

**AMENDMENT IN THE NATURE OF A SUBSTITUTE
TO H.R. 3999
OFFERED BY MR. OBERSTAR OF MINNESOTA**

Strike all after the enacting clause and insert the following:

1 SECTION 1. SHORT TITLE.

2 This Act may be cited as the “National Highway
3 Bridge Reconstruction and Inspection Act of 2008”.

4 SEC. 2. HIGHWAY BRIDGE PROGRAM.

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

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

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

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

16 “(2) identify each bridge inventoried under
17 paragraph (1) that is structurally deficient or func-
18 tionally obsolete;

1 “(3) assign a risk-based priority for replace-
2 ment or rehabilitation of each such bridge after con-
3 sideration of safety, serviceability, and essentiality
4 for public use, including the potential impacts to re-
5 gional and national freight and passenger mobility if
6 the serviceability of the bridge is restricted or dimin-
7 ished; and

8 “(4) determine the cost of replacing each such
9 bridge with a comparable facility or of rehabilitating
10 such bridge.

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

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

14 “(A) inventory all those highway bridges
15 on public roads, other than those on any Fed-
16 eral-aid highway, which are bridges over water-
17 ways, other topographical barriers, other high-
18 ways, and railroads;

19 “(B) identify each bridge inventoried under
20 subparagraph (A) that is structurally deficient
21 or functionally obsolete;

22 “(C) assign a risk-based priority for re-
23 placement or rehabilitation of each such bridge
24 after consideration of safety, serviceability, and
25 essentiality for public use, including the poten-

1 tial impacts to regional and national freight and
2 passenger mobility if the serviceability of the
3 bridge is restricted or diminished; and

4 “(D) determine the cost of replacing each
5 such bridge with a comparable facility or of re-
6 habilitating such bridge.

7 “(2) INVENTORY OF BRIDGES FOR HISTORIC
8 SIGNIFICANCE.—The Secretary may, at the request
9 of a State, inventory bridges, on and off Federal-aid
10 highways, for historic significance.

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

15 “(A) inventory all those highway bridges
16 on Indian reservation roads and park roads
17 which are bridges over waterways, other topo-
18 graphical barriers, other highways, and rail-
19 roads;

20 “(B) identify each bridge inventoried under
21 subparagraph (A) that is structurally deficient
22 or functionally obsolete;

23 “(C) assign a risk-based priority for re-
24 placement or rehabilitation of each such bridge
25 after consideration of safety, serviceability, and

1 essentiality for public use, including the poten-
2 tial impacts to regional and national freight and
3 passenger mobility if the serviceability of the
4 bridge is restricted or diminished; and

5 “(D) determine the cost of replacing each
6 such bridge with a comparable facility or of re-
7 habilitating such bridge.”.

8 (2) PROCESS FOR ASSIGNING RISK-BASED PRI-
9 ORITIES.—

10 (A) DEADLINE FOR ESTABLISHMENT.—

11 After modifying national bridge inspection
12 standards in accordance with the amendments
13 made by section 3 and not later than 18
14 months after the date of enactment of this Act,
15 the Secretary shall establish a process for as-
16 signing risk-based priorities under sections
17 144(b)(3), 144(c)(1)(C), and 144(c)(3)(C) of
18 title 23, United States Code, as amended by
19 paragraph (1) of this subsection.

20 (B) REPORT TO CONGRESS.—Not later
21 than 18 months after the date of enactment of
22 this Act, the Secretary shall submit to the Com-
23 mittee on Transportation and Infrastructure of
24 the House of Representatives and the Com-
25 mittee on Environment and Public Works of the

1 Senate a report containing a description of the
2 process for assigning risk-based priorities estab-
3 lished under subparagraph (A).

4 (C) INDEPENDENT REVIEW.—

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

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

23 (iii) AUTHORIZATION OF APPROPRIA-
24 TIONS.—There is authorized to be appro-
25 priated to carry out this subparagraph

1 \$2,000,000 for fiscal year 2009. Such
2 sums shall remain available until expended.

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

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

9 “(5) REQUIREMENTS FOR STATE PARTICIPA-
10 TION.—

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

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

1 Secretary for inclusion in the national
2 bridge inventory.

3 “(ii) CALCULATION OF LOAD RAT-
4 INGS.—The State shall—

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

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

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

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

23 “(I) the inspection of highway
24 bridges described in subsections (b)

1 and (c) that are located in the State;
2 and

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

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

12 “(B) APPROVAL OF PERFORMANCE
13 PLANS.—

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

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

1 “(iii) APPROVAL AND DISAPPROVAL.—
2 The Secretary shall approve or disapprove
3 each 5-year performance plan and update
4 submitted by a State under this subpara-
5 graph. If the Secretary disapproves a plan
6 or update, the Secretary shall inform the
7 State of the reasons for the disapproval
8 and shall require the State to resubmit the
9 plan or update with such modifications as
10 the Secretary determines necessary.”.

11 (d) INFORMATION AND REPORTS.—Section 144(h) of
12 such title (as redesignated by subsection (g)(1)(G) of this
13 section) is amended to read as follows:

14 “(h) INFORMATION AND REPORTS.—

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

18 “(2) REPORTS TO CONGRESS.—Concurrently
19 with the President’s annual budget submission to
20 Congress under section 1105(a) of title 31, the Sec-
21 retary shall submit to the Committee on Transpor-
22 tation and Infrastructure of the House of Represent-
23 atives and the Committee on Environment and Pub-
24 lic Works of the Senate a report containing—

1 “(A) a description of projects and activities
2 approved under this section;

3 “(B) the information updated under para-
4 graph (1), including a description of the pri-
5 ority assigned, on a national basis and by State,
6 for the replacement or rehabilitation of each
7 structurally deficient or functionally obsolete
8 bridge on a Federal-aid highway;

9 “(C) a description of any project or activ-
10 ity carried out by a State under this section in
11 the preceding fiscal year that is inconsistent
12 with the priorities assigned by the Secretary
13 under subsection (b)(3), (c)(1)(C), and
14 (e)(3)(C); and

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

18 (e) TRANSFERABILITY OF FUNDING.—Section 144 of
19 such title is amended by inserting after subsection (r) (as
20 redesignated by subsection (g)(1)(G) of this section) the
21 following:

22 “(s) TRANSFERABILITY OF FUNDING.—Notwith-
23 standing section 126 or any other provision of law, a State
24 may transfer funds apportioned to the State under this
25 section for a fiscal year to another apportionment of funds

1 to the State under this title only if the State demonstrates
2 to the satisfaction of the Secretary that there are not any
3 bridges on the National Highway System located in the
4 State that are eligible for replacement.”.

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

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

9 “(1) FUNCTIONALLY OBSOLETE.—The term
10 ‘functionally obsolete’ as used with respect to a
11 bridge means a bridge that no longer meets current
12 design standards relating to geometrics, including
13 roadway width, shoulder width, and approach align-
14 ment, for the traffic demands on the bridge.

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

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

21 “(B) a load capacity that is significantly
22 below current truckloads and that requires re-
23 placement; or

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

4 “(3) REHABILITATION.—The term ‘rehabilita-
5 tion’ means major work necessary to restore the
6 structural integrity of a bridge and work necessary
7 to correct a major safety defect.

8 “(4) REPLACEMENT.—The term ‘replacement’
9 as used with respect to a structurally deficient or
10 functionally obsolete bridge means a new facility
11 constructed in the same general traffic corridor that
12 meets the geometric, construction, and structural
13 standards, in effect at the time of such construction,
14 required for the types and volume of projected traf-
15 fic of the facility over its design life.”.

16 (g) NATIONAL BRIDGE INVENTORY.—

17 (1) IN GENERAL.—Not later than one year
18 after the date of enactment of this Act, the Sec-
19 retary shall take necessary actions to make informa-
20 tion contained in the national bridge inventory es-
21 tablished under section 144 of title 23, United
22 States Code, more readily available to the public, in-
23 cluding actions to make the information easier to
24 understand.

1 (2) AUTHORIZATION OF APPROPRIATIONS.—

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

4 Such sums shall remain available until expended.

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

6 (a) NATIONAL BRIDGE INSPECTION STANDARDS.—

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

12 (b) MINIMUM REQUIREMENTS OF INSPECTION
13 STANDARDS.—Section 151(b) of title 23, United States
14 Code, is amended—

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

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

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

20 “(6) establish procedures for conducting annual
21 compliance reviews of State inspections, quality con-
22 trol and quality assurance procedures, load ratings,
23 and weight limit postings of structurally deficient
24 highway bridges;

1 “(7) establish procedures for States to follow in
2 reporting to the Secretary—

3 “(A) critical findings relating to structural
4 or safety-related deficiencies of highway
5 bridges; and

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

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

13 (c) REGULATIONS ON CRITICAL FINDINGS OF
14 BRIDGE DEFICIENCIES.—

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

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

3 (A) establish a uniform definition of the
4 term “critical finding”;

5 (B) establish deadlines for State reporting
6 of critical finding determinations to the Sec-
7 retary;

8 (C) establish requirements for monitoring
9 and follow-up actions and reporting following a
10 critical finding determination; and

11 (D) provide for enhanced training of
12 bridge inspectors relating to critical findings.

13 (d) TRAINING PROGRAM FOR ALL BRIDGE INSPEC-
14 TIONS.—Section 151(c) of such title is amended by adding
15 at the end the following: “The Secretary shall expand the
16 scope of the training program to ensure that all persons
17 conducting highway bridge inspections receive appropriate
18 training and certification under the program.”.

19 (e) FREQUENCY OF BRIDGE INSPECTIONS.—Section
20 151 of such title is amended—

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

23 (2) by redesignating subsection (d) as sub-
24 section (e); and

1 (3) by inserting after subsection (c) the fol-
2 lowing:

3 “(d) FREQUENCY OF BRIDGE INSPECTIONS.—

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

7 “(A) annual inspections of structurally de-
8 ficient highway bridges using the best prac-
9 ticable technologies and methods;

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

15 “(C) biennial inspections of highway
16 bridges that have not been determined to be
17 structurally deficient.

18 “(2) EXTENSIONS.—Upon the request of a
19 State, the Secretary may extend, to a maximum pe-
20 riod of 48 months, the time between required inspec-
21 tions of a highway bridge that has not been deter-
22 mined to be structurally deficient if the Secretary
23 determines that—

1 “(A) the extension is appropriate based on
2 the age, design, traffic characteristics, and any
3 known deficiency of the bridge;

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

7 “(C) granting the extension will increase
8 the overall safety of the State’s bridge inven-
9 tory.”.

10 (f) QUALIFICATIONS OF PROGRAM MANAGERS AND
11 TEAM LEADERS.—

12 (1) REVISION OF REGULATIONS.—Not later
13 than one year after the date of enactment of this
14 Act, the Secretary of Transportation shall revise reg-
15 ulations contained in section 650.309 of title 23,
16 Code of Federal Regulations, relating to the quali-
17 fications of highway bridge inspection personnel, to
18 require that, in addition to meeting the qualifica-
19 tions identified in such section (as in effect on the
20 date of enactment of this Act)—

21 (A) an individual serving as the program
22 manager of a State be a professional engineer
23 licensed under the laws of that State;

24 (B) an individual serving as a team leader
25 for a State for the inspection of complex

1 bridges or follow-up inspections of bridges for
2 which there has been a critical finding be a li-
3 censed professional engineer; and

4 (C) an individual serving as a team leader
5 for a State for the inspection of all other
6 bridges be a licensed professional engineer or
7 have at least 10 years of bridge inspection expe-
8 rience.

9 (2) **APPLICABILITY.**—The additional qualifica-
10 tion requirements specified in paragraphs (1)(A),
11 (1)(B), and (1)(C) shall apply only to an individual
12 selected by a State to serve as the program manager
13 or a team leader after the date of issuance of revised
14 regulations under paragraph (1).

15 (g) **EFFECTIVE DATE.**—Not later than one year after
16 the date of enactment of this Act, the Secretary shall mod-
17 ify national bridge inspection standards and modify the
18 training program for bridge inspectors in accordance with
19 the amendments made by this section.

20 **SEC. 4. SURFACE TRANSPORTATION RESEARCH.**

21 Section 502(d) of title 23, United States Code, is
22 amended—

23 (1) in paragraph (2) in the matter preceding
24 subparagraph (A) by inserting “and enhance the
25 safety” before “of bridge structures”; and

1 (2) in paragraph (4) by striking “for use with
2 existing infrastructure facilities and with next-gen-
3 eration infrastructure facilities” and inserting “for
4 assessing the structural integrity of existing infra-
5 structure facilities and next-generation infrastruc-
6 ture facilities”.

7 **SEC. 5. AUTHORIZATION OF APPROPRIATIONS.**

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

11 (b) **APPORTIONMENT AND USE OF FUNDS.**—Funds
12 appropriated pursuant to subsection (a)—

13 (1) shall be apportioned among the States
14 under paragraphs (1) and (2) of section 144(e) of
15 such title;

16 (2) shall be used for the replacement and reha-
17 bilitation of structurally deficient highway bridges on
18 the National Highway System; and

19 (3) shall be available for obligation in the same
20 manner as other funds apportioned under chapter 1
21 of such title, except that such funds shall not be
22 transferable and shall remain available until ex-
23 pended.

24 (c) **LIMITATION.**—None of the funds appropriated
25 pursuant to subsection (a) may be earmarked by Congress

1 or any Federal department or agency for a specific project
2 or activity.

3 **SEC. 6. BRIDGE ADVANCED CONDITION ASSESSMENT PILOT**
4 **PROGRAM.**

5 (a) IN GENERAL.—Not later than 180 days after the
6 date of enactment of this Act, the Secretary of Transpor-
7 tation shall establish and implement a pilot program to
8 evaluate the effectiveness, accuracy, and reliability of the
9 use of advanced condition assessment inspection processes
10 and technologies (including fiber optic, vibrating wire,
11 acoustical emissions, and peak strain displacement tech-
12 nologies) in monitoring and evaluating the structural
13 health of a highway bridge. Technologies evaluated under
14 the pilot program shall be real-time sensing technologies
15 that record objective data to determine accurate conditions
16 assessments of critical bridge elements.

17 (b) GRANTS.—

18 (1) IN GENERAL.—The Secretary may make
19 grants to States to conduct projects under the pilot
20 program.

21 (2) APPLICATIONS.—A State seeking a grant
22 under the pilot program shall submit an application
23 to the Secretary in such form and containing such
24 information as the Secretary may require by regula-
25 tion.

1 (c) ELIGIBILITY.—

2 (1) SELECTION OF HIGHWAY BRIDGES.—

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

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

11 (i) as of the date of enactment of this
12 Act, classified as structurally deficient
13 under section 144 of title 23, United
14 States Code;

15 (ii) a nonredundant, fractural critical
16 structure; and

17 (iii) greater than 200 feet in length.

18 (2) SELECTION AND USE OF TECHNOLOGIES.—

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

24 (B) DURATION OF REAL-TIME DATA COL-
25 LECTION.—The duration of real-time data col-

1 lection from each highway bridge selected for
2 participation in the pilot program shall be not
3 less than one year.

4 (C) USE OF CALIBRATED FINITE ELEMENT
5 ANALYSIS MODEL.—At least one-half of the
6 highway bridges selected for participation in the
7 pilot program shall also be evaluated using a
8 calibrated finite element analysis model of the
9 bridge, based upon data from the advanced con-
10 dition assessment technologies.

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

14 (e) DURATION OF THE PILOT PROGRAM.—The Sec-
15 retary shall carry out the pilot program for a period of
16 2 fiscal years.

17 (f) FINAL REPORT.—

18 (1) IN GENERAL.—Not later than 6 months
19 after the last day of the pilot program, the Secretary
20 shall submit to the Committee on Transportation
21 and Infrastructure of the House of Representatives
22 and the Committee on Environment and Public
23 Works of the Senate a report that describes the ef-
24 fectiveness and benefits of the pilot program carried
25 out under this section.

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

3 (A) the cost effectiveness of the tech-
4 nologies and processes selected;

5 (B) the objectivity, reliability, and accuracy
6 of the technologies and processes employed in
7 providing condition assessments of the highway
8 bridge;

9 (C) the quality of the data collected and
10 measured; and

11 (D) any recommendations for improving or
12 expanding the pilot program or the use of
13 structural health monitoring technologies or
14 processes, including a suggested plan for wider
15 adoption based on potential highway bridge re-
16 pair and replacement savings by the Federal
17 Government and State governments.

18 (g) AUTHORIZATION OF APPROPRIATIONS.—There is
19 authorized to be appropriated to carry out this section
20 \$5,000,000.

21 (h) AVAILABILITY OF AMOUNTS.—Amounts appro-
22 priated to carry out this section shall be available for obli-
23 gation in the same manner as funds apportioned under
24 chapter 1 of title 23, United States Code, except that such

- 1 funds shall not be transferable and shall remain available
- 2 until expended.

