

Information Requests

ICBC Application for 2017 Revenue Requirements ~ Project No.1598929

4 November 2017

By

Todd Litman, Intervener
Victoria Transport Policy Institute

Below is information I would like to receive to help evaluate ICBC's 2017 requested rate increase.

Fuel Price and Vehicle Travel Data

A significant amount of technical research indicates that vehicle travel and crashes have an inverse relationship with fuel prices. See for example:

Hamed Ahangari, Jason Outlaw, Carol Atkinson-Palombo and Norman Garrick (2014), "An Investigation Into The Impact Of Fluctuations In Gasoline Prices And Macroeconomic Conditions On Road Safety In Developed Countries," *Transportation Research Record 2465* (www.trb.org); at <http://bit.ly/2zcgwq1i>.

Paul J. Burke and Shuhei Nishitaten (2015), "Gasoline Prices and Road Fatalities: International Evidence," *Economic Inquiry* (DOI: 10.1111/ecin.12171); at <http://bit.ly/1QBY62Z>.

G. Chi, et al. (2010). "Gasoline Prices And Their Relationship To Drunk-Driving Crashes," *Accident Analysis and Prevention*, Vol. 43(1), pp. 194–203; at <http://tinyurl.com/lxhswd>.

G. Chi, et al. (2011), *A Time Geography Approach to Understanding the Impact of Gasoline Price Changes on Traffic Safety*, TRB (www.trb.org); at <http://nexus.umn.edu/Papers/TimeGeography.pdf>.

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>.

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

Michael Sivak (2008), *Is the U.S. on the Path to the Lowest Motor Vehicle Fatalities in Decades?*, Report UMTRI-2008-39, University of Michigan Transportation Research Institute (www.umtri.umich.edu); at <http://deepblue.lib.umich.edu/bitstream/2027.42/60424/1/100969.pdf>.

During the last five years, fuel prices declined significantly and total vehicle fuel sales (based on fuel tax volume data) increased by approximately 12% in British Columbia. These factors can help explain recent increases in BC crash rates and ICBC claim costs. This suggests that ICBC should account for fuel prices and vehicle kilometers travelled (VKT) when evaluating risks and predicting future claim costs and revenue requirements. For example, all else being equal, claim costs, reserves and future premiums will need to increase when fuel prices are low, and are likely to decline during periods of higher fuel prices.

Questions

1. Has ICBC collected information or performed research on the effects of fuel prices on Vkt and crashes? If so, please describe this information.
2. Does ICBC account for fuel price and Vkt when predicting crash rates and claim costs? If so, please describe the methods used.
3. Does ICBC collect fuel price, fuel sales and Vkt data? If so, please describe this information and how it is disaggregated.
4. If ICBC does not currently collect fuel price, fuel sales and Vkt data, does it have plans to collect these data in the future? If so, please describe these plans.

Congestion and Adverse Weather Impacts on Claim Costs

According to the ICBC 2017 Revenue Requirements Exhibit A-6, "ICBC attributes the observed increase in PD and BI claim frequencies in part due to increased traffic congestion as characterized by slower speeds, longer trip times, and increased vehicle queuing."

Research suggests that, although PDO crashes may increase with traffic density, injuries and deaths tend to decline due to reduce traffic speeds. For example:

Min Zhou and Virginia Sisiopiku (1997), "On the Relationship Between Volume to Capacity Ratios in Accident Rates," *Transportation Research Record 1581*, Transportation Research Board (www.trb.org), pp. 47-52; <http://trb.metapress.com/content/b738x782168555g7>.

In the Figure 2.3 and on pages 2-6 to 2-7 of the Application, ICBC indicates that adverse winter weather conditions contributed 4.9% to the claim cost increases.

Questions

5. Does ICBC have data demonstrating that the increase in PD and BI claims reflects increased traffic *congestion* rather than an increase in Vkt per vehicle? For example, are injury and claim costs increasing under urban-peak conditions significantly more than during off-peak and on rural roads?
6. How does ICBC analyze crash and claims trends geographically? For example, does it have data comparing how crash and claim trends differ between urban, suburban and rural locations?
7. How do weather-related claim cost trends differ geographically? For example, did weather-related crashes and claims increase more in urban, suburban or rural locations?

Research on Cross Subsidies

The recent Independent Review Report, *ICBC Affordable and Effective Auto Insurance – A New Road Forward for British Columbia* (E&Y 2017), states, "ICBC's current insurance model does not adequately price driver behaviour and choices, having not incorporated any significant rate design changes since 2007. As a result, a driver's individual Basic premium no longer reflects the risk and cost that they impose on the Basic insurance system."

Questions

8. What research has ICBC performed concerning the actuarial inaccuracy (the degree that current insurance premiums fail to reflect the crash rates and claim costs of each rate class) of its existing rate structure?

9. Please provide estimates of the variations between current ICBC premiums and actuarially accurate premiums for various rate classes, or if that would require too much effort, a discussion of the types of motorists that tend to be overcharged or undercharged under the existing rate structure, and by how much.
10. If ICBC does not have such estimates, what additional data would be needed to provide them? Does ICBC have plans to collect those data? What plans does ICBC have to improve actuarial analysis and make this information available?

Independent ICBC Review Research

The Independent Review Report also identifies Usage Based Insurance (UBI, also called Distance Based Vehicle Insurance [DBVI] and Pay As You Drive [PAYD] insurance), as a possible way to reduce crashes and claim costs, and increase actuarial accuracy. UBI changes the unit of exposure from the vehicle-year to the vehicle-kilometer, so premiums are based directly on the distance the vehicle is driven during the policy term, in addition to other rating factors. This gives motorists a significant new financial incentive to reduce their mileage, and therefore their risk exposure and claim costs. Since higher-risk drivers pay more per vehicle-kilometer, resulting crash reductions should be proportionally greater than the reductions in kilometers driven.

Extensive technical research indicates that UBI is actuarially justified, can provide significant crash reductions, can provide significant consumer savings and affordability (savings to lower-income households), and there is significant consumer demand for this product (more than half of all motorists could save money with this price structure). PAYD insurance was recently recognized by the Provincial Health Officer as a potential provincial traffic safety strategy (Kendall 2016). For information see:

Jan Willem Bolderdijk and Linda Steg (2011), *Pay-As-You-Drive Vehicle Insurance As A Tool To Reduce Crash Risk: Results So Far And Further Potential*, Discussion Paper No. 2011-23, Prepared for the Roundtable on Insurance Costs and Accident Risks, 22-23 September 2011, Paris, International Transport Forum (www.internationaltransportforum.org); at www.internationaltransportforum.org/jtrc/DiscussionPapers/DP201123.pdf.

Jason E. Bordoff and Pascal J. Noel (2008), *Pay-As-You-Drive Auto Insurance: A Simple Way to Reduce Driving-Related Harms and Increase Equity*, The Brookings Institution (www.brookings.edu); at www.brookings.edu/papers/2008/07_payd_bordoffnoel.aspx.

Aaron Edlin (1998), *Per-Mile Premiums for Auto Insurance*, Dept. of Economics, University of California at Berkeley (<http://emlab.berkeley.edu/users/edlin>).

Joseph Ferreira Jr. and Eric Minike (2010), *A Risk Assessment of Pay-As-You-Drive Auto Insurance*, Department of Urban Studies and Planning, Massachusetts Institute of Technology (<http://dusp.mit.edu>); at www.clf.org/wp-content/uploads/2010/12/CLF-PAYD-Study_November-2010.pdf.

Joseph Ferreira Jr. and Eric Minikel (2012), "Measuring Per Mile Risk for Pay-As-You-Drive Automobile Insurance," *Transportation Research Record* 2297, Transportation Research Board (www.trb.org), pp. 97-103, <http://pubsindex.trb.org/view.aspx?id=1129619>.

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 www.naic.org/cipr_newsletter_archive/vol9_pay_as_you_drive.pdf.

BCUC Project No.1598929 Information Request
Victoria Transport Policy Institute

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>.

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. Union of Concerned Scientists presentation slideshow at www.vtpi.org/Greenberg&Evans_PAYD_UCS_30Aug2017.pdf

Perry Kendall (2016), *Where the Rubber Meets the Road: Reducing the Impact of Motor Vehicle Crashes on Health and Well-being in BC*, Provincial Health Officer's Annual Report, BC Ministry of Health (www.health.gov.bc.ca/pho/reports); at <http://bit.ly/2gqxjuO>. PAYD is mentioned on page 62.

Todd Litman (2005), "Pay-As-You-Drive Pricing and Insurance Regulatory Objectives," *Journal of Insurance Regulation*, Vol. 23, No. 3 (www.naic.org); at www.vtpi.org/jir_payd.pdf.

Todd Litman (2011), *Pay-As-You-Drive Vehicle Insurance in British Columbia*, Pacific Institute for Climate Solutions (www.pics.uvic.ca); at www.pics.uvic.ca/sites/default/files/uploads/publications/WP_PAYD_Insurance_May2011.pdf.

Questions

11. What research has ICBC performed to evaluate the potential safety impacts, crash costs savings, consumer savings, and implementation requirements of UBI? If so, please provide the results of this research to date.
12. If no research has been performed yet, what plans does ICBC have to perform such research?

ICBC Rate Review Plans

According to the BCUC the ICBC 2017 Revenue Requirements Exhibit A-3 (File 56008 | A-3_scoping requests _ regulatory timetable), "In its 2013 Revenue Requirements Application Decision, the Commission requested ICBC provide an update of its plans around a Rate Design application by no later than December 31, 2015. In its December 2015 and June 2016 letters to the Commission, ICBC submitted that resources, systems and other considerations affect the timing of rate design plans. ICBC was continuing to work with government and was exploring the potential for filing aspects of rate design in late 2016 and/or 2017."

Questions

13. What is the current status of ICBC's plans for a rate design update? When will a new rate structure be filed?
14. What process is used to develop a new rate structure?