

move while you're moving ...



Yogcar designed to exceed compliance requirements of US Department of Transportation Visual-Manual NHTSA Driver Distraction Guidelines For In-Vehicle Electronic Devices

Yogcar is an audio app for drivers that provides guidance for safe subtle movements and positive messages inspired by yoga and mindfulness. Be more comfortable, more relaxed, and more focused while you drive.

ADELAIDE, Australia, 27 April 2017

On 21 November 2016, the US Department of Transportation published Phase 2 of their *Visual-Manual National Highway Traffic Safety Administration (NHTSA) Driver Distraction Guidelines for Portable and Aftermarket Devices*.

The purpose of these guidelines is to “provide a safety framework for developers of portable and aftermarket electronic devices to use when developing visual-manual user interfaces for their systems.”

These Phase 2 Guidelines followed The Phase 1 Driver Distraction Guidelines (Phase 1 Guidelines), released in 2013, [which] cover visual-manual interfaces of electronic devices installed in vehicles as original equipment (OE).

The NHTSA has conducted extensive research on the problem of driver distraction, particularly in relation to the use of portable electronic devices by drivers.

NHTSA is aware of the effect that these types of distraction can have on driving safety, particularly visual-manual distraction. At any given time, an estimated 542,073 drivers are using hand-held cell phones while driving. Moreover, when sending or receiving a text message with a hand-held phone, the total time that a driver's eyes are focused off the road is 23 seconds on average. This means while



*traveling at 55 mph, a driver's eyes are off the road for more than a third of a mile for every text message sent or received.*¹

The NHTSA Guidelines are based upon a number of fundamental principles. These principles include:

- The driver's eyes should usually be looking at the road ahead,
- The driver should be able to keep at least one hand on the steering wheel while performing a secondary task (both driving-related and non-driving related),
- The distraction induced by any secondary task performed while driving should not exceed that associated with a baseline reference task (manual radio tuning),
- Any task performed by a driver should be interruptible at any time,
- The driver, not the system/device, should control the pace of task interactions, and
- Displays should be easy for the driver to see and content presented should be easily discernible.

The NHTSA Guidelines constitute a set of "non-binding, voluntary guidelines for in vehicle and portable devices". More specifically, the NHTSA encourages designers and manufacturers of devices for in vehicle use to "ensure that certain activities that would inherently interfere with the driver's ability to safely control the vehicle would be locked out while driving (i.e., the "per se lock outs" referred to in the Phase 1 Guidelines). Those per se lock outs include:

- Displaying video not related to driving;
- Displaying certain graphical or photographic images;
- Displaying automatically scrolling text;
- Manual text entry for the purpose of text-based messaging, other communication, or internet browsing; and
- Displaying text for reading from books, periodical publications, web page content, Social media content, text-based advertising and marketing, or text-based messages.

These Guidelines place significant limitations on what kinds of app-user interactions are possible. The general problem with the use of mobile apps by drivers is that, apart from navigation apps, they were not designed for or intended for use by drivers. In essence, drivers are using these apps in a context that is completely different, and in fact antithetical, to the context in which they were designed to be used.

Yogcar, in contrast, was designed from the ground up to be used by drivers. Road safety was at the outset, and remains, a central concern in the development of Yogcar. The initial motivating idea behind Yogcar was:

"is it possible to use ideas and practices from yoga in a safe way to relieve some of the muscle and joint stiffness and discomfort that are typically associated with the prolonged periods of sitting that are characteristic of driving?"

¹ DEPARTMENT OF TRANSPORTATION, National Highway Traffic Safety Administration, Docket No. NHTSA-2013-0137, Visual-Manual NHTSA Driver Distraction Guidelines for Portable and Aftermarket Devices



Another way of looking at this question is to ask: was it possible to achieve the benefits of subtle movement while driving while at the same time improving or, at worst, not at all degrading, the safety of the driver using the app.

The first step was to ensure that none of the exercises interfered with the driving task or distracted the driver in any way. For example, both hands need to stay on the steering wheel and it is important that no exercises involve using the steering wheel to support body weight in any way. It is also necessary that no exercises cause any visual distraction so that the driver can stay visually focused fully on the driving environment.

A central design principle of Yogcar was its 'hands off' use model. Yogcar sessions are designed to be set up and launched before the driver begins driving and no further interaction with the mobile phone is required. When the session is finished (the duration is set by the user) the app simply stops and returns to the Home screen.

With these various components in place, we conducted beta testing and followed this up with an online survey which included specific questions on perceptions of distraction and driver safety. A document describing the results of the user testing survey can be found at:

www.yogcar.com/yogcar-user-testing

Another document discussing the various safety features of Yogcar is also available at:

www.yogcar.com/yogcar-and-road-safety

Specifically in relation to the NHTSA Guidelines, because Yogcar is designed to be used in a completely 'hands—off' manner, with all user interactions designed to not occur during a Yogcar session but instead during the set-up process when not driving. Yogcar is clearly designed to exceed the requirements of the NHTSA Guidelines.

#

If you would like further information on Yogcar or if you would like to schedule an interview please contact:

Simon Molloy

enquiries@yogcar.com

www.yogcar.com

