

Department of Legislative Services
Maryland General Assembly
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FISCAL AND POLICY NOTE

House Bill 604 (Delegate Kramer)
Environmental Matters

Motor Vehicles - Wearable Computer With Head-Mounted Display - Prohibited

This bill prohibits a person from operating a motor vehicle on a highway while wearing or using a wearable computer with a head-mounted display. For purposes of the bill, a “wearable computer with a head-mounted display” is a computer device that is worn on an individual’s head and projects visual information into the field of vision of the individual wearing the device. A violation is a misdemeanor and is subject to a maximum fine of \$500.

Fiscal Summary

State Effect: Potential minimal increase in general fund revenues due to the bill’s penalty. Enforcement can be handled with existing resources.

Local Effect: Enforcement can be handled with existing resources.

Small Business Effect: None.

Analysis

Current Law: No State law specifically prohibits the wearing of a head-mounted optical computer device while driving.

Video Displays: The Maryland Vehicle Law prohibits the use of television-type receiving or video display equipment that is turned on and displaying an image visible to the driver while driving. The prohibition does not apply to the use of such equipment in conjunction with (1) a vehicle navigation system; (2) broadcast and satellite radio system

graphics; or (3) the display of information or images related to the operation of a motor vehicle.

“Video display equipment” is defined to mean equipment capable of displaying a dynamic visual image, other than text, from a digital video disc or other storage device. Accordingly, except as otherwise provided, a motor vehicle driven on a highway in Maryland may be equipped with video display equipment only if the video display equipment is turned off when the screen is visible to the driver. This restriction does not apply to video display equipment on a vehicle used by a public service company.

A violation of this provision is a misdemeanor, and a violator is subject to a maximum fine of \$500. The prepayment penalty established by the District Court is \$60 and one point against the driver’s license. If the violation contributes to an accident, the prepayment penalty is \$100 and three points against the driver’s license. The District Court advises that, in fiscal 2013, a total of 39 citations were issued for driving with operational video or electronic display equipment. Of those citations, 23 were prepaid, 14 went to trial and 2 remained open.

Wireless Devices: A “wireless communication device” means a handheld or hands-free device used to access a wireless telephone service or a text messaging device.

Except to contact a 9-1-1 system in an emergency, a minor is prohibited from using a wireless communication device while operating a motor vehicle. A violator is subject to license suspension for up to 90 days by the Motor Vehicle Administration (MVA).

A violator of this provision is guilty of a misdemeanor and subject to a maximum fine of \$500. The prepayment penalty established by the District Court for this offense is \$70. If the violation contributes to an accident, the prepayment penalty increases to \$110. MVA is required to assess one point against the driver’s license for a violation, or three points if the violation contributes to an accident. The District Court advises that 11 citations were issued for this offense in fiscal 2013, when the offense was subject to only secondary enforcement (the offense became subject to primary enforcement during fiscal 2014, as of October 1, 2013). Of the 11 citations, 3 were disposed of with the prepayment penalty, 4 went to trial, and 4 remained open.

Negligent Driving: While no State statutory provision specifically prohibits driving with a “wearable, head-mounted computer display,” a person is deemed guilty of negligent driving if the person drives in a careless or imprudent manner that endangers human life or property. A negligent driving violation requires the assessment of one point against the driving record and is a misdemeanor subject to a maximum fine of \$500. The prepayment penalty assessed by the District Court for this offense is \$140. If the offense contributes to an accident, the prepayment penalty increases to \$280 and three points

must be assessed against the driver's license. During fiscal 2013, the District Court processed 23,219 citations for negligent driving. Of these, 2,932 citations were disposed of by prepaying the penalty, 16,845 went to trial, and 3,442 remained open.

Background: Although not the first of its kind, the most well-known wearable, head-mounted computer display is known as "Google Glass." The optical, head-mounted display, which looks like a pair of eyeglasses, is under development by the Project Glass research and development project, a part of the Google Corporation. The device has been distributed, on a limited basis, to people who are participating in the Google "Explorer" project. Google "explorers" applied in 2013 to purchase the device, which costs \$1,500, by submitting a post through the social sites "Google+" or "Twitter" with unique ideas on how Google Glass could be used to enhance creativity and productivity. Only those people who submitted accepted posts have been able to purchase the Google Glass device to date. While many technology experts have stated that Google will make Google Glass available at retail for the general public, no date for a general release of Google Glass to the public has yet been announced.

The device beams data (text, photos, or video) into the user's field of vision with a liquid crystal on silicon, field-sequential color, LED-illuminated display. It receives data through a wireless local area network (also known as wi-fi) or it can connect through "bluetooth" technology (a standard for short-range wireless interconnection of cellphones, computers, speakers, and other electronic devices) that can share data with a smartphone or tablet. Through bluetooth technology, Google Glass can access GPS data, text messaging, and voice calling functions. Users issue voice commands by saying "ok glass," then issuing a natural language command, or the user can scroll through available options by using a finger pressed against a touchpad on the side of the device. Google and other software developers have designed some applications for the device, and an application store is available. The device also has an interchangeable sunglass accessory. According to news reports, Google has added an option for several different types of prescription frames for an additional \$225.

Many people have raised safety concerns about the use of Google Glass, especially while driving. In October 2013, a woman was arrested in San Diego, California for driving with Google Glass after being pulled over for speeding. The woman contested the citation for wearing Google Glass, and the judge overturned the citation due to lack of proof that the device was actually on while the woman was driving.

According to technology news sources, other states that have considered prohibiting the use while driving of wearable head-mounted computer devices like Google Glass are Delaware, Illinois, Missouri, New Jersey, New York, West Virginia, and Wyoming.

For more information about distracted driving generally, please see the **Appendix-Distracted Driving**, which is attached to the end of this fiscal and policy note.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Judiciary (Administrative Office of the Courts), Department of State Police, Maryland Department of Transportation, www.google.com, www.phandroid.com, *Ars Technica*, www.wikipedia.com, www.ask.com, Department of Legislative Services

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Appendix – Distracted Driving

According to The Wireless Association (CTIA) in 2012, for the first time in U.S. history, the number of wireless device subscriptions (326.4 million) exceeded the U.S. population (315.5 million) for a penetration of 102.2%. In 2012, more than 2 trillion text messages were sent and more than 2 trillion voice minutes were used. The Insurance Institute of Highway Safety estimates that, at any given daylight moment, 660,000 people in the United States are using wireless devices while driving.

National surveys on distracted driving conducted by the National Highway Traffic Safety Administration (NHTSA) and other organizations appear to indicate a major disconnect between driving behaviors and the comprehension of risky behaviors that stem from the use of electronic devices. In other words, surveyed drivers generally believe it is dangerous for *other* drivers to make phone calls or text while driving. However, most drivers believe that they, themselves, can manage to make calls or text and still drive safely.

For example, in the 2012 National Survey on Distracted Driving Attitudes and Behaviors released in April 2013 by NHTSA, 28% of respondents admitted answering incoming calls on all or almost all driving trips. Of those who reported using a cell phone while driving, 58% reported that they *answer* and drive simultaneously, while 10% admitted to *sending* text messages or emails while driving – on at least some driving trips. An additional 11% reported sending text messages or emails on rare occasions. About 14% of respondents admitted to reading text messages and emails while driving. Of those who reported sending text messages or emails, 44% said they waited until stopped at a red light before sending; 35% drove while sending text messages and emails. Conversely, 8% of surveyed drivers reported asking a passenger to send the text or email, 7% reported using voice commands to send text messages or emails, and 6% reported that they pulled off the road to send a text or email.

Driver Distraction – A Definition: Distracted driving generally means any nondriving activity which has the potential to cause the driver to divert his or her attention away from the task of driving. This could mean activities as routine as changing a radio station, eating a sandwich, or inserting a compact disc into the car's player or it could mean talking to other passengers, focusing on an unrestrained pet, adjusting car mirrors as well as talking on a cell phone, texting, perusing the Internet, or otherwise using an electronic device. NHTSA has focused attention on the four main types of driving distraction:

- visual – taking eyes off the road;
- auditory – hearing noise or sounds that divert driver attention;

- manual – taking hands off the steering wheel; and
- cognitive – focusing attention on things other than the primary task of driving.

While any nondriving task that distracts a driver can endanger the safety of drivers, passengers, and pedestrians, enforcement efforts in Maryland and other states have focused on the dangers resulting from the use of handheld cell phones for phone conversations, texting, and other electronic communication activities. In Maryland, a distracted driving crash is defined by the Department of State Police as at least one driver in the crash either failing to pay full-time attention to the driving task or using a cell phone while driving. Texting while driving is regarded as especially dangerous since it requires a driver to be distracted visually, manually, and cognitively (however, many cell phones allow the sending and reading of text messages by voice so distraction by voice command texting could be limited to visual and cognitive). Handheld cell phone use is also regarded as dangerous since it may require (unless the phone allows voice commands to initiate and end calls) manual distraction as well as auditory and cognitive diversion of the driver's attention.

The National Transportation Safety Board (NTSB) regards nonemergency driver engagement with electronic devices as so dangerous that it has recommended that states enact legislation to prohibit the nonemergency use, while driving, of all portable electronic devices (unless designed to support the driving task) including *hands-free* cell phones. To date, no state has adopted the NTSB recommendation.

Prevalence of Distracted Driving in Maryland: The Maryland Highway Safety Office, which is part of the Motor Vehicle Administration in the Maryland Department of Transportation, reports that, during the five-year span from 2008 through 2012, an average of 229 fatal crashes and 19,790 crashes with injuries annually involved at least one distracted driver. On average, during the same five-year period, 92,418 crashes occurred on Maryland roads annually. The proportion of distracted driving-related crashes exceeds one-fifth of total traffic crashes.

Exhibit 1 shows the prevalence of distracted driving crashes by county in Maryland when compared to vehicle miles traveled for the five-year period of 2008 through 2012. Distracted driving crashes appear to be most likely to occur in urban areas with high population densities. As shown in the exhibit, Baltimore City and Prince George's and Baltimore counties had the highest percentages of distracted driving-related crashes when compared to the percentages of vehicle miles traveled in those jurisdictions. Conversely, the counties of Anne Arundel, Frederick, and Howard had the lowest percentages of distracted driving-related crashes when compared to the percentages of vehicle miles traveled in those jurisdictions.

Exhibit 1
Distracted Driving Crashes Compared to Vehicle Miles Traveled
2008-2012*

<u>Jurisdiction</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>% of Statewide Crashes</u>	<u>% of Statewide VMT</u>	<u>Over (+) Under (-) Representation</u>
Baltimore City	6,508	6,126	5,832	6,166	6,560	11.81	6.13	5.68
Prince George's	10,057	9,593	9,281	9,259	8,771	17.37	15.61	1.76
Baltimore	9,539	8,483	8,101	8,166	8,338	15.65	14.78	0.87
Charles	1,577	1,589	1,593	1,546	1,539	2.98	2.22	0.76
Montgomery	7,642	7,825	7,425	7,262	6,878	13.72	13.00	0.72
Wicomico	1,277	1,297	1,176	1,236	1,172	2.28	1.75	0.53
St. Mary's	980	981	1,023	1,007	1,073	1.97	1.49	0.48
Worcester	777	807	784	767	848	1.53	1.29	0.24
Calvert	761	800	752	700	747	1.40	1.33	0.07
Carroll	1,198	1,291	1,115	1,156	1,180	2.20	2.24	(0.04)
Kent	124	132	109	121	112	0.22	0.36	(0.04)
Somerset	183	206	169	176	169	0.33	0.50	(0.17)
Talbot	547	506	445	471	478	0.89	1.08	(0.19)
Dorchester	291	255	243	234	250	0.46	0.69	(0.23)
Harford	2,401	2,272	2,206	2,235	1,987	4.09	4.32	(0.23)
Caroline	236	268	227	221	229	0.43	0.67	(0.24)
Cecil	1,167	1,174	1,176	1,178	1,030	2.15	2.40	(0.25)
Garrett	314	308	280	265	223	0.49	0.94	(0.45)
Allegany	448	447	409	394	365	0.74	1.45	(0.71)
Queen Anne's	447	479	498	432	449	0.88	1.65	(0.77)
Washington	1,623	1,497	1,423	1,409	1,463	2.73	3.61	(0.88)
Anne Arundel	5,122	5,124	4,768	5,008	4,679	9.20	10.14	(0.94)
Frederick	1,930	1,902	1,548	1,608	1,797	3.15	5.33	(2.18)
Howard	1,787	1,810	1,702	1,752	1,799	3.34	7.03	(3.69)

* This table provides the number of crashes, in a county or Baltimore City, for the distracted driving program area that occurred over the designated five-year period. The percentage of statewide crashes is determined by comparing each jurisdiction's five-year average number of crashes with the average statewide number of crashes over the same period. This result is then compared to the jurisdiction's percentage of the statewide vehicle miles traveled (VMT) in 2012. The difference between these two numbers (last column) reveals whether the jurisdiction experienced a proportionately higher or lower number of crashes than is expected given its percentage of VMT. A positive number indicates a higher proportion of crashes is occurring with distracted driving as a causative factor. A negative number indicates that the jurisdiction experienced a lower number of crashes than expected, given VMT.

Source: University of Maryland, Baltimore – STAR ORC – National Study Center for Trauma and EMS

Maryland Enforcement Activity: Since 2005, Maryland has prohibited any individual younger than age 18 from using a wireless communication device while operating a motor vehicle (Chapters 543 and 544 of 2005). The use of such a device to contact 9-1-1 in an emergency is exempt from the prohibition. As of 2009, Maryland prohibited the writing and sending of text messages while operating a motor vehicle (Chapters 194 and 195 of 2009). In 2011, Chapters 471 and 472 expanded the prohibition to include the reading of text messages. As of 2010, Maryland specifically prohibited school bus drivers and provisional licensees who are age 18 or older from using a handheld telephone while operating a motor vehicle. All other drivers were authorized by the same law to use a hands-free telephone, but they could not operate the telephone with hands unless it was only to dial a number or to turn the device on or off (Chapter 538 of 2010).

Except for the offenses of reading, writing, or sending a text while driving, which were enacted as primary offenses, the offenses that prohibit the use of either handheld telephones or wireless communication devices were originally enacted as subject to secondary enforcement only. An officer could only enforce these violations if the officer had detained the driver for another suspected violation of Maryland law. According to data from the Administrative Office of the Courts, the total number of reported citations for handheld telephone violations with secondary enforcement in fiscal 2013, as shown in **Exhibit 2**, was similar, but somewhat lower than the number of reported citations for fiscal 2012. The number of texting citations, however, did show an increase, not only in the total, but also in those citations in which the offender chose to admit guilt and prepay the fine.

Enforcement of the offenses for use of handheld telephones or wireless communication devices was expanded to primary enforcement as of October 1, 2013, by Chapters 637 and 638 of 2013. Accordingly, an officer may detain a driver for the suspected unlawful use of a handheld phone or wireless communication device without observing or suspecting any other unlawful behavior. Chapters 637 and 638 also increased the penalties applicable to school bus drivers and adult drivers for handheld phone offenses from a maximum of \$40 to a maximum of \$75 for a first-time offense. The maximum penalties for a second offense increased from \$100 to \$125, and the law established a maximum penalty of \$175 for a third or subsequent offense. **Exhibit 3** shows citations issued for handheld telephone offenses (information on primary enforcement of the wireless communication device offense is not readily available) from October 1 through December 31, 2013, after the expansion to primary enforcement.

Exhibit 2
Maryland Electronic Device Driving Citations
Fiscal 2012-2013

<u>Offense While Driving</u>	<u>Enforcement Authority</u>	<u>Open</u>	<u>Prepaid</u>	<u>Trial</u>	<u>Total Citations</u>
<i>School Bus Driver w/Handheld Device</i>					
Fiscal 2013	Secondary	3	29	9	41
Fiscal 2012	Secondary	8	34	14	56
<i>Permit/Prov. License Holder – Adult w/Handheld Device</i>					
Fiscal 2013	Secondary	16	65	30	111
Fiscal 2012	Secondary	36	61	26	123
<i>Minor w/Wireless Communication Device</i>					
Fiscal 2013	Secondary	4	3	4	11
Fiscal 2012	Secondary	5	3	3	11
<i>Fully Licensed Adult w/Handheld Device</i>					
Fiscal 2013	Secondary	548	5,213	1,132	6,893
Fiscal 2012	Secondary	1,175	5,319	854	7,348
<i>Reading, Writing, Sending Text Messages</i>					
Fiscal 2013	Primary	184	649	341	1,174
Fiscal 2012*	Primary	175	368	149	692

*The existing prohibition was expanded to encompass reading a text message and its application was broadened to vehicles in the travel portion of the roadway (rather than those in motion) on October 1, 2011.

Note: The enforcement authority for many of these offenses changed from secondary to primary, beginning in fiscal 2014.

Source: Administrative Office of the Courts

Exhibit 3
Primary Enforcement – Handheld Telephone Offenses
October 1 – December 31, 2013

<u>Handheld Telephone Offense By</u>	<u>Enforcement Authorization</u>	<u>Open</u>	<u>Prepaid</u>	<u>Trial</u>	<u>Total</u>
School Bus Driver	Primary	10	6	1	17
Provisional Licensed Adult Driver	Primary	56	28	5	89
Fully Licensed Adult Driver	Primary	3,185	4,210	338	7,733

Source: Administrative Office of the Courts

The shift to primary enforcement, which became effective in the second quarter of fiscal 2014, has led to a significant increase in the number of handheld cell phone citations issued. For school bus drivers, a total of 41 citations were issued for handheld phone offenses in fiscal 2013. Since primary enforcement became effective in the second quarter of fiscal 2014, a total of 17 citations have been issued. That exceeds the number of citations issued in a typical quarter, assuming uniform enforcement. For provisionally licensed adult drivers, a total of 111 citations were issued in fiscal 2013. In a typical quarter, assuming uniform enforcement, about 28 citations would be issued. However, since primary enforcement became effective, a total of 89 citations have been issued to provisionally licensed adult drivers – all in the second quarter of fiscal 2014. The difference in primary enforcement is most telling with regard to fully licensed adult drivers, however. In fiscal 2013, a total of 6,893 citations were issued for handheld cell phone offenses. In just one quarter under primary enforcement, the number of citations to adult drivers for driving with handheld cell phones (7,733) has already exceeded the entire number issued for fiscal 2013.

Other States: According to the Governors Highway Safety Association (GHSA), as of January 2014, 12 states (California, Connecticut, Delaware, Hawaii, Illinois, Maryland, Nevada, New Jersey, New York, Oregon, Washington, and West Virginia) and the District of Columbia prohibit the use of handheld phones by all drivers while operating a motor vehicle and authorize primary enforcement. No state completely prohibits the use of cell phones by regularly licensed, adult drivers. Also, 20 states (Arizona, Arkansas, California, Connecticut, Delaware, Georgia, Illinois, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, North Carolina, Rhode Island, Tennessee, Texas, Utah, and Virginia) and the District of Columbia prohibit the operators of school vehicles that carry passengers from using a wireless telephone device while driving and authorize primary enforcement.

GHSA also reports that 41 states and the District of Columbia prohibit all drivers from texting while driving. In 37 states and the District of Columbia, primary enforcement is authorized. In four states (Florida, Iowa, Nebraska, and Ohio), secondary enforcement only is authorized. No laws prohibiting all drivers from texting while driving have been enacted in Arizona, Mississippi, Missouri, Montana, New Mexico, Oklahoma, South Carolina, South Dakota, or Texas. As noted earlier, some of these states, however, have enacted provisions limiting or prohibiting texting by specified populations (for example, novice drivers) or in certain situations (for example, school or construction zones).