

Department of Legislative Services  
Maryland General Assembly  
2022 Session

FISCAL AND POLICY NOTE  
First Reader

House Bill 925 (Delegate Parrott)  
Environment and Transportation

---

Traffic Control Signal Modernization Fund – Establishment

---

This bill establishes the Traffic Control Signal Modernization Fund administered by the State Highway Administration (SHA). The purpose of the fund is to finance the upgrading of traffic control signals in the State. The bill requires the District Court and political subdivisions to pay 10% of each fine or civil penalty collected for specified traffic violations related to traffic control signals into the special fund. SHA must develop and implement a plan to upgrade, by December 31, 2029, traffic control signals in the State that do not (1) provide battery backup power to parts of the traffic control signal, including the signal head or (2) use light-emitting diode (LED) technology in the signal heads of the traffic control signal. **The bill takes effect July 1, 2022.**

---

Fiscal Summary

**State Effect:** Special fund revenues and expenditures increase significantly beginning in FY 2023 due to the receipt of diverted fine/penalty revenues and spending from the new fund to upgrade traffic control signals in the State. Transportation Trust Fund (TTF) expenditures may increase significantly if special funds are not sufficient to fully implement the required upgrades. General fund expenditures increase by \$28,100 for reprogramming in FY 2023 only. General fund revenues decrease beginning in FY 2023 as a portion of District Court citation revenues are instead remitted to the new special fund.

**Local Effect:** Potential significant cumulative decrease in local expenditures for electricity for and maintenance of traffic control signals. Localities may realize further savings to the extent the bill allows local funds that would otherwise be used for traffic signal improvements to be repurposed. Revenues decrease in any local jurisdictions operating red light cameras, as discussed below.

**Small Business Effect:** Potential meaningful.

---

## Analysis

**Bill Summary:** The plan developed and implemented by SHA must give:

- first priority to the replacement of traffic control signals on (or at) the intersection of highways maintained by municipalities, except Baltimore City;
- second priority to the replacement of traffic control signals on (or at) the intersection of highways maintained by a county or Baltimore City; and
- final priority to the replacement of traffic control signals on State highways.

In addition to revenue distributed to the fund from fines and civil penalties, as described above, the fund also consists of (1) money appropriated in the State budget to the fund; (2) any interest earnings of the fund; and (3) any other money from any other source accepted for the benefit of the fund. Money expended from the fund for modernizing traffic control signals is supplemental to and is not intended to take the place of funding that otherwise would be appropriated for upgrading, replacing, or otherwise modernizing traffic control signals.

### **Current Law:**

#### *Green Traffic Signals*

*Circular Green Signal:* Vehicular traffic facing a circular green signal may proceed straight through the intersection or, unless a sign otherwise prohibits the turn, turn right or left. A vehicle proceeding straight or turning right or left at a circular green signal must yield the right-of-way to a vehicle or pedestrian lawfully in the intersection or adjacent crosswalk.

*Green Arrow Signal:* Vehicular traffic facing a green arrow signal may cautiously enter the intersection only to make the movement indicated by the arrow or by another indication shown at the same time as the arrow. Vehicular traffic facing a green arrow signal must, when making an authorized movement, yield the right-of-way to any pedestrian or bicycle lawfully within the adjacent crosswalk and to other traffic lawfully using the intersection.

*Penalties:* A violation of these provisions is a misdemeanor, and a violator is subject to a maximum fine of \$500. The prepayment penalty established by the District Court is \$90, and the Motor Vehicle Administration (MVA) must assess one point against a violator's license. If, however, the violation contributes to an accident, the prepayment penalty is \$130, and MVA must assess three points against the violator's license.

### *Red Traffic Signals*

*Required Stop:* Vehicular traffic facing a steady red signal alone or a steady red arrow (unless entering the intersection to make a movement permitted by another signal) must stop at the near side of the intersection (1) at a clearly marked stop sign; (2) if there is no clearly marked stop sign, before entering any crosswalk; or (3) if there is no crosswalk, before entering the intersection. Traffic generally must remain stopped until a signal to proceed is displayed.

A violation is a misdemeanor, and a violator is subject to a maximum fine of \$500. The prepayment penalty established by the District Court is \$140, and MVA must assess two points against a violator's license. If, however, the violation contributes to an accident, the prepayment penalty is \$180, and MVA must assess three points against the violator's license.

*Authorized Turns:* Unless a sign prohibiting a turn is in place, vehicular traffic facing a steady red signal may, after stopping, cautiously enter the intersection and make (1) a right turn; (2) a left turn from a one-way street onto a one-way street; or (3) a turn as indicated by a sign. Such traffic must yield the right-of-way to any pedestrian or bicycle lawfully within an adjacent crosswalk and to any vehicle in the intersection or approaching on another roadway so closely as to constitute an immediate hazard.

A violation of these provisions is a misdemeanor, and a violator is subject to a maximum fine of \$500. The prepayment penalty assessed by the District Court is \$90 or, if a violation contributes to an accident, \$130. MVA must assess two points on the violator's license or, if the violation contributes to an accident, three points. For a failure to yield the intersection right-of-way after a turn on a red signal, MVA must assess one point against the violator's license or, if the violation contributes to an accident, three points.

### *Red Light Cameras*

Unless the driver of a motor vehicle receives a citation from a police officer at the time of the violation, the owner or driver of a vehicle recorded by a red light monitoring system entering an intersection against a red signal in violation of the Maryland Vehicle Law is subject to a civil penalty of up to \$100. Red light camera enforcement applies to a violation of specified Maryland Vehicle Law requirements applicable to a vehicle approaching a steady circular red signal or arrow, including (1) stopping at a clearly marked stop line, or crosswalk if there is no stop line, or intersection if there is no crosswalk and (2) remaining stopped until a signal allows the vehicle to proceed.

**State Revenues:** Special fund revenues increase significantly from fines and penalty revenues diverted to the Traffic Control Signal Modernization Fund. General fund

revenues decrease from fines and penalties collected for traffic violations in the District Court that are diverted to the special fund.

*Traffic Control Signal Modernization Fund*

Special fund revenues increase significantly beginning in fiscal 2023 due to bill’s requirement that 10% of the revenues received for certain traffic light violations be deposited into the new fund. **Exhibit 1** shows traffic citation and violation data for the offenses addressed by the bill.

---

**Exhibit 1**  
**Traffic Citation Data for Violations Addressed by the Bill**  
**Fiscal 2021**

<u>Charge</u>	<u>Violations</u>	<u>Prepayments*</u>	<u>Guilty Dispositions (After Trial)</u>
Failing to yield intersection right-of-way after green traffic signal	44	11	10
Failing to yield right-of-way (to pedestrian or bicycle) after green arrow signal	12	6	6
Failing to stop at steady circular red signal	4,942	1,045	894
Failing to stop at steady red arrow	348	52	72
Failing to stop at red traffic signal before right turn	346	103	94
Failing to stop at red signal before left turn or making improper left turn at red signal	124	16	17
Failing to stop at red traffic signal before any other turn	31	5	3
Failing to yield intersection right-of-way (to pedestrian, vehicle, or bicycle) after turn on red signal	40	11	10
Pedestrian entering roadway against red traffic signal	6	0	0
Failing to make required stop at signal, sign, or pavement mark	710	158	85
<b>Total</b>	<b>6,603</b>	<b>1,407</b>	<b>1,191</b>

\*A prepayment penalty allows a defendant to satisfy a traffic citation by admitting guilt and paying a fine without having to appear in court.

Source: Judiciary (Administrative Office of the Courts); Department of Legislative Services

---

The District Court is unable to determine the amount of revenues that may be paid into the special fund in future years based on fiscal 2021 data, as any monetary penalties that are imposed after a trial conviction are not tracked. Furthermore, the above data does not distinguish between prepayments for a general violation versus a violation that contributes to an accident. However, *for illustrative purposes only*, special fund revenues increase by approximately \$54,000 annually if, based on the following assumptions and the data listed above, the District Court collects approximately \$540,000 each year for the applicable violations:

- most violations that are prepaid are for violations that did not contribute to an accident;
- the portion of individuals electing to stand trial (and found guilty after a trial) remains constant in future years;
- the average fine assessed after a trial conviction is about 60% of the maximum possible penalty (*i.e.*, \$300).

In addition to fines collected in the District Court for the offenses shown in Exhibit 1, the bill requires any political subdivision that collects a fine or civil penalty for a red light camera violation to pay 10% of each fine or civil penalty assessed to the Comptroller. Local jurisdictions retain prepayments for red light camera violations; contested violations are scheduled for trial in the District Court (1,928 requests for trial in fiscal 2021). The amount that may be collected as a result of this provision cannot be readily determined, as local jurisdictions (*i.e.*, both counties and municipalities) that operate red light camera programs are not required to publicly report revenues that are received under the program.

However, Prince George's County (which operates a countywide red light camera system) advises that, in fiscal 2021, it collected about \$3.7 million in gross revenues from red light camera violations. The net amount retained by the county (*i.e.*, after cost recovery) totaled about \$1.4 million. Therefore, under the bill, revenues paid into the fund from Prince George's County alone is expected to total about \$370,000 annually. It is unknown whether this amount is representative of the amounts collected in other jurisdictions in the State that operate red light camera programs. (According to the Insurance Institute for Highway Safety, as of February 2022, 6 counties, Baltimore City, and 22 other jurisdictions in the State use red light cameras.)

**State Expenditures:** Special fund (Traffic Control Signal Modernization Fund) expenditures increase significantly to comply with the bill's requirements; it is assumed that expenditures from the fund correspond to the available revenues in the fund in each year. In addition, TTF expenditures increase significantly beginning in fiscal 2023 to complete the traffic signal upgrades required under the bill.

### *Costs to Upgrade Traffic Control Signals*

SHA must develop and implement a plan to upgrade many of the traffic control signals in the State. The bill's requirement for replacement of traffic control signals is not limited to replacements that can be funded through fine revenue redirected by the bill. The funding mechanism discussed above for this purpose may not be sufficient to fully upgrade each of these traffic control signals by December 31, 2029, as required by the bill. For purposes of this analysis, it is assumed that if additional funds are needed to implement the plan, SHA uses TTF monies. Thus, TTF expenditures may increase significantly beginning in fiscal 2023.

As SHA does not yet know how many traffic control signals must be upgraded, and the cost to upgrade each signal may vary based on a number of factors, the total cost to develop and implement the plan cannot be reliably estimated at this time.

SHA estimates that, of the approximately 3,000 traffic signals it maintains, about 500 already have battery backups. However, the cost to implement the battery backup requirement for the remaining 2,500 signals under its jurisdiction is likely significant. SHA estimates that the average cost to upgrade an individual traffic signal to include battery backup totals \$40,000. Thus, the cost to upgrade the 2,500 remaining signals under SHA's jurisdiction that do not already have battery backup could total as much as \$100.0 million (although these costs would likely be incurred over a multi-year period rather than immediately after the bill takes effect). Additional operating expenses are likely incurred as well – for example, SHA assumes that a portion (perhaps as much as 20%) of locations must have batteries replaced every year (at a cost of \$1,454 per replacement).

With regard to the bill's requirement related to the use of LED technology, based on prior information, this analysis assumes that most traffic control signals under the jurisdiction of SHA already utilize LED technology. However, information is not readily available on the need for LED upgrades for traffic signals outside of SHA's jurisdiction.

Prince George's County advised in 2021 that it has 200 traffic control signals that need to be upgraded to meet the LED requirement alone, whereas Montgomery County has already converted its traffic control signals to LED technology. (Montgomery County also advises that all of its traffic signals (more than 200) already have battery backup equipment installed.)

Information is not readily available on the costs SHA or Montgomery County incurred to upgrade their traffic signals to LED technology. However, *for illustrative purposes only*, Prince George's County estimated in 2021 that the cost of replacing certain traffic control signals with LED technology could be *as much as* \$300,000 for *each* signal, based on a previously negotiated contract in which materials accounted for about one-third of the total

and labor costs for installation accounted for the remaining two-thirds. For the purposes of this illustration, if this cost estimate is applied to 500 traffic control signals statewide, the total cost for LED upgrades could approach \$150.0 million. The actual cost likely varies from this illustrative estimate. Regardless, the total cost for upgrading traffic signals (both to include LED technology and battery backups) on a statewide basis is likely significant and is assumed to be spread over the 7.5-year period from fiscal 2023 through the first half of fiscal 2030.

SHA advises that many of the traffic control signals that may need to be replaced or modified under the bill are not under SHA's jurisdiction. As the bill requires SHA to implement the plan, it is assumed that SHA uses the Traffic Control Signal Modernization Fund and TTF to pay for traffic control signals that are locally owned and operated as well.

### *Judiciary Programming Costs*

In fiscal 2023 only, the Judiciary advises that reprogramming changes totaling \$28,100 are necessary in order to implement the bill's changes.

**Local Fiscal Effect:** As noted above, the bill requires any political subdivision that collects a fine for a red light camera violation to pay 10% of the amount assessed to the Comptroller for the new fund. This requirement may have a significant effect on local jurisdictions that operate red light camera systems. As noted above, Prince George's County estimates this provision could result in a revenue loss of approximately \$370,000 annually, based on fiscal 2021 data. Some portion of red light camera revenues paid into the new special fund will be used to upgrade traffic control signals, which may benefit jurisdictions that receive upgrades.

Due to the lower energy consumption and longevity of LED bulbs compared to incandescent bulbs, local jurisdictions that receive LED traffic control signals at the State's expense under the bill experience a potentially significant cumulative reduction in expenditures for electricity and maintenance of traffic control signals. Likewise, to the extent local jurisdictions receive battery backups at the State's expense, local funding that would have been used for the same purpose is assumed to be redirected to other activities.

**Small Business Effect:** Any small businesses in the State that are involved with the installation or maintenance of LED traffic light signals or battery backup devices may benefit due to the increased State spending under the bill.

## **Additional Information**

**Prior Introductions:** HB 1147 of 2021, a similar bill, received a hearing in the House Environment and Transportation Committee but was subsequently withdrawn.

**Designated Cross File:** None.

**Information Source(s):** Kent, Montgomery, Washington, and Worcester counties; City of Havre de Grace; Comptroller's Office; Judiciary (Administrative Office of the Courts); Maryland Department of Transportation; Insurance Institute for Highway Safety; Department of Legislative Services

**Fiscal Note History:** First Reader - February 23, 2022  
fnu2/aad

---

Analysis by: Eric F. Pierce

Direct Inquiries to:  
(410) 946-5510  
(301) 970-5510