

1954

Measuring the Air Terminal Consumer Market

Carl A. Franzmann

Recommended Citation

Carl A. Franzmann, *Measuring the Air Terminal Consumer Market*, 21 J. AIR L. & COM. 20 (1954)
<https://scholar.smu.edu/jalc/vol21/iss1/3>

This Article is brought to you for free and open access by the Law Journals at SMU Scholar. It has been accepted for inclusion in Journal of Air Law and Commerce by an authorized administrator of SMU Scholar. For more information, please visit <http://digitalrepository.smu.edu>.

MEASURING THE AIR TERMINAL CONSUMER MARKET

By CARL A. FRANZMANN

Supervisor, Market Research Section, The Port of New York Authority.

THE CAA's "National Airport Plan" of 1953 predicts an expenditure of \$650,000,000 over a period of three years for new airports and for improvements at existing airports. Agencies at all levels of government, engineers, architects and planners will, in this and in succeeding developmental periods, be grappling with the problem of resolving the many variables and uncertainties inherent in planning air passenger terminals.

Probably the greatest single uncertainty in the planning of air passenger terminals is the problem of finance. Terminals built to meet short run traffic requirements face the risk of overcrowding and early obsolescence. Terminals geared to long range traffic growth must, of necessity, provide operational space in excess of immediate requirements. Such excess space must be put to productive use to cover its own cost, and share the burden of public and utility areas sized to ultimate requirements. The evidence is overwhelming that if revenues from aviation sources alone are called upon to support terminals planned for future requirements, the financial burdens imposed would be very substantial.

Airport operators have looked to consumer markets, usually operated as concessions, as a means towards covering the early deficiency. Many operators have turned to the experience of concessions in rail passenger terminals. Such experience, especially when based on rail terminals built along monumental architectural lines, has not been too useful a guide. Despite the fact that concessions activities in major rail terminals may draw upon massive flows of commuters and regular travelers, as well as pedestrian traffic in the locality, the returns to terminal management have been disappointing. One major rail carrier, whose intensive study and experimentation in a wide variety of concession activities reports only modest gains for the effort, is resigned to a chronic deficit. Another carrier has initiated studies at all of its system terminals, not in the hope of overcoming, but in the expectation of alleviating deficits.

Airport management may also turn to a substantial body of information on airport concessions which has accumulated during the post-war period. The applicability of such data in a given planning situation is, however, subject to some practical limitations. Methods of reporting may vary from airport to airport. Statements on food revenues may or may not include sizable sales from such goods as magazines and novelties vended in the same establishment. The price and

quality of goods, and the standards of management in allocating space exert their influence. There is also the well-founded belief that the composition of the terminal population varies from airport to airport, depending upon such factors as the number of passengers in transit, number of employees in the terminal proper, as well as in adjacent hangar areas, and the degree to which the airport attracts visitors from the locality. Again, such factors as accessibility to the highways may profoundly effect the number of visitors who drive to the airport in meeting or accompanying air passengers. Therefore, when measures of revenue are expressed in terms of revenue per passenger handled, or as gross sales per square foot of space occupied by terminal concessions, the results may be quite misleading. In the New York Metropolitan Area for example, the gross revenues from concessions on a per passenger basis may vary as much as 300% between airports, while the revenue per square foot occupied are approximately equal.

In seeking the answer to the question as to how much financial support might be derived from concession revenues, whether in modifying the existing or planning new terminals, it was apparent that operating data would have to be complemented by accurate information on the spending habits not of the aggregate, but of the individual segments of the terminal population.

Obtaining information *about* the people using the terminal and patronizing the concessions requires obtaining information directly *from* these people. Financial records and turnstile counts cannot distinguish people by their purpose for being in the terminal, nor can passenger data shed light on spending in the terminal.

Sample surveys using personal interviews are widely used as a technique of market research in collecting information from actual and potential customers.¹ The surveys reported here are an application of probability sampling techniques in use in business and government. The Survey Research Center of the University of Michigan served as consultants on the sample design and the measurement of sampling error.

THE TERMINAL POPULATION AS A CONSUMER MARKET

The "normal" market is a place where people who intend to buy can find and select goods to meet their demands. Their primary purpose in visiting a "normal" market is specifically to shop, and, if induced by the type, price, and quality of goods, and aided by the lubrication of the surroundings and salesmanship, to buy.

People who visit terminals, air terminals in particular, have no such purpose as a rule. Their reason in visiting the terminal is normally to embark on a trip, or to transfer from the airplane to their ground transportation that gets them to their local destination, or to

¹As an alternative to personal interviews, Mass-Observation, Ltd., an English firm, observes the passage of people through public buildings, sees what path they take, and what they do and buy. This is an expensive procedure as the number of people which each employee can observe is severely limited.

accompany air travellers either to or from the airplane. In addition, there are those who visit the terminal on business, and terminal employees, air crews, and others whose work requires them to enter the terminal, and there are casual visitors who come to see the airplanes and watch the activity in the terminal. But only in very rare instances is "shopping" the purpose of the visit to the terminal.

This fact multiplies the problem of successful merchandising in the terminal. It imposes upon the seller the added problem of changing the fixed purpose and intention of his only prospective customers — of creating a market that didn't exist. Can this be done? If so, to what extent, and by what means?

To see if it can be done successfully, it is possible to fall back on market research methods that have been fully developed to measure "normal" markets, and to apply the same principles to the analysis of the "market behavior" of the terminal population, under a variety of conditions, and draw such conclusions as the findings may justify. If these findings are significant, they may, by inference, be applied to predetermine, within broad limits, what market characteristics to expect under similar conditions, either existing or contemplated, in other terminals.

If the purchasing behavior of all segments of terminal populations were relatively stable or uniform, it could be measured adequately in terms of total traffic volume — sales per passenger, for example. The variation of 300% in this measurement at the terminals cited above shows the fallacy of this ratio as a reliable indicator of the market potential in a terminal.

Revenue per square foot measures the area of the shop as well as the market. Although it may be an effective measure of the profitability of the business, it is no measure of the size or behavior of the market.

SUMMARY OF FINDINGS AND CONCLUSIONS

A summary of some of the tentative, general conclusions suggested by the studies may aid in bringing the details into focus:

1. The several components of a terminal population can be determined and compared by standard market research methods.
2. The market behavior of the several groups of the population classified by purpose of visit and time spent in the terminal differ radically as between groups, but uniformly as between terminals. The largest proportion of spenders is usually found in terminal employee groups, as would be expected. These are followed by "spectators" (casual visitors), outbound and transient passengers, and persons accompanying passengers. Inbound passengers rank last.
3. A large and profitable local neighborhood market for terminal concessions can be developed under conditions, where excellence of quality and light competition exist in a prosperous airport neighborhood.
4. The proportion of spenders in a terminal population group is fairly uniform under basically different market "exposure pat-

terns," but the amount spent by the spenders in each group can be increased by improved "exposure." The amount of such increase is strictly limited, and may not be proportional to the improvement in exposure.

5. Sixty percent or more of expenditures are for food and drink. This is generally true for almost every population group studied, under all three "exposure" patterns. This finding is uniform, seems to be unaffected by the relative attractiveness or availability of other goods and services, or their "exposure." (Owing to limitations of space, tabular data are not presented for individual commodities or commodity groups.)
6. Expenditures for food and drink are roughly proportional to time spent in terminal (as would be expected), but expenditures for other goods and services are not materially increased by longer time in terminal.
7. The consumer market that can be created from an air terminal population is severely limited. People who are willing to spend *some* money may be induced to spend somewhat *more*, under favorable conditions. But the proportion of spenders in the group will not be materially increased by inducements of variety or quality of goods or improved "exposure patterns."

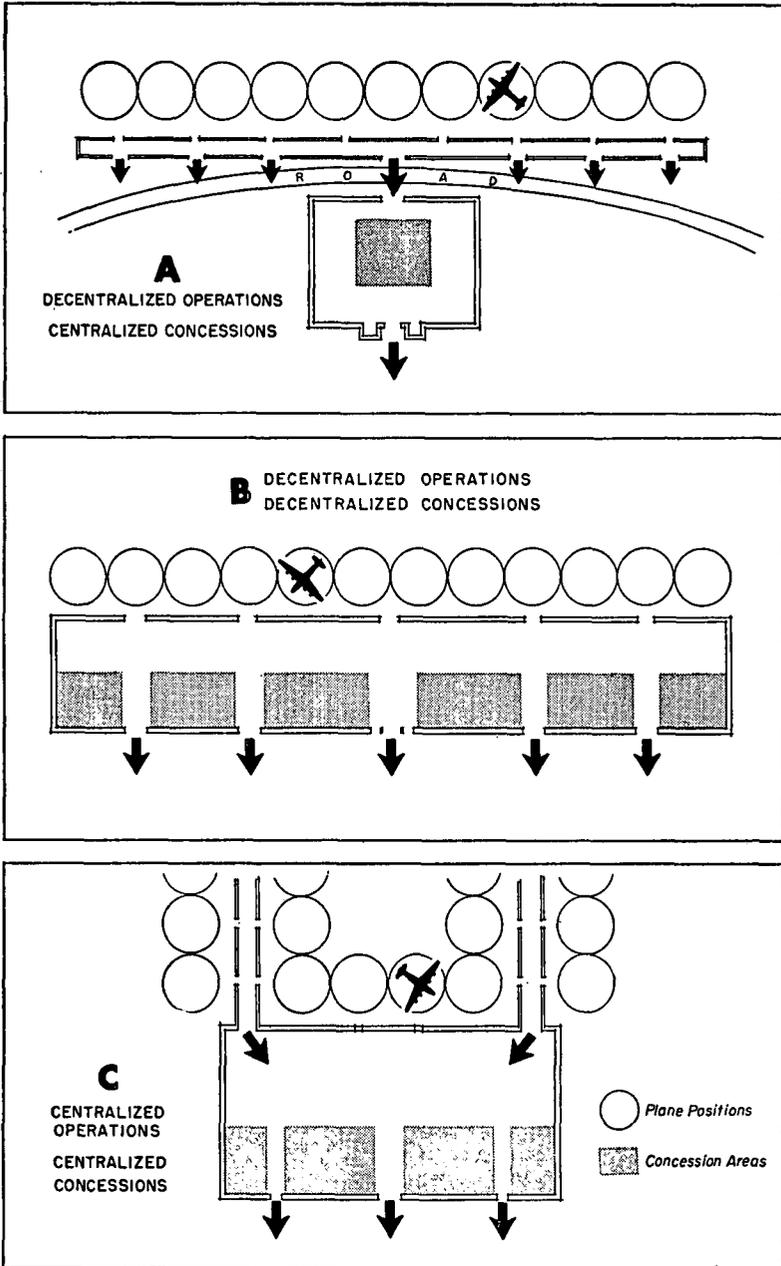
EXPOSURE PATTERNS OF CENTRALIZED AIR TERMINALS

Centralized air passenger terminals generally fall within one of three broad classifications with respect to their market exposure pattern. These types differ materially with respect to the coordination of passenger handling operations and consumer service shops and facilities. These differentials in layout with respect to traffic flow result in fairly sharp contrasts in the degree of exposure of the potential consumer market to terminal concessions (see Figure 1). Differences in the buying behavior of the terminal population under these three contrasting exposure patterns provide useful measurements of the effect on consumer habits of concession exposure under different terminal exposure patterns and provide hypotheses for reasonable estimates of the purchasing characteristics that might be expected from specific population groups under various traffic flow types of terminal design.

Figure 1 identifies three general types of terminal layout that result in marked differences in exposure patterns.

Exposure Pattern A. This layout is characterized by two distinct terminal areas, the terminal building proper and the long arcade structure between the terminal apron and the entrance road. Although the generalized schematic outline in Figure 1 indicates a specific geographical relationship between these two areas, this pattern typifies such distinct architectural treatments as the new terminal at Pittsburgh, the Boston terminal at Logan Airport, and La Guardia Airport in New York. Under this pattern of exposure, the central building or area houses all the major concessions but the arcade structure is accessible directly to passenger vehicles, thereby permitting a large proportion of the terminal population direct through access between the road and the airplane.

FIGURE 1 - TYPICAL AIR PASSENGER TERMINAL EXPOSURE PATTERNS



Usually check-in counters, baggage claim areas, and a small unit waiting room are provided in the arcade for each carrier, which, in effect, results in a decentralized unit type individual terminal for each airline. Persons arriving by coach are dropped at the arcade entrance adjacent to the plane position from which they will depart while those leaving the airport by coach will board it at the arcade exit nearest the gate position of their arrival. Thus, a major proportion of passengers is not exposed to any concessions except vending machines, and time does not ordinarily permit them to visit the central terminal area even should they so desire. Those who come to or leave the airport by private automobile may walk through the central building if they wish, but many will avoid this unnecessary detour. Airport visitors who accompany outbound passengers or meet plane arrivals will follow the most convenient pattern between the parking area and the gate position, but ordinarily will spend any waiting time in the airline waiting room in the arcade building.

Exposure Pattern B. This layout is characterized by a relatively decentralized and non-functional terminal building stretching the length of the apron between the apron and the entrance roadway. This type of building is similar to the arcade structure in Pattern A, but, by providing a much deeper area throughout its length, it permits the scattering of concessions throughout its full length, thereby exposing all of the terminal population to some of the concessions, and making all concessions readily accessible, but not visible to everyone passing through the terminal. The traffic flow of inbound passengers may be centralized by the use of centralized baggage claim area or areas, which increases the concession exposure to this element of the market. Visitors and outbound passengers will ordinarily pass by a substantial number of concessions between the entrance door and the passenger gate. This pattern of exposure is generally unplanned, and makes use of temporary structures or enlargements of terminal facilities that have been added to increase the capacity of small terminal buildings that have been outgrown by the rapid growth of traffic, as in the case of Dallas (Love) Airport, the old Boston Airport, and New York International Airport.

Exposure Pattern C. Most modern terminals are laid out according to this functional pattern which funnels all airport users through a large central concourse which houses both operational and concession areas within a single main rotunda. Under this pattern of exposure, all concessions are in clear view and readily accessible by all components of the terminal market and, consequently, it has been assumed that this type of terminal design will generate the full market potential of the population. Cincinnati, Willow Run, Newark and Washington Airports come to mind as illustrations of this exposure pattern.

International Terminals

The functional peculiarities of Federal Inspection areas for terminating international passengers does not materially affect the terminal

market, since such passengers characteristically move directly from the Customs area to their ground transportation, without detour or delay in the concession area of the terminal. Airport visitors meeting inbound overseas passengers follow the same path as similar visitors meeting domestic passengers, and outbound overseas passengers are generally handled through facilities that from a market standpoint are identical to the facilities provided for outbound domestic passengers.

MARKET CHARACTERISTICS OF THE POPULATION

As already pointed out, the terminal population is very different from a "normal" consumer market. As respects the purpose, intention, and length of exposure to consumer stores and facilities, what potential market exists in the population must be created out of a wholly different set of conditions than those encountered in ordinary retail business. This fact is generally recognized by the heavy emphasis on goods and articles that characterize "impulse buying" and is illustrated by the questionable success of most attempts to sell clothing, radios, or similar goods that generally are associated with more careful and thoughtful shopping.

The purpose of measuring the market that can be created from the various groups of the population, under the several types of exposure, as related to the various kinds of commodities and services, was reduced to a simple questionnaire that required only two or three minutes for completion by a trained interviewer. This questionnaire, reproduced in facsimile as Figure 2, and the procedures followed, were designed to provide answers to the following basic questions concerning the market behavior of the terminal population under extreme differences in physical exposure patterns:

1. How many people make up the terminal market?
2. Who are they? The most important identification is the purpose of their visit to the terminal, supplemented by information on place of residence, sex and age.
3. What do they buy?
4. How much do they spend?
5. How long are they in the Terminal Building?

Conduct of the Survey

The sampling was done in three stages: a sample was chosen of working shifts for interviewers; random exits were assigned to random interviewing periods within those shifts; selection was made of adults leaving the terminal building, through these exits, at these times, in proportion to the estimated distribution of the terminal population.

The interviewing was done by employees who had been given careful instruction in the objectives and techniques of the survey and in effective interviewing methods. The interviewers worked in pairs. One designated the respondents according to a prescribed procedure, so that there was no freedom of choice, while the other conducted the interview as the person left the terminal building. The respondent

FIGURE 2- FACSIMILE OF SURVEY QUESTIONNAIRE

Refusal _____
 Out of _____
 Population _____

**AIR TERMINAL
 CONSUMER MARKET SURVEY**

Date _____

1. Why did you come to the airport today? Are you returning from an air trip, or did you come to meet someone, or what?

AIR PASSENGER	VISITOR
Coach _____	With Incoming P. _____
Regular _____	With Outgoing P. _____
Air Crew Member _____	EMPLOYEE
Sightseer _____	Terminal _____
	Other _____

Other _____

2. Is this a business or a personal trip?

Business _____ Personal _____ Both _____

Other _____

3. Will you tell me as nearly as you can remember the exact time you entered the terminal? _____

4. By what means of transportation will you leave the airport?

Car _____ Carey Coach _____ Public Bus _____ Other _____

For Cars: Parking Lot _____ Meter _____ Other _____

Actual Size of Card
 4" x 6"



5. We are interested in people's spending habits. Did you, yourself, spend any money at all while you were here in the terminal?

*Observation Deck _____	*Cigarettes _____
Lunch _____	*Newspapers & Magazines _____
Dinner _____	Books _____
Coffee _____	*Telephone _____
Drinks (alcohol) _____	*Insurance _____
_____	_____
_____	_____

6. Were you on the observation deck? Yes _____ No _____

7. Where do you live? _____

Sex: Male _____ Age: 12-25 _____
 Female _____ 25-45 _____
 Over 45 _____

Time interview finished _____ AM
 _____ PM

Exit: East _____
 Main _____
 West _____

Interviewer's Initials _____

either waited at the exit while he was being interviewed, or was accompanied by the interviewer, who asked the questions while they walked toward the plane, bus, taxi, or parking lot. As the interview generally took no more than a couple of minutes, the respondent was delayed only very little and, almost without exception, cooperated fully with the interviewer.

La Guardia and New York International Airports, which are of types A and B, were surveyed during the period March 13th through April 30th, 1953. The new terminal at Newark Airport, type C, was surveyed from December 1 to 21, 1953. About 2,000 interviews were conducted at each airport, to provide a sufficiently large sample to assure reliability of results in measuring small component segments of the population.

Validity of the Results of the Survey

The path of information from the activity of the person in the terminal to this article is a long one, and errors can enter at many points. The respondent himself may give erroneous or incomplete information, the interviewer can record the answer incorrectly, clerical errors can be made in tabulation. As the data are obtained from a sample, the accuracy of the results require that the sample be representative of all persons in the terminal. The representativeness is maximized through the use of a probability sample, for which the sampling error can be ascertained. Due to sampling error alone, it can be said, for example, that the true proportion of all outgoing air passengers at New York International who spend money, reported in the sample survey as 53%, is between 47% and 60%. This statement itself has a probability of 95 out of 100 of being correct.

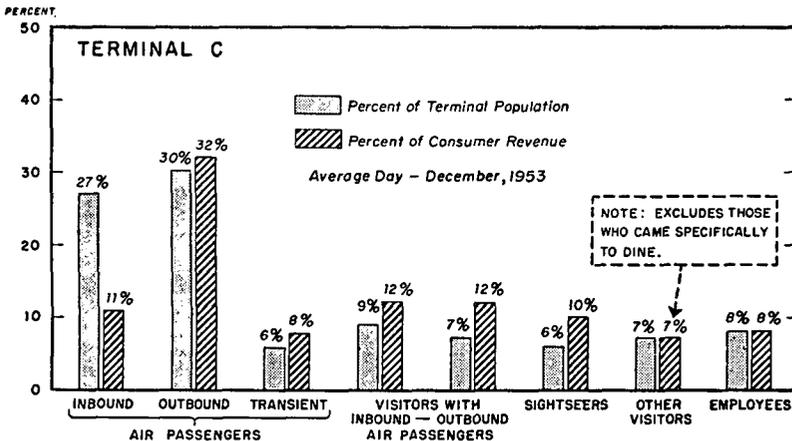
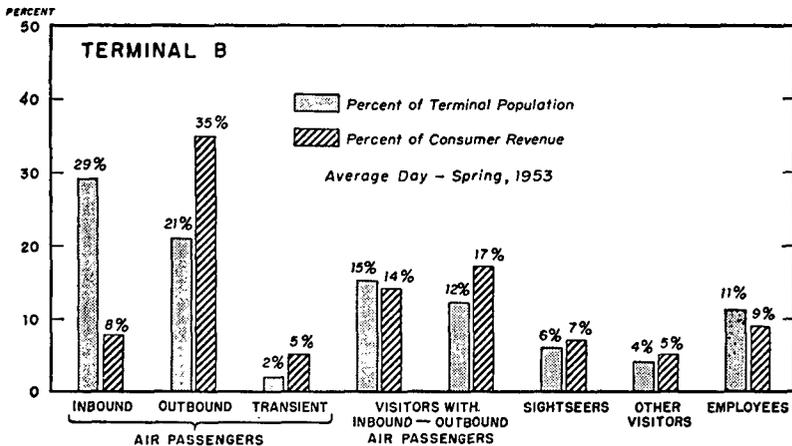
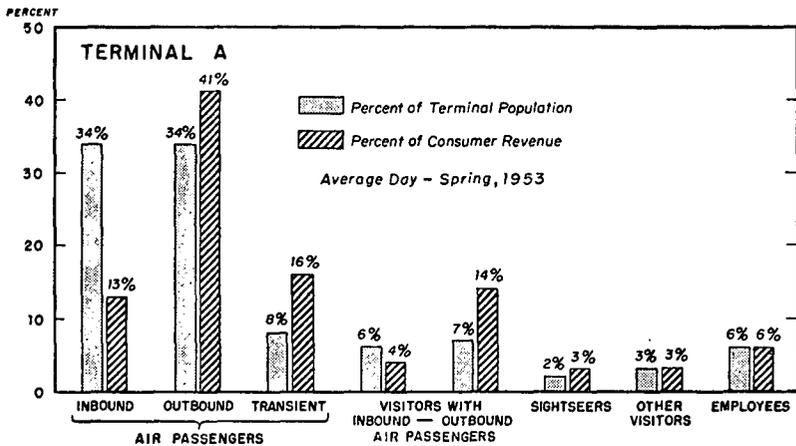
Although the probability sampling method identifies the respondents from among all people exiting from the terminal, this plan is unavoidably modified to some extent by the refusal or inability of some designees to respond, and the interviewer's physical inability during busy hours to approach some of the persons the sample designated.

Employees are known to be under-represented in the sample, probably because of their frequent use of exits other than the public gates at which interviewers were stationed.

COMPOSITION OF THE TERMINAL POPULATION

The terminal population is defined as the aggregate of all people who actually enter and leave the terminal building. The composition of the terminal populations on average days is shown in Table 1 and in Figure 3. It will be noted that each of the airports surveyed has a distinctive distribution of population as among the several groups. Air passengers account for 76% of the population at La Guardia, 52% at New York International, and 58% at Newark Airport. The greatest variation was in the proportions of the population comprising visitors with air passengers. New York International has about twice the vol-

FIGURE 3 - POPULATION COMPONENTS OF THE CONSUMER MARKET



ume of visitors with air passengers as at the other terminals. In addition, a unique element in the population exists at Newark. These are the visitors from the local neighborhood who come to that terminal for the specific purpose of dining. At the other airports, this type of visitor was negligible in number.

New York International and Newark have about the same percentage of sightseers. In the case of the former, the attraction for sightseers is primarily the interest inherent in the overseas operation. In the other case, the novelty of a new terminal, as well as the fact that the observation deck is enclosed, seem to offer equal attraction.

The titles of most of the population groups in the tables are self-explanatory. However, some of them require definition. Transient air passengers are people who left the terminal by plane, and who arrived at the terminal by either the same or a different plane. They were classified as domestic or overseas transients according to their destinations.

"Other Visitors" includes "Diners" — those who came to the airport specifically to patronize the restaurant. This is a special category of visitors at Newark only. This class of patron was so infrequent at the other airports that it was not tabulated separately. Although "Diners" came to Newark primarily to eat, some of them bought other things also. "Other visitors" also includes those who came for airline information, to patronize other concessions, to visit employees, and on airport and airline business. These other people, of course, dined at the terminal, although they came primarily for some other purpose.

Table 1 shows the distribution of the population by purpose of visit during an average day of the survey periods, in numbers of persons and in percentages. To permit direct comparison of the three "normal" airport markets, percentages are shown excluding the visitors who came to Newark specifically to eat.

Table 2 reports the percentages of each group of the three populations that made an expenditure in the terminal.

Table 3 gives an index of the average expenditure per spender in each population group. An entry in this table should be read, "Among those who made any purchase, the average amount spent by sightseers at La Guardia Terminal was 70% of the average amount spent by all spenders at all airports."

Table 4 records the average length of visit to the terminal for each population group. This was averaged for all persons in the group, and separately for all persons spending, and for all persons who reported no expenditure.

Figure 3 charts the breakdown of terminal population, and the comparable breakdown of total consumer revenue, by population groups. "Diners" were excluded from the Newark (C) population, and their expenditures were excluded from the revenue totals to provide comparability between the three "normal" markets.

Inbound Air Passengers. Inbound air passengers constitute about 30% of the populations, but only account for about 10% of the sales.

Four out of five of them spend no money at all. The inbound passenger spends only about half the time an average person spends in the terminal.

Small departures from these common values were observed among the airports. Newark (C) and La Guardia (A) inbound passengers are similar both in their share of dollar sales and their time in terminal (about 15 minutes). International's inbound passengers, (B), however, spend a half-hour in the terminal, but account for a smaller share of dollar sales. Although even the non-spender at International remains in the terminal about twice as long as those at the other airports, the proportion spending is not larger.

The proportion of inbound passengers actually patronizing a concession, though little different, was least at La Guardia, and equal at Newark and International for domestic passengers. They spent a little more at La Guardia than at International, but substantially less than the inbound passengers patronizing Newark concessions. The Newark patron spent more primarily because of a greater food expenditure. Passengers arriving at New York International from overseas are infrequent purchasers; 87% make no expenditures.

Outbound Air Passengers. Concession sales are more dependent on the outbound passengers than any other population group except "Diners." They constituted from 21% to 34% of the population during the periods surveyed and accounted for 32% to 41% of gross sales. Half of the outbound passengers spend money in concessions.

The average patron among the outbound passengers at La Guardia (A) spends less than the average, at Newark (C) about the average, but at International (B), he spends a third more than the average of all people at the three airports. The outbound passenger at International spends more in all types of concessions: foods, goods, and services. This does not appear to be a consequence of unique behavior by the overseas passengers since both domestic and overseas passengers at International exhibit a similar pattern of spending.

This observation contradicts the hypothesis often accepted, that terminal design and exposure pattern is the dominating factor in the amount spent by patrons. Apparently there are other factors which influence spending more than terminal design and market exposure.

Outbound passengers at International have more persons accompanying them to the terminal than do those at either of the other two airports. Outbound passengers at International also spend more time in the terminal than outbound air passengers at the other airports.

These observations suggest that a complexity of factors such as the length of time departing passengers will be away, the distance of the trip, and the purpose of the journey, may influence the spending of air passengers. Such factors were not measured in this survey, with the result that no positive inference can be made about their importance.

Transient Air Passengers. Some of the people who arrive at the terminal by plane leave on the same plane, and are in the terminal just a few minutes. Many transient passengers change planes, resulting

in their having, on the average, a longer time in the terminal than either inbound or outbound passengers. Since, for this group, the time available in the terminal is determined solely by their schedule, the causal relationship between time and spending is clear with respect to this group. Transients must stay in the terminal a certain length of time and they may not stay any longer than the interval between flights. They cannot stay longer in order to shop or eat; rather they shop or eat because they must stay longer.

The following table lends considerable support to the idea that the length of stay influences the incidence of spending:

Length of Stay	% of Transient Passengers Spending		
	La Guardia (A)	N. Y. International (B)	Newark (C)
Less than 45 minutes	26%	26%	54%
Over 45 minutes	87%	77%	96%

The expenditures made by spenders among transient passengers are higher than those of the other passenger groups. At La Guardia and New York International Airports the transient passengers' excess in spending over outbound passengers is due almost entirely to higher expenditures on foods. At Newark, it is a result of increased expenditures on other goods.

Visitors with Inbound Passengers. The three airports differ substantially in the number of visitors who come to the terminals to meet arriving passengers:

La Guardia	18 visitors per 100 inbound passengers
N. Y. International	50 visitors per 100 inbound passengers
Newark	35 visitors per 100 inbound passengers

Data from other sources indicate that the characteristic that brings a higher proportion of visitors to New York International is the longer average length of trip, measured both in distance and duration.

Partly as a result of these differences in numbers of visitors with incoming passengers, the relative contributions of this group to total concession revenue vary from 4% at La Guardia to 14% at New York International. But this range in percentages is due to two other factors as well: a small difference in the fraction that spends; and a large difference in the average amount spent by those who spend.

People waiting for arriving passengers probably spend most of their time in the airline waiting room in the arcade of Type A terminals, at some distance removed from all concessions except vending machines. Many of their counterparts in a Type B layout will be in a position to watch for the arrival and also shop in a few stores. All those in a Type C design are near shops.

These differences in exposure are associated with only modest differences in the proportions who spend, and substantial differences in the amount spent by those who spend:

	Type	Percent Spending	Index of amount spent per spender
La Guardia	(A)	41%	60
N. Y. International	(B)	48%	85
Newark	(C)	50%	119

Evidently, most of those in a Type A layout who want to make a purchase find it possible to do so, despite their remoteness from concessions. But they spend less by comparison with the other exposures. Thus, the greater exposure to concessions, while not producing many more spenders, is associated with much more spending by the people who *do* spend.

As is the case for inbound passengers themselves, food is the predominant object of expenditure of visitors with inbound passengers. But whereas the inbound passengers at La Guardia and New York International spent more for services than they did for goods, the visitors accompanying them spent more for goods than for services, at all airports.

It is to be expected that visitors meeting inbound passengers will spend a considerably greater length of time in the terminal than do the passengers themselves:

	Inbound Passengers	Visitors with Inbound Air Pass'grs. (Minutes)
La Guardia	16	52
N. Y. International	28	86
Newark	13	39

The high figure for N.Y. International visitors is not due to the prevalence of overseas service, as people meeting domestic passengers spend about the same amount of time in the terminal as those meeting overseas passengers.

Type C Terminal is evidently able to move people through the terminal more efficiently than Types A and B. The average person who made a purchase in Newark terminal remained in the building much less time than those at the other airports, yet they spent substantially more money.

Visitors Accompanying Outbound Passengers. As was found for inbound passengers, departing passengers at New York International had, on the average, a larger number of persons accompanying them than was the case at the other airports. The average departing passenger at Newark has fewer people with him than the number who come to meet arrivals at that Airport, contrary to the findings at the other airports:

La Guardia	20 visitors per 100 outbound passengers
N. Y. International	58 visitors per 100 outbound passengers
Newark	24 visitors per 100 outbound passengers

Visitors with outbound passengers are more frequent spenders at all three airports than visitors meeting incoming passengers. However, these groups are alike in proportion of spenders under all exposures: the percentage that spends is between 61 and 65 for all airports. The exposures are also similar in their effect on the amounts spent. The superiority of the central type (C) in developing revenue from this group is small, and is felt primarily in higher purchases of goods rather than of food or services.

Sightseers. The airports differ substantially in the percentage of sightseers to the population and their contribution to concession revenue, but conclusions for this group may be distorted by the fact that La Guardia and New York International were surveyed during March and April, while Newark was surveyed during December. Comparing the two airports for which data for the same period are available, however, shows that sightseers at New York International were more than twice as numerous as at La Guardia, despite the much greater traffic volume and aeronautical activity at the latter airport. These differences in numbers also are reflected in gross consumer revenue; sightseers provide 7% of the revenue at New York International but only 3% at La Guardia.

Compared with the population as a whole, spending is very frequent among sightseers, although the amounts spent by those making purchases is low. The three airports are approximately equal in the proportions of sightseers who spend, but this group at Newark spends more than those at the other two airports. This is reflected entirely in higher average expenditures for goods. This is one of the two groups at Newark that averaged higher expenditures for goods than for food.

Diners. Although differences have been pointed out in the importance of the various "normal" population groups among the three airports, these differences have been generally limited. In fact, the most definite and positive finding of the three surveys is the similarity in purchasing performance of each population group under all three exposure patterns.

In one respect, however, the population of Newark terminal is radically different from the other two. A number of people come to the terminal specifically to patronize the restaurant. They constitute only 6% of the total population, but account for 41% of all consumer revenue. The counterparts of this group at the other two airports are not large enough to tabulate separately. Newark is an industrial area with few luxury restaurants in the neighborhood. The other terminals are in more populous sections with a considerable amount of restaurant competition.

That so relatively small a group of persons accounts for so large a part of the revenue is due to an average expenditure, for those who reported an expenditure (for food or any other item), of more than six times the average of all people at the three airports. This figure,

however, includes payments for about one and one-third person's purchases, and includes the purchase of goods and services as well as food. Another reason for the much higher average expenditure by this group for food is that the food category in general includes small amounts spent for snacks and soft drinks, as well as meals and alcoholic drinks. But among those who made a special visit to the terminal to eat, it seems reasonable to expect that most had a full meal in the restaurant rather than a short order in the coffee shop or snack bar. This group also spent more for goods, on the average, than any other segment of the population.

Other Visitors and Employees. Even after persons who came to Newark Airport specifically to patronize the restaurant are excluded from "other Visitors," the remainder of the group accounts for 7% of the consumer revenue at that airport. It is a less significant component of the markets of the other airports. By measures of spending presented, this group conforms very closely to the average of the entire terminal population. Because of the necessity to conduct the surveys at the public terminal exits, which employees may not always use, employees may not be represented in the samples in their proper proportions. Nevertheless, the data obtained from those who were interviewed may be revealing. From 70% to 75% of the terminal employees made a purchase in the terminal, while a much smaller percentage of air crew members and people working elsewhere in the airport spent money in the terminal.

The amounts spent by those of the latter group who made a purchase were also smaller than the spending of the terminal building employees. As there is no reason to believe that the time employees spend in the terminal is closely related to their concession patronage, these data are not included in Table 4.

TABLE 1
COMPOSITION OF AIR TERMINAL POPULATION — AVERAGE DAY

	La Guardia ¹		New York International ¹		Newark ²	
	Number	Percent	Number	Percent	Number	Percent
Terminal Population	15,205	100%	12,830	100%	5,078	100%
A—Non-Employees	14,289	94	11,370	89	4,696	92
1. Air Passengers	11,567	76	6,583	52	2,960	58
Inbound: Total	5,165	34	3,681	29	1,269	25
Domestic	5,074	33	2,692	21	1,269	25
Overseas	91	1	989	8	0	0
Outbound: Total	5,163	34	2,686	21	1,426	28
Domestic	5,163	34	1,680	13	1,426	28
Overseas	0	0	1,006	8	0	0
Transient: Total	1,239	8	216	2	265	5
Domestic	1,239	8	161	1	265	5
Overseas	0	0	55	0	0	0
2. Visitors with Air Passengers	1,942	13	3,421	27	781	15
Inbound	911	6	1,871	15	441	9
Outbound	1,031	7	1,550	12	340	7
3. Sightseers	353	2	818	6	297	6
4. Other Visitors	427	3	548	4	658	13
Diners (Newark only)	—	—	—	—	305	6
Others	427	3	548	4	353	7
B—Employees	916	6	1,460	11	382	8
1. Terminal	555	4	806	6	140	3
2. Air Crew and Others	359	2	654	5	242	5

¹ Spring, 1953

² December, 1953

³ This column has percentages of total population exclusive of those visitors coming specifically to dine.

TABLE 2
PERCENTAGES OF TERMINAL POPULATION
GROUPS THAT SPEND

Terminal Population	Percent of Group		
	New York		
	La Guardia ¹	International ¹	Newark ²
	39%	44%	48%
A—Non-Employees	38	43	47
1. Air Passengers	34	34	39
Inbound: Total	17	19	21
Domestic	17	21	21
Overseas	*	13	(a)
Outbound: Total	47	53	52
Domestic	47	52	52
Overseas	(a)	55	(a)
Transient: Total	50	63	61
Domestic	50	55	61
Overseas	(a)	*	(a)
2. Visitors with Air Passengers	53	54	56
Inbound	41	48	50
Outbound	63	61	65
3. Sightseers	68	67	70
4. Other Visitors	44	42	61
Diners (Newark only)	—	—	75
Others	44	42	50
B—Employees	56	50	53
1. Terminal	75	70	73
2. Air Crews and Others	28	26	41

¹ Spring, 1953² December, 1953

* Population group too small to yield reliable percentage.

(a) Population group does not appear in survey sample.

TABLE 3
INDEX OF AVERAGE EXPENDITURE PER
SPENDER BY POPULATION GROUPS#

Terminal Population	New York		
	La Guardia ¹	International ¹	Newark ²
		83	98
A—Non-Employees	86	103	161
1. Air Passengers	87	117	95
Inbound: Total	70	61	90
Domestic	71	52	90
Overseas	*	104	(a)
Outbound: Total	83	137	95
Domestic	83	135	95
Overseas	(a)	141	(a)
Transient: Total	123	187	105
Domestic	123	148	105
Overseas	(a)	*	(a)
2. Visitors with Air Passengers	88	92	119
Inbound	60	85	119
Outbound	105	101	121
3. Sightseers	70	71	101
4. Other Visitors	79	114	424
Diners (Newark only)	—	—	677
Others	79	114	95
B—Employees	58	66	85
1. Terminal	59	75	96
2. Air Crews and Others	54	37	72

Average expenditure per spender, all population groups, three airports=100.

¹ Spring, 1953² December, 1953

* Population group too small to yield reliable average.

(a) Population group does not appear in survey sample.

TABLE 4
 AVERAGE LENGTH OF VISIT TO TERMINAL, BY POPULATION GROUPS, FOR SPENDERS AND
 NON-SPENDERS (in Minutes)

	La Guardia ¹			New York International ¹			Newark ²		
	Total	Spenders	Non-Spenders	Total	Spenders	Non-Spenders	Total	Spenders	Non-Spenders
	Non-Employees	39	65	23	59	80	42	31	46
1. Air Passengers	34	62	19	45	71	31	21	36	12
Inbound: Total	16	30	13	28	44	25	13	24	10
Domestic	16	30	13	29	46	24	13	24	10
Overseas	*	*	*	27	34	26	(a)	(a)	(a)
Outbound: Total	42	61	26	60	76	42	23	33	13
Domestic	42	61	26	53	74	30	23	33	13
Overseas	(a)	(a)	(a)	72	80	62	(a)	(a)	(a)
Transient: Total	73	115	30	120	153	66	52	69	22
Domestic	73	115	30	115	174	44	52	69	22
Overseas	(a)	(a)	(a)	*	*	*	(a)	(a)	(a)
2. Visitors with Air Passengers	57	74	38	80	92	66	41	51	28
Inbound	52	78	34	86	107	67	39	58	25
Outbound	62	72	45	73	77	65	43	43	34
3. Sightseers	68	66	75	64	67	57	43	46	35
4. Other Visitors	63	67	59	72	101	51	60	72	41
Diners (Newark only)	—	—	—	—	—	—	78	75	85
Others	63	67	59	72	101	51	45	68	22

¹ Spring, 1953

² December, 1953

* Population group too small to yield reliable averages.
 (a) Population group does not appear in survey sample.