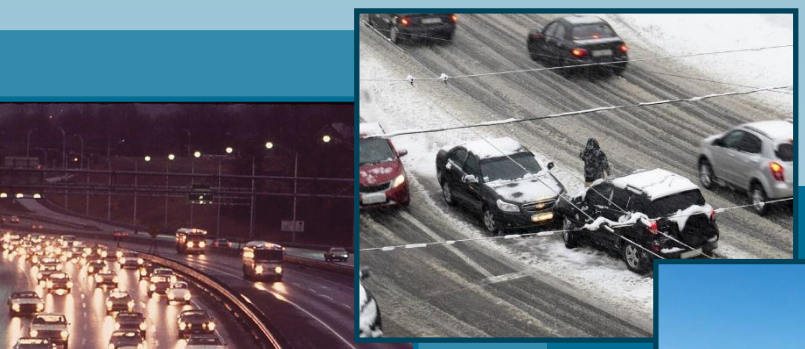

WA TRAFFIC SAFETY SURVEY

Methodological Plan

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MARKET
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Methodology

I. Introduction

The Washington Traffic Safety Survey is a large scale statewide data collection and analytical effort to help gain actionable information to inform the Washington Traffic Safety Commission (WTSC)'s mission to reduce traffic fatalities and serious injuries within the state. This is the inaugural implementation of the survey instrument, designed with the Montana State University (MSU) Center for Health and Safety Culture (CHSC), by Market Decisions Research on behalf of the Commission. In 2023, WTSC and MDR anticipate completing 10,000 completed surveys through both mail and online modes across 17 regions and among various demographic cohorts in Washington State.

II. Survey Instrument

The WTSC contracted with the Montana State University (MSU) Center for Health and Safety Culture (CHSC) to develop and validate a traffic safety survey instrument to be used to collect data statewide and annually for planning and evaluating traffic safety programs. The survey instrument was reviewed by the research team at MDR and then programmed for both online and pen-and-paper data collection in Voxco and through Teleform respectively. Copies of both versions of the survey instrument are present in Appendix A. The survey collects information about the following overarching topics:

- Overall Road Use
- Driving History
- Pedestrian and Bicyclist Experiences
- Driving Behaviors
- Family and Workplace rules
- Beliefs about Safety
- Societal Expectations
- Community Behaviors Around Driving
- Control While Driving
- General Traffic Safety
- Demographics

The survey instrument will be available online in both English and Spanish versions, and MDR will include information for requesting more information about the survey in outreach to residents in both languages.

III. Sampling

The target population for this study are adults age 18+ living in Washington. The sample for the study consists of an address-based sampling frame (ABS) combined with a complementary online panel with the goal of completing 10,000 surveys statewide and producing results that are representative of the state's 17 Target Zero Regions.

Our stratified sampling plan will draw ABS samples within each of the state's Target Zero Regions to complete a minimum number of surveys within each region. Less populous areas will be oversampled, with a disproportionately large sample assigned to them relative to their population. This will allow us to make statements with a high level of precision at the region level, even in the most rural areas of the state, which would not be allowed under simple proportional random sampling. A summary of the sampling goals by region is included in the table below.

Sampling Summary by Target

Region	Region Name	Region Population	ABS Mailing	Total Completes	ABS Completes*	Online Panel Completes
Region 1	Clallam, Jefferson Counties	92,391	1,085	400	348	52
Region 2	Grays Harbor, Mason, Pacific Counties	130,993	1,165	400	298	102
Region 3	Cowlitz, Lewis, Wahkiakum Counties	151,584	1,165	400	304	96
Region 4	Thurston County	228,211	2,000	400	253	147
Region 5	Pierce County	696,507	3,000	1000	551	449
Region 6	Clark, Skamania Counties	388,204	2,165	600	363	237
Region 7	King County (North)	1,788,386	3,335	1000	520	480
Region 8	King County (South)	1,788,386	3,335	1000	520	480
Region 9	Kitsap County	217,388	1,500	400	280	120
Region 10	Snohomish County	634,352	3,000	1000	675	325
Region 11	Island, San Juan, Skagit, Whatcom Counties	367,108	2,000	600	428	172
Region 12	Chelan, Douglas, Kittitas, Okanogan Counties	160,515	1,165	400	326	74
Region 13	Klickitat, Yakima Counties	197,198	1,665	400	293	107
Region 14	Benton, Franklin Counties	214,467	1,665	400	285	115
Region 15	Adams, Ferry, Grant, Lincoln Counties	96,409	1,165	400	358	42
Region 16	Pend Oreille, Spokane, Stevens, Whitman Counties	501,489	2,835	800	496	304
Region 17	Asotin, Columbia, Garfield, Walla Wall Counties.	71,702	1,085	400	369	31
Statewide		5,936,904	33,335	10,000	6,667	3,333

** Estimated number of completed assuming 20% response rates.*

Two-thirds of completes (or 6,667) will be completed via the stratified random ABS sample and one-third (3,333) via our online panel sample. It is important to note that our goal is to achieve an overall margin of error (MoE) of ±5% for the survey overall and within each region; and a ±10% MoE within each county after the second year of data collection (combining multiple years of data_.

The final, full sampling plan for this project is described in more detail in the Washington Traffic Safety Survey Sampling Plan.

IV. Data Collection Procedures and Timeline

Following the proposed sampling plan, MDR will split data collection for the 2023 Washington Traffic Survey into two separate online outreach efforts – the first a panel sample based online instrument fielded through Voxco to panel sample participants in Voxco Audience. This survey will take place over the course of data collection and will gather data from respondents tailored to help produce results applicable to both the urban population of Washington State as well as smaller populations of specific demographics or regions of interest. Approximately one-third of the final number of completed surveys will be collected through this approach.

The second component of data collection will consist of large scale mail outreach to the population of Washington using ABS sample from our partner MSG. This data collection will take place over three waves, each following the same general mailing format with an emphasis on push-to-web with a final survey mailing encompassing all non-respondents across all waves.

The overall schema for mailings are as follows:

1. An invitation letter informing the household that they have been selected to participate in the 2023 Washington Traffic Survey. This letter consists of an English and Spanish language side, each providing the same information: the goal of the survey, the individualized QR code and passcode necessary to complete the survey online, an exhortation about the importance of the survey, and a contact to whom respondents can reach out and have questions answered or additional information provided.
2. A reminder postcard reinforcing the importance of the survey, providing a reminder QR code and login passcode as well as instructions to complete the survey online, and a thank you to respondents who may have already completed the survey.
3. A reminder letter giving the respondent a due date for survey completion, a reminder and emphasis on the importance of their personal feedback and response, as well as the QR code and login information necessary to complete the survey.
4. Lastly a pen-and-paper-instrument (PAPI) mailing including a paper version of the survey, with an introductory letter explaining the purpose of the survey, as well as instructions for completing the survey online and a pre-paid Business Reply Mail (BRM) envelope to allow for easy returning of the completed survey instrument.

Wave 1 begins the mail cycle on March 20th, 2023 with the mailing of the first invitation letter. The reminder postcards mail out two weeks later, on April 3rd, 2023 and the final reminder letter mails out on April 17th, 2023.

Concurrent with the final reminder letter of Wave 1, Wave 2's invitation letter mails out on April 17. 2023, with the postcard follow up mailing on May 1st, 2023 and the final reminder letter mailing out May 15th, 2023.

The third and final wave's cycle begins as Wave 2 wraps up, with invitation letters mailing on May 15th, postcard reminders mailing on May 29th, and reminder letters mailing out June 12th, 2023.

Survey packets for all three waves will mail on June 19th, 2023 and data collection is expected to close on July 21st, 2023.

Summary of Data Collection Timeline

	Date
Wave 1	
Initial Invitation Letter	March 20th, 2023
Begin online panel	March 27th, 2023
Reminder Postcard	April 3rd, 2023
Final Reminder Letter	April 17th, 2023
Wave 2	
Initial Invitation Letter	April 17. 2023
Reminder Postcard	May 1st, 2023
Final Reminder Letter	May 15th, 2023
Wave 3	
Initial Invitation Letter	May 15th, 2023
Reminder Postcard	May 29th, 2023
Final Reminder Letter	June 12th, 2023
End online panel	June 19th, 2023
Survey Packet Mailing (Waves 1-3)	June 19th, 2023
End Data Collection	July 21st, 2023

In between each wave, MDR will conduct a response analysis and present it to WTSC. This analysis will allow MDR to review and refine the sampled households to better adhere to the quotas established during sampling in order to provide the most granular data possible from this initial year of data collection. During the gap between Waves 1 and 2 and the survey mailing MDR can identify and include high priority households as well as edit the final mail list to best meet the needs of the project to keep mail costs under control and gather representative data.

Undeliverable mail returned to MDR's offices will be tracked through the use of the Intelligent Mail ID Barcode printed on the letters and postcards and flagged as undeliverable. Further mailings will remove bad addresses and undeliverable locations from the mail list, in order to save costs and prevent excess mail outreach.

Completed online surveys, whether accessed through the individualized QR code or through the website login portal, will be completed and compiled through MDR's Voxco A4S data collection platform.

Completed PAPI surveys returned to MDR's offices will be tracked in as complete and then data entered using MDR's Teleform™ high-speed scanning system. Data are transferred directly into an SPSS data set that will be aligned with the data output from the Voxco A4S survey system. Data entry is completed in easily tracked batches to allow for quick review and quality control checks.

After data collection is finished, data from all three modes – the online panel sample, the online ABS survey, and the PAPI survey will be combined for analysis and reporting.

V. Data Cleaning, Weighting and Analysis

MDR will use IBM SPSS software to compile, weight, and run analysis on all data. After data collection is completed, MDR will export responses for data verifications and cleaning. Verification checks will remove any incomplete cases or cases that do not pass quality control checks. Any missing data on key variables (such as those needed for weighting) will be imputed using logic based, hot deck, or regression-based methods according to an imputation strategy developed in collaboration with WA TSC.

The final dataset will be weighted using a schema similar to that proposed in the SESRC recommendations, including base weights to account for differences in selection between various sampling strata and post stratification adjustments to align the sample to the population by age by sex, race, ethnicity, region of the state, and other characteristics which WA TSC deems important to use for analysis of results. A propensity weighting adjustment will also be calculated for the non-probability sample units to compute a quasi-probability of selection for the online panel sample.

A full description of the data cleaning, weighting, and analysis procedures will be included the Washington Traffic Safety Survey Analysis Plan.

VI. Reporting and Deliverables

Project deliverables will include the following:

- Copies of all final survey materials (letters, postcard, paper survey booklet, etc.) in English, Spanish and other languages as agreed upon
- Raw survey dataset containing all original survey responses to all questions
- Final cleaned, labeled, and weighted survey dataset with responses to all questions and any computed variables (in SPSS or another format as requested)
- Data compendium with results for all survey questions by key demographic and geographic breakouts
- Verbatim responses to all open ended questions
- Final, comprehensive research report with executive summary and detailed findings
- Regional infographics for each of the 17 Target Zero Regions