

March 1, 2010

City Council members

I am writing on behalf of Ann Arbor City Ordinance ORD-10-07, something I wrote to your about a few weeks ago, but not for the record.

There is substantial research to show that using the phone while driving leads to crashes.

There is a growing body of research concerning the problem of driver distraction. Distraction contributes at least several percent to the total depending on the characteristic measured (crashes, injuries, or deaths) and its causal nature (primary, contributing). Further, distraction as a causal factor is often thought to be underreported as many crash forms do not provide a check box to indicate if it contributed a crash. Further, when distraction occurs, drivers are unwilling to admit it.

The human factors shows literature shows quite strongly that being distracted by a phone conversation increases response time (which leads to crashes of all types) and increases lane position variability (which leads to side swipes). This research has been summarized in two meta-analyses, which statistically combine the findings from multiple studies (23 for Horrey, 84 for Caird, references listed at the end), which make findings much more compelling. Since those meta-analyses were completed, additional confirming studies have been completed. Further, the general sense of the literature is that the predominant problem is the distraction of the conversation, which occurs with both hand-held and hands-free devices. Conversation with a passenger is distinctly different because they are aware of the driving situation.

The proposed ordinance covers other distraction problems in desired ways.

The problem is not just talking on the phone or texting (which has a much greater risk than talking), but entering destinations into navigation systems, and all sorts of other tasks. The destination entry problem was covered nicely in a recent piece on CBC Marketplace

(http://www.cbc.ca/marketplace/2010/gps_distraction/main.html). Keep in mind that following GPS navigation system guidance (while driving) is not a problem, primarily because people rely on the voice and the turn displays. Those systems present far less crash risk than paper maps, written directions, or even worse, no directions. Further, the data entry task is locked out in every automaker's navigation system but not in aftermarket products (TomTom, Garmin, Magellan, etc.). The automakers comply with Society of Automotive Engineers Recommended Practice J2364. The aftermarket manufacturers do not.

The problem that is just beginning to occur is the use of smart phone applications while driving. Literally, one can do anything on these phones—search the web, pay games, check stock prices, edit spreadsheets, etc. Admittedly, each of these tasks has not been examined in specific studies. However their visual, cognitive, and manual demands are at least as great as many tasks that have been examined, so therefore the demanding nondriving tasks should not be allowed while driving. Following the tombstone strategy of waiting for a large number of crashes due to these tasks to occur before acting is ill advised.

Since the first reading, I have had email interactions with Councilman Repundalo, and the proposed ordinance has been revised to better describe the nondriving tasks of concern and restrict them. There have been other noteworthy improvements in the bill language as well.

The bicycle constraints are well founded

Typically bills concerning driver distraction do not consider bicyclists, but in a town where safe biking is a priority, concern about distraction while biking makes good sense. Although literature on this topic is limited, (e.g., de Waard, Schepers, Ormel, and Brokjuis, 2010), the findings support restricting use while biking. As an example of the problem, attached are some images when the Google Streetview camera was in Groningen in the Netherlands. Fortunately, there were not injuries in this incident.

Will the hands-free provisions be difficult to enforce?

This question arises often in hearings about distraction bills. There is nothing in the literature after bills are passed that is a problem, but the absence of evidence is not evidence.

What will the state do?

At the request of Representative Polidori of Dearborn, I have testified before the state twice on this topic. There were 3 bills earlier this year, each with different restrictions. My impression from the hearings is the state will eventually approve something, but nothing as comprehensive or pro-safety as the Ann Arbor Ordinance. Obviously, your state contacts will have a better read on this than I do. One of the interesting nuances of those discussions was that many legislators live in Lansing during the week, traveling to their home districts for the weekend. Some of the state bills meant they could not talk on the phone while they drive home, an inconvenience to them personally.

Closing thoughts

The ordinance proposed is a reasonable one, well supported by the scientific literature. It will protect the citizens of Ann Arbor and demonstrate leadership on

the part of Council. Please approve it.

Paul Green
1615 Harbal Drive
Ann Arbor

(Research Professor,
U of Michigan Transportation Research Institute,
Driver Interface Group)

References

Caird, Scialfa, Ho, and Smiley, A Meta-Analysis of Driving Performance and Crash Risk Associated with the Use of Cellular Telephones while Driving, Proceedings of the Third International Driving Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design), 478-485.

de Waard, Schepers, Ormel, and Brookhuis (2010), Mobile Phone Use while Cycling: Incidence and Effects on Behaviour and Safety, Ergonomics, 53: 1, 30-42.

Horrey and Wickens, 2004, Cell Phones and Driving Performance: A Meta-Analysis, Proceedings of the Human Factors and Ergonomics Society 48th Annual Meeting, 2304-2308.