UNIVERSITY OF ALBERTA

April 20, 2022

Title of the study: **Evaluating the Effectiveness of Various Light Configurations to Improve the Safety of Maintenance Vehicle Operations during Inclement Weather Conditions**

Ethics ID#: **Pro00117703**

Principal Investigator(s):

Dr. Karim El-Basyouny, PhD, PEng
Associate Professor
Civil and Environmental Engineering Department
Faculty of Engineering, University of Alberta
Edmonton, AB
(780) 492-9564
basyouny@ualberta.ca

Dr. Tae J. Kwon PhD, PEng
Assistant Professor
Civil and Environmental Engineering Department
Faculty of Engineering, University of Alberta
Edmonton, AB
(780) 492-6121
tjkwon@ualberta.ca

Co-investigator(s)/Research Assistants:

Dr. Stephen Wong, PhD
Assistant Professor
Civil and Environmental Engineering Department
Faculty of Engineering, University of Alberta
Edmonton, AB
sdwong1@ualberta.ca

Andy H. Wong, MSc
Research Associate | Project Manager
Civil and Environmental Engineering Department
Faculty of Engineering, University of Alberta
Edmonton, AB
andyw@ualberta.ca

Davesh Sharma, MSc
Research Associate
Civil and Environmental Engineering Department
Faculty of Engineering, University of Alberta
Edmonton, AB
davesh1@ualberta.ca

Omar Kilani, MSc, PMP, ENV SP
Research Associate
Civil and Environmental Engineering Department
Faculty of Engineering, University of Alberta
Edmonton, AB
okilani@ualberta.ca

Primary Agency Supporter
Alberta Ministry of Transportation

Funding Source
Alberta Ministry of Transportation

Study Information
We wish to learn the effect of different rear lighting configurations on improving the visibility of maintenance vehicles. During inclement winter weather events, the visibility and decision-making capability of motorists are critically hampered and become worse during snowplow operations. This has led to many near misses and collisions with snowplows. In response to this, Alberta Transportation is working to improve the visibility of maintenance vehicles by proposing alternative lighting configurations through snowplow lighting research projects and field experiments. The goal of this study is to assist Alberta Transportation on their decision making process on their next course of action regarding maintenance vehicle lighting schemes.

Invitation to Participate and Distribute
You are invited to participate in and distribute this online survey research study that looks to improve the visibility of maintenance vehicles during inclement winter weather conditions. Our research team is currently asking management agencies, transportation agencies, law enforcement agencies, non-governmental organizations, community groups, municipalities, and media members to assist in distributing an online survey to individuals who drive on Alberta roads during the winter. The goal is to reach the widest population as possible to increase the number of respondents and reduce bias in the results.

Voluntary Participation
The survey should take approximately 15-20 minutes to complete. Please be as complete with your answers as possible. Should you wish to no longer participate in the survey, you may close and leave the survey at any time. Incomplete surveys will be omitted from the study and analysis.

You are under no obligation to participate and you may refuse to answer questions if you want to. If you decide to withdraw midway through the electronic survey, simply close the link and no responses will be included. Any data from incomplete surveys are omitted and removed from the study. Given the anonymous nature of the survey, once you have submitted your responses, it will no longer be possible to withdraw them from the study or go back and modify your responses.

Benefits
Participants will not directly benefit from this research. However, the research will help identify safer lighting configurations for Alberta maintenance vehicles.

Confidentiality and Anonymity
The information that you will share will remain confidential and anonymous. You will not be asked for personal information. Your answers to open-ended questions may be used verbatim in presentations and publications but neither you (nor your organization) will be identified.

In order to minimize the risk of security breaches and to ensure your confidentiality we recommend that you use standard safety measures such as signing out of your account, closing your browser, and locking your screen or device when you are no longer using them / when you have completed the study.

Data Storage
Electronic copies of the survey will be encrypted and stored on password-protected servers and devices at the University of Alberta and on Qualtrics' servers within eastern Canada. The data may be released as open access in the future, but all responses are anonymous and no identifiable information will be shared.

Information about the Study Results
The result of this research study may be published in academic and professional journals to contribute to the scientific and academic body of research in this area of study.

Contact Information
If you have any questions or require more information about the study itself, you may contact the project manager, any of the principal investigators, and/or co-investigators at the phone numbers or emails mentioned herein.

The plan for this study has been reviewed by a Research Ethics Board at the University of Alberta. If you have any questions regarding your rights as a research participant or how the research is being conducted you may contact the Research Ethics Office at 780-492-2615.

Please print and keep this form for your records.