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B.C. UTILITIES COMMISSION -Project No. 1598968
ICBC 2018 Basic Insurance Rate Design Application
Information Requests
Submitted by Todd Litman (litman@vtpi.org), Victoria Transport Policy Institute
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Below is information needed to evaluate ICBC's 2018 Rate Design Application:

1. ICBC's 2018-19 *Mandate Letter* (https://bit.ly/2ojguG6) specifies that ICBC shall implement rate changes that help increase fairness (assumedly meaning that the premiums charged for each vehicle most accurately reflect the claim costs imposed by that vehicle), consumer affordability and traffic safety, and as much as possible, changes recommended by the PwC report.

   Since the PwC report, *ICBC Affordable and Effective Auto Insurance – A New Road Forward for British Columbia* (http://bit.ly/2vX8aRf), as well as the Provincial Health Officer's Annual Report, *Where the Rubber Meets the Road: Reducing the Impact of Motor Vehicle Crashes on Health and Well-being in BC* (http://bit.ly/2gqxjuO) both recommend that ICBC investigate "usage-based insurance pricing" as a way to increase fairness and reduce traffic accidents and claim costs, what research has ICBC performed concerning the fairness impacts, consumer demands, consumer savings, crash and claim reductions, and other possible benefits (e.g., reduced traffic congestion, fuel consumption and pollution emissions) from this rate structure?

2. Does ICBC recognize fully-marginalized "basic" PAYD vehicle insurance pricing, in which vehicle-kilometer premiums are calculated for each vehicle by dividing its existing vehicle-year premiums by average annual mileage for its rate class, as described in the Pacific Institute for Climate Solution's *Pay-As-You-Drive Vehicle Insurance in British Columbia* (http://bit.ly/2yDw2KY)? What research has ICBC performed concerning fairness impacts, consumer demands, travel impacts, savings and benefits (including consumer savings, crash and claim cost reductions, reduced traffic congestion, energy conservation and emission reductions) that could be provided by basic PAYD pricing?

3. Is ICBC aware that Canadian Automobile Association now sells *MyPace* policies (www.caamypace.com), which offer substantial (20-50%) savings for vehicles driven less than 10,000 annual kilometers in Ontario. This suggests that there is significant consumer demand for such pricing, and that such policies can be profitable to private insurance companies in competitive markets. Has ICBC evaluated this price option and considered its implementation?

4. What data does ICBC have concerning the annual kilometers travelled (i.e., risk exposure) by its clients, and geographic, demographic and economic factors that affect annual kilometers driven? What data sources does ICBC use to collect such information? If these data are imperfect, what plans does ICBC have to improve these data?

5. What research, if any, does ICBC have concerning the relationships between annual vehicle-kilometers and insurance claim costs? An extensive body of research (see documents listed below) indicates that, all else being equal (i.e., for vehicles in a particular rate class), claim costs increase almost linearly with annual vehicle travel, and since most casualty crashes involve multiple vehicles, and crash rates increase with traffic density, marginal changes in total vehicle travel in an area tend to provide proportionately larger crash casualty reductions (each 1% reduction in kilometers provides more than a 1% reduction in traffic deaths and injuries.

   Jason E. Bordoff and Pascal Noel (2008), *Pay-As-You-Drive Auto Insurance: A Simple Way to Reduce Driving-Related Harms and Increase Equity*, Brookings Inst. (www.brookings.edu); at https://brook.gs/2E6FDgI.

   G. Chi, et al. (2013), "Gasoline Price Effects on Traffic Safety in Urban and Rural Areas: Evidence from Minnesota, 1998–2007," *Safety Science*, Vol. 59, pp. 154-162; at http://bit.ly/2nkESVx.

   Aaron S. Edlin and Pinar Karaca Mandic (2006), "The Accident Externality from Driving," *Journal of Political Economy*, Vol. 114, No. 5, pp. 931-955; at http://works.bepress.com/aaron_edlin/21.

   Joseph Ferreira Jr. and Eric Minikel (2012), "Measuring Per Mile Risk for Pay-As-You-Drive Automobile Insurance," *Transportation Research Record 2297*, TRB (www.trb.org), pp. 97-103; at http://bit.ly/2DLFr2V.

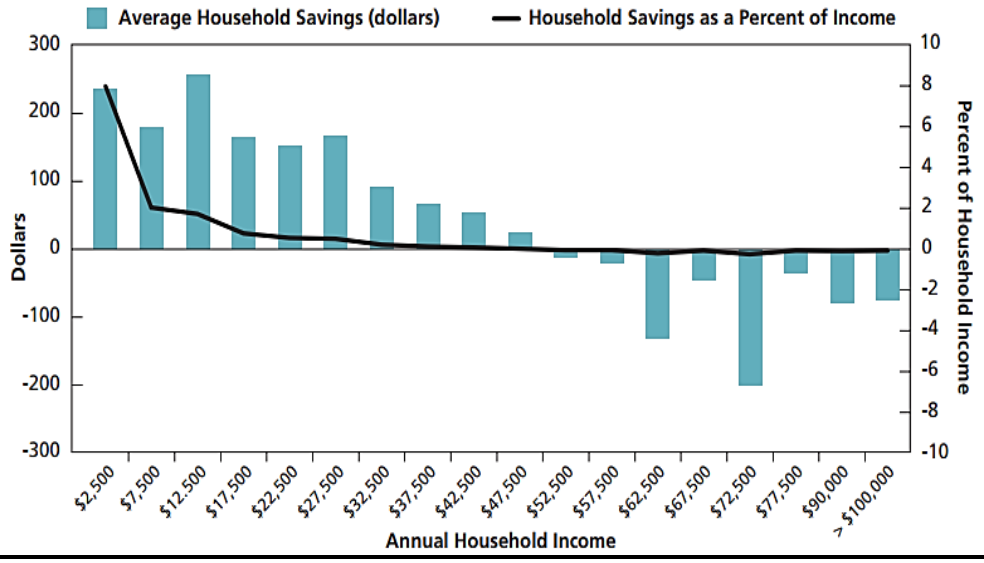
   David C. Grabowski and Michael A. Morrisey (2006), Do Higher Gasoline Taxes Save Lives?" *Economics Letters*, Vol. 90, pp. 51–55; abstract at www.sciencedirect.com/science/article/pii/S0165176505002533.

   Allen Greenberg (2013), "Pay-As-You-Drive-And-You-Save Insurance: Potential Benefits and Issues," *CIRP Newsletter*, Center for Insurance Policy and Research (www.naic.org), pp. 18-22; at http://bit.ly/2uNggrE.

   If, all else being equal, crash rates increase with annual vehicle travel, the current rate structure overcharges motorists who drive less than average and undercharges motorists who drive more than average in each rate class, and PAYD pricing would increase pricing fairness. What analysis has ICBC done concerning these impacts?

6. What data does ICBC have concerning the distribution of annual kilometers travelled by vehicle-owners' income class, driver's age and territory? A Brookings Institution study, *Pay-As-You-Drive Auto Insurance: A Simple Way to Reduce Driving-Related Harms and Increase Equity* (https://brook.gs/2E6FDgI) indicates that annual vehicle-kilometers tend to increase with household income, and lower-income motorists tend to be more price sensitive, so PAYD pricing is progressive with respect to income (savings are greatest for lower-income households), as illustrated in the following figure. Since PAYD pricing incorporates territory, it would reduce premium costs for approximately half of all rural motorists if they do not reduce their vehicle travel, and would provide savings to most rural motorists, particularly lower-income rural motorists, if they do reduce vehicle travel as predicted. Has ICBC analyzed these effects in BC?

Estimated PAYD Savings by Household Income (Bordoff and Noel 2008)



Because lower-income motorists tend to drive less and are particularly responsive to money saving opportunities, PAYD insurance tends to be progressive with respect to income: lower-income motorists save more than higher incomes motorists.

7. Application Section F (p. 3-29) states that substantial economic analysis was performed and reviewed by actuaries to justify these rate design changes. Please describe this process and the resulting documents, particularly with regard to the 10% discount for vehicles driven less than 5,000 annual kilometers, described on page 1-8.

    a. What actuarial analysis was performed concerning this discount. For example, why is the discount 10% not 12%, and why does it apply to vehicles driven less than 5,000 annual kms, not 6,000 or 7,000?

    b. What research, if any, does ICBC have concerning the impacts that this discount will have on vehicle travel (that is, how many fewer kilometers are motorists expected to drive in response to this incentive)?

    c. What portion of ICBC policies are expected to qualify for this discount, and what demographic and geographic information is available about them (e.g., are under 5,000 kilometer vehicles more common among poor, young, urban, rural, motorists)?

8. How is ICBC using its business intelligence to support their corporate Carbon Neutral Action goals (https://bit.ly/2oeVrVc), including both in-house and community-wide reductions to GHG inventories? The current report only mentions in-house actions, it includes no analysis of ways that ICBC could help its clients reduce their emissions. Credible studies indicate that basic PAYD insurance pricing could achieve very large emission reductions, probably averaging 10-12% reductions by affected vehicles (see below), ranking it among the most effective and cost-effective transportation emission reduction strategies available. What analysis has ICBC performed concerning this way of achieving Carbon Neutral Action goals?

   Cambridge Systematics (2009), *Moving Cooler: Transportation Strategies to Reduce Greenhouse Gas Emissions* (http://amzn.to/2vWLfFH), U.S. Environmental Protection Agency; http://bit.ly/2vX5HGq.

   Allen Greenberg and Jay Evans (2017), *Comparing Greenhouse Gas Reductions and Legal Implementation Possibilities for Pay-to-Save Transportation Price-shifting Strategies and EPA's Clean Power Plan*, Victoria Transport Policy Institute (www.vtpi.org); at www.vtpi.org/G&E_GHG.pdf; slideshow at http://bit.ly/2GwKI03.

   Todd Litman (2011), *Pay-As-You-Drive Vehicle Insurance in British Columbia*, Pacific Institute for Climate Solutions (www.pics.uvic.ca); at http://bit.ly/2yDw2KY. Slide show at http://vtpi.org/PAYD%20in%20BC.

9. What data sharing agreements, if any, does ICBC have with governments/agencies to provide data inputs for modelling vehicle usage geographically? Who uses it, and what metrics are used for VKT?