# CONGRESSIONAL BUDGET OFFICE
# COST ESTIMATE

June 23, 2017

# H.R. 2518
## Coast Guard Authorization Act of 2017

*As ordered reported by the House Committee on Transportation and Infrastructure on May 24, 2017*

## SUMMARY

H.R. 2518 would authorize appropriations totaling $19.0 billion over the 2018-2019 period for ongoing activities of the Coast Guard (USCG). Assuming appropriation of the specified amounts, CBO estimates that implementing the legislation would cost $18.3 billion over the 2018-2022 period.

The bill also would authorize the Secretary of Homeland Security to enter into a cooperative agreement with a nonfederal entity to establish, sustain, and operate a system to provide positioning, navigation, and timing (PNT) services as a backup and complement to the existing Global Positioning System (GPS). CBO estimates that enacting that provision would increase net direct spending by $121 million over the 2018-2027 period. Enacting the bill also would affect revenues, but CBO estimates that those changes would be insignificant.

Because enacting the bill would affect direct spending and revenues, pay-as-you-go procedures apply. CBO estimates that enacting H.R. 2518 would not increase net direct spending or on-budget deficits by more than $5 billion in any of the four consecutive 10-year periods beginning in 2028.

H.R. 2518 would impose intergovernmental and private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA). CBO estimates that the cost of the mandates would fall below the annual thresholds established in UMRA ($78 million for intergovernmental mandates and $156 million for private-sector mandates, respectively, in 2017, adjusted annually for inflation).

## ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary effect of H.R. 2518 is shown in the following table. The costs of this legislation fall within budget functions 400 (transportation), 300 (natural resources and environment), and 950 (undistributed offsetting receipts).

**TABLE 1. ESTIMATED BUDGETARY EFFECTS OF H.R. 2518**

| | By Fiscal Year, in Millions of Dollars | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2017-2022 |
| **INCREASES IN SPENDING SUBJECT TO APPROPRIATION** | | | | | | | |
| Authorization Level | 0 | 9,397 | 9,587 | 0 | 0 | 0 | 18,984 |
| Estimated Outlays | 0 | 5,956 | 7,790 | 2,526 | 1,312 | 715 | 18,299 |
| **INCREASES IN DIRECT SPENDING [a]** | | | | | | | |
| Estimated Budget Authority | 0 | 200 | 0 | 0 | -5 | -4 | 191 |
| Estimated Outlays | 0 | 20 | 40 | 60 | 45 | 26 | 191 |

a. CBO estimates that enacting H.R. 2518 would increase net direct spending by $121 million over the 2017-2027 period.

## BASIS OF ESTIMATE

For this estimate, CBO assumes that H.R. 2518 will be enacted late in 2017, that the authorized amounts will be provided as specified in the bill, and that outlays will follow historical spending patterns.

### Spending Subject to Appropriation

H.R. 2518 would authorize appropriations totaling $9.4 billion in 2018 and $9.6 billion in 2019 for ongoing activities of the Coast Guard. The Congress provided about $8 billion for the agency in 2017. That amounts authorized to be appropriated under the bill include:

- $14.7 billion for operating expenses;
- $3.9 billion for capital spending to acquire and maintain mission-related vessels, aircraft, facilities, and infrastructure;
- $268 million for training reservists;
- $75 million for research programs; and
- $34 million for activities related to enforcing compliance with environmental regulations.

Based on historical spending patterns for those activities, CBO estimates that implementing those provisions would cost $18.3 billion over the 2018-2022 period and an additional $0.7 billion after 2022.

In addition, CBO estimates that provisions of H.R. 2518 that would authorize the federal government to establish a new PNT system could affect other discretionary spending by federal agencies that might use it. For example, establishing such a system could affect agencies activities and costs related to other systems that provide signaling services. However, because the timing and magnitude of such impacts is highly uncertain, CBO has not included any such effects in this estimate.

## Direct Spending and Revenues

Enacting the bill would increase net costs for developing a PNT system, decrease offsetting receipts from future auctions of the rights to use parts of the electromagnetic spectrum, and make other changes that would have insignificant effects on direct spending and revenues.

**TABLE 2. ESTIMATED CHANGES IN DIRECT SPENDING UNDER H.R. 2518**

| | By Fiscal Year, in Millions of Dollars | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2017-2022 | 2017-2027 |
| **CHANGES IN DIRECT SPENDING** | | | | | | | | | | | | | |
| Capital Spending for PNT System | | | | | | | | | | | | | |
| Estimated Budget Authority | 0 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 200 | 200 |
| Estimated Outlays | 0 | 20 | 40 | 60 | 50 | 30 | 0 | 0 | 0 | 0 | 0 | 200 | 200 |
| Receipts from Revenue-Sharing Agreements | | | | | | | | | | | | | |
| Estimated Budget Authority | 0 | 0 | 0 | 0 | -5 | -5 | -10 | -10 | -15 | -15 | -20 | -10 | -80 |
| Estimated Outlays | 0 | 0 | 0 | 0 | -5 | -5 | -10 | -10 | -15 | -15 | -20 | -10 | -80 |
| Forgone Receipts from Spectrum Auctions | | | | | | | | | | | | | |
| Estimated Budget Authority | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Estimated Outlays | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Total Changes | | | | | | | | | | | | | |
| Estimated Budget Authority | 0 | 200 | 0 | 0 | -5 | -4 | -10 | -10 | -15 | -15 | -20 | 191 | 121 |
| Estimated Outlays | 0 | 20 | 40 | 60 | 45 | 26 | -10 | -10 | -15 | -15 | -20 | 191 | 121 |

**Capital Spending for PNT System.** The federal government owns and operates the GPS, a satellite-based system that provides PNT signals to devices equipped with GPS receivers. The system currently provides continuous “Standard Positioning Services” to all users worldwide free of any direct user charges. It also provides “Precise Positioning Services”

to the U.S. military, federal agencies, and certain foreign governments. Entities throughout the public and private sectors rely heavily on GPS services for their daily operations and continuous PNT services are widely viewed as necessary for safeguarding critical infrastructure in the United States. Under current law, the federal government is investigating opportunities to develop technological capabilities to ensure the continuity of PNT services in the event of disruptions to GPS services.

H.R. 2518 would authorize the Secretary of Homeland Security, in consultation with other federal agencies, to enter into a competitively awarded agreement with a nonfederal entity to establish and operate a land-based backup PNT system using technology known as eLORAN (enhanced long-range aids to navigation). The bill would specify some requirements for the proposed system, including that it use the existing infrastructure of the Coast Guard's LORAN-C system and provide services to federal agencies for public purposes. (LORAN-C provided radio navigation services throughout the 48 continental states, their coastal areas, and parts of Alaska until the Coast Guard terminated the signal in 2010.)

The terms of any cooperative agreement entered into pursuant to the bill—including details related to system specifications—are uncertain and ultimately would be determined by the Secretary, but H.R. 2518 outlines several key requirements that would have to be included. In particular, under such an agreement, the nonfederal entity would incur the upfront capital expenditures necessary to establish the system, and would have full access to (and the authority to improve) existing LORAN-C infrastructure (and the associated electromagnetic spectrum) for a minimum of 20 years. Subject to national security requirements and other conditions, the entity could market and sell PNT services to nonfederal parties, with the requirement that it share a portion of the revenue from such sales with the federal government.

*Budgetary Treatment.* H.R. 2518 specifies that the private entity chosen to develop the proposed PNT system would incur all capital expenses related to establishing it—effectively acting as an agent of the government. Typically in such situations, the entity borrows money in private capital markets to finance the project on behalf of a federal program as long as private financiers are confident that they will be repaid—through some form of long-term federal commitment. Under H.R. 2518, the government would commit to making federally owned infrastructure and spectrum resources available to the developer on a long-term basis. In addition, based on an analysis of information from federal agencies and industry experts, CBO expects the federal government would provide financial support for the program—for example, through a long-term agreement to purchase PNT services. Under the bill, the government would effectively assume the technological and financial risk of the project. Therefore, CBO considers the authority in H.R. 2518 to be the equivalent of a federal acquisition carried out by a nonfederal entity. CBO considers such arrangements to be third-party financing and treats the costs of those transactions as mandatory direct spending.

In CBO's view, the full cost of long-term such commitments that obligate the government to make payments in future years should be recorded in the budget upfront. Estimated outlays would be spread over the period of time when capital spending for the eLORAN system would occur, reflecting the expectation that federal commitments would support the acquisition of an asset that would be developed in accordance with federal specifications to suit federal purposes.

*Estimated Federal Costs.* Because eLORAN is a relatively mature technology, the capital costs of equipment and associated support systems are reasonably well known. However, the cost of establishing a PNT system under H.R. 2518 is uncertain and would depend significantly on the system requirements specified by the federal government, the types of services provided, and the footprint of the service area. Based on information from federal agencies involved in the effort to explore potential PNT services, CBO estimates that capital costs could range from tens of millions to hundreds of millions of dollars. For example, we expect that the capital costs of establishing a system to provide backup timing services within the lower 48 states would be relatively modest because sufficient operational infrastructure probably still exists to support such a system. Expanding the system's capabilities to provide positioning and navigation services could increase costs substantially, depending on the degree of accuracy required for such services. On the upper end, CBO expects that the costs to make necessary investments in decommissioned LORAN-C assets and deploy equipment to provide accurate and reliable positioning and navigation services throughout all 50 states could total between $400 million and $500 million.

For this estimate, CBO assumes the capital costs of the PNT system established under the bill would total about $200 million—an amount that CBO expects would support a system capable of providing timing services throughout the lower 48 states as well as some positioning and navigation services. (Costs could be greater depending on the degree of accuracy that the federal government requires for positioning and navigation services.) We expect that capital spending to deploy that system would occur gradually, over about five years.

*Receipts from Revenue Sharing Agreements.* CBO also expects that the proposed eLORAN system would be a marketable asset that could generate significant income from private subscribers, particularly firms in the telecommunications, financial, energy, and transportation sectors. H.R. 2518 would specify that the cooperative agreement between the federal government and the eLORAN developer require the developer to share a portion of any proceeds it receives from commercial subscriptions for PNT services. CBO treats the federal share of such proceeds as offsetting receipts (which are treated as reductions in direct spending). The timing and magnitude of such receipts is uncertain and would depend on private firms' interest in subscribing to PNT services. Their interest, in turn, would depend on a variety of business-related factors, including perceptions of their

need for backup PNT services and the cost of equipping devices to receive signals from eLORAN.

The bill would require that the revenue-sharing agreement consider the private entity's spending for capital investments and operating expenses. For this estimate, CBO expects that the federal share of receipts would be relatively modest over the 10-year period covered by this estimate because the eLORAN developer would likely retain a greater share of revenues to recover its costs of financing the system. Taking into account the magnitude of income from subscriptions that would be needed to cover CBO's estimate of the developer's capital and operating expenses, CBO estimates that receipts to the federal government would total $80 million over the 2018-2027 period. That estimate reflects the expectation that the federal government's share of receipts would average between 5 percent and 10 percent annually.

**Forgone Receipts from Spectrum Auctions.** Under current law, the radio frequencies previously used for the federally owned LORAN-C system may be re-assigned for use by other federal systems, allocated for public use, or made available for commercial use through auctions conducted by the Federal Communications Commission (FCC). H.R. 2518 would transfer the rights to use that spectrum to the developers of the new network at no cost. CBO estimates that forgoing receipts from an auction of commercial licenses would reduce offsetting receipts by about $1 million over the 2018-2022 period. That estimate reflects trends in the value of licenses for similar frequencies and the uncertainty surrounding the probability that the spectrum will be auctioned for commercial use before the FCC's auction authority expires in 2022.

**Other Provisions.** CBO expects that enacting other provisions of H.R. 2518 would affect direct spending and revenues. However, based on an analysis of information from the affected agencies about the anticipated effects of such provisions, CBO estimates that any such changes, on net, would be insignificant. Those provisions would:

- Increase civil penalties (which are recorded as revenues) for violations of regulations related to the use of cut-off switches for engines used on recreational vessels;

- Permit the President to allow certain commissioned officers of the Coast Guard to retire after fewer years of active service;

- Modify fees related to certificates of documentation for recreational vessels and authorize the agency to adjust fees charged for inspections of certain towing vessels; and

- Establish civil and criminal penalties for violations of laws and regulations related to the safety of U.S. ports and waterways.

## PAY-AS-YOU-GO CONSIDERATIONS

The Statutory Pay-As-You-Go Act of 2010 establishes budget-reporting and enforcement procedures for legislation affecting direct spending or revenues. The net changes in outlays that are subject to those pay-as-you-go procedures are shown in the following table.

**CBO Estimate of Pay-As-You-Go Effects for H.R. 2518 as ordered reported by the House Committee on Transportation and Infrastructure on May 24, 2017**

| | By Fiscal Year, in Millions of Dollars | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2017-2022 | 2017-2027 |
| **NET INCREASE IN THE DEFICIT** | | | | | | | | | | | | | |
| Statutory Pay-As-You-Go Impact | 0 | 20 | 40 | 60 | 45 | 26 | -10 | -10 | -15 | -15 | -20 | 191 | 121 |

## INCREASE IN LONG-TERM DIRECT SPENDING AND DEFICITS

CBO estimates that enacting H.R. 2518 would not increase net direct spending or on-budget deficits by more than $5 billion in any of the four consecutive 10-year periods beginning in 2028.

## INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT

H.R. 2518 would impose intergovernmental and private-sector mandates as defined in UMRA. CBO estimates that the cost of the mandates would fall below the annual thresholds established in UMRA ($78 million for intergovernmental mandates and $156 million for private-sector mandates, respectively in 2017, adjusted annually for inflation).

### Mandates That Apply to Both Public and Private Entities

**Increasing the End Strength of the Coast Guard**. Section 102 would increase the costs of complying with existing intergovernmental and private-sector mandates by increasing the number of Coast Guard personnel on active-duty in 2019 relative to currently authorized levels. Those additional personnel would be eligible for existing protections under the Servicemembers Civil Relief Act (SCRA).

SCRA allows servicemembers to maintain a single state of residence for purposes of paying state and local personal income taxes and to request deferrals for certain state and

local fees. CBO estimates that the additional cost of those mandates on state and local governments would be small.

SCRA also requires creditors to charge no more than 6 percent interest on loans that servicemembers acquired before they began active-duty service, and it allows courts to temporarily stay certain civil proceedings, such as evictions, foreclosures, and repossessions. The act also precludes creditors from using a servicemember's personal assets to satisfy the member's trade or business liability while he or she is in military service. The number of active-duty servicemembers covered by SCRA would increase by 1,500. Servicemembers' utilization of the various provisions of the SCRA depends on a number of uncertain factors, including how often and how long they are deployed. However, because the increase in the number of active-duty servicemembers covered by SCRA would be so small, on balance CBO expects that the incremental cost of compliance for entities in the private sector also would be small.

**Requirements on Drawbridge Operators.** The bill would impose an intergovernmental and private-sector mandate on drawbridge owners or operators by requiring those entities to notify the public of a temporary change to the operation of the drawbridge lasting six months or less. CBO estimates that the cost of complying with those reporting requirements would be small.

### Mandates That Apply to Public Entities Only

The bill would preempt state and local laws by allowing health-care professionals to practice in states other than where they are licensed if they are members, employees, or contractors of the USCG performing authorized duties. Although the preemption would limit the application of state and local laws, it would impose no duty on state or local governments that would result in additional spending or a loss of revenues.

### Other Effects on Public Entities

The bill would benefit entities, such as state agencies and local maritime authorities, by authorizing the federal government to reimburse those entities for the costs of constructing maritime navigation aids through federally authorized navigation channels. The bill also would authorize the USCG to provide training to state, local, or tribal emergency response personnel, on a reimbursable or non-reimbursable basis, whenever the USCG determines that USCG staff cannot participate in scheduled trainings. Any costs incurred by public entities under training agreements with the USCG would result from voluntary commitments.

### Mandates That Apply to Private Entities Only

The bill would impose a private-sector mandate on manufacturers of recreational vessels by requiring the installation of an engine cut-off switch on vessels less than 26 feet in length in accordance with an industry standard. (Cut-off switches turn off the engine if the operator is separated from the vessel.) Based on information from industry sources, CBO estimates that manufacturers would only need to install engine cut-off switches on about 5,000 vessels because manufacturers already include such switches on most recreational vessels covered by the mandate. On the basis of information about the cost of engine cut-off switches, CBO estimates that the cost of installing an engine cut-off switch on those vessels would be less than $200,000.

## PREVIOUS CBO ESTIMATE

On May 30, 2017, CBO transmitted a cost estimate for S. 1129, the Coast Guard Authorization Act of 2017, as ordered reported by the Senate Committee on Commerce, Science, and Transportation on May 18, 2017. Both bills would authorize appropriations for the USCG over the 2018 and 2019 period. Our estimate of discretionary outlays under H.R. 2518 is less than under S. 1129 because H.R. 2518 would authorize less funding.

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