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B. Collections of Information Employing Statistical Methods

The proposed study of young drivers will employ statistical methods to analyze the information collected from respondents and draw inferences from the sample to the target population. The following sections describe the procedures for respondent sampling and data tabulation.

The survey will take a multi-mode approach, using Web as the primary response mode, and a paper questionnaire that respondents can mail back as an alternative response mode. Many aspects of the data collection methodology required by NHTSA in its survey Contract were identified at a workshop conducted by NHTSA on April 24, 2012. The purpose of the workshop was to examine the use of a multi-mode approach to conducting the young driver survey by bringing together a small group of people having relevant expertise. Items identified during the workshop that NHTSA subsequently specified as requirements in the Contract awarded to the organization that will be implementing the survey for NHTSA (Abt SRBI, teaming with the Fors Marsh Group) were:

- Selected features of the Web site:
 - Requiring unique PIN for respondent entry.
 - Inclusion of progress bar.
 - Application of principles of visual heuristics that people follow in interpreting visual cues in visually laying out the questions.
 - Employing minimal use of transition screens.
 - Inclusion of review and edit feature.
 - Inclusion of QR code for quick access.
- Usability testing, including testing with mobile devices.
- Pilot testing, with inclusion of experiments in the pilot test to assess impact on response rates.
- Use of incentives, with incentive approach composing one of the pilot test experiments.
- Collection of paradata during the pilot test and full administration of the survey. At a minimum, this would include the amount of time spent on the Web site and on individual Web pages by respondents, use of definition and other assistance tools, breakoffs from the Web site by respondents, and item non-response.
- Parental consent for 16- and 17-year-old participants.
- Permitting interview by telephone if requested by the prospective respondent.

Details regarding the usability testing and pilot test are presented in Section B.4, which describes tests of procedures or methods to be undertaken. Details regarding sampling and methodology for the full survey are presented in Sections B.1 through B.3.

B.1. Describe the potential respondent universe and any sampling or other respondent selection method to be used.

a. Respondent Universe

The respondent universe is the population of young people ages 16 through 20 registered in the Driver License Databases of 8 States that agree to participate in the survey. All members of the respondent universe must have, or have had, a driver’s license (Learner’s Permit; Provisional License; Full License) issued by the participating State. NHTSA will seek 2 States from each of the 4 Census Regions as participants. NHTSA is using the geographic distribution to generate an overall sample that contains the varied characteristics of young drivers.

The States that will elect to participate in the survey are unknown at this time. Due to that uncertainty, the Table below provides information on the size of the eligible respondent universe for all States and the District of Columbia.

| | | | | | |
|--|-----------|------------------|---------|----------------|---------|
| Alabama | 276,492 | Kentucky | 126,520 | North Dakota | 34,847 |
| Alaska 2/ | 30,575 | Louisiana | 198,059 | Ohio | 577,213 |
| Arizona | 236,384 | Maine 2/ | 52,561 | Oklahoma | 186,831 |
| Arkansas 2/ | 141,245 | Maryland | 180,668 | Oregon | 127,647 |
| California | 1,289,005 | Massachusetts | 235,932 | Pennsylvania | 439,810 |
| Colorado 2/ | 203,816 | Michigan | 498,283 | Rhode Island | 35,999 |
| Connecticut 3/ | 127,312 | Minnesota | 213,950 | South Carolina | 238,404 |
| Delaware | 46,406 | Mississippi | 142,931 | South Dakota | 43,791 |
| DC | 1,547 | Missouri | 280,344 | Tennessee | 304,994 |
| Florida | 822,686 | Montana | 46,553 | Texas | 891,994 |
| Georgia | 385,976 | Nebraska | 97,058 | Utah | 168,866 |
| Hawaii | 38,359 | Nevada | 80,453 | Vermont | 27,583 |
| Idaho | 78,714 | New Hampshire 4/ | 69,474 | Virginia | 295,996 |
| Illinois /2 | 557,702 | New Jersey | 293,684 | Washington | 276,178 |
| Indiana | 29,037 | New Mexico | 48,508 | West Virginia | 76,824 |
| Iowa | 169,946 | New York 4/ | 490,930 | Wisconsin | 238,568 |
| Kansas | 153,747 | North Carolina | 315,394 | Wyoming | 28,480 |
| 1/Excludes Learner Permits 2/ Age and/or sex distribution estimated by FHWA 3/ Excludes expired permits included in previous reports 4/ State did not provide 2012 data ; Estimated by FHWA | | | | | |
| Data from the Highway Statistics Series (Highway Statistics 2012), Office of Highway Policy Information, Federal Highway Administration. Table constructed from data accessed at http://www.fhwa.dot.gov/policyinformation/statistics/2012/pdf/dl22.pdf (Sheet 6 of 6). | | | | | |

Some States will be unable to participate in the survey due to State laws that do not allow data in their driver license databases to be used for purposes such as this, or State policies that would preclude their participation. Other States will choose not to participate. Another factor limiting State participation will be the size of the respondent universe. The survey will be composed of two questionnaires, with 4,000 completed interviews per questionnaire. For several States, even if all eligible drivers received an invitation to participate, they still may not achieve the 8,000 completed interviews if the response rate slips below the targeted level. This would dictate against those States being part of the State sample.

b Respondent Sampling

Young person age groups are considered particularly reluctant to participate in surveys that appear long. In order to limit burden to individual respondents and encourage participation, NHTSA will administer two questionnaires. Each State participating in the survey will systematically or randomly draw a sample of young drivers meeting the eligibility criteria from its Driver License Database. The sample will be stratified by license type. NHTSA will obtain from the States respondent contact information (name, postal address, and e-mail address if available) as well as license type, age, gender, race and Hispanic origin (if available). Most of the latter variables will be used for weighting and/or non-response bias analysis. Also, NHTSA will ask the States to provide statistics on the number of drivers in their Driver License Database that meet the survey eligibility criteria, broken out by license type and the aforementioned demographic variables. Once the State data are obtained, the Contractor will randomly assign the sample members to one of the two questionnaire versions.

c Response Rate

This survey will involve collection of information from a population that has been hard to reach and has shown lower than average response rates within general population surveys. It also involves the development and application of new survey methodology for NHTSA. Given that a new approach is being broached to a population from whom it has been difficult to collect information, determining an expected response rate is a challenge.

NHTSA will work to achieve the highest response rate it can, and has planned substantial testing prior to the full administration of the survey in order to accomplish this objective (see Section B.4.). But as to what can be expected at this point, prior to obtaining any information from the planned pilot test, the best sources of information to make these estimations would be the results of other surveys of young people that have tested aspects of the methodology that NHTSA will be exploring. For example, Millar and Dillman¹ reported on response rates achieved with young people for assorted Web/mail experimental conditions that included a cash incentive (the NHTSA Young Driver Survey will include cash incentives). The response rates ranged from 38% to

¹ Millar, Morgan M. and Dillman, Don A. (2011) Improving Response to Web and Mixed-Mode Surveys. *Public Opinion Quarterly*, 75 (2), 249-269.

46%. It's important to note that the Millar and Dillman study administered significantly fewer questions than will appear on NHTSA's Young Driver Survey, limited their survey population to college students, and chose topics particularly relevant to those students. The response rates therefore are likely higher than what one can expect for the NHTSA Young Driver Survey.

Other information on response rates comes from the Youth Poll conducted for the Department of Defense (DoD). The Fors Marsh Group (FMG), who are members of the project team on the NHTSA Young Driver Survey, have directed the Youth Poll for a number of years and helped DOD transition the survey from a telephone to mail methodology. The response rate has been about 15% for the survey. However, FMG has conducted methodological experiments to assess the best ways of obtaining survey participation, and found various factors such as particular incentive configurations to increase response rates by multiple percentage points.

NHTSA will apply the expertise of its Contractor, and the results of usability and pilot tests conducted in preparation for this survey, to select optimum procedures for administering the Young Driver Survey. Given the expertise and the techniques being applied, the expected response rate for NHTSA's Young Driver Survey is between 30% and 35%.

B.2. Describe the procedures for the collection of information.

This survey will not produce national estimates. Rather, the estimates will project to the total number of drivers in the eight participating States that meet the eligibility criteria for respondent participation in the survey. The criteria are that the prospective respondent be listed in the State Driver License Database and either has an active driver's license issued by the participating State or else held a driver's license issued by that State that was invalidated for some reason. The sample will include respondents holding a license from the selected State but living in a different State. NHTSA may further refine the criteria after holding discussions with the States to identify any categories of drivers contained in the State Driver License Database that would be inappropriate to include in the survey. Once the criteria are finalized, estimates will be projected to all drivers who meet those criteria.

a Procedures for collection of information

As noted earlier, Abt SRBI teaming with the Fors Marsh Group will conduct the survey. Eight States will systematically or randomly draw a sample of drivers ages 16 through 20 from their driver license databases, and provide NHTSA with name and address information of sample members to use in contacting prospective respondents. Abt SRBI will randomly assign the drawn sample to the two questionnaire versions. The Contractor will also generate a unique PIN for each prospective sample member for secure access to the Web site serving as the primary mode of survey administration.

There will be a minimum of four contact waves with prospective respondents. The first wave will be a letter mailed to the address listed for the prospective respondent specified in the State file. The letter will request that the designated driver go to a specified Web site to take the survey. No other response mode will be offered at that time. The second wave will be a mailed reminder, which again will offer Web administration as the sole response mode. Contact waves three and four, in addition to offering the Web response mode, will contain a paper copy of the questionnaire that the prospective respondent can fill in and mail back as an alternative. It is unknown whether the participating States will have e-mail addresses in their Driver License Databases. If e-mail addresses are available, then the Contractor will add another contact wave, sending out e-mail reminders prior to the last contact wave mailing. Integrated with the contact waves will be methods for administering incentives and obtaining parental consent. Finalization of the methods that will be employed will not occur until experiments exploring those methods are completed as part of the Pilot Test. Those experiments are detailed in Section B.4 later in this document.

The Web system will show the questions and their response categories. The format of the screen will tell them if the question is a multi-response question or not. Some questions may have range specifications programmed in, with the program only accepting answers within that range. If the system detects an error, it will let the respondent back up to previous screens. The system will rotate the order of some items, such as rotating the order of different attitudinal statements to which respondents are to agree or disagree. If respondents have any questions regarding the questionnaire or the operation of the site, the system will contain a clearly marked mechanism by which respondents can contact the Contractor. In response, the respondents will immediately receive a return e-mail giving a time frame as to when a response to their inquiry will be sent and where they should look for it. The system will also include help screens and links to definitions for selected questions. Once respondents have completed the questionnaire, they will hit a submit button. Once a questionnaire has been submitted, the associated PIN will be deactivated and the respondent will no longer be able to access the system.

The hard copy version of the questionnaire will be simplified as much as possible given constraints that automatic skip patterns and other electronic facilitators of survey administration will not be available. At the same time, the paper questionnaire will be structured to appear as similar as possible to the Web version in order to limit mode effects. Respondents may fill out the paper version of the questionnaire, and return it using a provided stamped envelope. Returned paper questionnaires will be scanned using equipment that combines Optimal Mark Read and image capture technology to read traditional bubble marks, checkbox responses, X box responses, and bar codes. Any items or surveys unable to be scanned will be hand-entered using a double-coded, double blind data entry process.

b Precision of sample estimates

The objective of the sampling procedures described above is to produce a random

sample of the target population. A random sample shares the same properties and characteristics of the total population from which it is drawn, subject to a certain level of sampling error. This means that with a properly drawn sample we can make statements about the properties and characteristics of the total population within certain specified limits of certainty and sampling variability.

The confidence interval for sample estimates of population proportions, using simple random sampling without replacement, is calculated by the following formula:

$$p \pm z_{\alpha/2} \cdot SE(p) = p \pm z_{\alpha/2} \cdot \sqrt{\frac{(p \cdot q)}{(n - 1)}}$$

Where:

- SE (p) = the standard error of the sample estimate for a proportion
- p = some proportion of the sample displaying a certain characteristic or attribute
- q = (1 - p)
- n = the size of the sample
- $z_{\alpha/2}$ = (1- α /2)-th percentile of the standard normal distribution (1.96 for 95% CI)

The Young Driver Survey will obtain 4,000 interviews per State per questionnaire, for a total of 64,000 interviews. Sufficient numbers of interviews will be required per State for analyses of each State sample. Under simple random sampling, the expected size of the sampling error for a sample size of 4,000 is ± 1.5 percentage points assuming a characteristic near 50 percent. Data show licensed drivers ages 16 through 20 to be almost evenly split between males (51%) and females (49%).² The expected size of the sampling error under simple random sampling for a sample size of 2,000 is ± 2.2 percentage points. If one-third of the sample is composed of respondents having one of the three license types (Learner’s Permit, Provisional License, Full License), the expected sampling error under simple random sampling for a sample size of 1,333 is ± 2.7 percentage points.

However, stratification of the sample by license type, and application of a multi-mode approach, adds complexity to the design. Given a complex design, the margin of error, *d*, of the sample estimate of a population proportion, *p*, equals:

$$d = (t_{\alpha})se(p)$$

² Distribution of Licensed Drivers – 2010, By Sex and Percentage in Each Age Group and Relation To Population. Table accessed on December 6, 2013 at <http://www.fhwa.dot.gov/policyinformation/statistics/2010/pdf/dl20.pdf>

Where t_α equals 1.96 for $1-\alpha = 0.95$, and the standard error of p equals:

$$se(p) = \sqrt{deff} \sqrt{\frac{p(1-p)}{(n-1)}}$$

Where:

deff = the design effect

n = the size of the sample

There have been no previous youth surveys that used this combination of methodological procedures, making it difficult to estimate an expected design effect. Based on other types of surveys, an estimated design effect of 1.5 appears reasonable. Using the above formulas, the margin of error for a sample size of 4,000 interviews is $d = 0.019$ (± 1.9 percentage points) using a deff of 1.5 and setting P equal to 0.50. For sample sizes of 2,000 and 1,333, the margin of error is $d = 0.027$ and $d = 0.033$, respectively. The sample sizes are sufficiently large for these types of sub-group analyses at the State level.

c. Sample Weighting

For obtaining population-based estimates and for all statistical analyses, each respondent to the survey will be assigned a sampling weight. The sampling weight depends on the sampling design used for the survey. The survey will be conducted in eight States. The results of the survey are generalizable to the eligible population in each of the 8 States. The weighting will be conducted in three steps:

1. Probability of selection: Base Weight
2. Non-response adjustment: NR Weight
3. Post-stratification: State/Group Weight (this will be performed twice, once for State level estimates, and once for group estimates)

We plan to select an equal probability sample of n_h persons out of N_h youth on the DMV list in State h where $h=1, 2, 3 \dots 8$. Then the base weight for the selected person in State h is.

$$B(p_h) = \frac{N_h}{n_h}.$$

The DMV list will be stratified by license type before sample selection, in which case the base weight within a State will be computed from the number of youth in the population in a stratum and the number selected in that stratum.

This weight will be adjusted for nonresponse to the survey. The base weight will be multiplied by the ratio of the number of respondents and non-respondents to the

number of respondents. The adjustment will be made within each stratum used for selection of the sample. The result will be the NR Weight, which incorporates the base weight and multiplies this by the nonresponse adjustment factor.

The final objective of the weight procedure is to produce two sets of weights. One weight (State Weight) will be applied to each individual State and used when analyzing data only at the State level. The other weight (Group Weight) will treat the eight selected States as one entity and will be used when analyzing all eight States together. The first two steps in the weighting process (computation of Base Weight and NR Weight) are identical for each weight. The third step, post-stratification, is what will be unique to each weight.

For State Weight, a post-stratification adjustment will be applied to the NR Weight using control totals for gender in each State. This adjustment will ensure that the gender totals in the sample coincide with the gender control totals for each individual State. Separate control totals for each State will need to be used and this process will be repeated 8 times.

For Group Weight, a post-stratification adjustment will be applied to the NR Weight using control totals for gender across all eight States, as well as the population size of each State. These control totals will be raked in order to gain parity between the two. This process will only need to be undertaken once as all the States will be combined.

The end result will be two sets of weights which analysts will employ depending on whether they are analyzing the data for a specific State or looking at all eight States as one large group.

d Non-Response Bias Analysis

The States will provide age and gender information, and race/ethnicity information if available, for all members of the drawn sample. That information will be compared to the distribution of final respondents across those demographic variables in order to identify if differences exist between the responders and non-responders.

B.3. Describe methods to maximize response rates and to deal with issues of non-response.

NHTSA is taking a number of steps to boost the response rate for its Young Driver Survey. This activity started with the development of the initial draft of the Young Driver Survey by the Questionnaire Design Research Laboratory (QDRL) at the National Center for Health Statistics. The QDRL employed multiple waves of cognitive testing, leading to questionnaire items that respondents could more easily comprehend and answer. The QDRL recommended self-administration for survey approach in order to avoid any reluctance to respond due to an interviewer being present. The QDRL also

recommended electronic response due to this age group's comfort with technology. NHTSA agreed with the recommendation to use an electronic self-administered format. Initially, the agency considered conducting the survey using a single response mode, Web administration. However, NHTSA decided to offer an additional response mode to boost response rate, with Web as the primary mode and paper questionnaire the alternative response mode. The combination of cognitive testing, self-administration, and multi-mode design will help to overcome deterrents to responding. In order not to lose respondents that don't have Web access and don't want to fill out a paper questionnaire, NHTSA will provide for telephone interviews at the request of respondents.

While the QDRL work on question content will do much to build response, further work will be conducted to address heuristic considerations. There is a well-established literature on the heuristics of questionnaire design both for Web and Mail administration. NHTSA's Contractor, Abt SRBI teaming with the Fors Marsh Group, will use the most current research on questionnaire design in reformatting and designing the self-administered instruments.

Another issue that NHTSA is addressing in order to enhance response rates is questionnaire length. The agency has determined that the number of questions it seeks to administer would deter drivers in this age group from responding if all questions were incorporated into a single questionnaire. In order to limit the burden on respondents and encourage their participation, NHTSA will employ two different versions of the questionnaire. There will be a core set of basic questions common to each survey instrument. But different traffic safety areas will be explored in-depth by the two questionnaires.

In contacting respondents, NHTSA will use official government envelopes for the mailings. People will often open government envelopes out of curiosity as to why they are being contacted by the government. NHTSA will also offer a monetary incentive to encourage response. The structure of the incentive will be determined from an experiment that will be included in the pilot test. Details of the experiment are provided in Section B.4 of this document. NHTSA will decide the amount of the incentive based on the impact of the different incentive conditions on response rates.

It is anticipated that some of the sampled young drivers will no longer be living at the addresses listed for them on the State files. The survey Contractor, Abt SRBI, has expertise in locating respondents that are hard to reach, and will apply that expertise in locating the young drivers that have moved to a different residence. This will include checking addresses against the National Change of Address (NCOA) database.

It is essential that the Web survey be accessible 24 hours a day, seven days a week in order to maximize response. If a respondent attempts to log in to the survey and is unable to, or successfully logs in and is subsequently kicked out due to a hardware issue, the respondent is not likely to complete the Web survey in the future. For this reason it is critical that any Web survey be hosted on a system with plenty of redundancy and a back-up server which can take over if failure is realized. The servers used for this

survey will have such redundancy. In addition, Contractor staff will be available beyond standard working hours to ensure any issues with the Web survey are resolved quickly and do not result in any downtime. The Contractor will also stagger the mailings so that respondents receive the invites on different days, thereby reducing the risk of a multitude of respondents accessing the Web survey at the same time, averting any potential for system overload.

B.4. Describe any tests of procedures or methods to be undertaken.

The survey will be carried out in two Phases, with the first Phase being the development and finalization of the survey methods. The second Phase will be the full administration of the survey. During Phase 1 development, the project team will develop the Web site for on-line survey administration, adapt the questionnaires for multi-mode administration, and carry out an extensive Pilot Test. Tests associated with these Tasks will be as follows:

a) Web Site

The survey Web site will be programmed by the Contractor, Abt SRBI. Once programmed, the Contractor will take the following steps to test the survey instrument and ensure that there are no bugs in the system.

- 1) On-screen Testing – The programming and project staff will go through the survey on-screen and answer the questions as if an actual interview was being conducted. Close attention will be paid to skip patterns and programmed ranges for numeric items. Any issues found with the instrument will be documented in a testing log and sent back to the programmers for correction. The project staff will test the survey again once the issues have been rectified. This process will continue until no more errors are found.
- 2) Auto-pilot Data – Once the program is finalized and the first round of testing is complete, the programmers will create a dummy dataset by having the program run through an interview hundreds of times while selecting responses at random. This process is often referred to as an auto-pilot. Project staff will then analyze the data in order to identify issues which cannot be easily checked using on-screen testing. If any issues are found at this stage, the testing log will be updated and sent back to the programmers for correction. Once corrected another auto-pilot will be run and analyzed. This process will continue until the auto-pilot data are correct.

b) Usability Testing

Usability tests of the Web and paper questionnaires will be conducted to identify any problems in the interface between survey and respondent. The tests will be conducted with a convenience sample of young drivers having varying demographic characteristics that will be recruited from Washington D.C, northern Virginia, and Maryland communities through advertisements placed in newspapers (print and online).

A total of 27 subjects will go through the usability tests. Research has shown that usability testing does not require a large number of participants before reaching a point of diminishing returns³. The proposed number of test subjects is considered sufficient for the purposes of this study.

Testing will take place in the Fors Marsh Group User Experience (UX) Laboratory. Participants will be seated in the testing room where they will work one-on-one with a moderator. Nine subjects will be tested on Questionnaire Version A using desktop computer and mobile devices; another 9 will be tested on Questionnaire Version B using the same equipment. The third group will be composed of 9 subjects that are administered the survey entirely on paper. Five will receive one version of the questionnaire and 4 will receive the other version.

For the web site usability test, there will be a desktop computer or a mobile device for the participant. During each session, participants will be asked to think aloud while they complete the survey items. After completing a practice think-aloud task, the moderator will leave the room and will work from the UX Control Room. The participant will work independently and will communicate with the moderator via microphones and speakers. The moderator will generally not interrupt participants while they work on the survey. However, if during the sessions participants do not use some functions (e.g., Help, pictures, error correction), the moderator may interrupt towards the end of the survey to ask participants to use these functions.

For the web site version, the moderator will instruct participants to complete part of the survey on a mobile device. About one-half of participants will start on the mobile device, and the remaining participants will start on the desktop version. About half way through the session, the moderator will say: “Let’s say you were interrupted while working on this survey. How would you finish completing it using [the second device: desktop or mobile]?”

The Fors Marsh Group will assess mobile usability and the usability of pausing and re-entering without losing responses previously entered. Throughout the sessions they will pay close attention to patterns of item non-response and selection of response categories, time to complete the survey and specific items, the length of responses to open-ended questions, how placement affects use of instructions, the path taken to complete specific items (e.g., backtracking and skipping), and the level of effort required to complete the survey and individual items. Upon completion of the survey, participants will complete a Likert-scale satisfaction questionnaire (example provided in Attachment 6). At the end of the session, the moderator will lead a debriefing interview with retrospective probes. Debriefing questions will focus on overall experience with the survey, as well as specific things participants did or said during their session.

³ Nielsen, J. and Landauer, T.K. (1993). A Mathematical Model of the Finding of Usability Problems. ACM Press, New York, New York.
<http://coursesite.uhcl.edu/hsh/peresSC/Classes/PSYC6419seminar/p206-Five%20Users%20nielsen.pdf>

c) *Pilot Test*

The Phase 1 development work will conclude with an extensive Pilot Test to assess the survey procedures. Sample for the Pilot Test will be selected from a single State that has agreed to participate in the survey. Categories of young drivers in the State’s Driver License Database will be identified, and a sample of drivers that meet the criteria specified in Section B.1 above will be selected. The Pilot Test will include multiple experiments that will be used to assess their impact on response rates. The results will guide the selection of final procedures for the Phase 2 full survey administration.

The Pilot Test will be carried out using the same procedures planned for the final survey administration (as specified in Section B.2) with the following exceptions: procedures for monetary incentives and procedures for parental consent. Those exceptions compose the experiments that will be conducted to assess impact on response rates. Sample sizes for all conditions will be 700. Power analysis based on a reference proportion of 40% and $n = 700$ shows that this sample size would be expected to detect a difference between two groups of 7.3 percentage points with 80% power.

For the monetary incentive experiment, different levels of contingent incentives will be tested with the Version B Questionnaire. The Version A Questionnaire will test non-contingent incentives, sometimes in combination with contingent incentives. There will be a non-incentive condition group for both versions of the questionnaire that will serve as a comparison. This will produce a total of 9 test conditions, as diagrammed below:

| Table 2. Experimental Matrix (Incentive Conditions) | | |
|---|----------------------------|----------------------------|
| | Questionnaire Version A | Questionnaire Version B |
| No incentives (0/0) | Group 1 n = 700 | Group 7 n = 700 |
| \$5 contingent only (0/5) | | Group 8 n = 700 |
| \$10 contingent only (0/10) | | Group 9 n = 700 |
| \$1 non-contingent only (1/0) | Group 2 n = 700 | |
| \$2 non-contingent only (2/0) | Group 3 n = 700 | |
| \$1 non-contingent/\$5 contingent (1/5) | Group 4 n = 700 | |
| \$2 non-contingent/\$5 contingent (2/5) | Group 5 n = 700 | |
| \$1 non-contingent/\$10 contingent (1/10) | Group 6 n = 700 | |

For all experimental conditions specified above, parental consent for the 16- and 17-year-olds to participate in the survey will be obtained through mailings addressed to the target respondent (Minor-Centered Consent). When the respondent logs on to the web survey he/she will receive a screen which asks the respondent to go get an adult and read the parental consent information. If the adult reads the information and gives consent, he or she will select a check box and “sign” his/her name by typing it into a dialog box. The process will be similar for a hard copy questionnaire except the parent

will read the consent materials on paper, check a box indicating he/she has read and understands the materials, and then sign his/her name.

An alternative approach to obtaining parental consent is to address the invitation mailing to the parent (Parent-Centered Consent). This approach will get the parent involved sooner, and he or she may be motivated to persuade the minor to complete the survey as youth traffic safety is a salient topic in households with a 16 or 17 year old driver. The consent will be administered in the same way as the Minor-Centered Consent with the parent reviewing the consent materials and “signing” off on them. The Pilot Test will compare the response rate using Minor-Centered Consent with a \$10 contingent incentive (Group 9 in Table 2) to the response rate using Parent-Centered Consent with a \$10 contingent incentive (Group 10 in Table 3). The testing will be conducted with the Version B Questionnaire, whose extended modules are in some of the more sensitive areas (alcohol and drugs). A non-contingent incentive will not be used as the addressee will not be the respondent.

| Table 3. Parent-Centered Consent | | |
|----------------------------------|--|-------------------------|
| | | Questionnaire Version B |
| \$10 contingent | | Group 10 n = 700 |

B.5. Provide the name and telephone number of individuals consulted on statistical aspects of the design.

The following individuals have reviewed technical and statistical aspects of procedures that will be used to conduct the Young Driver Survey:

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