

## Calendar No. 1050

110TH CONGRESS  
2D SESSION**H. R. 3999****[Report No. 110-482]**

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IN THE SENATE OF THE UNITED STATES

JULY 25, 2008

Received; read twice and referred to the Committee on Environment and  
Public Works

SEPTEMBER 23 (legislative day, SEPTEMBER 17), 2008

Reported by Mrs. BOXER, without amendment

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**AN ACT**

To amend title 23, United States Code, to improve the safety of Federal-aid highway bridges, to strengthen bridge inspection standards and processes, to increase investment in the reconstruction of structurally deficient bridges on the National Highway System, 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 “National Highway  
5 Bridge Reconstruction and Inspection Act of 2008”.

1 **SEC. 2. HIGHWAY BRIDGE PROGRAM.**

2 (a) BRIDGES ON FEDERAL-AID HIGHWAYS.—

3 (1) RISK-BASED PRIORITIZATION FOR REPLACE-  
4 MENT AND REHABILITATION OF DEFICIENT  
5 BRIDGES.—Section 144 of title 23, United States  
6 Code, is amended by striking subsections (b) and (c)  
7 and inserting the following:

8 “(b) BRIDGES ON FEDERAL-AID HIGHWAYS.—The  
9 Secretary, in consultation with the States, shall—

10 “(1) inventory all bridges on Federal-aid high-  
11 ways that are bridges over waterways, other topo-  
12 graphical barriers, other highways, and railroads;

13 “(2) identify each bridge inventoried under  
14 paragraph (1) that is structurally deficient or func-  
15 tionally obsolete;

16 “(3) assign a risk-based priority for replace-  
17 ment or rehabilitation of each such bridge after con-  
18 sideration of safety, serviceability, and essentiality  
19 for public use and public safety, including the poten-  
20 tial impacts to emergency evacuation routes and to  
21 regional and national freight and passenger mobility  
22 if the serviceability of the bridge is restricted or di-  
23 minished; and

24 “(4) determine the cost of replacing each such  
25 bridge with a comparable facility or of rehabilitating  
26 such bridge.

1 “(c) BRIDGES ON OTHER PUBLIC ROADS.—

2 “(1) INVENTORY OF BRIDGES.—The Secretary,  
3 in consultation with the States, shall—

4 “(A) inventory all those highway bridges  
5 on public roads, other than those on any Fed-  
6 eral-aid highway, which are bridges over water-  
7 ways, other topographical barriers, other high-  
8 ways, and railroads;

9 “(B) identify each bridge inventoried under  
10 subparagraph (A) that is structurally deficient  
11 or functionally obsolete;

12 “(C) assign a risk-based priority for re-  
13 placement or rehabilitation of each such bridge  
14 after consideration of safety, serviceability, and  
15 essentiality for public use and public safety, in-  
16 cluding the potential impacts to emergency  
17 evacuation routes and to regional and national  
18 freight and passenger mobility if the service-  
19 ability of the bridge is restricted or diminished;  
20 and

21 “(D) determine the cost of replacing each  
22 such bridge with a comparable facility or of re-  
23 habilitating such bridge.

24 “(2) INVENTORY OF BRIDGES FOR HISTORIC  
25 SIGNIFICANCE.—The Secretary may, at the request

1 of a State, inventory bridges, on and off Federal-aid  
2 highways, for historic significance.

3 “(3) INVENTORY OF INDIAN RESERVATION AND  
4 PARK BRIDGES.—As part of the activities carried out  
5 under paragraph (1), the Secretary, in consultation  
6 with the Secretary of the Interior, shall—

7 “(A) inventory all those highway bridges  
8 on Indian reservation roads and park roads  
9 which are bridges over waterways, other topo-  
10 graphical barriers, other highways, and rail-  
11 roads;

12 “(B) identify each bridge inventoried under  
13 subparagraph (A) that is structurally deficient  
14 or functionally obsolete;

15 “(C) assign a risk-based priority for re-  
16 placement or rehabilitation of each such bridge  
17 after consideration of safety, serviceability, and  
18 essentiality for public use and public safety, in-  
19 cluding the potential impacts to emergency  
20 evacuation routes and to regional and national  
21 freight and passenger mobility if the service-  
22 ability of the bridge is restricted or diminished;  
23 and

1           “(D) determine the cost of replacing each  
2           such bridge with a comparable facility or of re-  
3           habilitating such bridge.”.

4           (2) PROCESS FOR ASSIGNING RISK-BASED PRI-  
5           ORITIES.—

6           (A) DEADLINE FOR ESTABLISHMENT.—

7           After modifying national bridge inspection  
8           standards in accordance with the amendments  
9           made by section 3 and not later than 18  
10          months after the date of enactment of this Act,  
11          the Secretary, in consultation with the States,  
12          shall establish a process for assigning risk-  
13          based priorities under sections 144(b)(3),  
14          144(c)(1)(C), and 144(c)(3)(C) of title 23,  
15          United States Code, as amended by paragraph  
16          (1) of this subsection.

17          (B) REPORT TO CONGRESS.—Not later  
18          than 18 months after the date of enactment of  
19          this Act, the Secretary shall submit to the Com-  
20          mittee on Transportation and Infrastructure of  
21          the House of Representatives and the Com-  
22          mittee on Environment and Public Works of the  
23          Senate a report containing a description of the  
24          process for assigning risk-based priorities estab-  
25          lished under subparagraph (A).

1 (C) INDEPENDENT REVIEW.—

2 (i) PARTICIPATION OF NATIONAL  
3 ACADEMY OF SCIENCES.—Not later than  
4 18 months after the date of enactment of  
5 this Act, the Secretary shall enter into ap-  
6 propriate arrangements with the National  
7 Academy of Sciences to permit the Acad-  
8 emy to conduct an independent review of  
9 the process for assigning risk-based prior-  
10 ities established under subparagraph (A).

11 (ii) REPORT TO CONGRESS.—Not later  
12 than 2 years after the date of enactment  
13 of this Act, the Academy shall submit a re-  
14 port on the results of the review to the  
15 Secretary, the Committee on Transpor-  
16 tation and Infrastructure of the House of  
17 Representatives, and the Committee on  
18 Environment and Public Works of the Sen-  
19 ate.

20 (iii) AUTHORIZATION OF APPROPRIA-  
21 TIONS.—There is authorized to be appro-  
22 priated to carry out this subparagraph  
23 \$2,000,000 for fiscal year 2009. Such  
24 sums shall remain available until expended.

1 (b) APPORTIONMENT.—Section 144(e) of such title  
2 is amended by adding at the end the following: “In this  
3 subsection, the term ‘deficient bridge’ means a bridge that  
4 is structurally deficient or functionally obsolete.”.

5 (c) PARTICIPATION.—Section 144(d) of such title is  
6 amended by adding at the end the following:

7 “(5) REQUIREMENTS FOR STATE PARTICIPA-  
8 TION.—

9 “(A) IN GENERAL.—As a condition for  
10 providing assistance to a State under this sec-  
11 tion, the Secretary shall require the State to  
12 take the following actions:

13 “(i) INSPECTIONS.—Not later than 24  
14 months after the date of enactment of this  
15 paragraph, and at least once every 24  
16 months thereafter (except as otherwise  
17 provided by section 151(d)), the State shall  
18 inspect all highway bridges described in  
19 subsections (b) and (c) that are located in  
20 the State in accordance with the standards  
21 established under section 151 and provide  
22 updated information on such bridges to the  
23 Secretary for inclusion in the national  
24 bridge inventory.

1                   “(ii) CALCULATION OF LOAD RAT-  
2                   INGS.—The State shall—

3                   “(I) not later than 24 months  
4                   after the date of enactment of this  
5                   paragraph, calculate the load rating  
6                   for all highway bridges described in  
7                   subsections (b) and (c) that are lo-  
8                   cated in the State;

9                   “(II) at least once every 24  
10                  months thereafter, reevaluate and, as  
11                  appropriate, recalculate the load rat-  
12                  ing for each such bridge; and

13                  “(III) ensure that the safe load-  
14                  carrying capacities for such bridges  
15                  are properly posted.

16                  “(iii) PERFORMANCE PLAN.—The  
17                  State shall develop, not later than 24  
18                  months after the date of enactment of this  
19                  paragraph, update annually, and imple-  
20                  ment a 5-year performance plan for—

21                  “(I) the inspection of highway  
22                  bridges described in subsections (b)  
23                  and (c) that are located in the State;  
24                  and

1                   “(II) the rehabilitation and re-  
2                   placement of any of such bridges that  
3                   are structurally deficient or function-  
4                   ally obsolete.

5                   “(iv) BRIDGE MANAGEMENT SYS-  
6                   TEM.—Notwithstanding section 303(c), the  
7                   State shall develop and implement a bridge  
8                   management system that meets the re-  
9                   quirements of section 303.

10                  “(B) APPROVAL OF PERFORMANCE  
11                  PLANS.—

12                   “(i) SUBMISSION TO THE SEC-  
13                   RETARY.—A State that establishes a 5-  
14                   year performance plan under subparagraph  
15                   (A)(iii) shall submit the plan and each up-  
16                   date of the plan to the Secretary for ap-  
17                   proval.

18                   “(ii) CRITERIA FOR APPROVAL.—Not  
19                   later than 1 year after the date of enact-  
20                   ment of this paragraph, the Secretary shall  
21                   establish criteria for the approval of per-  
22                   formance plans and updates submitted  
23                   under clause (i).

24                   “(iii) APPROVAL AND DISAPPROVAL.—  
25                   The Secretary shall approve or disapprove

1 each 5-year performance plan and update  
2 submitted by a State under this subpara-  
3 graph. If the Secretary disapproves a plan  
4 or update, the Secretary shall inform the  
5 State of the reasons for the disapproval  
6 and shall require the State to resubmit the  
7 plan or update with such modifications as  
8 the Secretary determines necessary.

9 “(C) HISTORIC BRIDGES.—

10 “(i) IN GENERAL.—A 5-year perform-  
11 ance plan of a State under subparagraph  
12 (A)(iii) may provide for more frequent, in-  
13 depth inspection of a historic bridge lo-  
14 cated in the State in lieu of replacement of  
15 the bridge if the Secretary determines  
16 that—

17 “(I) it is appropriate based on  
18 the age, design, traffic characteristics,  
19 and any known deficiency of the  
20 bridge; and

21 “(II) granting the exception will  
22 increase the overall safety of the  
23 State’s bridge inventory.

24 “(ii) HISTORIC BRIDGE DEFINED.—In  
25 this subparagraph, the term ‘historic

1 bridge' means any bridge that is listed on  
2 the National Register of Historic Places.”.

3 (d) INFORMATION AND REPORTS.—Section 144(h) of  
4 such title is amended to read as follows:

5 “(h) INFORMATION AND REPORTS.—

6 “(1) UPDATES OF INFORMATION.—The Sec-  
7 retary shall annually revise, as necessary, the infor-  
8 mation required under subsections (b) and (c).

9 “(2) REPORTS TO CONGRESS.—Concurrently  
10 with the President’s annual budget submission to  
11 Congress under section 1105(a) of title 31, the Sec-  
12 retary shall submit to the Committee on Transpor-  
13 tation and Infrastructure of the House of Represent-  
14 atives and the Committee on Environment and Pub-  
15 lic Works of the Senate a report containing—

16 “(A) a description of projects and activities  
17 approved under this section;

18 “(B) the information updated under para-  
19 graph (1), including a description of the pri-  
20 ority assigned, on a national basis and by State,  
21 for the replacement or rehabilitation of each  
22 structurally deficient or functionally obsolete  
23 bridge on a Federal-aid highway;

24 “(C) a description of any project or activ-  
25 ity carried out by a State under this section in

1 the preceding fiscal year that is inconsistent  
2 with the priorities assigned by the Secretary  
3 under subsection (b)(3), (c)(1)(C), and  
4 (c)(3)(C); and

5 “(D) such recommendations as the Sec-  
6 retary may have for improvements of the pro-  
7 gram authorized by this section.”.

8 (e) TRANSFERABILITY OF FUNDING.—Section 144 of  
9 such title is amended by inserting after subsection (r) the  
10 following:

11 “(s) TRANSFERABILITY OF FUNDING.—Notwith-  
12 standing section 126 or any other provision of law, a State  
13 may transfer funds apportioned to the State under this  
14 section for a fiscal year to another apportionment of funds  
15 to the State under this title only if the State demonstrates  
16 to the satisfaction of the Secretary that there are not any  
17 bridges on the National Highway System located in the  
18 State that are eligible for replacement.”.

19 (f) DEFINITIONS.—Section 144 of such title is fur-  
20 ther amended by adding at the end the following:

21 “(t) DEFINITIONS.—In this section, the following  
22 definitions apply:

23 “(1) FUNCTIONALLY OBSOLETE.—The term  
24 ‘functionally obsolete’ as used with respect to a  
25 bridge means a bridge that no longer meets current

1 design standards relating to geometrics, including  
2 roadway width, shoulder width, and approach align-  
3 ment, for the traffic demands on the bridge.

4 “(2) STRUCTURALLY DEFICIENT.—The term  
5 ‘structurally deficient’ as used with respect to a  
6 bridge means a bridge that has—

7 “(A) significant load-carrying elements  
8 that are in poor or worse condition due to dete-  
9 rioration or damage, or both;

10 “(B) a load capacity that is significantly  
11 below current truckloads and that requires re-  
12 placement; or

13 “(C) a waterway opening causing frequent  
14 flooding of the bridge deck and approaches re-  
15 sulting in significant traffic interruptions.

16 “(3) REHABILITATION.—The term ‘rehabilita-  
17 tion’ means major work necessary to restore the  
18 structural integrity of a bridge and work necessary  
19 to correct a major safety defect.

20 “(4) REPLACEMENT.—The term ‘replacement’  
21 as used with respect to a structurally deficient or  
22 functionally obsolete bridge means a new facility  
23 constructed in the same general traffic corridor that  
24 meets the geometric, construction, and structural  
25 standards, in effect at the time of such construction,

1 required for the types and volume of projected traf-  
2 fic of the facility over its design life.”.

3 (g) NATIONAL BRIDGE INVENTORY.—

4 (1) IN GENERAL.—Not later than 1 year after  
5 the date of enactment of this Act, the Secretary  
6 shall take necessary actions to make information  
7 contained in the national bridge inventory estab-  
8 lished under section 144 of title 23, United States  
9 Code, more readily available to the public, including  
10 actions to make the information easier to under-  
11 stand.

12 (2) AUTHORIZATION OF APPROPRIATIONS.—

13 There is authorized to be appropriated to carry out  
14 this subsection \$2,000,000 for fiscal year 2009.

15 Such sums shall remain available until expended.

16 **SEC. 3. NATIONAL BRIDGE INSPECTION PROGRAM.**

17 (a) NATIONAL BRIDGE INSPECTION STANDARDS.—

18 Section 151(a) of title 23, United States Code, is amended  
19 by adding at the end the following: “The standards estab-  
20 lished under this subsection shall be designed to ensure  
21 uniformity among the States in the conduct of such in-  
22 spections and evaluations.”.

23 (b) MINIMUM REQUIREMENTS OF INSPECTION

24 STANDARDS.—Section 151(b) of title 23, United States

25 Code, is amended—

1 (1) in paragraph (4) by striking “and” at the  
2 end;

3 (2) in paragraph (5) by striking the period at  
4 the end and inserting a semicolon; and

5 (3) by adding at the end the following:

6 “(6) establish procedures for conducting annual  
7 compliance reviews of State inspections, quality con-  
8 trol and quality assurance procedures, load ratings,  
9 and weight limit postings of structurally deficient  
10 highway bridges;

11 “(7) establish procedures for States to follow in  
12 reporting to the Secretary—

13 “(A) critical findings relating to structural  
14 or safety-related deficiencies of highway  
15 bridges; and

16 “(B) monitoring activities and corrective  
17 actions taken in response to such a finding; and

18 “(8) provide for testing with a state-of-the-art  
19 technology that detects growth activity of fatigue  
20 cracks as small as 0.01 inches on steel bridges ex-  
21 hibiting fatigue damage or bridges with fatigue sus-  
22 ceptible members.”.

23 (c) REGULATIONS ON CRITICAL FINDINGS OF  
24 BRIDGE DEFICIENCIES.—

1           (1) IN GENERAL.—Not later than 2 years after  
2 the date of enactment of this Act, the Secretary of  
3 Transportation shall issue regulations establishing  
4 procedures to be used by States in reporting critical  
5 findings of bridge deficiencies, and subsequent moni-  
6 toring activities and corrective actions, to the Sec-  
7 retary in accordance with the standards to be estab-  
8 lished under section 151(b)(7) of title 23, United  
9 States Code, as added by subsection (b)(3) of this  
10 section.

11           (2) CONTENTS.—Regulations to be issued  
12 under paragraph (1) shall—

13                   (A) establish a uniform definition of the  
14 term “critical finding”;

15                   (B) establish deadlines for State reporting  
16 of critical finding determinations to the Sec-  
17 retary;

18                   (C) establish requirements for monitoring  
19 and follow-up actions and reporting following a  
20 critical finding determination; and

21                   (D) provide for enhanced training of  
22 bridge inspectors relating to critical findings.

23           (d) TRAINING PROGRAM FOR ALL BRIDGE INSPEC-  
24 TORS.—Section 151(c) of such title is amended by adding  
25 at the end the following: “The Secretary shall expand the

1 scope of the training program to ensure that all persons  
2 conducting highway bridge inspections receive appropriate  
3 training and certification under the program.”.

4 (e) FREQUENCY OF BRIDGE INSPECTIONS.—Section  
5 151 of such title is amended—

6 (1) in subsection (b)(2) by inserting “in accord-  
7 ance with subsection (d)” before the semicolon;

8 (2) by redesignating subsection (d) as sub-  
9 section (e); and

10 (3) by inserting after subsection (c) the fol-  
11 lowing:

12 “(d) FREQUENCY OF BRIDGE INSPECTIONS.—

13 “(1) IN GENERAL.—Subject to paragraph (2),  
14 the standards established under subsection (a), at a  
15 minimum, shall provide for—

16 “(A) annual inspections of structurally de-  
17 ficient highway bridges using the best prac-  
18 ticable technologies and methods;

19 “(B) annual in depth inspections of frac-  
20 ture critical members, as such terms are de-  
21 fined in section 650.305 of title 23, Code of  
22 Federal Regulations (as in effect on the date of  
23 enactment of this paragraph); and

1           “(C) biennial inspections of highway  
2           bridges that have not been determined to be  
3           structurally deficient.

4           “(2) EXTENSIONS.—Upon the request of a  
5           State, the Secretary may extend, to a maximum pe-  
6           riod of 48 months, the time between required inspec-  
7           tions of a highway bridge that has not been deter-  
8           mined to be structurally deficient if the Secretary  
9           determines that—

10           “(A) the extension is appropriate based on  
11           the age, design, traffic characteristics, and any  
12           known deficiency of the bridge;

13           “(B) the extension is consistent with the 5-  
14           year performance plan of the State approved  
15           under section 144(d)(5)(B); and

16           “(C) granting the extension will increase  
17           the overall safety of the State’s bridge inven-  
18           tory.”.

19           (f) QUALIFICATIONS OF PROGRAM MANAGERS AND  
20           TEAM LEADERS.—

21           (1) REVISION OF REGULATIONS.—Not later  
22           than 1 year after the date of enactment of this Act,  
23           the Secretary of Transportation shall revise regula-  
24           tions contained in section 650.309 of title 23, Code  
25           of Federal Regulations, relating to the qualifications

1 of highway bridge inspection personnel, to require  
2 that, in addition to meeting the qualifications identi-  
3 fied in such section (as in effect on the date of en-  
4 actment of this Act)—

5 (A) an individual serving as the program  
6 manager of a State be a professional engineer  
7 licensed under the laws of that State;

8 (B) an individual serving as a team leader  
9 for a State for the inspection of complex  
10 bridges or follow-up inspections of bridges for  
11 which there has been a critical finding be a li-  
12 censed professional engineer; and

13 (C) an individual serving as a team leader  
14 for a State for the inspection of all other  
15 bridges be a licensed professional engineer or  
16 have at least 10 years of bridge inspection expe-  
17 rience.

18 (2) APPLICABILITY.—The additional qualifica-  
19 tion requirements specified in paragraphs (1)(A),  
20 (1)(B), and (1)(C) shall apply only to an individual  
21 selected by a State to serve as the program manager  
22 or a team leader after the date of issuance of revised  
23 regulations under paragraph (1).

24 (3) COMPLEX BRIDGE DEFINED.—In this sub-  
25 section, the term “complex bridge” means a highway

1 bridge with unusual characteristics, including mov-  
2 able, suspension, and cable-stayed highway bridges.

3 (g) EFFECTIVE DATE.—Not later than 1 year after  
4 the date of enactment of this Act, the Secretary shall mod-  
5 ify national bridge inspection standards and modify the  
6 training program for bridge inspectors in accordance with  
7 the amendments made by this section.

8 (h) REPORT TO CONGRESS.—Not later than 15 days  
9 after a critical finding determination is made by a State  
10 which results in the closure of a bridge, the Secretary of  
11 Transportation shall report to the appropriate Committees  
12 of Congress regarding the impact, including the economic  
13 impact, on regional transportation and transit that will re-  
14 sult from the such bridge closure and recommend solutions  
15 to mitigate such impact.

16 **SEC. 4. GAO STUDY.**

17 Not later than 1 year after the date of enactment  
18 of this Act, the Comptroller General shall conduct a study  
19 and report its findings to the Secretary of Transportation  
20 regarding—

21 (1) the identification of factors that contribute  
22 to construction delays of bridge rehabilitation; and

23 (2) any recommendations the Comptroller Gen-  
24 eral may have to simplify and expedite the construc-  
25 tion of bridges that are to be rehabilitated.

1 **SEC. 5. SURFACE TRANSPORTATION RESEARCH.**

2 Section 502(d) of title 23, United States Code, is  
3 amended—

4 (1) in paragraph (2) in the matter preceding  
5 subparagraph (A) by inserting “and enhance the  
6 safety” before “of bridge structures”; and

7 (2) in paragraph (4) by striking “for use with  
8 existing infrastructure facilities and with next-gen-  
9 eration infrastructure facilities” and inserting “for  
10 assessing the structural integrity of existing infra-  
11 structure facilities and next-generation infrastruc-  
12 ture facilities”.

13 **SEC. 6. AUTHORIZATION OF APPROPRIATIONS.**

14 (a) IN GENERAL.—There is authorized to be appro-  
15 priated to carry out section 144 of title 23, United States  
16 Code, \$1,000,000,000 for fiscal year 2009.

17 (b) APPORTIONMENT AND USE OF FUNDS.—Funds  
18 appropriated pursuant to subsection (a)—

19 (1) shall be apportioned among the States  
20 under paragraphs (1) and (2) of section 144(e) of  
21 such title;

22 (2) shall be used for the replacement and reha-  
23 bilitation of structurally deficient highway bridges on  
24 the National Highway System; and

25 (3) shall be available for obligation in the same  
26 manner as other funds apportioned under chapter 1

1 of such title, except that such funds shall not be  
2 transferable and shall remain available until ex-  
3 pended.

4 (c) LIMITATION.—None of the funds appropriated  
5 pursuant to subsection (a) may be earmarked by Congress  
6 or any Federal department or agency for a specific project  
7 or activity.

8 (d) COMPLIANCE WITH IMMIGRATION AND NATION-  
9 ALITY ACT.—None of the funds appropriated pursuant to  
10 subsection (a) may be used to employ workers in violation  
11 of section 274A of the Immigration and Nationality Act  
12 (8 U.S.C. 1324a).

13 **SEC. 7. BRIDGE ADVANCED CONDITION ASSESSMENT PILOT**  
14 **PROGRAM.**

15 (a) IN GENERAL.—Not later than 180 days after the  
16 date of enactment of this Act, the Secretary of Transpor-  
17 tation shall establish and implement a pilot program to  
18 evaluate the effectiveness, accuracy, and reliability of the  
19 use of advanced condition assessment inspection processes  
20 and technologies (including fiber optic, vibrating wire,  
21 acoustical emissions, and peak strain displacement tech-  
22 nologies) in monitoring and evaluating the structural  
23 health of a highway bridge. Technologies evaluated under  
24 the pilot program shall be real-time sensing technologies

1 that record objective data to determine accurate conditions  
2 assessments of critical bridge elements.

3 (b) GRANTS.—

4 (1) IN GENERAL.—The Secretary may make  
5 grants to States to conduct projects under the pilot  
6 program.

7 (2) APPLICATIONS.—A State seeking a grant  
8 under the pilot program shall submit an application  
9 to the Secretary in such form and containing such  
10 information as the Secretary may require by regula-  
11 tion.

12 (c) ELIGIBILITY.—

13 (1) SELECTION OF HIGHWAY BRIDGES.—

14 (A) IN GENERAL.—In awarding grants  
15 under the pilot program, the Secretary shall se-  
16 lect not more than 15 highway bridges in not  
17 more than 5 States for participation in the pro-  
18 gram.

19 (B) BRIDGE REQUIREMENTS.—The Sec-  
20 retary may select a highway bridge under sub-  
21 paragraph (A) only if the bridge is—

22 (i) as of the date of enactment of this  
23 Act, classified as structurally deficient  
24 under section 144 of title 23, United  
25 States Code;

1 (ii) a nonredundant, fracture critical  
2 structure; and

3 (iii) greater than 200 feet in length.

4 (2) SELECTION AND USE OF TECHNOLOGIES.—

5 (A) IN GENERAL.—The Secretary shall se-  
6 lect no fewer than 2 types of real-time, in-serv-  
7 ice, sensor-based, commercially-available, ad-  
8 vanced-condition assessment technologies to be  
9 used in the pilot program.

10 (B) DURATION OF REAL-TIME DATA COL-  
11 LECTION.—The duration of real-time data col-  
12 lection from each highway bridge selected for  
13 participation in the pilot program shall be not  
14 less than 1 year.

15 (C) USE OF CALIBRATED FINITE ELEMENT  
16 ANALYSIS MODEL.—At least one-half of the  
17 highway bridges selected for participation in the  
18 pilot program shall also be evaluated using a  
19 calibrated finite element analysis model of the  
20 bridge, based upon data from the advanced con-  
21 dition assessment technologies.

22 (d) FEDERAL SHARE.—The Federal share payable on  
23 account of a project carried out under the pilot program  
24 shall be 80 percent of the cost of the project.

1 (e) DURATION OF THE PILOT PROGRAM.—The Sec-  
2 retary shall carry out the pilot program for a period of  
3 2 fiscal years.

4 (f) FINAL REPORT.—

5 (1) IN GENERAL.—Not later than 6 months  
6 after the last day of the pilot program, the Secretary  
7 shall submit to the Committee on Transportation  
8 and Infrastructure of the House of Representatives  
9 and the Committee on Environment and Public  
10 Works of the Senate a report that describes the ef-  
11 fectiveness and benefits of the pilot program carried  
12 out under this section.

13 (2) CONTENTS.—The report shall describe, at a  
14 minimum

15 (A) the cost effectiveness of the tech-  
16 nologies and processes selected;

17 (B) the objectivity, reliability, and accuracy  
18 of the technologies and processes employed in  
19 providing condition assessments of the highway  
20 bridge;

21 (C) the quality of the data collected and  
22 measured; and

23 (D) any recommendations for improving or  
24 expanding the pilot program or the use of  
25 structural health monitoring technologies or

1 processes, including a suggested plan for wider  
2 adoption based on potential highway bridge re-  
3 pair and replacement savings by the Federal  
4 Government and State governments.

5 (g) AUTHORIZATION OF APPROPRIATIONS.—There is  
6 authorized to be appropriated to carry out this section  
7 \$5,000,000.

8 (h) AVAILABILITY OF AMOUNTS.—Amounts appro-  
9 priated to carry out this section shall be available for obli-  
10 gation in the same manner as funds apportioned under  
11 chapter 1 of title 23, United States Code, except that such  
12 funds shall not be transferable and shall remain available  
13 until expended.

14 **SEC. 8. EFFECTIVENESS OF BRIDGE RATING SYSTEM.**

15 (a) STUDY.—The Comptroller General shall conduct  
16 a study of the effectiveness of the bridge rating system  
17 of the Federal Highway Administration, including the use  
18 of the terms “structurally deficient” and “functionally ob-  
19 solete” to describe the condition of highway bridges in the  
20 United States.

21 (b) EVALUATION OF STATE SYSTEMS.—In con-  
22 ducting the study, the Comptroller General shall evaluate  
23 bridge rating systems used by State departments of trans-  
24 portation and provide recommendations on how successful  
25 aspects of such bridge rating systems may be incorporated

1 into the bridge rating system of the Federal Highway Ad-  
2 ministration.

3 (c) REPORT.—Not later than February 1, 2009, the  
4 Comptroller General shall submit to the Committee on  
5 Transportation and Infrastructure of the House of Rep-  
6 resentatives and the Committee on the Environment and  
7 Public Works of the Senate a report on the results of the  
8 study.

9 **SEC. 9. USE OF CARBON FIBER COMPOSITE MATERIALS IN**  
10 **BRIDGE REPLACEMENT AND REHABILITA-**  
11 **TION PROJECTS.**

12 (a) STUDY.—The Secretary of Transportation shall  
13 conduct a study of the cost benefits of using carbon fiber  
14 composite materials in bridge replacement and rehabilita-  
15 tion projects instead of traditional construction materials.

16 (b) REPORT.—Not later than 180 days after the date  
17 of enactment of this Act, the Secretary shall transmit to  
18 the Committee on Transportation and Infrastructure of  
19 the House of Representatives and the Committee on Envi-  
20 ronment and Public Works of the Senate a report on the  
21 results of the study conducted under this section.

22 **SEC. 10. SENSE OF CONGRESS.**

23 It is the sense of Congress that each State should  
24 prepare a corrosion mitigation and prevention plan, for a

1 project for construction, replacement, or rehabilitation of  
2 a bridge, that includes the following:

3 (1) An estimate of the expected useful life of  
4 the bridge.

5 (2) An estimate of environmental exposure of  
6 the bridge, including marine, deicer application, in-  
7 dustrial, rural, rainfall, temperature, freeze-thaw,  
8 and other factors that influence corrosion prevention  
9 and corrosion mitigation strategies.

10 (3) An identification of the functional classifica-  
11 tion of the bridge.

12 (4) Details of corrosion mitigation and preven-  
13 tion methods that will be used with respect to the  
14 bridge, taking into account—

15 (A) material selection;

16 (B) coating considerations;

17 (C) cathodic protection considerations;

18 (D) design considerations for corrosion;

19 and

20 (E) concrete requirements.

21 (5) Details of a project maintenance program  
22 for the life of the bridge.

23 (6) A certification that the plan was developed  
24 by the State or States and approved by a corrosion  
25 expert.

1           (7) A certification that each individual con-  
2           ducting inspections of Federal-aid highway bridges  
3           in the State or States receives training from a corro-  
4           sion expert.

5 **SEC. 11. FLOOD RISKS TO BRIDGES.**

6           (a) **STUDY.**—The Secretary of Transportation, in  
7           consultation with the States, shall conduct a study of the  
8           risks posed by floods to bridges on Federal-aid highways,  
9           bridges on other public roads, bridges on Indian reserva-  
10          tions, and park bridges that are located in a 500-year  
11          floodplain.

12          (b) **CONSIDERATIONS.**—In conducting the study, the  
13          Secretary shall give consideration to safety, serviceability,  
14          essentiality for public use, and public safety, including the  
15          potential impacts to regional and national freight and pas-  
16          senger mobility if the serviceability of a bridge is restricted  
17          or diminished.

18          (c) **REPORT.**—Not later than 2 years after the date  
19          of enactment of this Act, the Secretary shall submit to  
20          the Committee on Transportation and Infrastructure of  
21          the House of Representatives and the Committee on Envi-  
22          ronment and Public Works of the Senate a report on the  
23          results of the study.

1 **SEC. 12. NATIONAL TUNNEL INSPECTION PROGRAM.**

2 (a) IN GENERAL.—Title 23, United States Code, is  
3 amended by inserting after section 149 the following:

4 **“§ 150. National tunnel inspection program**

5 “(a) NATIONAL TUNNEL INSPECTION STANDARDS.—  
6 The Secretary, in consultation with State transportation  
7 departments and interested and knowledgeable private or-  
8 ganizations and individuals, shall establish national tunnel  
9 inspection standards for the proper safety inspection and  
10 evaluation of all highway tunnels. The standards estab-  
11 lished under this subsection shall be designed to ensure  
12 uniformity among the States in the conduct of such in-  
13 spections and evaluations.

14 “(b) MINIMUM REQUIREMENTS FOR INSPECTION  
15 STANDARDS.—The standards established under sub-  
16 section (a) shall, at a minimum—

17 “(1) specify, in detail, the method by which  
18 highway tunnel inspections shall be carried out by  
19 the States;

20 “(2) establish the maximum time period be-  
21 tween the inspections based on a risk-management  
22 approach;

23 “(3) establish the qualifications for those  
24 charged with carrying out the inspections;

25 “(4) require each State to maintain and make  
26 available to the Secretary upon request—

1           “(A) written reports on the results of the  
2           inspections together with notations of any ac-  
3           tion taken pursuant to the findings of the in-  
4           spections; and

5           “(B) current inventory data for all high-  
6           way tunnels located in the State reflecting the  
7           findings of the most recent highway tunnel in-  
8           spections conducted;

9           “(5) establish procedures for national certifi-  
10          cation of highway tunnel inspectors;

11          “(6) establish procedures for conducting annual  
12          compliance reviews of State inspections and State  
13          implementation of quality control and quality assur-  
14          ance procedures; and

15          “(7) establish standards for State tunnel man-  
16          agement systems to improve the tunnel inspection  
17          process and the quality of data collected and re-  
18          ported by the States to the Secretary for inclusion  
19          in the national tunnel inventory to be established  
20          under this section.

21          “(c) TRAINING AND CERTIFICATION PROGRAM FOR  
22          TUNNEL INSPECTORS.—The Secretary, in cooperation  
23          with State transportation departments, shall establish a  
24          program designed to ensure that all individuals carrying  
25          out highway tunnel inspections receive appropriate train-

1 ing and certification. Such program shall be revised from  
2 time to time to take into account new and improved tech-  
3 niques.

4 “(d) NATIONAL TUNNEL INVENTORY.—The Sec-  
5 retary shall establish a national inventory of highway tun-  
6 nels reflecting the findings of the most recent highway  
7 tunnel inspections conducted by States under this section.

8 “(e) AVAILABILITY OF FUNDS.—To carry out this  
9 section, the Secretary may use funds made available pur-  
10 suant to the provisions of sections 104(a) and 502.”.

11 (b) SURFACE TRANSPORTATION PROGRAM.—Section  
12 133(b)(1) of such title is amended by inserting “, tunnels  
13 that are eligible for assistance under this title (including  
14 safety inspection of such tunnels),” after “highways”).

15 (c) CONFORMING AMENDMENT.—The analysis for  
16 chapter 1 of such title is amended by inserting after the  
17 item relating to section 149 the following:

“150. National tunnel inspection program.”.



**Calendar No. 1050**

110<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**H. R. 3999**

[Report No. 110-482]

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**AN ACT**

To amend title 23, United States Code, to improve the safety of Federal-aid highway bridges, to strengthen bridge inspection standards and practices, to increase investment in the reconstruction of structurally deficient bridges on the National Highway System, and for other purposes.

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SEPTEMBER 23 (legislative day, SEPTEMBER 17), 2008  
Reported without amendment