



WHITE PAPER ON ENSURING JPDO SUCCESS

A safe, secure and efficient air transportation system is essential to U.S. economic prosperity and future competitiveness. Fundamental improvements to our nation's air transportation infrastructure are needed to address security requirements and projected capacity shortfalls. The White House Office of Science & Technology Policy (OSTP), the Commission on the Future of the U.S. Aerospace Industry, the National Research Council (NRC), and the U.S. Congress all recommended the timely development of a next-generation air transportation system to support strong U.S. economic growth and the needs of civil aviation, as well as our national and homeland security interests.

Numerous studies have documented the enormous contributions aviation makes to the U.S. economy and thus the rationale for pursuing public policies and facilitating infrastructure investments that enable aviation to grow and prosper. A 2002 study by Global Insight and the Campbell-Hill Aviation Group showed aviation's total impact on the U.S. economy exceeds \$900 billion annually (nine percent of the nation's gross domestic product) and supports over 11 million American jobs. Furthermore, investments in aviation infrastructure produce positive returns. For every dollar invested in airport and air traffic system improvements, up to \$5 in benefits returns to the U.S. economy. Finally, the costs of allowing our aviation system capacity to continue to fail to meet the demand far outweigh the costs of transforming the system. Estimates of the costs of flight delays and cancellations to our economy over the next 10 years range from \$140-\$170 billion.

The multi-agency Joint Planning & Development Office (JPDO) was established to create and carry out a national plan for the development of a next-generation system. The JPDO includes participants from the FAA, NASA, OSTP and the Departments of Transportation, Defense, Homeland Security and Commerce.

The Aerospace Industries Association commends the government for taking this critical step to create the JPDO. Bringing these organizations together to collaborate and leverage individual agency expertise and resources gives the U.S. a powerful opportunity to achieve the goal of transformation of the air transportation system. We want and need the JPDO to succeed in order to meet our nation's aviation system needs and ensure the U.S. aerospace industry maintains international competitiveness. In that spirit, it is our belief that the following actions are essential to the JPDO's success.

U.S. government commitment for national priority

Given the importance of efficient air transportation system to the economy of our country, strong executive leadership and commitment is needed immediately to empower the JPDO to achieve success... Implementing the next generation air transportation system is a national priority that crosses over several agencies and departments and will take many years to achieve. Executive leadership would help ensure the interagency collaboration and commitment necessary for such a long-term, transformation project.

Along with leadership, the U.S. government must provide the necessary resources for the JPDO to successfully implement the next-generation air transportation system as quickly as possible. While we fully support the FAA's current efforts on modernization embodied in their Operational Evolution Plan and believe it is important for the government to continue these efforts, these are only partial and limited steps to alleviate the immediate problems of the air transportation system.

Transforming the nation's air transportation system will require a commitment of much greater levels of resources, both people and dollars. The administration should place a high priority on making those resources available to both the JPDO and the participating agencies for successful completion of the next generation air transportation system. Given the complexity of integrating activities of several different agencies a level of accountability is required to ensure each agency fully meets their funding commitments and the appropriate prioritization and integration of research, development and implementation efforts is achieved.

Appropriate level of responsibility and authority

Creating and carrying out a national plan that crosses over the jurisdictions of numerous agencies and departments is a challenging task. In order to be successful at this task, the JPDO must be given the appropriate level of responsibility and authority for implementation. The JPDO must be able to shape relevant policies across the government and influence implementation within the various agencies or departments. Accomplishing this will require the following actions:

- Ensure all participating agencies are committed to the JPDO's mission to develop and implement a next generation air transportation system that meets the safety, security, capacity and efficiency needs of the nation and develop a means to ensure capital budget needs are met.
- Hold the JPDO and participating agencies accountable for NGATS progress through appropriate Executive and Congressional oversight to ensure timely and nimble execution of the transformational timeline.
- Establish measurable goals and milestones to ensure progress is being achieved in the needed timeframe.
- Ensure each agency is fully funded to support their appropriate research, development and implementation efforts.

Industry as an equal partner

The JPDO must develop a strong partnership with industry stakeholders, including users, labor, and manufacturers. Appropriate levels of interaction with each of these stakeholders is essential to establishing a comprehensive and well-thought-out plan as well as developing the support and confidence necessary to aggressively deploy it.

User involvement is key to defining the operational needs for the next generation air transportation system, and labor representatives are important to ensuring the systems deployed during the transformation can be safely and efficiently operated. Manufacturers of aircraft, aircraft systems, and air traffic systems will provide systems engineering skills, technology readiness awareness, and business case understanding to develop and support the definition of the optimum transformation architecture and timeline for deployment.

A comprehensive, integrated, and internationally harmonized roadmap for the transition is critical to motivating the necessary investments by government and industry to implement the next generation air transportation system. The most effective way to develop this plan is for the JPDO to enlist the services of industry to assist in the design and development using a system of systems approach that meets multiple user needs and is adaptable to new requirements. The JPDO will benefit from the extensive industry experience gained through transformational initiatives in other agencies as well as industry's proven ability to develop and implement systems capable of meeting international standards and needs.

The NGATS Institute has been established as a mechanism to facilitate industry input to the JPDO and its Integrated Product Teams (IPTs), however in its initial implementation it is primarily a pull from the JPDO and not a partnership. More proactive industry involvement must be developed, using the NGATS Institute as appropriate, to:

- Include industry in strategy and policy formation for the JPDO and IPTs.
- Drive an initial focus on setting system performance requirements versus technology specific applications.
- Develop a partnership with the manufacturing community and other industry stakeholders as needed in funded projects to establish the NGATS enterprise architecture and transformation roadmap and to prove key NGATS concepts in implementations providing near-term operational benefits.
- Ensure that industry standards in program management, financial management and systems engineering are used to expand and adjust the NGATS concept.
- Facilitate the required level of technical assistance to the JPDO and IPTs.

Urgency of action

The administration must move forward quickly with the investment necessary to implement the next generation air transportation system. Air traffic demand is growing rapidly again, significantly stressing the ability of the current system to provide adequate capacity safely, securely and efficiently. Without significant capacity enhancements soon, the pressure to apply

demand limiting schemes on a broad scale will grow, resulting in significant negative impacts on the economy.

Emerging security requirements also necessitate taking action now on developing an integrated plan for a next generation air transportation system. Security must be embedded into the design of the system, and it is essential that air traffic security systems be fully integrated with other homeland security systems. If transformation of the air transportation system is delayed, the opportunity to ensure such integration will be lost.

While it is feasible to achieve measurable improvements in system performance with initial applications of a next generation air transportation system in as little as two to three years, fully achieving the vision set forth in the JPDO National Plan for a safe, secure, efficient, reliable and affordable air traffic system will take 10 to 20 years. Given the immediate security and economic needs, and the long lead-time for full implementation of a revolutionary new system, it is imperative that we move forward as quickly as possible.

Recent developments in Europe are also driving us to accelerate our air transportation system transformation efforts. Europe is aggressively moving forward in developing new air traffic technologies to give that continent the world's most advanced system and to displace our nation as the global leader in aviation technology. We cannot take this challenge to our leadership lightly.

Summary

Given the importance of a safe, secure and efficient air transportation system to our country's economic, homeland and national security, the administration must take action now to increase national commitment to:

- Immediately partner with industry to implement the next generation air transportation system.
- Provide full funding on a priority basis.