

Part B. Statistical Methods:

1. Describe potential respondent universe and any sampling selection method to be used:

In an ideal situation we would be able to sample randomly from all drivers across the nation. However, given that this is an initial pilot study and that the study requires respondents to attend training on the survey and the installation of vehicle on-board devices, we are implementing a clustered approach. Data will be collected from six different sites across the nations. They are as follows:

- Baltimore, Maryland;
- the Chapel Hill, Durham, and Raleigh area of North Carolina;
- Eastern Iowa (predominantly rural area);
- Austin, Texas;
- Boise, Idaho; and
- San Diego, California.

The installation of these on-board GPS devices will allow respondents to experience how alternate road-use fees would actually be collected, and thus any data collected regarding such a fee system would be based on actual experiences. This is one of the advantages of the proposed data collection design.

We recognize that this is not a nationally or even locally representative sample. This means that any estimates can only be generalized to the respondents and not to any other extended group. However, given that this is the first time such a study has been conducted, even with this design, we will be able to develop an initial understanding of the issues that might arise with the imposition of an user road fee, and the technical and administrative challenges that might arise in national implementation. Thus despite the inability to generalize to national or local geographic areas the results will still be useful in understanding potential user reactions and implementation feasibility issues.

While we cannot get a random sample, we will still attempt to get a variety of respondents. There are three dimensions we will attempt to recruit in.

- Demographic characteristics such as age, gender, ethnicity, education, and region of the country.
- Driving environment and behavior: This aspect of the selection strategy design includes driving a large or small number of miles annually, having long or short commutes, and driving a fuel efficient or less efficient vehicle. It also includes variations in urban density, congestion, and presence of electronic tolling.
- Attitudinal profile: These profiles include indications of the general level of confidence in government, importance of personal privacy, feelings about the quality of road system management, and beliefs regarding whether more resources are needed to maintain and construct roads.

Respondents will be included in the sample using a variety of methods (further details in next section.) Data will be collected in two separate 1-year efforts. We are expecting to have about 1200 respondents in the first study and about 1500 respondents in the second. By having two different respondent groups we will be able to collect opinions and reactions to different implementation schemes.

2. Describe procedures for collecting information, including statistical methodology for stratification and sample selection, estimation procedures, degree of accuracy needed, and less than annual periodic data cycles:

Despite the non-random nature of this study, we are still aiming to collect as diverse a pool of respondents as we can. One of the main ways that we will let drivers know of this study, is through a multi-media campaign in both English and Spanish. The multi-media campaign will direct the interested person to contact the study team by telephone or through a website dedicated to the study. After the initial contact, the person will be informed of the study and participation requirements. If the person is still interested in

participation in the study, qualifying information will be collected through a questionnaire completed either on-line, by telephone, or by hand. Upon completion of the questionnaire, meeting the initial qualifying criteria (a licensed and insured driver, 18 years of age or older, own a personal vehicle, and who will continue to live in one of the study areas for a 12 month period), the person will be entered into the candidate pool.

In the first year of pilot testing, approximately 200 subjects will be selected from each site. In the second year, approximately 250 subjects per site will be selected. We expect to screen more people than we will ultimately select for the study.

The subject selection process will occur twice over the course of the study at the beginning of each year of the pilot test.

3. Describe methods to maximize response rate:

Given that this study will utilize a quota sample, response rates are not being computed. However, we are planning to use incentives, and a variety of recruitment strategies to maximize respondent diversity. In the interest of obtaining a large number of potential participants, media advertising is critically important. By varying the media used, different population groups within each study site will be apprised of the opportunity to participate. Media advertising will be conducted in both English and Spanish. Interested persons can contact the study team using any of three methods: telephone, Internet, or mail. Likewise, the screening questionnaire can be administered using any of these three methods. This three-pronged approach minimizes the possibility of excluding someone because of the lack of availability of a telephone, the Internet, or ability to write well.

4. Describe tests of procedures or methods:

The web-based data collection method and questionnaire has been thoroughly pre-tested using study team members and pilot tested by people independent of the study (fewer than 10 individuals). The multi-media advertisements will be tested using focus groups in each of the study areas.

5. Provide name and telephone number of individuals who were consulted on statistical aspects of the IC and who will actually collect and/or analyze the information:

David J. Forkenbrock, Professor	319 335-6800
Paul F. Hanley, Associate Professor	319 335-8137
Lori J. Jarmon, Operations Manager	319 335-6009

