

117TH CONGRESS  
1ST SESSION

# S. 1732

To establish a Freight Rail Innovation Institute to carry out a research and development program to develop new technologies for freight rail locomotives.

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IN THE SENATE OF THE UNITED STATES

MAY 20, 2021

Mr. CASEY introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

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## A BILL

To establish a Freight Rail Innovation Institute to carry out a research and development program to develop new technologies for freight rail locomotives.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. FREIGHT RAIL INNOVATION INSTITUTE.**

4 (a) IN GENERAL.—Chapter 229 of title 49, United  
5 States Code, is amended by adding at the end the fol-  
6 lowing:

7 **“§ 22909. Freight Rail Innovation Institute**

8 “(a) ESTABLISHMENT.—Not later than 6 months  
9 after the date of the enactment of this section, the Sec-

1 retary of Transportation, in coordination with the Sec-  
2 retary of Energy, representatives of the National Labora-  
3 tories, the National Institute of Standards and Tech-  
4 nology, and the National Science Foundation, and in part-  
5 nership with an eligible institution of higher education and  
6 a freight rail locomotive manufacturer, shall establish a  
7 Freight Rail Innovation Institute (referred to in this sec-  
8 tion as the ‘Institute’) to carry out a research and develop-  
9 ment program—

10 “(1) to develop—

11 “(A) technologies necessary for the design,  
12 development, manufacturing, and operation of  
13 zero-emission battery and hydrogen-powered  
14 freight locomotives; and

15 “(B) technologies that enhance freight rail  
16 safety, efficiency and utilization; and

17 “(2) to accelerate the deployment of—

18 “(A) zero-emission locomotives, including  
19 passenger locomotives;

20 “(B) supporting supply chains;

21 “(C) advanced freight and logistics sys-  
22 tems; and

23 “(D) related workforce development and  
24 education innovations.

25 “(b) ACTIVITIES.—The Institute shall—

1           “(1) research, develop, and deploy zero-emission  
2 battery and hydrogen-powered freight locomotives  
3 and locomotive technologies;

4           “(2) develop and operate testing programs and  
5 demonstration facilities;

6           “(3) develop advanced technologies that ad-  
7 vance freight rail safety, efficiency, logistics, and uti-  
8 lization;

9           “(4) develop and deploy an operating prototype  
10 hydrogen powered locomotive;

11           “(5) deploy a revenue service testing and dem-  
12 onstration program to accelerate commercial adop-  
13 tion of battery electric locomotives;

14           “(6) develop specific technologies and innova-  
15 tions to support the manufacturing and deployment  
16 of zero-emission locomotives for passenger rail;

17           “(7) pay wages to all laborers and mechanics  
18 employed by the Institute at rates that are not less  
19 than those prevailing for the same type of work for  
20 similar projects in the immediate locality, consistent  
21 with the wage requirement set forth in section  
22 113(a) of title 23, United States Code;

23           “(8) ensure that the freight rail locomotive  
24 manufacturer that is associated with the Institute  
25 fully complies with the Buy America requirement set

1       forth in section 22905(a) with respect to all manu-  
2       facturing and production associated with the Insti-  
3       tute and as a result of new technologies, innovations,  
4       and methods developed (at least in part) by the In-  
5       stitute; and

6               “(9) carry out other activities that the Sec-  
7       retary of Transportation considers necessary.

8       “(c) APPLICANT REQUIREMENTS.—Applicants seek-  
9       ing to establish the Institute under this section shall—

10               “(1) be a partnership consisting of at least 1  
11       institution of higher education and at least 1 freight  
12       rail locomotive manufacturer, which shall enter into  
13       a cost-sharing agreement for purposes of the Insti-  
14       tute; and

15               “(2) submit a comprehensive proposal to the  
16       Secretary of Transportation that—

17                       “(A) identifies how the activities described  
18       in subsection (b) will be carried out by the In-  
19       stitute; and

20                       “(B) includes a Memorandum of Under-  
21       standing, signed by all partners, that com-  
22       prehensively addresses all aspects of the Insti-  
23       tute’s work, including how intellectual property  
24       and revenue sharing from resulting techno-  
25       logical developments will be handled;

1                   “(C) includes such other information as  
2                   the Secretary may require.

3           “(d) CONSIDERATIONS.—In selecting the applicant  
4 that will receive funding to establish the Institute, the Sec-  
5 retary of Transportation shall consider—

6                   “(1) the extent to which the applicant’s pro-  
7                   posal maximizes greenhouse gas reductions and  
8                   other environmental benefits;

9                   “(2) the ability of the applicant’s proposal to  
10                  increase the use of low- and zero- emission freight  
11                  rail technologies among the United States freight  
12                  and passenger rail industry;

13                  “(3) the anticipated public benefits of the appli-  
14                  cant’s proposal, including the creation of construc-  
15                  tion, manufacturing, and services jobs that pay pre-  
16                  vailing wages;

17                  “(4) proposed plans to train workers from the  
18                  area surrounding the Institute to develop competitive  
19                  advanced manufacturing, battery- or hydrogen-  
20                  power, and advanced freight utilization, network  
21                  safety and logistics technology skills;

22                  “(5) the degree to which the applicant, includ-  
23                  ing its freight rail locomotive manufacturer, has ex-  
24                  perience—

1           “(A) carrying out battery and hydrogen re-  
2           search on freight locomotives that reduce green-  
3           house gas emissions; and

4           “(B) developing freight rail advanced sig-  
5           naling, network safety, and logistics tech-  
6           nologies;

7           “(6) the extent to which the applicant’s pro-  
8           posal increases the proportional amount of goods  
9           moved by freight rail in the United States;

10          “(7) the extent to which such proposal—

11           “(A) maximizes the private share of the  
12           total cost of the institute beyond the minimum  
13           level required under subsection (d); and

14           “(B) sustains the private investment up to  
15           and beyond 2026; and

16          “(8) whether the proposed Institute is located  
17          at a site that—

18           “(A) has legacy rail infrastructure;

19           “(B) has access to freight rail tracks and  
20           rail connections; and

21           “(C) is located on a redeveloped brownfield  
22           site in close proximity to a freight rail loco-  
23           motive manufacturer, an institution of higher  
24           education, and a short line or regional railroad.

1       “(e) FUNDING REQUIREMENT.—The non-Federal  
2 share of the costs of the Institute’s research and develop-  
3 ment program shall be not less than 50 percent.

4       “(f) NOTIFICATION.—

5           “(1) NOTICE.—Not later than 3 days after  
6 Congress appropriates funds for the Institute for  
7 any fiscal year, the Secretary of Transportation shall  
8 submit to the Committee on Commerce, Science, and  
9 Transportation of the Senate and the Committee on  
10 Transportation and Infrastructure of the House of  
11 Representatives—

12           “(A) the institution of higher education  
13 and freight rail locomotive manufacturer that  
14 have been selected to receive such funding to  
15 operate the Institute; and

16           “(B) a summary of activities to be carried  
17 out by the Institute.

18           “(2) ANNUAL REPORT.—Not later than 1 year  
19 after Congress appropriates funds for the Institute  
20 for any fiscal year, the Secretary shall submit a re-  
21 port to the committees listed under paragraph (1)  
22 that summarizes the work of the Institute on—

23           “(A) low- and zero-emission rail tech-  
24 nologies;

25           “(B) increased freight rail utilization; and

1           “(C) training a workforce in advanced  
2           manufacturing, battery- or hydrogen-power, ad-  
3           vanced freight utilization, network safety, logis-  
4           tics technology skills, and advanced rail safety  
5           and logistics technologies.

6           “(g) AUTHORIZATION OF APPROPRIATIONS.—There  
7           is authorized to be appropriated \$120,000,000 for each  
8           of the fiscal years 2022 through 2026, to carry out the  
9           activities of the Institute described in subsection (b). Such  
10          sums shall remain available until expended.

11          “(h) DEFINITIONS.—In this section:

12           “(1) FREIGHT RAIL LOCOMOTIVE MANUFAC-  
13           TURER.—The term ‘freight rail locomotive manufac-  
14           turer’ means a company that—

15           “(A) is headquartered in the United  
16           States; and

17           “(B) is engaged in the design, manufac-  
18           ture, and sale of freight rail locomotives, train  
19           network systems, engines, parts, logistics, rail  
20           safety and braking systems, and other freight  
21           rail and locomotive products.

22           “(2) INSTITUTION OF HIGHER EDUCATION.—  
23           The term ‘institution of higher education’ has the  
24           meaning given such term in section 101 of the High-  
25           er Education Act of 1965 (20 U.S.C. 1001).”.



1           (b) CLERICAL AMENDMENT.—The analysis for chap-  
2 ter 229 of title 49, United States Code, is amended by  
3 adding at the end the following:

“22909. Freight Rail Innovation Institute.”.

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