Results of Pre-Interview Contacts in Philadelphia

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• CHECKS of travel data obtained from home-interview traffic surveys have confirmed that total daily trips are under-reported by household members. To minimize the amount of under-reporting, a pre-interview travel log had been used in New Orleans. A significant gain in trip reporting seemed to result, with households filling out the log averaging 8.5 trips/day, and those not filling it out 6.0 trips/day. The results obtained in New Orleans were encouraging enough to warrant its use in the Philadelphia area and the Penn-Jersey Transportation Study (PJ) decided to use such a log.

New Orleans had suggested that the original log used be greatly simplified, in order to increase response. It was found that the log used in Philadelphia by PJ and the simplified log later used in New Orleans were remarkably similar, although designed independently.

PJ LOG FORM

The log form used in Philadelphia area is shown in Figure 1. Two or more logs were left with, or mailed to, adult household members prior to interviewing. The form was not intended to substitute for interviewing, but rather to act as a reminder for the respondent.

It was small enough to be carried conveniently, and the respondent was asked to note all trips made on a certain day by origin, destination, mode(s) of travel, and time of day.

METHOD OF TESTING

At the suggestion of G. William Blake, PJ's Data Processing Supervisor, it was decided to give the log a full-scale controlled test rather than delivering it to all households scheduled for interviewing. One-half of the households scheduled for interviewing each day were to receive the log, the other one-half were not. Five hundred and twelve interviews were scheduled daily. In practice, the first four of the eight interviews selected for each interviewer per day received the log, the last four did not.

The first test was to involve a pre-interview contact by the interviewer, where he would deliver the log, explain its use, and later return to collect it and conduct the normal home interview.

The second test was to mail the log with the pre-interview letter and did not involve any direct pre-interview contact by the interviewer.

OVER-ALL RESULTS

As the data for the first test came in, total trips reported for the first four interviews each day were compared to the total trips reported for the last four interviews each day for each interviewer. A 6-week test involving 15,360 households was made. The results of this test are given in Table 1.

The 7,680 households that received the log produced 40,697 reported trips and 1,184 non-interviews.

The 7,680 households that did not receive the log produced 43,562 trips, 2,865 more trips than households that had received it, and 1,143 non-interviews.

PENN-JERSEY TRANSPORTATION STUDY

51 Street and Parkside Avenue, Philadelphia 31, Pennsylvania, 1Rimity 8-6100

Dear Neighbor:

The Penn-Jersey Transportation Study, an official agency, is asking members of several families in each neighborhood to keep track of all trips made on a certain day. This information is needed to improve roads and rail service in the Penn-Jersey area. You can help greatly by filling in the other side of this card. Please show each trip you make on

Your PJ interviewer will call at your home on the following day to pick up this card. If no one will be home, please call and let me know so that we can set a more convenient time.

Interviewer's Name Telep	shone	No
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THANK YOU FOR YOUR HELP Note: Regulations require us to keep all information confidential.

LIST EACH TRIP MADE (GIVE ADDRESS OR NEAREST) STREET INTERSECTION	HOW DID YOU TRAVEL? (AUTO, RAILROAD, EL-SUBWAY, BUS,) STREETCAR, TAXI, ETC.	TIME OF. DAY (YOU LEFT OR) ARRIVED
(START) 321 Main St. Thenton	IPLE & & Dilland	LEFT8:05 AM
TO: 5101 S. 2 nd St. Phila EXA	(IIIO & Balload	ARR: 9:10 AM LEFT: //:/5 AM
FROM (START)		LEFT:
		ARR
	l	LEFT
THEN		ARR:
ТО:		LEFT:
THEN		ARR
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Figure 1. Pre-interview log form.

The results were consistent week by week, with non-log households constantly producing more trips. The over-all average was 5.30 trips/interview with the log and 5.67 trips/interview without the log. After removing non-interviews, the figures were 6.27 trips/household and 6.67 trips/household, respectively.

With these rather surprising results, completely contrary to what had been expected, the mail log test was started and delivery of logs stopped.

Week after week, the mail log test produced almost identical results. After six weeks of testing involving 14,848 households (512 less than the previous six weeks due to a holiday), 7,424 households receiving the mailed log produced 41,438 trips and the same number of households not receiving the log produced 42,757 trips, or 1,319 trips

TABLE 1 COMPARISON OF NUMBER OF REPORTED TRIPS AND NUMBER OF NON-INTERVIEWS WITH AND WITHOUT LOG

	(a) Delivered Log Vs No Log								
	Total			Delivered Log			No Log		
Week No.	Interviews	Trips	Non- Interviews		Trips	Non- Interviews	Interviews	Trips	Non- Interviews
1	2, 560	14,045	387	1,280	6.413	214	1, 280	7, 632	173
2	2, 560	14, 800	380	1, 280	7,186	187	1.280	7.614	193
3	2, 560	14, 388	395	1, 280	6,957	207	1,280	7,431	188
4	2,560	13, 716	443	1, 280	6, 783	219	1,280	6, 933	224
5	2, 560	14,028	379	1, 280	6, 918	186	1,280	7, 110	193
6	2, 560	13, 282	343	1, 280	6, 440	171	1,280	6.842	172
Totals	15, 360	84, 259	2, 327	7, 680	40, 697	1,184	7 680	43 562	1 143

	(b) Mailed Log Vs No Log								
	Total Mailed Log						No. Log		
Week No.	Interviews	Trips	Non- Interviews	Interviews	Trips	Non- Interviews		Trips	Non- Interviews
1	2, 560	14,001	332	1,280	6,878	169	1,280	7, 123	163
2	2,560	13, 448	379	1, 280	6, 611	173	1, 280	6, 837	206
3	2,048	12,023	222	1,024	5,940	106	1,024	6,083	116
4	2,560	15,041	270	1, 280	7, 434	126	1, 280	7,607	144
5	2,560	15, 162	275	1, 280	7, 498	144	1, 280	7,664	131
6	2,560	14, 520	315	1,280	7,077	157	1, 280	7,443	158
Fotals	14,848	84, 195	1,793	7, 424	41,438	875	7, 424	42, 757	918

more. Non-interviews totaled 43 less with the log, the figures being 875 with and 918 without. Trip averages were 5.57 trips/interview with, and 5.75 trips/interview with-out the log. After removing non-interviews, the averages were 6.32 trips/household and 6.56 trips/household, respectively.

SIGNIFICANCE OF RESULTS

Assuming a normal distribution of trip reporting, the differences in mean values were shown to be highly significant. The standard error of the mean was less than 0.1 trips in all cases. The differences between means were significant at the 0.01 level for the delivered log and at the 0.05 level for the mailed log. Rather than improving trip reporting, the results indicate a significant decrease in trip reporting for those households where the log was delivered or mailed. These decreases amounted to 0.40 trips/household for the delivered log and 0.24 trips/household for the mailed log.

Differences in the non-interview rates were shown to be insignificant.

SAMPLE ANALYSIS

To find out why the logs failed to produce more trips in the Philadelphia area, a 20 percent sample of the interview days involved in the test was drawn at random. Households which did not make any trips were separated, because these households could not have filled out the log even if they wished to. Trip averages reported in this sample analysis are therefore averages of households which made trips.

The number of samples obtained by income group (low, medium, high, or not reported) are given in Tables 2 and 3.

Because of the low number of samples (232) obtained for households completing the delivered log, an additional sample of six days was drawn to provide a more reliable trip average for this group. This sample produced 262 more households completing the log, so that these averages could now be based on a total of 494 interviews.

The average number of trips per household (for families who made trips) are given in Tables 4 and 5. For the delivered log, households completing the log reported an average of 1.4 trips more than those which received the log and did not complete it.

The latter group had an average of 0.6 trips/household less than those not receiving a log.

	Log Delivered				Households Making No Trips	
Household Income Group	Completed	Not Completed	Total	Log Not Delivered	Log Delivered	Log Not Delivered
Low (\$0-4999/						
year)	55	244	299	300	108	92
Medium (\$5000-	-					
7999/year)	83	304	387	397	17	17
High (over \$800)0/					
vear)	53	131	184	214	4	6
Not reported	41	171	212	211	40	42
Totals	232	850	1,082	1,122	169	157
Non-interviews			285	257		
Total interview	S		1,536	1, 536		

TABLE 2 NUMBER OF SAMPLES BY INCOME GROUP

TABLE 3

NUMBER OF SAMPLES BY INCOME GROUP						
		Log Mailed				
Household Income Group	Completed	Not Completed	Total	Households Making No Trips		
Low	22	342	364	121		
Medium	52	363	415	23		
High	34	165	199	6		
Not reported	14	158	172	40		
Totals	122	1,028	1,150	190		
Non-interviews			196			
Total interviews			1, 536			

Population standard deviations were estimated from sample data and the standard error of the means calculated. These differences in trip averages were shown to be significant at the 0.01 level. A significant difference was also shown within each income group for those completing the log.

The mail log comparison indicated that families completing it averaged 1.8 more trips than families failing to fill out the log.

Over-all results were similar to the two 6-week tests. No increase in trip reporting could be attributed to the log. The families filling out the log simply made more trips than those that did not when compared to households not receiving a log.

RESPONSE TO THE LOG

Table 6 shows the variation in response (percent of households completing the log) by income group. This variation in response was even more marked in the mail log than the deliver log samples.

About one in five households completed the log where it was delivered, and only one in ten when it was mailed.

The difference in response by income group were highly significant (at the 0.05 level). Households with higher incomes make more trips than those with lower incomes and also complete more logs, percentagewise.

TABLE 4

TRIP REPORTING BY INCOME GROUP (AVERAGE TRIPS PER HOUSEHOLD¹)

Household Income Group	Completed	Not Completed	Total	Log Not Delivered
Low	6.2	4.6	5.1	5.1
Medium	7.8	7.4	7.6	7.6
High	9.6	8.7	9.1	9.8
Not reported	9.6	7.2	8.1	7.7
All groups	8.1	6.7	7.2	7.3

¹For households that made trips.

TABLE 5

TRIP REPORTING BY INCOME GROUP (AVERAGE TRIPS PER HOUSEHOLD¹)

	Log Mailed				
Household Income Group	Completed	Not Completed	Total		
Low	7.5	5.1	5.2		
Medium	8.2	7.0	7.8		
High	9.4	10.2	10.1		
Not reported	10.5	7.4	7.7		
All groups	8.7	6.9	7.4		

¹For households that made trips.

TABLE 6

RESPONSE TO DELIVERED AND MAILED LOGS BY INCOME GROUP (PERCENT OF HOUSEHOLDS COMPLETING LOG)

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Income Group	Delivered Log, %	Mailed Log, %
Low	18.4	6, 0
Medium	21.4	8.0
High	28.8	17.1
Not reported	19.3	8.2
All groups	21.4	10.6

TABLE 7

REASONS FOR NON-RESPONSE TO DELIVERED LOG

	Households			
Reason	No.	(%)		
Did not bother or did not have time	496	58		
Forgot	89	10		
Did not receive log	89	10		
Did not understand log	71	9		
Lost log	65	8		
Other reasons	40	5		
Total	850	100		

Slightly over 60 percent of family members (over 5 years of age) making trips completed logs in households where at least one log was filled out. Trips reported on logs represented 53 percent of the total trips reported for households filling out logs. No significant variation by income group could be found in either statistic.

Reasons for the low response were analyzed and are presented in Table 7.

Almost six of every ten households failing to fill out at least one log gave as a reason that they "did not bother or did not have time." Less than one household in ten claimed failure to understand the log. These percentages did not vary significantly by income group.

SUMMARY

Pre-interview contacts through the use of a travel log failed to produce additional trip reporting by households in the Philadelphia area. Although households completing logs had a significant increase in average number of trips over those that failed to complete them, this increase is apparently due to a bias in household response to the log.