report, and therefore, are not cited in the report as primary or secondary data sources.

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Avenue NW, Washington, D. C. 20006.

Airline Reporting Corporation, 1709 New York Avenue NW,
Washington, D. C. 20006.

Airport Operators Council International, 1220 19th Street
NW, Suite 200, Washington, D. C. 20036.

American Association of Airport Executives, 4212 King
Street, Alexandria, Virginia 22302.

Department of Transportation, 400 7th Street SW, Washing-
ton, D. C. 20590.

Federal Aviation Administration, 800 Independence Avenue SW,
Washington, D. C. 20591.

International Air Transportation Association, IATA Bldg.,
2000 Peel Street, Montreal, Quebec, H3A 2R4, Canada.

International Civil Aviation Organization, International
Aviation Square, 1000 Sherbrooke Street W, Montreal,
Quebec H3A 2R2, Canada.

Regional Airline Association, 1101 Connecticut Avenue NW,
Suite 700, Washington, D. C. 20036.