



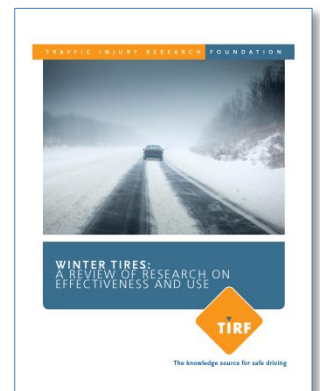
Winter Tires: A Review of Research on Effectiveness and Use Report Release

Background

- > A significant number of people are killed and injured in road crashes in Canada each year. In 2009, there were 2,209 fatalities and 172,883 injuries on our roads. Weather-related collisions in Canada cost approximately \$1.1 billion per year; among these crashes are those occurring in winter conditions.
- > Safe winter driving practices are essential to prevent such weather-related crashes. These practices include overall vehicle preparedness, defensive driving techniques, and awareness of potential consequences of adverse winter conditions. The proper use of winter tires is also essential.
- > Given the importance of winter tires in relation to safe winter driving practices, the Traffic Injury Research Foundation (TIRF) was contracted by the Winter Driving Safety Coalition to review the research on winter tires and safe winter driving.

Key Findings

- > Generally speaking, in winter driving conditions, winter tires are superior to all-season and summer tires according to experimental research.
- > With regard to braking comparisons in particular, the differences in stopping distances could be sufficiently significant to avoid a collision or minimize the severity of impact.
- > Based on public opinion research, it appears the public does not fully appreciate the safety benefits of winter tires. To illustrate: 50% of respondents did not use winter tires because they believe regular tires provide sufficient traction; 58% reported changing to winter tires at the first snow fall rather than when temperatures drop to +7 degrees Celsius or lower, the latter being a more important factor to inform the decision about the use of winter tires.
- > It appears that consumers also focus more on the shorter-term, more immediate aspects of tire use and not on long-term potential cost-savings. Key factors are public misperceptions about cost as well as misperceptions that winter tires are neither necessary nor convenient. Education to address these misconceptions is needed.
- > Most research has not focused on recent advances in winter tire technology, meaning the true effect of winter tires on traffic safety may be underestimated.



Recommendations

- > To obtain an accurate estimate of the effect of winter tires on traffic safety, experimental studies have to be updated and include a focus on newer winter tire technology. More importantly, experimental findings have to be validated to see how this translates into the real world (i.e., what is the effect on collisions?).
- > Educate the public about the importance of safe winter driving practices, including winter tires.
- > Emphasize in educational efforts that winter tires are one aspect of safe winter driving. Given the misperceptions among the public about winter tires, myths have to be debunked.



Myths	Reality
Winter tires are only useful in regions with lots of snow.	Winter tires outperform other types of tires during all winter conditions, including dry surfaces, once temperatures drop to or below +7 degrees Celsius.
Regular tires provide sufficient traction in winter.	Winter tires are superior to summer tires and all-season tires in terms of traction, braking and cornering in all winter conditions.
Vehicles with an Anti-lock Braking System (ABS), Electronic Stability Control (ESC), All-Wheel Drive (AWD) or four-wheel drive do not need winter tires.	In winter driving conditions such features like ABS, ESC, AWD or four-wheel drive provide less protection without the use of winter tires.
Two winter tires instead of a complete set of four winter tires is sufficiently safe.	Mixing different types of tires can cause a vehicle to fishtail.

Download a copy of the report, *Winter Tires: A Review of Research on Effectiveness and Use* via <http://bit.ly/PX7ngs>.

About the Report

- > Researchers performed a review of studies on winter tires between 1985 and 2011 from Canada and abroad.
- > The reviewed research included experimental and epidemiological studies, literature reviews and public opinion polls.
- > The literature review was augmented with a brief questionnaire to key stakeholders in Canada.
- > Objectives of the report:
 - » to compile and review available research and information about winter tires in relation to safe driving; and,
 - » to develop a current state of knowledge regarding the efficacy of winter tires and their potential effects on traffic safety.

About TIRF. Established in 1964, TIRF's mission is to reduce traffic-related deaths and injuries. As a national, independent, charitable road safety research institute, TIRF designs, promotes, and implements effective programs and policies, based on sound research. TIRF is a registered charity and depends on grants, awards, and donations to provide services for the public. Visit us online at www.tirf.ca.

About the Winter Driving Safety Coalition. The Winter Driving Safety Coalition (the Coalition) was created in 2010 to help coordinate safety activity and messaging around winter. The Coalition raises public awareness through coordinated road safety messages and activities, supports research that furthers our understanding of road safety issues and best practices as well as incentives that encourage drivers to invest in the safety of their vehicles. The Coalition is made up of respected private and non-profit sector safety organizations including the Ontario Safety League, the Canadian Automobile Association (South Central Ontario), the Ontario Hospital Association, the Rubber Association of Canada and Canadian Tire.

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