

Pilot Project: Work Organization Risks to Short-haul Truck Drivers' Health & Safety (Survey)

Supporting Statement Section B

New

Request for Office of Management and Budget (OMB) Review and Approval for a Federally Sponsored Data Collection

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B.1. Respondent Universe and Sampling Methods

The target population for the pilot project survey entitled Work Organization Risks to Short-haul Truck Drivers' Health & Safety will be currently employed full-time local / short haul (L/SH) truck drivers using the following defining characteristics:

- Travel within 150 mile radius of reporting location
- Arrives home every night

The pilot project proposes a sample net of approximately 300 respondents which will be accessed through three industry sources: companies with L/SH operations, membership in professional organizations, and weigh station operations. While priority will be given to accessing the majority of respondents through company partners, other access points will be utilized to ensure a representative sample. The approximate itemization of potential participants within each industry source is outlined in Table 1.

Table 1. Approximate itemization of potential participants per industry source

Industry Source	Approximate Number of Drivers
Company Partners	300
Professional Organization	100
Weigh Station Operations	200
Total	600

Truck drivers in general are a hard-to-access driver population. Truck driving companies have a whole host of employment descriptions, scheduling arrangements, and driver operations. Because of these characteristics, flexibility in sampling and data collection methods is a necessity. In addition, this group of drivers is largely unorganized/un-unionized. Due to these constraints, we will use a convenience sample and will not employ statistical sampling methods in the selection of sites or individuals. The NIOSH research team will collaborate with subject matter experts and industry stakeholders to identify companies who are interested in participating in this information collection.

As mentioned before, there are three primary access sources for survey participants: companies with L/SH operations, membership in professional organizations, and weigh station operations. The commonality among companies is the L/SH truck driver feature; otherwise, the companies differ in freight, type of truck, and load designation of L/SH truck drivers (low, medium, and high). The specific professional organization is the Georgia Motor Trucking Association (GMTA), and their membership database will be accessed for truck driver participants in the L/SH industry. The GMTA will also be facilitating the weigh station source for participants in which truck drivers can participate in their regularly scheduled truck inspection and training.

Program staff will also collaborate with subject matter experts and industry stakeholders to determine the best method to recruit participants at sites, including posting flyers (Attachment G) and approaching drivers at loading docks (with express company permission). A brief non-respondent questionnaire (Attachment D) will be

offered to those who do not want to participate in the study to make comparisons between those who agreed to participate and those who did not.

Researchers will work to include drivers from each of the three access sources described above, but the proportion of drivers who participate from each source type will depend on the level of driver access that program staff are able to obtain.

We estimate that we will be able to access a pool of approximately 600 L/SH truck drivers in order to secure the proposed 300 L/SH truck drivers currently employed with our company partners (n=12) to complete the pilot project survey. This will occur over a period of three to six months (pandemic)ongoingthe or up to two years, if challenges are encountered with data collection due to with ongoing progress checks to ensure successful sampling. Although our approach suggests a response rate of 50%, data collection will be prioritized through company partners with the other access points serving in a supplemental role. Moreover, our study is unique in addressing a gap in the literature with a wide range of variables serving as a potential benchmark to characterize the safety and health implication of L/SH work; therefore, the response rate may be well above or below this mark. Nevertheless, NIOSH has conducted extensive field work and collaborated on multiple health and safety projects within the trucking industry (i.e., long-haul truck driving), so it is reasonable to expect that cooperation on this study will follow, and the proposed response rate is reasonable. Response rates between different types of sites and company types may also vary.

The program staff would also like to obtain some variation in the geographical location of interviews. Therefore, we will attempt to recruit at sites in two different states in both the Midwest and Southeast regions.

B.2. Procedures for the Collection of Information

The NIOSH research team will collaborate with leadership and points of contact at each industry source of access to obtain permission to request participation from drivers at their respective sites. These collaborations will also yield specific locations of data collection, such as conference rooms, training centers, loading docks, and inspection sites.

We will not stratify or select a sample of drivers to approach; rather, we will invite all drivers at the identified sites to participate. Specific to the participating companies, an attempt will be made to obtain a list of all drivers that are on-site during the dates of data collection. Where this list is available, each driver will be approached and invited to complete the survey. Where lists are not available, flyers will be posted at the site starting one day before information collection begins inviting drivers to participate (Attachment G). Advertising materials will provide information on the purpose of the survey, the estimated time burden to participants, the hours when information collection will take place, and information on participation incentives. The materials will also explicitly state that participation is voluntary.

Data collection methods will be dependent upon the industry source that is being accessed. At the company level, data collection will be conducted during times that are minimally inconvenient to the driver. The eligibility screening (Attachment K) will then be completed by research team members. If determined to be eligible and interested in participating, the research team member will have the participant review and verbally consent. Institutional Review Board (IRB) for Human Subjects approval has been obtained. Once consented, the driver will be directed to complete a hardcopy survey via pen (Attachment C) in a protected area on site. A participation incentive will be issued by research team members once surveys are submitted by drivers.

Lastly, a company survey (Attachment J) will be administered to a point of contact within each company participating in the study. These survey items will allow timely data collection on general information about the company and workforce that does not have to be placed upon the driver to answer.

At the GMTA level, eligible members of GMTA will be approached with a participation request via email communication (Attachment H) with advertising information that will provide information on the purpose of the survey, the estimated time burden to participants, the hours when information collection will take place, and information on participation incentives. The communication will also explicitly state that participation is voluntary. Once the request has been accepted, participants will be sent a secure link to an online version of the survey. The online version will contain implied consent procedures that are in the approval process with the Institutional Review Board (IRB) for Human Subjects. Data entered into the online survey system will be password protected and transferred into the data management system once data analysis begins. Incentive distribution following survey submission will be conducted through GMTA with a respondent coding system that will prevent participants from being linked to their survey responses. Participants will be instructed to contact GMTA for disbursement of their incentive after providing GMTA personnel with an address for delivery and the self-generated code comprised of the participant's birth year and the first two letters of participant's mother's name. Once participation is confirmed, the incentive will be sent by GMTA. GMTA will be provided with all participant self-generated codes and sealed incentives for disbursement.

At the weigh station level, eligible participants will be identified with GMTA assistance. Once identified, potential participants will be invited to participate. Upon acceptance of invite, the eligibility screening (Attachment K) will then be completed by research team members. If determined to be eligible, the research team member will have the participant review and verbally consent. The approval process with the Institutional Review Board (IRB) for Human Subjects is underway, and it is expected that verbal consent will be approved since written consent would be the only identifying information for participants. Once consented, the driver will be directed to complete a hardcopy survey via pen (Attachment C) in a protected area on site. A participation incentive will be issued by research team members once surveys are submitted by drivers.

If the driver is found to be eligible but declines to participate, the driver will be asked to complete a non-respondent questionnaire (Attachment D) to collect basic demographic information. These data will be used to compare major differences between those who agree and those who decline to participate.

All persons on the NIOSH research team who travel and participate in data collection will be given training to include an overview of the L/SH industry with a focus on the specific organizational risks that may impact trucker driver health and safety. An explanation of necessary safety precautions will be given, including awareness of hazards at each respective industry source (e.g., moving trucks at weight stations and loading docks). All NIOSH research team members will adhere to site safety and security requirements, including the use of appropriate personal protective equipment.

Survey completion via hard copy will allow for simultaneous participation and is void of technological mishaps. Data from each hard copy submission will be entered by a research team member into a secure data management system to be cleaned and analyzed. The data entry process will be reviewed by a different research team member for quality control purposes.

The goal number of participants for the study is 300 drivers. We are collecting a convenience sample for the reasons described above; thus, this data collection request does not require a statistical power discussion. In addition, there is not a particular disease of interest; rather, this is a hypothesis-generating survey on multiple topics of importance in this population.

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

Participation in this survey is voluntary. In recognizing that this workforce works potentially long shifts, participants who submit a survey will be offered a \$10 gift card as a token of appreciation. To maximize participation, the NIOSH research team will work with leadership and points of contact at each industry source to explain the importance of the study and to obtain permission to collect data from the intended population. Additionally, every effort will be made to approach all drivers on site to invite them to participate through advertising materials and promotion/encouragement of industry source partners. Also, where possible, flyers will be placed on site the day before data collection begins. Data collection will occur using primarily hard copy surveys with pens, facilitating simultaneous survey completion. When drivers decline to participate, we will ask the driver if they would be willing to answer a short (see Attachment D) non-response questionnaire that will allow researchers to compare basic demographics of participants and non-respondents to determine if there are any differences.

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

The survey instrument was reviewed by L/SH industry subject matter experts at the stakeholder, manager, and truck driver levels. Their feedback was incorporated into the finalized version of the survey.

A large portion of the survey items have been validated in other national health surveys, namely the Long Haul Trucker Survey (OMB No. 0920-0865) and the Oil and Gas Workers Safety and Health Survey (OMB No. 0920-1195), which were both conducted by NIOSH. Additional validated scales were used within the survey, and an itemization can be reviewed in Table 2.

Table 2. Itemization of survey items per validated source(s)

Item Description	Validated Source(s)
Truck Driver Attributes	Long Haul Trucker Survey, Oil & Gas Survey, ATRI, Sorensen et al., 2018
Truck Driving Attributes	Long Haul Trucker Survey
Job Design Factors	Quality of Work Life (QWL, 2014), BRFSS
Truck Driver Health Status	SF-36, HRQOL
Truck Driver Health Behavior	NHANES, Godin, Oil & Gas Survey, PSQI, Epworth, NIAA

B.5. Individuals consulted on statistical aspects and individuals collecting and/or analyzing data.

NIOSH employees designed the survey and will be responsible for collection and analysis of all data. Key NIOSH contacts are listed below.

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