ABSTRACT

As a result of the changing policy scene, the data needs of decision-makers with which to make effective decisions are changing. However, it is questionable whether current quantitative transport planning methodologies, which were largely developed to predict the effect of new infrastructure provision, are able to provide accurate information on “soft” policy changes such as changing public transport regulation and financing, encouraging modal shift to environmentally friendly modes and improving transport’s impact on poverty alleviation. The purpose of this paper is to show how qualitative methods can be used in improving our understanding in these areas and assisting decision-makers in effective policy development. The paper will highlight possible methodological difficulties of using quantitative sample survey methods in researching travel behavior among low-income urban populations who have a low level of adult literacy. It will show how qualitative methods have been used to research the topics of travel behavior effectively and what measures need to be considered within the survey design to ensure that high-quality data is collected.

DIFFERENT POLICIES, DIFFERENT DATA NEEDS: APPROPRIATE SURVEY METHODOLOGIES FOR THE CURRENT POLICY ENVIRONMENT

The improvement of transport services for the urban poor in developing countries has long been an area of concern for both international aid agencies and developing country transport professionals. Currently, such concern is influenced by several factors: the ever-increasing size of many developing cities, both spatially and in population terms (5); the realization that previous policy directions mainly involving the provision of extra infrastructure have neither managed to satisfy demand nor alleviated the poverty at which it was targeted; and the realization that transport provision in the developing world cannot ignore its global environmental impact. Current policy directions involve such “soft” policies as changes to public transport ownership structures, priority measures for public transport and non-motorised modes and promoting the efficient management of existing urban road capacity. One example is the current World Bank policy document on sustainable transport (28), which points to the importance of non-motorized modes in future thinking of the international aid agencies.

In addition, it is becoming increasingly necessary for policy-makers, both within developing countries and among the aid agencies, to be able to assess the effect of policies adopted on a whole range of groups within society. Considerable efforts have been expended in many policy areas to evaluate such impacts as the effect of economic policy on the environment, on women and on reaching the target of poverty alleviation (see for example...
10), but traditionally, transport planning and policy, especially in the developing world, has not adequately achieved this (14). As a result of the changing transport policy scene, the data needs of decision-makers, with which to make effective decisions, are changing. However, it is questionable whether current quantitative transport planning methodologies, which were largely developed to predict the effect of new infrastructure provision, are able to provide accurate information on such “soft” policy changes. One area where the capability of traditional quantitative methods is being stretched is in aiding our understanding of the travel behavior of low-income, often illiterate, urban dwellers of the developing world, particularly women (14). The purpose of this paper is to show how qualitative methods can be used in improving our understanding in these areas and assisting decision-makers in effective policy development.

The paper will, drawing on available literature, highlight possible methodological difficulties of using quantitative sample survey methods in researching travel behavior among low-income populations. It will provide an example of how qualitative methods might be used to research the topic of travel behavior effectively and what measures need to be considered within both quantitative and qualitative survey design to ensure that high-quality data is collected. The qualitative survey methods reported in this paper were used throughout a series of studies on the transport organization of low-income residents in Accra, Ghana (14, 26, 25). These studies were designed to increase our understanding of the travel organization of marginal groups, particularly women and other sections of the urban poor. Five studies (Table 1) were conducted by the Transport Research Laboratory in collaboration with the University of Ghana and the Ghana Ministry of Transport and Communications. The first study looked in-depth at the travel and activity organization of low-income households of differing social structure; the second study sought to explore attitudes to cycle use and ownership among the urban poor. The third study focused on the role played by Accra porters in increasing accessibility to informal public transport services in the central market areas, and the fourth study focused on the transport arrangements and travel patterns of traders. The fifth study looked at the role of working children in the daily routine of low-income households. In all, 466 interviews were conducted.

Some of the interviews with market traders and porters were conducted in the Central market areas. The remainder were primarily in two low-income communities of Accra: the first, Nima, a major reception area for migrants from the North of Ghana and the other, Jamestown, a low income area is characterized by the high percentage of its residents who are indigenous to Accra, the Ga people (17,13). While there are no reliable figures on literacy levels in these neighbourhoods, literacy across sub-Saharan Africa is low, with 60 percent of women and 50 percent of men considered illiterate (19). It was therefore reasonable to expect that surveys in any low-income area of an African city would be conducted among an illiterate population. This is particularly so if women, as targets for some of the research, are to be surveyed adequately.

This paper will outline, in the next section, the experience of other social science researchers in conducting surveys in developing countries, many in areas where illiteracy is commonplace. This section will highlight some points that should be considered in deciding between quantitative and qualitative methodology and in deciding how to design a survey. The paper will then detail how a series of qualitative surveys were designed and conducted among a largely illiterate population in low-income neighbourhoods of Accra, Ghana. It will show how the surveys were designed so as to include many of the considerations highlighted in this paper. The paper will then draw its conclusions and
TABLE 1  Data Sources: A Listing of Surveys Conducted

<table>
<thead>
<tr>
<th></th>
<th>Topic</th>
<th>Date</th>
<th>Interviews</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>Household organization</td>
<td>April 1993</td>
<td>14</td>
<td>Household</td>
</tr>
<tr>
<td>1b</td>
<td>Household organization</td>
<td>March 1994</td>
<td>40</td>
<td>Household</td>
</tr>
<tr>
<td>2a</td>
<td>Cycling</td>
<td>April 1993</td>
<td>16</td>
<td>Individual</td>
</tr>
<tr>
<td>2b</td>
<td>Cycling</td>
<td>November 1993</td>
<td>30</td>
<td>Individual</td>
</tr>
<tr>
<td>3a</td>
<td>Traders</td>
<td>April 1993</td>
<td>8</td>
<td>Individual</td>
</tr>
<tr>
<td>3b</td>
<td>Traders</td>
<td>March 1994</td>
<td>60</td>
<td>Individual</td>
</tr>
<tr>
<td>3c</td>
<td>Traders</td>
<td>April 1994</td>
<td>102</td>
<td>Individual</td>
</tr>
<tr>
<td>3d</td>
<td>Traders</td>
<td>March 1994</td>
<td>5</td>
<td>Group</td>
</tr>
<tr>
<td>3e</td>
<td>Traders</td>
<td>November 1994</td>
<td>50</td>
<td>Individual</td>
</tr>
<tr>
<td>3f</td>
<td>Traders</td>
<td>December 1994</td>
<td>50</td>
<td>Individual</td>
</tr>
<tr>
<td>4a</td>
<td>Porters</td>
<td>April 1993</td>
<td>4</td>
<td>Individual</td>
</tr>
<tr>
<td>4b</td>
<td>Porters</td>
<td>November 1993</td>
<td>12</td>
<td>Individual</td>
</tr>
<tr>
<td>4c</td>
<td>Porters</td>
<td>March 1994</td>
<td>60</td>
<td>Individual</td>
</tr>
<tr>
<td>4d</td>
<td>Porters</td>
<td>March 1994</td>
<td>5</td>
<td>Group</td>
</tr>
<tr>
<td>5</td>
<td>Working Children</td>
<td>August 1994</td>
<td>10</td>
<td>Individual</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>466</td>
<td></td>
</tr>
</tbody>
</table>

highlight the policy implications for data collection and policy evaluation of transport in urban low-income areas of both the developing and developed world.

LEARNING FROM PAST EXPERIENCE: THE PROBLEMS OF CONDUCTING SOCIAL SURVEYS IN DEVELOPING COUNTRIES

There is substantial literature on the problems of conducting survey research in developing countries (9, 21). Commentators point out that conducting surveys in developing countries presents difficulties in areas of sampling, the language the interview is conducted in, interviewer training and selection and other so-called “situational variables” (9). There is a debate within these fields as to whether such difficulties invalidate the social survey process or whether survey methods and techniques can be adapted to overcome them. This debate centers around questions of whether the data collected can be relied upon? Do the data present an adequate picture of how a society operates? Are collected data objective, valid, representative? All agree that the data collected can often be unreliable unless great care is taken in adjusting survey methods to overcome these difficulties.
In many developing countries the reliable use of quantitative sample survey methods is flawed by the poor quality of data on the population as a whole. Peil (9) points to the rudimentary, out-of-date or unavailable nature of data about a population from which to draw a sample. She cites an extreme case where estimates of Nigerian population in 1980 varied from 60 million to 120 million. Even if reliable population estimates are available they may still contain inconsistencies, especially in rapidly growing urban areas. Within this author’s experience, while conducting research in Colombia, reliable census data existed for most of the urban population except those marginal areas of the city that were rapidly expanding through the invasion of vacant land, where it was considered too dangerous for the census authorities to venture and where the majority of the population were poor. Where reliable population data do exist, random sampling can be difficult when housing units are not clearly defined such as in squatter settlements, maps are of poor quality and residents are constantly moving. Methods used to overcome these difficulties are also not trouble-free. Peil (9) points to the common use of cluster sampling in certain areas of towns that are thought to exhibit certain homogenous socio-economic characteristics—ethnicity, religious composition or income levels for instance. Cluster sampling may be a reasonable methodology if urban areas being surveyed have such rigid differentiations. However, many urban areas, especially with rising migrant populations and housing shortages, may have neighbourhoods composed of people with a variety of socio-economic characteristics. This is particularly the case where extended family households or separate household budgets are the norm of social organization in which people of varying economic standing may dwell in the same residence.

Quantitative surveys have also been reported as having problems measurement definitions change across cultures. For instance, the idea of describing a household as the unit within which travel and scheduling is organized in a society such as Ghana, where husband and wife often have separate responsibilities and budgets, is questionable especially when one compares the average household size recorded by the national census at 5.4 persons (12) and the size of unit people themselves use when describing the unit within which travel is scheduled as an average of 10.7 people (25). Another example is the work of Lloyd and Gage-Brandon (18), which calls into question the analysis of household poverty by the sex of the head of household within the Ghana Living Standards Study. This work questions the reliability of the notion of increasing levels of female-headed household poverty. They argue that to isolate a group such as female-headed households ignores the complex structure of household organization in Ghana. The sex of the reported household head is not by itself an indicator of the current economic status of the household, although it may be an indicator of its potential vulnerability (18). To further highlight this question of definitions, recent evidence indicates that around 60 percent of Ghanaian urban households depend solely upon the income of women in meeting their household survival needs (4), while statistics place the figure for official female-headed households at around 30 percent (20).

What language the survey is conducted in also presents problems. Many countries in the developing world are composed of people speaking a variety of languages. While some of these countries will have a colonially imposed official language, such as many countries in Africa, the degree to which people, particularly illiterate, low-income people, understand the language is questionable. As a result, which language to use for a survey in these countries is a difficult issue. While this is obviously a crucial question among surveys where self-completion questionnaires or travel diaries can reasonably be used, it is
still important in areas with a high level of illiteracy where face-to-face interviews are carried out. For example, the World Bank-sponsored Living Standards Survey of the Ivory Coast noted the presence of almost 80 local languages, most of which were not written, and so, coupled with the difficulty in obtaining interviewers versed in many of the local languages, it was decided to undertake the questionnaire survey through face-to-face interviews in French, the official language (1). Despite this, the study noted that in 45% of the interviews the respondents didn’t speak French. In these cases either the interviewer or a local volunteer translated the questions and responses. However, Iyengar (15) points to the potential for a loss of meaning when questions and responses are translated between local languages and other, official languages, particularly for abstract concepts. Splitting journeys into “stages” may be such an abstraction. He points to the need to conduct rigorous pilot testing to check if language differences have an effect upon survey responses. For example, Blacker and Brass cite the case where in Gambian local languages there is no word for “date” (6). In Ghana, the term marketing is often used for both the buying and selling of goods. Bulmer and Warwick (9) in fact argue for conceptual equivalence in language translation (9) as more important than literal translation if there is to be commonality in measurement across languages.

Selection and training of the interview team are other areas where the reliability of surveys within a developing country may be compromised. Sollis and Moser (22) point out the potential benefits of using interviewers from the localities being surveyed in helping researchers understand local nuances and in ensuring a good response to the survey. They also point to the usefulness of maintaining long-term contacts with the study area.

Survey methodology literature discusses the impact of both non-response biases in data and biases due to not sampling a representative group of people. For instance, there is the well-documented problem of so-called “courtesy-bias” experienced in many areas of Asia. Here scholars report that, unless care is taken, respondents may bias their answers toward what they assume the interviewer wishes to hear or require (16). Non-response bias, while often not a problem, is a result of curiosity and courtesy to strangers. However, resistance on the part of the respondent community could arise from interviewing at awkward times of the day or year especially when most household members are working. Suspicion of a connection with tax or law-and-order authorities, as the author found in research in Ghana, can also engender a non-response. Non-sampling errors are much more serious for sample surveys if validity is not to be questioned.

Non-sampling errors arise from not interviewing certain sections of the population, and as a result a representative sample may not be selected. This is particularly likely to occur when information about addresses and street maps are not available to select a random sample of houses in a neighbourhood. Houses, neighbourhoods and villages that are easily accessible are likely to be surveyed, biasing the results to those perhaps wealthier people who have better access to markets, health care, education and transport. If official records are being used to determine the sample frame, illegal residents, illiterate people and migrants are less likely to be represented and would thus not be readily sampled. Travel surveys, in particular, often suffer from non-sampling errors when one considers women’s travel. Turner and Fouracre (24) point to the failure of transport studies in the developed and developing world to measure the different travel patterns of men and women by concentrating on travel during peak hours, on mechanised modes, to full-time, formal sector employment.
BREAKING DOWN THE BARRIERS: DESIGNING QUALITATIVE SURVEYS OF THE TRAVEL AND TRANSPORT BEHAVIOR OF ILLITERATE PEOPLE IN LOW-INCOME NEIGHBORHOODS OF ACCRA, GHANA

This section will describe some of the potential problems of conducting travel research in an urban area in Ghana. Ghana is a country of some 15 million people with roughly 1.5 million of those living in the Accra urban area. Social organization in Ghana is characterised by complex family structures. Lloyd and Gage-Brandon (18) point to the prevalence of family structures with strong lineage ties and weak conjugal ties, where a significant share of domestic functions of production, consumption, sexual union and socialization occur outside a household. The prevalence of polygamy and spousal separation in monogamous unions contribute to separate living arrangements and non-co-residential marriage is noted, as well as the practice of child “fostering” of related kin and the prevalence of grandchildren within older households. Meyer Fortes (11) points to household organization among the Akan that is characterised by an open domestic system with split residenceCsplit in space, split over time, both in the individual’s life time and in the sequence of generations, split for the spouses, split for the children and so on.

Ghana, like much of sub-Saharan Africa, also has a complex ethnic structure. Contemporary estimates identify the presence of 90 distinct ethnic groupings and over 26 different languages. Boateng (7) divides Ghana’s population into 44 percent Akan, 16 percent Mole-Dagbani, 13 percent Ewe and 8 percent Ga-Adangbe. In Ghana, my own and other evidence shows (2, 11, 17, 3, 27) spousal separation as a strong cultural practice for the Ga, Ewe, Ashanti (Akan) and Fanti (Akan) ethnic groups. The predominance of the Akan ethnicity in the population as a whole, given its cultural practice of spousal separation, results in the now widely recognised outcome (20) that pooling of resources and joint decision making between men and women in households is generally not the norm, with men and women tending to have separate income and expenditure streams.

What can be seen then, is that members of the population among which a questionnaire sample survey might be conducted are ethnically diverse, use a variety of languages, sustain complex structures of familial ties and relationships and exhibit significant differences in income within residential units as a result of the separation of household resources and responsibilities. This would impose several problems on anyone conducting a structured questionnaire survey. One would need to ensure that the questionnaire is administered by interviewers who speak several of the main languages and that they are capable of translating the meaning of the questionnaire from English without losing its meaning. The researcher would need to ensure that such translation backwards and forwards between languages does not affect the reliability of the data. The researcher would need to have some idea of what the ethnic makeup and income distribution was. Without this the researcher could not be certain that all levels of income and ethnicity are represented within the sample design. This is particularly the case as many women will be de facto female-headed households rather than de jure and so will be statistically difficult to spot even with reliable population censuses.

Given the potential problems of language and sampling errors that might face a structured sample survey among the low-income, poorly educated and largely illiterate population of Accra, it was decided that the only reliable course was to use a qualitative survey method using semi-structured interviews to collect data. This did not mean that potential problems of language, sampling and interviewer bias were automatically
overcome, but that greater flexibility was possible in designing and implementing surveys to counteract them. As a result several measures were taken to overcome the potential problems identified above.

Many questionnaire surveys both in the developed and developing world use ad hoc survey teams. In this particular study it was envisaged that problems would arise from using such ad hoc personnel as there would be no mechanism to provide an incentive to carry-out high quality work. Instead a long-term survey team was established. The collaboration of the Department of Sociology, University of Ghana, with the project management team allowed interviewer/researchers to be recruited from among undergraduate sociology and social work students. This meant that the interviewer/researchers were experienced in the theory and practice of conducting interviews among the local population and that they were able to relate to and have an interest in those they were interviewing. This is a feature considered important by other commentators (8). The interviewer/researchers were also attuned as to how Ghanaian households are structured and how to adapt the interview process to reflect these structures. The collaboration of the University of Ghana in the project management team also ensured that the interviewer/researchers were involved in continuous contact with some part of the project management in case problems arose. It also meant that interviewers could be used that also worked on other research studies for the Department, allowing them to become practised at interviewing in a variety of contexts and allowing continuity to be established within the project team. Furthermore an ad hoc survey team would have had difficulty fully understanding the concepts behind the research so that interview schedules could be translated into local languages with equivalent meaning. By using a team of interviewer/researchers that worked together over 5 studies for the Department of Sociology on education in Ghana (3) and 15 separate surveys on transport in Accra (Table 1), there built up over time a comprehensive understanding of the concepts behind the research, thus allowing the meaning of the research to be reliably translated between many languages.

The operating practice of the interviewer/researchers was also designed so as to ensure a representative response from the illiterate and marginal. As many studies have highlighted a non-response bias toward women, care was taken especially among those ethnic groups that were predominately Muslim to ensure that interviewers worked in mixed pairs. This would overcome the reluctance of women being interviewed alone by men. Non-response can also occur among illiterate populations when the purpose of the interview is not clearly understood. Preliminary structured questionnaire surveys conducted by interviewers from the Ministry of Transport and Communications met with a significant degree of hostility and suspicion as to the purpose of the survey (23). Many thought the interviews related to the tax authorities. Attempts to identify the purpose of the research by written letters of introduction had little success in areas with a high level of illiteracy. In further surveys this was overcome by utilising the local, social networks that pass information, news and gossip verbally. In Nima in particular, an area of a predominately northern migrant population, social structures existed that resembled the traditional tribal structures found in the rural areas from where a significant proportion of the population originated. There were, therefore, local “chiefs” who were considered leaders of the community. Gaining their understanding and approval for the research was considered important, and it facilitated our acceptance by people and increased their willingness to participate in the interviews. Such acceptance was necessary in this
predominately verbal environment where information about the research and its acceptability was passed verbally. This was understood by the local figures themselves, which even resulted in the author being personally invited to meet the Chief of the Busanga people (a North Ghanaian ethnic group) in his home in Nima prior to commencing the research. The significance of local leaders in facilitating research in poor, illiterate neighbourhoods has also been identified by others (22).

Once again, given the low level of literacy among the population, it was assumed that interviewing in English was not reasonable. English is the official language of Ghana; however, to assume widespread understanding or use among the low-income population, it was thought, would prejudice the outcome of the research. As a result, it was decided that the interviewers would conduct their interviews in whatever ethnic language the respondent felt most comfortable. As a result the selection of the interviewers was influenced by the need to obtain a spread of indigenous languages among the research team. The interviewers would translate the concepts behind the questions into a local language and translate the responses back into English. Even here, the problems that may occur even if a common international language, such as English, was used in surveys were highlighted by differences even between English as spoken in everyday Ghana and strict English. For instance, the range of modes and transport practices that operate in Accra is far more varied than is commonly allowed for in the vocabulary of the Western transport planner. In “Ghanaian English,” the description of travelling by taxi reflects the different practices that that mode adopts to respond to the needs of their main customers, informal market traders. Respondents described using taxis in three different ways at some time: Chartering, where the passenger arranges with the taxi driver to wait while she or he undertakes activities at different locations and then delivers her/him to a particular destination; Dropping, where the passenger is taken from the point of pickup to a particular destination—under this arrangement the driver has no right to pick up other passengers in the course of the journey; and Joining, where passengers pay set fares for a point-to-point journey and other passengers will be picked up en route (14). Mistranslations did occur but were noticed because regular debriefings were held and, as the interviewers worked with the research project over a period of time, patterns in response were recognised. This would not have been possible if the interview team had been constructed on an ad hoc basis.

Non-sampling errors have been highlighted as a potential problem for structured sample surveys in areas where census data on the size and makeup of the population are of poor quality and unreliable. The data for the Ghana population were at least 10 years old and difficult to disaggregate to distinct spatial areas such as Accra; a wider area covering large areas of rural hinterland called Greater Accra, was the smallest area of published disaggregation. To overcome this, a different sampling design was used. As a statistically representative sample was impractical, purposive or theoretical sampling was used to collect data on those members of the community that would allow us to understand the extent and depth of the different household travel experiences.

This sampling methodology involved developing a picture of how the local social structure is organised. A series of household categories was then developed that would depict the range of household types that might exist and that would experience different travel-activity scheduling problems. The interviewers were sent to the field with the aim of interviewing a quota of people within these categories. Selecting people or households to interview was achieved using the local knowledge of people living and working in a particular neighbourhood who would recommend people to be interviewed that exhibited
certain characteristics. This was particularly helpful in interviewing households of a certain structure that would not have been noticeable if head of household had been asked about household structure. Such a sampling methodology does, however, require a significant degree of cooperation from the local population, making obtaining such trust among an illiterate population all the more important. Such a sampling methodology while not able to provide a statistically representative picture of the extent of travel difficulties for low-income residents in Accra does allow the researcher to understand the processes and draw generalisations from a theoretical understanding. It is questionable whether a statistically representative picture of travel among a largely illiterate low-income population in Accra could be obtained without phenomenal financial and labour resources.

**GETTING THE WHOLE PICTURE: CONDUCTING QUALITATIVE TRAVEL BEHAVIOR RESEARCH AMONG ILLITERATE PEOPLE IN LOW-INCOME NEIGHBORHOODS OF ACCRA, GHANA**

The problems that could be encountered in conducting social surveys in developing countries were also incorporated into how the survey was conducted. In order to explore the process of travel decision-making and activity scheduling among low-income households, in-depth interviews were conducted that recorded how the daily routine was reproduced and how change was accommodated. Initially, respondents were asked to provide biographical information of themselves and others living within the same residence, their ages and the relationships between themselves according to their own definition. Semi-structured questions were asked about the respondents’ daily routines and that of others within their residential group and the travel that was associated with it. Arrangements for travel to work, for shopping, and for social purposes were ascertained. Details of costs, modes used, journey times and collaborative travel arrangements with other people were asked about. The interviewer/researchers probed with further questions, as they saw necessary, to ensure that behavior was clearly understood and that explanations were recorded accurately.

The respondents were also asked about how they accommodated change within their daily routine. Such topics were approached using scenarios of likely events within the experience of the respondents. These included medical emergencies (a significant and frequent event among the low-income population of any developing city); social emergencies such as the sudden need to attend a funeral in one’s home village (a regular and important element of maintaining social networks); and the outcome of unreliable public transport travel times (a constant feature of travel in any developing city). Respondents were also asked about any implicit or explicitly agreed-upon arrangements in place to handle some of these unpredictable events. For instance, which members of the household had the flexibility to respond to such events and which members were allowed to conduct their routine activity schedule undisturbed.

The exact nature of the questions changed between the 5 survey groups (Table 1) that form the basis of the research reported here. However, all featured determining the nature of the familial or household structures within which people conduct their daily behavior; the degree to which activities were conducted or scheduled in collaboration with others, the costs of travel, the modes used; how change had occurred in these routines over time, how had such change been accomplished and what flexibility existed in current arrangements. The outcome of these surveys has been widely published elsewhere (13, 14, 26).
As a purposive sampling frame was used in all the studies, they reflected the hypotheses developed independently for each study. As a result, the sampling frame used varied among the studies. The household travel research in the first study was trying to explore the impact that different household structures brought about by different ethnic and cultural practices had on activity scheduling. The sampling frame thus attempted to capture both nuclear and extended households in order to identify differences in household organization, roles and travel activity patterns within these households. Within the category of extended households, interviews were sought with polygamous as well as monogamous households. Respondent recruitment in this and several of the other studies was established by means of the “snowball” recruitment technique of having a respondent recommend someone they know who fits the interview criteria.

In the cycling study it was thought that significant differences in attitudes to cycling would exist between those households exposed to cycling and those not. As a result both cycle-owning and non-cycle-owning households from both surveyed communities were interviewed. In the third and fourth studies of traders and porters, female traders and both male and female porters were surveyed at the main transport terminals and within the residential areas. However, it was discovered from the initial surveys that the use of a multi-modal approach involving combined use of non-motorised transport and bus by traders was underrepresented within our sample. Additional interviews, therefore, were conducted with traders who explicitly used both porters and public transport to transport goods that they would retail. Also, it was apparent that mode choice was not fixed for respondents such as market traders, who had several mode options depending upon their time and cash availability. Therefore, market traders were specifically asked in subsequent surveys about the nature and occurrence of their “high cost” and “low cost” travel options. “High cost” options would often be chosen at peak times, such as Christmas, when travel demand was high, traders’ need to replenish stock was frequent and their ability to spare time away from their stalls was limited and would often involve expensive taxis. “Low cost” options would often involve purchasing smaller than optimal quantities of stock and travelling with such small loads by informal public transport and would be used when trade was sparse and other household commitments limited their cash flow (14).

CONCLUSIONS AND POLICY RECOMMENDATIONS

This paper has described the process of conducting a series of travel research studies in Accra, Ghana, among a low-income urban population that suffers from a high level of adult illiteracy. It has highlighted the fact that, drawing on the experience of social research in developing countries from other academic disciplines, significant difficulties would have been encountered in conducting reliable, valid quantitative household travel surveys in Accra without significant resources. As a result the paper describes the use of a qualitative survey methodology in transport research in a developing country. The paper highlights the scope of using qualitative methods among a significantly illiterate population for collecting an extensive amount of high-quality valid data with relatively little resources. It reports on the measures included in the survey design and implementation to counteract some of the problems of conducting research using any methodology among a low-income population with a high level of illiteracy.
The paper highlights the benefits of investing in an interview team that is maintained over a period of time rather than an *ad hoc* team as is normally used in transport surveys. Measures were taken to ensure that the interview team was of a high quality and trained by being exposed over time to a series of field surveys, ensuring consistency and a check on quality. A decision was made to allow the interviewer/researchers to conduct interviews in local languages, and so it was necessary to ensure they understood the concepts behind the research questions so that meanings could be effectively translated between languages. Non-response and non-sampling biases were mitigated by ensuring that surveys were only conducted once the trust and understanding of local social leaders had been gained and that local residents were used to recommend others to be interviewed who met the criteria of the sample design.

The paper also highlights the scope for using such qualitative methods to investigate issues that are addressed by newer, “softer” policy directions in transport, such as the effect of transport policy on women and the influence household structures have on travel demand management and modal shift. These qualitative methods, it is argued, are able to provide decision-makers in both aid agencies and national governments alike with the data they need to design effective policy and monitor its impacts across a range of target social groups. It must also not be ignored that the implications for transport survey methods raised in this paper can have relevance for data collection in some of the marginalized areas of affluent societies in the West.

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