



## CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

November 1, 2016

### **S. 3084**

### **American Innovation and Competitiveness Act**

*As ordered reported by the Senate Committee on Commerce, Science, and Transportation  
on June 29, 2016*

#### **SUMMARY**

S. 3084 would amend current law and authorize the appropriation of about \$17.3 billion over the 2017-2018 period for the operations of the National Science Foundation (NSF) and the National Institute of Standards and Technology (NIST).

Assuming appropriation of the specified and estimated amounts, CBO estimates that implementing the legislation would cost \$16.4 billion over the 2017-2021 period and \$0.9 billion after 2021.

CBO also estimates that enacting S. 3084 would increase direct spending by \$25 million over the 2017-2026 period because enacting the legislation would authorize NIST to enter into enhanced-use leasing arrangements. Because enacting the bill would increase direct spending, pay-as-you-go procedures apply. Enacting S. 3084 would not affect revenues.

CBO estimates that enacting S. 3084 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 2027.

S. 3084 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

#### **ESTIMATED COST TO THE FEDERAL GOVERNMENT**

The estimated budgetary effects of S. 3084 are shown in the following table. The costs of this legislation fall within budget functions 250 (general science, space, and technology), 300 (natural resources and environment), 370 (commerce and housing credit), and 800 (general government).

	By Fiscal Year, in Millions of Dollars					2017-2021
	2017	2018	2019	2020	2021	
<b>INCREASES IN SPENDING SUBJECT TO APPROPRIATION</b>						
NSF Reauthorization						
Authorization Level	7,510	7,810	0	0	0	15,320
Estimated Outlays	1,532	4,612	4,777	2,401	1,087	14,409
NIST Reauthorization						
Authorization Level	974	1,013	0	0	0	1,987
Estimated Outlays	750	985	232	20	0	1,987
Other Provisions						
Estimated Authorization Level	4	4	3	2	1	14
Estimated Outlays	4	4	3	2	1	14
Total Spending Under S. 3084						
Estimated Authorization Level	8,488	8,827	3	2	1	17,321
Estimated Outlays	2,286	5,601	5,012	2,423	1,088	16,410
<b>INCREASES IN DIRECT SPENDING <sup>a</sup></b>						
Estimated Budget Authority	0	3	3	4	4	14
Estimated Outlays	0	*	1	1	3	5

Notes: NSF = National Science Foundation; NIST = National Institute of Standards and Technology; \* = less than \$500,000.

a. CBO estimates that direct spending would increase under S. 3084 by \$25 million over the 2017-2026 period.

## **BASIS OF ESTIMATE**

For this estimate, CBO assumes S. 3084 will be enacted near the end of calendar year 2016 and that the necessary amounts will be appropriated for each fiscal year. Estimated outlays are based on historical spending patterns for existing programs.

### **Spending Subject To Appropriation**

The bill would authorize specific amounts for 2017 and 2018 for both the NSF and NIST. In addition, the bill would affect spending by other agencies.

**National Science Foundation Reauthorization.** S. 3084 would authorize the appropriation of \$7.5 billion in 2017 and \$7.8 billion in 2018 for the National Science Foundation to carry out current activities, expand grant programs, and update policies affecting project oversight, conflicts of interest, and transparency and accountability. In

2016, NSF programs received an appropriation of \$7.5 billion. CBO estimates that this provision would cost \$14.4 billion over the 2017-2021 period and \$0.9 billion after 2021.

**National Institute of Standards and Technology Reauthorization.** S. 3084 would authorize the appropriation of \$974 million in 2017 and \$1.0 billion in 2018 to NIST for agency operations. The agency's appropriation for 2016 was \$964 million. CBO estimates that implementing S. 3084 would cost \$750 million in 2017 and \$2.0 billion over the 2017-2021 period.

**Other Provisions.** CBO estimates that implementing a variety of other provisions of S. 3084 would require other agencies including the Department of Commerce (DOC), the Office of Science and Technology Policy, and the Office of Management and Budget to modestly increase spending. Those provisions would require those agencies to provide additional reports to the Congress related to federal research; codify and expand the responsibilities of some interagency working groups; and require DOC to directly manage the law enforcement and security programs for NIST. Finally, the bill would require DOC to establish new programs to promote science, technology, engineering, and math (STEM) education, and to expand current grant programs to include awards to develop and expand STEM apprenticeships. Based on an analysis of information from the affected agencies, CBO estimates that implementing those provisions would cost \$14 million over the 2017-2021 period.

### **Direct Spending**

Under current law, NIST is authorized to lease real property from nonfederal entities. Section 403 would expand that authority by authorizing the agency to lease certain federally owned property to non-federal entities. Those expanded authorities would be similar to the enhanced-use leasing authorities used by other agencies, including the Departments of Defense and Veterans Affairs.

CBO expects that NIST would use the expanded leasing authority in a manner similar to other agencies. Acting in the dual roles of lessor (of the land) and lessee (of facilities built on the land), those agencies have secured private financing to construct and renovate federal buildings and other infrastructure. Such leasing arrangements commit an agency to paying for the new facility or renovation of an existing facility at the time it enters into the leasing agreement even if the agency does not have an advance appropriation to cover the full costs of such a lease. Consequently, CBO believes that the full cost of such transactions should be recorded at the time an agency enters into such a leasing agreement.

NIST currently owns sites in Maryland and Colorado that operate as the agency's main campuses, as well as two field sites. NIST currently has a backlog of \$350 million in basic repairs at its facilities and reports that the facilities needing repairs are, on average, 58 years old. In recent years, the agency has undertaken building renovations and

expansions on both of its campuses with costs ranging from approximately \$25 million to \$322 million. According to NIST, the agency has entered into one short-term lease agreement in recent years.

Based on information from NIST about its plans to use the expanded leasing authority, CBO estimates that NIST would use that authority to finance facility upgrades valued at about \$35 million—roughly 10 percent of its current maintenance backlog—resulting in \$25 million in spending over the 2017-2026 period.

## **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.

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**CBO Estimate of Pay-As-You-Go Effects for S. 3084, as ordered reported by the Senate Committee on Commerce, Science, and Transportation on June 29, 2016**

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	By Fiscal Year, in Millions of Dollars										2017-	2017-
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2021	2026
<b>NET INCREASE IN THE DEFICIT</b>												
Statutory Pay-As-You-Go Impact	0	0	1	1	3	3	4	4	4	5	5	25

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## **INCREASE IN LONG-TERM DIRECT SPENDING AND DEFICITS**

CBO estimates that enacting S. 3084 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 2027.

## **INTERGOVERNMENTAL AND PRIVATE-SECTOR IMPACT**

S. 3084 contains no intergovernmental or private-sector mandates as defined in UMRA. The bill would benefit state and local governments, public universities, and research and manufacturing centers by authorizing financial and technical assistance in STEM-related fields for those entities. Any costs incurred by those entities, including cost-sharing contributions, would be incurred voluntarily.

## **PREVIOUS CBO ESTIMATE**

On September 16, 2016, CBO transmitted a cost estimate for H.R. 5636, the National Institute of Standards and Technology Campus Security Act, as passed by the House of Representatives on July 11, 2016. A provision in S. 3084 is similar to H.R. 5636 and CBO's estimate of the budgetary effects of each is the same.

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