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Marijuana decriminalization is not associated with a notable increase in traffic accidents, says new actuarial report

Ottawa, December 8, 2022 – A new report from the Canadian Institute of Actuaries (CIA) and the Casualty Actuarial Society (CAS) analyzes the impact of marijuana decriminalization on the vehicular accident experience in Canada and the United States. The study did not detect any statistically significant impacts of decriminalization on the car accident fatality rate, insurance claim frequency or average cost per claim, particularly over the long term.

Assessing the Impact of Marijuana Decriminalization on Vehicle Accident Experience finds, based on insurance statistics, that there were no significant changes to the trend and seasonal variations in Canadian traffic accidents after the change in legal status. Similarly, the estimated state-wide effects of decriminalization in the US do not show any consistent, significant results that would support a conclusion that decriminalization led to an increase in road accidents or fatalities.

Temporal patterns of human activity (such as yearly, weekly and daily cycles) and inclement weather are much better predictors of the vehicle accident experience than marijuana decriminalization.

The study overcomes the limitations and disadvantages of earlier research on the effects of marijuana decriminalization by incorporating novel data-driven methodologies.

“The methods used in this research include improved statistical models, machine learning and other data science techniques. The models used high-resolution weather data to account for the effects of weather factors,” says the report author, Dr. Vyacheslav Lyubchich.

[Read the full report.](#)

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The [Casualty Actuarial Society](#) (CAS) is a leading international organization for credentialing and professional education. Founded in 1914, the CAS is the world's only actuarial organization focused exclusively on property and casualty risks and serves over 9,500 members worldwide. CAS members are experts in property and casualty insurance, reinsurance, finance, risk management and enterprise risk management. Professionals educated by the CAS empower business and government to make well-informed strategic, financial and operational decisions.