

119TH CONGRESS
1ST SESSION

H. R. 2515

To provide for a grant program for adoption of certain telematics systems onboard freight railcars, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 31, 2025

Mr. NEHLS (for himself and Mr. MOULTON) introduced the following bill; which was referred to the Committee on Transportation and Infrastructure, and in addition to the Committee on Science, Space, and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To provide for a grant program for adoption of certain telematics systems onboard freight railcars, and for other purposes.

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. SHORT TITLE.**

4 This Act may be cited as the “American Tank Car
5 Modernization Act of 2025”.

1 **SEC. 2. GRANT PROGRAMS FOR ADOPTION OF CERTAIN**
2 **TELEMATICS SYSTEMS.**

3 (a) ONBOARD FREIGHT RAILCAR TELEMATICS SYS-
4 TEMS AND GATEWAY DEVICE GRANT PROGRAM.—The
5 Administrator of the Federal Railroad Administration
6 shall establish a grant program to provide funds to freight
7 railcar owners or operators to purchase and install—

8 (1) onboard freight railcar telematics systems;

9 or

10 (2) onboard freight railcar gateway devices.

11 (b) ELIGIBLE ENTITIES.—Eligible entities for fund-
12 ing under the grant program under this section are freight
13 railcar owners.

14 (c) USE OF FUNDS.—Funds provided under this sec-
15 tion may be used to purchase and install onboard freight
16 railcar telematic systems or onboard freight railcar gate-
17 way devices that enable the recipient of a grant to obtain
18 and enhance the data collected from such systems and de-
19 vices resulting in the following:

20 (1) Near real-time visibility of freight railcar lo-
21 cation and freight railcar asset health.

22 (2) Increasing the visibility to the safety of the
23 asset and commodity within the freight railcar asset.

24 (3) Increasing future capability of real-time vis-
25 ibility in the development of onboard freight railcar
26 sensor technology that measures or monitors, for

1 purposes of gathering information on maintenance
2 requirements (and enables railcar owners, operators,
3 and shippers to identify railcars that could become
4 a hazard)—

5 (A) railcar impact;

6 (B) wheel or wheel bearing temperature;

7 (C) whether a hand brake is on or off;

8 (D) whether a hatch is open or closed; and

9 (E) internal railcar temperature.

10 (4) Increasing the efficiency of railcar utiliza-
11 tion in the North American freight railcar fleet.

12 (5) Reducing reliance on human and manual
13 data capture, reducing the risk of errors due to data
14 latency and timeliness related to freight railcar data
15 and information.

16 (6) Offering development of alerts and triggers
17 to capture and transmit freight railcar mechanical
18 issues to the railroad operator for action.

19 (7) Ability to communicate events real-time to
20 a wide variety of stakeholders.

21 (d) GRANT USE PRIORITIZATION.—In selecting re-
22 cipients of grants under this section, the Administrator
23 shall prioritize installation of onboard freight railcar
24 telematic systems or onboard freight railcar gateway de-
25 vices in the following order of priority:

1 (1) Newly built freight railcars manufactured
2 by a qualified manufacturer in a qualified facility.

3 (2) Freight railcars entering a certification
4 event in a qualified facility.

5 (3) Freight railcars entering a shopping event
6 or maintenance event in a qualified facility.

7 (e) FREIGHT RAILCAR TYPE PRIORITIZATION.—
8 After establishing the priority requirements under sub-
9 section (c), the Administrator shall further ensure that the
10 freight railcar types eligible to receive such an installation
11 be considered in the following order of priority:

12 (1) Tank cars in “TIH/PIH” (toxic inhalation
13 products) service.

14 (2) Tank cars in Class I, II, and III flammable
15 service.

16 (3) Tank cars in hazardous materials service.

17 (4) Tank cars in specialized service.

18 (5) Other tank cars.

19 (6) All other freight railcars.

20 (f) LIMITATION.—To be eligible for any expenditure
21 of funds under this section, a freight railcar and any sen-
22 sitive technology relating to such railcar shall comply with
23 the requirements of section 20171 of title 49, United
24 States Code.

25 (g) REPORT BY SECRETARY OF TRANSPORTATION.—

1 (1) IN GENERAL.—Not later than 3 years after
2 the date of enactment of this Act, the Secretary of
3 Transportation shall submit to the Committee on
4 Commerce, Science, and Transportation of the Sen-
5 ate and the Committee on Transportation and Infra-
6 structure of the House of Representatives a report
7 on the implementation and effects of the grant pro-
8 gram established under this section.

9 (2) CONTENTS.—The report required under
10 paragraph (1) shall include, at a minimum, the fol-
11 lowing:

12 (A) The number of railcars equipped with
13 telematics devices using funds provided under
14 this section.

15 (B) The cost of equipping such railcars.

16 (C) The number of safety incidents involv-
17 ing such railcars reported to the Federal Rail-
18 road Administration.

19 (D) Anecdotal experience of grant recipi-
20 ents relating to the deployment of telematics
21 devices.

22 (E) Any legislative recommendations relat-
23 ing to the grant program established under
24 paragraph (1).

1 (3) PUBLIC AVAILABILITY.—The report re-
2 quired under paragraph (1) shall be made publicly
3 available to the maximum extent practicable without
4 compromising confidentiality or security.

5 (4) CONSULTATION.—In preparing the report
6 required under paragraph (1), the Secretary shall
7 consult with Federal agencies and stakeholders, as
8 appropriate, to gather technical, operational, and
9 safety-related data.

10 (h) DEFINITIONS.—In this section, the following defi-
11 nitions apply:

12 (1) ONBOARD FREIGHT RAILCAR TELEMATICS
13 SYSTEM; ONBOARD FREIGHT RAILCAR GATEWAY DE-
14 VICE.—The terms “onboard freight railcar
15 telematics system” and “onboard freight railcar
16 gateway device” mean the telematics or gateway de-
17 vice physically installed on a freight railcar that is
18 owned by a railcar owner that collects and transmits
19 data about the railcar asset.

20 (2) TELEMATICS.—The term “telematics”
21 means a technology that—

22 (A) relies on telecommunications,
23 informatics, and computer and data processing;

24 (B) generates data and informatics from
25 gateway devices fixed to railcars and provides

1 for the exchange of information over a distance
2 using battery or solar powered wireless connec-
3 tions; and

4 (C) includes the method upon which
5 freight railcars are monitored by using GPS
6 technology through a gateway device using on-
7 board diagnostics to plot a railcar’s movements
8 and, if applicable, gather railcar equipment
9 health and condition data from other onboard
10 railcar sensors when applied.

11 (3) GATEWAY DEVICE.—The term “gateway de-
12 vice” means a network hardware or software node
13 used in freight railcar telecommunications that—

14 (A) connects two networks with different
15 transmission protocols together;

16 (B) serves as an entry and exit point for
17 a network as all data collected from the railcar
18 must pass through or communicate with the
19 gateway prior to being routed;

20 (C) are distinct from routers or switches in
21 that they communicate using more than one
22 protocol to connect multiple networks; and

23 (D) may be any device on a freight railcar
24 that is embedded with electronics, software,
25 sensors, or other connectivity, that enables the

1 device to connect to, collect data from, or ex-
2 change data with another device, including—

- 3 (i) railcar onboard telematics;
- 4 (ii) global positioning system satellite
5 and cellular location tracking systems;
- 6 (iii) railcar event status sensors;
- 7 (iv) railcar predictive component con-
8 dition and performance monitoring sen-
9 sors; and
- 10 (v) similar technologies embedded into
11 freight railcar components and sub-assem-
12 blies.

13 (4) RAILROAD FREIGHT CAR.—The term “rail-
14 road freight car” means a car designed to carry
15 freight or railroad personnel by rail, including—

- 16 (A) a box railcar;
- 17 (B) a refrigerator railcar;
- 18 (C) a ventilator railcar;
- 19 (D) an intermodal well railcar;
- 20 (E) a gondola railcar;
- 21 (F) a hopper railcar;
- 22 (G) an auto rack railcar;
- 23 (H) a flat railcar;
- 24 (I) a special railcar;
- 25 (J) a caboose railcar;

1 (K) a tank railcar; and

2 (L) a yard railcar.

3 (5) QUALIFIED FACILITY.—The term “qualified
4 facility” means a facility that is not owned or under
5 the control of a state-owned enterprise.

6 (6) QUALIFIED MANUFACTURER.—The term
7 “qualified manufacturer” means a railroad freight
8 car manufacturer that is not owned or under the
9 control of a state-owned enterprise.

10 (7) CERTIFICATION EVENT.—The term “certifi-
11 cation event” means a railroad freight car that is re-
12 quired by current regulations to be recertified in a
13 maintenance facility or qualified facility.

14 (8) SHOPPING EVENT.—The term “shopping
15 event” means a railroad freight car that is under-
16 going regular or routine maintenance by a railcar
17 maintenance facility or qualified facility.

18 (9) STATE-OWNED ENTERPRISE.—The term
19 “state-owned enterprise” means—

20 (A) an entity that is owned by, or under
21 the control of, a national, provincial, or local
22 government of a country of concern, or an
23 agency of such government; or

1 (B) an individual acting under the direc-
2 tion or influence of a government or agency de-
3 scribed in subparagraph (A).

4 (10) COUNTRY OF CONCERN.—The term “coun-
5 try of concern” means a country that—

6 (A) is identified by the Department of
7 Commerce as a nonmarket economy country (as
8 defined in section 771(18) of the Tariff Act of
9 1930 (19 U.S.C. 1677(18))) as of the date of
10 enactment of the Passenger Rail Expansion and
11 Rail Safety Act of 2021;

12 (B) was identified by the United States
13 Trade Representative in the most recent report
14 required by section 182 of the Trade Act of
15 1974 (19 U.S.C. 2242) as a foreign country in-
16 cluded on the priority watch list (as defined in
17 subsection (g)(3) of such section); and

18 (C) is subject to monitoring by the Trade
19 Representative under section 306 of the Trade
20 Act of 1974 (19 U.S.C. 2416).

21 (i) AUTHORIZATION OF APPROPRIATIONS.—There is
22 authorized to be appropriated to carry out this section
23 \$100,000,000 for each of fiscal years 2026 through 2029,
24 to remain available until expended.

1 **SEC. 3. ENHANCING FREIGHT RAILCAR ONBOARD**
2 **TELEMATICS AND SENSOR DEVELOPMENT**
3 **PILOT PROGRAM.**

4 (a) ESTABLISHMENT.—The Administrator of the
5 Federal Railroad Administration shall establish a pilot
6 program to—

7 (1) assist freight railcar owners and freight
8 railcar manufacturers in the development of freight
9 railcar onboard sensor technologies to add visibility
10 to the safety of the freight railcar asset and com-
11 modity within the freight railcar asset;

12 (2) encourage development of freight railcar on-
13 board sensors that communicate to the freight rail-
14 car onboard gateway devices to offer future capabili-
15 ties of real-time visibility of—

16 (A) wheel and wheel bearing temperature;

17 (B) whether a hand brake is on or off;

18 (C) whether a hatch is open or closed; and

19 (D) internal railcar temperature; and

20 (3) carry out any of the activities described in
21 paragraph (1) and (2) for purposes of informing
22 railcar owners or operators on maintenance require-
23 ments, and enable operators, shippers, and railcar
24 owners to possibly identify railcars that could be-
25 come a hazard.

1 (b) ELIGIBLE ENTITIES.—Eligible entities for fund-
2 ing under the pilot program under this section are freight
3 railcar owners.

4 (c) LIMITATION.—To be eligible for any expenditure
5 of funds under this section, a freight railcar and any sen-
6 sitive technology relating to such railcar shall comply with
7 the requirements of section 20171 of title 49, United
8 States Code.

9 (d) REPORT TO CONGRESS.—Not later than 1 year
10 after the date of enactment of this Act, the Administrator
11 shall submit to the Committee on Commerce, Science, and
12 Transportation of the Senate and the Committee on
13 Transportation and Infrastructure of the House of Rep-
14 resentatives a report on—

15 (1) the activities carried out with funds pro-
16 vided under this section; and

17 (2) the effectiveness of developed freight railcar
18 onboard sensors by outlining the types and numbers
19 of sensors that have become industry accepted and
20 are in use on freight railcars.

21 (e) DEFINITIONS.—

22 (1) FREIGHT RAILCAR ONBOARD SENSOR.—The
23 term “freight railcar onboard sensor” means the on-
24 board sensor that communicates or signals the
25 freight railcar onboard telematics device or gateway

1 device physically installed on a freight railcar that is
2 purchased and installed by, and owned by the railcar
3 owner that collects and transmits data about the
4 railcar asset to the railcar owner, data system, or
5 data collection point.

6 (2) RAILROAD FREIGHT CAR.—The term “rail-
7 road freight car” means a car designed to carry
8 freight or railroad personnel by rail, including—

- 9 (A) a box railcar;
- 10 (B) a refrigerator railcar;
- 11 (C) a ventilator railcar;
- 12 (D) an intermodal well railcar;
- 13 (E) a gondola railcar;
- 14 (F) a hopper railcar;
- 15 (G) an auto rack railcar;
- 16 (H) a flat railcar;
- 17 (I) a special railcar;
- 18 (J) a caboose railcar;
- 19 (K) a tank railcar; and
- 20 (L) a yard railcar.

21 (3) TELEMATICS.—The term “telematics”
22 means a technology that—

- 23 (A) relies on telecommunications,
24 informatics, and computer and data processing;

1 (B) generates data and informatics from
2 gateway devices fixed to railcars and provide for
3 the exchange of information over a distance
4 using battery or solar powered wireless connec-
5 tions; and

6 (C) includes the method upon which
7 freight railcars are monitored by using GPS
8 technology through a gateway device using on-
9 board diagnostics to plot a railcar’s movements
10 and, if applicable, gather railcar equipment
11 health and condition data from other onboard
12 railcar sensors when applied.

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14 vice” means a network hardware or software node
15 used in freight railcar telecommunications that—

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17 transmission protocols together;

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19 network as all data collected from the railcar
20 must pass through or communicate with the
21 gateway prior to being routed;

22 (C) are distinct from routers or switches in
23 that they communicate using more than one
24 protocol to connect multiple networks; and

1 (D) may be any device on a freight railcar
2 that is embedded with electronics, software,
3 sensors, or other connectivity, that enables the
4 device to connect to, collect data from, or ex-
5 change data with another device, including—

- 6 (i) railcar onboard telematics;
7 (ii) global positioning system satellite
8 and cellular location tracking systems;
9 (iii) railcar event status sensors;
10 (iv) railcar predictive component con-
11 dition and performance monitoring sen-
12 sors; and
13 (v) similar sensitive technologies em-
14 bedded into freight railcar components and
15 sub-assemblies.

16 (f) AUTHORIZATION OF APPROPRIATIONS.—There is
17 authorized to be appropriated to carry out this section
18 \$10,000,000 for each of fiscal years 2026 through 2029,
19 to remain available until expended.

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