

OTTO EMISSION REDUCTION STRATEGY STUDY- PHASE 1 UNDERWAY!

The Centre for Sustainable Transportation (CST), in partnership with the University of Manitoba and Persen Technologies (PERSENTECH), is spearheading a study using Otto device technologies to study driving behaviour. In the first phase of the study, an “idling reminder” feature has been developed for the Otto-driving companion® device to raise driver awareness of idling situations. The study has been developed to support the objectives of the Department of Natural Resources ecoENERGY for Personal Vehicles program that is designed to encourage all Canadians to adopt more fuel efficient buying, driving and maintenance practices¹.

The CST and PERSENTECH would like to thank all existing Otto users that are participating in this study. By completing the pre-study questionnaire and downloading the firmware update, your Otto device will now notify you of idling events after two and one-half minutes of idling. Please continue using Otto and at the end of the two months, you will receive a correspondence via email that will direct you to complete the post-study questionnaire. The post-study questionnaire will be implemented in the same manner as the pre-study questionnaire, requiring that you connect your Otto device to your PC and then to click on the CST logo on the myOtto home webpage to access the questionnaire.

Once the post-study questionnaire is completed, PERSENTECH will provide you with the one year home map update subscription at no charge.

How does the “idling reminder” notification work?

The new feature senses when your vehicle is not in motion and initiates a timer. When this timer exceeds 2.5 minutes (180 seconds), you will hear Otto announce “Idling Warning”. This announcement will repeat every 2.5 minutes thereafter until Otto senses that the vehicle is travelling again.

NOTES:

- Otto needs to be turned on while the vehicle’s ignition is turned on, and turned off when the vehicle’s ignition is turned off for this feature to be synchronized with the engine idling or not idling. Otto does not have a direct connection to the vehicle’s engine and can only sense changes in vehicle position and vehicle velocity. In the first part of the Otto emissions reduction strategy study, idling awareness and driver feedback relating to the use of technology to alert drivers to their idling situations is most significant.

¹ <http://oee.nrcan.gc.ca/transportation/personal-vehicles-initiative.cfm>

- For Otto device models OM0405 and OM0405b, the device has to be turned on by pressing and holding down the middle power button for at least 2 seconds.
- For the Otto device model PM2626 that is configured to “auto-power-on” with applied DC power (through the cigarette-lighter-adapter or accessory socket power adapter), the “idling reminder” functionality will operate in a synchronized manner.
- For the Otto device model PM2626 that is not configured to “auto-power-on” with applied DC power, the driver will need to turn on the device and turn off the device each time the vehicle engine is started or stopped by pressing and holding down the middle power button for at least 2 seconds.
- For all Otto device models including OM0405, OM0405b and PM2626 operated with AA sized batteries, the “idling reminder” functionality will also operate in a synchronized manner when the driver turns Otto on and off each time the vehicle engine is started or stopped.

We thank you for your participating in this study. We have included some further study objectives and social driving behaviour information below.

Study Objective:

Develop and incorporate idling and interactive fuel gauge functions in Otto to monitor and change driver behaviour, reduce emissions and improve light duty vehicle efficiency.

Changing social behaviour in light duty urban traffic presents opportunities and challenges to reduce GHG emissions and improve existing vehicle efficiencies. Changing social behaviour is a challenging prospect. The Centre for Sustainable Transportation recently estimated transportation GHG emissions in the City of Winnipeg.² Key findings of this research found that:

- Winnipeg comprises 52% of all registered vehicles in Manitoba
- 52% of provincial VKTs occur in Winnipeg
- During 2005 vehicles in Winnipeg traveled 5.7 billion kms
- A significant portion, 27%, of vehicle travel in Winnipeg is spent idling
- 46% of all provincial on-road transportation fuel is used on Winnipeg streets and roads
- 60% of provincial gasoline is used in Winnipeg
- 21% of provincial diesel fuel is used in Winnipeg

² Greenhouse Gas Emissions Baseline For The City of Winnipeg, CST, 2007.

- The total amount of gasoline used in Winnipeg is 793,697,532 litres and the total amount of diesel fuel used is 146,195,911 litres
- Light duty passenger vehicles use 70% of the gasoline used in Winnipeg
- Heavy duty commercial vehicles use 61% of the diesel fuel used in Winnipeg
- 50% of Manitoba's on-road GHG, CO₂e emissions are generated within the city of Winnipeg

This study addresses the significant proportion of vehicle travel spent idling. It introduces the refinement of an existing device to provide immediate feedback to drivers about their vehicle idling behaviour, as well as proved time and location sensitive reporting and visual information about real driving conditions. Aided with this on-board and post-driving experience data, drivers will have important information to assist and guide their personal decisions about how, when and where they drive.

Please note: The project, "Using Otto to reduce transportation emissions by changing driver behaviour" has been made possible through a financial contribution from Natural Resources Canada.

