

# 2010

## The Future of Aviation Advisory Committee



### U.S. Department of Transportation

**FINAL REPORT**  
**April 11, 2011**



**U.S. Department  
of Transportation**

# Future of Aviation Advisory Committee

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Dear Secretary LaHood,

On behalf of the Future of Aviation Advisory Committee (FAAC), it has been an honor and a pleasure to work on this innovative and forward-thinking initiative.

At our kick-off meeting last May, you charged the FAAC to produce concrete and actionable recommendations that would be the basis for meaningful changes to ensure that aviation in America remains vital, competitive, sustainable, and above all, safe.

Over the past several months, this Committee successfully worked toward that goal and I believe we have exceeded your expectations.

This diverse group of aviation stakeholders came together to challenge old assumptions and tackle persistent problems in new ways. Together, we discussed and adopted a total of 23 recommendations that we believe will help keep this industry healthy and moving forward.

The Committee has prepared this final report. Its contents are based on the recommendations and supporting material developed and presented by each subcommittee.

Again, on behalf of the FAAC, we appreciate the opportunity to participate in such an extraordinary endeavor.



Susan L. Kurland  
Chair, Future of Aviation Advisory Committee



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## EXECUTIVE SUMMARY

U.S. Department of Transportation (DOT) Secretary Ray LaHood's question was simple enough:

*Are we listening to you?*

In 2009, Secretary LaHood convened an Aviation Summit—a state-of-the-sky meeting of experts assembled to ensure the DOT was poised to help industry succeed. The backlash of the terrorist attacks of September 11, 2001, fluctuating oil prices, and a seesaw economy had jolted the aviation industry. The Secretary's intent was to bring change, to lean in when necessary, and to enable aviation industry success in the future. To maintain momentum, he asked for recommendations with traction—suggestions that could be implemented as quickly as possible.

Twenty-four experts met at the Aviation Summit on November 12, 2009, and five key themes emerged: safety, competitiveness and viability, environment, financing, and labor and workforce. With these topics in mind, Secretary LaHood chartered the Future of Aviation Advisory Committee (FAAC) to crystallize the discussion into a manageable, actionable list of recommendations from each area.

The goal of the FAAC is not so much a report as it is a roadmap of recommendations that will be a catalyst for change to the areas of aviation that need it most. The FAAC was chartered on April 16, 2010, with the mandate to provide information, advice, and recommendations to the DOT to ensure the competitiveness of the U.S. aviation industry, including its capability to address the evolving transportation needs, challenges, and opportunities of the U.S. and global economies.

At the FAAC's first meeting on May 25, 2010, in Washington, DC, Secretary LaHood charged the committee members to work together to tackle the aviation industry's major challenges. Secretary LaHood was seeking actionable recommendations that could be implemented quickly, and have a tangible impact.

The 19-member FAAC is a diverse group of leaders and visionary thinkers representing all facets of the U.S. aviation industry, including air carriers, general aviation, manufacturers, labor, consumers, academia, and the financial sector. These aviation experts were appointed because of their proven ability to develop consensus on solutions to challenging problems. Susan Kurland, DOT Assistant Secretary for Aviation and International Affairs, chaired the committee.

Five subcommittees formed to examine the five themes that emerged from the Aviation Summit. Each subcommittee developed three to five near-term focus areas that would form the basis of the FAAC's recommendations to Secretary LaHood. Over the next 7 months, the subcommittees identified key issues and received presentations from subject matter experts.

The resulting 23 recommendations were delivered to Secretary LaHood at the final FAAC meeting on December 15, 2010. These 23 recommendations form the basis of this report. They cover issues critical to the future of the U.S. aviation industry, including the Next Generation Air Transportation System (NextGen), alternative fuels, emissions reductions, funding, technical education for future aviation industry workers, and relations with the aviation industry workforce. Each recommendation will ultimately be a step that ensures the U.S. aviation industry can compete in a global environment.

The FAAC reached consensus on all 23 recommendations, with dissent on a single issue. The dissenting opinion appears verbatim herein.

It should be noted that some FAAC subcommittee discussions did not lead to consensus recommendations. These important topics were debated energetically within the subcommittees and at full committee meetings, and were an important part of the FAAC dialogue. These discussions are included in this report under “Other Areas of Significant Discussion.”

The pages that follow summarize the FAAC recommendations and the subcommittee conclusions, grouped into categories for ease of reading. The language of each is the result of long hours of discussion and debate. The result is not a wish list but a tangible record of recommendations that will make a difference, and more importantly, make an immediate difference.

### ON THE ENVIRONMENT, THE FAAC RECOMMENDED:

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- Reducing the aviation industry’s impact on climate change by developing sustainable biofuels, while still meeting demands for mobility and economic growth. The FAAC noted that in addition to the environmental benefits, this goal will support increased energy independence for the United States. The FAAC recommended the DOT exercise strong national leadership to maximize the resources of government and industry to promote certification, funding, commercial production, and deployment of alternative aviation fuels.
- Accelerating aircraft technology research and development. The FAAC concluded most of the aviation industry’s environmental progress has been a result of technological improvements, but developing these new technologies is prohibitively time-consuming. Concerted industry-government research and development efforts are needed to accelerate technology development and implementation. The FAAC recommended accelerating aircraft technology research and development by supporting the permanent extension of industry research-and-development tax credits, seeking significant increases in funding to government programs—such as the Federal Aviation Administration’s (FAA) Continuous Lower Energy, Emissions and Noise technology program—and advocating for continued coordination with National Aeronautics and Space Administration aeronautical research programs.
- Advocating enabling technology in aircraft to realize the full benefits of NextGen. NextGen will enable the National Airspace System to handle air transportation growth safely and efficiently while reducing the environmental impact and energy use of civil aviation. However, to do so will require equipping a critical mass of aircraft with enabling technology. The FAAC recommended advocating for investment to accelerate equipage, aiming for deployment within 4 years. At an airport level, the FAAC recommended ground-delay taxi management and an airport-efficiency and emissions-reduction program.
- Establishing a strategic aviation-sector approach toward reducing carbon emissions. The aviation industry is unified in addressing carbon emissions, but disparate proposals and requirements at international, Federal, and state levels create uncertainty and discourage industry investment in solutions. The myriad of often counterproductive proposals on

emissions, taxes, charges, and trading undercut investment and progress. The FAAC recommended the DOT establish a strategic aviation-sector approach to guide domestic policy to reduce the aviation industry's carbon emissions. The FAAC also recommended the DOT advocate for a global framework through the International Civil Aviation Organization and in bilateral agreements.

### **ON FINANCING, THE FAAC RECOMMENDED:**

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- Extending the airport exemption for the alternative minimum tax (AMT) for private-activity bonds, which have significantly reduced financing costs for airport improvement projects. The AMT exemption expired at the end of 2010. As of the publication of this report, a House Resolution reviving and extending the exemption through 2011 has been referred to the House of Representatives Committee on Ways and Means. The FAAC recommended extending the airport exemption to the AMT for 4 years.
- Investing in equipment necessary to realize the benefits of NexGen. The high cost of equipage has delayed the significant public benefits that can be achieved through NextGen. Currently, there is little benefit to the operator to fund the installation of equipment that has, historically, been ground-based. The FAAC recommended the Federal Government invest in equipage to achieve the benefits gained through installing NextGen equipment on planes.
- Implementing FAA policy and procedures to deliver NexGen benefits to equipped operators. The full benefits of NextGen are unrealized because the FAA has not: (1) fully defined its policy and procedures for NextGen implementation; (2) provided priority consideration for equipped aircraft; or (3) streamlined the environmental review process. The FAAC recommended the FAA implement policy and procedures to facilitate NextGen, including procedures to streamline the environmental-review process and to develop procedures for a "Best Equipped, Best Served" priority program.
- Reviewing the current Airport Improvement Program and Passenger Facility Charge criteria to determine whether eligibility needs to be expanded to fund NextGen equipment, operational capabilities, or performance-based procedures with a demonstrated, near-term improvement in operational performance.

### **ON COMPETITION, THE FAAC RECOMMENDED:**

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- Moving beyond the traditional Open Skies Agreement template. Although the DOT has achieved Open Skies agreements with over 100 partners, the fastest growing aviation markets outside the United States remain restricted to U.S. airlines. The DOT has relevant statutory support and policies in place, but U.S. airlines face continuing obstacles in becoming economically healthy, globally competitive, and able to support a prosperous workforce. The FAAC recommended that the DOT move beyond the traditional Open Skies template and realize the full benefits of its agreements by confronting the remaining barriers to access. The FAAC also recommended Secretary LaHood leverage his appointment to the Export Promotion Cabinet to expand the DOT's role in promoting aviation-based exports.



- Evaluating the Federal aviation tax burden on passengers, airlines, and general aviation. Taxes on the U.S. aviation industry make travel and shipping less affordable. These taxes may inhibit airlines from making needed investments. The FAAC recommended commissioning an independent study evaluating the Federal aviation tax burden on passengers, airlines, and general aviation. After the study is complete, the FAAC recommended the Secretary review the results and that DOT pursue appropriate legislative and regulatory actions consistent with the findings of the study.
- Ensuring transparency in airline pricing, disclosure of flight operations, airline-carriage contracts, and consumer air-travel statistics. The FAAC concluded consumers want transparency regarding the total cost of airline tickets and the carriers of operation, particularly in code-share and commuter itineraries. They recommended the DOT ensure transparency in these areas.
- Establishing a task force on intermodalism. Legislative, funding, and environmental barriers have precluded development of intermodal transportation options. Current restrictions placed on Essential Air Service (EAS) require the program to find an airline-specific solution rather than an intermodal solution. The aviation industry should work with other modes of transit to move passengers more efficiently. The FAAC recommended establishing a task force on intermodalism, examining the EAS program to identify multi-modal service opportunities, and pursuing infrastructure legislation that would give priority consideration to projects that link airports with other modes of transportation.
- Limiting the number of EAS-eligible communities to those that received a subsidy as of a specified date in 2010. The FAAC also recommended updating the EAS criteria to recognize that some communities may be more effectively and efficiently served via an intermodal option.
- Continue involvement in the U.S. Commodity Futures Trading Commission rulemaking process on position limits for derivatives and study the state of the nation's downstream infrastructure for storage and distribution of aviation jet fuels. Price and supply volatility in jet fuel creates uncertainty for air carriers and has become a central challenge to the U.S. airline industry. Volatility makes it difficult for air carriers to plan, which leads to fiscal distress and bankruptcy.

### ON WORKFORCE/LABOR, THE FAAC RECOMMENDED:

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- Providing leadership to raise the visibility and profile of aerospace and aviation by encouraging development or expansion of educational programs geared to support the future needs of aviation and aerospace and its next generation workforce. The many workforce initiatives that establish, prepare, and grow a pipeline of students who are career-ready for scientific, technical, engineering, and math (STEM) opportunities should be coordinated under Federal leadership.
- Urging the National Mediation Board to expeditiously implement the Dunlop Commission Reports Review Committee (Dunlop II) recommendations. The FAAC concluded extensive labor disputes reduce the stability, efficiency, and reliability of the air-transportation system, making it less attractive to potential STEM-qualified employees.

- Establishing an ongoing semi-annual workforce/management conference hosted by the Secretary of Transportation starting in September 2011. The FAAC determined the gap of understanding and lack of information that generally exists between the aviation workforce and its management is an impediment to labor stability and a stable national economy.

### **ON SAFETY, THE FAAC RECOMMENDED:**

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- Encouraging Congress to introduce legislation to provide ongoing protection of safety information. The FAAC concluded much vital information the FAA uses in its safety programs is provided voluntarily. The FAA protects this information from requests under the Freedom of Information Act of 1966 (§ 552 of Title 5 of the United States Code), but cannot protect it from use in civil or criminal litigation in the case of an accident.
- Improving funding for a system that discovers safety risks before an accident occurs, such as the FAA's Aviation Safety Information and Analysis program (ASIAS). Current safety recommendations come out of investigations reviewing past events. The FAAC concluded advanced analytical data tools are available to identify precursors to incidents and accidents.
- Identifying new sources of safety data and establishing criteria for when and how those sources can be included in ASIAS. ASIAS voluntary safety-data programs do not include stakeholders such as general aviation, certain classes of maintenance workers, or airport workers, and safety programs are limited for maintenance and other non-operational crewmembers.
- Ensuring safety concerns are addressed before new NextGen procedures are implemented. NextGen poses significant opportunities to improve safety in the system, but there are inherent risks to introducing new technology.
- Reviewing and reprioritizing the FAA's rulemaking initiatives with new safety-oriented criteria. The rulemaking process takes time and resources, and the current FAA prioritization methodology does not ensure the most effective projects receive the highest priority. The FAAC also recommended reviewing field safety and enforcement policies, procedures, and training to ensure they are aligned with safety management system philosophies and supporting policies established by FAA headquarters.
- Using the resources of Secretary LaHood's office to educate the flying public about the dangers of flying with "lap children," updating the applicable economic safety data, and considering further regulatory action if appropriate. Many parents are unaware of the inherent dangers of flying with small children held in their laps—lap children. Cars are safer than they were when this issue was last studied, and low airline fares have made the travel of small children restrained in approved seats on planes more affordable, suggesting that a new cost-benefit analysis of this issue is due.

## *Executive Summary*

The FAAC presented these recommendations to Secretary LaHood at the final FAAC meeting on December 15, 2010. Secretary LaHood spoke with FAAC members to ensure he fully understood the recommendations and the substance of other issues raised at FAAC subcommittee meetings that lacked consensus and did not move forward as recommendations.

Secretary LaHood expressed his appreciation to the FAAC members. He assured them he intended to move forward aggressively on implementing their recommendations and would look for opportunities to keep them informed of the progress.

## INTRODUCTION

The Future of Aviation Advisory Committee (FAAC) was formed at the direction of Secretary of Transportation Ray LaHood, Department of Transportation (DOT), to provide information, advice, and recommendations to the DOT to ensure (1) the competitiveness of the U.S. aviation industry and (2) its capability to address the evolving transportation needs, challenges, and opportunities of the U.S. and global economies.

In November 2009, Secretary LaHood invited aviation analysts, academics, and representatives from air carriers, airports, labor, manufacturers, general aviation, and consumer groups to provide candid views on the challenges faced by the aviation industry and to offer innovative solutions to those challenges. The Aviation Summit participants provided feedback on the aviation industry's concerns, and identified five areas vital to enabling the aviation industry to work through a financial recovery: competition, environmental impacts, finance, safety, and labor. Mindful of the tough challenges ahead, Secretary LaHood committed to establishing a Federal advisory committee to begin the critical dialogue needed to move the U.S. aviation industry forward.

The FAAC was chartered on April 16, 2010. Susan Kurland, DOT Assistant Secretary for Aviation and International Affairs, was selected to chair the Committee. The other FAAC members were a diverse group of leaders and visionary thinkers representing all facets of the U.S. aviation industry, including air carriers, general aviation, manufacturers, labor, consumers, academia, and the financial sector. These aviation experts were appointed because of their proven ability to work through difficult issues and to develop consensus solutions to problems. A listing of all 19 members can be found in Appendix B.

The FAAC held its first meeting at DOT Headquarters in Washington, DC, on May 25, 2010. At that meeting, Secretary LaHood charged the FAAC members to develop and present to him near-term, actionable recommendations that would ensure the health, competitiveness, and viability of the U.S. aviation industry in a global marketplace. He invited members to consider the full suite of regulatory mechanisms available in the Federal toolbox, and to look outside the box for solutions to challenges. Above all, Secretary LaHood made it clear that he was not looking for recommendations that would gather dust on a shelf. Instead, he wanted the FAAC to develop a roadmap for change.

The FAAC formed the following five subcommittees to address topic areas identified as critical by Aviation Summit participants. Each FAAC member was assigned to serve on two subcommittees.

- Aviation Safety, chaired by Nicole Piasecki, Vice President of Business Development, Boeing Commercial Airplanes.
- Competitiveness and Viability, chaired by Glenn Tilton, Chairman, United Continental Holdings, Inc.
- Environment, chaired by Bryan Bedford, Chairman, President and Chief Executive Officer (CEO), Republic Airways.

- Financing, chaired by Jack Pelton, Chairman, President and CEO, Cessna Aircraft Company.
- Labor and World-Class Workforce, chaired by Patricia Friend, International President, Association of Flight Attendants.

In order to ensure the broadest possible outreach to the aviation community, three subsequent meetings of the full FAAC were held in major cities around the United States, at FAA regional facilities:

- July 14, 2010, Atlanta, Georgia;
- August 25, 2010, Chicago, Illinois; and
- October 20, 2010, Los Angeles, California.

The FAAC held its final meeting in Washington, DC, on December 15, 2010. At this meeting, the FAAC formally presented its 23 recommendations to Secretary LaHood.

### SCOPE OF THIS REPORT

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This report details the recommendations developed by the FAAC during its work from May 25, 2010, through December 15, 2010. This report is not a detailed account of the FAAC and subcommittee meetings. All FAAC and related subcommittee meetings were open to the public, and detailed records of these meetings are available at <http://www.regulations.gov>, Docket No. DOT-OST-2010-0074. Information on the FAAC is also available at <http://www.dot.gov/faac>.

This report contains summary versions of the 23 recommendations developed by the FAAC and delivered to Secretary LaHood on December 15, 2010. The background and rationale for each recommendation, which detail the subcommittees' development of the recommendations, are included after each recommendation. The full text of the recommendations, exactly as agreed on by the subcommittees and the FAAC, is available both in the docket and on the FAAC Web site.

A number of subcommittee discussions did not reach consensus, but the FAAC considered those discussions important enough to warrant the attention of the Secretary LaHood. These issues are included under "Other Areas of Significant Discussion" in the final section of this report. While these discussions do not constitute recommendations from the FAAC, the members believe they are topics of future importance. These discussions are presented in a point-counterpoint style—including the labor and industry perspectives—as drafted by their constituencies.

Aviation security topics were not in the FAAC's scope, and as a result the committee made no recommendations on security issues.

For ease of reference, the 23 FAAC recommendations are grouped in the following sections of this document by subcommittee topic area, and are ordered as presented to Secretary LaHood at the final FAAC meeting on December 15, 2010.

# ENVIRONMENT

## RECOMMENDATIONS

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### RECOMMENDATION 1—SUSTAINABLE ALTERNATIVE AVIATION FUELS

Exercise strong national leadership to promote and display U.S. aviation as a first user of sustainable alternative fuels. This would involve increased coordination and enhancement of the concerted efforts of government and industry to pool resources, overcome key challenges, and take concrete actions to promote deployment of alternative aviation fuels through certification, funding, commercial production and deployment, “book and claim” crediting, and international and domestic acceptance. The DOT should take a lead role within the Biofuels Interagency Working Group and provide increased support to the Federal Aviation Administration’s (FAA) work on alternative fuels. These actions would affirm a global leadership position for the United States in sustainable alternative aviation fuels.

### PROBLEM/CHALLENGE

The industry goals of carbon-neutral growth by 2020 and achieving a 50 percent reduction in the total carbon dioxide (CO<sub>2</sub>) footprint of aviation by 2050 will require a combination of actions. Reducing aviation’s CO<sub>2</sub> footprint while meeting demands for mobility and economic growth, will require development and deployment of lower-carbon content sustainable biofuels. The technical viability of such fuels is established. The challenge is to increase feedstock and processing options, improve productivity, reduce production costs, and achieve wide-scale commercial availability. If successful, approximately 5 percent of aviation jet fuel could come from sustainable low-carbon lifecycle sources by 2020. These new fuels could reach majority status by 2050. For every pound of alternative sustainable fuel, there is potential for an up to 80-percent reduction in carbon emissions when compared to petroleum-based jet fuel on a life cycle basis. There are also potential reductions in particulates and sulfur emissions.

Aircraft dependence on liquid hydrocarbon fuels will continue for the foreseeable future. However, sustainable alternative aviation fuels provide a tremendous opportunity for reductions in carbon emissions and for reducing air quality impacts from other aircraft engine emissions. These fuels also have the potential to reduce the price volatility of jet fuel and provide enhanced energy security, reducing significant economic threats. The aviation industry has unique fuel requirements and is well-positioned to be a national and international leader in the use of sustainable renewable alternative fuels. However, despite strong industry interest and efforts, a number of challenges remain to deployment of sustainable alternative fuels. Sufficient private financing has not materialized for production facilities for alternative fuels.

The FAA is a strong supporter of efforts on alternative aviation fuels, particularly those involving the development of jet fuel specifications. In addition, the FAA has sought synergies with other agencies, including a recent cooperative agreement with the U.S. Department of Agriculture (USDA) to develop a feedstock readiness tool (USDA/ARS agreement 58-0202-0-173N). Given the high visibility of aviation, its unique fuel requirements, and the industry's readiness to transition to alternative fuels, it is important and timely to have strategic leadership from the Secretary of Transportation.

## **RATIONALE**

Sustainable, available, and affordable alternative fuels are critical to the aviation industry. Environmentally, they are essential to the industry's ability to reduce its carbon footprint and respond to pressures to constrain or penalize aviation for greenhouse gas (GHG) control purposes. Alternative fuels can provide a domestically-produced, reliable, and competitive fuel supply, enhancing energy security and economic stability. Development of commercially available alternative fuels will not only benefit civil aviation, but will also support green jobs, provide benefits to U.S. military aviation, support the farming sector growing the bio-fuel feedstock, and be the impetus for innovative alternative fuel development and deployment for other transportation modes and industry sectors. President Barack Obama's Biofuels Interagency Working Group has identified aviation as a key market for alternative fuels. The United States will have technology leadership in this field if alternative aviation fuels are commercially deployed in the next 3–5 years. Achieving commercial deployment of sustainable alternative fuels for aviation will help create jobs, enhance exports, and demonstrate U.S. leadership in clean technologies.

The aviation industry is well-suited for rapid deployment of alternative fuels because airports present concentrated areas of demand, requiring a relatively small number of airport fueling stations compared to substantially higher numbers of fueling stations and vehicles in modes of ground transportation. The aviation industry has positioned itself so alternative fuels can be “dropped in” to existing aircraft engines and storage and distribution infrastructure. The drop-in nature of these fuels—requiring no changes to aircraft engines, airport infrastructure, or fuel pipelines—allows the commercial use of alternative fuels as soon as they are widely available at competitive costs. Aviation has unique requirements for particularly high-quality, energy-dense fuels, and there are no viable substitutes on the horizon. Solar power, hydrogen fuel cells, and electrical power will not be viable for primary propulsion of large aircraft anytime soon.

Considering the significant benefits of sustainable alternative aviation fuels, the U.S. aviation industry is committed to their development and deployment. As a co-founder of the Commercial Aviation Alternative Fuels Initiative, along with the Air Transport Association of America, the Aerospace Industries Association and Airports Council International-North America, the FAA has been a tremendous advocate for the development and deployment of alternative fuels. The FAA is currently supporting vital research on potential environmental benefits and impacts of aviation alternative fuels through the Partnership for Air Transportation Noise and Emissions Reduction, the Center of Excellence, and the Continuous Lower Energy, Emissions and Noise (CLEEN) program. The aviation industry is making significant investments in this area. The Boeing Company, Universal Oil Products'

Renewable Energy and Chemicals unit, several air carriers, aircraft-engine manufacturers, and the U.S. military have successfully tested a variety of alternative fuels, proving their suitability and readiness for commercial use. The industry has demonstrated it can incorporate drop-in alternatives meeting jet fuel specifications without new equipment or storage requirements. The aviation industry presents a concentrated demand node for alternative fuels and does not have other suitable alternative energy sources available that other sectors can pursue, such as hybrid/electric vehicles and wind/solar grid.

Although the aviation alternative fuels industry is on the path toward commercial viability and will not require long-term governmental assistance, Federal action is needed to hasten development and commercialization of alternative aviation fuels. The Aviation industry needs a comprehensive strategy and action program to foster acceleration in the critical areas of research, certification, funding, environmental crediting, and international and domestic acceptance.

**Accelerating research and fuel approval:** A key step toward achieving this goal is specification approval. Before a fuel can be approved for commercial use, it must meet rigorous safety and performance standards—much higher standards than those for fuels used in ground-based modes of transportation. The aviation industry, with assistance from the FAA, successfully pushed to revise the jet-fuel specification to allow for synthetic fuels derived from the Fischer-Tropsch process, and it is seeking further revision for hydrotreated renewable jet fuel. Additional Federal support is needed to accelerate the development and approval of other alternative aviation fuels, including those derived from hydrolysis/fermentation, lignocellulosic bioconversion, and pyrolysis/liquefaction processes.

**Providing incentives to accelerate development and deployment:** Increasing supply and making alternative aviation fuels cost competitive are the most significant challenges to commercial deployment. Due to the emerging nature of the alternative fuels industry, feedstock production (particularly for biofuels) is still in the early stages of development, requiring investments to construct commercial-scale processing facilities. Refining facilities can require significant upfront capital, which is challenging to obtain in current market conditions. With feedstock representing up to 80 percent of the cost of the fuel, appropriate incentives are essential to develop the feedstock base. If this is not done, the resultant fuel may be unaffordable to the consumer even if there is adequate financing to construct alternative fuel facilities. The fuel must be cost-competitive to facilitate long-term contracts between alternative fuel suppliers and consumers.

It would be of significant help if in addition to their current research funding, the DOT/FAA were empowered to provide and promote funding to support deployment of alternative aviation fuels. Bridging the gap between the price of the feedstock and the market price of conventional jet fuel can be achieved through various incentives provided directly to the consumer, or provided to producers and subsequently passed on to consumers. Sample incentives include: (1) multiyear excise-tax credits for production or consumption of alternative jet fuels; (2) grants to producers to cultivate jet-fuel feedstock; (3) government-supported minimum price guarantees for suppliers; and (4) rebates for alternative jet-fuel consumption.



**Ensuring crediting of environmental benefit at the point of purchase:** The DOT/FAA should work to establish a regulatory framework that recognizes air carriers typically commingle fuel they purchase in common-carrier multiproduct pipelines and airport fuel-storage facilities. As a result, the purchasing air carrier might not fly with the exact fuel it purchased. For commercial viability, part of which requires avoiding duplicative storage and distribution infrastructure, the regulatory structure will need to provide the environmental credit to the air carrier purchasing the fuel—commonly referred to as a “book and claim” crediting approach.

**Ensuring accepted environmental criteria for alternative fuels, domestically and internationally:** It is important to establish the criteria for environmental benefits to create some basis from which to judge these fuels. This issue becomes particularly important domestically because of emerging state programs for low-carbon fuel. Further, given that aviation is a global business, the environmental criteria for alternative aviation fuels must be compatible worldwide for air carriers to employ alternative fuels to the fullest extent practicable. The DOT/FAA should develop and execute a plan, working with government, industry, and other relevant domestic stakeholders to develop and confirm environmental criteria, including associated life-cycle analysis protocols, for aviation alternative fuels. The DOT/FAA should also work to facilitate international acceptance of these criteria so the benefits of alternative aviation fuels can be available domestically and internationally.

## **RECOMMENDATION 2—RESEARCH AND DEVELOPMENT (R&D) RELATED TO AIRFRAME AND ENGINE TECHNOLOGIES**

Accelerate aircraft technology development with more robust R&D by government and industry. Seek the permanent extension of industry R&D tax credits. Seek significant increases in funding to programs such as the FAA’s Continuous Lower Energy, Emissions and Noise (CLEEN) technology program, and continue to advocate close coordination with National Aeronautics and Space Administration aeronautical research programs to develop aircraft technologies.

### **PROBLEM/CHALLENGE**

The industry goals of carbon-neutral growth by 2020 and achieving a 50 percent reduction in the total CO<sub>2</sub> footprint of aviation by 2050 require a combination of actions. About 25 percent of the fuel-burn and CO<sub>2</sub> reductions will come from improved airframe and engine technology. Historically, most of the reductions in the environmental impact of aviation have resulted from improvements in the technology on the aircraft, yet significant improvement opportunities are still possible. Unfortunately, the timelines for the development of new technologies tend to be very long, with additional time involved for the introduction of these technologies into the aircraft fleet. To realize benefits within a foreseeable timeframe, the aviation industry needs to achieve successful maturation and deployment of new technologies within the next 3-8 years. A concerted R&D effort is needed to accelerate the development of technologies and their introduction into the aircraft fleet.

### **RATIONALE**

Aviation-related R&D investments are vital for a high technology economy and enable solutions that can decrease emissions, create good jobs, increase U.S. competitiveness, and provide substantial enhancements to mobility that benefit the public. The U.S. aerospace industry is a top exporter, so increased capability in this sector also benefits the U.S. balance of payments, and is essential to achieving President Obama’s stated export goals.

Leveraging the aviation industry’s R&D investment is critical to maximizing benefits in the shortest period. Since 1981, the Research and Development Tax Credit has been a critical incentive for businesses to invest in domestic R&D. These credits are the most effective use of Federal funding incentives to stimulate the R&D most likely to lead to implementation in goods and services. The resulting innovation, advanced technologies, and new developments have helped keep the United States at the forefront of cutting-edge technologies, and helped create jobs, spur economic growth, and drive the U.S. competitive advantage. In the early 1980s, the United States had the most generous R&D incentives in the world. By 2009, the United States ranked 17th among the 21 Organization for Economic Cooperation and Development countries offering R&D tax incentives. When the R&D tax credit expired, the United States ranked last. The U.S. aerospace industry faces tough competitors, with new emerging competition in China, Japan, and Russia. The United States needs to increase Federal co-funding of R&D and provide longer-term stability of the R&D tax credit.

The CLEEN program is an initiative between the FAA and industry, on a one to-one minimum-cost share—so the government contribution is no more than 50 percent—to mature

promising technologies and alternative fuels to reduce aircraft environmental impacts and energy usage. This program has ambitious goals to achieve a quieter, cleaner fleet that operates more efficiently with less energy and sustainable fuels. CLEEN leverages Federal funds with industry contributions. However, a Federal investment of \$125 million over 5 years leaves it underfunded. By comparison, the noise set-aside in the Airport Improvement Program (AIP) receives a minimum of \$300 million per year.

If developing new technologies domestically to make aviation more environmentally innovative and progressive is important, then the United States needs to address and improve the primary incentives available for businesses to innovate and create new products. The recommended actions will leverage job creation, enhance exports, and improve the country's leadership in clean technologies.

### **RECOMMENDATION 3—OPERATIONAL AND INFRASTRUCTURE IMPROVEMENTS**

Advocate for substantial additional targeted investment to accelerate equipage elements of NextGen that will have significant near-term benefits and increase the likelihood of successful deployment. Aim for deployment of accelerated equipage within the next 4 years. In addition, establish a ground taxi delay management pilot program and recommend appropriate deployment of taxi delay management methodology for U.S. airport operations within 3 years. Lastly, establish an airport energy efficiency and emissions reduction program to reduce emissions from airport power sources and increase energy efficiency at airports.

#### **PROBLEM/CHALLENGE**

Environmental impacts that accompany aviation growth represent a challenge to the United States' ability to accommodate increases in the demand for air transportation. Greater levels of environmental impacts and associated energy issues will be critical constraints on the capacity and flexibility of the National Airspace System (NAS) unless adequately addressed and mitigated. Improving aviation's environmental footprint and meeting energy challenges are vital elements of securing the future economic health and sustainability of the U.S. aviation industry. Environmental issues, especially those related to climate change, are increasingly shaping aviation's future growth internationally. The industry goals of carbon-neutral growth by 2020 and a 50 percent reduction in the total CO<sub>2</sub> footprint of aviation by 2050 require a combination of actions. It is estimated that operational improvements can achieve as much as a 12 percent reduction in aviation fuel-burn and CO<sub>2</sub>, although a more conservative estimate is closer to a still substantial 5 percent reduction. Operational and infrastructure improvements offer the most substantial near-term reductions in carbon emissions and energy use, while they also reduce operating costs and improve the U.S. aviation industry's competitiveness.

#### **RATIONALE**

NextGen will enable the NAS to safely and efficiently accommodate greater numbers of aircraft, from large commercial airliners to smaller general aviation (GA) aircraft, while reducing the overall environmental impact and energy use of civil aviation. However, to realize the full benefits of NextGen, a critical mass of aircraft must be equipped with the enabling technology. To accelerate the tremendous benefits of a modern air traffic control system, it is critically important to begin equipping aircraft today.

A substantial investment in aircraft and runway procedure enhancements over the next 5 years would allow for the following:

- Automatic Dependent Surveillance-Broadcast (ADS-B) "Out" upgrades—All Title 14, Code of Federal Regulations (14 CFR) part 121 air carriers, GA jets and turboprops, helicopters, and the majority of GA piston-powered aircraft would be equipped.
- ADS-B "In" upgrades—A small percentage (less than 20 percent) of aircraft expected to operate in selected ADS-B "In" pilot program locations, such as Philadelphia, Pennsylvania; Alaska; and southern Florida.

- Area Navigation (RNAV) upgrades—Upgrade 10–15 percent of the civil fleet that is currently not RNAV capable.
- Required Navigation Performance (RNP) proliferation—Achieve critical mass necessary to generate benefits from RNP equipage by ensuring the portion of the civil fleet that uses the most congested airspace is appropriately equipped.
- Ground-Based Augmentation System (GBAS) installation—Install at selected airports.

Combining FAA infrastructure modernization with enhanced aircraft equipage and new procedures offers significant benefits, including reduced fuel-burn/CO<sub>2</sub> emissions, job creation, enhanced safety and security, improved system capacity/operational performance, reduced delays and shorter flights for passengers and shippers, reduced FAA operating costs, and all-weather access to GA airports.

Aviation industry associations have suggested a \$6.5 billion 30-month program, and estimate that more than 150,000 jobs could be created by such a program, while it could also greatly accelerate the environmental, safety, and capacity benefits associated with NextGen.

Aviation industry studies (see below) have estimated that such an accelerated investment would pay for itself in about 2 years, and that the 10-year net-present value would be nearly \$15 billion.

Millions	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2011-2014	2011-2020
Current FAA Plan	\$ 638.0	\$ 703.0	\$ 1,062.0	\$ 1,269.0	\$ 1,332.5	\$ 1,399.1	\$ 1,469.0	\$ 1,542.5	\$ 1,619.6	\$ 1,700.6	\$ 3,672.0	\$ 12,735.2
NowGen	\$ 871.7	\$ 1,570.3	\$ 2,161.1	\$ 1,785.0	\$ (360.5)	\$ (378.5)	\$ (397.4)	\$ (417.3)	\$ (438.1)	\$ (460.0)	\$ 6,388.0	\$ 3,936.3
<b>Total NowGen Costs</b>	<b>\$ 1,509.7</b>	<b>\$ 2,273.3</b>	<b>\$ 3,223.1</b>	<b>\$ 3,054.0</b>	<b>\$ 972.0</b>	<b>\$ 1,020.6</b>	<b>\$ 1,071.6</b>	<b>\$ 1,125.2</b>	<b>\$ 1,181.5</b>	<b>\$ 1,240.5</b>	<b>\$ 10,060.0</b>	<b>\$ 16,671.5</b>
U.S. Job Creation (3)	\$ 1,057.1	\$ 2,114.3	\$ 2,114.3	\$ 2,114.3	\$ 2,114.3	\$ 2,114.3	\$ 2,114.3	\$ 2,114.3	\$ 2,114.3	\$ 2,114.3	\$ 7,399.9	\$ 20,085.4
Operational Efficiency (2)	\$ 135.0	\$ 857.0	\$ 1,502.0	\$ 2,152.0	\$ 2,426.0	\$ 2,426.0	\$ 2,426.0	\$ 2,476.0	\$ 2,476.0	\$ 2,476.0	\$ 4,646.0	\$ 19,352.0
Access to GA Airports	\$ 10.0	\$ 20.0	\$ 30.0	\$ 30.0	\$ 30.0	\$ 30.0	\$ 30.0	\$ 30.0	\$ 30.0	\$ 30.0	\$ 90.0	\$ 270.0
Reduced FAA Costs (1)	\$ 5.0	\$ 10.0	\$ 15.0	\$ 20.0	\$ 125.0	\$ 130.0	\$ 135.0	\$ 140.0	\$ 145.0	\$ 150.0	\$ 50.0	\$ 875.0
<b>Total NowGen Benefits</b>	<b>\$ 1,207.1</b>	<b>\$ 3,001.3</b>	<b>\$ 3,661.3</b>	<b>\$ 4,316.3</b>	<b>\$ 4,695.3</b>	<b>\$ 4,700.3</b>	<b>\$ 4,705.3</b>	<b>\$ 4,760.3</b>	<b>\$ 4,765.3</b>	<b>\$ 4,770.3</b>	<b>\$ 12,185.9</b>	<b>\$ 40,582.4</b>
<b>Net Benefits</b>	<b>\$ (302.61)</b>	<b>\$ 728.00</b>	<b>\$ 438.20</b>	<b>\$ 1,262.25</b>	<b>\$ 3,723.25</b>	<b>\$ 3,679.65</b>	<b>\$ 3,633.62</b>	<b>\$ 3,635.04</b>	<b>\$ 3,583.78</b>	<b>\$ 3,529.71</b>	<b>\$ 2,125.85</b>	<b>\$ 23,910.9</b>
Discount Rate	7%											
NPV 2011-2014	\$1,673.73											
NPV 2011-2020	\$14,902.39											

## A \$6.4B Targeted Investment Could Yield a Net Present Value of Nearly \$15B

notes:

- 1) Deactivation of navigational aids (NAVAIDS)
- 2) Improved operations for users stemming from implementation of ADS-B, RNAV/RNP, display upgrades and GBAS
- 3) Using FAA job multipliers and assuming \$74,000 per worker

Source: John P. Heimlich, Vice President and chief Economist, Air Transport Association, 2010.

**A management program for ground taxi delay can be an effective tool to reduce emissions in and around airports.** During the closure at Runway 31L/13R, New York John F. Kennedy (JFK) International Airport, a “metering” program was used whereby aircraft that would normally have been released to taxi to the departure runway were held at the gate until traffic conditions permitted an unimpeded taxi to the runway. While introduced to limit ground congestion during a period of reduced airport capacity, the program naturally resulted in reduced fuel-burn and emissions during the construction period.

Key operating and financial metrics that improved under JFK’s metering program resulted in:

- A reduction in fuel consumption of 124,600 gallons per month (using an average fleet type for March 2010).
- A reduction of 2.7 million pounds (1250 metric tons) of CO<sub>2</sub> emissions per month (using an average fleet type for March 2010).
- Reduced fuel-burn that also reduced Nitrogen oxides and other emissions associated with local air quality.
- Only one departure delayed for more than 3 hours after departing the gate at JFK in March/April 2010, compared with 21 departures delayed for more than 3 hours after departing the gate for the same period the prior year (Bureau of Transportation Statistics report).

The JFK experience is just one example of methodology and tools available to reduce CO<sub>2</sub> emissions, reduce delays, and reduce costs to air carriers and communities while improving service to passengers.

**An airport energy efficiency and emissions reduction program would provide benefits.** The airport component of the national aviation system must also be part of national efforts to improve energy efficiency and reduce carbon emissions. Implementation of well-known methods for energy efficiency would provide immediate and enduring benefits, with low implementation risk. Cost savings from conservation measures are easily achievable goals.

The proposal would establish a program to encourage sponsors of public-use airports to assess an airport’s energy requirements, including heating and cooling, base load, back-up power, and power for on-road airport vehicles and ground support equipment, to identify opportunities to reduce emissions and increase energy efficiency at the airport. Such a program could be established by expanding the FAA’s pilot program that provides Federal funding to help sponsors of public-use airports develop comprehensive sustainable airport master plans or stand-alone sustainable airport management plans. The proposal would authorize the Secretary of Transportation to develop standards and procedures for determining the effectiveness of proposed airport measures and develop guidance for the use of various funding mechanisms—not limited to the AIP—in coordination with the Department of Energy. Airports should be encouraged to use funding sources that can be recouped through guaranteed energy savings. The proposal would authorize the Secretary of Transportation to make AIP grants to assist airport sponsors that have done an assessment, as part of a comprehensive airport sustainability plan, to acquire or construct eligible equipment and related infrastructure that will reduce emissions and increase energy efficiency at the airport.

## **RECOMMENDATION 4—HARMONIZED SECTORAL APPROACH FOR AVIATION CO<sub>2</sub> EMISSIONS REDUCTIONS**

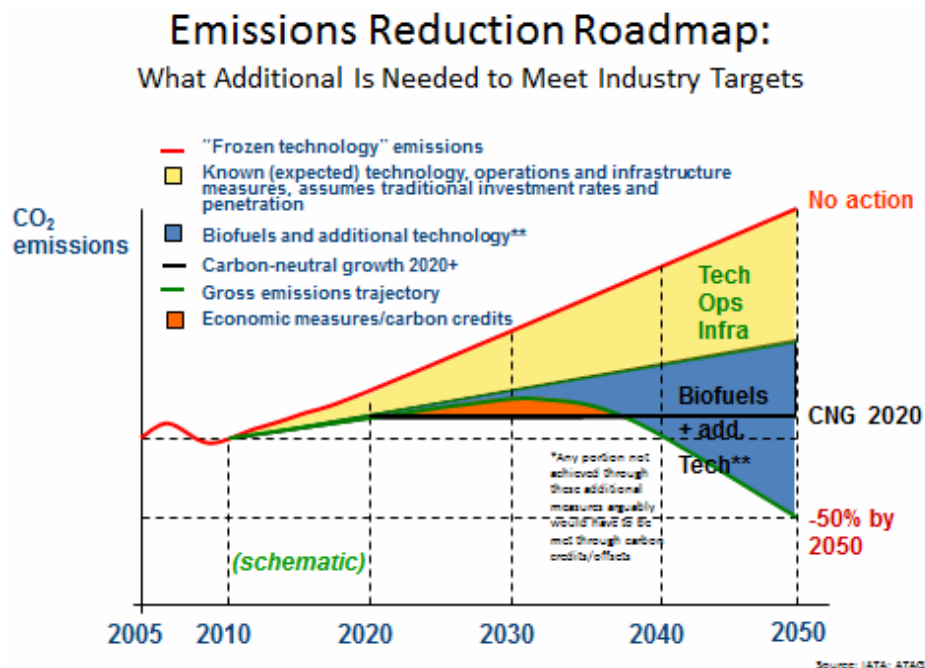
Lead an effort to align Federal aviation policy to support an aviation sector approach to carbon emissions. Building on the International Civil Aviation Organization (ICAO) resolution adopted on October 8, 2010, advocate for a coordinated global and domestic framework for aviation CO<sub>2</sub> emissions. It is important to set a strategic course for further international agreement through ICAO and follow with bilateral negotiations to secure the support of other countries. The Secretary of Transportation should take advantage of industry assets to develop practical global implementation methods (for example, International Air Transport Association (IATA) members have already agreed to create an emissions inventory system, the basis for any measurement of emissions reduction progress). Such steps would enhance the confidence of the aviation industry to make needed investments in the technological, alternative fuel, infrastructure, and operational improvements necessary to meet GHG emissions targets and provide a harmonized approach among key aviation nations (markets) around the world.

### **PROBLEM/CHALLENGE**

There is broad recognition among the aviation industry, the U.S. Government, and the international aviation community that, while aviation has a strong environmental record, it must continue to reduce its environmental impacts and foster sustainability. As part of its proposal for a global framework for aviation GHG emissions, the international aviation industry has committed to ambitious environmental goals, which include an annual average 1.5 percent fuel efficiency improvement through 2020, achieving carbon-neutral growth from 2020 onward, and reducing CO<sub>2</sub> emissions by 50 percent in 2050, relative to 2005 levels. On October 8, 2010, the 37th Assembly of the ICAO adopted a resolution on climate change that calls for 2 percent annual fuel efficiency improvement through 2020 and carbon-neutral growth from 2020 onward, while noting a commitment to consider even more ambitious goals in the longer term. The U.S. Government has proposed a more ambitious goal to achieve carbon-neutral growth by 2020 compared to 2005, instead of from 2020 onward.

Achieving the industry, ICAO, or U.S. Government goals will require deployment of an array of airframe and engine technologies, sustainable alternative fuel, and operational and infrastructure improvements necessitating significant investment by all aviation stakeholders.

The following figure shows the proportion of industry goals projected to be met through the various emissions-reducing measures.



Policies and regulations need to be rationalized to support these measures. Disparate and conflicting requirements imposed at the state, Federal, and/or international levels can undercut necessary investments and progress. Though some progress occurred at the recent ICAO Assembly in setting international guiding principles for measures reducing aviation GHG emissions—including the role of market-based measures such as emissions taxes and emissions trading—several member countries declined to accept these principles. There is a strong need for a rationalized, harmonized approach to aviation GHG emissions, as opposed to the myriad of often counterproductive proposals—particularly those involving emissions taxes, charges, and trading.

## RATIONALE

The U.S. aviation industry has a strong fuel efficiency and GHG emissions savings record. U.S. air carriers improved fuel efficiency by 110 percent between 1978 and 2009, saving 2.9 billion metric tons of CO<sub>2</sub>—the equivalent of removing 19 million cars from the road each of those years. The air carriers' environmental and economic interests merge in this area because fuel is the air carriers' largest cost center, and fuel-burn directly relates to CO<sub>2</sub> emissions. All of U.S. aviation combined—commercial, business, general, and military aviation—represents only 3 percent of U.S. GHG emissions, while contributing more than twice that percentage of value to the economy. This accomplishment, together with current industry commitments and public/private partnership initiatives, provides a level of confidence that the aviation sector can achieve significant GHG emissions reductions in the future.

The aviation industry recognizes that meeting aggressive GHG emissions targets will require significant investments. IATA estimates that meeting an annual average 1.5 percent fuel efficiency improvement target alone will require the global air carrier industry to invest



\$1.3 trillion in new aircraft between now and 2020, approximately 25 percent of which is expected to be incurred by U.S. air carriers. Air carriers and manufacturers are making substantial investments in sustainable alternative fuels, new technologies, and operational enhancements. In addition to these investments, IATA's analysis indicates that achieving the industry goal of carbon-neutral growth beyond 2020 is likely to require some investment in carbon offsets/credits—an extremely expensive proposition. The greater the degree to which the industry falls short on carbon-neutral growth with technological, operational, or fuels measures, the greater the portion of carbon credits/offsets that would be required.

According to FAA aviation fuel consumption data, U.S. civil aviation consumed 20.9 billion gallons of jet fuel in 2005.<sup>1</sup> FAA projections, which incorporate presumed fuel efficiency improvements of approximately 1.5 percent per year, show approximately 23.3 billion gallons of jet fuel will be consumed by U.S. aviation in 2020. Absent alternative fuels with lower life-cycle carbon emissions and acceleration of technological, operational, and infrastructure improvements beyond the rate historically achieved, the gap for achieving carbon-neutral growth could be considerable. Using the FAA's fuel-burn projections and the U.S. carbon-neutral growth target, the gap in 2020 would be the CO<sub>2</sub> emissions resulting from consumption of approximately 2.46 billion gallons of jet fuel more than in 2005. Using a mid-range carbon cost estimate of \$25 per metric ton, the carbon cost would be \$590 million in 2020 alone; in 2021 it would be \$716 million. Even using the industry and ICAO carbon-neutral growth targets, costs would be considerable, with a 527-million-gallon gap in 2021, at a carbon cost of \$126 million.

Aviation currently faces multiple overlapping provisions and proposals for taxes, charges, emissions trading, and other measures intended to constrain emissions, which threaten to siphon funds needed for industry investment in effective emissions reductions. For example, while U.S. air carriers flying to the United Kingdom already are subject to a steep air-passenger duty imposed for environmental reasons, they also will be subject to GHG emissions trading requirements under the European Emissions Trading Scheme (ETS) beginning in 2012. IATA estimates ETS will cost the world's air carriers approximately \$4.5 billion per year; with 13-15 percent of that borne by U.S. air carriers. On September 1, 2010, the German Government approved an air passenger duty of €45 on passengers flying from Germany to the United States beginning January 1, 2011. There are also proposals in international climate negotiations for air carrier and air passenger levies to fund climate change adaptation measures in developing countries. On top of international initiatives, legislation in the U.S. Congress proposes to cover aviation fuel through an upstream emissions allowance requirement, which would equate to a significant tax. Many U.S. states are pursuing measures that could also impose GHG costs and restrictions on aviation.

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<sup>1</sup> The FAA also has data for aviation gasoline consumption, but only figures for jet fuel consumption are included here as the FAAC is primarily focused on commercial aviation, largely captured by jet-fuel use.

A rationalized, harmonized approach to aviation GHG emissions will help secure industry investment in measures to continue to reduce aviation's carbon footprint and to avoid undermining progress with overlapping and conflicting measures at international, national, and state levels. The aviation industry's position is unified on carbon emissions reductions in a way rarely seen. The U.S. Government can help convert that unity into actions that will reduce carbon emissions, while also enhancing commerce, U.S. leadership, and the aviation industry's financial stability.



## FINANCING

### RECOMMENDATIONS

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#### **RECOMMENDATION 5—EXTEND THE ALTERNATIVE MINIMUM TAX EXEMPTION FOR AIRPORT PRIVATE ACTIVITY BONDS FOR FOUR YEARS**

The Secretary of Transportation should support Federal legislation to provide a four-year extension to the alternative minimum tax (AMT) exemption for airport private-activity bonds (PAB). During the 111th Congress, efforts were made to extend the current AMT exemption in comprehensive tax reform and job creation legislation and to provide a permanent AMT exemption through stand-alone bills, primarily S. 138, 111th Cong. (2009) and H.R. 425, 111th Cong. (2009). U.S. commercial airports are mainly owned and operated by government entities, and airport improvements are often multi-year projects, providing numerous construction jobs helping to stimulate the economies of these communities. This exemption lowers airport financing costs, allowing for more development or reduced debt.

#### **PROBLEM/CHALLENGE**

Although U.S. commercial airports are almost entirely publicly owned and operated by government entities, the PABs they issue to fund airport improvement projects are subject to the AMT. The Federal Government collects a minimal amount of tax revenue from applying the AMT to the bond interest paid to investors who purchase these bonds. However, issuers of these bonds are penalized with higher AMT financing costs because investors in these bonds demand an interest rate premium to compensate for additional tax liability. The higher interest rates that airports are forced to pay to issue PABs is reflected in higher costs for approved projects and considered in the setting of airport rates and charges.

The American Reinvestment and Recovery Act of 2009, Pub. L. No. 111-5 exempted new issuances of PABs from the AMT in 2009 and 2010, and allowed for the refinancing of PABs issued between 2004 and 2008, and callable in 2009-2010, into non-AMT debt. It is estimated that this congressional action has reduced financing costs to airports by \$1 billion, allowing savings to be used toward airport development costs and to reduce debt. However, in 2010 Congress did not extend the AMT “holiday” for PABs, and the tax benefit expired at the end of 2010. As of the publication of this report, a House Resolution reviving and extending the exemption through 2011 has been referred to the House of Representatives Committee on Ways and Means.

#### **RATIONALE**

The AMT exemption for PABs has provided airports with significant reductions in the financing costs of airport improvement projects. At the same time, these projects have resulted in the addition of numerous construction-related jobs. According to the U.S. Congress’ Joint Committee on Taxation, the annual cost to the Federal Government to exempt all PABs from the AMT totals \$49 million annually. However, the elimination of the AMT would provide airports with hundreds of millions of dollars in savings from lower interest payments on their PABs.

A precedent exists for providing an extended AMT exemption. Congress provided permanent AMT exemption for housing bonds via the passage of Housing and Economic Recovery Act of 2008, Pub. L. No. 110–289.

## **RECOMMENDATION 6—FUNDING ACCELERATED EQUIPAGE OF AIRCRAFT**

The Federal Government should undertake a significant financial investment to achieve extensive public benefits through the accelerated Next Generation Air Transportation System (NextGen) equipage of commercial and general aviation (GA) aircraft. This Federal commitment must be matched in some fashion by financial or operational commitments—for example reduced carbon dioxide (CO<sub>2</sub>) emissions, on the part of commercial and GA aircraft operators. This public-private partnership should focus on equipping aircraft and training staff to use the key NextGen technology and operational capabilities, including Performance-based Navigation (PBN), Automatic Dependent Surveillance-Broadcast (ADS-B), Ground-Based Augmentation System, and Data Communications. A menu of financial options—grants, loans, leases, and loan guarantees—should be designed in consultation with industry, and this financing could be managed through an infrastructure bank or other financing vehicle. The form and structure of the financial options offered should depend on the appropriateness of the incentive for the technology and capability being funded, the aviation operators involved, the costs and benefits associated with the particular technology or operational capability, and the shared responsibility between the public and private partners. An important part of this program will be the detailing of commitments that both the Federal Aviation Administration (FAA) and operators should make to deliver promised benefits or mitigate financial or other risk.

### **PROBLEM/CHALLENGE**

While there are capacity, efficiency, environmental, and safety benefits if the FAA can accelerate deployment of NextGen, there are three major challenges to overcome in encouraging operators to equip early. First, there is a history of operators equipping aircraft only to realize little or no benefit because the FAA fails to implement quickly enough the necessary procedures or approvals to enable operators to derive benefits from the equipage. Second, for many individual operators, the business case may be weak for early equipage, with costs far exceeding direct benefits. Finally, considering the relatively weak financial condition of the aviation industry, it is difficult to accelerate the early NextGen technology equipage of aircraft given the more pressing financial issues.

On September 6, 2010, well into the FAAC's deliberations, President Barack Obama announced a new \$50 billion program for transportation infrastructure investments to maintain economic recovery. The President's proposal includes public funding for accelerated equipage of aircraft to accelerate NextGen benefits—the same as our recommendation. Specific details of the President's program have not been released. The Administration is currently analyzing the program options to deliver specific benefits and the benefits and costs of using public infrastructure funds to accelerate NextGen equipage on aircraft.

While preliminary indications show the projected benefits will outweigh the implementation costs, the mix of NextGen equipage programs that could be funded, available funding mechanisms, and funding levels increase options and require a time-consuming, difficult analysis. Additionally, proposals that would necessitate legislative change would require a thorough review by Congress.

## RATIONALE

This approach has earned support because early aircraft equipage for NexGen could produce significant public benefits. Without a financial incentive, equipage will be delayed due to the high costs, high risks, and small benefits for individual operators. Additionally, this approach ensures synchronization of the FAA's investment and procedure development with industry equipage and use of FAA capabilities, reducing risk for both the FAA and industry. This partnership is also consistent with previous Federal funding of aviation infrastructure that historically has been ground-based but is now shifting to an integrated aircraft- and ground-based infrastructure in the NextGen environment. The Future of Aviation Advisory Committee (FAAC) also believes this investment will improve aviation's safety and environmental performance and contribute to the overall global competitiveness of the aviation industry, including the manufacturing sector.

## DISSENT

FAAC member Dr. Severin Borenstein, Hass School of Business, dissented in part from Recommendation No. 6. The following is his dissent:

I believe it is clear that NextGen will bring significant benefits to the airline industry, airlines, passengers, and general aviation. It will also bring indirect benefits to the rest of the U.S. economy. I also believe that *accelerated* equipage would likely bring positive net benefits to society, though the only evidence the Committee received on this issue was a summary spreadsheet from the Air Transport Association with very little documentation of how the calculations of benefits and costs were carried out. The committee, however, was presented almost no evidence that addressed the question of whether accelerated equipage would generate *unusually large benefits that are not captured within the industry itself* (by producers and/or consumers), an argument that would be a critical piece of justifying government subsidies for the activity (whether through grants, loan guarantees or other non-market financing vehicles).

All economic activity has spillovers that impact others in the economy. Typically, however, policymakers do not argue that this justifies subsidy of the activity because the direct benefits that flow to the participants in the activity give the appropriate incentives for economic actors to engage in the transaction. The exception occurs if there are unusually large spillovers from a transaction that would lead to net benefits for the activity if the spillovers were counted, but otherwise will not justify sufficient private investment.

In this case, there has been no showing that the airline industry is either not capable of making equipage investments through unsubsidized financial processes or that the benefits to the industry as a whole are insufficient to justify industry-wide adoption.<sup>2</sup>

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<sup>2</sup> Borenstein adds: "I understand, in fact, that a consortium of industry participants are proposing an investment approach that requires very little government support. I believe that The NextGen Equipage Fund LLC has backing from some of the major aircraft producers and airlines, though I do not know the details. Unfortunately, the group was not invited to brief the Committee on this alternative approach that relies much more on the private sector."

There will certainly be winners and losers from accelerated equipage, but if the industry as a whole benefits, then funding should be accomplished through a funding mechanism internal to the industry with no additional subsidy from the Federal Treasury.

It must be remembered that the benefits of NextGen result from reducing a negative externality caused by each plane in the skies—congesting operations and slowing down all other aircraft. Under extraordinary circumstances arguments can be made for forcing society to bear the cost of ‘clean up’ of such negative externalities, but that sort of policy must be closely scrutinized, particularly given the country’s extreme Federal budget concerns.

Finally, the recommendation raises an important, but largely separable issue of the ability of industry players to rely on the FAA to complete its end of the ground-based investments in a timely way in order to complete the value proposition of NextGen. Without subsidies, it is still quite feasible to create payment and reimbursement approaches that would put the burden of FAA-side delays on the FAA and not on the carriers that are making equipage investments.



## **RECOMMENDATION 7—DELIVERING THE BENEFITS OF NEXTGEN**

The Secretary of Transportation should fully endorse and focus on ensuring that the FAA delivers the operational capabilities, procedures, and approvals necessary for operators to realize the benefits from the NextGen air traffic control system as quickly as possible. If public benefits are to be realized as well as the promised benefits to operators that equip, the following areas must be a high priority for Department of Transportation (DOT) and FAA implementation:

- Improving the environmental review process;
- Developing a well-crafted and balanced Best Equipped, Best Served (BEBS) program; and
- Fully leveraging the operations of those already invested in PBN or ADS-B.

Furthermore, the Secretary of Transportation should require the FAA to develop and commit to a timetable of when NextGen requirements will be set, when operational capabilities and procedures will be available, what training will be necessary, and what authorizations will be required.

## **PROBLEM/CHALLENGE**

The FAA's NextGen air traffic control system requires significant government investments for systems and infrastructure, but it also requires significant investment—even with government financial incentives—by commercial air carriers and GA owners in modernized NextGen equipment for their aircraft. The full benefits of the new system would be realized when the systems are operational and most users are appropriately equipped to use and benefit from the new systems.

The RTCA, Inc. Task Force 5 Report states the FAA must improve on delivering benefits when operators equip their aircraft for NextGen. Demonstrated success and realization of benefits from the new systems by early adopters will stimulate further equipage. The challenge for the FAA is multifaceted. For operators who are already equipped, the FAA must focus on advancing the benefits offered by PBN and other technologies. In addition, the FAA must improve the environmental review process, which too often defaults to the status quo rather than driving procedures and approaches offering significant noise and environmental performance. The FAA must also decide how to provide expected operational benefits to early adopters with equipped aircraft operating in a mixed aircraft equipage environment through the proposed BEBS principle. For BEBS to be a success, the FAA must efficiently and fairly provide priority consideration for equipped aircraft in the National Airspace System.

To stimulate early equipage for NextGen and enable operators and manufacturers to make with confidence the economic case for development and purchase of equipment, it is essential that the FAA provides clear plans on when requirements will be implemented, when procedures will be available, what training for pilots and controllers will be required, and any operational authorizations the agency will require. Also, it is essential the FAA provide detailed analysis of the specific benefits that will be generated by the deployment of each NextGen component.

## **RATIONALE**

Too often in the past, for a variety of reasons, the FAA has not been ready with the operational capabilities, procedures, and policies necessary to take advantage of modern equipage by aircraft operators. Driving the FAA to place a high priority on delivering benefits will help address this historical problem and strengthen the benefits and credibility of the NextGen project. If the FAA is successful, it is more likely NextGen will accelerate due to increased confidence that there are real, tangible benefits to investment in NextGen technologies. The keys to the FAA's success will be BEBS, environmental streamlining, and timely delivery on commitments.

## **RECOMMENDATION 8—ELIGIBILITY CRITERIA FOR AIRPORT AIP AND PFC PROGRAMS**

The FAA should review and redefine the term “aviation infrastructure” and then update and modernize the eligibility criteria for the Airport Improvement Program (AIP) and Passenger Facility Charge (PFC) program projects. As part of this review, the DOT and the FAA should consider whether investing AIP and PFC dollars in NextGen equipment, operational capabilities, and performance-based procedures is needed to produce a demonstrated, near-term improvement in operational performance at airports. If so, the FAA should do as much as possible of this update administratively and develop legislative recommendations to the Secretary of Transportation for the remainder of the suggested changes. An update of the guiding authorities in this area should focus on allowing more flexibility by airports in using AIP and PFC funds.

FAAC members representing the airport community believe these changes must come with increases in AIP and PFC funding levels, while members representing air carriers believe more flexibility is possible without increased funding levels. The FAA should determine if AIP and PFC levels need to be adjusted based on eligibility criteria changes.

### **PROBLEM/CHALLENGE**

There is considerable interest among the aviation community to broaden eligibility criteria for use of AIP and PFC funds to support aviation infrastructure projects. The eligibility of sponsor projects under current regulations for AIP and PFC funding may be out of date and lack the flexibility to fund projects that could effectively improve aviation safety, lower airport and air carrier operating costs, or reduce the environmental impact of aviation. For example, NextGen and environmental initiatives are either ineligible or restricted in their use of AIP and PFC funds, but it is clear those projects address many national aviation priorities.

FAA’s review and broadening of eligibility criteria would allow for more flexibility and innovation in the use of these funds for airport projects. The hope is that this will permit airports to invest funds in facilities’ capabilities and procedures that will produce a demonstrated near-term improvement in operational performance. While Congress intended that AIP and PFC funds would address these aviation infrastructure priorities, current regulations limit their effectiveness in delivering on this intent.

### **RATIONALE**

Greater flexibility in the criteria for funding projects with AIP or PFC funds offers the potential of significant benefits. For example, development of new flight procedures can provide benefits to airport/airspace capacity and to noise impact reduction. The implementation of Continuous Descent Approach procedures at airports has saved fuel and reduced noise below the flight path. Where appropriate, the FAA should facilitate the implementation of such procedures, especially when they have the potential to increase aircraft and passenger throughput, thereby generating additional airport revenue.

# COMPETITIVENESS AND VIABILITY

## RECOMMENDATIONS

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### RECOMMENDATION 9—GLOBAL COMPETITIVENESS

The Secretary of Transportation should—

- Foster conditions that enable global air carrier alliances that enhance the viability and global competitiveness of U.S. air carriers, airports, and manufacturers, and protect and create U.S. aviation industry jobs by reaffirming the general objectives of the Department of Transportation’s (DOT) 1995 Statement of U.S. International Air Transportation Policy (the 1995 Statement).<sup>3</sup>
- Ensure that, as the DOT performs its public interest analysis, it gives substantial weight to existing statutory criteria that would help ensure an economically healthy and globally competitive U.S. air carrier industry and prosperous workforce, including—
  - “Strengthening the competitive position of air carriers to at least ensure equality with foreign air carriers, including the attainment of the opportunity for air carriers to maintain and increase their profitability in foreign air transportation.”
  - “Placing maximum reliance on competitive market forces and on actual and potential competition...to provide the needed air transportation system [and] encourage efficient and well-managed air carriers to earn adequate profits and attract capital...”
  - “Promoting, encouraging and developing civil aeronautics and a viable, privately-owned United States air transport industry.”
  - “Encouraging fair wages and working conditions.”<sup>4</sup>
- Build upon and expand the DOT’s Open Skies initiative, focusing on: (1) the largest and fastest-growing international markets that remain constrained by restrictive bilateral aviation agreements; (2) ensuring “de facto” market access and a level playing field for U.S. passenger and cargo air carriers facing impediments to doing business abroad; and (3) promoting employment opportunities for U.S. air carrier workers.
- Leverage the Secretary of Transportation’s appointment to the President’s Export Promotion Cabinet, and support an expansion of the DOT’s role in promoting aviation exports for U.S. air carriers, manufacturers, and airports, and facilitating international tourism.

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<sup>3</sup> See 60 Fed. Reg. 21841. The Subcommittee was unable to reach consensus supporting the 1995 Policy Statement’s objective of reducing existing limitations on cross-border investment.

<sup>4</sup> Title 49 of the United States Code (49 U.S.C.) § 40101(a)(15); (a)(6)(A)(B); (a)(14); and (a)(5).

## **PROBLEM/CHALLENGE**

Recovery and long-term growth of the U.S. economy will require the continued promotion of U.S. aviation industry products and services to the 95 percent of the world's population that lives outside the United States. The DOT and the State Department should be commended for reaching agreements with 100 Open Skies partners since 1992. These agreements have vastly expanded international passenger and cargo flights to and from the United States, increased U.S. aviation industry exports, bolstered tourism, and helped generate U.S. aviation industry jobs. However, some of the world's fastest-growing aviation markets, especially in Asia, South America, and the Near East, remain restricted to U.S. air carriers. In some key markets, U.S. passenger and cargo air carriers not only face restrictive aviation agreements, but also must confront a wide range of practical market access barriers—including slot restrictions, airspace limitations and local ground-handling rules—that increase their operating costs and stifle competition. Such artificial service restrictions limit the ability of U.S. network air carriers to compete, both domestically and globally. Moreover, slot and facility limitations and high levels of concentration at many U.S. airports restrict competition and inhibit passenger access to these critical facilities.<sup>5</sup> The Secretary of Transportation should continue to work to ease these restrictions to promote a healthy and viable air transportation industry capable of meeting the dynamic needs of the American economy.

Most subcommittee members agreed that the development of global alliances is an important element in enhancing the viability and competitiveness of the U.S. air carrier industry. However, some members maintained the DOT should predicate approval of such arrangements on ensuring that U.S. air carriers conduct a reasonable proportion of flight operations under them, while others maintain this latter point should be addressed through the collective bargaining process. The subcommittee recognizes that revenue or cost-sharing arrangements between U.S. air carriers and their foreign air carrier partners could shift flying opportunities between alliance partners. Accordingly, to ensure that U.S. air carrier workers receive an equitable share of jobs generated by these business arrangements, the Secretary of Transportation could place a condition on the approval of any grant of antitrust immunity to a business arrangement between a U.S. air carrier and its foreign air carrier partner(s) to ensure that the U.S. air carrier conducts a portion of the international flying within the scope of the business arrangement that closely correlates to the portion of revenue generated by the business arrangement that the U.S. air carrier receives.

## **RATIONALE**

The subcommittee generally supports the 1995 Statement of U.S. International Air Transportation Policy's general objective of "encourag[ing] the development of the most cost-effective and productive air transportation industry that will be best equipped to compete in the global aviation marketplace at all levels and with all types of service."<sup>6</sup> However, members held differing views regarding two particular goals in the 1995 Statement: that the U.S. should "reduce barriers to the creation of global aviation systems, such as limitations on cross-border

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<sup>5</sup> See Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, Pub. L. No. 106–181 § 155 (AIR–21)

<sup>6</sup> See 60 Fed. Reg. 21841, 21844.

investments wherever possible,” and that the DOT should “[s]eek changes in U.S. airline foreign investment law, if necessary, to enable us to obtain our trading partners’ agreement to liberal arrangements to the extent it is consistent with U.S. economic and security interests.” Accordingly, the Competitiveness and Viability Subcommittee was unable to reach consensus on whether the DOT should reaffirm these particular goals of the 1995 Statement.

## **RECOMMENDATION 10—FEDERAL AVIATION TAXES AND FEES**

The Secretary of Transportation should commission an independent study of the Federal aviation tax burden on passengers, air carriers, and general aviation (GA) to determine whether existing levels of taxes and fees sufficiently balance the Department’s statutory mandates to “encourage efficient and well-managed air carriers to earn adequate profits and attract capital...,”<sup>7</sup> “promot[e], encourag[e], and develop civil aeronautics and a viable, privately-owned United States air transport industry,”<sup>8</sup> and “ensur[e] that consumers in all regions of the United States, including those in small communities and rural remote areas, have access to affordable, regularly scheduled air service.”<sup>9</sup>

This study should include input from aviation stakeholders and independent economists and address the following questions:

- How do the Federal taxes imposed on the U.S. aviation industry compare to those of other modes of transportation?
- Does the Federal Government efficiently and effectively levy the existing level of aviation taxes and fees for the services it provides?
- Are there more efficient ways to collect and administer existing aviation taxes and fees that would save taxpayer and aviation industry dollars?
- Would regular consultation between those departments and agencies that administer aviation taxes and fees prior to implementing any changes to tax rates and policies result in (1) a more efficient and rational aviation tax system, and (2) the desired industry and social outcome?
- What is the appropriate balance between General Fund financing and Airport and Airway Trust Fund financing of capital and operating costs of the national aviation system, recognizing the significant role commercial and GA play in fostering economic growth and development?

The Future of Aviation Advisory Committee (FAAC) recommends that the Secretary of Transportation review the results of the study and pursue appropriate legislative and regulatory actions in light of the role commercial and GA play in fostering economic growth and development to ensure that existing and any new aviation taxes and fees applied to passengers, air carriers, and GA are effective and collected efficiently.

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<sup>7</sup> 49 U.S.C. § 40101(a)(6)(B).

<sup>8</sup> *Id.* at (a)(14).

<sup>9</sup> *Id.* at (a)(16).

## PROBLEM/CHALLENGE

According to the Air Transport Association, the tax burden on a typical \$300 one-stop domestic round-trip ticket has nearly tripled over the past three decades, from \$22 in 1972 to \$61 in 2010.<sup>10</sup> The Competitiveness and Viability Subcommittee identified 17 Federal (or Federally sanctioned) taxes and fees, totaling \$16 billion to \$18 billion annually, that are applied to the U.S. aviation industry.<sup>11</sup> These special fees are administered by three cabinet-level departments and six different agencies. By contrast, in 1990, the U.S. aviation industry was subject to six Federal taxes and fees, totaling \$3.7 billion.<sup>12</sup> Some members assert the rising burden of aviation taxes and fees makes travel and shipping less affordable and inhibits air carriers from making needed investments, ultimately harming the consumers and businesses that rely on passenger and cargo air transportation services, as well as U.S. air carrier job growth and stability. The last U.S. Government Accountability Office (GAO) study on aviation taxes and fees was conducted in 2004.<sup>13</sup>

## RATIONALE

The Competitiveness and Viability Subcommittee reviewed presentations that provided varying perspectives on the economic impact of the aviation tax burden on the viability and competitiveness of the U.S. aviation industry. Many members agreed that reducing the aviation tax burden is critical to the long-term viability and profitability of the industry, and is in the best interest of our nation's economic recovery and global competitiveness. One presentation cited a related finding of the National Commission to Ensure a Strong Competitive Airline Industry,:

“We took very seriously our charge to examine [aviation] tax policy and the many fees imposed on the industry. Although the Commission concluded that tax changes alone will not restore the industry to profitability, we believe there are several tax provisions that impede the ability of the industry to return to financial health. We believe those provisions violate reasonable principles of common sense and good public policy and we are of the opinion changes must be made to relieve the airline industry's unfair tax burden.”<sup>14</sup>

Given the importance of the aviation industry to the U.S. economy, the Competitiveness and Viability Subcommittee agreed the Secretary of Transportation—pursuant to his statutory mission to inform the DOT on this issue—should commission an independent study of the impact of the existing aviation tax burden on the economic health and global competitiveness of our nation's commercial aviation and GA sectors.

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<sup>10</sup> See Air Transport Association, “When America Flies, It Works: 2010 Economic Report,” p. 24 (July 2010).

<sup>11</sup> *Id.*

<sup>12</sup> See FAA website at: [http://www.faa.gov/about/office\\_org/headquarters\\_offices/aep/aatf](http://www.faa.gov/about/office_org/headquarters_offices/aep/aatf).

<sup>13</sup> See U.S. Government Accountability Office (GAO), “Summary Analysis of Federal Commercial Aviation Taxes and Fees,” GAO-04-406R (March 12, 2004).

<sup>14</sup> National Commission to Ensure a Strong Competitive Airline Industry, “Change, Challenge and Competition” (1993).



## **RECOMMENDATION 11—AIRLINE COMPETITION AND PASSENGER PROTECTIONS**

The Secretary of Transportation should ensure transparency in—

- Air carrier pricing, including ancillary fees;
- The disclosure of flight operators, such as code-share and commuter flights;
- Disclosure of air carrier contracts of carriage, including easy consumer access to those contracts; and
- Departmental reporting of consumer air travel statistics, particularly with respect to code-share operations of regional air carriers.

## **PROBLEM/CHALLENGE**

Consumers want transparency regarding the total cost of air fares and the carriers of operation, particularly in code-share and commuter itineraries, comprehensive and unified compensation for flight irregularities, and transparent contracts of carriage.

In recent years, Congress, the GAO, the Office of the DOT Inspector General, the National Transportation Safety Board (NTSB), and an extensive list of consumer and travel industry organizations have examined passenger rights and transparency issues. Through consumer-protection rules, new tarmac delay regulations, and additional proposed rules intended to address a range of consumer issues, DOT Secretary Ray LaHood has done much to strengthen the rights of passengers.

For more than a decade, air carriers have taken steps to address growing concerns over service, passenger rights, and transparency issues, including enhancing contingency plans, coordinating these plans with airports, improving customer service commitments, and using new technology to provide consumers with more timely and extensive flight information. Despite these efforts, some Competitiveness and Viability Subcommittee members maintain that consumers continue to seek a number of improvements, including:

- Greater transparency regarding the total cost of air carrier tickets and the carriers of operation, particularly in code-share and commuter itineraries;
- Comprehensive and unified compensation for flight irregularities; and
- Simplified contracts of carriage.

While subcommittee members agree that the DOT's proposed passenger protection rules<sup>15</sup> to further enhance customer information and transparency include a number of measures that may benefit air carriers and passengers, some members disagree as to whether additional regulatory action is needed in this area.

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<sup>15</sup> See 75 Fed. Reg. 32318 (June 8, 2010).

## **RATIONALE**

Some members of the subcommittee proposed specific actions Secretary LaHood should take to regulate consumer protection in the aviation industry. Because the comment period has closed on that notice of proposed rulemaking, and because the final rule has not been issued, it was recognized that specific actions the FAAC may propose could contradict actions identified in the final rule. However, should the final rule not include provisions to meet the first two recommendations, the Competitiveness and Viability Subcommittee proposed that Secretary LaHood consider issuing a guidance document that incorporates its recommendations.

With respect to disclosure of ancillary fees, transparency was seen as a benefit to consumers, who should have the ability to choose between air carriers that either do not charge for certain services or charge differing fees. FAAC members hold differing views on how air carriers should fully disclose optional fees and charges before passengers purchase a ticket, whether directly by an air carrier or through a third-party intermediary. Some subcommittee members maintain that a hyperlink to a page disclosing optional fees would provide a fully-accessible notice to passengers of optional fees, and air carriers should not be forced to provide fee schedules for optional services to alternative distribution channels. These members believe that air carrier data should be subject to standard commercial negotiations between the air carriers and alternative distribution channels, including global distribution systems. Other Competitiveness and Viability Subcommittee members disagreed with that assertion, arguing that otherwise, there is no incentive for these alternative distribution channels to lower their costs to air carriers.

In 1985 and 1999, the DOT adopted comprehensive regulations requiring the disclosure of code-sharing arrangements and long-term wet leases.<sup>16</sup> These regulations require that consumers receive reasonable and timely notice of the existence of a code-sharing arrangement. They similarly require passenger notification when the transporting air carrier is not the air carrier whose designator code will appear on travel documents.<sup>17</sup> The DOT has vigorously enforced its code-share disclosure rules, issuing 19 enforcement consent orders under the 1985 rule, and 9 consent orders covering violations under the 1999 rule.<sup>18</sup> Nevertheless, some subcommittee members are not convinced the DOT's existing reporting framework ensures full disclosure of operating air carrier and marketing air carrier distinctions. The subcommittee agrees that the DOT should continue to require marketing ("branded") air carriers to provide clear and transparent notification of operations conducted by an air carrier other than the marketing carrier.

The DOT publishes a monthly Air Travel Consumer Report, which includes metrics on late flights and mishandled baggage. Because of the increasing importance of regional air carrier operations in the domestic air transportation system, some members believe more detailed disclosure is necessary, especially by regional air carriers that are not currently required to report data for their operations. In addition, these members believe the DOT's report should include metrics organized not only by the operating air carrier, but by the marketing air carrier.

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<sup>16</sup> See 14 CFR part 257.

<sup>17</sup> See 14 CFR part 257.

<sup>18</sup> See Presentation on Code-Sharing by Dayton Lehman, Principal Deputy Assistant General Counsel for Aviation Enforcement and Proceedings, U.S. Dept. of Transportation, at NTSB Code-Share Symposium (October 26, 2010).

With limited exceptions for small air carriers, most air carriers report data to the DOT only for flights they directly operate, and not for flights operated by marketing partners.

Some Competitiveness and Viability Subcommittee members believe the DOT should consider expanding the universe of air carriers obligated to report operational and consumer performance data.<sup>19</sup> These subcommittee members argued that any additional information collected from air carriers in association with code-share flights should be reported by the operating air carrier, as opposed to the marketing air carrier. The operating air carrier is better able to transmit its own performance data than the one or more marketing air carriers. These members believe it is incumbent upon the data-collection authority to summarize the information in a way that is meaningful to consumers, as well as to the aviation industry.

Any changes in DOT reporting requirements imposed on air carriers would require extensive consultations with the industry and other stakeholders through a new rulemaking. Accordingly, the FAAC recommends the DOT thoroughly vet any proposed changes to the existing reporting requirements through consultations with all stakeholders.

The role of mainline air carriers in safety incidents involving code-share partners was discussed at a recent NTSB hearing, which included DOT participation. Some subcommittee members disagreed over whether to report safety incidents, particularly fatal incidents involving regional or commuter air carriers operating on behalf of mainline air carriers, as mainline air carrier safety incidents. Some FAAC members asserted that because safety is the responsibility of the operating air carrier, reporting incidents on regional or commuter air carrier as mainline incidents would be neither accurate nor transparent. While the Competitiveness and Viability Subcommittee was unable to reach agreement on how to report these incidents, it recognized the ongoing efforts by the DOT and other agencies to ensure timely and accurate information for consumers.

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<sup>19</sup> One means of accomplishing this would be to use a reporting threshold based on the number of annual departures (flights) instead of percentage of passenger revenue, especially because mainline air carriers collect passenger revenues on behalf of their regional air carrier partners.

## **RECOMMENDATION 12—INTERMODALISM**

The Secretary of Transportation should—

- Examine the Essential Air Service program (EAS) and identify multimodal service opportunities for EAS-eligible communities.
- Recognizing that modernization of the Air Traffic Control (ATC) system is the highest priority, recommend that legislation establishing an infrastructure bank, or any appropriate infrastructure legislation, give priority consideration to projects that link airports with other forms of transportation, such as rail and transit, to create transportation hubs that serve multiple cities. This consideration should not result in the diversion of any funds from ATC modernization efforts, and should be done in conjunction with appropriate environmental and cost-benefit analysis. Transportation providers, including airports, could compete for funding to build the airport-link system.
- Establish a task force on intermodalism, including representatives from all modes of transportation, including aviation, to examine the status of efforts to remove barriers to intermodalism, make recommendations about advancing projects that achieve the movement of passengers and goods in a multi-modal fashion, and document the benefits of intermodalism. Benefits and costs should be measured at the overall transportation system level.

## **PROBLEM/CHALLENGE**

The Intermodal Surface Transportation Efficiency Act of 1991<sup>20</sup> called for the development of a national intermodal transportation system that is environmentally sound, provides the foundation for the United States to compete in the global economy, and will move people and goods in an energy-efficient manner. In a 2007 report, the FAA's Future Airport Capacity Task team found that "[t]he demand for travel in high-density corridors may require consideration of high-speed ground modes as well as short-haul air travel. . . . In order to adequately plan for airport and multi-modal transportation improvements and infrastructure investment . . . it will be necessary to better understand the travel behavior and options for accommodating demand in the country's busiest travel corridors."<sup>21</sup> Finding a viable solution is made even more critical given that the changing competitive structure of the U.S. air carrier industry is likely to transform travel habits of residents of small and rural communities.

Today, there are Federal programs to address the availability of intermodal-transportation options and alternatives, as well as access to the aviation-transportation system by small and rural communities. However, because of insufficient funding levels, regulatory restrictions, and environmental challenges, these programs have not adequately addressed the problem.

In some cases, the air carrier industry has taken it upon itself to work with other modes of transit to move passengers more efficiently. For example, Continental Airline's bus from

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<sup>20</sup> See Pub. L. No. 102-240 (codified as amended in scattered sections of 23 U.S.C.), § 5001.

<sup>21</sup> MITRE Corporation, Center for Advanced Aviation System Development, "Capacity Needs in the National Airspace System," 2007-2025 (FACT 2), p. 22 (May 2007).

Allentown, Pennsylvania, to Newark Liberty International Airport, Newark, New Jersey, is a model for successful short-haul, non-air connections. Continental also has a code-share arrangement with Amtrak on the Northeast Corridor serving Newark, New Jersey. Finding a viable solution is made even more critical given that the changing competitive structure of the U.S. air carrier industry is likely to transform travel habits of small and rural communities.

The United States benefits from extensive airport, highway, rail, and ferry systems. Additionally, development of high-speed rail (HSR) systems is anticipated within the next decade. Often, however, these transportation systems fail to complement one another, resulting in the inefficient movement of people and goods. By contrast, in Europe, the French Government committed funds to construct an HSR station near Paris-Charles de Gaulle Airport (CDG) 23 years ago. Today, direct high-speed train service connects more than 65 European cities to CDG, and 12 percent of the connecting traffic at CDG now accesses the airport via long-distance rail rather than short-haul train. By 2020, the airport operator expects this number to increase to 20 percent.

Unlike CDG, most U.S. airports are not near Amtrak or other rail corridors. However, relatively short connections could serve many passengers. The volume of ridership that these rail lines would generate is generally not significant, so they do not compete well against traditional commuter rail projects for Federal Transit Administration (FTA) funding, nor would they fare well in an FAA Benefit-Cost Analysis. The Competitiveness and Viability Subcommittee members suggested considering projects that can effectively provide short-haul connections from small communities to hub airports.

In addition, a 2007 GAO study found that, according to Federal, state, and local officials, and published studies, there are three key barriers that inhibit intermodal transportation:

1. Limited Federal funding targeted to such projects, in part due to statutory requirements;
2. Limited collaboration among the entities and jurisdictions involved; and
3. Limited ability to evaluate the benefits of such projects.<sup>22</sup>

These significant obstacles prevent the United States from implementing a true national intermodal transportation system.

## **RATIONALE**

Small communities should be able to access airports with service to multiple destinations. However, this access should be cost-effective and as energy efficient as possible. Airport rail links often do not generate enough ridership to compete with commuter lines for scarce FTA grants. While there has been much discussion about intermodalism, there are only limited examples of success. A fresh dialogue about intermodalism should involve all stakeholders.

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<sup>22</sup> See U.S. Government Accountability Office (GAO), "INTERMODAL TRANSPORTATION: DOT Could Take Further Actions to Address Intermodal Barriers," GAO-07-718 (June 20, 2007).

### **RECOMMENDATION 13—ESSENTIAL AIR SERVICE REFORM**

The Secretary of Transportation should—

- As an interim measure, limit the communities within the contiguous 48 states that are eligible for air service subsidies to those that were receiving it on a date specified in 2010.
- Update the criteria for EAS eligibility, recognizing there are communities that are or can be efficiently served by other modes of transportation through “leakage” to nearby airports that provide good connections and low-fare service, or intermodal transportation services.

The FAAC recognizes the increasing importance of intermodal solutions to connect small and rural communities to the national air transportation system. The FAAC therefore recommends that the Secretary implement its recommendations on intermodalism expeditiously to support these related recommendations on EAS reform.

### **PROBLEM/CHALLENGE**

There are many communities (particularly in Alaska and other rural areas throughout the country) in which air carrier subsidies continue to be justified under the EAS program created in 1978. However, many other communities adequately served by nearby airports and other modes of transportation are benefiting from government subsidized air service. Funds used for subsidization of service to these communities could be spent more wisely.

### **RATIONALE**

Because the EAS program allocates subsidies for more than 150 communities, it has become a politically sensitive issue. The FAAC recognizes that reform of the EAS program must come through congressional revision of the eligibility criteria.

## **RECOMMENDATION 14—JET FUEL PRICE VOLATILITY**

The FAAC was unable to reach consensus with respect to the role that investor actions and speculation have played in the drastic fluctuations in oil prices over the last few years, a subject on which outside experts also disagree. Nevertheless, pursuant to DOT’s statutory mission of “promoting, encouraging, and developing civil aeronautics as a viable, privately-owned United States air transport industry,”<sup>23</sup> the committee believes that the Secretary should—

- Continue to be formally involved in the U.S. Commodity Futures Trading Commission (CFTC) rulemaking process to provide any information that might be helpful in the CFTC’s investigation into the impact of investor and speculative activity on the price of oil.
- Communicate to the CFTC the economic stress imposed on the industry by fuel price volatility.
- Support responsible regulatory intervention to reduce the volatility attributable to such speculative activities if the CFTC concludes that investor activity or speculative trading of oil futures has played a significant role in price volatility.

Jet fuel price and supply volatility can result not only from oil price fluctuations, but also from disruptions in the downstream production and distribution of aviation fuels. A number of major metropolitan areas and major airports have limited and aging infrastructures for the distribution of jet fuel. In addition to oil price volatility, these weak links in the distribution network create additional threats to the economic health of the commercial air carrier and GA industries. The FAAC believes that the Secretary of Transportation should undertake a study on the state of our nation’s downstream infrastructure—both on and off airport—for storage and distribution of aviation jet fuels.

## **PROBLEM/CHALLENGE**

A central challenge to the U.S. air carrier industry is the volatile price of jet fuel. As fuel price escalation intensified in the first quarter of 2008, the portion of a passenger fee allocable to the purchase of fuel exceeded 40 percent, compared to less than 15 percent in 2002.<sup>24</sup> Significant fuel-driven losses led to numerous U.S. air carrier bankruptcies and capacity reductions. During the fuel price spike from the end of 2007 through September of 2008, 10 domestic air carriers went out of business and 2 filed for bankruptcy protection under chapter 11, 11 U.S.C. §§ 1101–1174 (2009).<sup>25</sup> All but 6 of the FAA’s 67 designated large- and medium-hub airports experienced a decrease in domestic departures in the fourth quarter of 2008 compared with the fourth quarter of 2007.<sup>26</sup>

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<sup>23</sup> 49 U.S.C. § 40101(a)(14).

<sup>24</sup> See Air Transport Association (ATA) quarterly airline cost index, reflecting system wide (domestic and international) operations.

<sup>25</sup> MAXJet, Big Sky, Aloha, ATA, Skybus, Eos, Champion, Air Midwest, Vintage Props & Jets and ExpressJet all ceased operations; Frontier and Gemini Air Cargo filed for chapter 11.

<sup>26</sup> See Seabury APGD at airline schedules (July 25, 2008) and Federal Aviation Administration.

Fuel efficiency for U.S. air carriers has continuously improved, including a 24 percent increase from 2000 to 2007 and a 110 percent increase from 1978 to 2007.<sup>27</sup> While the U.S. air carrier industry can adapt to higher energy prices over time, the industry cannot respond quickly to short-term price volatility, as evidenced in 2008. Another spike comparable to 2008 would likely result in additional bankruptcy filings by U.S. air carriers, lost U.S. air carrier industry jobs, and a reduction in air service on less-profitable routes, thereby harming airports and surrounding communities.

## **RATIONALE**

The Dodd-Frank Wall Street Reform and Consumer Protection Act directs the CFTC to set aggregate position limits on speculative trading and requires derivatives to trade on exchanges with real-time reporting.<sup>28</sup>

The committee is aware that the DOT had earlier filed comments with the CFTC, documenting the adverse impact of fuel price fluctuations on the transportation industry and stating it would support remedial measures if speculative investing were determined to be responsible in part for the volatility. The FAAC believes that the Secretary of Transportation should continue to play a lead advocacy and regulatory role, where appropriate, within CFTC rulemaking, given the DOT's statutory mandate of ensuring a stable transportation infrastructure.

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<sup>27</sup> Based on passenger and revenue ton miles (RTMs) in all services for U.S. passenger and cargo airlines operating worldwide. Source: ATA analysis of DOT Form 41 traffic data (T2-Z240) and gallons (T2-Z921).

<sup>28</sup> See Pub. L. 111-203 (2010).





# LABOR AND WORLD-CLASS WORKFORCE

## RECOMMENDATIONS

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### **RECOMMENDATION 15—SCIENCE, TECHNOLOGY, ENGINEERING & MATH (STEM) EDUCATION PROGRAMS**

The Secretary of Transportation should ensure coordination and focus within the Department of Transportation (DOT) on workforce development of STEM as a centralized and focused top-tier initiative of the DOT. The Secretary of Transportation should assign the Assistant Secretary for Administration the task of developing, overseeing, coordinating, implementing, and integrating a strategic workforce development plan that includes STEM education programs and activities for the current and future workforce. A strategic plan would identify—

- a) Key strategies and program areas for outreach to students of all ages;
- b) Subject areas for current and future workforce development that support future DOT needs (such as FAA-centric skills in a NextGen environment);
- c) Opportunities for professional and management intern/fellowships with the DOT and its agencies; and
- d) Partnerships with industry that foster innovation and collaboration.

Additionally, the Future of Aviation Advisory Committee (FAAC) recommends the creation of an advisory council comprised of outside experts, focused on aviation and aerospace, who can provide expertise to help identify, align, and coordinate efforts on workforce development and STEM education within the DOT.

Additionally, the FAAC encourages greater collaboration and coordination with the DOT on STEM and workforce development. For example, a transportation workforce development office within the Research and Innovative Technology Administration could be instrumental in fostering broader cooperation throughout the DOT on workforce development initiatives, as well as between programs like the University Transportation Centers and the FAA Centers of Excellence.

**Educational Outreach and Recognition:** The Secretary of Transportation should take steps to increase outreach to educational institutions from pre-kindergarten to institutions of higher education. The goal is to raise the visibility and profile of aerospace and aviation by enhancing existing programs to develop or expand aerospace and aviation education programs geared to support the future needs of aviation and aerospace, including implementation of NextGen technologies. The Secretary of Transportation should also consider improving programs and connections with non-profit, independent, and for-profit 2- and 4-year educational institutions (including community colleges) that give students hands-on experience applicable to the aviation and aerospace workplace. Finally, the Secretary of Transportation should establish an award for innovation to recognize persons, businesses, or organizations that develop unique scientific and engineering innovations in aerospace and aviation (similar to the Baldrige award for quality or the Collier Trophy for aircraft).

**Interagency/Intergovernmental Collaboration:** The Secretary of Transportation should work with the Secretary of Labor as an integral part of the Interagency Aerospace Revitalization Task Force, originally established in 2006, to implement a national strategy focused on recruiting, training, and cultivating the aerospace workforce. The task force should incorporate core manufacturing business concepts and principles, such as lean manufacturing, operational excellence, continuous process improvement, etc., into the workforce development process to ensure the United States can compete in the global manufacturing marketplace that underpins the success of our aviation industry. Additionally, the Secretary of Transportation should work with the Department of Education to provide resources that would create state-of-the-art STEM elementary and secondary educational facilities.

## **PROBLEM/CHALLENGE**

Several high-level reports issued by government, industry, and independent commissions and task forces over the past decade consistently highlighted the need for both significantly-improved STEM education and an emphasis on developing the U.S. workforce to meet the challenges of the future workplace. For the United States to remain competitive and a leader in the global aerospace and aviation marketplace, U.S. workers must be educated, trained, and prepared for the work of the future. The Federal Government has invested billions of dollars in hundreds of programs to encourage STEM efforts from pre-kindergarten/early childhood to post-secondary education. There are more than 50 STEM-related activities within the DOT and approximately 40 within the FAA. However, these programs are often fragmented and decentralized and in need of greater coordination and focus across the Government.

Many U.S. companies report moderate to serious skills shortages among the current workforce. According to the National Association of Manufacturers, for every 100 9th graders, only 68 graduate on time. Of those 68 graduates, 40 enroll directly in a college, 27 of the 40 remain enrolled the following year, and just 18 earn a degree. The number of new graduates entering STEM careers is even smaller.<sup>29</sup> The United States faces an aging science and engineering

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<sup>29</sup> Building a Technical Workforce for Manufacturing Competitiveness (February 21, 2010), Presentation by Emily Stover DeRocco, President, The Manufacturing Institute, Retrieved from: <http://institute.nam.org/view/2001005206352027303/info>

workforce and retirements will be a significant factor over the next decade. Marion Blakey, President and chief executive officer of the Aerospace Industries Association, reported in 2007 almost 60 percent of the U.S. aerospace workforce was 45 years old or older, and many will be eligible to retire in the near future.<sup>30</sup> The FAA has forecasted a decreasing number of pilots<sup>31</sup> and the Boeing Company has projected that more than a million pilots and maintenance personnel will be required over the next 20 years to meet the demand of the worldwide aviation marketplace.<sup>32</sup> As the shrinking STEM workforce is aging, the number of U.S. workers with STEM degrees has declined. The National Science Board reports that 33 percent of all U.S. STEM doctoral students in U.S. universities are foreign students on temporary visas, and 57 percent of U.S. postdoctoral fellows in STEM fields hold temporary visas<sup>33</sup>. However, advanced skills will be required to meet the technological challenges of the future. The United States will have to do much more to prepare the next-generation workforce to be able to perform the scientific and engineering skills necessary to ensure the country remains competitive in the world and to meet expected workforce shortfalls in STEM-related fields.

However, ongoing efforts to address STEM education and training do show great promise. The President's Council of Advisors on Science and Technology recently recommended greater Federal coordination and leadership on STEM education, as well as transforming K-12 education to better prepare and inspire students.<sup>34</sup> The Federal Highway Administration's Garrett A. Morgan Technology and Transportation Futures Program provides grants to state and local education agencies to prepare students, particularly women and minorities in STEM through curriculum development and other activities related to transportation. The STEM Education Coalition and many aviation and aerospace companies have taken proactive measures to reach out to students of all ages to develop programs encouraging greater interest in the aviation and aerospace industries and participation in STEM activities. For example, as part of the Public Education Needs Civic Involvement in Learning program based in New York City, JetBlue Airways has partnered with the Adam Clayton Powell Jr. Elementary School in West Harlem, to build a professional development program designed to retain new teachers and support the school staff. According to a June 2008 survey, the Aerospace Industries Association found that 91 percent of aerospace companies offer or support some kind of STEM program, with internships as the most popular.<sup>35</sup>

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<sup>30</sup> Retrieved from: [http://www.aia-aerospace.org/issues\\_policies/workforce/facts/](http://www.aia-aerospace.org/issues_policies/workforce/facts/)

<sup>31</sup> "FAA forecasts dwindling student pilot numbers" By Ian J. Twombly, AOPAOnline. March 15, 2010 Retrieved from: <http://www.aopa.org/training/articles/2010/100315forecast.html>

<sup>32</sup> "Boeing Projects Requirement for More Than One Million Pilots and Maintenance Personnel Over Next 20 Years" Samantha Solomon, Flight Services Communications, Boeing Company News Release, September 15, 2010. Retrieved from: <http://boeing.mediaroom.com/index.php?s=43&item=1424>

<sup>33</sup> National Science Board. (2010). Higher education in science and engineering. In *Science and engineering indicators 2010* (chapter 2, pp. 25, 31). Arlington, VA: National Science Foundation. Retrieved from: <http://www.nsf.gov/statistics/seind10/pdf/seind10.pdf>.

<sup>34</sup> Report to the President, Prepare and Inspire: K-12 Education in Science, Technology, Engineering, and Math (STEM) for America's Future, President's Council of Advisors on Science and Technology (PCAST), September 2010. Retrieved from: <http://www.whitehouse.gov/administration/eop/ostp>

<sup>35</sup> "Launching the 21st Century American Aerospace Workforce: A Special Report." Aerospace Industries Association. December 2008. p. 34.

## **RATIONALE**

Our goal is to grow a STEM literate workforce in which students are career-ready and workers can engage in interdisciplinary interactive training. Neither the aviation industry nor government alone can make this happen. A robust discussion is needed between educators and employers who will be hiring workers to identify and align the skills needed by industry with the curricula and capabilities that students need to learn.

Raising the profile and visibility of STEM issues is a critical piece to providing leadership on creating a workforce prepared for the future. We support the DOT Research and Innovative Technology Administration's ongoing efforts to develop a diverse and collaborative workforce and encourage the continued pursuit of STEM workforce initiatives and collaboration on transportation workforce development. Additionally, providing a central point of focus within the Office of the Assistant Secretary for Administration would not only allow for coordination but also the creation of an overarching strategic plan to infuse and integrate STEM as a key competency throughout the DOT. A council of advisors from outside the government would provide guidance, perspective, and advice on an ongoing basis to ensure that the focus on STEM remains robust and relevant with non-government entities. With STEM as a priority, and a strategic plan in place, the DOT can build the partnerships both inside and outside government that will link STEM education and training with STEM opportunities in government and industry.

Finally, the Interagency Aerospace Revitalization Task Force is an entity with a charter, membership, and structure already in existence. However, the task force has not been active in recent years. This task force has the potential to strengthen the relationship between government agencies on STEM, provide the coordination of resources for education, training, and certification programs, and develop integrated Federal policies that further promote STEM. Given the priorities and expertise in aviation, the DOT is a natural fit for taking a leadership role with the Department of Labor on this Task Force and ensuring proactive Federal support to revitalize aerospace in our nation, as well as institutionalizing the Task Force so that it continues its critical work over the long term.

## **RECOMMENDATION 16—STATE OF LABOR/MANAGEMENT RELATIONS**

The Secretary of Transportation and aviation industry experts need to recognize that a new approach to solving traditional labor-management differences is required to provide a stable and efficient air transportation system that serves the best interests of the U.S. public. The Dunlop Commission Reports Review Committee (Dunlop II), an independent joint labor-management committee, was established in September 2009.<sup>36</sup> Part of its goal was to find ways to improve the mediation process and delivery of mediation services. Dunlop II issued its final report in April 2010. The Dunlop II recommendations addressed the various challenges faced in collective bargaining today—not only through improvements in the mediation process, but also through providing suggestions on how labor and management could work together more closely. These recommendations are in the very early stages of implementation and some remain unaddressed.

The FAAC recommends that the DOT urge the National Mediation Board (NMB) to implement the Dunlop II recommendations. The Secretary of Transportation should also advocate for adequate funding and resources to implement these recommendations.

### **PROBLEM/CHALLENGE**

The state of labor-management relations today is at a low point, and a considerable sense of distrust exists between labor and management representatives. The result is the inability to accomplish negotiations or other discussions that would ultimately advance the interests of all stakeholders, result in a better workplace, provide employees dignity and respect, and stabilize and grow the industry—all while benefiting the U.S. economy and the traveling public. This state of labor-management relations is the direct result of a tumultuous decade marked by external events that led to the financial distress of air carriers and the near collapse of the entire aviation industry. This included the terrorist attacks of 9/11, economic recessions, wars in Iraq and Afghanistan, highly volatile fuel costs, bankruptcies, and the SARS and H1N1 pandemics. As a result, the majority of air carrier workers were forced to endure 30-45 percent wage reductions, significantly longer working hours, the loss of pension plans, and truncated or stagnant careers. Most air carriers slashed their workforce by 30-40 percent and many legacy air carriers still have thousands of furloughed employees 9 years after the 9/11 attacks.

As the workforce recovers from the personal financial tragedies of this past decade and enters into negotiations defining the future, not only is there significant distrust between labor and management, but many other factors hinder a productive relationship between the air carriers and labor. Both sides must reach comprehensive solutions on difficult issues that are core to their stakeholders. The past decade has imposed extraordinary sacrifices on labor. A way to bridge these differences is to facilitate relations through a reinvigorated and properly resourced NMB.

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<sup>36</sup> Dunlop II followed the Commission on the Future of Worker-Management Relations (the Dunlop Commission), which issued its report (Dunlop I) in December 1994.

Few negotiations conclude outside the purview of the NMB because the parties historically have been unable to resolve a myriad of complex issues and differences. The NMB provides key mediation services that can facilitate complex and emotional negotiations. The NMB is under-resourced, and is currently dealing with over 90 cases, 57 of which involve air carriers. This is a historically abnormal case load.

The NMB's staff and resources are inadequate to process the number of cases before it. The NMB's budget has been frozen for the last 3 years, and more mediators are needed to effectively and productively deal with the various negotiations.

Given the overwhelming number of cases before the NMB, and the complexity of the issues to be resolved, the process takes an unacceptable amount of time before reaching a conclusion. Between 2004 and 2008, the average length of time a case was in mediation was 758 calendar days. During this time, it became clear that negotiations often went through several bargaining rounds with no progress, and changes to how the NMB handled negotiations were needed. Not only was it necessary to review the mediation process and identify areas for improvement, but it was also necessary to reconsider the roles of the parties to the negotiations. This led to the formation of Dunlop II.

## **RATIONALE**

Composed of industry experts, Dunlop II did considerable research on the challenges of air carrier and rail labor negotiations. The group concluded by consensus its recommendations would address these issues and “result in a more effective and productive mediation program that consistently achieves the goals and policies of the Railway Labor Act of 1926, chapter 8, 45 U.S.C. (2007) and of the NMB.”<sup>37</sup>

The FAAC believes in fully implementing the Dunlop II recommendations. Addressing these issues will result in a reduced backlog of cases, improved negotiations and outcomes for all stakeholders, improved labor-management relations, a more stable and viable industry, an industry that fosters dignity and respect in the workplace, and a more efficient and stable air transportation system.

The Dunlop II recommendations include—

- Establishing a new Case Management System that requires development of a plan by the parties to a negotiation and the NMB for each case that “would address issues in dispute in a timely manner and establish a framework for reaching resolution.” Such a system would ensure that the mediator, the Board Members, and other staff are all coordinating appropriately on each individual case.
- Ensuring the NMB has the resources necessary to carry out its goals. This includes resources necessary to hire additional mediators. Furthermore, the Board needs to increase efforts in recruiting the best-qualified candidates with relevant experience to ensure effective delivery of mediation services.

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<sup>37</sup> Report of the Dunlop Committee to the National Mediation Board, April 16, 2010, p.6.

- Ensuring that mediators are provided with comprehensive training and education, as well as the tools necessary to make them more effective. Dunlop II noted that the training for mediators is inadequate and needs to be improved. The committee identified specific recommendations on types and sources of training.
- Encouraging the NMB to establish more formalized outreach programs to all constituents. The goal of these outreach programs is to encourage a more constructive dialogue between all parties in which issues of concern can be addressed outside the negotiations setting. The Board could take the lead to facilitate this promise. This outreach process outside the negotiations process could result in improved labor-management relations.

The FAAC recognizes that a government agency alone cannot improve labor-management relations and create a more stable, content workforce. However, the parties themselves need to be proactive and agree that the ultimate goal is to foster a workplace environment that provides stability for all involved. Not only do workers need to earn fair wages and benefits, and secure acceptable working conditions and job security, but they need a financially viable and competitive employer. U.S. citizens need a stable, efficient, and reliable air transportation system that serves the needs of the traveling public while promoting enhanced commerce.



## **RECOMMENDATION 17—WORKFORCE/MANAGEMENT CONFERENCE**

The Secretary of Transportation should endorse and implement a semi-annual Aviation Industry Workforce-Management Conference beginning in September 2011. The mandate of the conference would be to bridge the gap of information and understanding that generally exists today between the aviation workforce and its management, with the ultimate goal of a healthier industry for all.

### **PROBLEM/CHALLENGE**

The range of issues confronting air carrier workers represents a vast, complicated, emotional, and at times contentious debate. The Competitiveness and Viability Subcommittee has discussed several controversial issues, and has uncovered common ground in some contentious areas, while finding other areas remain more polarized and without any agreement. These topics of debate are fundamental to the aviation industry and its workforce. Examples include—

- Outsourcing of aviation functions and jobs,
- Aviation safety and security oversight, and
- Protection of U.S. jobs under international alliance arrangements.

Despite a lack of concurrence, the FAAC believes there would be real value to greater exploration of these issues, as well as best practices within the aviation industry. Deeper discussion and closer communication could lead to greater mutual understanding and movement toward consensus.

### **RATIONALE**

The traditional business model in which workers work and managers manage has created a chasm of misunderstanding in the aviation industry, and this division has grown in the aftermath of deregulation and subsequent challenges. From the employee perspective, jobs are in constant flux, pay and benefits continue to regress to the mean, and concerns about inflation and job security have been dismissed in the interest of creating shareholder value. The management view can be summarized by the quandary that while employee satisfaction is a significant concern, the company must first survive, and then succeed in a hyper-competitive landscape. The first problem is contingent on the second: without success there can be no shared success. Employees who are not engaged or educated in the business do not understand the business case. Managers are largely unaware they have an available, untapped resource that is capable of understanding the business, expert in its fields, and responsive when a case for enlightened self-interest is made. The parties can find substantive common ground and make real progress if they give these issues proper consideration and if they have the opportunity and the forum to learn from each other. Case studies and best practices should be a core component of the summit.

# AVIATION SAFETY

## RECOMMENDATIONS

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### **RECOMMENDATION 18—LEGAL PROTECTION OF VOLUNTARY SAFETY DATA AND INFORMATION**

The Secretary of Transportation should seek comprehensive legal protections for participants in voluntary and mandated safety management system (SMS) safety data programs to ensure the programs' continued benefits to safety. The Secretary of Transportation should pursue essential legislative action that is vital to provide ongoing protection of safety information sharing systems in the United States, and work with Congress to introduce such legislation at the earliest possible opportunity.

### **PROBLEM/CHALLENGE**

Comprehensive legal protection of safety data and information is needed to ensure ongoing and robust safety improvement in the aviation system. The free flow of safety data and information is critical to determine the causes of accidents and prevent recurrences in the future, especially as the Federal Aviation Administration (FAA) transitions from accident diagnostics to prognostics and prevention. The proactive collection, sharing, and analysis of this data by industry stakeholders should not be threatened by the potential use of the data for non-safety purposes, such as civil or criminal litigation.

### **RATIONALE**

The commercial aviation accident rate has declined dramatically over the past two decades. Much of this improvement came from a process of forensically understanding the causes of accidents and deploying changes to rules, training, and other aspects of operation to prevent such accidents from recurring. In recent years, the aviation industry has built a growing reliance on FAA-approved voluntary safety reporting programs, such as Flight Operations Quality Assurance and Aviation Safety Action Program (ASAP), to proactively spot trends and apply mitigations to prevent future accidents. The FAA has established these voluntary programs to provide incentives for certificate holders to correct their own instances of safety lapses and noncompliance, and to invest more resources in efforts to preclude their recurrence.<sup>38</sup>

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<sup>38</sup> More information on FAA voluntary programs can be found at [http://www.faa.gov/about/office\\_org/headquarters\\_offices/avs/offices/afs/afs200/branches/afs230/descriptions/](http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs200/branches/afs230/descriptions/)

Accidents and safety issues are always the source of vigorous litigation, media attention, and public inquiries. If voluntarily submitted data and information becomes subject to discovery in those proceedings, the information will not be forthcoming for obvious reasons. The data and information analyzed in these programs are generally de-identified (that is, removing specific information such as date and flight numbers). However, if sources of the data—whether individuals, companies, or unions—suspect their reports could be used for reasons other than safety improvement, participation in the programs will diminish, as will the safety improvements that flow from the information.

The FAA, under the provisions of Title 14, Code of Federal Regulations (14 CFR) part 193, protects voluntarily provided safety data and information from use in enforcement action and from disclosure under the Freedom of Information Act (FOIA) of 1966 (§ 552, 5 U.S.C.). However, this does not adequately protect such information from other threats, such as use in civil or criminal litigation. The Flight Safety Foundation cites that a District Court Magistrate ruled in the case on the accident of Comair Airlines flight 5191 in Lexington, Kentucky, “no statutory or regulatory privilege prevented disclosure of Comair’s ASAP reports, and no common-law or self-critical analysis privilege protected them either.”<sup>39</sup>

Participation in voluntary programs has grown slowly, and only with trust that the information provided will not be misused. The voluntary programs are fragile systems that require vigorous protection, as any breach of trust could cause the collapse of current information-sharing agreements.

The FAA promulgated a notice of proposed rulemaking on November 5, 2010, to require each air carrier operating under 14 CFR part 121 to develop and implement an SMS to improve the safety of its aviation-related activities. In addition, the preamble states that the FAA has developed the general SMS requirements with the intent that in the future, the requirements could be applied to other FAA-regulated organizations, such as 14 CFR part 135 operators, part 145 repair stations, and part 21 aircraft design and manufacturing organizations.

To enhance aviation safety through an SMS approach, there must be a free flow of safety ideas and information among certificate holders, between certificate holders and regulatory authorities, and throughout the industry responsible for design, manufacture, maintenance, and operation of aircraft. However, the development, analysis, documentation, and availability of shared safety information will be inhibited if there is potential that it may be used for other purposes, such as out-of-context exposure through the media, admissions in criminal or administrative prosecution, or use in civil litigation.

Inhibition of the development and flow of safety information conflicts with the objectives of an SMS and as a result, certain safety risks and hazards may not be pursued. As discussed previously, the free flow of safety information is critical to determine the cause of or precursors to accidents to prevent recurrences in the future. In addition, the understanding of risk gained from linking safety data may not occur.

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<sup>39</sup> Bill Voss, Flight Safety Foundation, presentation to Future of Aviation Advisory Committee, Safety Subcommittee, Chicago, Illinois, August 24, 2010.

Whether safety information is the result of voluntary or mandatory programs, it is important to distinguish between unintentional errors and willful acts. Intentional acts should not be protected from civil and/or criminal legal proceedings. However, punishment of (unintentional) errors does not deter future errors because the individuals involved believed that they were taking appropriate actions when the error occurred. Any misuse of safety information will only inhibit the sharing of safety information and prevent a robust safety culture throughout the aviation industry.

## **RECOMMENDATION 19—PREDICTIVE ANALYTIC CAPABILITIES FOR SAFETY DATA AND INFORMATION**

Beginning with the Fiscal Year 2012 budget for the FAA, the Secretary of Transportation should provide focus, priority, and resources to develop improved tools and methods that will provide a robust predictive safety-risk discovery capability for the aviation industry.

### **PROBLEM/CHALLENGE**

The aviation industry and the FAA must apply adequate resources, personnel, and organizational focus to enhance government and industry ability to analyze the data collected from voluntary safety programs. This data will be used to identify risks of future accidents, and make appropriate risk-mitigating decisions. Advanced analysis tools and methods must be developed to support the activity, so that safety issues can be anticipated. Modeling and simulation capability must be developed and used in parallel with these analysis tools. Development of these processes will require resources, people, and technology beyond that currently in place.

It is essential the FAA and the aviation industry ensure that analysis and data-driven results from safety information analysis programs be coupled with effective joint industry and FAA implementation activity, such as the Commercial Aviation Safety Team (CAST), to develop effective mitigations and implementation strategies to improve aviation safety for the flying public. As these capabilities develop, the government-industry partnerships will need to assess their processes and organizations for making decisions based on risk discovery. Current processes are geared toward a culture of “looking back” at past events. Looking forward without accident/incident events is a different cultural undertaking, including the process of deciding what actions to take to mitigate yet-unrealized risks.

### **RATIONALE**

The joint industry and FAA Aviation Safety Information Analysis and Sharing program (ASIAS) has produced exciting initial safety results. Although in their infancy, these prototype programs have demonstrated the value of using safety information to measure known problems and the solutions designed to mitigate them to produce initial measurements of the system safety baseline. While these programs are encouraging, they must expand, accelerate, and mature to include the true capability to identify and mitigate future and emerging safety risks and provide improved safety for the flying public.

As these forward-looking analytical capabilities mature, the FAA and aviation industry will also need to transform the decision-making process stemming from these analyses. Currently, the decision paradigm relies on results from past accidents to assess and value the benefit of a proposed change. With a declining occurrence of accidents, and a transformation to accident prevention, there is a need for a new way to evaluate and prioritize changes in the aviation system based on future risk rather than past occurrence. The resultant decision models need wide use by government and industry.

## **RECOMMENDATION 20—EXPANDING SOURCES OF VOLUNTARY SAFETY DATA**

The Secretary of Transportation and the FAA Administrator, working with aviation system partners, other industry and government groups, and advisory committees, should identify potential new and valuable sources of safety data, and establish criteria for when those sources would begin and how they will be included in voluntary data-sharing programs.

### **PROBLEM/CHALLENGE**

Including additional constituencies as data providers to the ASIAs voluntary safety data programs can improve safety.

### **RATIONALE**

Additional stakeholders, such as maintenance workers, flight attendants, and airports should at some point be included in voluntary safety programs, as should more aspects of general aviation (GA). It appears that GA currently has no protections for voluntary data submissions. The only program available for GA is the National Aeronautics and Space Administration Aviation Safety Reporting System, and it does not necessarily yield the same types of data useful in identifying safety trends. The General Aviation Joint Steering Committee (GAJSC) is the GA version of CAST. If GA data is important for the safety equation, the GAJSC should be involved to help develop the metrics and processes to gather and analyze that data. GA should receive the same protections offered to commercial carriers for voluntarily submitted data. Another potential source of valuable information could be Aviation Rulemaking Committees (ARC), and other working groups that are, and will continue to be, involved in implementation of new operations procedures (such as the Required Navigation Performance (RNP) ARC).

## **RECOMMENDATION 21—NEXTGEN AND ENHANCED SAFETY PERFORMANCE**

The Secretary of Transportation should ensure that safety performance standards and training are embedded into NextGen planning, implementation, and monitoring.

### **PROBLEM/CHALLENGE**

NextGen is a comprehensive overhaul of the Nation's air traffic management system. As such, it offers significant opportunities to improve the safety of what is already one of the safest aviation systems in the world. While designing and implementing NextGen, government and industry must be mindful to systematically manage the inherent risks associated with introducing new technology into an existing operating system. The NextGen effort must include mechanisms and processes to ensure emerging risks are identified and safety enhancements are part of the upfront design and deployment.

There are tremendous opportunities to improve safety through more reliable and accurate technology, better operational procedures, and the use of information as NextGen expands our airspace capacity and efficiency. For example, the improved navigational, surveillance, and communications capabilities enabled by RNP/Area Navigation and Automatic Dependent Surveillance–Broadcast potentially can improve pilot and controller situational awareness and be used to reduce vertical, lateral, and in-trail separation standards, while also improving the level of safety currently provided. Similarly, airport surface management systems, which will be part of NextGen, will inherently enhance surface safety while simultaneously improving the efficiency of surface movements of aircraft and ground vehicles at airports. It is best to consider safety performance during a system's deployment rather than after.

In implementing this recommendation, the Future of Aviation Advisory Committee (FAAC) is mindful of the potential to duplicate a function already performed by an existing group or organization. The FAAC advises the Secretary of Transportation to ensure consideration of all elements of safety in the development of NextGen without adding unnecessary duplication of effort or bureaucracy.

### **RATIONALE**

Safety information from safety information sharing programs, such as ASIAs, should be used to inform and support NextGen program activities to enable the safe implementation of capacity, efficiency, and emission-reduction goals, and to measure improvements against system safety baselines.

## **RECOMMENDATION 22—IDENTIFICATION OF SAFETY PRIORITIES**

The Secretary of Transportation should promptly review the existing regulatory and safety initiative calendar to provide parameters and criteria for the FAA to prioritize its current and future rulemaking program. This review should include industry, or at a minimum seek industry input, and the results made publicly available. In addition, the Secretary should direct the FAA Administrator to review field safety and enforcement policies, procedures, and training to ensure they align with the SMS philosophies and supporting policies established by the FAA.

### **PROBLEM/CHALLENGE**

A fresh identification of priorities is needed to ensure that safety priorities are, in fact, driven by data and information, and that there is an overarching sense that the Government and industry are focused on the right issues first.

There are currently a significant number of scheduled and potential rulemaking initiatives before the FAA. These initiatives originate from legislation, National Transportation Safety Board (NTSB) recommendations, and other needs identified in the FAA and/or aviation industry. The rulemaking process takes time and resources, and the queue of potential rulemaking projects far exceeds the FAA capacity for action in a reasonable time period. In addition, there does not appear to be a universally understood methodology for the FAA to assess and sequence potential rulemaking projects across the entire organization in a manner that ensures the most effective projects receive the highest priority, especially in light of recent legislated projects with very short deadlines. In addition, it is not clear that research, development, and testing activities conducted by the FAA support the highest priorities.

A similar review in the 1990s with the start of the CAST process for prioritizing safety issues gave good results. The FAAC believes that another review of rulemaking initiatives is due. This review will have the benefit of not only focusing FAA efforts on the most critical safety issues, but also allowing the FAA to move forward on rulemakings that enhance regulatory efficiency and effectiveness.

The FAA's enforcement policies are uncoordinated with an industry moving rapidly to adopt SMS and the principles of data-driven risk identification, risk assessment, and risk mitigation. The FAA directs enforcement actions at regulatory non-compliance, but in an SMS environment, enforcement should be directed at the level of risk incurred by non-compliance. This will ensure the FAA directs finite resources most urgently toward resolving unacceptable levels of risk to aviation safety. The FAA should deal with regulatory noncompliance that does not incur risk to aviation safety differently than it deals with noncompliance that does. Failure to do so may result in confusion and waste of scarce resources by government and industry.



## **RATIONALE**

A variety of sources have inundated safety policymakers with direction to undertake a myriad of initiatives and rulemakings to further improve safety. There are currently numerous NTSB recommendations awaiting action; actions that are the subject of congressional legislation, hearings, and reports; reports and recommendations from the DOT Inspector General and the Government Accountability Office; and suggestions from within the FAA being examined for further implementation.

## **RECOMMENDATION 23—CHILD SAFETY ON AIRLINERS**

The Secretary of Transportation should—

- Use the full resources of his office to continuously educate the flying public about the dangers of flying with children on someone's lap.
- Update the economic and safety data concerning families traveling with small children, including incidents and accidents involving injuries and deaths.
- Based on the information provided by these findings, take necessary action, which may include a rulemaking or other appropriate next steps.

## **PROBLEM/CHALLENGE**

Scientific research has clearly proven the most effective way to protect infants and small children under the age of two traveling in commercial aircraft is in approved Child Restraint Systems (CRS), and that children carried on the lap of an adult are at high risk during extreme turbulence, emergencies, and accidents. Organizations ranging from the NTSB<sup>40</sup> to the American Academy of Pediatrics<sup>41</sup> and the Association of Flight Attendants<sup>42</sup> have supported mandating the use of approved CRS on U.S. flights.

## **RATIONALE**

The FAA's reasoning that mandating CRS will place an economic burden on some families, thereby forcing them to travel by car, is based on sincere concerns, but the research and data used are dated. The FAA should revise many of the assumptions used in its analysis to reflect changes made in air carrier pricing and car safety improvements over the last decade. In addition, many parents and caregivers may not be aware of the inherent dangers of traveling with unrestrained children in their laps, and the need for continuous education about this issue is critical.

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<sup>40</sup> See NTSB web site at [http://www.nts.gov/aviation/sr\\_a-95-51\\_diversion\\_analysis.pdf](http://www.nts.gov/aviation/sr_a-95-51_diversion_analysis.pdf) and <http://www.nts.gov/Pressrel/2010/100913.html>

<sup>41</sup> See AAP web site at <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;108/5/1218>

<sup>42</sup> See AFA web site at [http://ashsd.afacwa.org/?zone=/unionactive/view\\_article.cfm&HomeID=2777](http://ashsd.afacwa.org/?zone=/unionactive/view_article.cfm&HomeID=2777)



## OTHER AREAS OF SIGNIFICANT DISCUSSION

### OUTSOURCING

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One of the controversial issues on which it has not been possible to reach meaningful consensus or make comprehensive recommendation(s) is the outsourcing of aviation functions and jobs. Both company and workforce agree that safety and security are paramount to an air carrier. Both parties agree that outsourcing should not be done where it would compromise safety or security of the operation. Both parties also agree that job security and job satisfaction are important to employees, and that they are key components of customer service and satisfaction. In order to provide an environment where employees can achieve this job satisfaction and job security, air carriers must make wise business decisions, balancing employee and customer satisfaction.

### INDUSTRY POSITION

Outsourcing is a business strategy that allows an air carrier a choice of vendors not only in aircraft maintenance, but also in other areas including cabin cleaning, ramp operations, and reservations. Limiting or constraining the option to use outsourcing would be detrimental to the successful operation of most air carriers. While air carriers differ in the amount of outsourcing they do, all obtain services from outside vendors. Given the complexity of modern aircraft and today's intricate operations, air carriers cannot perform all the services they need to operate using in-house resources. This is the inescapable reality of contemporary commercial aviation.

The advantages of outsourcing go far beyond lower costs. The ability of air carriers to review options for services allows them to maximize value. Often these specialized services provide unusual expertise, better quality, faster turn times, economies of scale, and logistical considerations (such as minimizing ferrying of aircraft to limit maintenance out-of-service time). Multiple vendors drive competition, which in turn provides choice. Further, in situations where an air carrier may only have one flight per day, or in certain international cities where outsourcing is customary, it may make the most sense to outsource certain functions.

### WORKFORCE POSITION

Air carriers have recently used outsourcing as a systematic way to eliminate jobs and lower costs. Only one remaining U.S. air carrier performs its own heavy maintenance, a function that was once a source of thousands of quality jobs at U.S. air carriers. The remaining company adopted modern management techniques and has teamed with its workers to reduce costs and turn times, and to improve quality instead of shedding jobs. This approach is now engrained in the company's culture. Despite this demonstrated success, air carriers continue to outsource.

The cost savings of outsourcing are generally derived from lower-paying jobs with inferior benefits, resulting in a net degradation of pay and working conditions. The tools are available to meld good pay and benefits with competitive cost and high quality. Companies such as Ford, Harley Davidson, and Lufthansa Technik have achieved world-class standards by partnering with workers and adopting lean Six Sigma or other continuous improvement techniques rather than outsourcing jobs. However, U.S. air carrier management teams have been unwilling to consider

these successful methods. Instead, they have chosen to follow the simpler, more devastating path of outsourcing, which drives jobs from the industry not only in maintenance, but from most other ground functions as well. A more recent joint venture model that centers around trading flight operations services for marketing and ground handling services poses a new threat to U.S. pilot and flight attendant jobs. Choosing outsourcing as the first option, when it negatively affects lives and livelihoods, sends a message that air carrier employees are merely factors of production, and not valued as important industry stakeholders.

## **INCORPORATING CORE WORKERS' HUMAN RIGHTS CONVENTIONS INTO INTERNATIONAL AVIATION TRADE AGREEMENTS**

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### **WORKFORCE POSITION**

Global integration and consolidation of the industry could have positive effects for all stakeholders, broadly increasing prosperity and the ability to travel and make connections in our global community. Alternatively, it could become a means to reduce costs by shedding U.S. workers in favor of workers who are less expensive because they lack protection of even the most basic human rights at work. The latter outcome would harm not only the workers directly affected, but also the broader economy.

Aviation labor recommends that the Administration promote and encourage adherence to the International Labour Organization (ILO) Core Conventions and accompanying legal philosophies as a standard provision of all future Open Skies agreements entered into by the United States with ILO member states. In addition, aviation labor recommends that the Department of Transportation (DOT), when examining requests from parties to an international joint venture for antitrust immunity, consider whether the parties have entered into a framework agreement with the relevant global union federation that commits the parties to adherence to the ILO Core Conventions.

The ILO Core Conventions provide universally recognized standards for work with dignity in the context of a rapidly globalizing industry. Incorporating the Core Conventions into our international agreements will help stabilize the aviation industry by providing a universally accepted level playing field for international competition regarding labor standards that constitute fundamental human rights. It will play a vital role in helping to ensure that the rapid global integration of civil aviation helps U.S. industry attract and retain the world's best workforce, and that our workers—the people who actually make the planes fly—are not lost in a global degradation of workforce conditions.

The industry position, presented in the next section, misstates the purpose and function of both the ILO Core Conventions and this proposal. The Core Conventions are not only guidance for developing countries; they are binding on all ILO member countries, including the United States. Indeed, the discussion of ratification is a red herring, as even the analysis industry relies on acknowledges that “the core conventions address rights...that all ILO members are . . . constitutionally obliged to respect and promote, regardless of whether they have ratified them or

not.”<sup>43</sup> The proposal has nothing to do with ratification or other agencies with an interest in ratification. It simply advocates that the Administration apply to international aviation agreements the principles of core human rights conventions that the United States recognizes it is already bound to honor irrespective of ratification. The industry position also contradicts itself, claiming simultaneously that the United States already respects ILO conventions and that five of the eight Core Conventions conflict with U.S. law and practice. In fact, review of the analysis industry relies on confirms our previous advice to the Labor and World-Class Workforce Subcommittee that none of the claimed conflicts between the ILO Core Conventions and U.S. law and practice arise from the labor law governing the aviation industry. The proposal would not require renegotiation of existing Open Skies agreements; it calls for future Open Skies agreements to honor the human rights protected by the Core Conventions. Finally, the industry has provided no legal basis for its argument that the DOT may not consider among other factors whether an international joint venture seeking antitrust immunity has agreed with the relevant global union federation to honor core human rights.

## **INDUSTRY POSITION**

The ILO conventions are intended as guidance for countries with limited, undeveloped labor laws and practices. The United States has a mature and well-established system of labor laws and practices that already respect the underlying principles of the ILO conventions, including the freedom of association and collective bargaining, protection against child labor, and occupational safety, to name a few. The ILO standards, however, differ in some details from U.S. law, reflecting U.S. social and legal norms. Indeed, five of the eight ILO Core Conventions directly conflict with U.S. law and practice and would require significant changes to U.S. state and Federal law if ratified. The proposal also would have the DOT inappropriately intrude on the labor-relations process and the business judgment of air carriers by forcing them to agree with a “global union federation” to adhere to the ILO core conventions. The DOT does not have this authority. The recommendation would interfere with the Administration’s authority to negotiate Open Skies agreements, and could force the renegotiation of existing agreements, to the detriment of the public. It would have the DOT usurp Congress’ authority to ratify treaties; only two of the ILO core conventions have been ratified. The proposal would sidestep the interests of other Cabinet agencies in the Administration’s position on the ILO conventions. The DOT is not the only Cabinet department with an interest in the ILO conventions. Finally, the proposal’s assumption that forcing adherence to ILO standards will benefit U.S. workers and the public has not been debated, much less established, and therefore does not provide justification for this proposal.

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<sup>43</sup> United States Council of International Business, “Issue Analysis: U.S. Ratification of ILO Core Labor Standards.” (April 2007).

## **BANKRUPTCY CODE**

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### **WORKFORCE POSITION**

Proposed amendments to chapter 11, 11 U.S.C would reestablish collective bargaining as the primary means to make any changes to a labor contract and clarify that a union may seek damages from the employer, or strike, if the bankruptcy process results in forced changes to a collectively bargained agreement. Companies have exploited § 1113 as a business model of first resort to gain long-term economic concessions by gutting the wages and working conditions of air carrier and other employees. The current bankruptcy process enables employers to impose contract changes through the court and outside of the normal collective bargaining process. Recent bankruptcy court decisions have greatly loosened the standards for employers to force economic concessions from workers. As a result, employers have been able to breach their employees' contracts with impunity, and workers have lost critical leverage in the process, with grossly unfair results. Between 2000 and 2010, there were 50 bankruptcy filings by U.S. air carriers, with workers at nearly all of them taking severe wage cuts. Pilots gave up nearly \$30 billion in wage concessions and pilot wage rates decreased more than 40 percent at air carriers that filed under chapter 11. Air carrier employment is down 30 percent from the peak of May 2001.

The proposed Protecting Employees and Retirees in Business Bankruptcies Act of 2010 (introduced as S. 3033 and H.R. 4677, 112th Cong. (2011)) would increase the wage priority for employee claims, which has not been adjusted since it was adopted in 1984. It also clarifies the standards that bankruptcy courts must use under § 1113 to determine the outcome of a case concerning modification or rejection of a collective bargaining agreement. It directs courts to weigh in their § 1113 deliberations the ramifications that a reorganization plan will have for workers, including effects on wages, job security, health-care benefits, pensions and other retirement plans, and the legal requirement for adequate notice of job termination. The legislation also provides the courts with authority to examine or modify, in certain circumstances, executive compensation packages provided during or immediately after corporate bankruptcy. In addition, the legislation reestablishes collective bargaining as the primary means to make any changes to a labor contract. It also corrects recent erroneous court decisions, reestablishing previously long-settled law that a union may seek damages from the employer, or strike, if the bankruptcy process results in forced changes to a collectively bargained agreement. These critical reforms will promote bargaining, help restore battered employee morale and trust, and make labor a more effective partner in rebuilding the long-term financial health of air carriers.

### **INDUSTRY POSITION**

Bankruptcy is a highly complex and specialized area of law. Over many years and with significant input from knowledgeable experts, stakeholders, and government representatives, Congress has developed important substantive legal standards and procedures, as well as a series of priorities among creditors, to implement its policy judgments regarding debtor and creditor rights. These standards, procedures, and priorities carefully balance many competing interests, including of management and labor. Contrary to the views of some, the courts have not, on their own, loosened standards or strayed from Congress' legal and policy judgments. Rather, they

have implemented the law to permit enterprises to reorganize and make a fresh start, which Congress has determined is in the public interest. Changes to the Bankruptcy Code, Title 11, United States Code, particularly the substantive and extremely controversial changes to § 1113 contained in H.R. 4677 and S. 3033, would have dramatic and far-reaching consequences affecting not only air carriers, but many industries. The Future of Aviation Advisory Committee (FAAC) does not have the expertise or breadth of experience to identify all of the implications of the legislation supported by labor.

## **ENTRY AND CONTINUING FITNESS STANDARDS**

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### **WORKFORCE POSITION**

**New entrant requirements.** The combination of relatively low barriers to entry, availability of capital and easier ability to reach and sell their products to consumers via the Internet has made it much easier for startup air carriers to enter the industry. This has led to undercapitalized new entrants that are ill prepared to execute long-term business plans. These air carriers have a dramatic effect on pricing and force their established competitors to price irrationally to stay in the market. Over time, not only do some of these new entrants go out of business, but their irrational pricing and behavior leaves the industry in worse financial condition, as it forces other air carriers to cut prices at the expense of profitability. Many communities have been hurt when new entrants have gone out of business, eliminating or diminishing service to these communities. A recent example is Skybus, a carrier that began service out of Columbus, Ohio, in May 2007 and less than a year later shut down.

Therefore, the DOT should strengthen its requirements and perhaps focus closer on the European Union standards for new entrants. These standards should require new entrants to meet higher standards of viability, not just in areas of financial wherewithal (that is, proper capitalization), but also require that the entrant have a sound business plan that does not result in undercutting the rest of the air carrier industry and putting it and other air carriers at risk. Skybus' \$10 ticket prices were significantly below industry standard, and it is almost impossible to foresee how a capital- and labor-intensive industry such as this could be viable with such fares.

### **INDUSTRY POSITION**

The soundest way to enable the financial fitness of the U.S. air carrier industry is through governmental policies that, consistent with assuring the highest degree of safety, do not burden air carriers with economic regulation and tax and fee policies that hinder their ability to compete, and thereby best serve the traveling and shipping public. The DOT for many years has applied financial fitness criteria to those seeking to operate an air carrier that demand managerial experience, adequate financial wherewithal, and compliance disposition. Meeting these criteria protects consumer interests without erecting artificial barriers to entry or continuing operation as an air carrier. That is how it should be. Giving the DOT a regulatory tool as broad as “strengthening financial fitness” risks recreating a civil aviation regulator that ends up picking winners and losers, which is a result that will not benefit the consumer or enhance the overall health of the industry.



## SAFETY AND SECURITY OF CONTRACT MAINTENANCE FACILITIES

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### CONSUMER/WORKFORCE POSITION

Despite the FAA's commitment to one level of safety, there are currently two distinct sets of standards for the maintenance of U.S. aircraft. FAA-certificated repair stations in the U.S. must adhere to either Title 14, Code of Federal Regulations part 121 or 145. However, a significant number of non-certificated repair stations are legally performing work on U.S. aircraft in outsourced repair facilities in the U.S. and abroad. These non-certificated facilities are "black boxes" for aircraft maintenance. Moreover, foreign repair facilities are held to a different set of standards. Although some are also certificated under part 145, critical exceptions are made in personnel and security standards including background checks, duty-time limitations, and alcohol and drug testing. In recent years, outsourcing of aircraft maintenance has exploded while regulatory standards and oversight have stagnated. Academic research and case studies suggest a relationship between these changes and safety.<sup>44</sup>

Some of the regulatory gaps the FAA needs to bridge in order to achieve a single standard of safety include the following:

- Maintenance should not be performed on U.S. aircraft by facilities that are not certificated and by mechanics who are not licensed.
- Maintenance on U.S. aircraft should not take place in facilities where FAA inspectors do not have ready access or where the FAA does not send inspectors at the same rate or apply the same safety standards and criteria it does to other facilities.
- Maintenance on U.S. aircraft should not take place in outsourced and offshore maintenance facilities that do not have the same security standards, including criminal history and record checks, and drug and alcohol testing standards, as in-house U.S. maintenance facilities.

The FAA should establish a single, high regulatory standard governing all aircraft repair facilities. It is an actionable, common sense approach that will enhance safety and security for U.S. aircraft.

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<sup>44</sup> See, e.g., Chris W. Johnson and C.M. Holloway, "A Longitudinal Analysis of the Causal Factors in Major Aviation Accidents in the USA from 1976 to 2006." Available online at <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.64.1869>. Zahid Qureshi, "A Review of Accident Modelling Approaches for Complex Socio-Technical Systems." Available online at <http://crpit.com/confpapers/CRPITV86Qureshi.pdf>. James J.H. Liou, Gwo-Hsiung Tzeng and Han-Chun Chang, "Airline Safety Measurements Using a Hybrid Model." *Journal of Air Transport Management* 13 (4) (July 2007), at 243-349. Fischer, John W.; Elias, Bart; and Kirk, Robert S., "U.S. Airline Industry: Issues and Role of Congress" (2008). *Federal Publications*. Paper 514. Available online at [http://digitalcommons.ilr.cornell.edu/key\\_workplace/514](http://digitalcommons.ilr.cornell.edu/key_workplace/514). "An Accident Waiting to Happen? Outsourcing Raises Air Safety Concerns." *Consumer Reports*, March 2007. Gary Stoller, "Planes with Maintenance Problems Have Flown Anyway." *USA Today*, February 4, 2010. Available online at [http://www.usatoday.com/travel/flights/2010-02-02-1Aairmaintenance02\\_CV\\_N.htm](http://www.usatoday.com/travel/flights/2010-02-02-1Aairmaintenance02_CV_N.htm). Daniel Zwerdling, "To Cut Costs, Airlines Send Repairs Abroad." *National Public Radio*, October 19-20, 2009. Available online at <http://www.npr.org/templates/story/story.php?storyId=113877784>.

## **INDUSTRY POSITION**

The safe operation of repair stations, both foreign and domestic, is critically important to ensuring that aircraft are maintained and serviced professionally and aviation safety remains the highest priority. In fact, the United States has a higher level of safety in aviation today than even in the 1990s as noted in the final report of the Safety Subcommittee. FAA-certificated foreign repair stations are safe facilities that provide global support for the U.S. aviation industry. All work performed on U.S. aircraft at outsourced repair facilities in the United States and abroad are subject to FAA regulations and standards to ensure one level of safety. There is no credible evidence that outsourcing of aircraft maintenance has resulted in the degradation of safety.

The FAA plays a critical role in overseeing the safety of domestic and foreign repair stations as well as the reciprocal system of safety cooperation and validation where the United States has bilateral aviation maintenance safety agreements. These agreements permit reciprocal recognition and acceptance of repair station oversight and inspection results, increase safety cooperation and information-sharing between FAA and foreign authorities, and enable the FAA to exercise its safety mandate. As an example, the United States-European Union (EU) bilateral agreement will allow more than 1,200 U.S.-based repair stations under FAA oversight to work on EU aircraft, contributing to the employment of 130,000 Americans in highly-skilled, well-paying jobs and a positive trade balance. Legislation passed by the Senate would allow important safety cooperation between the United States and Europe to continue through this safety agreement while addressing improvements in FAA repair station oversight in other countries. Aircraft maintenance and repair supports many high-skilled, well-paying jobs in the United States as part of a global industry.

Although repair stations are already secure facilities, it is important to have a set of common security requirements to ensure the continued security of these facilities. The pending rulemaking on repair station security the Transportation Security Administration will issue will appropriately apply to both domestic and foreign repair stations, as required by Congress.



## APPENDIX A—FAAC CHARTER

- 1. Committee’s Official Designation (Title).** This committee shall be entitled The Future of Aviation Advisory Committee.
- 2. Authority.** This charter establishes The Future of Aviation Advisory Committee in accordance with the provisions of the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C. App 2.
- 3. Objectives and Scope of Activities.** The Aviation Advisory Committee will provide information, advice, and recommendations to the Secretary of Transportation on ensuring the competitiveness of the U.S. aviation industry and its capability to address the evolving transportation needs, challenges, and opportunities of the global economy. The committee will assess fundamental changes in each of the areas below, and identify the drivers of such change and the challenges and opportunities presented by industry developments.
- 4. Description of Duties.**

**Balancing the industry’s competitiveness and viability**—a competitive air carrier industry is critical to our national economy. Therefore, the committee should:

Examine changes in the operating and competitive structures of the U.S. air carrier industry;

Consider innovative strategies to open up new international markets and expand commercial opportunities in existing markets;

Investigate strategies to encourage the development of cost-effective, cutting-edge technologies and equipment that are critical for a competitive industry coping with increasing economic and environmental challenges; and

Examine the adequacy of current Federal programs to address the availability of intermodal transportation options and alternatives, small and rural community access to the aviation transportation system, the role of State and local governments in contributing to such access, and how the changing competitive structure of the U.S. air carrier industry is likely to transform travel habits of small and rural communities.

**Ensuring a world-class workforce necessary for a robust aviation industry**—in light of the changing socio-economic dynamics of the aviation industry, the committee should examine avenues for recruiting the best and brightest of our future workforce for careers in the aviation industry.

**Securing stable and sufficient funding for our aviation systems**—the importance of the aviation system for the Nation’s economy requires state-of-the-art infrastructure. The committee should explore ways of augmenting funding systems to ensure the development, implementation, and maintenance of long term aviation investments.

**Addressing environmental challenges and finding solutions**—the aviation industry faces increasing environmental and energy challenges that require integrated solutions and strategies, which allow continued growth and economic vitality of the aviation sector. The committee should examine short-, medium-, and long-term steps and strategies aviation sector stakeholders and the Federal Government can take to reduce aviation’s environmental footprint and foster efficiency gains and sustainable energy in cost-beneficial ways. It should also consider potential approaches to promote effective international action on these issues through the International Civil Aviation Organization (ICAO).

**Ensuring safety in aviation**—future expected growth and increased complexity in the air transportation system creates new opportunities and challenges in the way the air transportation system manages safety. The committee should examine policies and practices that take a proactive approach in ensuring the aviation system continues to achieve a high level of safety.

**5. Official to Whom this Committee Reports.** This committee reports to the Secretary of Transportation.

**6. Support.** The Office of the Assistant Secretary for Aviation and International Affairs, with support by the Federal Aviation Administration, will provide administrative support for all meetings of the committee, subcommittees, and/or work groups and ensure that at least one agency representative is present for each meeting.

**7. Estimated Annual Operating Costs and Staff Years.** The estimated annual operating costs are \$400,000. Approximately 4 person-years will be required to support the committee.

**8. Designated Federal Official.** The Assistant Secretary for Aviation and International Affairs shall designate an agency representative to serve as the Designated Federal Official for the Future of Aviation Advisory Committee.

1. The Designated Federal Official shall approve the calling of the committee meetings and subcommittee meetings and develop and approve the agendas in consultation with the Secretary of Transportation.

2. The Designated Federal Official must be present at each committee and subcommittee meeting and has the authority to adjourn a meeting whenever such action would be deemed to be in the public interest.

**9. Estimated Number and Frequency of Meetings.** The committee will meet at least 4 times over the year. Special meetings may be called as necessary. A notice of each meeting shall be published in the Federal Register at least 15 calendar days prior to the meeting. All meetings are open to the public, unless the Assistant Secretary for Aviation and International Affairs or the Designated Federal Official closes the meeting in accordance with a secretarial determination under 41 CFR § 102-3.155. Members of the public are invited to appear before or file statements with the committee.

**10. Duration.** This committee shall continue in operation for 1 year from the filing date of this charter.

**11. Termination.** This committee shall continue in operation for 1 year unless the Secretary of Transportation decides to dissolve the committee earlier.

**12. Membership and Designation.**

a. Qualification: Members of the committee will be representatives of the aviation community.

b. Estimated number of members: The committee will consist of approximately 19 voting members.

c. Selection of membership: Members will be selected to provide a balanced cross section of viewpoints in the aviation industry or related disciplines. The members will represent a variety of interests relating to the industry, including air carriers, airports, labor, manufacturers, finance, and academia, consumer interests, and GA stakeholders. All members will be appointed by the Secretary of Transportation for the duration of the term. Replacement members may be appointed to serve out the remainder of a term. Members who are not Federal employees shall serve as representatives of their interests.

d. Committee officers: The Chairperson will be the Assistant Secretary for Aviation and International Affairs of the Department of Transportation. The Chairperson shall ensure adherence to the agenda and maintain order. If the Chairperson is absent, then the Designated Federal Official shall perform the duties of the Chairperson.

e. Compensation for members: Members shall not receive salary compensation and shall be responsible for their own expenses of participation in the committee.

**13. Subcommittees.** The chair of the committee is authorized to establish subcommittees as necessary. The subcommittees shall hold open meetings, subject to the exception described in paragraph 9 of this Charter, and shall comply with all regulations to which the committee is subject. Subcommittee meetings will be announced to the public. The subcommittees shall bring to the committee all actions, decisions, and recommendations and will not provide advice or work products directly to the U.S. Department of Transportation.

**14. Recordkeeping.** The records of the committee, subcommittees, or other subgroups of the committee shall be handled in accordance with General Records Schedule 26, Item 2. These records shall be available for public inspection and copying, subject to the Freedom of Information Act, 5 U.S.C. 552, at the headquarters building of the U.S. Department of Transportation.

The records, reports, transcripts, minutes, and other documents that are made available to or prepared for or by the committee will be available to the public via the Government's docket management system at <http://www.regulations.gov>.

**15. Filing date.** The filing date of this charter is April 16, 2010, which is the date it was filed with Congress.



## APPENDIX B—FAAC MEMBERS AND SUPPORT STAFF

### FAAC MEMBERS

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Susan L. Kurland, Assistant Secretary for Aviation and International Affairs, U.S. Department of Transportation (DOT), *Committee Chair*

Juan J. Alonso, Associate Professor, Department of Aeronautics and Astronautics, Stanford University

Susan M. Baer, Director of the Aviation Department, Port Authority of New York & New Jersey

David Barger, President and Chief Executive Officer (CEO), JetBlue Airways Corporation

Bryan K. Bedford, Chairman, President, and CEO, Republic Airways Holdings, Inc.

Severin Borenstein, Professor of Business Administration and Public Policy, Haas School of Business, University of California, Berkeley

Thella F. Bowens, President and CEO, San Diego County Regional Airport Authority

John M. Conley, International Administrative Vice President, Transport Workers Union of America, American Federation of Labor and Congress of Industrial Organizations (AFL–CIO)

Cynthia M. Egnotovitch, Segment President, Nacelles and Interior Systems, Goodrich Corporation

Patricia A. Friend, International President, Association of Flight Attendants–Communication Workers of America, AFL–CIO

Robert L. Lekites, President, United Parcel Service Airlines

Ana McAhron-Schulz, Director of Economic and Financial Analysis, Air Line Pilots Association, International

William J. McGee, Travel and Aviation Consultant, Consumers Union

Daniel McKenzie, Financial Analyst, Hudson Securities, Inc.

Jack J. Pelton, Chairman, President, and CEO, Cessna Aircraft Company

Nicole W. Piasecki, Vice President of Business Development, Boeing Commercial Airplanes

Raul Regalado, President and CEO, Metropolitan Nashville Airport Authority

Glenn F. Tilton, Chairman, United Continental Holdings, Inc.

Christopher J. Williams, Chairman and CEO, Williams Capital Group/Capital Management



## FEDERAL SUPPORT STAFF

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Pam Hamilton, Federal Aviation Administration (FAA), *Designated Federal Official (DFO)*

Tony Fazio, FAA, *Pillar Lead for Safety Subcommittee*

John Hennigan, FAA, *Pillar Lead for Financing Subcommittee*

Todd Homan, DOT, *Pillar Lead for Competition Subcommittee*

Lynne Pickard, FAA, *Pillar Lead for Environmental Subcommittee*

Terri Williams, FAA, *Pillar Lead for Workforce Subcommittee*

Aleta Best, DOT

Michael Martin, DOT

Josh Camden, FAA

Regis Milan, DOT

Brooke Chapman, DOT

Camille Mittelholtz, DOT

Jim Dann, DOT

Gary O'Toole, FAA

Dennis Devany, DOT

Rick Pittaway, DOT

Scott Faulk, DOT

Thuy Cooper, DOT

Lindsey Geisler, DOT

Roger Schaufele, FAA

Arnie Konheim, DOT

Kristi Warden, FAA

Aloha Ley, DOT

Jeff Wharff, FAA

Steve Litty, DOT

Robin Whitehurst, FAA

## APPENDIX C—SUMMARY OF RECOMMENDATIONS

Recommendation No.:	Description:	Submitted By:
1	Sustainable alternative aviation fuels	Environment Subcommittee
2	Research and Development related to airframe and engine technologies	Environment Subcommittee
3	Operational and infrastructure improvements	Environment Subcommittee
4	Harmonized sectoral approach for aviation carbon dioxide emissions	Environment Subcommittee
5	Extend the alternative minimum tax exemption for airport private activity bonds for 4 years	Financing Subcommittee
6	Funding accelerated equipage of aircraft	Financing Subcommittee
7	Delivering the benefits of NextGen	Financing Subcommittee
8	Eligibility criteria for Airport Improvement Programs and passenger facility charges programs	Financing Subcommittee
9	Global competitiveness	Competitiveness and Viability Subcommittee
10	Federal aviation taxes and fees	Competitiveness and Viability Subcommittee
11	Airline competition and passenger protections	Competitiveness and Viability Subcommittee
12	Intermodalism	Competitiveness and Viability Subcommittee
13	Essential air service reform	Competitiveness and Viability Subcommittee

## Appendix C—Summary of Recommendations

Recommendation No.:	Description:	Submitted By:
14	Jet fuel price volatility	Competitiveness and Viability Subcommittee
15	Science, technology, engineering, and math education programs	Labor and World-class Workforce Subcommittee
16	State of labor/management relations	Labor and World-class Workforce Subcommittee
17	Workforce/management conference	Labor and World-class Workforce Subcommittee
18	Legal protection of voluntary safety data and information	Aviation Safety Subcommittee
19	Predictive analytic capabilities for safety data and information	Aviation Safety Subcommittee
20	Expanding sources of voluntary safety data	Aviation Safety Subcommittee
21	NextGen and enhanced safety performance	Aviation Safety Subcommittee
22	Identification of safety priorities	Aviation Safety Subcommittee
23	Child safety on airlines	Aviation Safety Subcommittee

## APPENDIX D—ACRONYM LIST

ADS-B	Automatic Dependent Surveillance Broadcast
AFA	Association of Flight Attendants
AFL-CIO	American Federation of Labor and Congress of Industrial Organizations
AIA	Aerospace Industries Association
AIP	Airport Improvement Plan
ALPA	Air Line Pilots Association, International
ASAP	Aviation Safety Action Programs
ASIAS	Aviation Safety Information Analysis and Sharing
ATA	Air Transport Association
ATM	Air Traffic Management
BEBS	Best Equipped, Best Served
CAST	Commercial Aviation Safety Team
CDG	Paris-Charles de Gaulle Airport
CFR	Code of Federal Regulations
CFTC	U.S. Commodity Futures Trading Commission
CLEEN	Continuous Lower Energy, Emissions, and Noise
CO <sub>2</sub>	carbon dioxide
CRS	Child Restraint Systems
CWA	Communication Workers of America
DFO	Designated Federal Official
DOT	Department of Transportation
Dunlop II	The Dunlop Commission Reports Review Committee
EAS	Essential Air Service
ETS	Emissions Trading Scheme
EU	European Union
FAA	Federal Aviation Administration
FAAC	Future of Aviation Advisory Committee
FACA	Federal Advisory Committee Act
FTA	Federal Transit Administration
GA	general aviation
GAJSC	General Aviation Joint Steering Committee
GAO	U.S. Government Accountability Office
GBASS	Ground Based Augmentation System
GDP	Gross Domestic Product

GHG	greenhouse gas
HSR	high speed rail
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ILO	International Labour Organization
JFK	John F. Kennedy International Airport
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NextGen	Next Generation Air Transportation System
NMB	National Mediation Board
NPRM	Notice of Proposed Rulemaking
NTSB	National Transportation Safety Board
PAB	Private Activity Bonds
PBN	Performance-based Navigation
PFC	Passenger Facility Charge
R&D	Research and Development
RNAV	Area Navigation
RNP	Required Navigation Performance
SMS	Safety Management System
STEM	science, technology, engineering, and mathematics
TWU	Transport Workers Union of America
U.S.C.	United States Code
USDA	U.S. Department of Agriculture