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FUNDING ROAD REPAIRS AS ELECTRIC VEHICLES SALES RISE

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If you ask any electric vehicle (EV) owner what their biggest complaint is, chances are they will say “lack of infrastructure.” By infrastructure, they mean a need for more charging stations along highways and in communities.

However, there is another type of infrastructure that EVs, like their internal combustion engine counterparts, need, and that is good roads.

Good roads must be built and maintained to meet the needs of the communities that rely on them.

But good roads, like charging stations, need to be paid for. Here is where the increasing popularity of EVs will influence how governments raise cash to invest in transportation infrastructure, as well as the cost of keeping roads in good condition.

Paying for the Roads

Provincial and territorial governments are typically responsible for paying the cost of the construction and maintenance of the region’s highway network. Municipalities repair streets and roads within their borders.

Fuel taxes, although not usually earmarked to cover this cost, are often responsible for a significant part of the provincial road network budget.



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Provincial and territorial taxes on gasoline range from 6.2 cents/litre in the Yukon to 19.2 cents/litre in Québec. Drivers in Vancouver and Victoria pay 27 cents/litre and 20 cents/litre for gasoline, respectively; the rest of the BC pays 14.5 cents/litre.

In Manitoba, a fuel tax ‘holiday’ reduced the gasoline tax to zero from 14 cents/litre at the start of 2024 in response to the cost-of-living crisis faced

by many Manitobans. The provincial government plans to reinstate the tax at the end of September 2024.

Fuel taxes favour vehicles with lower fuel consumption ratings.

The tax is calculated and collected every time a vehicle is refuelled. The system is straightforward and works if all vehicles using the roads rely on a fuel that is subject to the fuel tax.

Electric vehicles, however, don't run on gasoline, so they don't 'pay at the pump.' But they are heavy because of their battery, so they contribute to road wear and tear.

Electric vehicles

EVs fall into one of three camps: hybrid-electric vehicles (HEVs) with small batteries charged by a gasoline-powered generator, battery-electric vehicles (BEVs) with large batteries that charge from mains electricity, and PHEVs or plug-in hybrid-electric vehicles, which can be charged from mains electricity or a gasoline generator.

BEVs and PHEVs run on electricity, which is not subject to the fuel tax. Consequently, EV drivers have access to the region's roads without having to pay for their upkeep.

The problem is twofold. Most regions have not devised a fair way of taxing EVs for road use. Second, since EVs can be charged anywhere, a consistent method of tax collection based on electricity consumption can be difficult.

Taxing EVs

Jurisdictions which tax their electric vehicles often adopt an annual flat rate.

In the United States, about 32 states charge annual fees from a low of about \$50 to over \$200, depending on the vehicle's weight. In Canada, Saskatchewan and Alberta have rates of \$150 and \$200, respectively.

The single annual fee approach is unfair to drivers who drive limited distances, such as in a city.

A fairer approach is to charge each vehicle by the distance it travels each year and its vehicle class.

For example, the most fuel-efficient gasoline vehicle in the mid-size class is the Hyundai Elantra, with a combined city-highway fuel consumption rating of 6.5 litres/100 kilometres. Using Manitoba's road tax of 14 cents/litre, the mid-sized EV road access charge would be less than a cent/kilometre.

If an owner of a mid-sized Tesla Model S Dual-Motor drove 16,700 kilometres in a year (Manitoba's average distance in 2021), the road-usage fee would be about \$152.

An argument against EV owners paying a road-usage fee is that EVs are less polluting than internal combustion vehicles. This argument misses the point; a road fee is for the upkeep of the roads, not an environmental tax.

Furthermore, EVs can hardly claim to tread lightly on the province's roads; the Tesla Model S's gross vehicular weight (GVWR) is almost 800 kilograms more than that of a Hyundai Elantra.

Rather than vehicle class, New Zealand uses the vehicle's weight. BEVs with a GVWR between 1,000 and 3,500 kilograms are subject to a Road Usage Charge (RUC). The RUC is 7.6 cents/kilometre for a BEV and 3.8 cents/kilometre for a PHEV. The EV RUC came into force this year when the number of EVs reached about two percent of total vehicle registrations.

HEVs do not pay the electric vehicle RUC as they already paying the RUC for gasoline vehicles.

More Infrastructure

EVs are becoming more popular in Canada. In 2023, about 10% of the vehicles sold were electric.

As the number of EVs on our roads increases and the number of conventional vehicles declines, road usage charges must be redesigned to include EVs.

If not, EV drivers will be complaining about the lack of charging infrastructure *and* the lack of good roads. ▶

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