Practical Considerations in the Development of a Transit Users Panel

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INTRODUCTION

The purpose of this paper is to offer comment and reflections based upon experience gained in the development and application of two very different panel studies in the field of travel demand analysis. These experiences are now being applied in the design of a third (as yet unreported) panel research project which is currently under development. All three panels are within the field of transportation but reflect widely differing policy and research objectives. The comments offered are based on personal experience and are hopefully useful but anecdotal in nature. They do not pretend to be in-depth considerations of the subjects treated. However, wherever possible reference has been made to literature which offers greater depth and guidance.

The three panel projects in question are:

- The Dutch Mobility Panel is a large-scale multi-objective study begun in March 1984 and tentatively completed in 1989 after 10 waves of measurement. This panel is funded and the project is administered by a Dutch Government agency representing multiple departments and agencies. It has multiple objectives. The field work and data analysis are conducted by separate private consulting firms.
- The evaluation of the 1988 Honolulu Staggered Work Hours Demonstration Project included a four-wave panel study. It is an example of the successful use of a panel to evaluate the effectiveness of a Transportation System Management (TSM) strategy to reduce traffic congestion. This study was commissioned by the State of Hawaii and the Oahu Metropolitan Planning Organization and was undertaken by the Institute of Transportation Studies, University of California, Irvine.

The Los Angeles Transit Users Panel is a multi-wave panel research project funded out of the University Centers Grant from the United States Department of Transportation, with matching funds from the California Department of Transportation. The study objective is the development of methods for the explanation of stability and instability in the composition of the markets for the minority modes: public transport (transit) and carpooling.

This short paper in no way pretends to offer a comprehensive or in depth treatment of the subjects discussed. It merely tries to reflect the authors' gathering awareness of what they have learned from their experiences with panels.

This paper is divided into three parts: The first part addresses the overriding issue of organization of panel projects in the field of travel demand analysis. The second part makes comments on a limited number of topics on which the authors have arrived at some general conclusions. In the third part the three panels are discussed and the sampling strategies and survey instruments used are reviewed. An attempt has been made to provide copious references for readers interested in exploring a topic in more depth.

1. PANEL FUNDING AND STUDY OBJECTIVES

Generating funding for panel studies is always more problematic than financing one-off cross-sectional studies. Panel survey methods require the advance commitment of resources over a period of time during which no results will be readily available to convince sponsors of the value of continuous funding. In many cases the fact that such studies are long term in nature makes it difficult to secure adequate guaranteed funding. In order to procure funds for such studies it is tempting to develop multi-objective studies with multiple funding sources.

The Dutch Mobility Panel was an example of a multi-objective study with multiple funding sources (Baanders and Slootman, 1983; J. Golob, et al., 1985; van Wissen and Meurs, 1989). The initial research objective for this panel was the study of changes in mobility of the Dutch population over time and the development of causal analysis to explain such changes. A second, more political, study objective was added at a late stage in the development of a study plan. This second objective involved a rapid policy evaluation of the effects of raising transit fares. The importance of this policy topic helped to persuade those responsible to fund the full-scale panel project. In retrospect it was probably a mistake to link these two studies in order to secure funding for the longer-term project. The project in total was extremely ambitious and required that compromises be made in order to marry the multiple objectives. This had implications for both the sampling strategy and the survey instruments. Problems were resolved and compromises were sought under great pressure to produce results. With the benefit of hindsight, one can conclude that it probably would have been better to have kept the two projects entirely separate and to have used different sampling strategies and survey instruments.

An example of the use of a panel for a clearly defined policy evaluation, within a limited time frame and constrained budget, is the study referred to as the Honolulu Staggered Work Hours Demonstration Project (Giuliano and Golob, 1989). The panel

survey undertaken in Hawaii collected data to evaluate the impact of staggered work hours on commuting. The project was designed and administered by researchers at the University of California, Irvine, with support from staff from the Office of the Lieutenant Governor, State of Hawaii. This collaboration yielded benefits to both sides: the University gained access to a valuable data set, while the Office of the Lieutenant Governor had a properly conducted study whose results were defensible within the political process.

The Los Angeles Transit Users Panel is funded out of a research grant which assures that the design, data collection, and analysis are wholly within the control of university researchers. The topic being investigated has considerable policy significance but the investigators have the freedom to experiment within the context of the research and without the immediate pressure to produce policy sensitive results. Given the complexity of panel design, data collection and analysis this is obviously a valuable opportunity to both further test the methodology and formulate and test theories of travel behavior. Long-term funding for such a project is uncertain but university research is undoubtedly required to further explore the full potential of panels in the field of travel demand analysis.

Three conclusions have been drawn:

(1) Finding funding for long-term panel research is extremely difficult. However, using multiple sponsors for a project with multiple objectives can lead to conflict and compromises which may dilute the value of the final product. The money saved in merging several projects is not likely to be worth the loss in data quality and focus. Where long-term panels are being considered, working with pilot demonstration projects which allow for testing recruitment strategies, as well as the survey instruments, would allow more accurate and realistic budgeting for a future panel project. Similarly, using a development period to adequately consult the wealth of available literature would help in the

avoidance of obvious pitfalls. Familiarity with the literature on panels would be useful in convincing potential sponsors of the practicality and value of their application.

- (2) Well-constructed panel projects which tackle limited "policy relevant" topics and are the result of cooperation between researchers and government bodies can yield satisfactory benefits for both parties.
- (3) In order to experiment further in this field, university research funds should be used wherever possible. The longer-term benefits from such work will be fed back into the field of transportation policy evaluation. The panel data so collected should be made available to researchers at other institutions, and some of the original resources should be used to document the data in both raw and processed form and to establish mechanisms for data transfer.

2. PANEL SELF-SELECTION, ATTRITION, AND CONDITIONING

2.1 Self-Selection and Attrition Biases

The question as to whether a panel sample is representative has two parts: First, how representative is the original first-wave sample? Second, how representative is the panel after several waves involving sample attrition and refreshment? The first part of the question is identical to the question of whether or not a cross-sectional survey is representative. The second part of the question of representation is unique to panel surveys and has evoked a fear of the unknown in both users and non-users of panel data. Prior to establishing the Dutch panel the question of representativity was repeatedly discussed. The following is an attempt to set this problem in context.

The authors have concluded that these fears are unfounded. Methods exist for identifying both types of panel selectivity: that associated with sample selection and non-response to the first survey, and selectivity associated with non-random panel attrition and sample refreshment. Importantly, a number of studies have demonstrated the ability to compensate for selective panel samples by correcting for biases in parameter estimates and other results. A non-exhaustive list of references for such work is Bailor (1975), Griliches, et al. (1977), Hausman and Wise (1979), Heckman (1979), Hensher (1987), Hsiao (1986, pp. 198-206), Juster (1985), Kitamura and Bovy (1987), Maddala (1978), Meurs, et al. (1989), Ridder (1988), Rubin (1974, 1977), and Sobol (1959).

The key to the identification of selectivity biases problems is in a two-pronged analysis approach. First, it is important to conduct descriptive analyses comparing samples by wave among themselves and to the designated sample universe. Such descriptive analysis is often referred to as a pre-analysis (Hensher, 1985; Uncles, 1988). Second, an error term analysis is required for all regression or choice models, including structural equation models. Selectivity can be benign unless it effects the error or disturbance terms of an equation, in which case the estimated coefficients are generally biased. Fortunately, there are several econometric procedures for correcting for abnormal error term distributions, as documented in the cited references and in sources such as Hannan and Young (1977), Hsiao (1986), Kessler and Greenberg (1981), and Maddala (1987).

2.2 Panel Conditioning Biases

Panel conditioning problems refer to the instrument effects introduced by repeated contacts with the same respondent and the influences these contacts then have on survey response. It is one aspect of measurement error in panel data, a subject that has received considerable attention (e.g., Blalock, 1970; Fuller, 1987; Hargens et al., 1976; Wheaton et al., 1977; and Wiley and Wiley, 1970).

As in the case of panel sample selectivity, the problem of panel conditioning is surmountable. Weighting schemes based on dynamic comparisons of population subsamples can be used to alleviate part of the problem (e.g., Hensher and Bodkin, 1986; Meurs et al., 1989), but such schemes involve an inevitable loss of some information on absolute levels of variables. In addition, or alternatively, it is possible to account for certain conditioning effects in models estimated on panel samples that include not only "stayers," or respondents that are in all panel waves, but drop-out and refreshment subsamples as well (e.g., Golob, 1989; van Wissen, 1989).

Independent of analysis methodology, panel conditioning problems can be minimized by designing better survey instruments. This requires extensive pilot testing of proposed survey instruments, a painful practice for many researchers who perceive the most personal benefit in the development of new models. Panel survey instruments should *not* simply be the repeated applications of tried and trusted cross-sectional survey instruments.

2.3 The Use of Panel Data

The ultimate way to minimize both panel selection and conditioning problems is to treat panel data dynamically, rather than as repeated static measurements. One dynamic treatment involves testing the stability and stationarity of causal relationships and the degree to which such relationships are non-instantaneous. Other dynamic treatments involve estimating rates and characteristics of change and adaptation. There is considerably *less* benefit associated with the use of panel data as repeated cross-sections, where the problems of selectivity and conditioning can be devastating. Appeals for such advantageous use of panel data can be found in Clark, et al. (1982), Coleman (1981), Davies and Pickles (1985), Duncan, et al. (1987), Goodwin (1987), Goodwin, et al. (1987), Heise (1970), Heckman (1981), Hensher (1985), Kitamura (1986), Kuh (1959), Schoenberg (1977), Tuma and Hannan (1984), and Wrigley (1986). These are important references for anyone interested in panel analyses.

3. THE THREE PANELS

Of the numerous panels in transportation and related studies of housing, shopping behavior, income and time use, the authors have first-hand experience with two panels: the Dutch Mobility Panel and the Honolulu Staggered Work Hours Demonstration Project Panel. This knowledge is being applied in the on-going development of a third panel, the Los Angeles Area transit Users Panel. Both the Dutch Panel and the Honolulu Panel data collections are complete as of 1989 (unless the decision to conclude the Dutch Panel is reversed before spring of 1990). Much has been learned from the analysis of these two data sets. However, the learning process is expected to continue for some time, particularly in the case of the Dutch Panel, because data collection has been far ahead of analysis and modeling.

On many panel survey attributes the Dutch and Honolulu Panels are far apart, and the Transit Users Panel is between these two extremes. Some attributes of the three panels are outlined in Table 1. The Dutch Mobility Panel is documented in Golob, et al. (1985) and van Wissen and Meurs (1989). The Honolulu Staggered Work Hours Demonstration Project Panel is documented in Giuliano and Golob (1989).

The focus on the Dutch Panel and the Honolulu Panel is not meant to imply that important information cannot be gained from other panels. On the contrary, published results from several other panels in transportation and related fields contain a wealth of information that any researcher should consult when considering panel design. These additional panels include, but are not limited to: the Michigan Panel Study of Income Dynamics (University of Michigan Survey Research Center, 1972), the Cardiff Consumer Panel (Guy, et al., 1973; Wrigley, et al., 1985), the U.S. Energy Panel (Mannering and Winston, 1985), and the Australian Automobile Panel (Hensher, 1986).

TABLE 1

A BRIEF DESCRIPTION OF THREE TRAVEL BEHAVIOR PANELS

SURVEY ATTRIBUTE	DUTCH NATIONAL MOBILITY PANEL	HONOLULU STÄGGERED WORK HOURS DEMO. PROJECT PANEL	LOS ANGELES AREA TRANSIT USERS PANEL
Purpose:	Multiple (see text)	Project evaluation	Multiple (see text)
Dates:	1984-1989	1988	1989 - ?
Waves	10	4	?
Wave interval:	6 months or 1 year	2 weeks	3 months
Respondents:	All household members, 12 years and older	Commuter	Commuter
Initial sample size:	1,800 households	2,100 individuals	1,500 individuals (target)
Survey instrument for gathering data on travel behavior:	One-week travel diaries	Report of commute trips, plus attitudes (last wave)	Report of commute trips, plus (2-week) retrospective of all travel, plus attitudes

3.1 Sampling Strategies

The cited panels exhibit a wide variety of procedures for both initial and refreshment sampling, and many of these differences are dictated by resource constraints. The Dutch Panel is broad based, with the sample of approximately 1,800 households being clustered initially in twenty communities spread throughout the Netherlands. The sample is stratified by income group, life cycle category and community type (related primarily to public transport service). The stratification differs marginally from the Dutch population in order to over represent certain policy relevant minority groups and thus increase their sample sizes. This is a characteristic which it shares with the Michigan Panel Study on Income Dynamics in the U.S., which over-represents low income households. However, while the initial sampling for the Dutch Panel was carefully considered, the refreshment strategy was more haphazard and varied by wave. This introduced complications in the sample weighting scheme and places restrictions on modeling and testing for biases.

The Honolulu sample was targeted on a well-defined group of employees of governmental agencies and a few firms. A high level of interest in the results of this study by both employers and employees resulted in a high quality sample with a very low incidence of attrition despite the fact that the survey was self-administered. Incentives play an important role in response to all types of surveys, but are particularly important in panel surveys.

A targeted group is again being used in the Los Angeles Transit Users Panel. The difference is that a broader base of employers is being used in the Los Angles Panel and the sample is choice based. The extension of choice-based sampling from cross-sectional to panel populations is documented in sources such as Lancaster and Imbens (1988), and Wurzel (1988). A decision has been made in this research project to concentrate on the travel behavior of the individual in the context of the household. This limits the scope of the available research topics but makes tractable a wide variety of methodologies for dealing with selectivity and conditioning effects. The Dutch Panel is

the appropriate data set for dealing with household interactions, household travel budgets, and mobility issues associated with car ownership and residential location. The Los Angeles Panel represents a complement to the Dutch Panel.

3.2 The Los Angeles Survey Instrument

This instrument design for the Los Angeles Transit Users Panel was chosen after review of the referenced panel studies, with specific attention to the results cited in Bishop, et al. (1975), Juster (1985), Kalton (1985), Moser and Kalton (1971), Robinson (1985), and Sudman and Ferber (1979). Experience with the Dutch Mobility Panel has indicated that a multi-day travel diary is susceptible to a high degree of panel conditioning bias and exhibits a relatively high amount of missing data even in the initial wave. Experience with the Honolulu Panel indicated no conditioning effects on the reporting of individual trip chains, but it provided insufficient information on general mobility levels and day to day variations in travel choices to support many modeling objectives.

The fact that an instrument such as a travel diary works in a cross-sectional survey does not guarantee that the same instrument will work in a panel survey. The approach taken in the Los Angeles Transit Users Panel is to test a new hybrid instrument involving the detailed reporting of the home-work-home trip chain, and summaries of general mobility and alternative choices for a recall period of generally two weeks. This instrument is presently in the final stages of an exhaustive pilot test. The results so far are good regarding reporting errors, missing data and item variances. The pilot survey instrument is reproduced in Appendix A.

3.3 The Issue of Attitudes in Panel Surveys

There is compelling evidence that questions concerning attitudes -- including preferences, perceptions, feelings and behavioral intentions -- can be asked on repeated waves of a panel without undue panel conditioning effects (Barnard, et al., 1986; Barnard

and Ehrenberg, 1987; Duncan and Hill, 1975; Waterton and Lievesley, 1988; Lyon, 1981, 1984; and Morgan, 1982). However, it is important to keep attitudinal questions general or directed to items about which there is likely to be well formed perceptions and opinions. There is a danger in being too specific, or in drawing new items to a panelist's attention. Asking about a choice alternative or an issue which a panelist has not considered can result in an immediate instrument effect and attitude formation that contaminates future waves.

As an example of attitudinal variables in panel surveys, the Michigan Panel Study on Income Dynamics included sixteen attitudinal questions concerning feelings (reproduced in Duncan and Morgan, 1976, pp. 470-471) in the first six waves of the panel (1968-1973). Attitudinal indices measuring efficacy, trust and aspiration-ambition are then developed from these questions (Morgan, 1972) and dynamically related to objective panel variables (Duncan and Hill, 1976; Morgan, 1982).

Three different approaches to attitudes are represented by the Dutch Mobility Panel, the Honolulu Panel, and the Los Angeles Transit Users Panel: The Dutch Panel deliberately avoids any inclusion whatsoever of an attitudinal or "soft" question. The Honolulu Panel includes attitudinal items in the final wave, and these variables are used in a model linking opinions and experiences (Golob and Giuliano, 1989); the survey questions are reproduced in Giuliano and Golob (1989, pp 205-208). The Los Angeles Panel includes attitudes in the form of Likert scales asked at each wave; the scales are reproduced in Appendix A, page 8. The intention in the Transit Users Panel is to link changes in attitudes to changes in behavior in an attempt to confirm or deny hypotheses of attitude-behavior relationships. Such a research objective is perceived to be consistent with an advantageous use of panel data.

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APPENDIX A

The Los Angeles Area
Transit Users Panel Wave-One
Mail-Back Survey Instrument

(Pilot survey, subject to revision; please do not reproduce or quote.)

PART A:

PLEASE TELL US ABOUT YOUR <u>LAST</u> TRIP TO YOUR USUAL WORK PLACE
1. What was the last day you went to work? Mon. Tues. Weds. Thurs. Frl. Sat. Sun.
2. How many miles is it from your home to where you worked on this day? Miles
3. What time did you leave home on this last trip to work?a.m./p.m. (circle one)
4. What time did you arrive at work? a.m./p.m. (circle one)
5. How would you describe the traffic conditions for this trip?
Very Some Moderate Heavy Very little traffic traffic traffic heavy traffic
6. Did you travel to work on at least one freeway?
□ NO □ YES
If YES, is there a carpool lane on any of the freeways you used?
NO YES
USE QUESTION #7 TO CHOOSE WHICH OF THE NEXT SECTIONS YOU SHOULD COMPLETE
7. On your last trip from home to work, how did you travel? (check one)
By bus GO TO PAGE 2 - SECTION B.
With others in a car, truck, or van GO TO PAGE 4 SECTION C. □ Drove alone (including motorcycle) GO TO PAGE 6 SECTION D.
Other GO TO PAGE 8 – SECTION E.
1
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PART B:

IF YOU TOOK THE BUS TO WORK ON YOUR LAST TRIP, PLEASE ANSWER QUESTIONS 1-14.

1.	Did you use an express or regula	r bus service?
	Express	Regular
2.	Did you pay for a single trip, or d	lid you use a bus pass?
	Single-trip fare	Bus pass
	Fare \$Pass	Cost \$ Estimated Trip Cost: \$
3.	Did you transfer buses?	
	YES, transferred	NO, did not transfer
4.	Was the bus crowded?	
	YES	□ NO
5.	Did you get a seat for the entire	trip?
	YES	□ NO
6.	Was the bus on time? (first bus,	if you transferred)
	YES	NO — Minutes late
7.	How long did you wait for the bu	s? (including any waiting time at transfer points)
	About minutes total	al wait
	E.	
		PLEASE GO TO NEXT PAGE
		2
	·	

	Drove and Someone Walked parked my car drove me
	If so, about how long did you walk? minutes walk
9.	About how long did it take you to walk from the bus stop to where you work?
	Minutes walk
10.	Did you stop to do anything on your last trip from home to work? (For example: to shop, eat a meal, drop off a child.)
	NO, went directly to work YES, I stopped
11.	Did you stop to do anything on your last trip from work to home? (For example: to shop, eat a meal, pick up a child.)
	NO, went directly home YES, I stopped
13.	In the last two weeks, how many days did you take the bus to work? Days How else did you travel to and from work during the last two weeks: (check all that apply) None, I always rode the bus. Drove alone.
	Carpooled with household member(s) only.
	Carpooled or vanpooled with others (could include household members).
	Walked. Used other ways to travel to work.
	OSECI OTHER Ways to traver to work.
14.	Do you usually have a car available for the work trip, if you want to use it?
	NO YES
	PLEASE SKIP TO PART E PAGE 8.

PART D:

	IF YOU DROVE ALONE TO WORK ON YOUR LAST TRIP, PLEASE ANSWER QUESTIONS 1-12.
1.	
	YES, on a Caily basis monthly basis pays for parking Your Your Cost \$
2.	Do you have a reserved parking area? Pound space immediately Minutes spent looking for a parking space
3.	About how many minutes did it take you to walk from your parking place to your work site on this day? Minutes
4.	Did you stop to do anything on your last trip from home to work? (For example: to shop, eat a meal, drop off a child.) NO, went directly to work TES, I stopped
5.	Did you stop to do anything on your last trip from work to home? (For example: to shop, eat a meal, pick up a child.)
	NO, went directly home YES, I stopped
6.	Did you use your vehicle for any work-related trips during the work day? (For example, to attend meetings, make a delivery, and so on.)
	YES NO
7.	In the last two weeks, how many days did you drive alone to work? Days
	PLEASE GO TO NEXT PAGE
	6

PILOT PANEL SURVEY

	None, I always drove all Carpooled with househor	
		ed with others (could include household members).
	Used the bus.	•
	Walked.	
	Used other ways to trav	avel to work.
9.	IF you took the bus from hom	me to work, how much time would the trip take?
	Minutes	Don't know
0.	How long a walk is it from you	our home to the nearest bus stop?
	Minutes walk	Don't know
1.	Have you ever taken the hire fi	from where you now live to where you now work?
••		Thinking of all the places you have worked have you are you
	YES NO	anter brong nanistrost a tedinar crass to do to MOUK!
		YES NO
2.	Have you ever carpooled or vawork?	ranpooled on a regular basis from where you now live to where you now
	YES	L NO
	•	
	PLEASE	E CONTINUE TO PART E PAGE 8.

0.			
	Are you employed full time or part time?		
	Full Time		
	Part Time		
11.	Are you able to choose your work schedule, or is it fixed?		
	I am able to choose my work schedule.		
	My work schedule is fixed.		
12.	In the <u>last two weeks</u> , how many <u>days</u> did you work?		
13.	In the <u>last two weeks</u> , how many <u>total hours</u> did you work?		
14.	Does your employer allow you to work at home sometimes instead of going in to the office?		
	NO YES		
15.	Some people's work schedule changes from day to day, or from week to week. Does your work schedule change?		
	NO, I always work the same hours — > GO TO QUESTION 16.		
	YES, my work schedule changes.		
	There are many types of work schedules. Some of these include shift work, compressed work		
	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including		
	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days.		
	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including		
	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including		
16.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including		
16.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None One Two Three Four		
16.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars)		
	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None One Two Three Four or more		
	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None One Two Four or more		
16.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None One Two Four or more Including yourself, how many drivers are there in your household?		
17.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None		
17.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None		
17.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None		
17.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None		
	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None		
17.	week (4/40 or 9/80 schedules), and so on. Please describe your work schedule, including your work hours and work days. In total, how many cars, trucks, and motorcycles are there at your household? (Include any company cars) None		

20.	Have you always lived in Southern California?		
	YES NO		
		here?	years, months.
		Where did you live just before you most recently moved to Southern California?	
			County in California
		OR:	state in U.S. outside of California
		OR:	country outside of U.S.
		Where did you live	s for the longest period of time outside of Southern California?
			County in California
		OR:	state in U.S. outside of California
		OR:	country outside of U.S.
2.	NO YES		eason?
22.		If yes, for what r	reason? apply) Change type of house Move to a better neighborhood Job change
22.		If yes, for what r	reason? Change type of house Move to a better neighborhood Job change To reduce commuting distances
2.		If yes, for what r	reason? apply) Change type of house Move to a better neighborhood Job change
2.		If yes, for what r	reason? Change type of house Move to a better neighborhood Job change To reduce commuting distances
2.	NO YES	If yes, for what r (Check all that a	reason? Change type of house Move to a better neighborhood Job change To reduce commuting distances To change living conditions
	NO YES	If yes, for what r (Check all that a	ceason? Change type of house Move to a better neighborhood Job change To reduce commuting distances To change living conditions Another reason
	How much school have you co	If yes, for what r (Check all that a	reason? Change type of house Move to a better neighborhood Job change To reduce commuting distances To change living conditions Another reason ane, for the highest level completed or degree received.)
	How much school have you co Did not graduate from hig High school graduate h	If yes, for what r (Check all that a	ceason? Change type of house Move to a better neighborhood Job change To reduce commuting distances To change living conditions Another reason
	How much school have you co	If yes, for what r (Check all that a	reason? Change type of house Move to a better neighborhood Job change To reduce commuting distances To change living conditions Another reason ane, for the highest level completed or degree received.)
	How much school have you co Did not graduate from hig High school graduate – h Some college, but no deg	If yes, for what r (Check all that a	reason? Change type of house Move to a better neighborhood Job change To reduce commuting distances To change living conditions Another reason Another reason Another the highest level completed or degree received.) or equivalent (For example: GED)
	How much school have you co Did not graduate from hig High school graduate – h Some college, but no deg	If yes, for what r (Check all that a	ceason? Change type of house Move to a better neighborhood Job change To reduce commuting distances To change living conditions Another reason Another reason Another the highest level completed or degree received.) or equivalent (For example: GED)

	White Black Asian or Pacific Islander: Indian (American), Eskimo, Aleutian Other race:	(check one) Chinese Japanese Filipino Korean Asian Indian Vietnamese Other
25.	Are you of Spanish/Hispanic origin? (Check one) NO – not Spanish/Hispanic YES – Mexican, Mexican-American, Chicano YES – other Spanish/Hispanic (Puerto Rican, Cuba	ın, Central American, South American, Spaniard, etc.)
26.	For statistical purposes only, what is your households Less than \$15,000 \$15,000 to \$25,000 \$25,000 to \$35,000 \$35,000 to \$45,000 \$445,000 to \$55,000	\$55,000 to \$65,000 \$65,000 to \$75,000 \$75,000 to \$85,000 \$85,000 to \$95,000 \$95,000 or more
	Thank you for your help. We greatly appreciate your as to add, please make your comments here.	sistance. If there is anything you would like
	Please return the survey in the envelope pro	ovided. No postage is needed.