

**9<sup>th</sup> Annual Report  
to the Maryland Governor and General Assembly**

**Regarding**

**The Effect of the Use of Permits Issued to Plug-In Electric  
Vehicles and Hybrid Electric Vehicles  
on the Operation of HOV Lanes**

(As required by Senate Bill 751, Chapter 678, Acts of 2018)



By

The Maryland Department of Transportation  
State Highway Administration (MDOT SHA)

And

Motor Vehicle Administration (MDOT MVA)

**MSAR# 11466**

**March 2019**

# The Effect of the Use of Permits Issued to Plug-In Electric Vehicles and Hybrid Electric Vehicles on the Operation of HOV Lanes

December 2018

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This report is prepared in accordance with Senate Bill 751 (Chapter 678, Acts of 2018), which repealed and reenacted Chapters 491 and 492 of the Acts of 2010 (as amended by Chapters 64 and 65 of the Acts of 2013), and Chapter 734 of the Acts of 2016. Within Senate Bill 751 (Chapter 678, Acts of 2018), Chapters 491 and 492 of the Acts of 2010 (as amended by Chapters 64 and 65 of the Acts of 2013) specifically direct:

*“(e) On or before January 1 of each year, the Administration and the State Highway Administration jointly shall report to the Governor and, in accordance with § 2–1246 of the State Government Article, the General Assembly on the effect of the use of the plug-in electric drive vehicle and qualified hybrid vehicle permits issued under this section on the operation of HOV lanes in the state.*

*SECTION 2. AND BE IT FURTHER ENACTED, that this Act shall take effect October 1, 2010. It shall remain effective for a period of 12 years and, at the end of September 30, 2022, with no further action required by the General Assembly, this Act shall be abrogated and of no further force and effect.”*

*SECTION 4. AND BE IT FURTHER ENACTED, that this Act shall take effect October 1, 2016. It shall remain effective for a period of 6 years and, at the end of September 30, 2022, with no further action required by the General Assembly, this Act shall be abrogated and of no further force and effect.”*

Enacted under Article II, §17 (c) of the Maryland Constitution, May 15, 2018.

## **Introduction**

Effective since October 1, 2018, Senate Bill 751 (Chapter 678, Acts of 2018) repealed and reenacted Chapters 491 and 492 of the Acts of 2010 (as amended by Chapters 64 and 65 of the Acts of 2013), and Chapter 734 of the Acts of 2016, to extend the authorization of plug-in electric drive vehicles (PEVs) with a State permit to use High Occupancy Vehicle (HOV) lanes regardless of the number of passengers from the sunset date of September 30, 2018 that was established by House Bill 836 (Chapter 65, Acts of 2013) to the new sunset date of September 30, 2022.

Senate Bill 751 (Chapter 678, Acts of 2018) also authorized hybrid electric vehicles (HEVs) with a State permit to use HOV lanes along US 50 between I-95/I-495 and US 301 regardless of the number of passengers.

House Bill 836 (Chapter 65, Acts of 2013) became effective June 1, 2013 and, without further legislative action, the law will sunset on September 30, 2022.

There is no fee for the HOV permit. However, the vehicle owner(s) must complete the Application for the Plug-in Electric Drive or Hybrid Electric HOV Permit (form VR-335).

# The Effect of the Use of Permits Issued to Plug-In Electric Vehicles and Hybrid Electric Vehicles on the Operation of HOV Lanes

December 2018

---

## **Plug-In Electric Vehicles (PEV)**

A PEV, as defined in TR § 11-145.1, must have the following characteristics and/or capabilities:

- Is made by a manufacturer;
- Is manufactured primarily for use on public streets, roads, and highways;
- Is rated at not more than 8,500 pounds unloaded gross vehicle weight;
- Has a maximum speed capability of at least 55 miles per hour;
- Is propelled to a significant extent by an electric motor that draws electricity from a battery that:
  - Has a capacity of not less than 4 kilowatt-hours for 4-wheeled motor vehicles and not less than 2.5 kilowatt-hours for 2-wheeled or 3-wheeled motor vehicles; and,
  - Is capable of being recharged from an external source of electricity.
- “Plug-in electric drive vehicle” includes a qualifying vehicle that has been modified from the original manufacturer specifications.

## **Hybrid Electric Vehicles (HEV)**

An HEV is a “qualified hybrid vehicle” as defined in TR § 23-202 (B)(3), must have the following characteristics and/or capabilities:

- Meets all applicable regulatory requirements;
- Meets current vehicle exhaust standards set under the federal Tier 2 program for gasoline-powered passenger cars under 40 C.F.R. Part 80 et seq.;
- Can draw propulsion energy from both the following sources of energy: gasoline or diesel fuel; and has a rechargeable energy storage system.

## **High Occupancy Vehicle (HOV) Lane Restrictions**

The use of Maryland’s HOV lanes during designated hours is restricted to motorcycles, vehicles carrying at least two occupants, and, as of November 30, 2018, PEVs and HEVs displaying a permit/decal issued by MDOT MVA (displayed on page 4 of this report).

The following highways in Maryland are designated as HOV lanes:

- I-270 southbound, from 0.2 miles south of West Diamond Avenue (MD 117) to the Capital Beltway (I-495), including the I-270 Spur, during the hours from 6:00 am to 9:00 am;
- I-270 northbound, from the Capital Beltway (I-495) to Clarksburg Road (MD 121), including the I-270 Spur, during the hours from 3:30 pm to 6:30 pm; and,
- US 50 eastbound and westbound, from the Capital Beltway (I-495) to Crain Highway (US 301 & MD 3), at all times.

# The Effect of the Use of Permits Issued to Plug-In Electric Vehicles and Hybrid Electric Vehicles on the Operation of HOV Lanes

December 2018

## **Permits Issued to PEVs and HEVs**

MDOT MVA is authorized to issue an HOV permit to a plug-in electric vehicle (PEV) to allow the driver of the vehicle to lawfully use all of the HOV lanes within the State at any time and irrespective of the number of occupants in the vehicle. However, drivers of an HEV with MDOT MVA issued HOV lane permits are restricted to lawfully use the portion of US 50 designated as a HOV lane, between I-95/I-495 and US 301, at any time and irrespective of the number of occupants in the vehicle. The permit, designed jointly by MDOT MVA, MDOT SHA, and the Maryland State Police is issued in the form of a 4” by 4” sticker to be affixed to the PEV or HEV (see image below). Although MDOT MVA is authorized to charge a fee not to exceed \$20 for the permit/sticker, currently no fee is charged.

MDOT MVA has developed a process to provide HOV stickers to PEV and HEV dealerships for them to provide to buyers of these types of vehicles. MDOT MVA also maintains a supply of stickers to provide to owners of qualifying vehicles that were not purchased at these dealerships.

The law allows MDOT MVA to limit the number of HOV permits issued to PEVs and HEVs based on a recommendation from MDOT SHA that too many of these vehicles in HOV lanes can degrade HOV lane operations to an unacceptable level.

As of November 30, 2018, HOV permits have been issued for 3,710 PEVs and HEVs currently on the road out of the 15,819 of these vehicles presently registered by MDOT MVA in Maryland.

<b><u>Maryland Motor Vehicle Administration</u></b>	
<b><u>Counts as of November 2018</u></b>	
<b>Number of Registered Vehicles by Class</b>	
Plug-In Electric Vehicle (PEV)	7,351
Hybrid Electric Vehicle (HEV)	8,468
<b>Total</b>	<b>15,819</b>

<b><u>Maryland Motor Vehicle Administration</u></b>	
<b><u>Counts as of November 2018 (Continued)</u></b>	
<b>Registered Vehicle with HOV Permit</b>	
Plug-In Electric Vehicle (PEV)	1,939
Hybrid Electric Vehicle (HEV)	1,771
<b>Total</b>	<b>3,710</b>

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December 2018

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## **Effect of PEVs and HEVs on HOV Lanes**

Without the need to conduct a formal study, but based on the fact that, as of November 30, 2018, only 3,710 permits had been issued for PEVs and HEVs to use HOV lanes, MDOT SHA concluded that the number of vehicles permitted has no adverse impact on HOV lane operations at this time. The MDOT SHA will continue to monitor the effects of PEVs and HEVs on Maryland's HOV lanes.

## **Further Information on Permits**

For further information regarding the issuance of permits for PEVs and HEVs, representatives of MDOT MVA can be reached at 410-787-2978.