

108TH CONGRESS  
1ST SESSION

# H. R. 2734

To authorize appropriations for the civil aviation research and development projects and activities of the Federal Aviation Administration, and for other purposes.

---

## IN THE HOUSE OF REPRESENTATIVES

JULY 15, 2003

Mr. FORBES (for himself, Mr. ROHRABACHER, Mr. LARSON of Connecticut, and Mr. GORDON) introduced the following bill; which was referred to the Committee on Science

---

## A BILL

To authorize appropriations for the civil aviation research and development projects and activities of the Federal Aviation Administration, 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 “Federal Aviation Ad-  
5       ministration Research and Development Reauthorization  
6       Act”.

7       **SEC. 2. AUTHORIZATION OF APPROPRIATIONS.**

8       Section 48102(a) of title 49, United States Code, is  
9       amended—

1           (1) by striking “to carry out sections 44504”  
2           and inserting “for conducting civil aviation research  
3           and development under sections 44504”;

4           (2) by striking “and” at the end of paragraph  
5           (7);

6           (3) by striking the period at the end of para-  
7           graph (8) and inserting a semicolon; and

8           (4) by adding at the end the following new  
9           paragraphs:

10           “(9) for fiscal year 2004, \$371,317,000, includ-  
11           ing—

12                   “(A) \$190,000,000 for Research, Engi-  
13                   neering, and Development, of which—

14                           “(i) \$65,000,000 shall be for Improv-  
15                           ing Aviation Safety;

16                           “(ii) \$24,000,000 shall be for Weath-  
17                           er Safety Research;

18                           “(iii) \$15,000,000 shall be made  
19                           available to the Next Generation Air Traf-  
20                           fic Management Research and Develop-  
21                           ment Joint Program Office established  
22                           under section 3 of the Federal Aviation  
23                           Administration Research and Development  
24                           Reauthorization Act for the Next Genera-  
25                           tion Air Traffic Management Research and

1 Development program under such section  
2 3;

3 “(iv) \$27,500,000 shall be for Human  
4 Factors and Aeromedical Research;

5 “(v) \$30,000,000 shall be for Envi-  
6 ronmental Research and Development, of  
7 which \$20,000,000 shall be for research  
8 activities related to reducing community  
9 exposure to civilian aircraft noise or emis-  
10 sions;

11 “(vi) \$7,000,000 shall be for Research  
12 Mission Support;

13 “(vii) \$20,000,000 shall be for the  
14 Airport Cooperative Research Program;  
15 and

16 “(viii) \$1,500,000 shall be for car-  
17 rying out subsection (h) of this section;

18 “(B) \$163,900,000 for Facilities and  
19 Equipment, of which—

20 “(i) \$42,800,000 shall be for Ad-  
21 vanced Technology Development and  
22 Prototyping;

23 “(ii) \$30,300,000 shall be for Safe  
24 Flight 21; and

1 “(iii) \$90,800,000 shall be for the  
2 Center for Advanced Aviation System De-  
3 velopment; and

4 “(C) \$17,417,000 for Airport Improvement  
5 Program Research and Development, of  
6 which—

7 “(i) \$9,667,000 shall be for Airports  
8 Technology-Safety; and

9 “(ii) \$7,750,000 shall be for Airports  
10 Technology-Efficiency;

11 “(10) for fiscal year 2005, \$396,192,000, in-  
12 cluding—

13 “(A) \$206,600,000 for Research, Engi-  
14 neering, and Development, of which—

15 “(i) \$65,705,000 shall be for Improv-  
16 ing Aviation Safety;

17 “(ii) \$24,260,000 shall be for Weath-  
18 er Safety Research;

19 “(iii) \$30,000,000 shall be made  
20 available to the Next Generation Air Traf-  
21 fic Management Research and Develop-  
22 ment Joint Program Office established  
23 under section 3 of the Federal Aviation  
24 Administration Research and Development  
25 Reauthorization Act for the Next Genera-

tion Air Traffic Management Research and  
Development program under such section  
3;

“(iv) \$27,800,000 shall be for Human  
Factors and Aeromedical Research;

“(v) \$30,109,000 shall be for Envi-  
ronmental Research and Development, of  
which \$20,000,000 shall be for research  
activities related to reducing community  
exposure to civilian aircraft noise or emis-  
sions;

“(vi) \$7,076,000 shall be for Research  
Mission Support;

“(vii) \$20,000,000 shall be for the  
Airport Cooperative Research Program;  
and

“(viii) \$1,650,000 shall be for car-  
rying out subsection (h) of this section;

“(B) \$172,000,000 for Facilities and  
Equipment, of which—

“(i) \$43,300,000 shall be for Ad-  
vanced Technology Development and  
Prototyping;

“(ii) \$31,100,000 shall be for Safe  
Flight 21;

1 “(iii) \$95,400,000 shall be for the  
2 Center for Advanced Aviation System De-  
3 velopment; and

4 “(iv) \$2,200,000 shall be for Free  
5 Flight Phase 2; and

6 “(C) \$17,592,000 for Airport Improvement  
7 Program Research and Development, of  
8 which—

9 “(i) \$9,764,000 shall be for Airports  
10 Technology-Safety; and

11 “(ii) \$7,828,000 shall be for Airports  
12 Technology-Efficiency; and

13 “(11) for fiscal year 2006, \$412,157,000, in-  
14 cluding—

15 “(A) \$228,289,000 for Research, Engi-  
16 neering, and Development, of which—

17 “(i) \$66,447,000 shall be for Improv-  
18 ing Aviation Safety;

19 “(ii) \$24,534,000 shall be for Weath-  
20 er Safety Research;

21 “(iii) \$50,000,000 shall be made  
22 available to the Next Generation Air Traf-  
23 fic Management Research and Develop-  
24 ment Joint Program Office established  
25 under section 3 of the Federal Aviation

1 Administration Research and Development  
2 Reauthorization Act for the Next Genera-  
3 tion Air Traffic Management Research and  
4 Development program under such section  
5 3;

6 “(iv) \$28,114,000 shall be for Human  
7 Factors and Aeromedical Research;

8 “(v) \$30,223,000 shall be for Envi-  
9 ronmental Research and Development, of  
10 which \$20,000,000 shall be for research  
11 activities related to reducing community  
12 exposure to civilian aircraft noise or emis-  
13 sions;

14 “(vi) \$7,156,000 shall be for Research  
15 Mission Support;

16 “(vii) \$20,000,000 shall be for the  
17 Airport Cooperation Research Program;  
18 and

19 “(viii) \$1,815,000 shall be for car-  
20 rying out subsection (h) of this section;

21 “(B) \$166,100,000 for Facilities and  
22 Equipment, of which—

23 “(i) \$42,200,000 shall be for Ad-  
24 vanced Technology Development and  
25 Prototyping;

1 “(ii) \$23,900,000 shall be for Safe  
2 Flight 21; and

3 “(iii) \$100,000,000 shall be for the  
4 Center for Advanced Aviation System De-  
5 velopment; and

6 “(C) \$17,768,000 for Airport Improvement  
7 Program Research and Development, of  
8 which—

9 “(i) \$9,862,000 shall be for Airports  
10 Technology-Safety; and

11 “(ii) \$7,906,000 shall be for Airports  
12 Technology-Efficiency.”.

13 **SEC. 3. NEXT GENERATION AIR TRAFFIC MANAGEMENT RE-**  
14 **SEARCH AND DEVELOPMENT JOINT PRO-**  
15 **GRAM OFFICE.**

16 (a) ESTABLISHMENT.—There is established a Next  
17 Generation Air Traffic Management Research and Devel-  
18 opment Joint Program Office (referred to in this section  
19 as the “Office”). The Office shall be jointly managed by  
20 the Federal Aviation Administration and the National  
21 Aeronautics and Space Administration. The objective of  
22 the Office shall be to carry out research and development  
23 of an air traffic management system designed to meet na-  
24 tional long-term aviation security, safety, and capacity  
25 needs.



1       (b) DIRECTOR AND DEPUTY DIRECTOR.—The Office  
2 shall be headed by a Director who shall be a senior execu-  
3 tive of the Federal Aviation Administration. The Deputy  
4 Director shall be a senior executive of the National Aero-  
5 nautics and Space Administration. Not later than 120  
6 days after the date of enactment of this Act, the Adminis-  
7 trators of the Federal Aviation Administration and the  
8 National Aeronautics and Space Administration shall  
9 jointly appoint the Director and Deputy Director of the  
10 Office.

11       (c) FUNCTIONS OF THE OFFICE.—The Office shall  
12 manage air traffic management research and development  
13 programs and initiatives within the Federal Aviation Ad-  
14 ministration and the National Aeronautics and Space Ad-  
15 ministration. The responsibilities of the Office shall in-  
16 clude—

17           (1) establishing and managing a research and  
18 development program for a next generation air traf-  
19 fic management system capable of tripling capacity  
20 by the year 2025;

21           (2) entering into grants, cooperative agreements  
22 or contracts, or otherwise awarding or using funds  
23 appropriated for air traffic management research  
24 and development to carry out paragraph (1);

1           (3) utilizing the facilities, capabilities, expertise,  
2           and experience of Federal agencies, national labora-  
3           tories, universities, nonprofit organizations, indus-  
4           trial entities, and other non-Federal entities to carry  
5           out paragraph (1);

6           (4) coordinating with the Department of De-  
7           fense, the Department of Commerce, the Under Sec-  
8           retary for Science and Technology at the Depart-  
9           ment of Homeland Security, the National Security  
10          Council, the Department of Transportation, and  
11          other Federal agencies; and

12          (5) consulting with the private sector (including  
13          representatives of general aviation, commercial avia-  
14          tion, and the space industry), members of the public,  
15          and other interested parties on the program.

16          (d) NEXT GENERATION AIR TRAFFIC MANAGEMENT  
17          RESEARCH AND DEVELOPMENT PLAN.—

18               (1) REQUIREMENT.—The Office shall develop a  
19               research and development plan to carry out this sec-  
20               tion.

21               (2) GOAL.—The goal of the plan shall be to en-  
22               able the creation of a National Airspace System ar-  
23               chitecture that would—

1 (A) be based on emerging ground-based  
2 and space-based communications, navigation,  
3 and surveillance technologies;

4 (B) increase the level of safety, security,  
5 and efficiency of the National Airspace System;

6 (C) integrate data and information flow ef-  
7 fectively with other Federal agencies responsible  
8 for providing for our Nation's defense and secu-  
9 rity;

10 (D) be scalable to accommodate and en-  
11 courage substantial growth in domestic and  
12 international transportation;

13 (E) anticipate and accommodate con-  
14 tinuing technology upgrades; and

15 (F) accommodate a wide range of aircraft  
16 operations, including airlines, air taxis, heli-  
17 copters, general aviation, and unmanned aerial  
18 vehicles.

19 (3) CONTENTS.—The plan shall describe, at a  
20 minimum—

21 (A) the most significant technical hurdles  
22 that stand in the way of achieving the goal de-  
23 scribed in paragraph (2);

24 (B) the research and development projects  
25 that will be carried out to overcome the tech-

1 nical hurdles described in subparagraph (A), in-  
2 cluding, for each project, whether it would be  
3 funded by the Federal Aviation Administration,  
4 the National Aeronautics and Space Adminis-  
5 tration, or both, and whether the work would be  
6 carried by the Federal Government, corpora-  
7 tions, or universities, or a combination thereof;

8 (C) the annual anticipated cost of carrying  
9 out the plan;

10 (D) the technical milestones that will be  
11 used to evaluate progress in carrying out the  
12 plan; and

13 (E) how the research and development ac-  
14 tivities will be coordinated with other appro-  
15 priate Federal agencies.

16 (e) REPORTS.—The Director of the Office shall  
17 transmit to the Committee on Science of the House of  
18 Representatives and to the Committee on Commerce,  
19 Science, and Transportation of the Senate—

20 (1) not later than 120 days after the date of  
21 enactment of this Act, the plan required under sub-  
22 section (d); and

23 (2) annually at the time of the President's  
24 budget request, a report describing the progress in

1 carrying out the plan required under subsection (d)  
2 and any changes to that plan.

3 **SEC. 4. BUDGET DESIGNATION FOR RESEARCH AND DEVEL-**  
4 **OPMENT ACTIVITIES.**

5 Section 48102 of title 49, United States Code, is  
6 amended by inserting after subsection (f) the following  
7 new subsection:

8 “(g) DESIGNATION OF ACTIVITIES.—(1) The  
9 amounts appropriated under subsection (a) are for the  
10 support of all research and development activities carried  
11 out by the Federal Aviation Administration that fall with-  
12 in the categories of basic research, applied research, and  
13 development, including the design and development of pro-  
14 totypes, in accordance with the classifications of the Office  
15 of Management and Budget Circular A–11 (Budget For-  
16 mulation/Submission Process).

17 “(2) The Department of Transportation’s annual  
18 budget request for the Federal Aviation Administration  
19 shall identify all of the activities carried out by the Admin-  
20 istration within the categories of basic research, applied  
21 research, and development, as classified by the Office of  
22 Management and Budget Circular A–11. Each activity in  
23 the categories of basic research, applied research, and de-  
24 velopment shall be identified regardless of the budget cat-  
25 egory in which it appears in the budget request.”.

1 **SEC. 5. AIRPORT COOPERATIVE RESEARCH PROGRAM.**

2 Section 44511 of title 49, United States Code, is  
3 amended by adding at the end the following new sub-  
4 section:

5 “(f) AIRPORT COOPERATIVE RESEARCH PROGRAM.—

6 “(1) ESTABLISHMENT.—The Secretary of  
7 Transportation shall establish an airport cooperative  
8 research program to—

9 “(A) identify problems that are shared by  
10 airport operating agencies and can be solved  
11 through applied research but that are not being  
12 adequately addressed by existing Federal re-  
13 search programs; and

14 “(B) fund research to address those prob-  
15 lems.

16 “(2) GOVERNANCE.—The Secretary of Trans-  
17 portation shall appoint an independent governing  
18 board for the research program established under  
19 this subsection. The governing board shall be ap-  
20 pointed from candidates nominated by national asso-  
21 ciations representing public airport operating agen-  
22 cies, airport executives, State aviation officials, and  
23 the scheduled airlines, and shall include representa-  
24 tives of appropriate Federal agencies. Section 14 of  
25 the Federal Advisory Committee Act shall not apply  
26 to the governing board.

1           “(3) IMPLEMENTATION.—The Secretary of  
 2           Transportation shall enter into an arrangement with  
 3           the National Academy of Sciences to provide staff  
 4           support to the governing board established under  
 5           paragraph (2) and to carry out projects proposed by  
 6           the governing board that the Secretary considers ap-  
 7           propriate.”.

8   **SEC. 6. DEVELOPMENT OF ANALYTICAL TOOLS AND CER-**  
 9                           **TIFICATION METHODS.**

10          The Federal Aviation Administration shall conduct  
 11          research to promote the development of analytical tools to  
 12          improve existing certification methods and to reduce the  
 13          overall costs for the certification of new products.

14   **SEC. 7. RESEARCH ON AVIATION TRAINING.**

15          Section 48102(h)(1) of title 49, United States Code,  
 16          is amended—

17               (1) by striking “or” at the end of subparagraph  
 18               (B);

19               (2) by striking the period at the end of sub-  
 20               paragraph (C) and inserting “; or”; and

21               (3) by adding at the end the following new sub-  
 22               paragraph:

23                       “(D) research on the impact of new tech-  
 24                       nologies and procedures, particularly those re-  
 25                       lated to aircraft flight deck and air traffic man-

- 1           agement functions, on training requirements for
- 2           pilots and air traffic controllers.”.

