

Attitudes Toward Parking and Related Conditions in Columbus

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This study demonstrates a method of determining the relative importance of such factors as parking and traffic conditions in the matrix attitudes which motivate different kinds of people to use one or another place to procure goods and services. A schedule of significant items was systematically administered to an areal random sample in each of six preselected tracts in Columbus, Ohio. From these questionnaires, accurate, valid, and reliable scales were developed from which it was possible to measure the power of the several items to discriminate between downtown and suburban shoppers.

Using these attitude scales as instruments for analysis, it was found that several relationships exist between shopping satisfaction and such group socio-economic factors as income, education, age, sex, and urban-rural background. The fact that persons in the higher income group are particularly attracted to the downtown shopping section, even though they are the ones more concerned with traffic and parking, appears to indicate that the attraction of greater selection of goods may sometimes outweigh the disadvantages of parking and traffic conditions.

●THIS is an investigation of attitudes which people living in various sections of the Columbus metropolitan area have toward the use of downtown or suburban facilities. It seeks to determine the relative importance and position of such factors as parking, traffic conditions, crowding, etc. in the matrix of factors which motivate different kinds of people to use one or the other place to procure goods and services.

SIGNIFICANCE OF THE PROBLEM

The development first of cities and then of metropolitan districts in the United States has been accompanied by significant reordering of the structural and functional patterns not only of the central city but also of its surrounding area. This phenomenon has great practical implications involving the tax resources of the city and the millions of dollars invested in the central business district.

Whether or not the central business district of American cities is a sinking ship, which business men should desert while something can still be saved, is by no means a settled question. An article in *Fortune*, called "Race for the Suburbs," starts with the unequivocal statement, "The frontier of American retailing is the suburban branch department store,"¹ and ends with the admonition, ". . . they [the downtown department stores] had better roll with the punch and head for the suburbs." *Business Week*, on the other hand, in an

article entitled "There Are Lots of People Downtown," asks the question, "Have the merchants given up their downtown stores?" and answers it by saying, "The answer is a flat No." It goes on to say that since World War II there has been as much development downtown as in new suburban centers, if not more.²

If experts differ in a very positive manner on the fundamental question of whether downtown is "to be or not to be," it is quite natural that they should also differ as to the causes for whatever trends they think they see. A number of causes of decentralization are given, such as changed shopping habits, more automobiles, accelerated suburban growth, traffic congestion, inadequate parking facilities, and poor public transit. Parking in particular is most-frequently cited as the Number One cause for the decentralization of retail stores in all American cities.³

On the other hand, those who believe that the downtown retail section is not *passé* hold that, despite traffic hazards, the downtown store can make a good case for itself because it is stocked as most suburban stores can never hope to be stocked. They further feel that the psychological lure of the big store is an important attraction for many suburbanites.⁴

It would seem that there is no lack of ideas as to what the situation is and what the causes of that situ-

² Cf. *Business Week*, "There Are Lots of People Downtown," October 6, 1951, pp. 138-142.

³ Cf. R. J. Seltzer, "Where Shall I Shop?" *The Appraisal Journal*, Jan., 1947, pp. 114, 116.

⁴ Cf. *Business Week*, *Opus cil.*, p. 116.

¹ Dero A. Saunders, "Race for the Suburbs," *Fortune*, Dec., 1951, p. 99.

ation are, but there seems to be a dearth of reliable quantitative data that would allow us to make a confident decision concerning the various hypotheses suggested. It would therefore seem desirable to choose a research design which would give conclusions in precise, quantitative terms.

Furthermore, the quantitative data used should bear directly on attitudes which are the focus of our study. Statistics of land values, population movements, and business activity are only indirect and partial indices having a tenuous relationship to the human behavior which they presumably mirror. People act because they have certain values or attitudes; that is, they have a set or predisposition to react in characteristic fashion to the various factors of the environment which surrounds them. Thus it seems reasonable to assume that if we want to understand why people reject or patronize suburban or downtown facilities, we should adopt the most direct approach to the problem, which is a study of the underlying attitudes that motivate such action.

BASIC CONSIDERATIONS AND ASSUMPTIONS

The present study has focussed on answering the question: To what degree does congestion of automobiles and the resulting parking problem discourage the use of downtown facilities for buying goods and services? It is realized that other factors act as repelling and attracting forces affecting people's decisions to buy or not to buy in the downtown area. An analysis of this web of interrelated motivating factors is required if the significance of the parking factor is to be determined. To put it another way: Dollar sales of goods and services at a given place are determined by sets of motivational factors entering into individual decisions to buy there rather than elsewhere.

Thus, the problem resolves into three main components: (1) the discovery of motivating factors, (2) the determination of the weights of these factors, and (3) the disclosure of how they affect decisions of different people with different characteristics to buy at a particular place.

Let us examine the implications of these three aspects of the study in greater detail. We suspect that other elements besides parking, such as highway accessibility to areas, conditions of roads, price, and availability of a wide range of choice of goods and services in a small area are important factors. Yet, many people may patronize downtown facilities for different reasons. They may, for example, like the excitement, the crowds, the sociability, the adventure of a downtown trip, and the psychological stimulation they get from all this. Others may avoid the downtown area because these

conditions distress and upset them. The importance and range of these motivating factors or the patterns they form are not known; hence, these facts must be established by research which probes for motivating factors.

It is hypothesized further that the same factors will affect people having different value systems in different ways and thus affect their buying habits and attitudes differently. The assumption is made that people who differ as to age, sex, education, occupation, socio-economic status, and place of residence have different attitudinal systems, and therefore that the characteristics of the downtown area would have different meaning for them or that they would value them differently.

The third aspect of the study will attack this problem. It will seek to find out how motivations differ for categories of persons who vary in certain observable attributes. The results of such investigation should enable us to state what importance such factors as parking, accessibility, and cost have for certain categories of people, and thus enable merchants to relate their policies to the felt needs of the particular clientele they seek to attract.

To provide the insight so necessary to achieve a proper focus, to determine the probable relative importance of various factors, and to achieve a sound rationale, the fundamental factors of the problem must be isolated and simply stated; and, secondly, these factors must be analyzed within a theoretical framework which includes the community phenomena under investigation.

Human activities assume an order in space, tending to arrange themselves about given points. Men tend to distribute themselves or move in space so as to achieve the greatest satisfaction in realizing their needs and values. In modern urban communities these needs are met by the orderly operation of the institutional agencies placed at strategic points in space. These agencies might be referred to simply as facilities. Thus a bank, a department store, a doctor's office, or a theater would be considered a facility. What we want to know essentially is: What are the attitudes which determine the facility-use pattern of certain people or groups of people in metropolitan Columbus? From another point of view we are asking, "What are the factors which influence the spatial distribution of community facilities?"

When a person is motivated to use one facility or another, he may consider the attractiveness of alternative places where the facility is available and the impediments that must be overcome or the cost that must

be borne in order to get what he wants there. There thus appear to be two main categories of factors that must be taken into account: (1) the nature and character of the good, value, or objectives sought and (2) the cost or the impediments which must be overcome or the conditions which must be tolerated to achieve the good or objectives.

Buying groceries, hardware, furniture, or an expensive gown would be considered under the first category; whether one walked, took a bus, or drove, whether one had to drive through heavy traffic and how far, and whether parking were available at the destination would be factors to be considered under the second category.

While it might be possible to investigate the attractive or repulsive factors of a great number of city areas relative to a great number of social, cultural, or economic needs, it is necessary in a particular investigation to limit the scope. We shall, therefore, limit this study to the attitudes and related behavior that people display toward shopping at retail institutions.

The kinds of goods bought at retail are usually defined in two broad categories, convenience goods and shopping goods. Convenience goods are those purchased daily or weekly and with a minimum of effort. Purchases are frequent and represent a small cost per unit, the goods being largely standardized. Examples of convenience goods would be groceries, meat, drug items, hardware, or automobile services.

Shopping goods are those which require a comparatively large outlay of money per unit and are purchased only infrequently. Sometimes shopping goods are subdivided into two categories, fashion goods and service goods. In the first category are found apparel and furniture and in the second, mostly hard goods such as refrigerators, washing machines, and automobiles. The buyer of fashion goods requires an ample range of styles, sizes, color, patterns, quality, etc. Another term used to designate certain types of shopping goods is specialty goods. These are articles thought to possess a distinctive attraction, a quality inherent in the article itself, such as apparel of high style, fancy groceries, jewelry, or objects of art.

STRUCTURE OF RETAIL FACILITIES IN COLUMBUS

Central Business District (Downtown)

The majority of the retail trade in Columbus is done in the central business district. Here are located the greatest numbers of shopping goods stores, large department stores, governmental agencies, law offices, offices of medical specialists, insurance firms, banks, and a few convenience goods stores. In Columbus this

area is bounded on the north by Chestnut Street, on the east by Fourth Street, on the south by Main Street, and on the west by Front Street⁵ (see Fig. 6).

Secondary Shopping Areas and Suburban Shopping Centers

Goods sold here are like those in the central business district, but the stores are smaller, the selection more limited, and people are attracted from a smaller area. The sale of convenience goods is relatively more important here than downtown. These centers are of two types, the traditional ribbon or string development, where stores are located at either side of a main thoroughfare with little provision for parking; and the newer suburban shopping centers where a great number of stores are concentrated in a small area with ample parking facilities. At the present time there are two of the latter type of centers in operation: Lane Shopping Center, located at West Lane Avenue between Northwest Blvd. and Beaumont Road in Upper Arlington, and Town and Country, an area on East Broad Street between Maplewood and Collingswood Avenues.⁶ A number of other suburban shopping centers are under construction or in the planning stage.

Neighborhood Business Streets

These are more numerous small clusters of predominantly convenience goods stores, although a few of the smaller shopping goods stores may be found here. These retailers depend primarily on neighborhood patronage.

Scattered Individual Stores

These are usually stores that deal primarily in convenience goods.

The above, then, is the retail structure within which a person must satisfy his shopping needs in Columbus. Since the investigation is primarily interested in ascertaining attitudes toward shopping downtown and in the suburban shopping center, it should, to get a valid comparison, be limited to questions regarding goods or services obtainable in both places. Presumably if a person shops downtown for goods obtainable elsewhere, he does so because the perceived advantages to him of shopping downtown outweigh the disadvantages.

FRICION OF SPACE

The costs of acquiring a given good are of two kinds: (1) the direct monetary outlay for the article or service and (2) the expenditure of money, time, and physical

⁵ The boundaries of the downtown business district are sometimes given as north, Naughten Street; east, Grant Street; south, Mound Street; and west, Front Street.

⁶ For a more detailed description of these shopping centers see Appendix B.

and nervous energy in getting to and from the place where the article or service can be obtained. A number of resistances to movement in space are generalized in the phrase *friction of space*. Friction is always related to a given mode of transportation or communication; hence, community structure, patterns of facility use, or patterns of facility location tend to change as the mode and efficiency of transportation change. The phenomenon of urban decentralization, which is the broader aspect of our study, results from the operation of these factors.

Great change in the local community structure resulted from the revolution of movement created by the electric street car, the subway, the telephone, and the automobile and motor bus. The old diversified centers which characterized the pre-street-car city underwent a rapid transformation as soon as the electric railway connected them with the city's center. Rapid transportation enabled the population to spread out and still use the facilities and services of the central city. The more specialized services, both retail and professional, were centralized in the downtown section. The person who wanted certain types of shopping goods had little choice; he had to get them in the only place they were available, the central business district. The new transportation enabled a given facility to draw on a large population for patronage, and as a result, department stores, restaurants, and entertainment places grew to undreamed-of size. The fixed lines of the electric railway just about determined that these facilities would be located at the termini or intersections of these lines, where they would be accessible to the greatest possible number of people. These facilities became tremendous traffic generators.

The age of automobile transport inherited this community structure. The location of the most vital points of interest and need for the largest part of the population was already fixed, and individual automobile owners, each with his own car, attempted to crowd into this small area to work and shop. The result, as we know, has been the traffic congestion and parking problems that plague every American city and threaten the dominance of the central cities and their well being.

As the congestion increased, the ecological distance to the center increased, or in other words, the friction of space was aggravated. Furthermore, automobile transportation was flexible; any point on a road became accessible to a fairly large number of people. Thus distances in less-congested parts of the city decreased and enabled new subcenters to be created and exist. The person now had a choice, for he had alternate places where he could acquire shopping goods.

PARKING AND TRAFFIC SITUATION IN COLUMBUS

The development in Columbus generally followed this pattern. By 1863, horse cars appeared, and about 30 yrs. later, in 1890, the first electrically operated car was put into operation. Lines were constructed to serve all parts of the city, and nearly all of these converged on the downtown section. The typical concentration of retail stores, entertainment centers, and other service facilities resulted. As the congestion increased and the population of the city grew and spread out, secondary shopping centers made their appearance along main avenues of communication. Since 1948, the trolley bus and motor bus have supplanted the street car. In spite of the rapid increase of roads and automobile ownership, the overwhelming dominance of the central city and the community structure which this implied continued to prevail. In 1950, for example, the central business district accounted for 90 percent of the total retail shopping-goods trade in Columbus.⁷

That the friction of space was greatly augmented by these historical developments, will become clear in the following appraisal of traffic and parking conditions in the central business district. The Franklin County Traffic Survey of 1949 revealed a tremendous pile-up of vehicles in the central business district. The sum of all inbound traffic in a 24-hr. period was 166,000 vehicles, with the outbound traffic also of equal volume. The accumulation, including vehicles parked and moving in the central business district during a 24-hr. day in 1949 varied from a low of 3,500 between 3 A.M. and 4 A.M. to a high of 11,400 between 2 P.M. and 3 P.M.⁸

In a typical weekday in 1949, 53,516 motorists had destinations within the 90-block central business district. In 1951 there were 30,000 passenger car destinations in the central business district on an average weekday between 8 A.M. and 5 P.M.⁹ This figure represents the number of motorists who desired to park for varying lengths of time during the business day within the 90-block area.

A parking survey made in 1951 revealed that on a typical day 25,000 cars were parked in this area, the balance being parked on the fringes of the area or on the west side of the Scioto River. There are available 7,349 off-street car spaces in lots and garages; 3,075 on-street spaces metered and unmetered, or a total of 10,424 legal parking spaces available. The survey indi-

⁷ The data on retail buying are from: Marvin Hoffman, *Analysis of Shift in Retail Shopping Goods Trade Within Columbus and Selected Suburban Cities' Shopping Districts, 1949-1948*. Unpublished M.B.A. Thesis, Ohio State University, 1949. Another study by the same author, *Shifts in Shopping Goods Trade, Metropolitan Columbus, 1949-1950*, brings this information up to 1950.

⁸ Report of the Columbus-Franklin County Traffic Survey, 1949, p. 58.

⁹ Data on parking in Columbus are from Report on a Proposed Parking Program for the Central Business District of Columbus, Ohio, Sept., 1951, made by the engineering firm of Parsons, Brinckerhoff, Hill, and Macdonald.

cated that the parkers overstayed the legal limit in both metered and unmetered street spaces. The average length of parking was 2 hrs., 58 mins., while the legal limit is 1 hr. Other cars were parked in loading zones, at fire hydrants, and in alleys where parking is prohibited.

The greatest demand for parking in the central business district is in the inner core between Chestnut

percent of the motorists whose destinations are in the inner core park for long terms outside of this area in free or low cost facilities.

TREND OF SHOPPING GOODS TRADE IN COLUMBUS

One might expect that such conditions would indeed frighten away shoppers if they had other places to go. And a comparison of the shift in shopping-goods retail

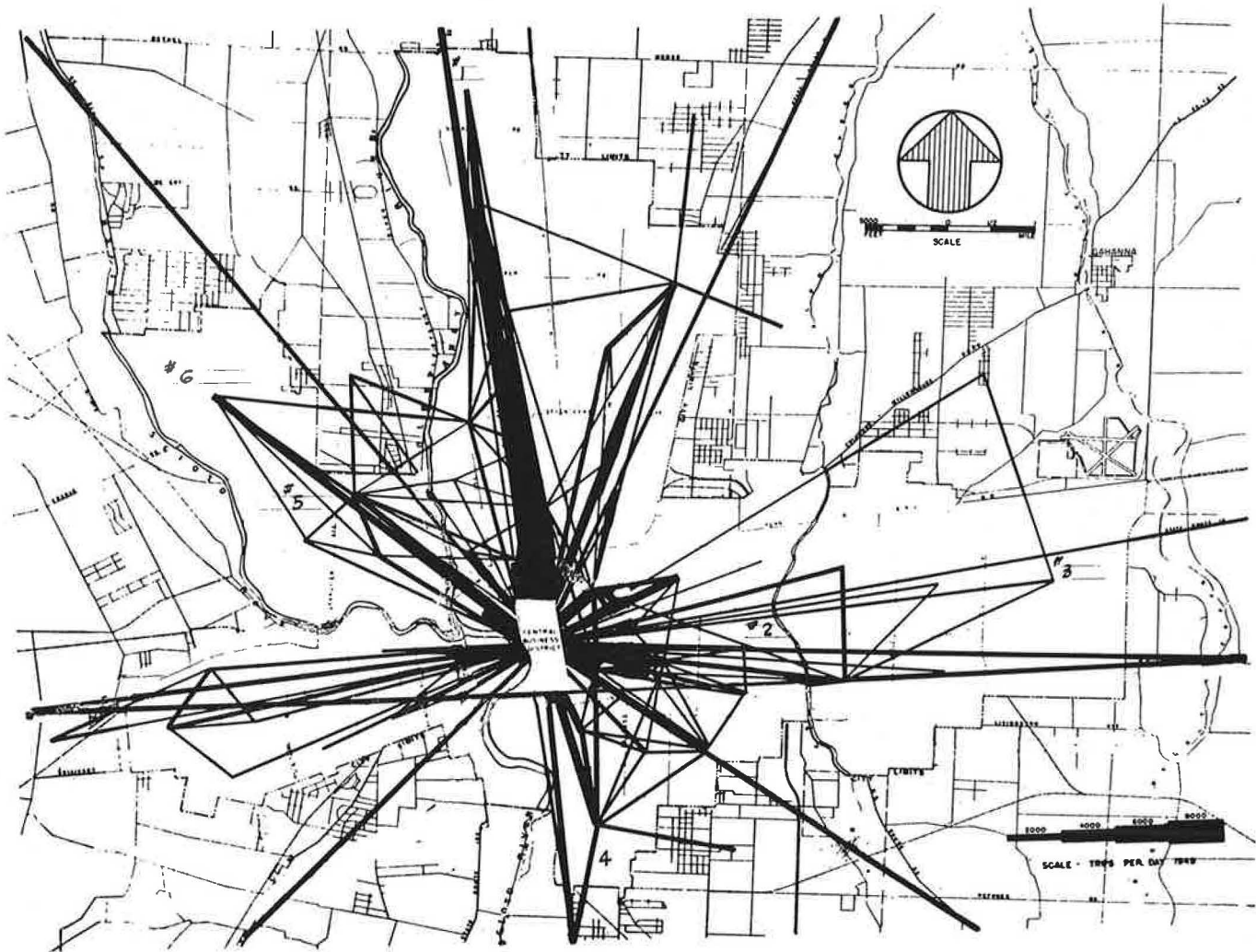


Figure 1. Major desire lines. Adapted from Franklin County Regional Planning Commission expressway system.

Street and Main Street, between Third Street and Front Street.

The number of passenger car destinations in the inner core of the district on an average weekday between 8 A.M. and 5 P.M. is 15,246. Of these, 7,415 passenger cars were parked in legal spaces in this area during the same period. This indicated a present unsatisfied demand for convenient free facilities to park 7,831 cars during an average business day. About 20

trade in Columbus between 1940 when the downtown section did 94.25 percent of the city's retail shopping-goods trade, and 1950 when this section accounted for 89.66 percent. The central business district is divided into two parts, the northern and southern parts. A further analysis of the figures indicates that the northern part accounted for most of the loss. The percent change between 1940 and 1950 for all shopping areas in Columbus

was as follows: downtown-north, -8.53; downtown-south, 3.94; and all secondary shopping centers, 4.59. Thus the trend is not altogether clear, since the downtown southern part increased almost as much as the secondary shopping centers, and most of the increase in secondary shopping centers must be attributed to better economic conditions and population increases in these sections. Indeed, one should have expected a much-greater increase in the secondary shopping areas on the basis of population increase alone during this period. However, it must be remembered that the Hoffman study of trends was made in 1950 and that the modern shopping centers in the suburbs went into operation not long before, in 1949.

The first modern suburban shopping centers, Town and Country Shopping Center and Lane Shopping Center, opened in 1949. Both of these centers sell a variety of convenience and shopping goods. The Lane Shopping Center comprises 171,117 sq. ft. of retail store space, and 435,674 sq. ft. of parking space, the ratio of parking space to store space being 2.54 to 1.

Development and Administration of Schedule

It was decided that the data for the study should be obtained by interviews, using a schedule tested for reliability and validity and administered by trained interviewers to a sample population, chosen by the areal sampling technique within selected areas.

POSSIBLE METHODS OF APPROACH

To a large extent the considerations analyzed in the preceding sections determine the selection of a certain approach to the problem from a number of alternatives:

1. The study might have been made from the point of view of the facility, finding out how different facilities serve residents. This would involve knowledge of facility patronage and interviews would be made at the facility.

2. A second alternative would be to attack the problem from the view of residents, studying how selected residents use shopping facilities and what they think about using them. This would necessitate interviewing residents directly, at home, or with the aid of groups or associations.

3. A third possibility would combine 1 and 2.

4. Another necessary decision concerns these alternatives: (a) study rather intensively certain selected areas of the city or (b) attempt complete coverage of the entire city.

The Town and Country shopping center totals 170,000 sq. ft. of store space, and had 510,000 sq. ft. of parking space, giving a ratio of parking space to store space of 3 to 1.

It is apparent that the citizen of Columbus has the possibility of choice. Do the comparative figures of 1940-1950 indicate a long-time trend? It seems obvious that traffic and parking are factors of great importance, but it is not known whether they are strong enough to reorder the structure of the community radically again. Do people consider the traffic congestion and parking difficulties so bad that they would rather stay away and use the facilities of suburban centers? Or are there other factors downtown that give this section an attractive power outweighing the repulsive elements? Which categories and groups of people are attracted, which repelled by downtown or suburban conditions? The problem is to decide what the factors are, and the relative weight of the factors which will tip the scales of people's judgment in one direction or another.

SELECTED APPROACH

In view of the facts brought out in the preceding discussion and for other reasons given below, it was decided to make the study from the resident's point of view and to confine it to several residential areas in metropolitan Columbus:

1. It would seem that the resident's point of view could yield a more-adequate knowledge of facility use. Interviews at the facility would require knowledge of its patronage; and business men, even if they know all their customers, are not eager to supply such lists. An interview at a facility would involve a variety of difficulties. It would interfere with retail selling and buying, and thus invite antagonism both of seller and buyer. It would also make contact only with those who use the particular facility, and information about the attitudes and habits of nonusers would not then be obtained.

2. The resident approach would also facilitate sociological analysis of the relationships between facility use patterns and attitude patterns and the background data on individuals and families, found in Parts III and IV of the schedule (Appendix A).

3. The resident can also provide information about differential use of different types of facilities. By establishing categories such as "convenience goods," "shopping goods," etc., it can be determined what kind

of facilities—neighborhood, municipal, or metropolitan—are characteristically used by the resident to satisfy the different categories of needs.

4. It was felt that the approach selected best allows study of residents' attitudes which is central to our purpose.

5. Since there are only two suburban shopping centers comparable to the central business district in the range of shopping goods and services provided, it would seem that the areas to be sampled should be chosen with the comparable shopping centers as reference points. Facility accessibility and geographical representation should also be taken into account. Further, it would seem desirable to sample areas where one could expect a wide range of such variables as education, economic status, and occupation. And since the friction of space is probably an important variable, it seems necessary to select areas located at various distances and in various geographical relationships to the sources of shopping satisfaction.

CONSTRUCTION OF THE PRELIMINARY SCHEDULE

Guided by the considerations discussed above, the items to be included in the schedule were drawn from the suggestions indicated by the literature, from case study interviews, and from statements made by a preliminary sample of respondents. The first draft of the schedule was administered to forty respondents using students as interviewers. This method of preliminary testing proved to have certain advantages: (1) It provided a quick, economical test of the schedule under field conditions. (2) The inexperience of the interviewers put heavy demands on the schedule; flaws and ambiguities which might be overcome by more expert interviewing were revealed. (3) It provided a larger number of reactions of both interviewers and respondents. (4) The responses on this first draft provided additional items, enabling us to be more certain that pertinent items had been included. (5) Certain ambiguities and repetitions were revealed and eliminated. (6) It indicated the type of training that would have to be given to interviewers before the systematic interview.

On the basis of the analysis of responses to this first draft, it was possible to draw up a preliminary schedule with greater assurance. The schedule was composed of four main parts: Part One sought to determine the actual shopping behavior pattern of the respondent; Part Two attempted to discover the attitudes that people hold toward conditions and situations they confront as they go shopping, downtown or in the suburban shopping center; and Parts Three and Four inquired into the characteristics of the individual to which the

shopping behavior patterns and attitudes might be related.

Section A of Part Two contained open-ended questions that sought to evaluate the relative importance of various factors in the value system of the respondent. This section also suggested new phases of the investigation not already provided for. Part B of this section compared the downtown and suburban shopping centers with regard to what appeared to be important factors. Six items were concerned with service, five with goods and prices, and fifteen with conditions which the shopper might meet in his quest for goods and services. Part C of the same section tested the intensity of attitudes held toward certain aspects of shopping thought to be pertinently related to the problem under investigation.

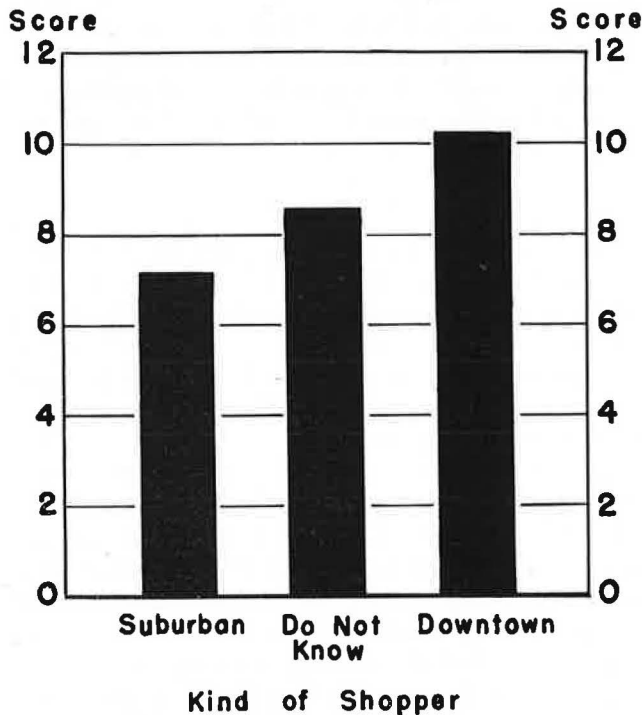
PILOT STUDY

The preliminary schedule was tested by field interviews and statistical analysis. The purposes of these operations were to revise or eliminate items which did not seem to give valid or reliable responses, to check interpretations put on questions by respondents, and to discover significant aspects of the problem not anticipated in the preliminary stages.

Fifty persons were interviewed with the preliminary schedule. The sample was chosen from two areas of the city, census Tracts 27 and 38 (see Fig. 2) because analysis of block statistics seemed to indicate that these areas would approximate the characteristics of the population to be used in the extended interview of Phase Three. The interviewing was done by the chief investigator and the research assistant, since it was felt that it was desirable at this stage for the persons guiding the research to get the feel of the interview situations through a first-hand knowledge of the respondent's reaction to every item. Item analysis using the critical ratio technique indicated that the schedule possessed items of high discriminative value. A scale constructed from these items and tested for reliability, yielded a coefficient of correlation of 0.95. Validity tests, using the critical ratio technique, yielded critical ratios well beyond the 99-percent level of confidence. The techniques used to test reliability and validity and discriminative power of individual items of the preliminary schedule were later used in testing the final schedule.

Although the analysis showed that the preliminary schedule contained many discriminating items which met criteria of accuracy, reliability, and validity, it was apparent that some revisions were in order. Items which appeared to be ambiguous or not discriminative,

on the basis of the analysis, were eliminated or changed. A few items were added on the basis of further interview experience. Changes of this kind, however, were not many. The major change was in format. The final schedule was largely structured to facilitate statistical analysis. It had been almost completely precoded, with each item number representing a field on the IBM punch card. The design of the schedule was also altered to facilitate the punching of cards so that clerical mistakes would be kept to a minimum.



Source: Text Table No. 16

Figure 2. Degree of downtown shopping satisfaction indicated by scores on Scale IIB of persons who consider themselves suburban or downtown shoppers.

With regard to Section II-A, the pretest indicated that most respondents could not or would not name more than three advantages or disadvantages. A frequency count of the responses to these questions on the preliminary schedule used in the pilot study was made, and those advantages and disadvantages most-frequently named were included as possible choices in the more-structured final form of the items. The final schedule as used may be found in Appendix A.

SAMPLE

It is possible that extended research would establish that there are certain factors which would remain

constant in all types of cities, but the probabilities are that a number if not all of the phenomena observed will be closely related to the size and type of cities. In this investigation we shall limit our inquiry to one city.

The sample was drawn from six selected areas of Columbus. This community of 376,000 is a very diversified city, being important as a manufacturing, wholesaling, retailing, governmental, transportation, and educational center.¹⁰ It is probable that this combination of population characteristics and diversity of function explains why many research organizations consider this area as having within it representative proportions of workers in industry, commerce, agriculture, government, and education, and as having a population whose characteristics resemble those of the nation in many respects. These factors have made the city a favorite place for private and governmental research agencies to test products and methods. The Bureau of the Census, for example, used Columbus as one of the places in which to try out the new method of self-enumeration in the 1950 Census.

Using census maps showing various housing statistics by blocks, transportation maps, and base maps, it was possible to choose six areas that would meet the criteria indicated previously. We took samples of 100 each in the following areas:

1. Census Tract 37, (Area 2) located east from the center of the city, approximately at the midpoint between the downtown area and the Town and Country Shopping Center and served by public transportation in either direction.

2. Whitehall, Census Tract 92, (Area 3) an incorporated area lying farther east, beyond the Town and Country Shopping Center and connected with it and the downtown area primarily by auto transport, with bus transport available at longer intervals and greater cost than in census tracts of the city.

3. Census Tract 19, (Area 5) located northwest midway between Lane Shopping Center and downtown, also served by public transportation and streets to both.

4. Census Tract UA 64 of Upper Arlington, (Area 6) an area northwest beyond the Lane Shopping Center, principally dependent on auto transport, with occasional bus service at higher cost than in the city areas.

5. Census Tract 1, (Area 1) directly north from the center of the city, proximate to neither suburban shopping center but connected to both by comparatively long public or auto transport.

6. Census Tract 61, (Area 4) located directly south,

¹⁰ See Appendix B for statistical data on these aspects of Columbus.

also not proximate to either of the two modern suburban shopping centers, but served by busses and roads to both suburban shopping centers and downtown, transportation to the Town and Country Shopping Center by bus being longer and more difficult than to the downtown district.

These areas were sampled by the areal sampling technique. The areas were divided into blocks, and the blocks to be sampled were chosen by using a table of random numbers. Since the chances of getting a representative sample are increased by choosing widely scattered blocks rather than a few concentrated clusters, 25 blocks in each area and four respondents within each block were chosen. The block respondents were selected at regular intervals starting in the first block with the second house from the northwest corner and taking the next n th house, and so on around the block. The next block was started at the third house from the northwest corner, and so on.

DESCRIPTION OF SAMPLE

The composition of the sample will be described in terms of sex, age, race, nativity, marital status, education, home ownership, occupational rating on the North-Hatt Scale, income of family, and cultural background as represented by the population of the community in which the respondent spent most of his life.¹¹

Most of the respondents, 87.2 percent, were females. This prevalence of females in our sample resulted from the fact that most of the interviewing was done during the day. It was felt that this was about the right proportion, since the women in our culture do most of the shopping; it is estimated that women do about 85 percent of the shopping. Many studies of this nature use only female respondents; however, this study sought the possibility of male-female differentials and therefore included a number of males.

The majority of our sample, 88 percent, were married; white, 95.3 percent; and native born, 97.5 percent. About 70 percent were house owners. The heaviest age concentration, 62.2 percent of the sample, was in the age bracket 25 to 49. Their education and income were above average, 36.7 percent of them having completed high school; and 17.3 percent were college graduates. The modal family income fell in the \$4,000 to \$5,999 bracket.

Construction of Shopping Habit and Shopping Attitude Scales

If the objectives of this study are to be realized, it becomes necessary to develop instruments that can

¹¹ Tables showing these data may be found in Appendix B.

TRAINING OF INTERVIEWERS

Six interviewers were hired to work on an hourly basis. To insure uniformity, each interviewer was required to participate in a period of training using the final schedule. A manual covering directions, rules, and practices was written and distributed to the interviewers. To eliminate bias, the order in which the choices in Part II-A and categories of Parts III and IV were presented to respondents for rating was randomized by using sets of cards. The respondent made his choice from cards on which the order of choices varied.

INTERVIEW OPERATION

Each interview averaged 25 min. Counting travel time to and from the area of operation and call-backs, the amount of time required for each interview was 38 min. Interviewers worked on a part-time basis.

As each completed schedule was returned to the research office, it was thoroughly checked for omissions and mistakes, and if any were discovered they were corrected. Record of all interviews made and completed was kept continuously, thus showing how many and which interviews had been completed at any given time.

PROCESSING OF COMPLETED SCHEDULES

The processing of the completed schedules was greatly facilitated by precoding a majority of the items. However, it was necessary to number each schedule, add up totals and scores, and code these. The schedules were then given a final check before punching on tabulating cards.

CARD PUNCHING OPERATION

The data were taken from the schedules and punched into two master data cards, filling one card completely and 78 columns of the second card. Later, when some computations had been completed, additional scores were punched into a third master data card utilizing eight columns. The punching operation and 100 percent verification consumed 64 hr. of a skilled operator's time. Dummy tables were then prepared, and with these as guides three sets of detail or working cards were machine-punched with the data arranged in combinations to permit the different types of statistical analysis considered necessary.

measure shopping habits and shopping satisfaction. If motivating factors and the weight of such factors as they affect decisions of different categories of people to

buy at a particular place are to be discovered, instruments must be created that will discriminate, as to behavior and attitudes, between downtown shoppers and suburban shoppers.

SHOPPING HABIT SCALE

The first task is to define a downtown shopper. A downtown shopper can be defined operationally as one who indicates by his responses to questions on the first page of the schedule that he uses downtown facilities predominantly more than other respondents, particularly for shopping. A scale was constructed using answers indicating the location where the respondents did their shopping for clothing (Item 92)¹², for furniture (Item 103), where they went to the movies (Item 114), and Item 136, "About how often do you go downtown shopping?". The score was divided as follows: If a person went downtown for clothing he received 1, for furniture 1, for movies 1; if he did not use downtown facilities he received 0; if he went downtown shopping once a week or more he received 3, two to three times a month 2, and once a month 1; less than once a month 0. This scale was called the "Downtown Shopping Habit Scale" (D.S.H.S.).

It was thus possible to place the respondents on a continuum with the downtown shoppers at the high end and the suburban shoppers at the lower end. The highest score possible was 6; the lowest 0. The range for the sample was from 0 to 6.

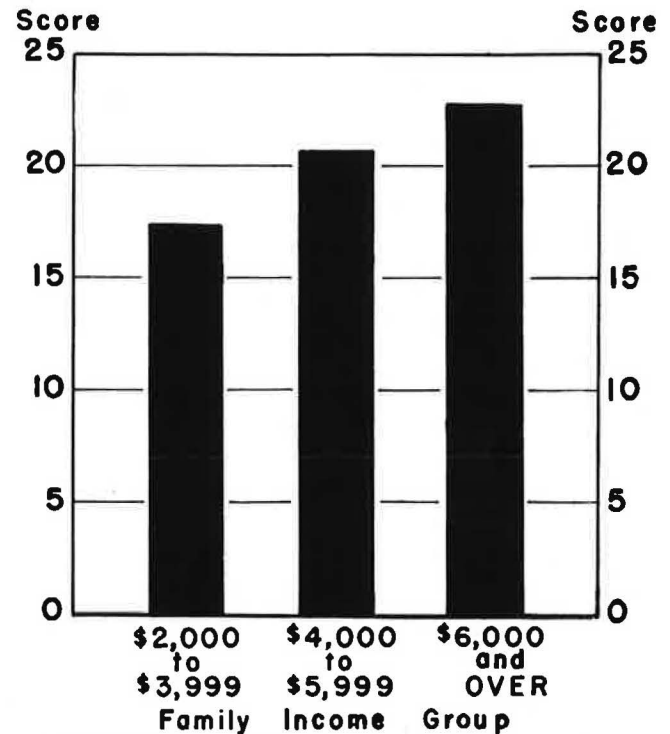
DISCRIMINATIVE POWER OF INDIVIDUAL ITEMS OF ATTITUDE SCALES

Sections II-B and II-C of the schedule attempt to test the attitudes that people have towards conditions they observe in the stores and streets of suburban and downtown shopping centers. The question that we wish to answer is, "Do the responses indicate that these items will discriminate between downtown shoppers and suburban shoppers as defined by the Downtown Shopping Habit Scale?". Or, to put it in another way, will this part of the schedule provide enough significant items so that attitude scales of the desired discriminative power can be constructed?

To answer this question the critical ratio technique of analysis was used. A critical ratio (C.R.) may be defined as the difference between two statistics divided by the standard error of the difference. For example, the difference between the means of two groups, distinguished because they have reacted differently to an item, is divided by the standard error of the difference.

¹² NOTE: Unless otherwise stated, parts, sections, and items numbered in this report will refer to the Final Schedule. See Appendix A.

The difference may be between two means, or between two percentages or proportions. The amount of fluctuation in a difference between sample means is naturally related to the amount of fluctuation in the means themselves. The size of the critical ratio depends upon N , the number of cases in the subgroup, as well as upon the difference between means or proportions, and is basically a measure of the probability that a specific difference is due or is not due simply to chance.



Source: Text Table No.21

Figure 3. Downtown shopping satisfaction scores on Scale IIC of three income groups in Area 3.

The method of calculating the discriminative power of individual items is summarized below:

1. A Downtown Shopping Habit Score was obtained from the responses on Part I of the schedule, which indicated the location of facilities which each person used.
2. Schedules were then arranged in rank order of the Downtown Shopping Habit Score.
3. The extremes were separated, putting the 100 top scorers in a category called "Downtown Shoppers," and the 100 low scorers in a category called "Suburban Shoppers."
4. Responses to the 23 attitude items of Part II-B of the schedule were tallied for each group, and then computed as percentages preferring the downtown area.

5. Responses to the other nine attitude items of Part II-C of the schedule were given arbitrary weights ranging from 1 to 5 (see schedule), a weight of 1 indicating dissatisfaction with a given downtown condition and one of 5, satisfaction. Responses were tallied for each group and the means of each item for each group obtained.

6. The critical ratios of the differences between percentages and means of high and low scorers were then calculated for each item. Illustrations of the method of computation follow.

TABLE 1
CALCULATION OF CRITICAL RATIOS FOR PERCENTAGE DIFFERENCES IN RESPONSE TO AN ITEM BY PERSONS IN TWO SEGMENTS OF THE SAMPLE

Item 38: Greater variety of styles and sizes

Response	High (D.T.) ^a		Low (SSC) ^b		Total		
	f	P ₁	f	P ₂	f	P	Q
DT.....	95	95	74	74	169	84.5	15.5
SSC.....	1	1	7	7	8	4.0	96.0
UN.....	4	4	18	18	22	11.0	89.0
NC.....	0	0	1	1	1	.5	99.5
Total.....	100	100	100	100	200	100.0	

^a The 100 individuals scoring highest on the Downtown Shopping Habit Scale.

^b The 100 individuals scoring lowest on the Downtown Shopping Habit Scale.

Table 1 and its accompanying computations illustrate the method of calculating the critical ratio of the difference between percentages for items on Part II-B of the schedule.

The formula used for computing the critical ratio for differences between percentages is:

$$C.R. = \frac{P_1 - P_2}{\sqrt{PQ\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

Where: P₁ = The proportion of cases in which an event occurred in Subgroup 1.

P₂ = The proportion of cases in which an event occurred in the second subgroup.

P = The proportion of cases in which an event occurred in the combined samples, i.e. N₁ + N₂

Q = The proportion of cases in which the event did not occur in the combined sample, i.e. 1 - P

N₁ = The number of cases in the first subgroup

N₂ = The number of cases in the second subgroup

Substituting these values in the standard formula indicated above, we have:

$$\begin{aligned} C.R. &= \frac{95 - 74}{\sqrt{(84.5)(15.5)\left(\frac{1}{100} + \frac{1}{100}\right)}} \\ &= \frac{95 - 74}{\sqrt{(84.5)(15.5)(0.02)}} \\ &= \frac{21}{\sqrt{26.20}} \\ &= \frac{21}{5.12} \end{aligned}$$

C.R. = 4.10

The odds are over 15,770 to 1 against obtaining a critical ratio as high as 4.10 by chance. There is therefore a significant difference between the high and the low subgroups on this item, and the item does discriminate between the downtown and suburban shoppers.

TABLE 2
CALCULATION OF CRITICAL RATIO FOR DIFFERENCES BETWEEN MEANS OF RESPONSES TO AN ATTITUDE ITEM IN TWO SEGMENTS OF THE SAMPLE

Item 71: I go downtown only when I cannot avoid it.

Response	strongly agree	agree	undecided	disagree	strongly disagree
	1	2	3	4	5
Strongly agree.....	1	4	4	4	31
Agree.....	2	26	52	104	56
Undecided.....	3	8	24	72	8
Disagree.....	4	54	216	864	5
Strongly disagree....	5	8	40	200	0
Total.....		100	336	1244	100
M.....			3.36		1.88

Critical ratios were also calculated for items in Part II-C of the schedule. The method of computation is illustrated below for the data in Table 2.

Using the formula: ¹³ C.R. = $\frac{\sum fx_1 - \sum fx_2}{\sqrt{\sum fd_1^2 + \sum fd_2^2}}$

where: $\sum fd^2 = \sum fx_1^2 - N(M_1^2)$

x = Weights of the various responses to items

f = Frequency of the responses

¹³ Cf. R. F. Sletto, *Construction of Personality Scales by the Criterion of Internal Consistency*, p. 3.

- N = The total number of cases in the combined groups
 M_1 = The arithmetic mean of the high scoring group
 M_2 = The arithmetic mean of the low scoring group

Substituting:

$$\begin{aligned} \text{C.R.} &= \frac{336 - 188}{\sqrt{1244 - 100(3.3)^2 + 414 - 100(1.88)^2}} \\ &= \frac{148}{\sqrt{(1244 - 1129.00) + (414 - 353.44)}} \\ &= \frac{148}{\sqrt{115 + 60.56}} \\ &= \frac{148}{\sqrt{175.56}} \\ &= \frac{148}{13.24} \end{aligned}$$

$$\text{C.R.} = 11.18$$

NOTE: The above formula is applicable only when the two parts are equal in number; if the parts are unequal the formula becomes:

$$\text{C.R.} = \frac{M_1 - M_2}{\sqrt{\frac{\sum fd_1^2}{N_1^2} + \frac{\sum fd_2^2}{N_2^2}}}$$

The obtained critical ratio is 11.18. Thus, as far as responses to this item are concerned, there is a very significant difference between the high and low scoring subgroups.

Critical ratios were calculated for all items in Part II-C of the schedule. The critical ratios for all items are given in Tables 3 and 4 (see also Appendix C).

It will be seen from the following tables that all the items except one in the two scales have critical ratios above 2.00. This means that aside from Item 47, all the items will discriminate between downtown and suburban shoppers, including the one reversal, Item 68 in Scale II-C. The best versions of the scales would eliminate Item 47 from Scale II-B and reverse the weighting of Item 68 in Scale II-C.

An item having a high critical ratio discriminates well between one group and another group in terms of an established criterion, in this case the habitual shopping pattern of respondents as reported by them. For example, an item with a high power of discrimination will tend to be answered one way by a person who regards downtown conditions as satisfactory, and it will tend

to be answered the contrary way by one who is repelled by downtown conditions.

The response to an item does not necessarily coincide with the true situation or reality, but rather it reflects

TABLE 3
CRITICAL RATIOS OF ITEMS 33-55 INCLUSIVE (SCALE II-B)^a

Item No.	Item	Critical ratio
33	Better delivery service	3.34
34	Easier to establish a charge account	2.14
35	Easier to return and exchange goods bought	3.74
36	Better place to establish a credit rating	3.62
37	Greater variety and range of prices and quality	3.13
38	Greater variety of styles and sizes	4.10
39	More bargain sales	4.39
40	Better quality of goods	3.84
41	Cheaper prices	2.44
42	Takes less time to get there	2.88
43	Better place to combine different kinds of shopping and other things one may want to do	6.10
44	Less walking required	3.21
45	Goods more attractively displayed	5.73
46	Less tiring	2.97
47	Cost of transportation less	0.77
48	More convenient to public transportation	2.83
49	Easier to take children shopping	2.03
50	It's the better place for a little outing away from home	4.37
51	The right people shop here	3.33
52	More dependable guarantees of goods	4.76
53	Best place to meet friends from other parts of the city for a shopping trip together	3.81
54	Keep open more convenient hours	4.39
55	Better places to eat lunch	4.45

^a See Appendix A for complete scale.

TABLE 4
CRITICAL RATIOS OF ITEMS 66 TO 74 INCLUSIVE (SCALE II-C)^a

Item No.	Item	Critical ratio
66	When I go shopping downtown by car, finding a place to park for me is: . . .	5.97
67	As far as I am concerned the cost of parking downtown matters: . . .	3.18
68	I take the bus rather than drive my car downtown: . . .	-4.53
69	When I drive downtown, I find the traffic: . . .	4.00
70	With regard to downtown crowds, I can truly say that I: . . .	6.26
71	I go downtown only when I cannot avoid it: . . .	11.18
72	With regard to the hustle and bustle downtown, I can truly say that I: . . .	7.47
73	Downtown shopping is a pleasant change from the every day routine: . . .	8.31
74	One of the things I dislike about shopping downtown is that I have to dress up: . . .	5.78

^a See Appendix A for complete scale.

what the respondent perceives or believes to be true. An objective fact may be viewed differently by and have different meanings for different persons. If a respondent checks downtown (DT) for Item 38, "Greater

variety of styles and sizes," it does not necessarily mean that there is a greater variety of styles and sizes downtown, although there may be; but whether there is or not, the respondent's answer will act as an indicator or indirect measure of satisfaction or dissatisfaction, and reveal a motivating factor in his behavior. The discriminative power of the item (4.10) tells us that downtown shoppers believe one thing to be true and the suburban shoppers another. With no further information as to why they answer differently, the item can be used as a measure of persons' reactions to factors associated with shopping areas, if it is combined with other items in a scale. Then, in further analyses, the scores of such scales may be correlated with individual and family background items of the last two parts of the schedule.

Thus the critical ratio analysis indicates the possibility of constructing two scales which can measure shopping satisfaction or attraction. One will be called, "Shopping Satisfaction Scale II-B," and the other "Downtown Shopping Satisfaction Scale II-C." However, before these can be used for further analytical purposes their validity and reliability must be demonstrated.

VALIDITY OF SCALES

A scale is valid when it measures what it presumes to measure. The question here is: "Do the items of the scales actually indicate tendencies or attitudes which favor the use of downtown facilities or the use of suburban facilities?" We shall attempt to answer this question for both scales.

One of the most difficult aspects of the validity problem is that of obtaining adequate criteria of what is to be measured. It is particularly desirable to get an outside criterion, one that is at least somewhat independent of the test itself. The actual shopping habits as reported by the respondents on the first part of the schedule would seem to be a good criterion.

The 100 respondents of our sample who scored highest on the D.S.H.S., those who reported that they actually used downtown facilities frequently and for many purposes, were placed in one group (the downtown shoppers). The 100 respondents who scored low or did not use downtown facilities were put in another group (the suburban shoppers). By adding the total items checked D.T. (downtown) in Scale II-B, a score was derived for each respondent in each group which may be regarded as a downtown shopping satisfaction or attraction score. Means on Scale II-B for each group were calculated. If the scale to measure satisfaction with downtown conditions can be related to the actual use

of downtown facilities, evidence of its validity would be available.

If these assumptions are justifiable, and if the Downtown Shopping Satisfaction Scale II-B is valid, there should then be a significant difference between the mean scores of the two groups separated on the basis of our criterion. Calculating the means of each group reveals that the downtown shoppers have a mean of 11.04 on Scale II-B and the suburban shoppers a mean of 6.03. Using the standard formula¹⁴ for the critical ratio of a difference between means, we get 3.15.

Using the same type of technique, the validity of Scale II-C was tested. The mean of the downtown shoppers on Scale II-C was 28.38 and that of the suburban shoppers 22.29. The critical ratio was 6.62.

The critical ratios for the two scales are statistically very significant, and we can be confident that the differences between means are not due to chance. Since these groups were originally separated on the basis of the Shopping Habit Scale, the high critical ratios indicate that the two attitude scales can effectively differentiate respondents on the same basis as the criterion scale which measures reported shopping habits. The conclusion is therefore that the scales are valid since they measure what they purport to measure.

RELIABILITY OF SCALES

By a reliable scale is meant one that gives reproducible scores so that successive measurements of the same universe of phenomena under like conditions will yield approximately the same values. It must be determined if the two scales will meet statistical criteria of reliability. This purpose might be achieved by various methods, but the one which seems most suitable to this situation is the split-half correlation method. For this purpose 100 cases were selected at random from the total sample and both scales were then tested for reliability. Using the Pearsonian or product-moment coefficient of correlation (r) for ungrouped data¹⁵ an uncorrected split-half correlation of 0.65 with a standard error¹⁶ of 0.058 was obtained for Scale II-B; correction by the Spearman-Brown formula for attenuation¹⁷

$$^{14} \text{C.R.} = \frac{M_1 - M_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

$$^{15} r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

$$^{16} \text{Standard error of } r = \frac{1 - r^2}{\sqrt{N}}$$

$$^{17} r_{11} = \frac{2r_{11}}{(1 + r_{11})}$$

yielded a correlation of 0.79, and the estimated standard error¹⁸ of the corrected coefficient was 0.042.

For Scale II-C the uncorrected split-half correlation was 0.471 with a standard error of 0.078. Correction of attenuation as above yielded a coefficient of 0.64 and an estimated standard error of 0.072.

If the weighting of Item 68 of Scale II-C is reversed, the uncorrected split-half correlation for this scale is 0.64 with a standard error of 0.03. Correction by the Spearman-Brown formula for attenuation yields a coefficient of correlation of 0.78 with an estimated standard error of 0.037.

We may infer from these coefficients of correlation that the scales are reliable enough for group comparisons and that successive measurements of the same universe under like conditions would yield similar values.

INTERCORRELATION OF SCALES

The intercorrelation of the three scales was then computed. The result was as follows: Downtown Shop-

ping Habit Scale I with Shopping Satisfaction Scale II-B, 0.40, 0.034 standard error; Scale I with Downtown Shopping Satisfaction Scale II-C, 0.39, 0.043 standard error. The correlation between Scales II-B and II-C was 0.23, and the standard error of this correlation, 0.049.

These correlations are all statistically significant and confirm what our critical ratio analysis indicated above, namely, that there is a close relationship between downtown shopping habits and favorable attitudes toward downtown. The comparatively low intercorrelation between the two attitude scales indicates that they are largely independent. Apparently each one measures a somewhat different dimension of shopping satisfaction.

The answer to the fundamental question "Can shopping satisfaction attitudes be measured?" is "Yes." We now have instruments and can proceed with further analysis.

Analysis of Factors Affecting Shopping Satisfaction

It is essential to know on the one hand how a mass of people feel about the use of downtown or suburban facilities, and on the other hand to determine, if possible, whether there are major differences between different categories of people in these attitudes. It will be remembered that the problem resolved itself into three main components: (1) the discovery of motivating factors which either repel or attract persons to downtown or suburban shopping centers, (2) the determination of the weights of these factors, and (3) deciding whether shopping satisfaction with one or the other type of shopping center is associated with such items as income, sex, and education. We shall then go on to see if the data obtained indicate what the causes of such differences may be.

FACTORS ASSOCIATED WITH RELATIVE ATTRACTION OF DOWNTOWN AND SUBURBAN SHOPPING CENTERS

Section II-B of the schedule permits a direct comparison of downtown and suburban shopping centers with such shopping factors as service, character of goods, and prices, and with conditions which the shopper encounters when he goes shopping. The respondent was asked regarding 23 items (See Appendix A), "When you go shopping for suits, dresses, furniture, household equipment, or jewelry, certain things may be of con-

cern to you. Please tell me with regard to each item where you find the better condition, downtown or in the suburban shopping center." Respondents were asked to make, for each item, one of four replies: "downtown," "suburban shopping center," "undecided," or "the item is of no concern to me." The results are tabulated in Table 5. A total of 13,800 choices were possible for the 600 cases. Of these it will be seen that 5,334 or 38.7 percent were for downtown; 3,576 or 25.9 percent were for suburban shopping centers; 3,268 or 23.7 percent were undecided; 1,602 or 11.6 percent of the choices indicated no concern.

The difference between downtown and suburban percentages is very significant, the critical ratio for the difference being 12.61. It will be seen that the respondents felt that the suburban shopping centers had the advantage in only 7 out of 23 situations. These seven were: takes less time to get there, less walking required, less tiring, cost of transportation less, easier to take children shopping, the right people shop there, and keep open more convenient hours. On all other items downtown was the preferred place. Thus it will be seen that when people go shopping for shopping goods the downtown section is definitely preferred to suburban shopping centers as far as this list of items is concerned. This preference is supported by the fact, noted previously, that about 90 percent of all shopping-goods trade in Columbus is done in the downtown section.

¹⁸ $Er_{11} = \frac{n(1 - r^2)}{\sqrt{N} [1 + (n - 1) r^2]}$

COMPARATIVE IMPORTANCE OF DIFFERENT FACTORS
DETERMINING SHOPPING SATISFACTION

The second part of the problem concerns itself with the discovery of the comparative weights of factors that affect decisions of people to buy at a particular place. The pilot study indicated that items in Parts II-A, II-B, and II-C of the schedule relate to the most-important motivating factors. We shall now attempt to ascertain which of these seem most crucial.

indicated for each item were then multiplied by the appropriate weight, and the sums of the products for each item determined the rank position of the item. These percentages and ranks are given in the tables following.

The greatest advantage for downtown was that this section had the largest selection of goods; 51 percent indicated this as the most-important advantage. The item having the largest number of second choices,

TABLE 5
PERCENTAGE OF SAMPLE INDICATING SUPERIORITY OF DOWNTOWN OR SUBURBAN SHOPPING CENTERS WITH REGARD TO 23 SHOPPING SATISFACTION FACTORS
N = 600 per item

Item No.	Shopping satisfaction factors	Choices ^a										
		DT		SSC		UN		NC		No data		Total
		No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	No.	Per-cent	Per-cent
33	Better delivery service	223	37.2	33	5.4	217	36.2	127	21.2	0	0.0	100
34	Easier to establish a charge account	181	30.1	31	5.2	244	40.6	143	23.9	1	0.2	100
35	Easier to return and exchange goods bought	237	39.5	81	13.5	196	32.6	86	14.4	0	0.0	100
36	Better place to establish a credit rating	231	38.5	29	4.8	221	36.8	118	19.7	1	0.2	100
37	Greater variety and range of prices and quality	487	81.1	10	1.7	93	15.5	9	1.5	1	0.2	100
38	Greater variety of styles and sizes	518	86.3	14	2.3	62	10.4	4	0.7	2	0.3	100
39	More bargain sales	393	65.5	16	2.7	86	14.3	105	17.5	0	0.0	100
40	Better quality of goods	164	27.3	90	15.0	325	54.1	19	3.3	2	0.3	100
41	Cheaper prices	280	46.6	47	7.9	248	41.4	23	3.8	2	0.3	100
42	Takes less time to get there	74	12.3	473	78.9	48	8.0	5	0.8	0	0.0	100
43	Better place to combine different kinds of shopping and other things one may want to do	338	56.3	178	29.7	60	10.0	23	3.8	1	0.2	100
44	Less walking required	98	16.3	419	69.9	72	12.0	11	1.8	0	0.0	100
45	Goods more attractively displayed	265	44.1	98	16.3	201	33.5	36	6.1	0	0.0	100
46	Less tiring	56	9.3	450	75.0	87	14.5	7	1.2	0	0.0	100
47	Cost of transportation less	94	15.7	356	59.3	104	17.3	44	7.4	2	0.3	100
48	More convenient to public transportation	315	52.5	85	14.2	101	16.8	97	16.2	2	0.3	100
49	Easier to take children shopping	15	2.5	286	47.6	36	6.1	263	43.8	0	0.0	100
50	It's the better place for a little outing away from home	231	38.5	199	33.2	87	14.5	81	13.5	2	0.3	100
51	The right people shop there	62	10.3	129	21.5	247	41.2	161	26.8	1	0.2	100
52	More dependable guarantees of goods	205	34.2	60	10.0	305	50.8	30	5.0	0	0.0	100
53	Best place to meet friends from other parts of the city for a shopping trip together	401	66.9	69	11.5	47	7.8	80	13.3	3	0.5	100
54	Keep open more convenient hours	98	16.3	376	62.6	92	15.3	34	5.8	0	0.0	100
55	Better places to eat lunch	368	61.3	47	7.9	89	14.8	96	16.0	0	0.0	100

^a DT—Downtown SSC—Suburban Shopping Center UN—Undecided NC—Item is of no concern

Rank Order of Advantages and Disadvantages of Downtown Shopping

Respondents were asked "Which do you think are the most important advantages of shopping downtown, starting with the most-important advantage first, the next-most-important next, and so on, numbering them 1, 2, 3, in the order of their importance?" This question was repeated for disadvantages of downtown and for advantages and disadvantages of suburban shopping centers.

To determine the rank order of advantages and disadvantages, a composite rank was determined for each item by giving a weight of 3 units for the first choice, 2 for second choice, and 1 for third choice. Percentages

17.7 percent, was also "large selection of goods." The next-most-important advantage was, "can do several errands at one time," with 15.2 percent making this their second choice. The advantage ranking third was "cheaper prices." We may therefore conclude that the most-often-perceived advantage of the downtown area is the larger selection of goods and the next-most-important is the belief that one can do several errands there at the same time. It will be seen that cheaper prices are also an important factor, 11.5 making it their first choice, 11.0 their second choice, and 6.3 percent their third choice.

The disadvantage deemed most important in downtown shopping is difficult parking; 44 percent made

this item their first choice, 18.2 made it their second choice, and 7.2 percent chose this item as their third choice. The next-most-important disadvantage was that downtown was "too crowded," with 12.8, 18.7, and 13.7 percent making it their first, second, and third choices respectively. The third-most-important disadvantage would seem to be "congested traffic," with 9 percent making it their first choice, 20.8 percent making it their second choice, and 17 percent listing it as their third choice.

TABLE 6

NUMBER AND PERCENT OF CHOICES INDICATING ADVANTAGE FOR DOWNTOWN OR SUBURBAN SHOPPING CENTERS ON 23 SHOPPING SATISFACTION ITEMS
N = 600 Respondents

Response	Number of responses	Percent
Suburban Shopping Centers.....	3,576	25.9
Undecided.....	3,268	23.7
No Concern.....	1,602	11.6
No Data.....	20	0.1
Total.....	13,800	100.0

TABLE 7

PERCENTAGES OF SAMPLE PLACING CERTAIN ADVANTAGES OF DOWNTOWN SHOPPING IN FIRST, SECOND, AND THIRD ORDER OF IMPORTANCE
N = 600

Advantage	Order of choice			Composite Rank
	First	Second	Third	
Large selection of goods.....	51.3	17.7	6.0	1
Can do several errands at one time.....	7.0	15.2	18.2	2
Cheaper prices.....	11.5	11.0	6.3	3
Convenient public transportation.....	7.7	7.5	8.2	4
Stores closer together.....	2.8	11.7	8.0	5
Enjoyable place to shop.....	3.0	6.7	5.8	6
Better delivery service.....	.2	4.3	8.2	7
Close to home.....	2.5	1.8	1.0	8
Other.....	3.7	2.1	2.5	—
No advantage.....	10.0	10.0	10.0	—
No choice.....	.3	12.0	25.8	—

Rank Order of Advantages and Disadvantages of Suburban Shopping Centers

The most-frequent first choice for suburban-shopping-center advantage was that it was nearer to home, 45.1 percent, 12.8 percent, and 8.8 percent making this advantage their first, second, and third choices respectively. The second-most-important advantage was "easy parking" with 20.8 percent, 23.4 percent, and 14.2 percent making it their first, second, and third choices respectively. The advantage of suburban shopping which was put in third place was "more convenient

hours"; the percentages of persons choosing this item as their first, second, and third choices were 9.5 percent, 15.5 percent, and 15.4 percent, respectively.

The number-one disadvantage indicated for suburban shopping centers was their lack of a large selection of goods; 41.7 percent made this their first choice, 15.7 percent their second, and 5.1 percent their third

TABLE 8

PERCENTAGES OF SAMPLE PLACING CERTAIN DISADVANTAGES OF DOWNTOWN SHOPPING IN FIRST, SECOND, AND THIRD ORDER OF IMPORTANCE
N = 600

Disadvantage	Order of choice			Composite Rank
	First	Second	Third	
Difficult Parking.....	44.3	18.2	7.2	1
Too crowded.....	12.8	18.7	13.7	2
Congested traffic.....	9.0	20.8	17.0	3
Too far to go.....	7.0	8.5	11.3	4
Takes too long to shop.....	5.8	8.3	8.7	5
Poor public transportation.....	9.5	3.8	2.2	6
Unfriendly service.....	.5	2.2	3.1	7
Cost of transportation too high.....	.7	2.2	1.8	8
Other.....	2.5	1.3	2.5	—
No disadvantage.....	7.2	7.2	7.2	—
No choice.....	.7	8.8	25.3	—
Total.....	100.0	100.0	100.0	—

TABLE 9

PERCENTAGES OF SAMPLE PLACING CERTAIN ADVANTAGES OF SUBURBAN SHOPPING CENTER IN FIRST, SECOND, AND THIRD ORDER OF IMPORTANCE
N = 600

Advantage	Order of choice			Composite Rank
	F rst	Second	Third	
Closer to home.....	45.1	12.8	8.8	1
Parking easy.....	20.8	23.4	14.2	2
More convenient hours.....	9.5	15.5	15.4	3
Less crowded.....	6.2	17.8	9.8	4
Do not have to dress up.....	5.8	9.7	16.7	5
Friendly and courteous clerks.....	2.0	4.7	6.0	6
Less noise and confusion.....	.7	3.0	5.8	7
Clean and modern stores.....	2.0	2.3	2.8	8
Other.....	1.8	1.7	0.7	—
No advantage.....	5.3	5.3	5.3	—
No choice.....	.8	3.8	14.5	—
Total.....	100.0	100.0	100.0	—

choice. The second choice for the most-important disadvantage was that not all kinds of businesses were represented; 13.8 percent, 21.8 percent, and 7.0 percent of the sample chose this item for their first, second, and third choices respectively. The third choice for disadvantage of suburban shopping centers was "too high prices."

It should be noted that a comparatively large number, 18.7 percent of the sample, felt there were no dis-

advantages in suburban shopping centers, whereas only 7.7 percent felt there were no disadvantages in downtown shopping. And, whereas 10 percent of the respondents felt there were no advantages in downtown shopping, only 5.4 percent felt the same way about suburban shopping centers. Note also that a comparatively large proportion of the sample did not name a second or third disadvantage for suburban shopping centers.

TABLE 10
PERCENTAGES OF SAMPLE PLACING CERTAIN DISADVANTAGES OF SUBURBAN SHOPPING CENTER IN FIRST, SECOND, AND THIRD ORDER OF IMPORTANCE
N = 600

Disadvantage	Order of choice			Composite Rank
	First	Second	Third	
Lack of large selection.....	41.7	15.7	5.1	1
Not all kinds of businesses represented.....	13.8	21.8	7.0	2
Prices too high.....	6.3	9.0	7.5	3
Poor public transportation.....	11.3	2.5	3.2	4
Poor delivery service.....	1.5	3.5	3.5	5
Too far to go.....	1.5	2.8	2.3	6
Hard to get credit.....	.8	.8	1.2	7
Bus fare too high.....	.5	.8	.5	8
Other.....	3.2	2.4	1.3	—
No disadvantage.....	18.7	18.7	18.7	—
No choice.....	.7	22.0	49.7	—
Total.....	100.0	100.0	100.0	—

Importance of Parking, Traffic, and Other Downtown Conditions

Part II-C of the schedule makes it possible to ascertain the intensity of attitudes toward certain shopping conditions. In this section respondents were asked to choose one out of five possible responses to a short statement. These alternative responses ranged from one assumed to indicate a high degree of satisfaction or agreement through an average or neutral position to one assumed to indicate dissatisfaction. The five alternative responses were arbitrarily given values from 1 to 5, with 1 indicating dissatisfaction and 5 satisfaction. Item analysis showing the percentage of respondents indicating satisfaction and dissatisfaction with certain conditions gives some indication of the relative importance of attractive or repulsive factors.

It is noteworthy that the most-definite negative reaction is with regard to downtown parking, 63.3 percent finding it either practically impossible or extremely difficult and only 10 percent finding it no trouble at all. The reaction to "traffic conditions" indicated repulsion but less than toward parking, with 41.7 percent finding traffic practically impossible or extremely difficult, 39 percent finding it difficult or

fairly difficult, and 19.3 percent finding it no trouble at all.

It is also interesting to note that the most-definite response in the positive direction elicited from car users was toward the statement: "I take the bus rather than drive my car downtown," with 64.8 percent indicating that they never or only occasionally did so and only 9.8 percent indicating that they always did so.

TABLE 11
INTENSITY OF ATTITUDES TO TRAFFIC AND PARKING CONDITIONS

Item 66: When I go shopping downtown by car finding a place to park for me is:
Item 69: When I drive downtown, I find the traffic:
N = 379. Data given as percentages.

Response	Item 66	Item 69
1 Practically impossible.....	27.7	11.6
2 Extremely difficult.....	35.6	30.1
3 Difficult.....	14.8	20.0
4 Fairly difficult.....	11.3	19.0
5 No trouble at all.....	10.0	19.3
No response.....	0.6	0.0
Total.....	100.0	100.0

TABLE 12
INTENSITY OF ATTITUDES TOWARD THE USE OF BUS RATHER THAN CAR
Item 68: I take the bus rather than drive my car downtown:
N = 379

Response	Percent
1 Always.....	9.8
2 Usually.....	14.0
3 Often.....	11.1
4 Occasionally.....	30.6
5 Never.....	34.2
No response.....	0.3
Total.....	100.0

This would seem to indicate that people will insist on driving their cars downtown even though they are faced with great parking and traffic difficulties, or that though these difficulties are onerous they are not bad enough to prevent people from going downtown or from using their cars to do so.

The cost of parking did not seem to evoke as sharply negative reactions as did the difficulty of parking, since only 44.6 percent indicated that the cost mattered very greatly or greatly; 26.4 percent said it mattered some, while 29 percent indicated that it mattered a little or not at all.

Further evidence of the importance of parking and traffic conditions in determining attitudes of attraction or repulsion of potential shoppers is the positive correlation of 0.57 between the intensity reaction score

on the difficulty of parking item (Item 66) and the score on the shopping satisfaction scale II-C. The correlations between the score on this scale and the cost of parking item (Item 67) is 0.49, and between reaction to traffic conditions (Item 69) and Scale II-C, 0.70. These findings indicate that as satisfaction with parking and traffic conditions increases, satisfaction with downtown conditions in general increases.

The reaction to downtown crowds was as follows: 10.3 percent said they hated them, 39.6 percent dis-

TABLE 13

INTENSITY OF ATTITUDES TOWARD COST OF DOWNTOWN PARKING

Item 67: As far as I am concerned the cost of parking matters:
N = 379

Response	Percent
1 Very greatly.....	10.6
2 Greatly.....	34.0
3 Some.....	26.4
4 A little.....	13.2
5 Not at all.....	15.8
No response.....	0.0
Total.....	100.0

TABLE 14

INTENSITY OF ATTITUDES TOWARD DOWNTOWN CROWDS AND HUSTLE AND BUSTLE

Item 70: With regard to downtown crowds, I can truly say that I:

Item 72: With regard to the hustle and bustle downtown, I can truly say that I:

N = 379. Data given as percentages.

Response	Item 70	Item 72
1 Hate them (it).....	10.3	7.9
2 Dislike them (it).....	39.6	40.1
3 Am unaffected by them (it).....	41.4	43.6
4 Like them (it).....	8.2	7.9
5 Like them (it) very much.....	0.5	0.5
No response.....	0.0	0.0
Total.....	100.0	100.0

liked them, 41.4 percent were unaffected by them, and 8.2 percent liked them; only 0.5 percent liked them very much.

It is interesting to note, in the light of the fact brought out previously that the majority prefer downtown shopping, that 62.8 percent either agreed or strongly agreed and only 29 percent disagreed that they went downtown only when they could not avoid it. This paradoxical behavior probably arises, because individuals are put in situations that create ambivalence or opposite tendencies to act with relation to the same environmental factor. People may feel compelled to go downtown rather than to some other place, yet they are repelled by certain aspects of con-

ditions there. They may also actually like to go downtown, but because of a lingering Puritanism and Calvinism, they say and feel they should go downtown only because they have to. Perhaps they sense that others expect them not to idle away their time by roaming around downtown for pleasure.

DIFFERENCES IN SHOPPING SATISFACTION AS RELATED TO EDUCATION, INCOME, AGE, SEX, ETC.

This section attempts to answer the question: Do people who differ as to income, sex, age, urban-rural background, socio-economic status, and location differ in the degree of satisfaction they evidence toward the

TABLE 15

INTENSITY OF ATTITUDES TOWARD THREE ASPECTS OF DOWNTOWN SHOPPING

Item 71: I go downtown only when I cannot avoid it:
Item 73: Downtown shopping is a pleasant change from the every-day routine:

Item 74: One of the things I dislike about shopping downtown is that I have to dress up:

N = 379. Data given as percentages.

Response	Item 71	Item 73	Item 74
1 Strongly agree.....	14.8	7.9	5.8
2 Agree.....	48.0	40.1	32.5
3 Undecided.....	8.2	43.6	15.6
4 Disagree.....	26.4	7.0	44.6
5 Strongly disagree.....	2.4	0.5	1.3
No response.....	0.2	0.0	0.2
Total.....	100.0	100.0	100.0

use of different shopping facilities? This question may now be answered with some degree of certainty, since it is now possible to apply the shopping-satisfaction scales which have been developed. The mean shopping-satisfaction score for each of these categories will be computed and then tested for statistical significance of the differences by the critical-ratio technique.

Differences between Self-Designated "Downtown" and "Suburban" Shoppers

Respondents could answer in one of three ways, "downtown," "suburban," or "I do not know," to the question, "What do you consider yourself, a downtown shopper or a suburban shopper?" Thus, three distinct categories of people could be distinguished, one attracted to downtown, another attached to suburban shopping, and a third one equally attracted and repelled by both types of shopping centers. One should expect that those who said that they were downtown shoppers would score high on the downtown shopping satisfaction scale, the suburban shoppers low, and the "don't know" group should fall in an intermediate position. This is precisely what is found.

The mean score of the total sample in Scale II-B is 8.9. The mean score on Scale II-B of the "downtown" group was 10.6, of the "don't know" group, 8.6, and of the "suburban," 7.3. These differences between means are all statistically significant, the critical ratio between means of "suburban" and "downtown" being 8.99; between "downtown" and "don't know," 4.08; and between "suburban" and "don't know," 2.69.

The mean score of our total sample for Scale II-C was 25.4. The scores on Scale II-C for those who said they were downtown shoppers was 28.0; for the "don't know," 27.6; and for the "suburban," 23.3. The critical ratio of means between the downtown group and the suburban group was 7.99, and between the "suburban" and "don't know" group, 5.30.

TABLE 16

MEAN SCORES ON SHOPPING SATISFACTION SCALES OF PERSONS WHO CONSIDER THEMSELVES EITHER DOWNTOWN SHOPPERS OR SUBURBAN SHOPPERS

The kind of shopper the respondent thinks he is	Scale II-B			Scale II-C		
	No. ^a	Mean	Standard deviation	No. ^a	Mean	Standard deviation
Total sample.....	600	8.9	4.5	379	25.4	5.5
Downtown.....	258	10.6	4.3	126	28.0	5.3
Suburban.....	259	7.3	4.1	208	23.3	5.1
Do not know.....	81	8.6	3.7	43	27.6	4.8
No data.....	2	—	—	2	—	—

^a NOTE: The difference in N's between Scale II-B and Scale II-C arises because Scale II-C is applicable to car users only.

A question might be raised as to the correspondence between attitudes and the actual behavior assumed to be motivated by these attitudes. Since the intercorrelations of shopping-attitude scales and shopping-behavior scales are fairly high, the correspondence between behavior and attitudes is apparently close. This conclusion can be checked further by determining if the Shopping Habit Scale I behaves like the attitude scales with reference to the self-designated suburban shoppers, downtown shoppers, and the "don't know" shoppers.

It will be seen from Table 17 that the relationships of the three groups on the shopping-habit scale are the same as on the shopping-attitude scales. The critical ratio of the difference between the downtown shopper and the suburban shopper is 13.11; between the suburban and the "don't know" groups the ratio is 4.81, and between the downtown and the "don't know" groups, 3.89. One can, therefore, be confident that there is a close relationship between the actual reported shopping habits of the respondents and the attitudes which presumably motivate these habits.

Thus, it will be seen that there are differences in mean scores between groups separated on the basis of self-analysis, and these differences are in the expected directions. The differences are large enough to be statistically significant; that is, the likelihood is extremely remote that these differences are due to chance fluctuation of the sample. They can be attributed to other factors, presumably the differential operation of attractive and repulsive factors on each group. Furthermore, these results give added proof of the validity of the scales and further evidence of the measurability of shopping satisfaction.

TABLE 17

MEAN SCORE ON SHOPPING HABIT SCALE I OF PERSONS WHO CONSIDER THEMSELVES EITHER DOWNTOWN SHOPPERS OR SUBURBAN SHOPPERS

Kind of shopper	Number	Mean	Standard deviation
Total sample.....	600	2.91	1.63
Downtown.....	258	3.71	1.28
Suburban shopping center.....	259	2.09	1.52
Don't know.....	81	3.00	1.48
No data.....	2	—	—

TABLE 18

MEAN SCORES ON SHOPPING-SATISFACTION SCALES BY NUMBER OF YEARS OF SCHOOL COMPLETED

Completed Education	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Total sample.....	600	8.9	4.51	379	25.4	5.54
Grammar school (6-8).....	75	9.1	5.21	25	26.6	5.53
Highschool (1-4 yrs.).....	299	9.3	4.52	164	25.2	5.68
College.....	217	8.5	3.85	182	25.5	5.53
No data.....	9	—	—	8	—	—

Differences in Educational Categories

The correlation analysis indicates no statistically significant differences between grammar, highschool, or college groups when using the whole applicable sample (see Appendix D). This conclusion is confirmed by the fact that no significant differences are found between the mean scores of the three educational groups.

However, when area is held constant, the college group scores significantly higher than the highschool group on Scale II-C. Again, the scores on Scale II-B are not significantly different.

When comparing scores for the grammar-school group with those for either the college or highschool group, it would appear that the score on Scale II-C for the grammar-school group is higher than for either of the other two. But this score is not reliable because the

number of cases in the grammar school category is too small. The only valid comparison possible on Scale II-C, then, is between the highschool group and the college group, where the number in each category is sufficiently high.

It would seem, therefore, that Scale II-C, which measures differences due to a cultural component in the background of the individual, shows that the college group is more strongly attracted to downtown than is the highschool group. It is assumed that educa-

TABLE 19
MEAN SCORE ON SCALES II-B AND II-C IN AREA THREE, BY EDUCATION

Completed education	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Grammar school (6-8) . . .	8	7.5	5.22	2	23.0	3.00
Highschool (1-4 yrs.) . . .	41	7.6	5.14	35	20.1	3.83
College	45	8.1	3.83	45	22.3	4.65
No data	6	—	—	0	—	—

TABLE 20
MEAN SCORES OF INCOME GROUPS ON SHOPPING-SATISFACTION SCALES BY FAMILY INCOME

Income categories	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Total sample	600	8.9	4.51	379	25.4	5.54
Lower (\$2,000-\$3,999) . .	171	9.2	4.54	58	25.7	5.30
Middle (\$4,000-\$5,999) . .	180	9.4	4.75	124	24.6	5.40
Upper (\$6,000 and over) . .	247	8.4	4.02	196	25.8	5.77
No data	2	—	—	1	—	—

tion and income are closely related; this tendency will, as is indicated below, be confirmed by an analysis of the data by income groups.

Differences of Family Income Groups

Mean scores of different income groups on the scales when analyzing the whole sample do not present a consistent pattern, as may be seen by examining Table 20. Whatever differences appear are in almost every instance too small to be statistically significant. The one exception is that the middle-income group scores significantly higher on Scale II-B than the upper-income group. The correlation analysis shows a small positive correlation between income and downtown-shopping satisfaction on Scale II-C and a low negative correlation between shopping satisfaction as measured

by Scale II-B and family income. The rather inconclusive nature of the findings results probably from the interaction of numerous variables that have not been isolated and from the nature of the relationship between income and shopping satisfaction.

By keeping area constant while varying income, the influence of income on the scores may be revealed. Calculations from Table 21 indicate no significant differences between income groups on Scale II-B, but an interesting relationship appears when comparing the different means on Scale II-C. The downtown-shopping-satisfaction score increases as the income increases when area is kept constant. The mean scores for the lower-, middle- and upper-income groups are 17.36, 20.57, and 22.63 respectively. The differences between lower- and middle-, and between lower- and upper-income groups are statistically significant.

TABLE 21
MEAN SCORES ON SCALES II-B AND II-C IN AREA THREE BY INCOME CATEGORIES

Income categories	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Lower (\$2,000-\$3,999) . .	11	6.2	4.89	11	17.4	4.88
Middle (\$4,000-\$5,999) . .	81	7.8	4.68	81	20.6	4.63
Upper (\$6,000 and over) . .	8	8.3	2.22	8	22.6	5.61

Comparing two areas like Upper Arlington (Area 6) and Whitehall (Area 3), that are located in about the same position with regard to a modern shopping center and downtown, but which vary as to socio-economic status, these results are again confirmed (see Table 30). On Scale II-B there is no significant difference, but on Scale II-C, Area 6 has a significantly higher score with a mean of 26.14 as against 21.22 for Area 3. The critical ratio of the difference between means is 7.30.

If it is true, as the results reported above seem to indicate, that there is a direct relationship between socio-economic status and attraction to downtown as measured by Scale II-C, two areas that are alike in their socio-economic status and that are approximately equally located with reference to sources of shopping satisfaction should have mean scores that are not statistically different. Areas 2 and 5 are alike in these respects and their scores on Scale II-C are 27.10 and 27.33 respectively, thus behaving as expected.

To sum up, it would seem that middle- and upper-income groups are more-strongly attracted to downtown as a place to procure shopping goods than are groups of lower socio-economic status.

Influence of Distance and Location

When comparison is made between the mean scores of areas that differ as to distance from downtown or suburban shopping centers, it is clear that there are significant differences between them (see Table 30). On downtown-satisfaction Scale II-C, for example, Area 3, with 21.22, differs significantly from Area 5, with 27.33. One might be tempted to conclude that Area 5 has the higher score because it is nearer to downtown. But comparing two areas, 3 and 6, which are located about the same distance from a modern suburban shopping center and from downtown, significant differences appear again, the mean score for Area 3 being 21.22 and that for Area 6, 26.14, with a critical ratio of the difference between means of 7.30. Clearly another variable besides that of distance must be in-

TABLE 22
MEAN ATTITUDE SCORES OF \$7,500 AND UP INCOME GROUP BY
AREA ON SCALES II-B AND II-C

Area	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
1	30	9.03	4.88	30	25.80	6.30
2	23	8.70	5.11	23	25.04	8.09
3	8	8.25	2.22	8	22.63	5.61
4	4	11.50	1.12	4	14.75	1.20
5	11	7.55	2.97	11	23.55	5.79
6	78	7.55	3.32	78	25.97	5.87

involved. Since people are automatically segregated into areas on the basis of income, factors associated with income are possibly the variables which produce the difference between Area 3 and Area 6, Area 6 being a much-higher-income area than 3.

But this hypothesis must be tested further. The influence of income can be eliminated by keeping income constant while varying area. When this is done, the lack of influence of location is apparent in the means tabulated in Table 22.

Except for Area 4, there are no significant differences in scores between areas on the attitude scales when income is kept constant; in Area 4, there are so few cases in the upper-income category that results for this area are not reliable. On the other hand, if area is kept constant and income varied, significant differences appear between income groups (see Table 21).

The correlation analysis gives further evidence that location or distance in Columbus is not an important factor, particularly when the individual wants to procure shopping goods. If we consider clothing to be a good representative of shopping goods as a category and then calculate the product moment correlation

between the scores on the scales and the distance a person travels downtown to buy clothing, the importance of distance in determining downtown-shopping satisfaction should be indicated. A negative correlation would indicate that as the distance from downtown increased, the shopping satisfaction decreased; a positive one would imply that distance or location was not an important factor, since it would not be detracting from the shopping satisfaction associated with downtown. It will be seen from the table of correlations (Appendix D) that there is a significant positive correlation of 0.34 between the downtown shopping habit score (Scale I) and distance, one of 0.20 between cost of travel and attitude score, of 0.34 between score and travel time, and a correlation of 0.26 between ecological distance (time-cost) and score. Both time and distance correlate positively and to a significant degree with the attitude scales also.

Further support of this conclusion is evident if we compare the mean shopping-satisfaction scores of the two areas ranking highest in socio-economic status (see Table 30). Even though Area 1 and Area 6 differ markedly in their relationship to a modern suburban shopping center, 6 having a center right in the area while 1 is far removed from it, their shopping-satisfaction scores are practically alike.

It would seem contrary to logical expectation that the further you have to travel and the more time and money you have to expend to procure a certain good, the better you like it. The paradox can be explained by the fact that persons of upper socio-economic status who have higher downtown habit and satisfaction scores than those of lower status, live in the outlying suburbs and travel farther to do their shopping; consequently a positive correlation between downtown satisfaction and attitude scores is obtained. This would seem to indicate that in Columbus distance is not of as great importance as other factors for the upper-income classes in determining high positive reaction to downtown in general, because if it were, distance cost and time would correlate negatively with downtown satisfaction, but the opposite holds true.

Differences of Age Categories

The correlation analysis indicates that there is no statistically significant relationship between age and downtown-shopping-satisfaction scores. The analysis on the basis of central tendency tends to confirm this conclusion. Further refinement of the analysis when area is kept constant shows again only small differences, if any, between age groups.

Critical ratio analysis shows that there are no sig-

nificant differences in the degree to which different age levels are repelled by or attracted to downtown.

Differential Reactions of Persons Who Vary As to Rural-Urban Background

The schedule contained the question, "What is the population of the town where you have lived most of your life?" This question was included for the purpose of testing the hypothesis that people with rural background would tend to be repelled by downtown conditions and those from urban background would be attracted.

TABLE 23
MEAN SCORES ON SHOPPING-SATISFACTION SCALES BY AGE CATEGORIES

Age categories	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Total sample	600	8.9	4.51	379	25.4	5.54
15-34	198	9.2	4.38	127	25.3	5.17
35-49	225	9.0	4.34	161	25.4	5.76
50-65+	167	8.5	4.56	83	25.7	6.00
No data	10	—	—	8	—	—

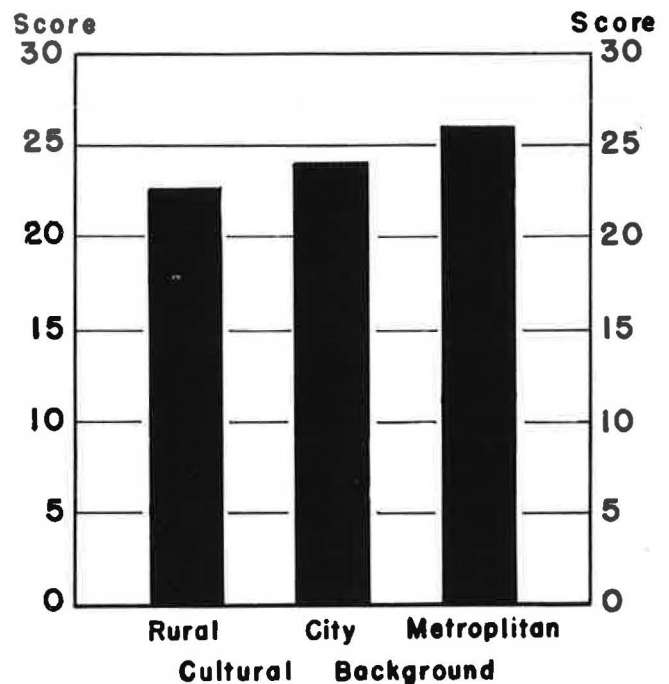
TABLE 24
MEAN SCORE ON SCALES II-B AND II-C IN AREA TWO BY AGE CATEGORIES

Age categories	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
15-34	32	10.03	4.70	16	26.38	4.21
35-49	29	9.86	5.55	17	26.88	5.19
50-65+	39	9.03	4.95	16	28.06	6.12

The hypothesis is confirmed by the results from the administration of Scale II-C. The mean score for persons of rural background (500 to 2,499 population) is 22.8; for city (2,500 to 99,999 population), 24.1; and for metropolitan background (100,000 and up population) it is 26.0. The critical ratio of the difference between rural and metropolitan means is 2.80; between city and metropolitan, 2.84; and between rural and city background 1.05.

Again using Scale II-C, will this relationship hold when certain variables associated with area of residence are kept constant? When area is kept constant, the mean scores obtained are as follows: Rural, 18.90; city, 20.83; and metropolis, 21.88. The critical ratio between means of rural and metropolis is 2.21; between city and rural, 1.46; and between city and metropolis, 1.13.

The correlation analysis lends support to the hypothesis, since we get a correlation of 0.15, standard



Source: Text Table No.25

Figure 4. Downtown shopping satisfaction scores on Scale IIC of persons of urban and rural background.

TABLE 25
MEAN SCORE SHOPPING-SATISFACTION SCALES II-B AND II-C BY RURAL AND URBAN BACKGROUND

Background	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Total sample	600	8.9	4.51	379	25.4	5.54
Rural (500-2,499)	54	8.7	4.39	28	22.8	5.97
City (2,500-99,999)	113	8.6	4.47	82	24.1	5.18
Metropolis (100,000-1,000,000)	430	9.1	4.39	266	26.0	5.58
No data	3	—	—	3	—	—

TABLE 26
MEAN SCORE ON SCALES II-B AND II-C IN AREA THREE BY RURAL AND URBAN BACKGROUND

Background	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Rural (500-2,499)	14	6.86	5.21	10	18.90	3.67
City (2,500-99,999)	32	7.59	5.30	29	20.83	3.38
Metropolis (100,000-1,000,000)	53	8.02	3.80	48	21.88	4.72
No data	1	—	—	1	—	—

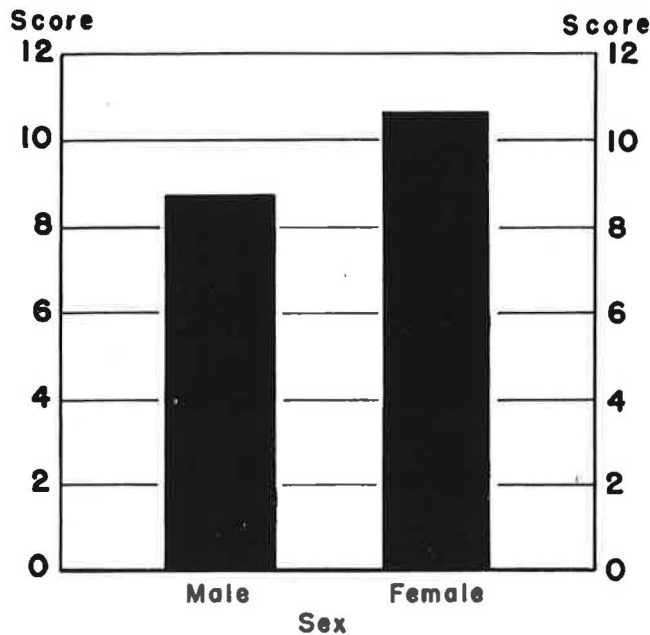
error 0.050, between size of town and score on Scale II-C. This correlation though low is statistically significant. Scale II-B shows no significant relationship (see Appendix D).

When comparing groups of rural and metropolitan backgrounds, we can be confident that those with metropolitan backgrounds will be more strongly attracted to the downtown area. The differences between city and rural, and city and metropolis are not so decisive, but that is after all what should be expected. Results from the correlation analysis, when regarded in the light of the means analysis, seem to indicate that while the hypothesis is confirmed in general the relationship probably is not one of conspicuous linear-

large enough for confidence that they are not due to chance.

But an analysis using only Area 4, where there is a larger number of females in the sample, again shows the females scoring higher on both scales (see Table 28). The difference between males and females on Scale II-B is significant but not that on Scale II-C.

It is probable that if a larger number of males had been included in the sample significant variation would have been realized for the total sample as well.



Source: Text Table No.27

Figure 5. Degree of downtown shopping satisfaction of males and females indicated by scores on Scale IIB.

Effect of Interaction of Various Factors on Attitudes in Six Areas

It has been established that certain categories of people who differ by some measurable trait differ signifi-

TABLE 28
MEAN SCORES ON SCALES II-B AND II-C OF MALES AND FEMALES IN AREA FOUR

Sex	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Male.....	32	8.75	4.66	23	25.83	5.92
Female.....	68	10.63	4.42	17	25.94	4.21

TABLE 29
DESCRIPTION OF SIX AREAS IN TERMS OF SOCIO-ECONOMIC STATUS, LOCATION, URBAN-RURAL BACKGROUND AND ATTITUDE SCORES ON SCALE II-C

Descriptive Index	Area					
	1	2	3	4	5	6
Percent having college education	46	32	45	5	35	54
Percent of persons in middle and upper income groups	86	60	89	38	57	97
Average distance in miles from downtown	6.45	2.34	6.19	2.57	2.87	5.98
Average distance in miles from S.S.C.	4.81	2.22	1.24	6.00	2.04	0.76
Percent urban background	91	94	85	86	95	92
Attitude score on Scale II-C	26.92	27.10	21.22	25.88	27.33	26.14

TABLE 27
MEAN SCORES ON SCALES II-B AND II-C OF MALE AND FEMALE RESPONDENTS

Sex categories	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Total sample....	600	8.9	4.51	379	25.4	5.54
Male.....	77	8.5	4.74	59	24.9	5.48
Female.....	523	9.0	4.37	320	25.5	5.63

ity. Again it is confirmed that Scale II-C seems to be able to measure differences of cultural background while Scale II-B does not.

Differences between Sexes

Females score consistently higher (see Table 27) than males on the downtown-attitude scales when using the sample as a whole, but these differences are not

cantly in their reactions to the use of shopping facilities; or in other words, they achieve significantly different scores on the attitude scale. Perhaps differences in the computed scores of the six areas can be explained on the basis of what is known about these areas and what has been found out about the effects of various factors, such as socio-economic background. Table 29 below summarizes the salient factors in each area and indicates the attitude score on Scale II-C for each area.

It will be seen that Area 3 has a score of 21.22 and Area 6 a score of 26.14. The critical ratio of the difference between means is 7.30. Area 3 and Area 6 are about equally located with reference to downtown and a modern suburban shopping center. Area 6 is some-

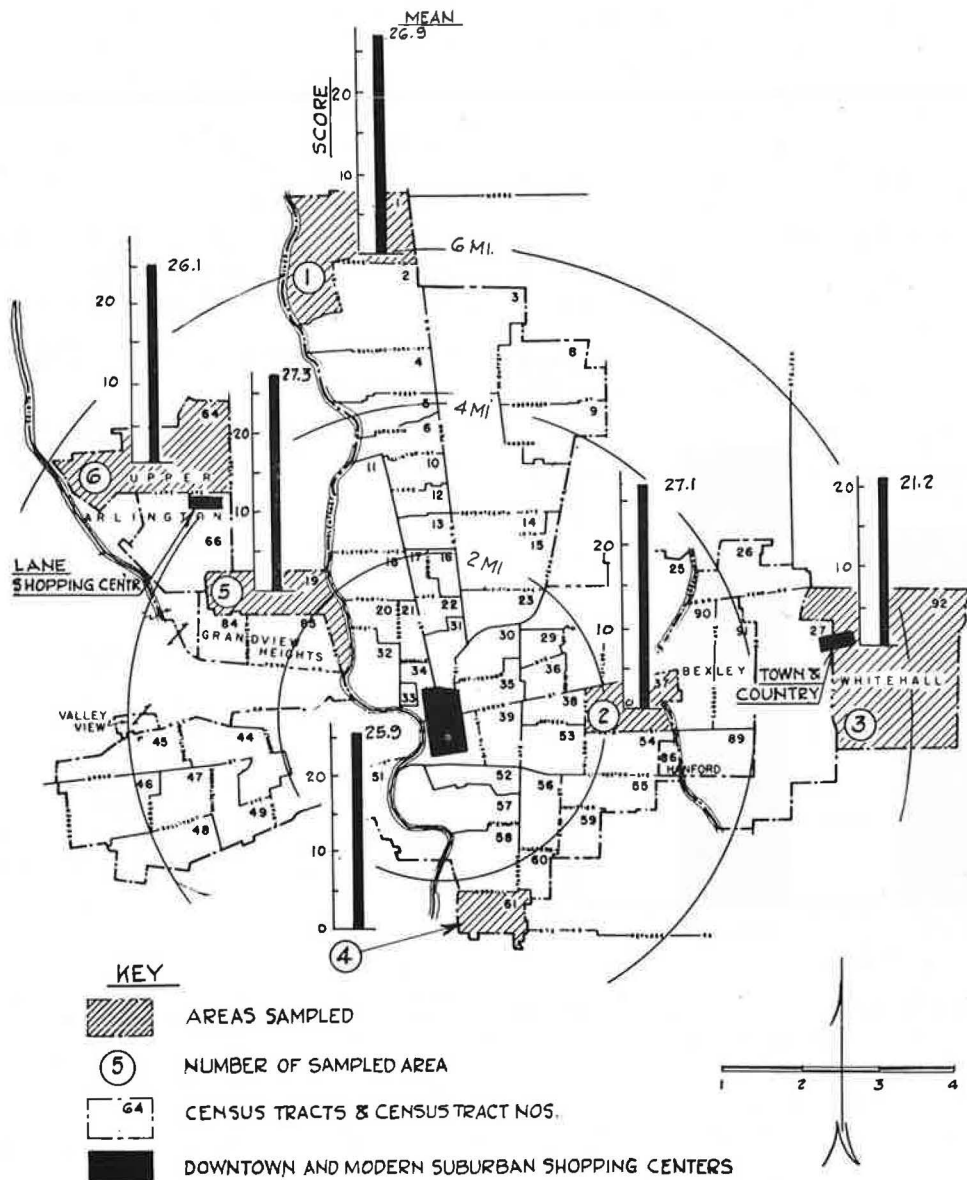


Figure 6. Mean downtown shopping satisfaction scores on Scale IIC for areas sampled.

TABLE 30
MEAN SCORES ON THE SHOPPING SATISFACTION SCALES BY AREA

Area No.	Scale II-B			Scale II-C		
	Number	Mean	Standard deviation	Number	Mean	Standard deviation
Total sample	600	8.9	4.51	379	25.37	5.54
1	100	9.3	4.65	61	26.92	5.91
2	100	9.6	5.07	49	27.10	5.27
3	100	7.7	4.59	88	21.22	4.78
4	100	10.0	4.58	40	25.88	5.26
5	100	9.3	4.04	49	27.33	4.51
6	100	7.6	3.18	92	26.14	4.22

what nearer downtown than Area 3, but then it is also a little nearer to the suburban shopping center as far as the sample is concerned; thus the effect of differential location should not be an important factor. Area 6, however, contains more people with urban background and more people in the upper socio-economic brackets. We would therefore conclude that the difference in scores of these two areas is accounted for largely by the comparatively large proportion in the population of persons with high socio-economic and urban backgrounds.

Area 6 with 26.14 and Area 1 with 26.92 have scores

that are not significantly different. Both these areas have high socio-economic status, and a large percentage of their people have urban backgrounds. They differ markedly in their location with reference to modern suburban shopping centers, but we have already seen that location seems not to be a very important factor in Columbus, especially where persons of higher economic status are concerned. Apparently these areas score

as proximity to a fairly complete if not modern secondary shopping area, greater proportion of males in the sample, a population with comparatively few persons of urban background, and probably most-important, the lowest socio-economic and educational status of all the areas.

A significant difference appears in scores on Scale II-C between Area 3 with 21.22 and Area 5 with 27.33. This

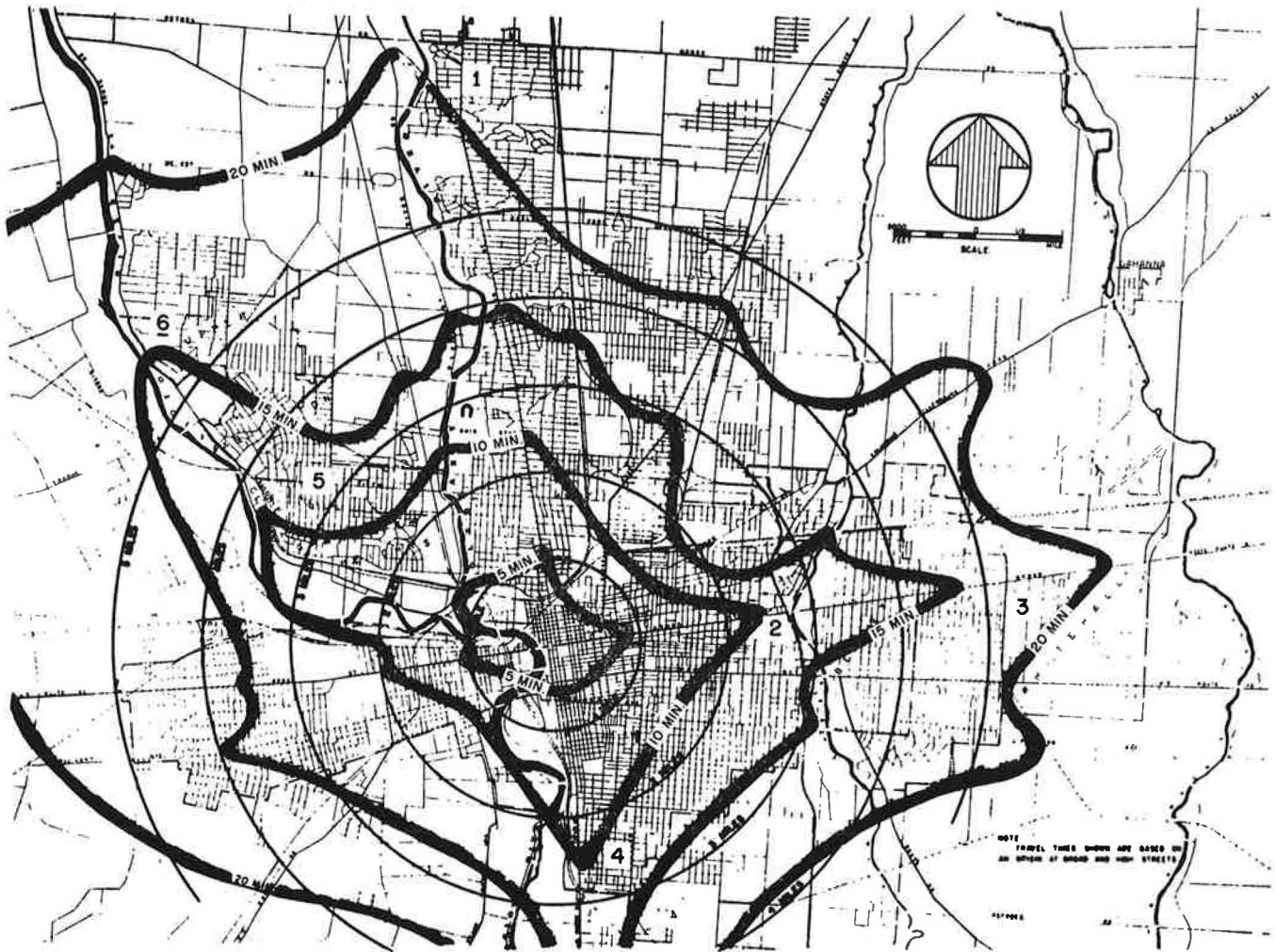
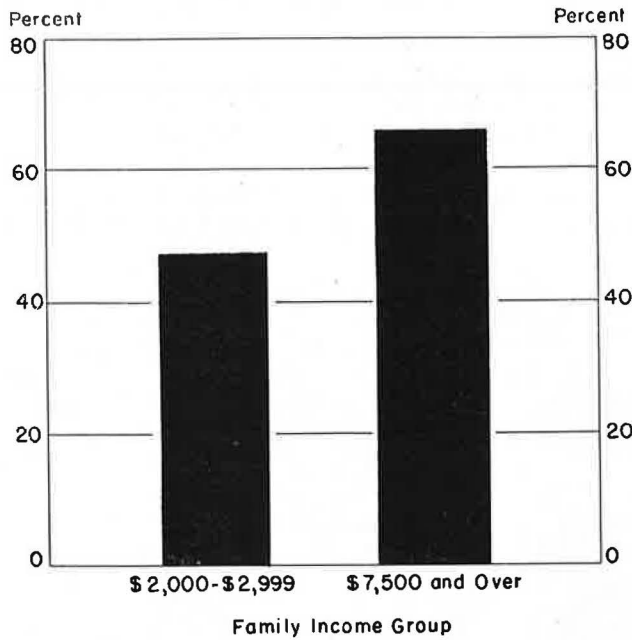


Figure 7. Peak hour travel time. Adapted from Franklin County Regional Planning Commission expressway system.

alike because the populations are similar with reference to socio-economic status and urban background. Likewise, Areas 2 and 5, where all the measured variables are fairly similar, have scores that are not significantly different, being 27.10 and 27.33 respectively.

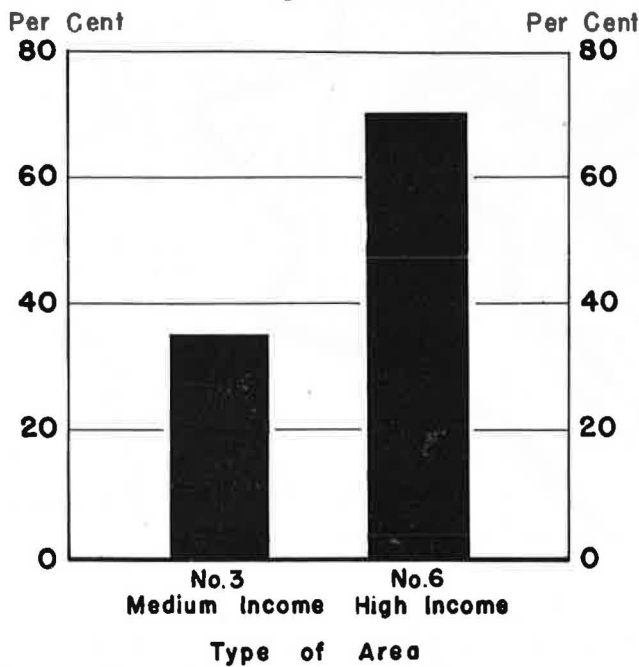
It will be seen that Area 4 has next to the lowest downtown-satisfaction score, 25.88. This score probably results from a number of depressing factors, such

difference is considerably more difficult to analyze since factors that are important appear in combinations operating to affect the scores in different directions. Area 3 has a higher socio-economic status, but Area 5 has a greater proportion of urban people. While we know that these two factors are important, we do not know precisely what comparative weights to attach to each. It is possible that in this case these two variables



Source: Appendix Table F-1

Figure 8. Percentage of persons in low- and high-income groups choosing "large selection of goods" as the most-important advantage for downtown.



Source: Appendix Table F-21

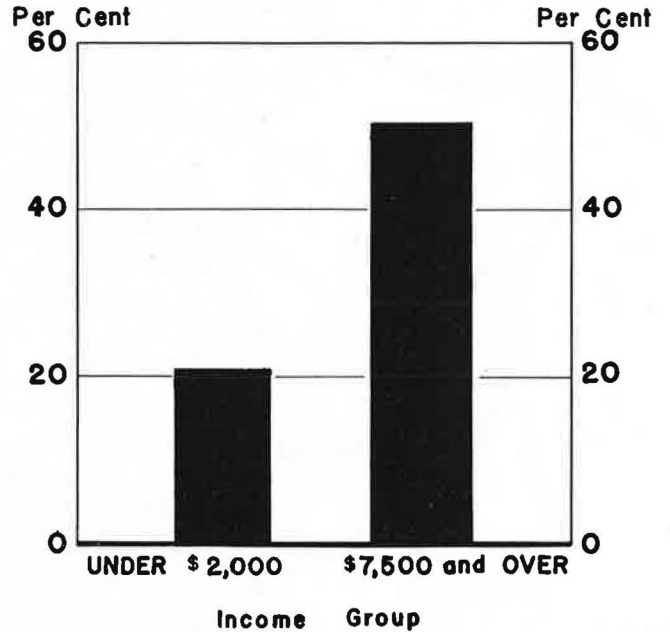
Figure 9. Percentage of females in medium- and high-income areas choosing "large selection of goods" as the most important advantage for downtown, sex and location kept constant.

may cancel each other out and that the higher score of Area 5 results from its greater proximity to the downtown area, because distance becomes of greater im-

portance as socio-economic status goes down. There is also the possibility that the difference is due to other factors not here taken into account.

PROBABLE CAUSES OF DIFFERENCES
IN SHOPPING SATISFACTION

It is clear from what has been said so far that people who differ in various ways differ also in the degree to which they are attracted and repelled by shopping conditions of a given place. Why is this so? We shall attempt to answer this question by analyzing the reactions of various categories of people toward conditions



Source: Appendix Table F-4

Figure 10. Percentage of samples in low- and high-income groups choosing "lack of large selection" as the most-important disadvantage for suburban shopping centers.

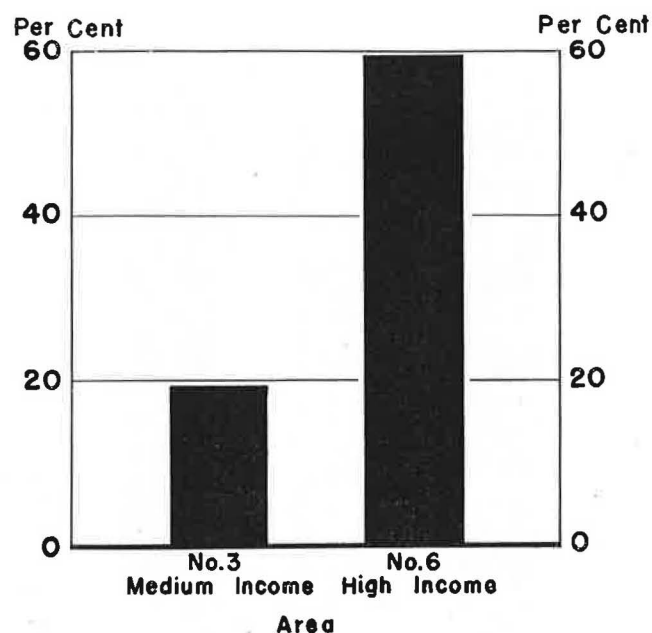
which have been established as being the most advantageous and disadvantageous encountered in shopping downtown or in the suburban shopping centers.

The respondent was asked, "Which do you think is the most-important advantage of shopping downtown?" Of the total sample, 51 percent felt that the larger selection of goods available downtown was the most-important advantage. But the degree to which this opinion was held differed markedly and significantly between income groups. About 67 percent of the upper income group, \$7,500 and over, chose this advantage as being most important, while only 48.7 percent of the lower (2,000-\$2,999) range chose this as their number-one advantage.¹⁹

¹⁹ The source of the data for the analysis of this section is the tables found in Appendix F.

When sex and proximity to shopping areas are kept constant and two areas, the one very high, the other of medium-income status, are compared, a significantly larger proportion of females in the high-income area chose "large selection" as being the most important advantage of downtown. In Area 6, 70.5 percent of females chose this as being the most important advantage for downtown, while only 34.8 percent in Area 3 made this selection. The critical ratio is 4.90.

Also if two areas both somewhat removed from a modern shopping center are compared and sex is kept constant, a greater proportion of people in the higher-than in the lower-income area chose large selection of



Source: Appendix Table F-22

Figure 11. Percentage of females in medium- and high income areas choosing "lack of large selection" as the most important disadvantage for suburban shopping centers, sex and location kept constant.

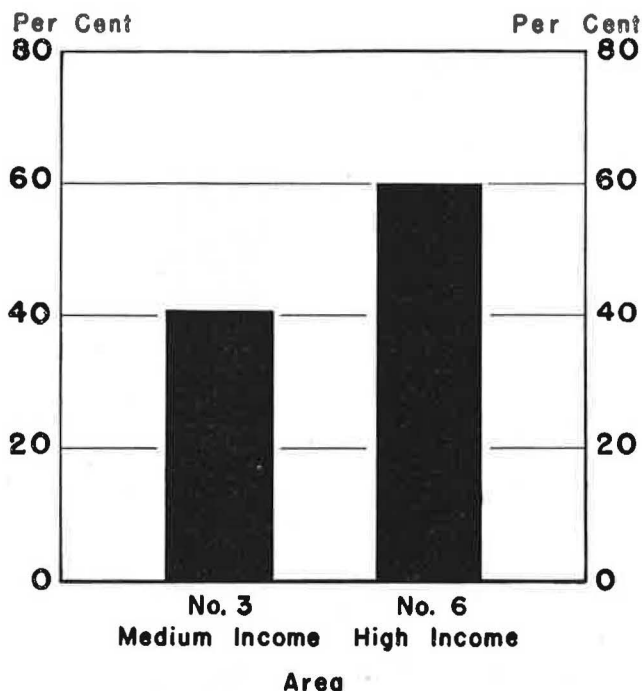
goods as being the greatest advantage for downtown. In high-income Area 1, 57.2 percent of females chose this advantage, as against 36.2 for Area 2. The critical ratio of percentages is 2.34.

Moreover, when comparing the \$3,000-to-\$3,999 income group with the \$4,000-to-\$5,000 category, using the total sample, 40.8 percent of the former and 43.8 percent of the latter chose "larger selection" as the greatest advantage for downtown. The difference between the groups is in the same direction, although not statistically significant.

The conclusion that a large selection of goods is more important for upper socio-economic status groups is confirmed by an analysis utilizing the North-Hatt

Scale.²⁰ Of those who had a North-Hatt score of 50 to 59, 33.7 percent chose "large selection" as being most important for downtown, while of those who scored 80 to 93, 67.5 percent chose this advantage as being the most important. The critical ratio indicates that these differences are significant beyond the 1-percent level of confidence. Similarly, comparison of the 50-to-59 group with the 70-to-79 group gives percentages of 33.7 and 55.5 respectively, with a critical ratio of difference between these of 3.16.

A comparison of first choices for disadvantage of suburban shopping centers tends to support the findings



Source: Appendix Table F-6

Figure 12. Percentage of sample in medium- and high-income areas choosing parking as the most important disadvantage for downtown.

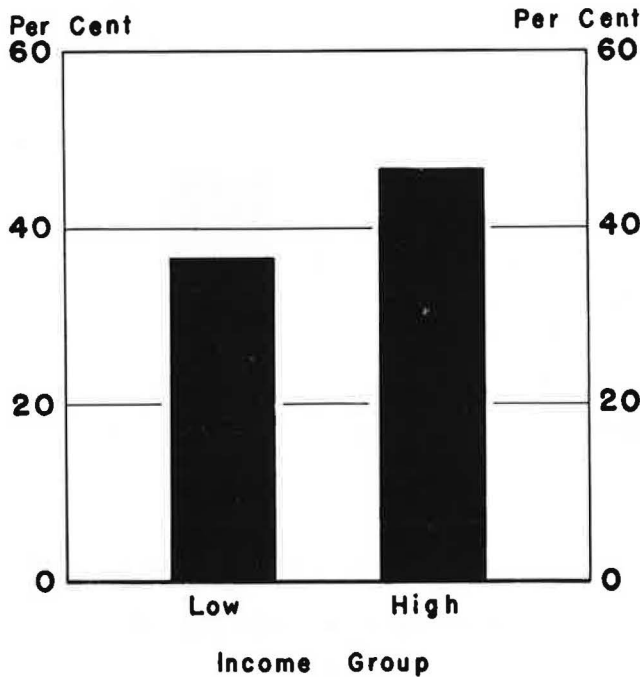
indicated above. Only 20.7 percent of the low group, under \$2,000, indicated that "lack of large selection" was the greatest disadvantage, while 50.0 percent of the high group, \$7,500 and up, chose it as the greatest disadvantage.

If sex, and location with reference to sources of shopping satisfaction are kept constant, as in a comparison of females in Areas 6 and 3, a much larger proportion, 59.9 percent, in Area 6 (high) choose "lack of large selection" as being the most important disadvantage for the suburban shopping centers than do females in

²⁰ The North-Hatt occupational rating scale is essentially a public ranking of 90 different jobs by a cross-section of Americans using a battery of questions. See "Jobs and Occupation: a Popular Evaluation" in Logan Wilson and William L. Kolb, *Sociological Analysis*.

Area 3 (lower status) where only 19.5 percent choose this feature of suburban shopping centers as being the most disadvantageous. The critical ratio between percents is 5.65.

The most-important disadvantage for downtown shopping was difficult parking; 44 percent of respondents indicated this as their first choice. But, again, various groups evidenced differential reaction to this item (see Tables 31, 32, and 33). Generally speaking, it appears that the people who use automobiles most for shopping are the ones who think difficult parking is the most-important disadvantage for down-



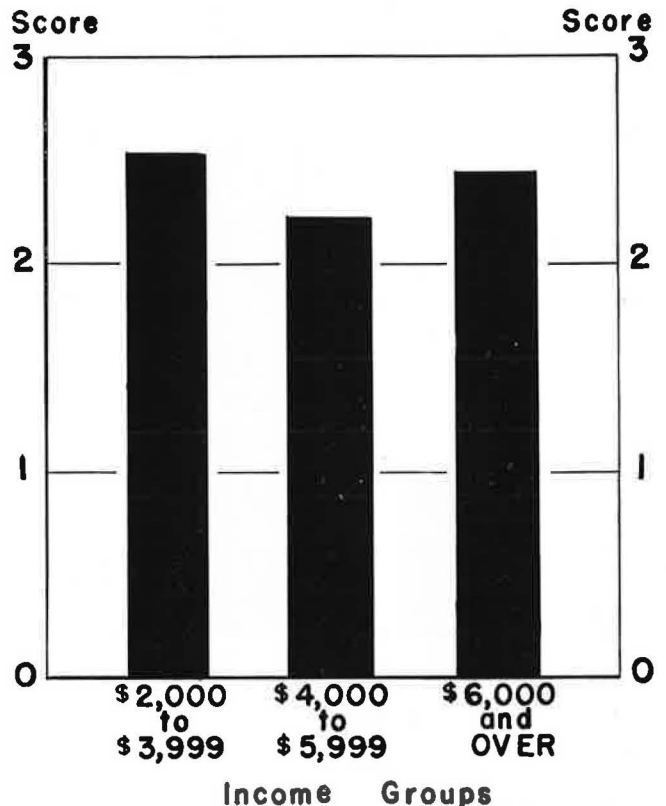
Source: Appendix Table F-2

Figure 13. Percentage of sample in low- and high-income groups choosing parking as the most-important disadvantage for downtown.

town. The ones who use automobiles most for shopping are the upper socio-economic groups (see Table E-6); those who use cars least are the lower socio-economic groups. Dividing our sample into high- and low-income groups, it will be seen that of the high group 46.8 percent chose parking as the most-important disadvantage for downtown, while of the low group, 36.8 percent indicated this choice. Comparison of the low scorers, 39 to 59, on the North-Hatt Scale with the high scorers, 70 to 93, indicates that 36.8 percent of the low and 46.5 percent of the high group chose parking as being the most-important disadvantage.

A comparison of higher and lower economic areas,

when proximity to areas of shopping satisfaction is kept relatively constant, shows the same trend. In Area 6 (high), 60 percent chose difficult parking as being the greatest disadvantage, while in Area 3, 41 percent chose this disadvantage as being most important, the critical ratio of the difference being 2.69. And if these areas are compared when sex is kept constant, the significant differences are maintained since 60.9 percent of females in Area 6 chose difficult parking as being most disadvantageous for downtown, while only



Note: Low Score Indicates a Comparatively Lower Degree of Satisfaction with Conditions

Source: Text Table 31

Figure 14. Attitudes toward parking of three income groups.

42.5 percent of females in Area 3 chose this disadvantage as being most important, the critical ratio of the difference in means being 2.54.

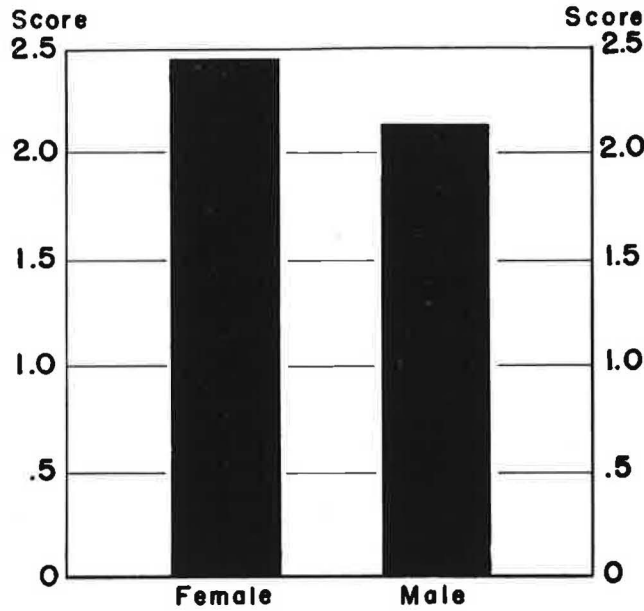
A comparison of different educational classes tends to support the findings indicated above. Of those who have completed eight grades of school, 37.0 percent chose difficult parking; of the college graduates, 52.9 percent chose this disadvantage as being most important.

The intensity reaction to parking and traffic items—Item 66, difficulty of parking; Item 67, cost of parking;

and Item 69, difficulty of traffic—provides clues as to the meaning of these conditions for different people. It

TABLE 31
MEAN PARKING AND TRAFFIC INTENSITY SCORES OF INDICATED INCOME GROUPS

Income group	Item No. 66 Parking difficulty			Item No. 67 Parking cost			Item No. 69 Traffic difficulty		
	No.	Mean	Standard deviation	No.	Mean	Standard deviation	No.	Mean	Standard deviation
\$2,000-3,999.....	58	2.55	1.34	58	3.03	1.31	58	3.07	1.27
\$4,000-5,999.....	124	2.23	1.26	124	2.74	1.20	124	2.80	1.26
\$6,000 and over...	196	2.46	1.25	196	2.96	1.22	196	3.18	1.34



Note: Low Score Indicates a Comparatively Lower Degree of Satisfaction with Conditions

Source: Text Table 32

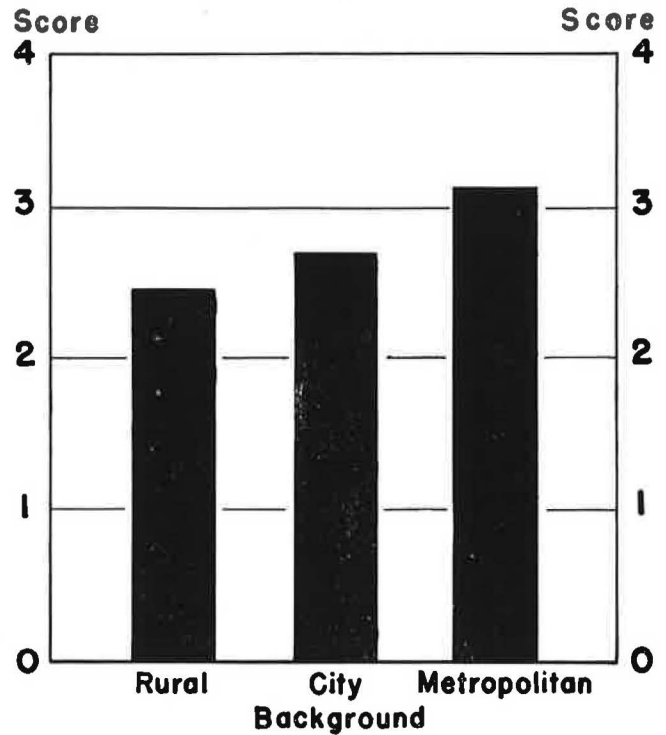
Figure 15. Attitudes toward parking of males and females.

TABLE 32
MEAN PARKING AND TRAFFIC INTENSITY SCORES BY SEX IN AREA FOUR

Sex	Item No. 66 Parking difficulty			Item No. 67 Parking Cost			Item No. 69 Traffic difficulty		
	No.	Mean	Standard deviation	No.	Mean	Standard deviation	No.	Mean	Standard deviation
Male.....	59	2.15	1.20	59	3.14	1.33	59	3.05	1.18
Female.....	318	2.45	1.27	320	2.85	1.20	320	3.04	1.32

will be remembered that the range of the intensity score on each of these items was from 1 to 5, a score of 5 indicating satisfaction and a score of 1, repulsion.

When the comparison is in terms of income groups, the middle group in the \$4,000-to-\$5,999 range seems to be the one for whom parking difficulty, parking cost, and traffic is worst. The differences indicated in Table 31 are not all statistically significant, but they are all



Note: Low Score Indicates a Comparatively Lower Degree of Satisfaction with Conditions

Source: Text Table 33

Figure 16. Attitudes toward traffic of persons from rural, city, and metropolitan backgrounds.

TABLE 33
MEAN PARKING AND TRAFFIC INTENSITY SCORE BY RURAL OR URBAN BACKGROUND

Background	Item No. 66 Parking difficulty			Item No. 67 Parking cost			Item No. 69 Traffic difficulty		
	No.	Mean	Standard deviation	No.	Mean	Standard deviation	No.	Mean	Standard deviation
Rural (500-2,499)	28	2.14	1.24	28	2.79	1.40	28	2.46	1.18
City (2,500-99,999).....	82	2.34	1.12	82	2.76	1.16	82	2.67	1.19
Metropolis (100,000-1,000,000)...	264	2.45	1.33	266	2.96	1.25	266	3.21	1.34

in the same direction. The reasons for the result indicated is probably that this group uses cars more than the lower group, and though they may use cars less than the upper-income group, the upper group is probably less concerned with parking fees and more of them

have available private parking spaces or their cars are chauffeur driven. Thus, the upper-income group has at its disposal greater means with which to overcome the friction of space, while the low-income group uses the automobile less and is therefore less troubled by parking and traffic.

If the comparison is in terms of males and females, the score of males is lower for parking, but higher for cost of parking, while the reaction to traffic of the two sexes is about the same. The critical ratio of the difference in means of males and females on Item 66 is 1.75, and on Item 67, 1.53, neither being statistically significant.

Conclusion

SUMMARY AND CONCLUSIONS

The purpose of this study was to discover the attitudes and other motivating factors which either repel or attract persons to downtown or to suburban shopping centers; to determine the weights of these factors; to decide whether satisfaction with one or the other type of center is associated in a characteristic fashion with such variables as income, education, sex, and urban-rural background; and finally, to attempt explanations of some of the differences found.

The first objective, the discovery of pertinent factors, was achieved by an analysis of relevant literature and by depth interviews using open-ended questions. The items discovered in this way were then further tested in a pilot study by field interviews and statistical analysis. Finally, a schedule of significant items was drawn up and systematically administered by trained interviewers to a sample selected by the areal sampling technique.

To accomplish other goals, it was necessary to create instruments of analysis that would measure the degree of attraction to downtown or suburban shopping centers, thus discriminating between downtown shoppers and suburban shoppers. An item analysis by means of the critical-ratio technique tested the power of discrimination of all the items in the schedule. It was possible to build two attitude scales of high discriminative power. Statistical tests indicated that these scales were highly valid. Split-half correlation analysis for reliability indicated a corrected coefficient of correlation of 0.79 for one scale and 0.64 for the other.

Systematic analysis of factors associated with shopping satisfaction indicated that in Columbus the downtown shopping center had a decided advantage over the suburban shopping centers. The most-important advantage for downtown was that it had a larger selection

of goods. The second-most-important advantage was that people thought they could do several errands at one time, and the third, that prices were cheaper downtown. The most-important disadvantage downtown was difficult parking, next in importance was the crowded conditions found there, and third, traffic congestion.

When comparing those with urban and rural background, those with urban background are found less troubled by parking and traffic difficulties than are those who come from rural backgrounds. For example, the score of the rural group for traffic difficulty is 2.46 and for the metropolitan group, 3.21, the critical ratio between means being 3.13.

It would seem, therefore, that the answer to the question, "Why do different categories of people evidence different degrees of shopping satisfaction for a given place?" is that a given physical fact or condition does not carry the same weight for persons having different environmental backgrounds.

For the suburban shopping center the most-important advantage was that it was nearer home, the next-most-important was easy parking, and the third was that people considered that suburban stores kept more convenient hours. The number-one disadvantage found with the suburban shopping centers was their lack of a large selection of goods, the second that not all kinds of businesses were represented there, and the third that the prices were too high.

Further analysis indicated that 90 percent of people found *parking* very difficult downtown; about 71 percent were seriously concerned about the *cost of parking*, and 81 percent found *traffic* very difficult. Yet only about 9 percent indicated that they would let these difficulties deter them from using their cars for shopping downtown.

It was found that distance or location was not an important factor in determining shopping satisfaction with the downtown section in Columbus.

To realize the third objective—that of determining what kind of relationships, if any, exist between shopping satisfaction and such individual and group background factors as income, education, age, sex, and urban-rural backgrounds—the attitude scales were applied. It was found that the higher-educational classes, higher-income groups, persons having urban or metropolitan background, and those who were females indicated higher satisfaction with downtown shopping than

did persons of lower income, less education, of rural background, and of the male sex.

The reasons why people who differ in various ways also differ in the degree to which they are attracted and repelled by certain shopping conditions seem to be that a given condition has different meaning for different persons; they evaluate the same facts differently. Thus a larger selection of goods was found to be more important as a downtown advantage for the upper socio-economic classes than it was for the lower-income group, and lack of a large selection in suburban centers was more of a deterrent for the upper than the lower class. Parking as a downtown disadvantage apparently affects persons in the upper-income brackets more than those in the lower, males more than females, the more educated more than the less educated, and persons of rural background more than those of urban background.

When a person makes a choice, the usual rule of life is that he must take the bad with the good if he wants anything. Thus, if the majority of the people in our sample are more attracted to downtown than to suburban centers when seeking shopping goods, it must be that whatever advantages there are downtown outweigh the disadvantages in their value scales.

Most modern shopping centers seem to be adopting a policy which aims their advertising and merchandising toward middle- and upper-income groups. The analysis indicates that if suburban shopping centers are to compete successfully with downtown in attracting persons of these classes, they must assure a large selection of goods. This is economically difficult, since it impales the suburban retailer on the horns of a dilemma. To maintain a large enough stock to insure great variety, a shopping center must have a large number of customers, but a large number of customers creates the very parking and crowding problems that repel some people from the downtown section. This development has already occurred in certain new suburban shopping centers and is beginning to appear in Columbus.

Results indicating that lower socio-economic classes are less concerned with a large selection—and more with prices and distance—than are the upper groups suggest the possibility that modern secondary shopping centers catering particularly to lower socio-economic groups by location and policy might fill an important need within the urban community. Such centers, besides having ample parking facilities, should be easily accessible by public transportation. The latter feature is often ignored by suburban shopping centers, since they expect their customers to come by car anyway. But

this analysis indicates that as income goes down, the use of an automobile for shopping diminishes. It should be remembered in this connection that the successful pioneers in the movement of retail stores to the suburbs were the Sears-Roebuck and Montgomery-Ward stores, which do not cater to upper-income groups.

It is apparent that the downtown section of Columbus still possesses a number of highly important advantages that determine its dominant position in the retail shopping-goods trade of the city. Persons in the higher-income group are particularly attracted to the downtown shopping section, even though they are the ones who are more concerned with traffic and parking. These facts seem to indicate that, for them, the attraction of greater selection of goods outweighs the disadvantages of parking and traffic conditions. However, our findings indicate that the attraction of downtown for people, particularly upper-income groups, could be increased by the elimination or amelioration of parking and traffic problems that seem to be the chief deterrent for all groups but particularly for this group.

FURTHER RESEARCH INDICATED

The results obtained point out three new avenues of investigation that might profitably be followed:

In the first place, it would be desirable to ascertain the relative shopping orientation of different urban areas without having to conduct a survey by a team of interviewers. If it were possible to use census data for small areas, such as city blocks or census tracts, a continuous set of data would be available every 10 years for an analysis of the nation's cities. The results obtained in this study suggest that census data pertaining to income, education, rent, age structure, etc., might be meaningful as single or combined indices. Whether or not the census data could be used in this way might be determined by testing the predictive value of indices in the six characteristic areas for which we already have shopping-satisfaction scores.

A second possibility of further research is suggested by the following considerations: the specific attitudes that a person holds, and his ranking of advantages and disadvantages, result from the operation of a large number of factors within a given environmental matrix. If the environment changes and if thereby the position of any one of the factors changes, it may be that there will be a change in the relative position of all the factors in the hierarchy of a person's likes and dislikes. For example, it would seem that distance is not an important factor in Columbus in determining shopping satisfaction for downtown. However, this would probably change in a city where distances are greater and

transportation more difficult. If we applied our scales to persons in different environments, that is, to cities of different size, it might be possible to ascertain if and how attitudes change in response to different situations. It might also be possible to arrive at norms and standards for different-sized cities possessing variations of shopping and transport facilities. It may be, on the other hand, that certain factors remain relatively constant in more than one class of city.

A third possible investigation is indicated by findings showing that attraction to or repulsion from a given shopping center is determined by a person's generalized point of view, which he has because he had been brought up in a certain cultural environment. The persistent indication that satisfaction with certain types of shopping centers is closely associated with economic class and urban-rural background suggests the hypothesis that the cultural backgrounds tend to create value systems that make the individual react characteristically to conditions presented by the shopping facilities.

These observations suggest the further possibility that there may be generalized motivational factors which would be revealed in characteristic behavior for given persons whatever the specific environmental conditions may be. If this is a valid conclusion, it is possible that attraction to downtown or suburban facilities is associated with such basic personality components as extroversion, introversion, submission, aggression, and the like. The high discriminative power of Scale II-C

items, and the results obtained using this scale in the analysis of the relationships between shopping satisfaction and individual backgrounds, seem to support this contention.

A further substantiation of this hypothesis was obtained by constructing a scale using only the five last items of Scale II-C (Items 70, 71, 72, 73, and 74) which we should expect to be particularly sensitive to personality differences. The downtown and suburban shoppers were then separated on the basis of their shopping-habit scores and the mean shopping-satisfaction scores were calculated for each group. The mean for the downtown shoppers was 3.43, and for the suburban shoppers, 2.43. The critical ratio of the difference between means was 9.04, thus confirming that these items are particularly efficient in indicating the tendencies that favor either downtown or suburban shopping facilities.

Investigation of the relationships between underlying stable characteristics around which response tendencies revolve and attraction or repulsion to downtown and suburban facilities should yield information that would be valuable basic data for persons such as the city planner, the merchandiser, or anyone concerned with the movement of people within urban communities, and the motivations for such movements. By using the shopping-satisfaction scales developed in this study in conjunction with personality inventories and scales, relationships between basic personality components and shopping attitudes might be revealed.

Acknowledgments

The director of this project relied on the cooperation and skills of a number of persons. He feels inadequate to the task of recognizing in detail all the direct and indirect contributions made by many during the year of the investigation, but special acknowledgment is due to Raymond F. Sletto who as consultant contributed to every aspect of the study, and to Emily M. Westerkamm who performed various duties as research assistant with faithfulness and competence. The project profited in many ways from the work of Robert P. Bullock who served as research associate for a period of 2 mos., and from the help of Charles J. Rumage who as research assistant during this time aided in the process of machine calculations.

The investigation was greatly facilitated by the kind cooperation of Viva Boothe, director of the Bureau of

Business Research of Ohio State University, who placed the machine tabulating equipment of the bureau at the disposal of the project, and by the assistance of Omar S. Goode who suggested solutions to problems involved in the use of this equipment.

Thanks are due also to Harold H. Maynard, chairman of the Department of Business Organization of Ohio State University, for his friendly encouragement, to Grover F. Clements, director of Franklin County Regional Planning Commission, for furnishing maps and other data, to the secretaries, key punch operators, statistical clerks, interviewers, and draftsmen for faithful performance of their tasks, and to the more than 700 citizens of Columbus for patiently enduring the probing of the interviews.

APPENDICES

APPENDIX A

Final Schedule

STUDY OF SHOPPING AND PARKING OHIO STATE UNIVERSITY AND NATIONAL RESEARCH COUNCIL

1 2 3
 Schedule No.

4
 Area

5 6 7
 Block No.

8
 House No.

I. Use of Facilities

Item	Convenience Goods			Shopping Goods			Services								
	Food (Weekly)			Clothing (Over \$5)			Furniture and Household Equipment (Over \$10)			Movies			Medical Care		
Location where last goods or service were purchased (Avenue and Street)	1 81 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 92 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 103 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 114 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 125 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
	DT	SSC	Other	DT	SSC	Other	DT	SSC	Other	DT	SSC	Other	DT	SSC	Other
Transportation	1 82 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 93 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 104 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 115 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 126 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
	Auto	Public	Walk	Auto	Public	Walk	Auto	Public	Walk	Auto	Public	Walk	Auto	Public	Walk
Distance in miles (One way)	83			94			105			116			127		
	84			95			106			117			128		
Cost: Parking Trnsptn. one way Total	85	---		96	---		107	---		118	---		129	---	
Travel Time (In minutes-one way)	86			97			108			119			130		
	87			98			109			120			131		
Ecological Distance	88			99			110			121			132		
	89, 90			100, 101			111, 112			122, 123			133, 134		
Point of Origin	1 91 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 102 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 113 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 124 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	1 135 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>
	Home	Work	Other	Home	Work	Other	Home	Work	Other	Home	Work	Other	Home	Work	Other

136. About how often do you go downtown shopping?
 1 once a week or more
 2 2-3 times a month
 3 once a month
 4 less than once a month
138. What do consider yourself?
 1 a downtown shopper 2 a SSC shopper 3 ?
 79 80

137. About how often do you shop in the suburban shopping center for clothing, furniture or appliances?
 1 once a week or more
 2 2-3 times a month
 3 once a month
 4 less than once a month

Scale I Score

II. Attitudes toward Shopping in Central Business Section and Suburban Shopping Centers

A

Your answers to the questions in this section will help us to find out what you like or dislike about shopping conditions downtown or in the suburban shopping center. I realize this is rather difficult to say when you have not been thinking about it before, but I hope you will try to decide.

- 21 22 23
- Which do you think are the three most important advantages of shopping downtown starting with the most important advantage first, the next important next, and so on, numbering them "1", "2", and "3" in the order of their importance?
- 1 Larger selection of goods
 - 2 Cheaper prices
 - 3 Convenient public transportation
 - 4 Enjoyable place to shop
 - 5 Close to home
 - 6 Stores close together
 - 7 Can do several errands at one time
 - 8 Better delivery service
 - 9 Other: _____

- 24 25 26
- Which do you think are the three most important disadvantages in shopping downtown starting with the most important disadvantage first, the next important next, and so on, numbering them "1", "2", and "3" in the order of their importance?
- 1 Poor public transportation
 - 2 Takes too long to shop there
 - 3 Difficult parking
 - 4 Too crowded
 - 5 Congested traffic conditions
 - 6 Cost of transportation too high
 - 7 Too far to go
 - 8 Unfriendly service
 - 9 Other: _____

- 27 28 29
- Which do you think are the three most important advantages of shopping in the suburban shopping center, starting with the most important advantage first, the next important next, and so on, numbering them "1", "2", and "3" in the order of their importance?
- 1 Closer to home
 - 2 Less crowded
 - 3 More convenient hours
 - 4 Parking easy
 - 5 Clean and modern stores
 - 6 Friendly and courteous clerks
 - 7 Do not have to dress up to go there
 - 8 Less noise and confusion
 - 9 Other: _____

- 30 31 32
- Which do you think are the three most important disadvantages of shopping in the suburban shopping center, starting with the most important disadvantage first, the next important next, and so on, numbering them "1", "2", and "3" in the order of their importance?
- 1 Poor public transportation
 - 2 Lack of large selection
 - 3 Not all kinds of business represented
 - 4 Too far to go
 - 5 Prices high
 - 6 Bus fare too high
 - 7 Hard to get credit
 - 8 Poor delivery service
 - 9 Other: _____

II. B

When you go shopping for suits, dresses, furniture, household equipment, or jewelry, certain things may be of concern to you. Please tell me in regard to each item, as I read it to you, where you find the better condition, downtown or in the suburban shopping center. Some items may be of no concern or importance to you at all. For example, if you have no children, the item about taking children shopping is probably of no concern to you, and you should tell me so. We do *not* want to know how you think these things concern *others*, but we are particularly interested in how *you* feel about them.

DT (downtown); SSC (suburban shopping center); UN (undecided); NC (no concern).

	(1) DT	(2) SSC	(3) UN	(4) NC	Item
33.					Better delivery service
34.					Easier to establish a charge account
35.					Easier to return and exchange goods bought
36.					Better place to establish a credit rating
37.					Greater variety and range of prices and quality
38.					Greater variety of styles and sizes
39.					More bargain sales
40.					Better quality of goods
41.					Cheaper prices
42.					Takes less time to get there
43.					Better place to combine different kinds of shopping and other things one may want to do
44.					Less walking required
45.					Goods more attractively displayed
46.					Less tiring
47.					Cost of transportation less
48.					More convenient to public transportation
49.					Easier to take children shopping
50.					It's the better place for a little outing away from home
51.					The right people shop here
52.					More dependable guarantees of goods
53.					Best place to meet friends from other parts of the city for a shopping trip together
54.					Keep open more convenient hours
55.					Better places to eat lunch

56 58 60 62
 Scale II. B Score
 57 59 61 63

64. Does your family own an automobile? Yes No. Do you drive? Yes No.
 1 2 1 2
65. Can you arrange to have an automobile when you want to go shopping?
 Yes No.
 1 2

II. C

The following statements will help you tell us how you feel about certain conditions which you may encounter when you go downtown. Place a check mark in the box before the

word or phrase which best describes your reaction to each statement.

66. When I go shopping downtown by car, finding a place to park for me is:
 practically impossible extremely difficult difficult fairly difficult no trouble at all
 1 2 3 4 5
67. As far as I am concerned the cost of parking downtown matters:
 very greatly greatly some a little not at all
 1 2 3 4 5
68. I take the bus rather than drive my car downtown:
 always usually often occasionally never
 1 2 3 4 5
69. When I drive downtown, I find the traffic:
 practically impossible extremely difficult difficult fairly difficult no trouble at all
 1 2 3 4 5
70. With regard to downtown crowds, I can truly say that I:
 hate them dislike them am affected in no way like them like them very much
 1 2 3 4 5
71. I go downtown only when I cannot avoid it.
 strongly agree agree undecided disagree strongly disagree
 1 2 3 4 5
72. With regard to the hustle and bustle downtown, I can truly say that I:
 hate it dislike it am unaffected by it like it like it very much
 1 2 3 4 5
73. Downtown shopping is a pleasant change from the every day routine.
 strongly disagree disagree undecided agree strongly agree
 1 2 3 4 5
74. One of the things I dislike about shopping downtown is that I have to dress up.
 strongly disagree disagree undecided agree strongly agree
 5 4 3 2 1

75 76

Scale II C Score

III. Individual Section

9. Age: 15-19; 20-24; 25-34; 35-49; 50-64; 65+.
 1 2 3 4 5 6
10. Education: 6th Grade or less; 7th or 8th Grade; 1 or 2 years of High School and/or Trade School; 3 or 4 years of High School and/or Trade School; Attended College after completing High School; College graduate; Other _____
 1 2 3 4 5 6 7
- 11, 12. Occupation: _____
 Occupation of spouse (if married) _____
13. Race: White; Negro; Other _____
 1 2 3
14. Nativity: Native; Foreign
 1 2
15. Population of community where you have lived most of your life (check one):
 Under 500; 500-1,000; 1,000-2,500; 2,500-10,000; 10,000-50,000; 50,000-100,000; 100,000-500,000; 500,000-1,000,000; 1,000,000 and over.
 1 2 3 4 5 6 7 8 9

IV. Family Section

16. Single man; Single woman; Husband; Wife; Other _____
 1 2 3 4 5
17. Number of children 0-12 years old in the family. _____
18. Owner; Tenant.
 1 2
19. Monthly Rent _____ Utilities included? Yes No
 Value of house (if owner) _____
20. Please indicate approximate family income. In which income group would your family fall? Include total income of all members of your family living in your household:
 Under \$2,000; \$2,000-\$2,999; \$3,000-\$3,999; \$4,000-\$5,999; \$6,000-\$7,499; \$7,500 and over.
 1 2 3 4 5 6

APPENDIX B

Statistical Description of Columbus Description of Two Suburban Shopping Centers Tables Presenting Personal Background Data for Sample

STATISTICAL DESCRIPTION OF COLUMBUS*

Columbus, the third largest city in Ohio, is the center of one of the most rapidly growing metropolitan areas of the country. It had a population in 1940 of 306,087; in 1950, 375,901; and in 1952 its estimated population was 389,264. The figures for the metropolitan Area of Columbus for the same years were as follows: for 1940, 388,712; for 1950, 503,410; and estimated for 1952, 518,319. Its population is 96 per cent native born, and 11 per cent of its people are non-white.

The city is a manufacturing center having 776 such establishments employing 67,081 workers with a 1951 payroll of \$230,285,866.

Considerable retailing is done here, since there are 4,700 retail stores which employed 36,397 people and did an annual business of \$577,278,000 in 1951. Its wholesale establishments, numbering 715, employ 12,242 persons and do a yearly business of \$721,602,000. These businesses are served by seven clearing house banks.

The influence of farming within the metropolitan area is apparent from the fact that the farm acreage equals 238,445, and the value of agricultural products sold here amounted to \$11,269,793 in 1951.

The degree to which Columbus is dependent on and integrated with other parts of the country is indicated by its transport facilities. It is served by five railroads, twelve motor bus lines, and seventy-five motor freight lines.

There is also considerable educational activity in Columbus since there are seven universities and colleges including the large Ohio State University.

The fact that the city is the capital of Ohio and the county seat of Franklin County indicates that there is also considerable governmental activity in Columbus.

DESCRIPTION OF LANE AND TOWN AND COUNTRY SHOPPING CENTERS

The number and types of stores in Lane Shopping Center are as follows: One Appliance, 1 Bakery, 1 Barber Shop, 2 Beauty Shops, 1 Building and Loan, 1 Confectionery, 1 Dairy Store, 1 Department Store, 2 Dress, 2 Drug, 3 Filling Stations, 1 Florist, 1 Furniture, 1 Gift, 2 Grocery (Chain), 1 Hardware, 1 Jewelry, 1 Men's Clothing, 1 Paint and Wallpaper, 1 Photography, 1 Plumbing and Heating, 2 Poultry, 1 Radio-TV-Phono, 1 Real Estate, 1 Restaurant, 3 Shoe Stores, 1 Shoe Repair, 1 Sporting Goods, 1 Theater, 1 Variety, 1 Rug and Carpet, 1 Lingerie, 1 Needlework, 1 Children's Furniture and Toys, 2 Kitchen Equipment, 2 Children's Wear, 1 Hobby Shop, 1 Carpet Cleaning, 1 Camera, 1 Kitchenware.

The Town and Country Shopping Center comprises the following stores: One Appliance, 1 Auto Accessory, 1 Bakery, 1 Bank, 1 Barber Shop, 1 Beauty Shop, 1 Building and Loan, 2 Cafes, 2 Department Stores, 5 Dress Shops, 2 Drug, 1 Dry Cleaning, 5 Filling Stations, 2 Furniture, 1 Gift, 3 Grocery (Chain), 2 Grocery (Ind.), 1 Hardware, 1 Jewelry, 1 Laundry, 1 Men's Clothing, 1 Paint and Wallpaper, 1 Photography, 1

Poultry, 3 Restaurants, 3 Shoe Stores, 1 Shoe Repair, 1 Sporting Goods, 1 Upholstery, 1 Variety, 1 Women's Hats, 1 Lumber, 1 Coal and Feed, 1 China Shop, 1 Linoleum and Tile, 1 Children's Shop, 1 Insurance Agency, 1 State Liquor, 1 Children's Toys and Furniture, 1 Day Nursery, 1 Wine and Beer Carry-Out, 1 Nursery, 1 Veterinarian.

It should be noted that the department stores in these centers fail to match the full-line "downtown" parent stores and are not at all comparable to F. R. Lazarus and Company, the dominant store in Columbus, located in the downtown section.

TABLE B-1
MARITAL STATUS OF RESPONDENTS

Status	No.	Percent
Single.....	39	6.5
Married.....	528	88.0
Widowed.....	33	5.5
Total.....	600	100.0

TABLE B-2
SEX OF RESPONDENTS

Sex	No.	Percent
Male.....	77	12.8
Female.....	523	87.2
Total.....	600	100.0

TABLE B-3
HOME OWNERSHIP OF RESPONDENTS

Status	No.	Percent
Owner.....	424	70.6
Tenant.....	174	29.0
No data.....	2	0.4
Total.....	600	100.0

TABLE B-4
RACE OF RESPONDENTS

Race	No.	Percent
White.....	572	95.3
Negro.....	22	3.7
No data.....	6	1.0
Total.....	600	100.0

* Data from Research Bureau, Columbus Chamber of Commerce

TABLE B-5
NATIVITY OF RESPONDENTS

Nativity	No.	Percent
Native	585	97.5
Foreign	7	1.2
No data	8	1.3
Total	600	100.0

TABLE B-6
SIZE OF COMMUNITY WHERE RESPONDENTS LIVED
MOST OF THEIR LIVES

Community Population	No.	Percent
Under 500	18	3.0
500-1,000	11	1.8
1,000-2,500	25	4.2
2,500-10,000	42	7.0
10,000-50,000	49	8.2
50,000-100,000	22	3.7
100,000-500,000	336	56.0
500,000-1,000,000	78	13.0
1,000,000 and over	16	2.7
No data	3	0.4
Total	600	100.0

TABLE B-7
AGE COMPOSITION OF RESPONDENTS

Age Groups	No.	Percent
15-19	11	1.8
20-24	39	6.5
25-34	148	24.7
35-49	225	37.5
50-64	126	21.0
65 and over	41	6.8
No data	10	1.7
Total	600	100.0

TABLE B-8
EDUCATION OF RESPONDENTS

Education	No.	Percent
6th grade or less	13	2.2
7th or 8th grade	61	10.1
1 or 2 yrs. high school	79	13.2
3 or 4 yrs. high school	220	36.7
Attended college	113	18.8
College graduate	104	17.3
Other	1	0.2
No data	9	1.5
Total	600	100.0

TABLE B-9
OCCUPATIONAL SCORE OF RESPONDENTS ON
NORTH-HATT SCALE

Score	No.	Percent
30-49	17	2.8
50-59	80	13.3
60-69	219	36.5
70-79	155	25.8
80-93	105	17.5
No data	24	4.0
Total	600	100.0

TABLE B-10
FAMILY INCOME OF RESPONDENTS

Family Income	No.	Percent
Under 2,000	29	4.8
2,000-2,999	39	6.5
3,000-3,999	103	17.2
4,000-5,999	180	30.0
6,000-7,499	93	15.5
7,500 and over	154	25.7
No data	2	0.3
Total	600	100.0

APPENDIX C

Tabular Presentation of Percentages Indicating Responses to Statistically Significant Items in Attitude Scales

TABLE C-1

CRITICAL RATIOS FOR 23 SHOPPING SATISFACTION ITEMS AND PERCENTAGE IN TWO SEGMENTS OF THE SAMPLE REPLYING THAT THE DOWNTOWN AREA HAD THE ADVANTAGE

N = 100 in each segment of the sample. Upper and lower segments include respectively the 100 individuals scoring highest and the 100 scoring lowest on the Downtown Shopping Habit Scale.

Item No. ^a	Percentage		Critical ratio
	Upper segment	Lower segment	
33	50	27	3.34
34	38	24	2.14
35	54	28	3.74
36	52	27	3.62
37	88	70	3.13
38	95	74	4.10
39	78	48	4.39
40	35	12	3.84
41	50	33	2.44
42	18	5	2.88
43	75	32	6.10
44	20	5	3.21
45	62	22	5.73
46	15	3	2.97
47	18	14	0.77
48	60	40	2.83
49	4	0	2.03
50	53	23	4.37
51	13	1	3.33
52	46	15	4.76
53	76	50	3.81
54	28	55	4.39
55	74	43	4.45

^a Item numbers correspond to item numbers of the schedule.

TABLE C-2

CRITICAL RATIOS AND MEAN SCORES ON ATTITUDE ITEMS TESTING INTENSITY OF REACTION TO DOWNTOWN CONDITIONS OF RESPONDENTS OF TWO SEGMENTS OF THE SAMPLE

Upper and lower segments include respectively the 100 individuals scoring highest and the 100 scoring lowest on the Downtown Shopping Habit Scale.

Item No. ^a	Upper segment		Lower segment		Critical ratio
	N	Mean	N	Mean	
66	60	4.22	77	2.13	5.97
67	60	3.26	77	2.56	3.18
68	60	3.45	77	4.31	-4.53
69	60	3.43	77	2.55	4.00
70	100	2.78	100	2.11	6.26
71	100	3.36	100	1.88	11.18
72	100	2.79	100	2.08	7.47
73	100	3.42	100	2.35	8.31
74	100	3.36	100	2.56	5.78

^a Items 66-69 are applicable only to car users of which there were 60 in the upper segment and 77 in the lower segment.

APPENDIX D

Tables Showing Results of Correlation Analysis

TABLE D-1

INTERCORRELATION OF THREE SCALES

All correlations not involving Scale II-C are based on N's of 600. Correlations involving Scale II-C are based on N's of 379.

Item	Shopping habits (Scale I score)		Shopping satisfaction (Scale II-B score)		Downtown satisfaction (Scale II-C score)	
	r	Standard error	r	Standard error	r	Standard error
Scale I.....	—	—	.40*	.034	.39*	.043
Scale II-B.....	.40*	.034	—	—	.23*	.049
Scale II-C.....	.39*	.043	.23*	.049	—	—

* Significant at or beyond the .01 level of confidence.

TABLE D-2

CORRELATION OF INDICATED ITEMS WITH SHOPPING HABIT AND SHOPPING SATISFACTION SCORES

All Correlations not involving Scale II-C are based on N's ranging from 576 to 600. All correlations involving Scale II-C are based on N's ranging from 369 to 379.

Item	Shopping habits (Scale I score)		Shopping satisfaction (Scale II-B score)		Downtown satisfaction (Scale II-C score)	
	r	Standard error	r	Standard error	r	Standard error
Age.....	.03	—	-.07	.041	.02	—
Education.....	-.01	—	-.05	—	.02	—
North-Hatt Occupational Scale...	.03	—	-.08*	.035	.10*	.051
Size of town (Pop.)	.12**	.041	.04	—	.15**	.050
Family income.....	.01	—	-.10*	.041	.08	.051
Distance from D.T.†.....	.34**	.036	.12**	.041	.14**	.051
Cost of transportation†.....	.20**	.040	.06	.041	.31**	.047
Travel time†.....	.34**	.036	.12**	.041	.16**	.050
Ecological distance†.....	.26**	.038	.06	—	.29**	.048

* Significant at or beyond the .05 level of confidence.

** Significant at or beyond the .01 level of confidence.

† These distances, costs, travel time, and ecological distances are with reference to the purchase of clothing downtown by respondents. (Ecological distance equals cost plus time.)

APPENDIX E

Tables Presenting Data on Six Areas Sampled

TABLE E-1
RURAL-URBAN BACKGROUND OF RESPONDENTS IN SIX AREAS
N = 100 for each area. Data expressed as percentages.

Area	Rural	Urban	Metropolitan	No data	Total
1	9	18	73	0	100
2	6	9	85	0	100
3	14	32	53	1	100
4	14	10	76	0	100
5	5	17	78	0	100
6	6	27	65	2	100

TABLE E-4
COMPOSITION OF SIX AREAS BY INCOME
N = 100 in each area. Data expressed as percentages

Area	\$2,000-\$3,999	\$4,000-\$5,999	\$6,000 and over	No data	Total
1	14	29	57	0	100
2	40	29	31	0	100
3	11	51	38	0	100
4	62	28	10	0	100
5	41	34	23	2	100
6	3	9	88	0	100

TABLE E-2
AVERAGE DISTANCE IN MILES FROM DOWNTOWN AND SUBURBAN SHOPPING CENTER OF RESPONDENTS IN VARIOUS AREAS

Area	Average distance in miles to:	
	Downtown	Suburban shopping center
1	6.45	4.81
2	2.34	2.22
3	6.19	1.24
4	2.57	6.00
5	2.87	2.04
6	4.98	0.76

TABLE E-5
COMPOSITION OF SIX AREAS BY EDUCATION
N = 100 in each area. Data expressed as percentages.

Area	Grammar school	High school	College	No data	Total
1	5	49	46	0	100
2	11	57	32	0	100
3	8	41	45	6	100
4	37	58	5	0	100
5	13	51	35	1	100
6	1	43	54	2	100

TABLE E-3
AVERAGE RATING ON NORTH-HATT SCALE OF RESPONDENTS BY AREAS
N = 100 for each area.

Area	Average score
1	73.38
2	63.87
3	68.10
4	56.35
5	62.55
6	74.16

TABLE E-6
INCOME COMPOSITION OF SHOPPERS IN THE SAMPLE USING AUTOMOBILES FOR BUYING CLOTHING AND FURNITURE
Data expressed as percentages.

Income Level	Clothing (N = 311)	Furniture (N = 346)
Lower (\$2,000-\$3,999)	19.29	21.97
Middle (\$4,000-\$5,999)	30.87	29.19
Upper (\$6,000 and over)	49.84	48.84
Total	100.00	100.00

TABLE E-7
DISTRIBUTION BY AREA OF SHOPPERS IN THE SAMPLE USING
AUTOMOBILES FOR BUYING CLOTHING AND FURNITURE
Data expressed as percentages.

Areas	Clothing (N = 306)	Furniture (N = 355)
1	14.38	15.77
2	11.11	11.27
3	27.12	23.67
4	8.17	12.39
5	15.69	15.77
6	23.53	21.13
Total	100.00	100.00

TABLE E-9
LOCATION WHERE RESPONDENTS SHOPPED FOR
INDICATED ITEMS
N = 600. Data expressed as percentages.

Item	Location			Does not apply	Total
	DT	SSC	Other		
Food	1.7	49.3	48.8	0.2	100
Clothing	72.2	19.5	7.0	1.3	100
Furniture	61.8	14.2	16.7	7.3	100
Movies	22.7	24.0	36.2	17.1	100
Medical Care	28.3	17.5	51.8	2.4	100

TABLE E-8
TYPES OF TRANSPORTATION USED BY RESPONDENTS TO SHOP
FOR INDICATED ITEMS
N = 600. Data expressed as percentages.

Item	Types of transportation				Does not apply	Total
	Auto	Public	Walk	Other		
Food	75.8	2.3	18.6	0.0	3.3	100
Clothing	52.0	41.8	3.8	0.7	1.7	100
Furniture	59.2	27.8	3.3	0.2	9.5	100
Movies	58.0	10.8	13.5	0.2	17.5	100
Medical Care	69.8	15.7	10.8	0.7	3.0	100

TABLE E-10
FREQUENCY OF SHOPPING BY LOCATION OF SHOPPING
N = 600. Data expressed as percentages.

Frequency	Downtown	SSC
Once a week	19.5	21.8
2-3 times a month	22.7	15.0
Once a month	29.7	16.2
Less than once a month	27.8	46.5
No data	0.0	0.2
Does not apply	0.3	0.3
Total	100.0	100.0

APPENDIX F

Tabular Presentation of Percentages Indicating Reaction to Specific Conditions of Downtown and Suburban Shopping Centers

TABLE F-1

PERCENTAGE OF SAMPLE PLACING INDICATED ADVANTAGES OF DOWNTOWN SHOPPING IN FIRST PLACE, BY INCOME OF RESPONDENTS
Data expressed in percentages.

Advantages	Income categories					
	Under \$2,000 (N = 29)	\$2,000-\$2,999 (N = 39)	\$3,000-\$3,999 (N = 103)	\$4,000-\$5,999 (N = 180)	\$6,000-\$7,499 (N = 93)	\$7,500 and over (N = 154)
Larger selection of goods	51.7	48.7	40.8	43.8	51.6	66.9
Cheaper prices	13.8	12.8	12.6	14.4	9.7	8.4
Convenient public transportation	6.9	10.3	9.7	6.1	10.8	5.8
Enjoyable place to shop	0.0	0.0	4.9	3.8	2.2	2.6
Close to home	6.9	7.7	5.8	1.7	0.0	0.7
Stores close together	0.0	7.7	2.9	2.8	4.3	0.7
Can do several errands at one time	13.8	5.1	11.7	7.2	4.3	4.5
Better delivery service	0.0	0.0	0.0	0.0	0.0	0.7
No advantages	6.9	0.0	8.7	14.4	13.0	6.5
No data	0.0	0.0	0.0	0.6	1.1	0.0
Other	0.0	7.7	2.9	5.0	3.2	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE F-2

PERCENTAGE OF SAMPLE PLACING INDICATED DISADVANTAGES OF DOWNTOWN SHOPPING IN FIRST PLACE, BY INCOME OF RESPONDENTS
Data expressed in percentages.

Disadvantages	Income categories					
	Under \$2,000 (N = 29)	\$2,000-\$2,999 (N = 39)	\$3,000-\$3,999 (N = 103)	\$4,000-\$5,999 (N = 180)	\$6,000-\$7,499 (N = 93)	\$7,500 and over (N = 154)
Poor public transportation	17.3	15.4	10.7	7.8	8.6	8.4
Takes too long to shop there	10.3	10.3	7.8	3.9	4.3	5.9
Difficult parking	34.5	30.7	41.7	47.1	38.6	51.3
Too crowded	13.8	12.8	16.5	11.7	16.1	9.7
Congested traffic conditions	0.0	7.7	2.9	11.7	12.9	9.1
Cost of transportation too high	0.0	0.0	1.9	0.0	1.0	0.6
Too far to go	0.0	7.7	3.9	9.4	9.7	5.9
Unfriendly service	0.0	0.0	0.0	0.6	0.0	1.3
Other	6.9	2.6	3.9	2.2	1.1	1.9
No disadvantages	13.8	12.8	9.7	5.0	6.5	5.9
No data	3.4	0.0	1.0	0.6	1.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

TABLE F-3
PERCENTAGE OF SAMPLE PLACING INDICATED ADVANTAGES OF SUBURBAN SHOPPING CENTER IN FIRST PLACE,
BY INCOME OF RESPONDENTS
Data expressed as percentages.

Advantages	Income categories					
	Under \$2,000 (N = 29)	\$2,000-\$2,999 (N = 39)	\$3,000-\$3,999 (N = 103)	\$4,000-\$5,999 (N = 180)	\$6,000-\$7,499 (N = 93)	\$7,500 and over (N = 154)
Closer to home.....	34.6	59.0	50.5	41.1	45.2	43.5
Less crowded.....	6.9	12.8	7.8	5.6	2.1	6.5
More convenient hours.....	6.9	7.6	10.7	10.0	10.8	8.4
Parking easy.....	17.2	5.1	11.7	25.0	24.7	24.7
Clean and modern stores.....	3.4	2.6	1.9	2.8	1.1	1.3
Friendly and courteous clerks.....	0.0	0.0	0.0	3.3	2.1	2.6
Do not have to dress up.....	13.8	2.6	4.9	6.1	4.3	6.5
Less noise and confusion.....	0.0	0.0	1.9	0.0	1.1	0.7
No advantages.....	17.2	10.3	5.8	2.8	7.5	3.2
No data.....	0.0	0.0	0.9	1.1	1.1	0.7
Other.....	0.0	0.0	3.9	2.2	0.0	1.9
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

TABLE F-4
PERCENTAGE OF SAMPLE PLACING INDICATED DISADVANTAGES OF SUBURBAN SHOPPING CENTER IN FIRST PLACE,
BY INCOME OF RESPONDENTS
Data expressed as percentages.

Disadvantages	Income categories					
	Under \$2,000 (N = 29)	\$2,000-\$2,999 (N = 39)	\$3,000-\$3,999 (N = 103)	\$4,000-\$5,999 (N = 180)	\$6,000-\$7,499 (N = 93)	\$7,500 and over (N = 154)
Poor public transportation.....	13.8	7.7	15.5	12.2	9.7	9.2
Lack of large selection.....	20.7	51.3	43.7	37.2	36.6	50.0
Not all kinds of businesses.....	6.9	7.7	6.8	17.9	14.0	16.2
Too far to go.....	0.0	0.0	1.9	2.8	0.0	1.3
Prices high.....	17.3	7.7	6.8	6.1	7.5	3.3
Bus fare too high.....	3.4	0.0	1.0	0.5	0.0	0.0
Hard to get credit.....	0.0	2.5	1.0	0.5	2.1	0.0
Poor delivery service.....	0.0	0.0	1.0	1.7	2.1	1.9
No disadvantages.....	34.5	15.4	19.4	18.4	21.5	14.9
No data.....	0.0	0.0	1.0	0.5	1.1	0.6
Other.....	3.4	7.7	1.9	2.2	5.4	2.6
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

TABLE F-5
PERCENTAGE OF SAMPLE PLACING INDICATED ADVANTAGES OF
DOWNTOWN SHOPPING IN FIRST PLACE, BY AREA
N = 100 in each area. Data expressed as percentages.

Advantages	Areas					
	1	2	3	4	5	6
Larger selection of goods..	57	39	36	44	60	72
Cheaper prices.....	7	6	9	20	17	10
Convenient public transportation.....	9	20	4	4	5	4
Enjoyable place to shop.....	3	6	1	3	1	4
Close to home.....	0	9	0	6	0	0
Stores close together.....	2	0	4	8	1	2
Can do several errands at one time.....	9	12	3	8	7	3
Better delivery service.....	0	1	0	0	0	0
No advantages.....	4	4	38	7	4	4
No data.....	0	0	2	0	0	0
Other.....	9	3	3	0	5	1
Total.....	100	100	100	100	100	100

TABLE F-6
PERCENTAGE OF SAMPLE PLACING INDICATED DISADVANTAGES OF
DOWNTOWN SHOPPING IN FIRST PLACE, BY AREA
N = 100 in each area. Data expressed as percentages.

Disadvantages	Areas					
	1	2	3	4	5	6
Poor public transportation..	7	12	5	14	9	10
Takes too long to shop there	9	4	3	6	9	4
Difficult parking.....	45	43	41	39	38	60
Too crowded.....	7	15	11	21	17	6
Congested traffic conditions	5	7	23	7	4	8
Cost of transportation too high.....	0	1	0	0	1	2
Too far to go.....	14	0	11	6	4	7
Unfriendly service.....	0	0	1	0	1	1
Other.....	4	3	1	0	1	1
No disadvantages.....	9	15	1	7	10	1
No data.....	0	0	3	0	1	0
Total.....	100	100	100	100	100	100

TABLE F-7

PERCENTAGE OF SAMPLE PLACING INDICATED ADVANTAGES OF SUBURBAN SHOPPING CENTER IN FIRST PLACE, BY AREA
N = 100 in each area. Data expressed as percentages.

Advantages	Areas					
	1	2	3	4	5	6
Closer to home.....	49	10	36	68	54	53
Less crowded.....	7	9	0	7	7	7
More convenient hours.....	8	19	9	6	8	7
Parking easy.....	23	23	34	6	13	26
Clean and modern stores.....	0	6	4	1	0	1
Friendly and courteous clerks.....	3	1	5	0	0	3
Don't have to dress up to go there.....	5	11	9	3	6	1
Less noise and confusion.....	0	2	0	1	0	1
No advantages.....	5	12	1	7	7	0
No data.....	0	3	2	0	0	0
Other.....	0	4	0	1	5	1
Total.....	100	100	100	100	100	100

TABLE F-9

PERCENTAGE OF SAMPLE PLACING INDICATED ADVANTAGES OF DOWNTOWN SHOPPING IN FIRST PLACE, BY NORTH-HATT OCCUPATIONAL RATING SCALE
Data expressed as percentages.

Advantages	North-Hatt Occupational Rating Categories				
	39-49 (N = 17)	50-59 (N = 80)	60-69 (N = 219)	70-79 (N = 155)	80-93 (N = 105)
Larger selection of goods.....	17.6	33.7	48.4	55.5	67.5
Cheaper prices.....	29.4	18.7	12.3	8.5	7.6
Convenient public transportation.....	0.0	11.3	7.8	6.5	6.6
Enjoyable place to shop.....	0.0	3.8	3.2	4.5	1.0
Close to home.....	17.6	5.0	1.8	0.6	1.0
Stores close together.....	5.9	8.7	1.8	2.6	1.0
Can do several errands at one time.....	11.8	7.5	8.3	5.8	4.8
Better delivery service.....	0.0	0.0	0.0	0.6	0.0
No advantages.....	11.8	10.0	13.2	7.7	7.6
No data.....	0.0	0.0	0.5	0.6	0.0
Other.....	5.9	1.3	2.7	7.1	2.9
Total.....	100.0	100.0	100.0	100.0	100.0

TABLE F-8

PERCENTAGE OF SAMPLE PLACING INDICATED DISADVANTAGES OF SUBURBAN SHOPPING CENTER IN FIRST PLACE, BY AREA
N = 100 in each area. Data expressed as percentages.

Disadvantages	Areas					
	1	2	3	4	5	6
Poor public transportation.....	13	28	6	9	10	2
Lack of large selection.....	40	29	18	57	46	60
Not all kinds of businesses.....	18	8	16	8	13	20
Too far to go.....	3	5	0	1	0	0
Prices high.....	5	1	6	14	8	4
Bus fare too high.....	0	2	0	0	1	0
Hard to get credit.....	1	0	1	2	0	1
Poor delivery service.....	4	1	0	1	2	1
No disadvantages.....	10	22	49	7	14	10
No data.....	0	3	1	0	0	0
Other.....	6	1	3	1	6	2
Total.....	100	100	100	100	100	100

TABLE F-10

PERCENTAGE OF SAMPLE PLACING INDICATED DISADVANTAGES OF DOWNTOWN SHOPPING IN FIRST PLACE, BY NORTH-HATT OCCUPATIONAL RATING SCALE
Data expressed as percentages.

Disadvantages	North-Hatt Occupational Rating Categories				
	39-49 (N = 17)	50-59 (N = 80)	60-69 (N = 219)	70-79 (N = 155)	80-93 (N = 105)
Poor public transportation.....	11.8	12.4	9.1	7.8	9.5
Takes too long to shop there.....	5.8	7.5	4.6	7.8	5.7
Difficult parking.....	29.5	38.8	47.5	47.7	44.7
Too crowded.....	29.5	12.4	13.2	10.3	12.4
Congested traffic conditions.....	0.0	8.8	9.1	8.4	12.4
Cost of transportation too high.....	0.0	1.3	0.9	0.6	0.0
Too far to go.....	11.8	5.0	6.9	6.5	7.6
Unfriendly service.....	0.0	0.0	0.0	1.3	1.0
Other.....	0.0	2.5	1.8	3.2	1.9
No disadvantages.....	5.8	11.3	6.4	5.8	4.8
No data.....	5.8	0.0	0.5	0.6	0.0
Total.....	100.0	100.0	100.0	100.0	100.0

TABLE F-21

PERCENTAGE OF FEMALES IN MEDIUM AND HIGH INCOME AREAS
PLACING INDICATED ADVANTAGES OF DOWNTOWN SHOPPING
IN FIRST PLACE

Advantages	Area	
	Medium (No. 3)	High (No. 6)
Larger Selection of Goods.....	34.8	70.5
Cheaper Prices.....	9.7	10.5
Convenient Public Transportation.....	4.4	4.2
Enjoyable Place to Shop.....	1.0	4.2
Close to Home.....	0.0	0.0
Stores Closer Together.....	3.3	2.1
Can Do Several Errands At One Time.....	3.3	3.2
Better Delivery Service.....	0.0	0.0
Other.....	3.3	1.1
No Advantages.....	39.2	4.2
No Data.....	1.0	0.0
Total.....	100.0	100.0

TABLE F-22

PERCENTAGE OF FEMALES IN MEDIUM AND HIGH INCOME AREAS
PLACING INDICATED DISADVANTAGES OF SUBURBAN SHOPPING
CENTER IN FIRST PLACE

Disadvantages	Area	
	Medium (No. 3)	High (No. 6)
Poor Public Transportation.....	5.5	2.1
Lack of Large Selection.....	19.5	59.9
Not All Kinds of Businesses Represented.....	16.2	20.0
Too Far to Go.....	0.0	0.0
Prices High.....	6.5	4.2
Bus Fare Too High.....	0.0	0.0
Hard to Get Credit.....	1.0	1.1
Poor Delivery Service.....	0.0	1.1
No Disadvantage.....	48.0	9.5
No Data.....	0.0	0.0
Other.....	3.3	2.1
Total.....	100.0	100.0