

# Results of Use of Pre-Interview Contacts in Pittsburgh

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The purpose of this report is to give an evaluation of the use and value of pre-interview contacts in connection with a home-interview origin-destination survey. These pre-interview contacts are for the purpose of distributing and explaining the use of travel report cards on which the respondents are requested to record their travel for a specified day.

Although this study does not attempt to measure precisely the value of the pre-interview contact and travel report cards, it points out several advantages and develops certain conclusions regarding the use of this procedure. These conclusions, the reasoning behind them, and the pre-interview techniques used are presented.

● A HOME-INTERVIEW STUDY was set up in Pittsburgh by the Pennsylvania Department of Highways and Bureau of Public Roads (BPR) as a cooperative research project to provide intensive data for testing various travel formulas. One phase of the study was a test of the value of pre-interview contacts and the use of travel report cards furnished to the householders in advance of the day for which travel information was desired.

The Pittsburgh Area Transportation Study (PATs) was selected to supervise this project because of the opportunity for comparison with data compiled from the 1958 study at PATs, and also, because PATs could offer the nucleus of an experienced staff to operate the project. The study was operated in accordance with "PATs Home Interview Manual 1958."

Dwelling places in 13 zones were interviewed in April, May, and June of 1960, following PATs' major study of the complete area in 1958. These zones were picked to give a variety of socio-economic backgrounds to the research project (Table 2 and Fig. 1). The total area of these zones is 19.4 square miles and the total population is 112,107 (1). Home interviews were taken at 4,254 households in the 13 zones with the sampling rate varying from 1 in 3 to 1 in 10. (The 1958 sampling rate was 1 in 25 from all zones.)

The staff of the Pittsburgh Research Project (PRP) consisted of ten interviewers, four editors (two of whom were also substitute interviewers), a clerk-typist, and a supervisor. Of these, the supervisor, three editors, and four interviewers had previous experience in the 1958 interviewing phase at PATs.

A period of nine days was used to train the new interviewers, to familiarize experienced interviewers with several changes in the questions on the schedules, and to train all interviewers in the use of the trip report cards. After interviewing commenced, the same tight controls and checks set up by PATs in 1958 were maintained to insure the highest possible standard of reporting. All questionable information was checked with the respondents by telephone, and each schedule was edited twice by separate editors before a quality control was run on the interviews. Personnel working on the quality control operation checked at least an additional 12.5 percent of all schedules by calling householders and verifying all information given in the interviews. After completing

TABLE 1  
ALL INTERVIEWS WITH TRIPS, BY ZONE

Zone	Number	Completed Interviews With Trips						Avg. No. of Trips				
		Households		Persons		Total Trips		Reported by Card Users	Recorded for Non-Card Users	Diff Between Card Users and Non-Card Users		
		% Card Users	Avg No Persons Making Trips	Avg No Trips	Number	% Card Users	Number	% of Trips Reported on Cards	% of Trips by Card Users			
010	275	55.3	1.96	6.21	538	47.6	1707	43.9	49.0	3.269	3.085	+0.184
013	332	29.8	1.67	4.70	555	25.0	1560	21.0	27.0	3.036	2.736	+0.300
028	202	42.6	1.90	5.98	383	38.6	1207	38.1	44.3	3.615	2.860	+0.755
037	241	43.1	2.04	6.05	491	35.4	1457	38.2	41.9	3.511	2.669	+0.842
061	266	59.4	2.39	9.20	635	52.1	2448	48.9	56.2	4.160	3.523	+0.637
068	253	65.6	2.37	8.30	599	59.4	2101	53.4	58.7	3.463	3.572	-0.109
073	283	47.0	2.14	6.45	606	35.6	1826	38.1	42.9	3.630	2.672	+0.958
083	247	57.1	2.43	8.40	601	48.4	2076	47.0	51.1	3.649	3.271	+0.378
093	243	58.4	2.36	9.23	574	49.6	2243	48.3	55.7	4.386	3.436	+0.950
149	354	43.8	1.79	5.15	634	36.7	1822	34.2	40.3	3.154	2.711	+0.443
155	253	38.7	2.02	7.16	511	30.9	1812	27.0	32.9	3.778	3.442	+0.336
169	277	35.0	2.27	8.45	630	32.0	2342	32.3	38.3	4.445	3.374	+1.071
187	219	72.1	2.37	8.97	520	64.6	1964	62.6	71.4	4.175	3.049	+1.126
All zones	3,445	49.0	2.11	7.13	7,277	42.9 <sup>1</sup>	24,565	41.8	47.8	3.758	3.088	+0.670

<sup>1</sup>In addition to the number of persons using cards in this figure, there were 259 persons who used the cards stating that they made no trips. It is reasonable to infer that, had they made trips, they would have used the cards.

the editing and quality controls, the schedules and pre-interview trip cards were coded, punched, and the necessary card work done at PATS. The data was then forwarded to the Washington office of the BPR for analysis.

### USE OF PRE-INTERVIEW CARDS

Each interviewer was assigned eight listed households for each travel day. About one week before the "travel day"—the day for which the household was to report its travel—a "Dear Householder" letter was mailed to the sample addresses explaining the general purposes of the survey, the type of information needed, and also telling occupants of the interviewer's impending visit. The day preceding the travel day, the households were contacted and the trip report cards were delivered and their use explained by the interviewer. These cards were picked up the day following the travel day when the interview was being completed. Therefore, after the interviewing began, the interviewer was required to (a) deliver trip report cards to eight households for the next day's travel, and (b) pick up the completed trip report cards and complete the home interviews for the eight samples of the previous travel day with the respondents' help. This was done in an 8-hr period, the interviewers being allowed to work the 8 hours between 9 a. m. and 9 p. m. best suited to their particular zone.

When delivering the trip cards, the interviewer left a sufficient number of cards to cover the trips of each person in the household five years of age or over. A letter of instructions was also left, which detailed the travel information desired, the day for which travel data were needed, and gave specific examples of the proper method of filling out the cards. The interviewer spent, in addition, an average of 10 to 15 minutes explaining the use of the cards. (Figures 2 and 3 show the front and back of the instruction letter. Figures 4 and 5 show the front and back of the travel report card.)

When the occupants of the sample address were not at home on the first call, the interviewers were instructed to make at least one other attempt during the evening hours to deliver the cards in person. Failing to find anyone home on the evening call, the interviewer left the cards and the letter of instruction either in the mailbox or with some responsible neighbor who promised to deliver them. Thus, even when the interviewer delivered the cards without personal contact, the household had two sources of information on filling out the trip report cards—the letter of instruction and the instructions on the back of the trip report cards. The interviewers reported that the cards were delivered directly to a member of the household about 80 percent of the time.

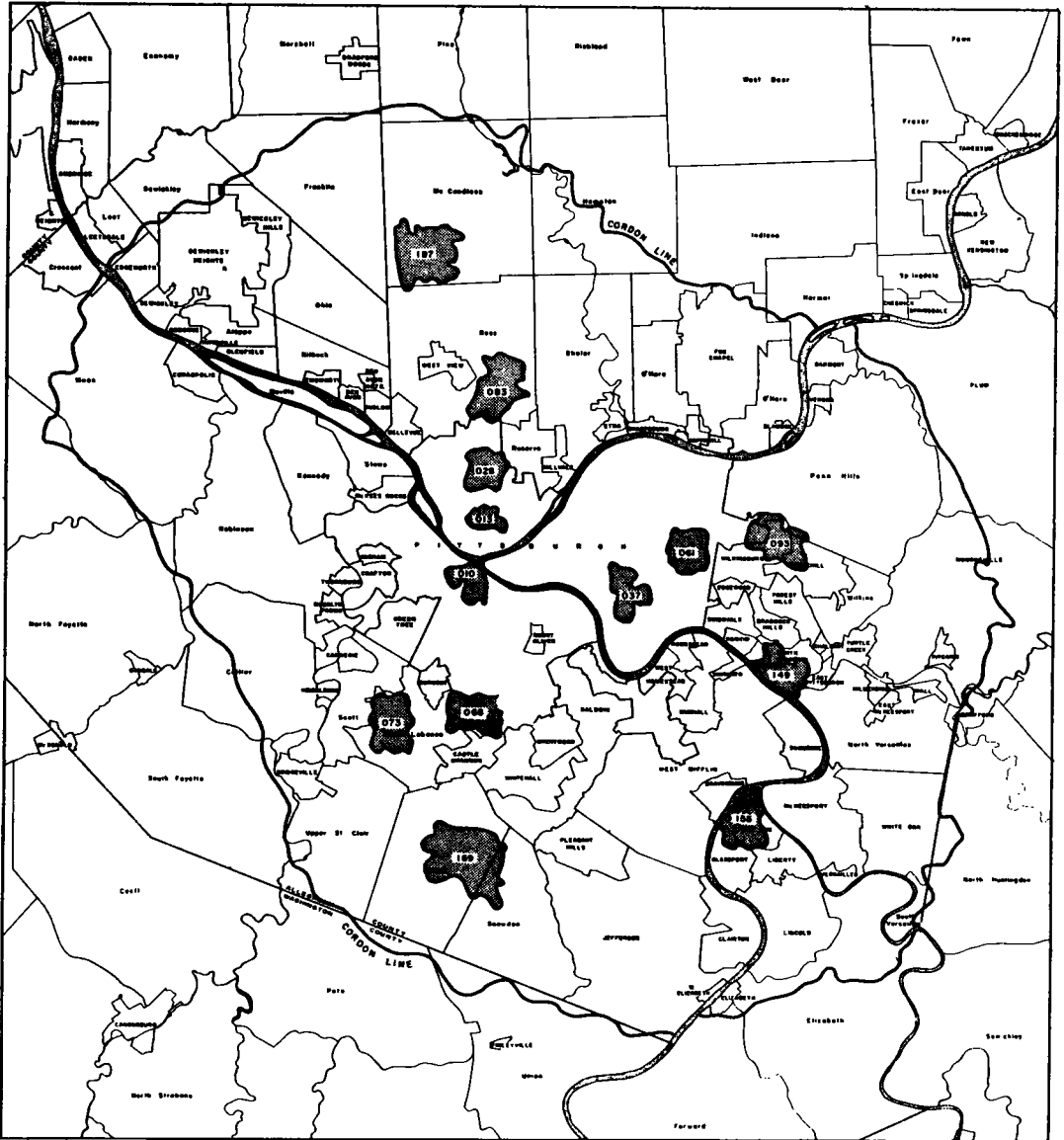


Figure 1. Selected PATS analysis zones for special BPR project.

When completing the home interviews, the interviewers reviewed with the respondent the information on the travel report cards. If this information was complete and accurate, the interview time was cut down by a few minutes to one-half hour or more (depending on the number of trips), because the interviewer could transcribe trip information to the regular interview schedule after the interview. The pre-interview cards and completed interview schedules were then sent in to the office where both were checked for completeness and accuracy of trips reported. After the schedules and cards were checked and rechecked, the pre-interview cards were separated and filed for reference in case of further questions.

#### COST OF PRE-INTERVIEW PROCEDURE

Scheduling of interviews was arranged to have each interviewer deliver pre-inter-

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## PITTSBURGH AREA TRANSPORTATION STUDY

Sponsored by

PENNSYLVANIA DEPARTMENT OF HIGHWAYS  
 ALLEGHENY COUNTY and CITY OF PITTSBURGH  
 IN COOPERATION WITH U S BUREAU OF PUBLIC ROADS

Survey Office 14 Wood Street Pittsburgh 22, Pa

Telephone EXpress 1-3850

**SUPERVISING COMBATANT**  
 J. DOUGLAS CARROLL JR.

**STUDY DIRECTOR**  
 LOUIS E. KEEFER

Dear Householder

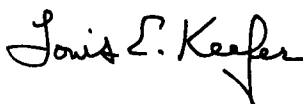
As explained in the letter recently sent you, your household is one of a number selected from which to obtain vitally needed travel information in connection with the Pittsburgh Area Transportation Study.

Each member of your family is being asked to record, on the attached forms, the trips which he or she makes during the day of                     . Our interviewer will return to your home on the following day to collect the information contained on these trip records. We realize that this is an inconvenience, but so is the traffic problem. It is only with your complete cooperation that your State and local government can take effective action toward solving this difficult problem.

The requested information is completely confidential and will be used for statistical purposes only.

Thank you in advance for your contribution of time and information.

Very truly yours,



Study Director

(See General Instructions and example on back of this letter.)

Figure 2. Letter of instructions.

view trip cards to eight samples and obtain an average of eight interviews for each day worked. This schedule was maintained without difficulty. When one of the regular interviewers could not work because of sickness or personal reasons, one of the editors would take his place so that there would be no gap in the interviewing schedule.

At the beginning of the study it was necessary to deliver pre-interview cards for the first two travel days, and this time was charged to interviewing. The final report showed that an average of 0.96 completed interview per interviewing hour was maintained for the study, contrasted with the 1958 study in which the cards were not used and an average of 1.01 completed interviews per interviewing hour was obtained.

Inasmuch as the interviewers were able to deliver the pre-interview cards and to

### GENERAL INSTRUCTIONS

1. Each person in this household 5 years of age or older, including maids, roomers, and out-of-town guests, should keep a separate record of his or her trips.
2. Record all trips for a 24-hour period beginning 4:00 a. m. on \_\_\_\_\_.
3. Record no walking trips EXCEPT walking TO work.
4. Identify each person by his or her relationship to the head of the household, such as wife, son, mother-in-law, roomer, etc.
5. PLEASE READ INSTRUCTIONS ON THE BACK OF THE TRIP RECORD FORM.

Example: Refer to Trip Record form and instructions on back.

Mr. Jones drove to the bus stop with his wife. After reaching the city by bus, he walked two blocks to his office. At noon he took a taxi to and from lunch. He was driven home by a friend. Mrs. Jones rode with her husband to the bus stop in order that she could have the car during the day, driving the car home from the bus stop. Later she took her 4-year old son to the barber shop, waited for him, then drove to her daughter's home. From her daughter's home she drove to the grocery store and then home, her son accompanying her on these trips.

PATS 2-148    ZONE Q10    SAMPLE 008    PERSON MR JONES (HEAD)    SEE BACK FOR INSTRUCTIONS

BEGINNING OF TRIP (ORIGIN)	END OF TRIP (DESTINATION)	PURPOSE OF TRIP	ESTABLISHMENT AT DESTINATION	TIME OF		BLOCKS WALKED		MODE OF TRAVEL	AUTO DRIVERS ONLY		
				START	END	ORIGIN	DEST		PERSONS IN CAR	PARKING TYPE	RATE
HOME	800 WASHINGTON RD MT LEBANON	CATCH BUS	BUS STOP	7:21 AM	7:30 AM	0	0	ADR	2	NP	-
800 WASHINGTON RD MT LEBANON	14 WOOD ST PITTS	GO TO WORK	LAW OFFICE	7:32 AM	8:10 AM	0	2	BUS			
14 WOOD ST PITTS	WM PENN HOTEL	LUNCH	HOTEL	12:05 PM	12:12 PM	0	0	TAXI			
WM PENN HOTEL	14 WOOD ST PITTS	BACK TO WORK	LAW OFFICE	1:05 PM	1:10 PM	0	0	TAXI			
14 WOOD ST	HOME	HOME FROM WORK	HOME	5:15 PM	6:00 PM	0	0	A. Pass			

PATS 2-148    ZONE Q10    SAMPLE 008    PERSON MRS JONES (WIFE)    SEE BACK FOR INSTRUCTIONS

BEGINNING OF TRIP (ORIGIN)	END OF TRIP (DESTINATION)	PURPOSE OF TRIP	ESTABLISHMENT AT DESTINATION	TIME OF		BLOCKS WALKED		MODE OF TRAVEL	AUTO DRIVERS ONLY		
				START	END	ORIGIN	DEST		PERSONS IN CAR	PARKING TYPE	RATE
HOME	800 WASHINGTON RD MT LEBANON	WENT WITH HUSBAND TO BUS STOP	BUS STOP	7:21 AM	7:30 AM	0	0	A. Pass			
800 WASHINGTON RD MT LEBANON	HOME	RETURN HOME	HOME	7:30 AM	7:39 AM	0	0	DR.	1	RES	FREE
HOME	328 BEVERLY RD MT LEBANON	TAKE SON TO BARBER	BARBER SHOP	9:25 AM	9:40 AM	0	0	DR.	2	ST. METER	
328 BEVERLY RD MT LEBANON	978 ANDOVER ST MT LEBANON	VISIT DAUGHTER	RESIDENCE	10:10 AM	10:16 AM	0	0	DR.	2	ST	FREE
978 ANDOVER ST MT LEBANON	BANKSVILLE RD AT DORMONT AVE	SHOP AT KROGERS	GROCERY STORE	11:40 AM	11:46 AM	0	0	DR.	2	LOT	FREE
KROGERS STORE	HOME	RETURN HOME	HOME	12:20 PM	12:26 PM	0	0	DR.	2	RES	FREE

Figure 3. Letter of instructions (reverse side).

average eight completed interviews per 8-hr day, it is reasonable to say that very little, if any, extra cost resulted from the use of the pre-interview cards in the field.

Compared with a district office having a similar work load in the 1958 study, an additional editor was the only difference in the staff of this project. It might be stated then, that the difference in cost in the two office staffs was the salary of this one editor, and this is probably attributable to the additional work imposed by the use of the cards.

PAT'S 1-140		ZONE	SAMPLE	PERSON	SEE BACK FOR INSTRUCTIONS							
BEGINNING OF TRIP (ORIGIN)	END OF TRIP (DESTINATION)	PURPOSE OF TRIP	ESTABLISHMENT AT DESTINATION	TIME OF		BLOCKS WALKED		MODE OF TRAVEL	AUTO DRIVERS ONLY			
				START	END	ORIGIN	DEST		PERSONS IN CAR	PARKING TYPE	RATE	

Figure 4. Trip card.

#### INSTRUCTIONS

**A TRIP IS THE ONE-WAY MOVEMENT OF A PERSON BETWEEN TWO POINTS BY A SINGLE MODE OF TRAVEL. IF YOU ARE EMPLOYED AS AN OPERATOR OF A VEHICLE (bus, taxi, truck driver) DO NOT INCLUDE TRIPS MADE WHILE ON DUTY.**

**TRIP ORIGINS AND DESTINATIONS:** Record actual street address, for example, 1120 Keller Drive. Names of prominent buildings are satisfactory. The word "home" is sufficient when the trip begins or ends at your place of residence.

**PURPOSE OF TRIP:** Describe why you made the trip; for example, to go to work, return home, buy a box of candy, catch bus, pay a bill, to eat lunch, go to doctor, pick up son.

**ESTABLISHMENT AT DESTINATION:** Give a description of the type of establishment at the destination end of the trip; for example, high school, grocery store, department store, park, insurance office, bank, steel mill, fabricating plant, gas station, house or dwelling. Note whether the store is a wholesale or retail store and the kind of office or plant.

**TIME OF START AND END:** Record to the nearest minute the time you begin and end a trip. **INCLUDE THE TIME IT TAKES TO PARK CAR AND WALK TO YOUR ACTUAL DESTINATION.**

**BLOCKS WALKED:** Record the number of blocks walked at each end of the trip (such as home to bus or auto, at origin of trip, and from the location parked to your destination at the end of the trip).

**MODE OF TRAVEL:** Use the abbreviation for one of the following classifications:

Auto Driver (A. Dr.)      Railroad Passenger (R. R.)      Taxi Passenger (Taxi)      Walked to Work (W. W.)  
 Auto Passenger (A. Pas.)      Bus, Streetcar, Pass. (Bus)      Truck Passenger (Tr. Pass.)      Truck Driver (Tr. Dr.)

**PERSONS IN CAR:** If you drove, give the total number of people in the car, including yourself.

**PARKING TYPE:** Use the abbreviation for one of the following classifications:

Street (St.)      Garage (Gar.)      Residential Property (Res.)      Not parked (N. P.)  
 Lot      Service and repair (Serv.)      Cruised (Cr.)

**PARKING RATE:** Use the abbreviation for one of the following classifications:

Hour (Hr.)      Day (D)      Month (Mo.)      Meter (Met.)      Free (F)

**IF YOU HAVE DIFFICULTIES IN RECORDING A PARTICULAR TRIP OR SEQUENCE OF TRIPS, MAKE A NOTE ON THE FACE OF THIS FORM DESCRIBING THE SITUATION. THE INTERVIEWER WILL ASSIST YOU IN PREPARING THE FORM WHEN HE RETURNS TO COLLECT THE TRIP INFORMATION.**

**LEAVE THIS FORM HOME THE DAY FOLLOWING THE 24 HOUR PERIOD DURING WHICH YOU RECORDED YOUR TRIPS.**

Figure 5. Trip card (reverse side).

## RESULT OF USE OF CARDS

The information contained in Table 1 summarizes the results obtained in the use of the trip report cards. In 12 of the 13 zones, the average number of trips reported by persons using the cards was greater than that recorded for persons not using the cards; the differences ranging from 0.18 to 1.13 trips per person. The over-all average shows that card users report two-thirds of a trip per person more than did the noncard users.

It will be noted that Table 1 gives both the percent of trips reported on the trip report cards and the percent of trips made by the persons using the cards. The difference between these figures (41.8 to 47.8 for all zones combined) represents additional trips obtained by the interviewers and editors when reviewing with the respondent the information they had recorded on the trip report cards. The value of having the trip report card as a lead in conducting the interview is discussed later.

Finally, it was found that the average number of trips per household obtained by this special survey was 0.5 trips per household higher than that obtained for these same zones by the 1958 origin-destination study conducted by PATS. This is an increase of about 9 percent.

Card use, that is the percent of persons using the cards, varied considerably from zone to zone. Table 2 shows that, in general, the higher income zones had the higher percentage of card users. Inasmuch as family income was obtained by this study (of all completed interviews, 86 percent of the household reported their annual gross income) it was possible to examine card use as related to family income. The results of this examination show that the proportion of card users increases as income increases and that in the lower income ranges card use was very low (Fig. 6).

## OPINIONS OF INTERVIEWERS AND EDITORS ON USE OF TRIP CARDS

The interviewers were asked to give their opinion of the advantages and disadvantages of using the pre-interview card. Their answers are summarized as follows:

### Advantages of Pre-Interview Trip Card

1. Interviewer was able to set up appointments for call-backs when delivering the cards, thus eliminating repeated calls.
2. Broke the ice for the regular interview.
3. When the cards were used correctly, they not only shortened the time spent on the interview, but prevented taxing the patience of the respondent.
4. When the household letter was not delivered by the post office for some reason, the delivery of the pre-interview card set up the interview.
5. Because of the way the trip card and instructions were set up, the wording of

TABLE 2  
RATE OF CARD USE BY ZONAL CHARACTERISTICS

Zone	Sample Rate	Household Data			Average Earnings, Family Income (\$)	% of Persons Using Cards	Total Area in Acres	Net Residential Density (persons per acre)	Distance from CBD (mi)
		Persons 5 Years & Over	% of Car Owners	% of Multi. Car Owners					
		No.	% Mkg. Trips						
010	1- 7	983	55	88	11	4,900	47.6	607.4	46.39
013	1-10	1189	48	52	5	3,400	25.0	304.6	142.87
028	1-10	612	63	65	14	5,500	38.6	688.5	48.22
037	1- 9	784	63	75	10	6,700	35.4	648.9	50.83
061	1-10	869	73	81	24	9,000	52.1	644.0	34.84
068	1-10	820	73	81	19	6,700	59.4	917.1	23.78
073	1- 8	918	66	94	33	7,600	35.6	991.3	17.90
083	1- 3	755	80	96	22	8,600	48.4	1,100.9	15.76
093	1-10	752	76	95	24	8,600	49.6	953.5	24.08
149	1-10	1326	48	55	9	4,300	36.7	912.1	99.53
155	1- 8	869	59	82	15	5,500	30.9	991.2	38.63
169	1- 5	886	71	92	19	6,700	32.0	2,168.5	10.10
187	1- 3	663	78	100	41	7,700	64.6	1,484.9	7.97
All (avg.)		877	64	75	17	6,100	42.9	954.8	31.05

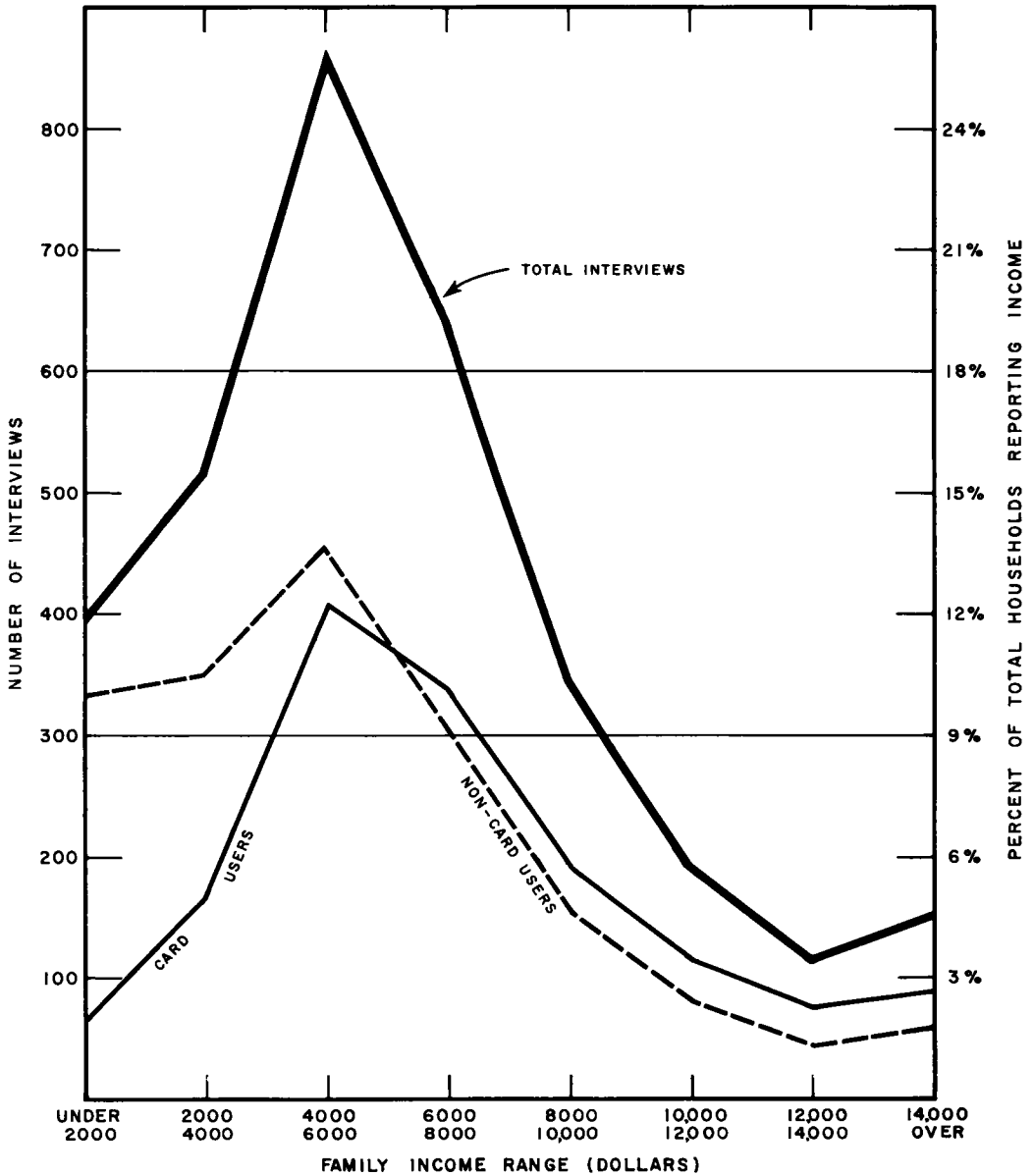


Figure 6. Trip card use by households reporting income.

the trip purpose, stated in the respondent's own terms, became more explicit; that is, to school for P.T.A. meeting.

6. Filling out the card in advance of interview enabled the respondent to reflect on his answers and to remember travel both during and after filling out the card.

7. Even if the cards were not used, they made the respondent aware of the information needed.

8. When an interview was made without the cards, very often the information was taken from only one person. This person might not have been aware of all the trips of everyone else in the household; whereas, with the cards, each household member had the opportunity to record his own trips.



9. The cards were particularly effective in households where one or more persons made a great number of trips (that is, doctors, salesmen, etc.).

10. The cards stressed the importance of the project to the householders and gave them a feeling of personal participation in the study.

#### Disadvantages of Pre-Interview Card

1. Some people could not understand the card and became suspicious, making an interview more difficult to obtain. This condition occurred infrequently, however, and mostly in low-income areas.

2. Some people would consider the interview complete after filling out trip cards, and would therefore be hard to contact a second time; this was probably due to lack of explanation by the interviewer.

3. Some people objected to filling out the pre-interview trip card because they felt it would require too much time.

The opinions of the editors on how the pre-interview trip card affected their work could be summarized as follows:

1. The clues provided on the trip cards, when checked against the information on the schedules, enabled the editors to find and correct trips on the schedules. For example, sometimes the trip card of a driver showed passengers on trips, with no mention of these passengers' trips on the cards of other members of the family or on the schedules. Very often these trips were made by members of the family or car pool passengers, and because of the trip cards, quite a large number of these were picked up by the editors. The type of trip missed on the card to the greatest extent seemed to be (a) returning home after listing a trip to some destination, and (b) "serve passenger" trips.

2. When checks were being made by telephone, the people whose information was being checked could remember the information on the cards, if nothing else.

3. When the trip cards and completed schedules agreed or were corrected to agree, the cards furnished documentation of the schedules.

### CONCLUSIONS

The advantages in using the pre-interview cards in the Pittsburgh Research Project were numerous. Although the additional number of trips obtained over a like number of samples from the same zones in PATS 1958 study was considerable, this does not represent the total value of the pre-interview contacts.

There can be no doubt that the use of the pre-interview cards was responsible for obtaining a greater number of trips. Table 1 shows that the reported trip average of trip card users exceeded the trip average of noncard users by better than one-half trip per person. If the trip average of the card user in each zone is applied to all persons making trips in the zone, a net gain of 2,517 trips, or 10.24 percent, results. By the same token, if the trip average of the noncard user in each zone is applied to all tripmakers in the zone, a net loss of 1,859 trips, or 7.57 percent, results. This represents an over-all difference of 4,376 trips, or 16.16 percent. Here is strong evidence that the pre-interview card was a potent instrument to use toward the goal of obtaining an accurate and complete record of trips.

However, there were other advantages to the use of the cards. These were intangibles that do not show up in the cold light of tables, summaries, and statistics, and these factors played an important role in strengthening the study as a whole. The fact that each household member responded for himself when using the card was an improvement over the situation where a wife, for instance, possibly unaware of all of her husband's trips, reported for him without using the cards. That additional trips were obtained when the schedules were edited from clues furnished by the cards, that respondents were more likely to record all of their trips when using the cards, that they were more responsive and more aware of the information needed as a result of the pre-interview visit—these were all intangible factors that cannot be measured by conventional means.

Also, interviewers' travel time and interview time were reduced by the ability to

make appointments when delivering the cards; and time was saved by completing interviews from the cards after checking them out with the respondents.

It was felt by the staff that a greater degree of data accuracy was obtained through the ability to check out items of information from the schedules with the information recorded on the cards by householders. The members of the staff who had participated in the 1958 PATS study agreed that, despite the extra work involved in delivering the trip cards, they would prefer to interview with the cards rather than without them.

One suggestion for future use of the pre-interview cards would be that the interviewer make a note of whether cards were delivered in person or were simply left with the letter of instruction. This factor probably has an effect on the percentage of card users and degree of completeness of those cards that were filled out without personal instructions.

Another suggestion is that the letter of instruction, which shows examples of the use of the card and therefore is a valuable tool, should be left for each person in the house, rather than one letter per household.

#### REFERENCE

1. "Interim Technical Report Number III: Home Interview Summary Data." PATS (1959).