Engineers Canada’s Testimony to the Senate Standing Committee on Transport and Communications

Transportation Modernization Act

Bill C-49: An Act to amend the Canada Transportation Act and other Acts respecting transportation and to make related and consequential amendments to other Acts

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Thank you for the opportunity to appear here today, Mr. Chair. I am very pleased to discuss Engineers Canada's stance on Bill C-49: Canada’s Transportation Modernization Act.

With the entire Transportation Modernization Act open for public review and consultation, Engineers Canada's testimony today pertains directly to Section 11 of the Railway Safety Act, specifically in relation to the design, build, and maintenance stages of railway work in Canada. There are two recommendations that I will discuss today.

- first, that professional engineers be involved in the entire life cycle of railways infrastructure; and
- second, that climate vulnerability assessments be carried out on Canada’s rail infrastructure and that Canada’s rail infrastructure be adapted to a changing climate.

Involving professional engineers in the life cycle of rail projects will not only ensure that they are carried out with public safety top of mind, but engineers are also well-equipped to design, build, and manage resilient rail infrastructure.

Resilient infrastructure is the driving force behind productive societies, stable industries, and increased public confidence in civil infrastructure. However, Canada’s Infrastructure Report Card noted that much of Canada’s current infrastructure is vulnerable to the effects of extreme weather, which is becoming increasingly frequent and severe. Vulnerable rail infrastructure presents a risk, not only to public safety, but also to the productivity of Canadian individuals and businesses and of the country’s economy. For example, floods and record high water flows severely damaged Churchill Manitoba’s Hudson Bay Railway tracks on May 23rd, 2017. This major flood damaged five bridges, washed away 19 sections of trackbed, and required 30 bridges and 600 culverts to be checked for structural integrity. This specific rail line transports food, supplies, and people to the remote community of Churchill; a community frequently visited by tourists during the summer months. With severe damage to the railway, service disruptions have caused goods, services, and people to arrive by air transportation – an expensive mode of transportation to the northern community.

With climate vulnerability assessments, planners can have early awareness of the potential impacts that extreme weather events could have on infrastructure in communities across Canada, and can plan and build accordingly. Engineers Canada, in collaboration with Natural Resources Canada, has developed a climate risk assessment tool that can greatly enhance the resilience of infrastructure, increase public confidence in rail infrastructure, and decrease the severity of climate impacts on individual and business productivity. The Public Infrastructure Engineering Vulnerability Committee Protocol, known as PIEVC, gives engineers, as well as infrastructure owners and managers, a tool to design and construct rail infrastructure that will withstand Canada’s rapidly changing climate. The Protocol has been applied to infrastructure systems more than 40 times in Canada and three times internationally.

Engineers Canada strongly encourages the federal government to invest in assessment and prevention tools, such as the PIEVC Protocol, to be a condition for: funding approvals; accepting environmental impact assessments; and approving designs for rail infrastructure projects that involve rehabilitation, maintaining and decommissioning existing rail infrastructure. This investment will contribute to
safeguarding the environment, strengthening individual and business productivity, and upholding public safety.

Mr. Chair, thank you for allowing Engineers Canada to present to the committee today on this important issue. We hope that the committee will recognize the integral role that professional engineers play in Canada’s transportation and infrastructure sectors. Our profession is ready and willing to ensure that Canada’s railway system is resilient, safe, and continues to be an enabler of Canada’s economy.