RECOMMENDATIONS FOR AIR FREIGHT DATA STUDY

Simpson

MIT

DEPARTMENT
OF
AERONAUTICS
&
ASTRONAUTICS

FLIGHT TRANSPORTATION
LABORATORY
Cambridge, Mass. 02139

October 1971

FTL Report R71-3

RECOMMENDATIONS (PHASE I)

DOT/CAB/MIT

AIR FREIGHT DATA STUDY

Prepared for the Department of Transportation
Office of Systems Analysis and Information
under
Contract No. DOT-OS-10058

Massachusetts Institute of Technology
Department of Aeronautics and Astronautics
Flight Transportation Laboratory
Cambridge, Massachusetts

October 1971

Robert W. Simpson
Project Director

Nawal K. Taneja
Project Manager

TABLE OF CONTENTS

Acknowledgements i

Introduction 1

Recommendations 3

List of Figures 8

I. Data items to be collected from the airbill/airwaybill 9

II. Sample input record 10

III. Rate class codes 11

List of Appendix Tables 12

A. Domestic Air Freight 13

I. O & D Traffic Flow 14

II. Outbound and Inbound Traffic Flow by Airport, by Carrier 15

III. O & D Traffic Flow, by Rate Class 16

IV. Outbound and Inbound, by Airport, By Rate Class 17

V. Shipment by Carrier & by Weight Group (Pounds) 18

VI. Revenue and RTM by O & D City-Pair, by Commodity 19

VII. Summary by Commodity Code 20

VIII. Outbound Container Traffic Flow, by City, by Container, by Carrier 21

IX. O & D City-Pair Container Traffic Flow by Carrier 22

B. International Air Freight 23

X. O & D Traffic Flow 24

XI. Outbound and Inbound Traffic Flow by Airport, by Carrier 25

XII. O & D Traffic Flow by Rate Class 26

XIII. Outbound and Inbound Traffic Flow by Airport, by Rate Class 27

XIV. Shipments by Carrier, by Weight Group (pounds) 28

XV. Revenue and RTM by O & D City-Pair, by Commodity 29

XVI. Summary by Commodity Code 30

Acknowledgements

This interim report (phase I) is submitted in accordance with DOT Contract DOT-OS-10058. We would like to thank Mr. Alan Pisarski, Mr. Frank Macklin, Mr. Robert Murphy of the Office of Systems Analysis and Information and Mr. Bradford Smith and Mr. Robin Caldwell of the Civil Aeronautics Board for their assistance. Also, we wish to express our appreciation to the carriers and airframe manufacturers for their cooperation in this phase of the project.

INTRODUCTION

On January 15, 1971 the Department of Transportation and the Civil Aeronautics Board announced a joint research project in conjunction with the Department of Transportation's contractor, the Massachusetts Institute of Technology. The purpose of the project is the development of a domestic and international air freight traffic data base. Although both agencies recognize a continuing need for regularly reported statistics on air freight movements, their individual needs are not compatible. Furthermore, it was not obvious that the industry's needs would automatically be fulfilled even if these two agencies were to settle on a common set of data requirements.

The first part of the study involved establishing the statistical needs of the DOT, CAB and the industry. Although the initial DOT requirements included the CAB needs, there remained the need to review the data desired by the industry. MIT, in conjunction with the DOT and CAB representatives, initially interviewed selected US air carriers and cargo data users to analyze the air freight data systems operations and determine whether the data requirements developed in the DOT/CAB specifications were in fact useful and practical from an industry point of view.

Based on preliminary industry needs and DOT/CAB needs, MIT's task was to determine a feasible initial data specification in light of the information presently available from airbill sampling (or the information which might be reasonably expected on a new airbill). In case of conflicts, MIT was to recommend priorities. As required for completion of Phase I of the Air Freight Data Study, the following are our recommendations for the continuation

into Phase II based on the informal survey of the data-gathering activities and capabilities of the industry and specific needs of the DOT and the CAB.

Throughout February and March a survey of eleven airlines and three airframe manufacturers was made to determine the industry's data needs and ability to provide such data. The atmosphere throughout the attendant meetings was one of interest and cooperation with much constructive criticism. The airlines and manufacturers surveyed included:

Allegheny Airlines, Inc.
American Airlines, Inc.
Continental Air Lines, Inc.
Delta Air Lines, Inc.
Eastern Air Lines, Inc.
North Central Airlines, Inc.
Northwest Airlines, Inc.
Pan American World Airways
The Flying Tiger Line, Inc.
Trans World Airlines, Inc.
United Air Lines, Inc.
The Boeing Company
McDonnell-Douglas Corporation
Lochkeed-California Company
Lockheed-Georgia Company

RECOMMENDATIONS

1. For the purpose of satisfying the data needs of the DOT/CAB and the airline industry, it is recommended that the 17 data items listed in Figure I be collected from each airbill/airwaybill[+] for all scheduled US domestic/international and passenger/cargo and all cargo carriers, and that such data be submitted in the record form as shown in Figure II. Data for foreign flag carriers operating to and from the United States should also be included in the air freight data collection. Fifth freedom[*] international traffic should, however, be collected from US flag carriers only.

We recommend that for the present time, the collection of air freight movement data should be restricted to scheduled direct air carriers only. However, investigations should proceed to include the non-scheduled (supplemental) carriers, air freight forwarders, and REA Air Express.

2. The initial collecting system should be restricted to air freight only. Air express requires a different set of tables as well as a different reporting system. It is recommended that air express requirements should be studied to determine a proposed program for data collection and reporting which might be undertaken after the freight program is initiated.

3. Although useful, the industry does not feel that it is necessary to collect data which identifies or classifies freight traffic by forwarder/nonforwarder categories. At present this separation should not be required, at least for bulk freight. Containerized traffic may warrant such separation.

+See Figure I, page 9.
*The freedom to pick up traffic in foreign countries destined for other foreign countries.

4. It is recommended that no effort be made to collect data which would identify aircraft type used for freight movement. Administration of this would prove to be an additional burden on the carriers.

5. The data items collected should be processed in such a manner as to provide reports formatted as indicated in Appendix Tables I to IX for the domestic operations and Tables X to XVI for the international operations. These reports are expected to meet the more important information requirements as expressed by the majority of users of the collected data.

6. Domestic tables contain traffic which originates and terminates at points within the 50 states and District of Columbia. Traffic which originates, or terminates, or both, at points outside of the 50 states and District of Columbia should be considered international and as such confined to the international tables.

7. Until such time as the foreign flag carriers participate in the air freight data collection process, the international section of the report should not be made available to the public. It should be left at the Board's discretion whether or not to print this section of the report for internal use.

8. The traffic data contained in Tables I through VII and X through XVI refer to the total freight, containerized and non-containerized. The characteristics of container traffic are shown in aggregate form under the rate class category in Tables III, IV, XII and XIII. The breakdown of this container traffic should be in the same format as presently analyzed by the CAB. The format is shown in Tables VIII and IX and should be incorporated in the system design.

9. The collection of the data should begin with the close of January 1972. It is recognized that if implemented immediately this

requirement would place undue burden on many smaller carriers. To alleviate this, a schedule of carrier participation should be derived taking into consideration the planned data processing capability of the carriers in question. Eight of the eleven airlines polled in our initial survey appear to have the capability to begin reporting immediately. Although we are leaving to the Board's discretion the specific dates for individual carrier participation, it is our recommendation that all US scheduled carriers should be participating in the air freight data collection by December 31, 1973.

10. The data should be collected initially on a 100% sample basis from each participating carrier in accordance with the proposed schedule section 9. The design of an internal sampling procedure can be undertaken by the CAB after the initial sample data has been gathered. Future analysis can lead to simple sampling instructions for the carriers which reduce the amount of data forwarded to the data processing agency.

The market (city-pair) tables will very likely be limited to a selected number of major markets with respect to quarterly reports, and total number of city-pairs in the annual report. These determinations will be made at a later date after the initial system design has been tested.

11. Before proceeding further in the systems design, the final data processing agency should be determined. It is recommended that the ultimate data processing agency be the CAB, and that the data processing personnel of the CAB be included in the airbill project as soon as possible. Any computer programs written should be compatible with both the CAB's and the DOT's plans for new computer systems and should be written by or with the close consultation of

DOT and CAB programming staff in order to avoid duplication of effort.

12. The present aim of the data collection process should be limited to "true" airport-to-airport O & D data, with early expansion to include pick-up and delivery points within the airline terminal areas. Accordingly, the computer system should be designed to produce reports containing the true O & D traffic statistics. This implies that the address of the shipper/consignee would be required as a raw data item. It is recommended that the systems design should anticipate the possible use of the truckers' Standard Point Location Code (SPLC) to determine "true" O & D. The system should be flexible enough to be able to accommodate any future sophistication introduced by the use of SPLC.

13. The general feeling in the industry is that the breakdown of air freight movement by commodity code should be omitted from the present analyses. This feeling exists due to the lack of a standard commodity code. It is our recommendation that the industry should adopt the Standard Transportation Commodity Code (STCC) and that the computer system should be designed to accommodate the STCC in the expectation of that event.

In the interim, it would appear feasible to select 50 to 100 major commodity items on which data should be reported.

14. We recommend that a trial run on the system design should be based on one month's data (100% sample) of the following six carriers:

American Airlines, Inc.
Eastern Air Lines, Inc.
Pan American World Airways
The Flying Tiger Line, Inc.
Trans World Airlines, Inc.
United Air Lines, Inc.

This recommendation is based on the fact that these carriers have the necessary data and EDP capability. Furthermore, the costs involved would be minimal to DOT/CAB as well as the carriers concerned, since the transformation of the carriers' data input to the initial system design would be minimal.

15. It is recommended that Phase II, the system design, should begin immediately if the project is to be completed by the end of calendar year 1971. It is anticipated that the systems design would be completed by October 30, 1971 and Phase III, the trial run (recommendation 14), would be complete by December 31, 1971.

16. Until such time that comparable data is available from all transport modes, the resulting reports should be kept strictly confidential, available only to reporting airlines, DOT and CAB. It is recommended that an ad hoc committee should be set up by the CAB to discuss the confidentiality issues.

LIST OF FIGURES

Figure I. Data Items to be Collected from the Airbill/ Airwaybill

Figure II. Sample Input Record

Figure III. Rate Class Codes

FIGURE I

DATA ITEMS TO BE COLLECTED FROM THE AIRBILL/AIRWAYBILL*

1. Airbill/Airwaybill Number
2. Airbill/Airwaybill Date
3. Originating Airport
4. Originating Air Carrier
5. All Intermediate Airports (up to 2)
6. All Intermediate Air Carriers (up to 2)
7. Destination Airport
8. Destination Carrier
9. Actual Shipment Weight
10. Weight-Rate Charge (Airport-to-Airport)
11. Excess Value Charge
12. Rate Class
13. Number of Loose Pieces or Containers per Shipment
14. Container Code
15. Commodity Code
16. SPLC for Shipper
17. SPLC for Consignee

} For possible future application

Note: The carrier cutting the airbill is the one who reports all information given in Figure I.

*Airbill is associated with domestic operations.
Airwaybill is associated with international operations.

FIGURE II

Field Location	Information
1 - 12	Airbill Number
1 - 3	3 digit accounting code
4 - 11	8 digit serial No.
12	Assembly or distribution code if applicable
13 - 15	Originating carrier code
18 - 20	Originating airport
21 - 26	Airbill date (YYMMDD)
29 - 31	Destination airport
32 - 34	1st intermediate carrier
37 - 39	1st intermediate airport
40 - 42	2nd intermediate carrier
43 - 47	2nd intermediate airport
48 - 50	Destination carrier
53 - 55	Destination airport prior to the final destination
56 - 61	Actual shipment weight
62	L or K or T for pounds, kilos, or tons*
63 - 69	Weight Rate Charge
70 - 71	Rate Class
72	M code for mixed shipment
73 - 76	Number of pieces
77 - 81	Excess Value Charge
82 - 92	Commodity Code
95 - 99 } +	SPLC shipper
104 - 108 }	SPLC consignee
111 - 113	Container code
118 - 120	DEL, delete code used to delete input records

*short tons
+For possible future application

FIGURE III

RATE CLASS CODES

RATE TYPE	DOMESTIC			INT'L
	DOM	EXP	IMP	F.F.
Minimum	DM	EM	IM	FM
General	DG	EG	IG	FG
Specific	DS	ES	IS	FS
Exception	DE	EE	IE	FE
Deferred	DD	ED	ID	FD
Parcel Post	DP	EP	IP	FP
Combination	DX	EX	IX	FX
Container	DC	EC	IC	FC

Note: "DOM" denotes wholly domestic rate, excluding domestic export/import rates.
"EXP" denotes a domestic rate which is dependent upon a subsequent (export) movement by ocean vessel.
"IMP" denotes a domestic rate which is dependent upon a prior (import) movement by ocean vessel.
"F.F." denotes fifth freedom traffic, strictly outside the United States.

APPENDIX TABLES

A - DOMESTIC AIR FREIGHT

Table I. O & D Traffic Flow

Table II. Outbound and Inbound Traffic Flow by Airport, by Carrier

Table III. O & D Traffic Flow, by Rate Class

Table IV. Outbound and Inbound Traffic Flow - By Airport, By Rate Class

Table V. Shipments by Carrier and by Weight Group (Pounds)

Table VI. Revenue and RTM by O & D City Pair, by Commodity

Table VII. Summary by Commodity Code of Domestic Air Freight

Table VIII. Outbound Container Traffic Flow, by City, by Container, by Carrier

Table IX. O & D City-Pair Container Traffic Flow by Carrier

TABLE I

O & D TRAFFIC FLOW - DOMESTIC AIR FREIGHT QT_____ YEAR_____

FROM	TO	ROUTING	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM	REVENUE - US $			
						LINE HAUL	EXCESS VALUE	TOTAL REV.	AVERAGE YIELD/ RTM
ORD	JFK	AA							
		FT							
		UA							
		UA-CLE-AA							
		.							
		.							
		.							
		SUBTOTAL							
ORD	LGA	AA							
		FT							
		UA							
		.							
		.							
		SUBTOTAL							
ORD	EWR	.							
		.							
		.							
MDW	JFK	.							
MDW	LGA	.							
MDW	EWR	.							
		.							
CHI-NYC		ONE WAY TOTAL							
JFK	ORD	AA							
		FT							
JFK	MDW	AA							
		FT							
		.							
		.							
NYC-CHI		ONE WAY TOTAL							
NYC-CHI		BOTH-DIRECTIONS TOTAL							

TABLE II

OUTBOUND AND INBOUND TRAFFIC FLOW BY AIRPORT, BY CARRIER - DOMESTIC AIR FREIGHT QT____ YEAR____

CITY FLOW	CARRIER	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM	REVENUE - U.S. $		
					LINE HAUL	EXCESS VALUE	TOTAL REVENUE
NYC:-OUTBOUND	AA						
JFK	TW						
	UA						
	FT						
	⋮						
	SUBTOTAL						
LGA	AA						
	EA						
	BN						
	⋮						
	SUBTOTAL						
	•						
EWR	•						
	TOTAL OUTBOUND						
NYC: - INBOUND	AA						
JFK	BN						
	⋮						
	SUBTOTAL						
EWR	TOTAL INBOUND						

TABLE III

O & D TRAFFIC FLOW, BY RATE CLASS - DOMESTIC AIR FREIGHT QT_____YEAR_____

FROM	TO	RATE CLASS	NO. OF SHIPMENTS	NO. OF TONS	REVENUE TON MILES	REVENUE LINE HAUL	AVERAGE YIELD
ORD	JFK	DM					
		DG					
		DS					
		:					
		SUBTOTAL					
ORD	LGA	DM					
		DG					
		:					
		SUBTOTAL					
ORD	EWR	DM					
		:					
		SUBTOTAL					
CHI-NYC	ONE-WAY TOTAL						
JFK	ORD	DM					
		.					
		SUBTOTAL					
LGA	ORD	DM					
		.					
		SUBTOTAL					
EWR	ORD	DM					
		.					
		SUBTOTAL					
NYC-CHI	ONE-WAY TOTAL						
NYC-CHI	BOTH DIRECTIONS TOTAL						

TABLE IV

OUTBOUND AND INBOUND TRAFFIC FLOW - BY AIRPORT, BY RATE CLASS - DOMESTIC AIR FREIGHT QT YEAR

CITY FLOW	RATE CLASS	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM	REVENUE LINE-HAUL	AVERAGE YIELD/RTM
NYC:OUTBOUND						
JFK	DM					
	DG					
	DS					
	DP					
	DC					
	DD					
	DX					
	DE					
	SUBTOTAL					
LGA	M					
	G					
	.					
	.					
EWR	TOTAL OUTBOUND					
NYC:INBOUND						
JFK	M					
	G					
	.					
	.					
	.					
	TOTAL INBOUND					
NYC:BOTH DIRECTIONS	TOTAL					

TABLE V

SHIPMENTS BY CARRIER & BY WEIGHT GROUP (POUNDS) - DOMESTIC AIR FREIGHT QT YEAR

CARRIER		Under 100	100-499	500-999	1000-1999	2000-2999	3000-4999	5000-9999	10,000 and over	TOTAL
AA	No. of shipments									
	% of Total									
	No. of Pieces									
	% of Total									
	$ of Revenue									
	% of Total									
	No. of Pounds									
	% of Total									
	Average Revenue Per Shipment									
	Average No. of Pieces/Shipment									
	Average No. of Pounds/Shipment									
	Average No. of Pounds/Piece									
BN	No. of Shipments									
	.									
	.									
	.									
	.									
	.									

TABLE VI

REVENUE AND RTM BY O & D CITY PAIR, BY COMMODITY, - DOMESTIC AIR FREIGHT QT_____ YEAR_____

O & D CITY-PAIR	COMMODITY CODE	AIRLINE SHARE OF REVENUE/RTM	TOTAL RTM	TOTAL REVENUE LINE-HAUL	YIELD PER RTM
CHI-NYC		AA BN TW ...			
	⋮				
NYC-CHI		AA TW UA ...			
	⋮				
BOTH DIRECTIONS TOTAL					
CHI-ORF		CO UA			
	⋮				

TABLE VII

SUMMARY BY COMMODITY CODE OF DOMESTIC AIR FREIGHT QT_____ YEAR_____

COMMODITY CODE	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM	REVENUE LINE-HAUL	YIELD PER RTM	EXCESS VALUE CHARGE

TABLE VIII

OUTBOUND CONTAINER TRAFFIC FLOW, BY CITY, BY CONTAINER, BY CARRIER - DOMESTIC AIR FREIGHT QT YEAR

Container Type	No. of container shipments	Total Net Weight (Pounds)	Average weight per container	Airline share of net weight	Revenue (Line Haul) ($) U.S.	Av. Rev. Per Container	Airline share of Revenue	Average Yield ($) Per CWT
NYC:								
A Containers								
AA								
BN								
:								
Subtotal								
% of Grand Total								
B Containers								
AA								
:								
Subtotal								
% of Grand Total								
B2 Containers								
TW								
:								
Subtotal								
% of Grand Total								
LD-3 Containers								
AA								
:								
Subtotal								
% of Grand Total								
D Containers								
RD								
:								
Subtotal								
% of Grand Total								
Grand Totals								

TABLE IX

O & D CITY-PAIR CONTAINER TRAFFIC FLOW BY CARRIER, DOMESTIC AIR FREIGHT QT_____ YEAR_____

NYC-LAX Carriers	No. of Container	Total Net Weight (Pounds)	Av. Weight Per Container	Airline share of net weight	Revenue (Line Haul) ($) U.S.	Av. Revenue Per Container	Airline Share of Revenue	Av. Yield ($) per CWT
NYC-LAX								
AA								
FT								
:								
Subtotal								
% of Grand Total								
LAX-NYC								
RD								
AA								
:								
Subtotal								
% of Grand Total								
Both Directions								
RD								
AA								
:								
Final Total								
% of Grand Total								

B - INTERNATIONAL AIR FREIGHT

Table X. O & D Traffic Flow

Table XI. Outbound and Inbound Traffic Flow by Airport, by Carrier

Table XII. O & D Traffic Flow by Rate Class

Table XIII. Outbound and Inbound Traffic Flow by Airport, by Rate Class

Table XIV. Shipments by Carrier, by Weight Group (Pounds)

Table XV. Revenue and RTM by O & D City-Pair, by Commodity

Table XVI. Summary by Commodity Code of International Air Freight Flow

TABLE X

O & D TRAFFIC FLOW - INTERNATIONAL AIR FREIGHT QT _____ YEAR _____

CITY-PAIR	ROUTING	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM	REVENUE ($) U.S.			
					LINE HAUL	EXCESS VALUE	TOTAL REVENUE	AVERAGE YIELD/RTM
CHI-LON	AA-NYC-PA							
	BA							
	PA							
	SB							
	TW							
*CHI-LON*ONE-WAY	SUBTOTAL							
LON-CHI	BA							
	TW							
	PA-NYC-UA							
*LON-CHI*ONE WAY	SUBTOTAL							
BOTH DIRECTIONS	TOTAL							
CHI-LUX	KL-AMS-LG							
	TW-LON-LG							
*CHI-LUX*ONE WAY	TOTAL							
FRA-LON	PA							
	TW							
*FRA-LON*ONE-WAY	TOTAL							
LON-FRA	PA							
	TW							

NOT FOR PUBLIC DISTRIBUTION (SEE RECOMMENDATION #7).

TABLE XI

OUTBOUND AND INBOUND TRAFFIC FLOW BY AIRPORT, BY CARRIER - INTERNATIONAL AIR FREIGHT QT___ YEAR_____

CITY FLOW	CARRIER	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM	REVENUE - $U.S.
NYC:OUTBOUND					
JFK	AF				
	TW				
	UA				
	FT				
	⋮				
	SUBTOTAL				
LGA	AA				
	EA				
	BN				
	⋮				
	SUBTOTAL				
	⋮				
EWR					
	TOTAL OUTBOUND				
NYC:INBOUND					
JFK	BA				
	TW				
	⋮				
	SUBTOTAL				
LGA	AA				
	BN				
	SUBTOTAL				
EWR					
	TOTAL INBOUND				
NYC: BOTH DIRECTIONS	TOTAL				

NOT FOR PUBLIC DISTRIBUTION. (SEE RECOMMENDATION #7)

TABLE XII

O & D TRAFFIC FLOW BY RATE CLASS - INTERNATIONAL AIR FREIGHT QT_____YEAR_____

CITY-PAIR	RATE CLASS	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM
CHI-LON	EM			
	EG			
	ES			
	EP			
	EC			
	ED			
	EX			
	EF			
	•			
	TOTAL			
LON-CHI	IM			
	IG			
	IS			
	IP			
	IC			
	ID			
	IX			
	IE			
	•			
	•			
BOTH DIRECTIONS	TOTAL			
FRA-LON	FM			
	FG			
	•			
	•			
	•			
	TOTAL			
LON-FRA	FM			
	FG			
	•			
	•			

TABLE XIII

OUTBOUND AND INBOUND TRAFFIC FLOW BY AIRPORT, BY RATE CLASS - INTERNATIONAL AIR FREIGHT QT___ YEAR___

CITY -FLOW	RATE CLASS	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM	REVENUE-$ US (LINE HAUL)	AVERAGE YIELD PER RTM
NYC:OUTBOUND						
JFK	EM					
	EG					
	ES					
	EP					
	ED					
	EX					
	SUBTOTAL					
LGA	EM					
	EG					
	•					
	•					
EWR	•					
	•					
	•					
	TOTAL OUTBOUND					
NYC:INBOUND						
JFK	IM					
	IG					
	:					
	TOTAL INBOUND					

NYCBOTH DIRECTIONS TOTAL

NOT FOR PUBLIC DISTRIBUTION. (SEE RECOMMENDATION #7).

TABLE XIV

SHIPMENTS BY CARRIER, BY WEIGHT GROUP (POUNDS) - INTERNATIONAL AIR FREIGHT QT YEAR

CARRIER		UNDER 100	100-499	500-999	1000-1999	2000-2999	3000-4999	5000-9999	10,000 and over	TOTAL
BA	No. of shipments									
	% of total									
	No. of Pieces									
	% of total									
	$ of Revenue									
	% of total									
	No. of pounds									
	% of total									
	Average Revenue Per Shipment									
	Average No. of Pieces/Shipment									
	Average No. of Pounds/Shipment									
	Average No. of Pounds/Piece									
TW	No. of shipments									
	.									
	.									
	.									
	.									

NOT FOR PUBLIC DISTRIBUTION.(SEE RECOMMENDATION #7.)

TABLE XV

REVENUE AND RTM BY O & D CITY-PAIR, BY COMMODITY - INTERNATIONAL AIR FREIGHT QT_____YEAR_____

O & D CITY-PAIR	COMMODITY CODE	AIRLINE SHARE OF REVENUE/TOTAL RTM	REVENUE (LINE HAUL) ($) U.S.	YIELD PER RTM
CHI-LON		TW PA ...		
	⋮			
LON-CHI		BA TW ...		
	⋮			

NOT FOR PUBLIC DISTRIBUTION. (SEE RECOMMENDATION #7).

TABLE XVI

SUMMARY BY COMMODITY CODE OF INTERNATIONAL AIR FREIGHT FLOW QT_____YEAR_____

COMMODITY CODE	NO. OF SHIPMENTS	NO. OF TONS	NO. OF RTM	REVENUE (LINE HAUL) $-US	YIELD PER RTM	VALUE EXCESS CHARGES

NOT FOR PUBLIC DISTRIBUTION (SEE RECOMMENDATION #7)