The Supporting Statement

This is a new information collection request for the Exploratory Advanced Research (EAR) Program, entitled "**Using Behavioral Economics to Better Understand Managed Lane Use**."

Part B. Collections of Information Employing Statistical Methods

The following five questions must be answered only if Item 17 on Form OMB 83-I is "Yes." If the information collection involves statistical methods, the OST will request a review and concurrence from the Bureau of Transportation Statistics (BTS) before sending it to OMB.

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

The respondent pool will consist of individuals within three distinct groups; which include (1) students from Texas A&M University, (2) drivers from the Dallas/Fort Worth, Texas metropolitan region, and (3) drivers from the Washington, DC region. The driver groups will consist of travelers familiar with using tolled managed lanes on highway facilities.

The student respondent pool will draw from the approximately 60,000 students who currently attend classes at the main campus of Texas A&M University in College Station, TX. The student population consists of 52% male and 48% females. The racial composition is 58% White, 20% Hispanic, 8% International, 6% Asian, and 8% other. The largest student age groups fall in the range of 18 to 21 (47%) and 22 to 25 (38%) years old. The Economic Research Laboratory at Texas A&M University will recruit a group of 400 students, using a pre-existing database of students who agreed to receive notifications about experiments.

The Dallas respondent pool will consist of 120 drivers. The universe for potential Dallas respondents includes all drivers who reside in the region with a compatible toll transponder. The total number of active transponders in the Dallas area is 4.6 million. Approximately, 1.5 million unique transponders were recorded using I-820 during the year 2017. Based on past surveys of travelers by Cintra, typical socio-demographic characteristics of transponder owners who travel on I-820 are just over 50% male, fairly evenly distributed in age, mostly (68%) employed with some (12%) retired, students (4%), homemakers (4%) and other. Annual household income included less than $25,000 (13%), $25,000 to $50,000 (25%), $50,000 to $75,000 (18%), $75,000 to $100,000 (17%), $100,000 to $150,00 (15%) and above $150,000 at 7%. Drivers with transponders will be contacted to take the initial survey (Item 1, Table 1). From those responses we will select 120 willing participants that reflect the socio-demographic characteristics listed above.

The Washington, DC respondent pool will consist of 120 drivers. The universe for potential Washington respondents includes all drivers who reside in the region with a compatible toll transponder. The total number of active VDOT transponders in the Northern Virginia DC area is 1.25 million. Based on past surveys of travelers by TransUrban and VDOT, typical socio-demographic characteristics of transponder owners who travel on the express lanes (95 and 495) include just under 50% male with an average age of 38. Many are on commute trips to or from work or going to or from an appointment. Most (approximately 75%) spend less than $20 per month on tolls. Drivers with transponders will be contacted to take the initial survey (item 1, Table 1). From those responses we will select 120 participants that reflect the socio-demographic characteristics listed above.

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.

Approximately 24,000 of drivers from Dallas and Washington, DC will receive will receive a message from either Cintra, Transurban, or VDOT. The message will alert the user to a website and ask if they would like to participate in a five-minute survey. The survey will include questions about the respondent's sex and employment status, variables the research team will use toward stratification. The research team intends to have a respondent pool of 120 choosers and 120 non-choosers, for a total of 240 respondents, with an equal sexual distribution of males and females and approximately 70% employed. Half of the respondent pool will consist of drivers residing in the Washington, DC metropolitan region (120 drivers) and the remaining half will reside in the Dallas/Fort Worth region (120 drivers). The 240-person respondent pool will complete the online survey and participate in the computer-based test.

Prior to our computer based test and online survey of drivers, we will test both experiments on Texas A&M students. It will be administered to 400 students on the Texas A&M campus. We will recruit from the Economic Research Laboratory database, so subjects will have already opted-in to email recruitment for economics experiments. Students are regularly recruited through emails, flyers and class participation to join this database (independent from our involvement).
The sample will provide base information for use throughout the study. We anticipate the survey will take less than 2 hours.

The research team will then survey the 240-person respondent pool to collect key baseline information. Administration of the survey will occur using an online website as a convenience for the respondents. Most managed lane surveys commonly use an online, web-based format. The survey questions will include inquires about common trip purpose (e.g. work, school), socio-economic background (e.g. income, vehicle ownership), and use of the freeway (e.g. number of managed lane trips). See Appendix A for draft survey instrument.

Using the survey results, the research will stratify the Dallas and Washington, DC drivers by their use of priced managed lanes. The research team will seek a respondent sample half composed of drivers who choose between managed lane and non-managed lane trips (the research team identifies this group as "choosers"). The remaining half will consist of drivers who take all trips in a managed lane or all trips not in a managed lane (the research team identifies this group as "non-choosers"). Non-choosers will include a majority who always use the general purpose lanes (GPLs, or non-managed lanes) and a small number who always use the managed lanes (MLs). The research team will stratify the respondent pool using transactional data from Cintra, Transurban, and the Virginia Department of Transportation (VDOT) (operators of the MLs in Dallas and Washington).

For the computer-based test, the research team will use two separate labs (one in Washington, DC and another in Dallas/Fort Worth) to examine the behavioral responses from the 240-person respondent pool. The specific intent of the computer-based test is to study personal propensities of automatic versus conscious decision making. The test will feature subjects making 100 consecutive "driving" rounds in a stylized computer simulation (see Appendix A). Each round, subjects will have the opportunity to click on, or choose, one of two lane options (MLs or GPLs). Subjects will be paid based on the respective payoffs of the 100 lanes they chose.

Forty of the Washington DC drivers will then take part in the driving simulator test (see Appendix A). The research team will examine if their behavior in the BE experiments match their behavior in a driving simulator. The research team will test different scenarios and stimuli (like reduced price ML trips) to see how their choice of lanes might change.

Finally, 60 of the Washington DC drivers and 60 of the Dallas area drivers will participate in the field study. For this we will track their use of the MLs and GPLs over 3 months (see Appendix A). Based on the results from the simulator study the participants will also be given different stimuli (like toll discounts) to see how they impact lane choice.

3. Describe methods to maximize response rate.

The study only requires a small representative sample. The research team will offer cash payments to participants to get a socio-demographic representative. For this study, the research team does not see a need to maximize the response rate beyond the numbers required for each participant pool.

4. Describe tests of procedures or methods.

Students will pre-test the questions and instruments for use in the surveys and computer-based test. The administration of the pre-test will allow the research team to adjust for differences prior to engaging the Dallas and Washington respondent pools. The exact (draft) surveys and tests are included in Appendix A.

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.

Table 3 provides a listing of research team members and their contact information.

Table 3. Research Team Members.

Name	Organization	Title	Phone Number
Mark Burris (PI)	TTI	Research Engineer	979-845-9875
Susan Chrysler	TTI	Senior Research Scientist	979-845-4443
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Nick Wood	TTI	Assistant Research Engineer	512-407-1115
W. Douglass Shaw	TAMU	Professor	979-845-3555
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