

# Vehicle Technology Testing on Manitoba Roads

## Project Overview

In the 2018 Throne Speech, the Manitoba government indicated its intent to create a legislative framework that will enable the testing of autonomous vehicles on public roads within the province. Bill 20, The Vehicle Technology Testing Act, received Royal Assent on May 20, 2021, and enables the testing of vehicle technology, including automated vehicles, in Manitoba.

The legislative framework for testing vehicle technology includes amendments to various Acts, and an eventual introduction of new regulations, policies, and a permitting system. The Manitoba government's priority for this project is to advance economic opportunities within Manitoba and foster an environment for local companies to thrive as transportation technologies emerge, while supporting Manitoba's agriculture, trucking, vehicle manufacturing, and technology sectors.

Manitoba Infrastructure, in collaboration with other departments and government agencies, recently led an online consultation with the public to seek feedback to develop a vehicle technology testing regulation and permitting system.

The Manitoba government recognizes the importance of public communication and engagement related to new technology and road safety. The online consultation is one of many tools that will be used to engage and inform the public about vehicle technology testing on public roads.

## Engagement Overview

The purpose of the engagement was to offer an opportunity for stakeholders and the general public to provide input and guide the future direction of managing and testing vehicle technology, including automated and connected vehicles, within Manitoba.

The intent of the engagement was to gauge public awareness on vehicle technology testing on Manitoba roads, in advance of future development of emerging vehicle technology such as automated vehicles.

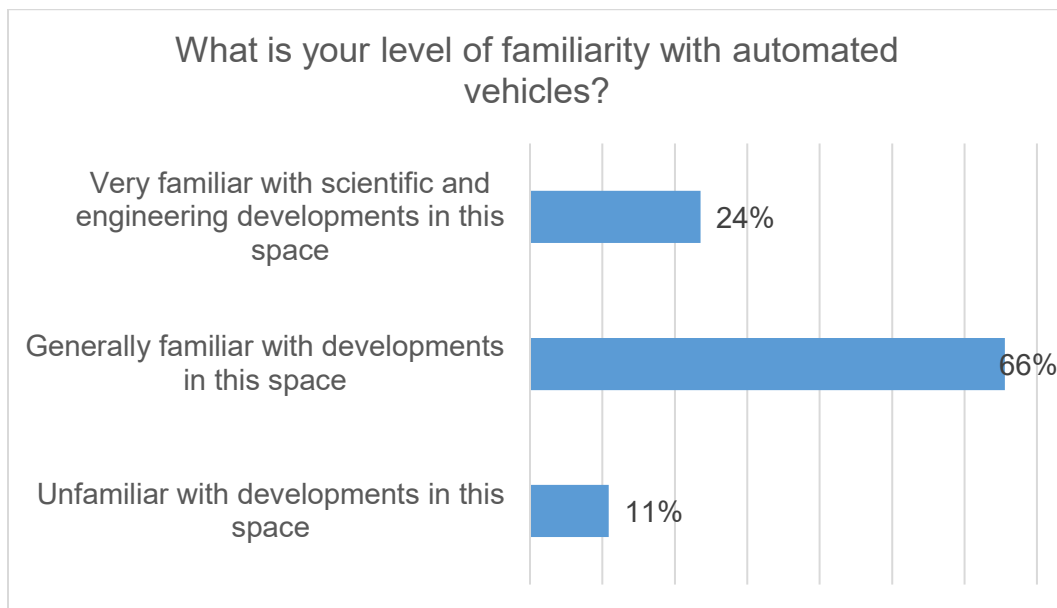
Outcomes from these consultations will be used to identify additional opportunities for public education and engagement, and to develop proposed regulations to govern the permitting processes for vehicle technology testing.

## What We Heard

The EngageMB Vehicle Technology Testing on Manitoba Roads project site was visited by 340 people and 276 people completed the survey. The results of the survey are as follows:

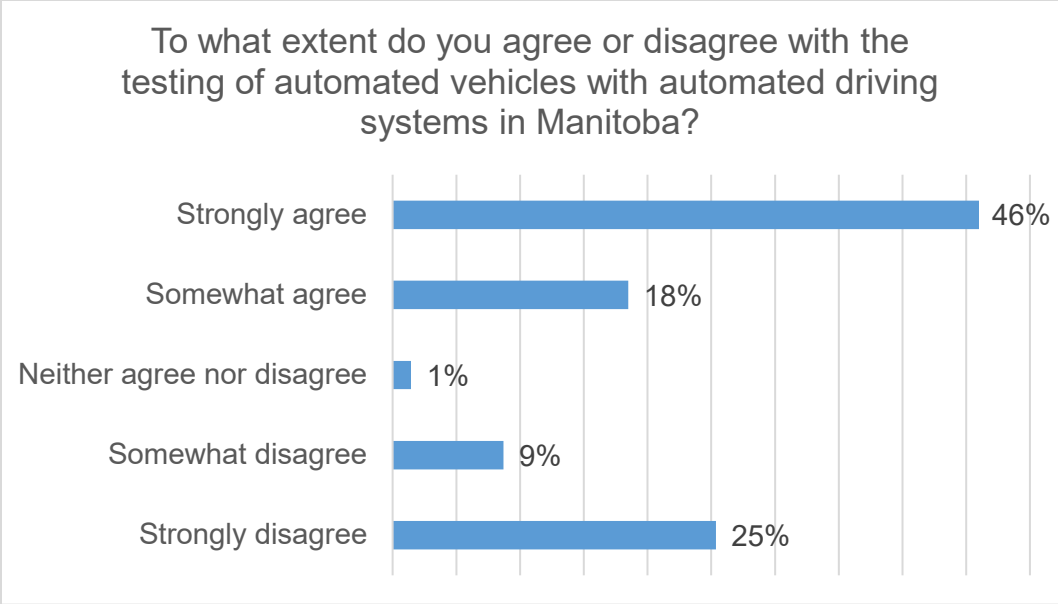
### Familiarity with Automated and Connected Vehicles

Of the 276 respondents, 66 per cent were generally familiar with automated vehicles, 24 per cent were very familiar with scientific and engineering developments in this space, and 11 per cent were unfamiliar with the technology. The data also indicated that 96 per cent of the respondents did not represent an organization that is interested in vehicle technology testing.



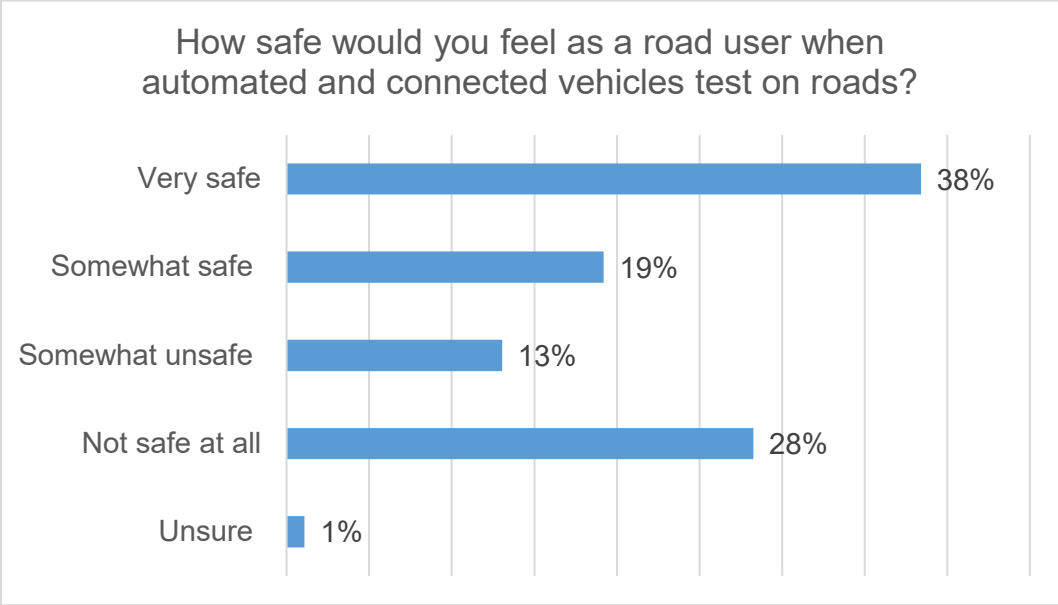
### Testing of Automated and Connected Vehicles

A majority of respondents favoured the testing of automated driving systems within Manitoba. When asked whether respondents agreed to the testing of automated vehicles with automated driving systems in Manitoba, almost twice as many respondents agreed (64 per cent) as disagreed (34 per cent). Forty-six per cent strongly agreed whereas 25 per cent strongly disagreed.



**Level of Comfort with Testing on Roads**

Respondents were asked whether they would feel safe as a road user when automated or connected vehicles are tested on the roads. While 38 per cent felt very safe as a road user and 19 per cent felt somewhat safe, 13 per cent felt somewhat unsafe, and 28 per cent felt not safe at all with testing of automated and connected vehicles on roads.

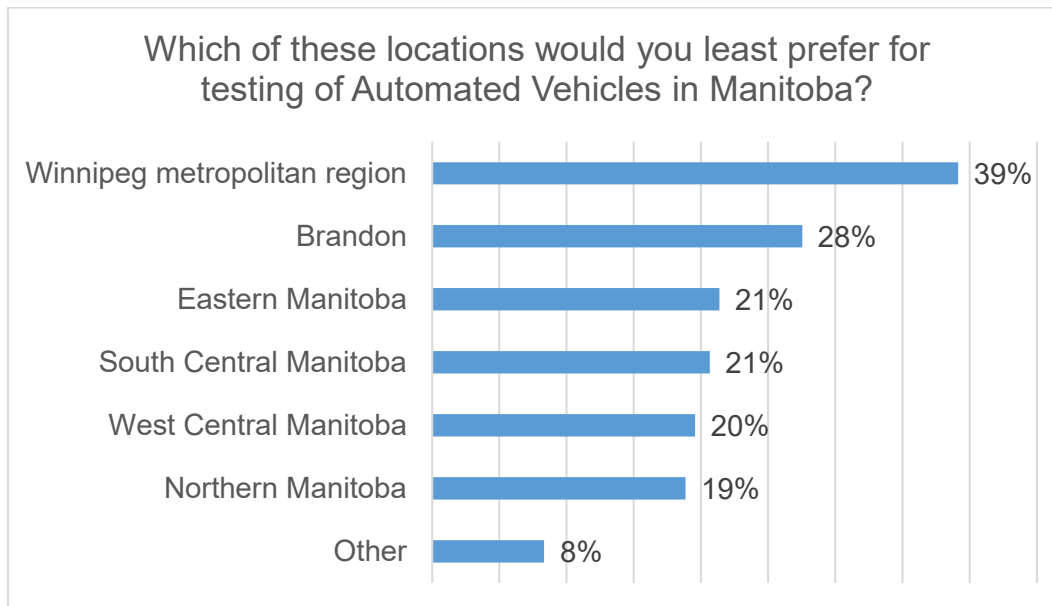


## Testing Locations

Respondents indicated some support for testing in remote and private areas. However, respondents were asked to identify geographic locations in Manitoba in which they would least prefer the testing of automated vehicles. Thirty-nine per cent of respondents indicated Winnipeg metropolitan region and 28 per cent indicated Brandon as locations least preferred for testing. This suggests that 61 per cent of respondents may support testing in Winnipeg, and 72 per cent may support testing in Brandon, while 80 per cent may not actively oppose testing in other regions

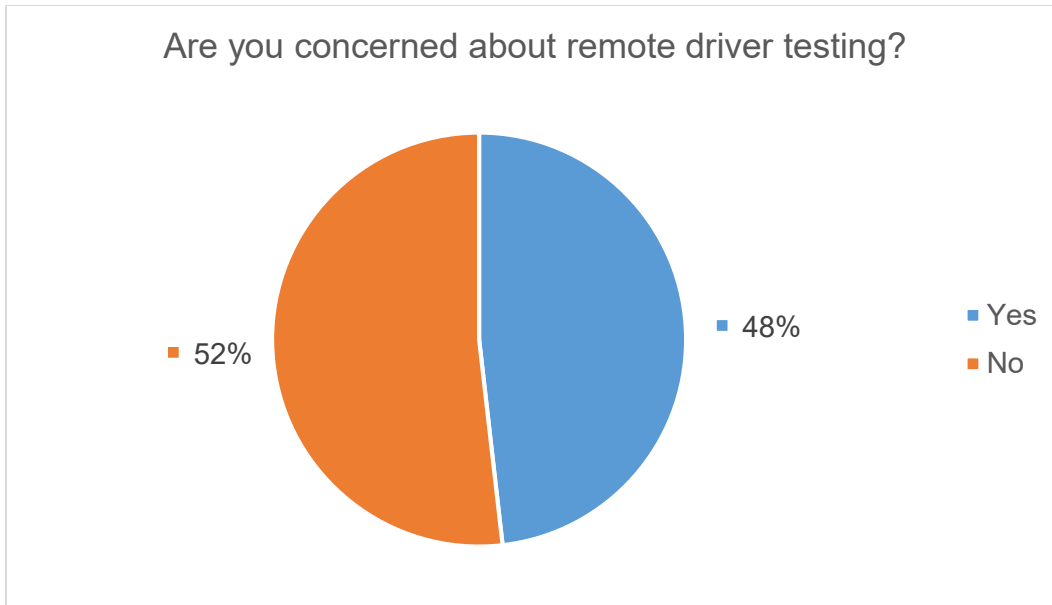
Roughly 20 per cent of respondents indicated each of Manitoba's regions as least preferred locations for testing.

Some respondents who specified "other" in their answers, stated that they do not support testing in dense areas such as downtown, and in areas where children and families gather, such as near schools and playgrounds.

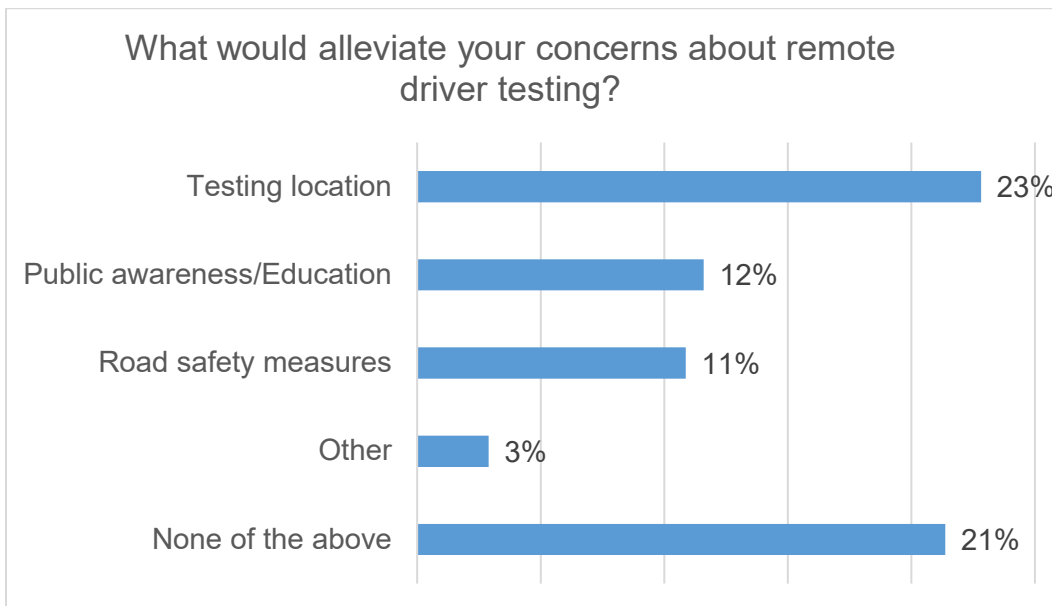


## Remote Driver Testing

When asked about concerns over remote or driverless testing of connected or automated vehicles, responses were fairly evenly split, with a small majority of 52 percent indicating they were not concerned. Some of the 48 per cent of respondents who indicated that they were concerned elaborated by highlighting safety as one of their main concerns. The safety concerns were further broken down into concerns related to connectivity issues between vehicles, connectivity issues between vehicles and infrastructure, and the safety of cyclists and pedestrians. Some other concerns mentioned were related to insurance liability and risk management related to collisions, cyber-security, and environmental or weather concerns, specifically road conditions in winter.



Respondents provided further details on what factors may alleviate their concerns about remote or driverless testing. Twenty-three per cent identified testing location, 12 per cent mentioned public awareness and education and 11 per cent identified road safety measures as factors that may alleviate their concerns. However, 21 per cent of the respondents indicated that none of these options would alleviate their concerns about remote or driverless testing.

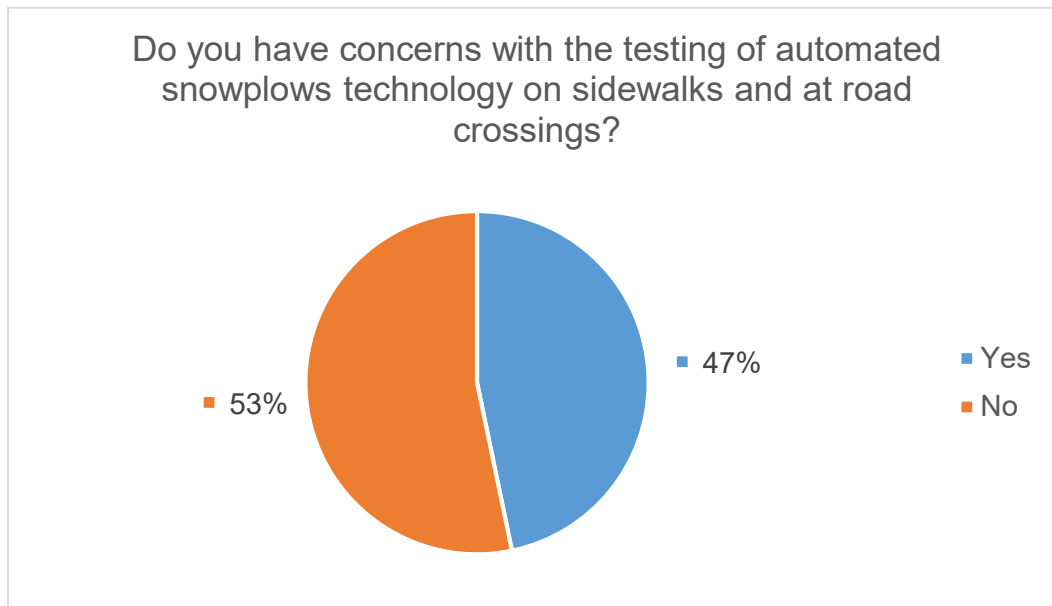


### Testing of Automated Snowplows

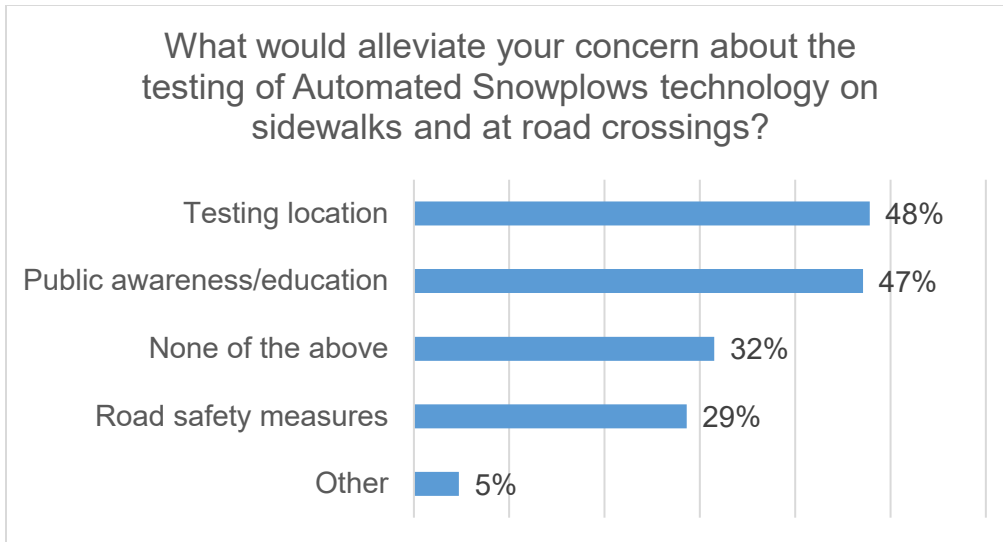
In addition to the testing of automated vehicles, respondents were asked whether they would have concerns with the testing of automated snowplows that would operate on sidewalks and

across roads. Fifty-three per cent of respondents indicated that they did not have any concerns and 47 per cent indicated that they did have concerns about testing automated snowplows on sidewalks and road crossings. Respondents who had concerns regarding the testing of automated snowplows identified issues similar to those identified with respect to remote driverless testing.

The majority of concerns were related to the safety of pedestrians, pets, and wildlife, as well as concerns related to connectivity issues, and the perception of the technology being unreliable. Specifically with respect to the latter, concerns were cited about the technology's ability to sense road markings during winter. Further concerns cited were related to liability, collision risks, and environmental/weather-related concerns.



The respondents who answered “Yes” to concerns related to testing of automated snowplows on sidewalks were asked to indicate which options would help alleviate their concerns. Forty-eight per cent said testing location, 47 per cent said public awareness/education, 29 per cent said road safety measures, and 32 per cent indicated that none of these options would alleviate their concerns.

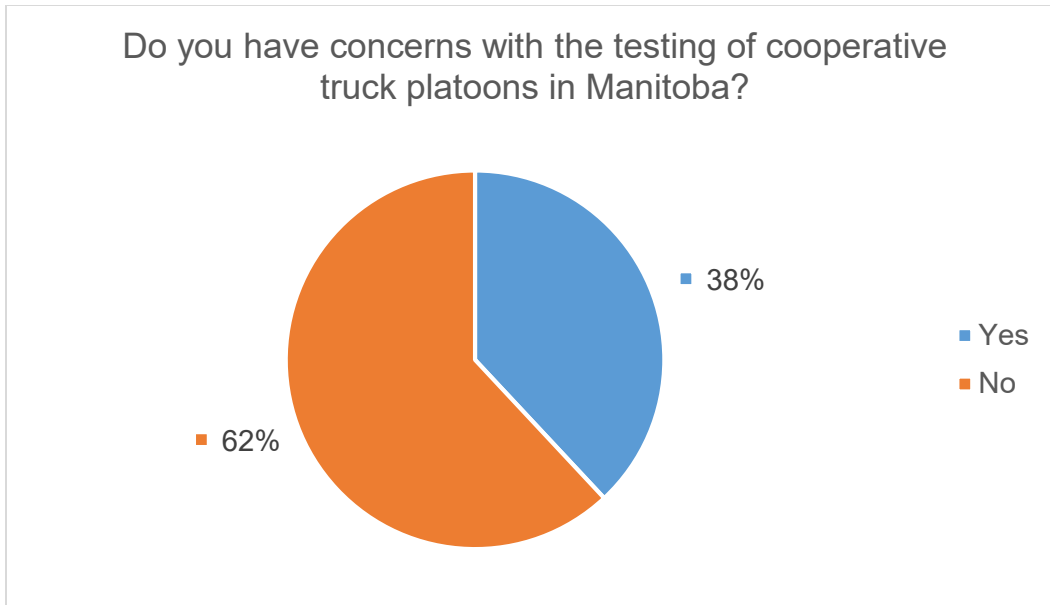


### Testing of Cooperative Truck Platooning

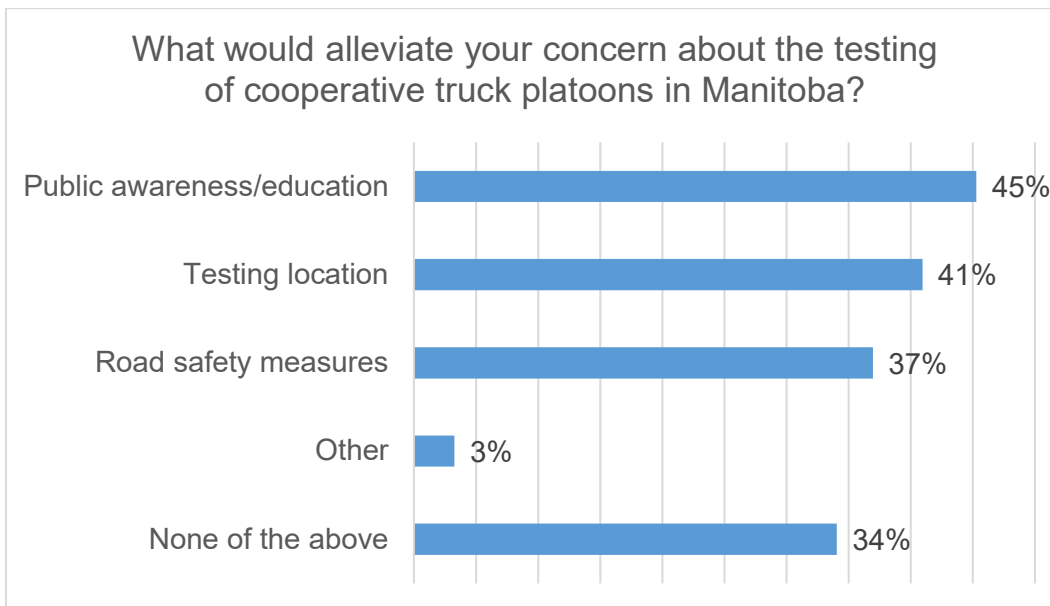
The Manitoba government is also considering allowing cooperative truck platoon testing.

Cooperative truck platooning involves two or three commercial tractor semi-trailer combinations, each equipped with a system that enables them to travel together in close proximity. The lead vehicle would be the heaviest vehicle in the platoon and platoons would not exceed three tractor and trailer combinations. An escort vehicle with conspicuous lighting in the front and back area of the platoon during testing would also be required.

Sixty-two per cent of respondents indicated that they did not have concerns with testing of cooperative truck platoons, while 38 per cent of respondents indicated that they did have concerns. Of the latter 38 per cent, their concerns were related to safety, connectivity issues with surrounding vehicles and infrastructure, and environmental/weather-related factors. Some respondents stated a need for onboard operators, and insurance for liability and collision risk management. Additionally, some respondents indicated that testing during non-peak traffic hours may alleviate their concerns.



Some respondents who had concerns with cooperative truck platooning testing indicated that their concerns would be alleviated through public awareness and education (45 per cent), testing location (41 per cent), and road safety measures (37 per cent). Thirty-four per cent of respondents stated that none of these options would alleviate their concerns.

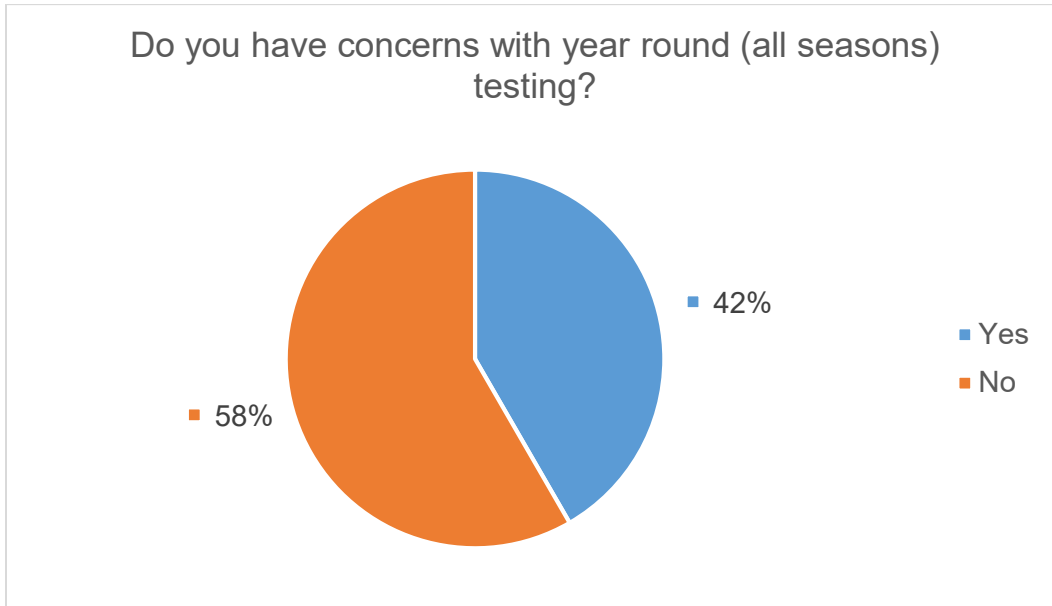


**All Season Testing**

Automated vehicle testing is anticipated to occur in all seasons, subject to test permitting conditions. When respondents were asked whether they had any concerns with year-round testing on roads, 58 per cent indicated “No” and 42 per cent indicated “Yes.” Respondents who answered “Yes” mentioned safety, insurance liability, cybersecurity, and connectivity issues with surrounding vehicles and infrastructure as concerns. Some respondents also specified that

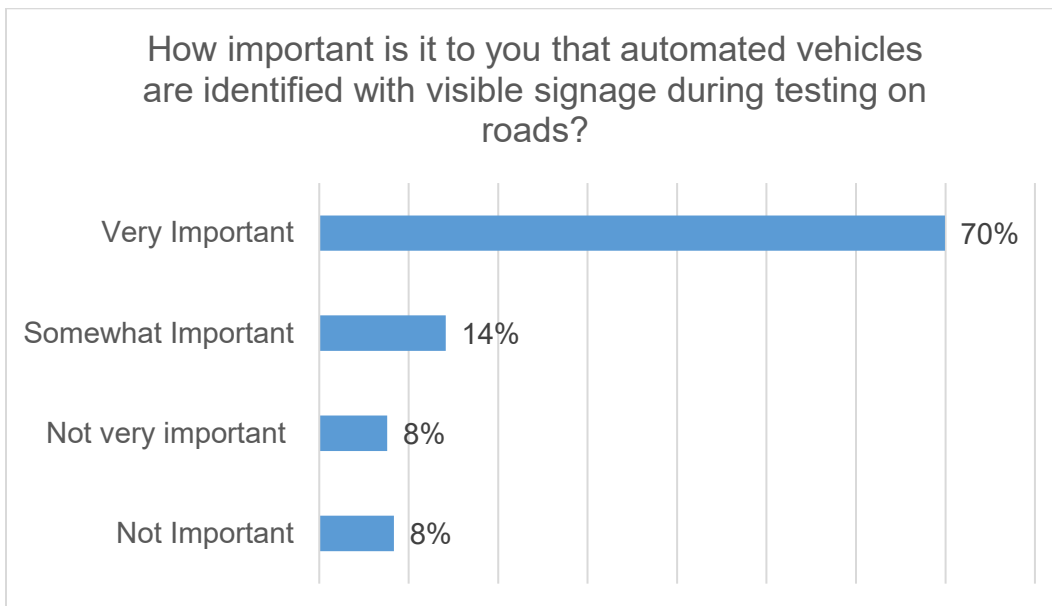


public road testing should occur in a controlled ideal condition before testing is allowed on roads in the winter as Manitoba winters can be unpredictable.



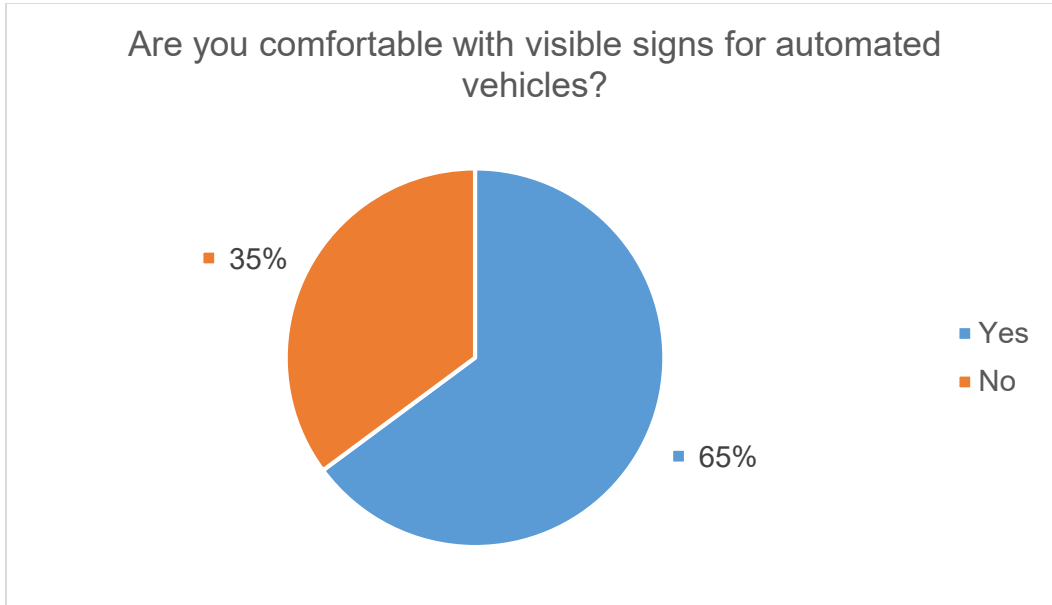
### Signs for Automated and Connected Vehicles

Most respondents (70 per cent) agreed that it is very important that automated test vehicles be identified to other road users by means of a visible sign or licence plate indicating their testing status.

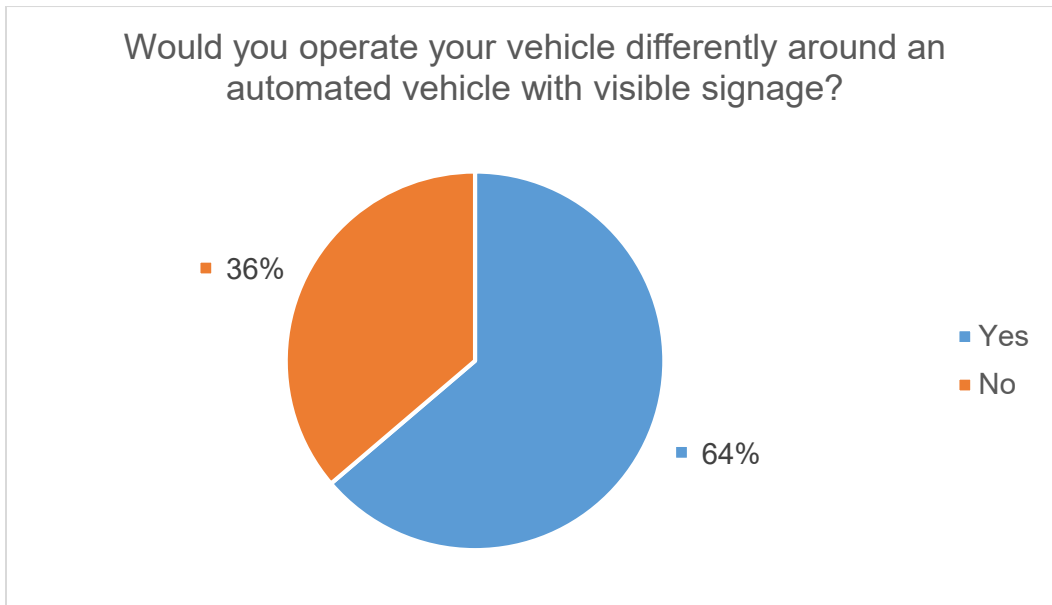


Sixty-five per cent of respondents support the use of visible signs on test vehicles, compared to 35 per cent of respondents who do not. Within the 65 per cent of respondents who responded

that they support the use of signs on testing vehicles, respondents indicated that they would avoid the test vehicle, exercise caution and generally treat the testing vehicle similar to a novice driver vehicle. Some of respondents also reiterated their support for visible and auditory signage.

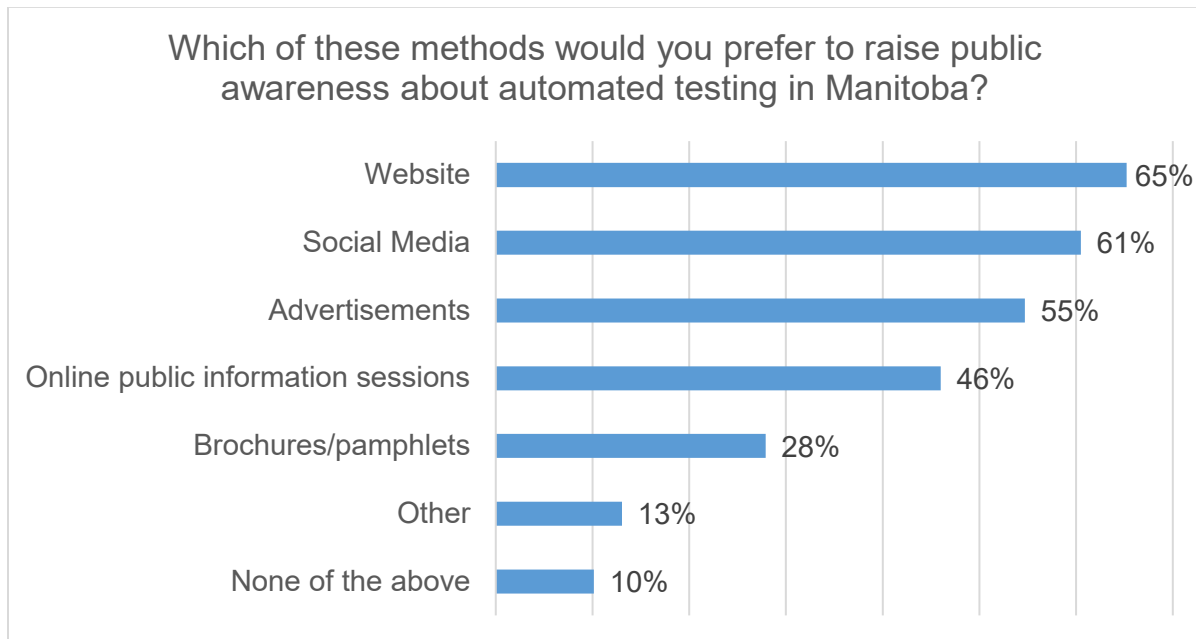


Along with the importance of identifying testing vehicles, 64 per cent of respondents said that they would operate their vehicles differently if they saw a vehicle displaying a sign indicating that it was a test vehicle. Thirty-six per cent said that they would not operate their vehicle any differently.



## Public Awareness

Respondents stated that the following methods would be preferred to improve public knowledge about testing and deployment of new vehicle technology, including automated vehicles:



As well, respondents were also offered an opportunity to add any comments that they may have on testing of automated vehicle technology on Manitoba roads. Overall feedback from the respondents highlighted concerns about insurance liability, collision risks, and safety of cyclists and pedestrians. However, some mentioned investment in infrastructure, education about the project, transparency regarding details of testing, and a preference for private/closed road testing as some options that would alleviate their concerns.

## Next Steps

The Manitoba government is committed to developing regulations to permit testing of vehicle technology including automated vehicles on roads. Manitoba is in the process of developing policies, regulations and a permitting system with an interdepartmental working group, in consultation with the public and with key stakeholders. The outcomes from this engagement will be integrated into development of the regulation and permitting system. The new regulation will be subject to a 45 day public consultation on the Manitoba Regulatory Consultation Portal at <https://reg.gov.mb.ca/>

The Manitoba government will continue to engage and inform the public and stakeholders about vehicle technology testing on public roads and the actions government is taking to support innovation while also protecting the safety of Manitoba road users.

## Questions?

Please contact Manitoba Infrastructure, Policy, Programs and Regulation Branch at [polycymi@gov.mb.ca](mailto:polycymi@gov.mb.ca)