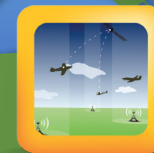**Federal Aviation Administration**

FAA's
NextGen

FAA RESPONSE TO
RECOMMENDATIONS OF THE
RTCA NEXTGEN MID-TERM
IMPLEMENTATION TASK FORCE

JANUARY 2010

From the Administrator
J. Randolph Babbitt

January 2010

Dear Members of the Aviation Community:

Last February, more than 300 members of the RTCA NextGen Mid-Term Implementation Task Force began working to lay out how to achieve the operational benefits of NextGen on an aggressive timetable. It was not easy to find common ground among the diverse aviation community, but in September the Task Force presented the FAA with a unified set of priorities for NextGen's next five years. We are all indebted to the Task Force for its thorough, hard work.

Our report provides responses and an action plan for each of the Task Force Tier One recommendations. The Task Force recommendations add significant value to the FAA's overall NextGen strategy and are being incorporated into our NextGen Implementation Plan that summarizes the agency's work to achieve the 2018 operational capabilities. The plan will be released in early March.

When we talk about NextGen we are talking about both the present and the future. We are laying the groundwork now so the full benefits and efficiencies created by NextGen can be realized. But already many of our partners are seeing direct results from early applications of advanced NextGen concepts. Those benefits will soon be available to a broader community as we move these capabilities into full operation.

I believe the FAA's dedication to NextGen is evident in the pages that follow. The entire agency had a hand in our progress so far and the whole workforce will be integral in our future success. We will need to assess the environmental impact of NextGen improvements, seek innovative ways to increase efficiency at our nation's airports, and put new concepts to the safety management test.

The FAA is dedicated, but we cannot do it alone. We will need the help of the entire aviation community which proved its dedication and willingness to collaborate during the Task Force's deliberations. Taking our plans and putting them into action will be challenging, but I know that we are all up to it. Along with our partners we have set a course for the future and we are committed to it. I'm looking forward to what we can accomplish together.

J. Randolph Babbitt
Administrator

FAA RESPONSE TO RTCA TASK FORCE RECOMMENDATIONS

In 2009, the FAA witnessed an unprecedented collaboration among members of a far-reaching aviation consortium that included representatives from commercial airlines, general aviation, the military, manufacturers and airports. The RTCA[1] NextGen Mid-Term Implementation Task Force slate of recommendations is critical to the FAA's approach to NextGen development and deployment. The Task Force reiterated, and the FAA agreed, that any NextGen benefits that can be achieved today need to be maximized while efforts continue to build toward longer-term capabilities.

Since the report's release, we have focused on integrating the Task Force recommendations into the agency's planning activities. We have made significant adjustments where necessary to render a clear NextGen implementation strategy that addresses Task Force recommendations.

FAA RESPONSE

The partnerships the FAA continues to cultivate with the greater aviation community take many forms and are key to the success of the Next Generation Air Transportation System. The FAA's partners make important contributions to NextGen on a number of fronts: they serve in an advisory capacity, as demonstrated by the RTCA Task Force; they take an active role in the drafting of standards and requirements; they provide critical support to NextGen field demonstrations; and they take part in the operational testing of NextGen concepts and equipment. The sheer volume and diversity of the FAA's stakeholder partnerships stand as a clear indication of industry's commitment to realizing the full promise of NextGen.

In response to the RTCA report, the FAA has adjusted its planning to address the Task Force's Tier One recommendations. Furthermore, the FAA is improving business processes to streamline its effectiveness and address the Task Force's overarching recommendations.

The FAA will do its part to deliver the desired capabilities and associated benefits to operators. The agency appreciates that the aviation community, through the Task Force report, has committed to doing the same. "All capabilities considered [by the Task Force] had at least one operator committed to invest in its implementation," the Task Force said in its report. "If the FAA implements the elements of a recommended operational capability for which it is responsible," the Task Force continued, "the operators who requested that capability will commit to making all necessary investments (e.g., training and equipage) in coordination with a rational and definable plan to be able to fly and achieve the benefits of such capability."

The agency's responses take into consideration funding allocations, scheduling constraints, investment decisions, standards, training and other critical work that will be required by both the FAA and industry as well as the interdependencies that exist between systems. They also reflect differing levels of maturity among NextGen capabilities — some ripe for deployment and use today, and some still in development. In the latter case, we will conduct the work necessary to answer any open questions. In order to achieve success the FAA and its partners will have to work together.

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1 RTCA, Inc. is a private, not-for-profit corporation that develops consensus-based recommendations regarding communications, navigation, surveillance and air traffic management system issues. RTCA functions as a federal advisory committee and includes roughly 400 government, industry and academic organizations from the United States and around the world. Members represent all facets of the aviation community, including government organizations, airlines, airspace users, airport associations, labor unions, and aviation service and equipment suppliers. More information is available at http://www.rtca.org.

The recommendations included in the RTCA report were separated into operational areas including two that are cross-cutting, Data Communications (Data Comm) and Integrated Air Traffic Management (ATM). The remaining overarching recommendations were aimed at issues that impact the successful integration of all NextGen capabilities, and we open our response with a general discussion of the FAA's approach to addressing those. We follow with the FAA's response to each operational recommendation followed by highlights of the FAA's corresponding plan of action[2]. The recommendation categories are depicted by the icons below.

The multiple communities such as airports, air traffic, environment, and aircraft and operators, that will benefit from and share responsibility for implementing the Task Force recommendations are identified in the margins of the corresponding text.

As the FAA moves forward on NextGen implementation, we will continue to evaluate and adjust our strategies, priorities and deployment timelines in full collaboration with aviation stakeholders.

Overarching	Data Comm	Integrated ATM	Surface
Runway Access	Metroplex	Cruise	NAS Access

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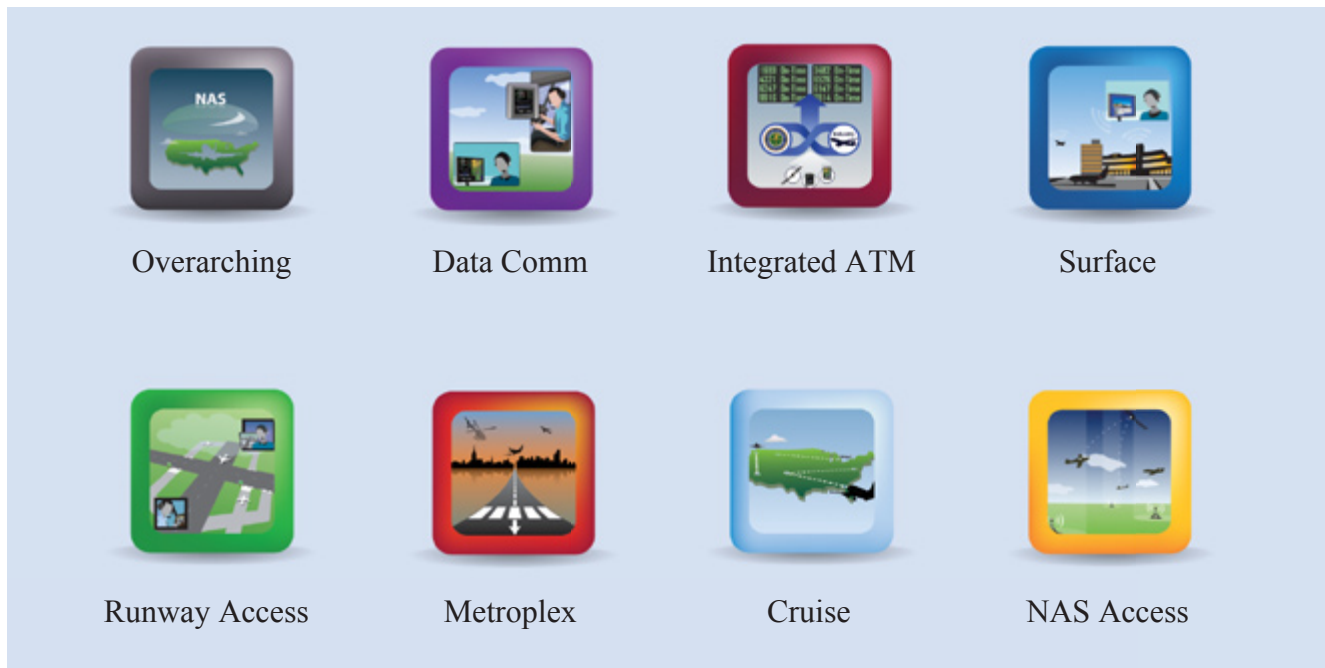
2   All listed years under FAA Action Plans are fiscal years.

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

OVERARCHING

Overarching recommendations included incentivizing equipage, streamlining operational approval and certification, achieving existing 3- and 5-mile separation standards, and establishing institutional mechanisms to continue transparency and collaboration in NextGen development and implementation. We address post-Task Force recommendations at the conclusion of this response.

CONSISTENTLY ACHIEVING EXISTING 3- AND 5-MILE SEPARATION

The Task Force, under this heading, called upon the FAA to implement a more collaborative approach to our change management process and build on relationships increasing transparency, including robust use of the Air Traffic Safety Action Program (ATSAP) agreement.

In March 2009, the FAA and the National Air Traffic Controllers Association signed the ATSAP agreement. ATSAP provides a systematic, non-punitive method to identify, evaluate and correct potential safety hazards. This approach fosters a collaborative approach to change management by identifying safety events and implementing skill enhancement and system corrective action to reduce the potential for compromising safety. We will analyze the information obtained through ATSAP to develop skill enhancement or system corrective action to help resolve safety issues. Where possible, we will eliminate deviations from, and deficiencies in, applicable air traffic control directives. We expect over time that ATSAP will enable a culture that minimizes separation uncertainty buffers enabling separation to approach the 3- and 5- mile standards. To date, we have briefed and trained more than 12,000 employees at about 245 facilities on ATSAP. ATSAP training is expected to be complete by June 2010.

In July 2009, the FAA significantly revised the way it reports operational errors by removing specific employee identification from reported operational errors/ deviations and proximity events. Additionally, the agency significantly eased the time requirements for reporting most operational errors to reduce potential impacts on air traffic control operations.

In addition to implementing ATSAP, integrating and using new tools in the National Airspace System (NAS) will help optimize performance using the existing separation standards. Examples include the incorporation of Relative Position Indicator (RPI), a traffic management decision support tool, and the Automated Terminal Proximity Alert (ATPA), a safety alerting tool. We also currently use the Traffic Analysis and Review Program for data collection and trend analysis.

RPI displays the relative spacing of aircraft on merging arrival flows. Terminal controllers can view this information to help them make control decisions regarding sequencing, spacing and merging traffic. We are planning RPI demonstrations at two terminal sites in 2010.

ATPA monitors all associated aircraft subject to Instrument Flight Rules separation that are located within the final approach course. We are implementing ATPA into two terminal automation systems: Common Automated Radar Terminal System (CARTS) with color displays (May 2010) and Standard Terminal Automation Replacement System (STARS) (2011).

ATPA will support increased arrival rates by helping controllers consistently maintain the precise minimum separation standards. We have conducted controller-in-the-loop simulations to validate alert times and increased arrival rates.

ACTION PLAN

- 2010: Complete ATSAP training
- 2010: Conduct RPI demonstrations at two sites
- 2010-2011: Implement ATPA in CARTS with color displays and STARS

INCENTIVIZING EQUIPAGE

The Task Force recommends that the FAA consider incentivizing equipage for planned NextGen capabilities in order to maximize benefits. The Administration has stated that it would like to expedite implementation of NextGen and continues to review timeframes on how best to meet that goal. We will explore both financial and operational incentives. On the operational side, streamlining operational procedure delivery — enabling operators to realize NextGen capabilities and their associated benefits more quickly — will encourage operators to equip with NextGen avionics.

We are continuing discussions with the aviation community on what constitutes a "best-equipped/best-served" strategy, that will encourage NAS users to equip. As we implement new technologies, procedures and avionics equipage in the NAS, the system has to accommodate aircraft with NextGen technologies as well as those that have not begun the transition. When we all successfully resolve the mixed performance/equipage challenge, additional choices and improved levels of service will be available. "Best-equipped, best-served" requires analyses to determine the risks and opportunities that must be considered as controllers and operators deal with this mixed-equipage environment. In fiscal year 2009, the Data Comm and Automatic Dependent Surveillance - Broadcast (ADS-B) programs completed human-in-the-loop simulations to look at how a mixed-equipage environment (with or without Data Comm or ADS-B) affects controller tasks and workload.

One of the important conclusions the Task Force reached was that the approach for incentivizing equipage would not necessarily be the same for every operational capability. The Task Force also recognized that during specific times some airspace would require specific NextGen capabilities to achieve greater system benefits within that environment. The FAA plans to continue this discussion with the aviation community to encourage NextGen equipage and the resulting operational benefits. The FAA will work with the aviation community on a strategy that adequately accommodates all types of operators with varying levels of equipage and maximizes overall system performance and enhancing safety at the same time.

STREAMLINING

The Task Force recommends that the FAA identify and solve the operational approval and certification issues that may impede adoption and acceleration of NextGen capabilities. While recognizing that safety must be maintained and improved, the FAA must do so in ways that enable the changes necessary to implement NextGen capabilities.

Most of the Task Force discussion focused on Performance Based Navigation (PBN). The FAA has identified activities that will contribute to the streamlining

OVERARCHING

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic, Environment

effort in the following areas: organizational, resource requirements, procedures and regulatory guidance.

Due to the criticality of enhancing PBN delivery, the FAA's NextGen Management Board, initiated a cross-agency Navigation Procedures project in the fall of 2009 that is co-chaired by the FAA's Office of Aviation Safety and the Air Traffic Organization. The project will review, improve and streamline all policies and processes used to request, prioritize, process, approve and implement operational air traffic navigation procedures. It will develop a program plan by March 2010, with a goal to begin implementation of all Lean-process changes before October 2010.

The Office of Aviation Safety already has made several changes to improve coordination of NextGen-related projects. The Flight Standards Service has created new offices in each region focused on NextGen, and the Aircraft Certification Service has created a new team of experts from different offices to coordinate NextGen approvals.

In view of the number of potential actions that may require environmental review, streamlining the process by which we identify and conduct required environmental reviews is also a prime consideration. We are working to identify the scope of environmental reviews required under the National Environmental Policy Act (NEPA) for various NextGen actions and we are preparing an overall strategy and "roadmap" for performing more efficient NEPA reviews as we assure that required reviews are initiated to support the rollout of the initial components of NextGen. Our objective is to analyze the various NEPA assessments NextGen may require and recommend the most efficient level and scope of processes for NextGen NEPA activities. We plan to have our initial review and recommendations completed in September 2010.

ACTION PLAN

- 2010: Complete a Lean-process review, and begin implementation of identified process changes
- 2010: Publish a schedule for aircraft technologies required for NextGen to be included in the NextGen Implementation Plan
- 2010: Complete an integrated Aviation Safety plan for NextGen, to include a more detailed action plan for streamlining
- 2010: Complete initial review of NEPA and develop recommendations for NextGen NEPA activities

OTHER CONSIDERATIONS

The Task Force report identified additional considerations including unmanned aircraft systems (UAS) and the GPS constellation.

To successfully accommodate the growth of UAS operations, the FAA — in collaboration with industry — will have to implement policy decisions, minimum operational performance standards guidance, and technical requirements to support certification and operational approval for routine UAS operations in the NAS. The GPS constellation and its performance remains an important factor for NextGen. GPS is the foundation of our satellite-based NAS architecture. The FAA works with the U.S. transportation and defense departments to ensure continuity of services to the aviation community, and to provide for future capabilities.

RESPONSE TO OPERATIONAL RECOMMENDATIONS

What follows are details of the FAA's responses to each of the Task Force's Tier One operational recommendations. Our responses are organized under the same categories used in the Task Force report. Political, policy, environmental and rule-making barriers, coupled with complexities associated with specific locations, may continue to limit or delay our ability to achieve some of the commitments we make here. Expenditure of appropriated funds, as always, is subject to requirements of the FAA's Acquisition Management System and bodies such as the Joint Resources Council.

SURFACE

The Task Force recommendations in the Surface arena focus on creating a more efficient airport surface environment. We will accomplish this by sharing authoritative aircraft movement source data to foster common situational awareness among the FAA, flight operations centers and the airport. The data will contribute to more informed, collaborative surface decisions. Greater surface efficiency will, in turn, lead to higher throughput and decreased emissions, and could also provide opportunities to reduce noise and improve safety. Further collaboration is required on some issues, such as who will be responsible for surveillance in non-movement areas. We will need to address the ownership and protection of spectrum supporting this recommendation. The FAA further recognizes the need to establish a single point of responsibility, authority and accountability for improving surface operations — a goal the agency intends to achieve during 2010.

TASK FORCE RECOMMENDATION
(Operational Capability 40)[3]

Surface Situational Awareness, Phase 1: Deploy Airport Surface Detection Equipment – Model X (ASDE-X) — or other ground infrastructure — to capture surface activity in the movement and non-movement areas; install data distribution units at ASDE-X sites

Locations: OEP 35 airports and nearby satellite airports

FAA RESPONSE

Through this recommendation, the Task Force seeks to foster the ongoing deployment of the foundational technology that will enable shared situational awareness among key stakeholders at the nation's 35 busiest airports and their nearby satellite airports.

The agency concurs with the thrust of this recommendation, and is committed to collaborating with industry and other stakeholders to enhance surface movement activity through shared situational awareness of all airport surface activity. Based on our demonstration work, we agree with the Task Force that meaningful reductions in delays, fuel burn and emissions can be achieved by sharing airport surface movement data with airport operators, air carriers and others. This will allow them to make better informed decisions to enhance their operations and better-

SURFACE

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

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3 Numbers listed beneath the recommendations reference the operational capabilities enumerated in the RTCA Task Force Report.

SURFACE

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

serve their passengers The FAA believes that surface movement infrastructure originally deployed to improve safety can be leveraged to enable new capabilities for operators. Therefore, the FAA will deploy the capability that will allow operators who execute data-sharing agreements with the FAA appropriate access to the data from the airport surface detection systems the FAA deploys.

In post-report discussions with the NextGen Implementation Workgroup sponsored by the Air Traffic Management Advisory Committee, the FAA learned that the Task Force was not seeking the installation of ASDE-X at satellite airports, but rather ensuring that a mechanism existed for sharing surveillance and event data with those airports. While adhering to its ASDE-X deployment schedule, as well as other surface surveillance technologies, the FAA will work with stakeholders to determine the most effective methods for extending common situational awareness to satellite airports not scheduled to be equipped with ASDE-X. We note that we will need to address the ownership and protection of spectrum supporting this recommendation. Likewise, the FAA must develop appropriate data rights and release policies for enabling appropriate access to operational data for the airport movement and non-movement areas, as well as flight data.

ACTION PLAN

- 2010-2011: Evaluate the benefit of FAA-funded infrastructure to provide surface surveillance coverage in non-movement areas, taking into consideration any radio spectrum capacity constraints
- 2010-2011: Develop data rights and data release policies in support of data sharing goals
- 2010-2013: Execute the current ASDE-X, Airport Surface Detection Equipment - Model 3 (ASDE-3)/Airport Movement Area Safety System/ Multilateration implementation programs at 34 of the OEP 35 airports, and at six additional non-OEP airports
- 2010-2013: Install data distribution units at ASDE-X and ASDE-3/ Multilateration locations and provide initial data dissemination capability
- 2011+: Develop and implement the longer-term data dissemination capability needed to provide a more reliable and robust data infrastructure

TASK FORCE RECOMMENDATION
(Operational Capabilities 43 & 38)

Traffic Flow Management Common Operational Picture: Define system requirements, metrics and consistent views for operational data for improving FAA-stakeholder collaborative decision making
Surface Connectivity: Define interoperability standards and requirements for sharing surface data among flight operations centers and the FAA

Locations: ATL, CLT, DEN, DTW, EWR, IAD, IAH, JFK, LAX, MEM, MSP, ORD, PHL, SDF, SFO

FAA RESPONSE

The Task Force seeks, through these recommendations, to define the system requirements and metrics that will render consistent views of surface operational data to enable improved collaborative decision making, as well as the interoperability requirements and standards that will enable data sharing.

The agency concurs with these recommendations and believes that the actions necessary to implement them build upon the capabilities that will be enabled by the initial operational data sharing outlined in the previous response. Furthermore, the actions discussed here are necessary steps to enable the capabilities outlined in the next recommendation. The FAA's proposed plan of action leverages an existing joint industry-government working group, the Surface Collaborative Decision Making Team (SCT), to foster the level of collaboration that will be necessary to achieving these mutually shared goals. The delivery of shared, authoritative operational data in a consistent format to displays and decision-support tools will improve collaborative decision making and enhance system safety while improving operational efficiency — decreasing fuel burn and carbon emissions.

SURFACE

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

ACTION PLAN

- 2010: Work with the SCT to define and gain consensus on a work plan to develop information exchange requirements
- 2011-2012: Conclude and execute information exchange requirements work plan
- 2012-2014: Work with the SCT and the Tower Flight Data Manager (TFDM) development team to define interoperability standards for surface operational data exchange
- 2013-2015: Conduct interoperability testing between the FAA and flight operations centers
- 2014-2016: Execute field implementation of surface operational data sharing

TASK FORCE RECOMMENDATION
(Operational Capability 41)

Surface Situational Awareness, Phase 2: Implement integrated airport movement management decision support tools, standards and processes

Locations: ATL, CLT, DEN, DTW, EWR, IAD, IAH, JFK, LAX, MEM, MSP, ORD, PHL, SDF, SFO

FAA RESPONSE

This recommendation seeks to parlay the data-sharing standards and requirement-building activities of the previous recommendations into the operational environment, enabling the next level of surface collaborative decision making capability.

The FAA concurs with this recommendation, and will build on the definitions, requirements and standards developed under the previous recommendations to integrate shared surface operational data into the collaborative decision making and surface traffic management environment.

ACTION PLAN

- 2010-2014: Leverage existing research and development activities and development plans to field integrated airport surface standards, processes and decision support tools by 2018

RUNWAY ACCESS

RUNWAY ACCESS

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

Protecting and recapturing capacity and achieving the highest possible utilization rates — regardless of weather — constitute the focus of the Task Force recommendations in the area of Runway Access. Enhancement is needed to maximize the utilization of closely-spaced parallel runways, as well as converging or intersecting runways, to improve overall capacity at the nation's busiest airports.

TASK FORCE RECOMMENDATION
(Operational Capability 9)

Increase capacity and throughput for converging and intersecting runway operations

Locations: DEN, EWR, FLL, JFK, LAS, MEM, MIA, SDF

FAA RESPONSE

Through this recommendation, the Task Force seeks to maximize the utilization of runways that converge or intersect, or whose flight paths converge or intersect.

The agency concurs with this recommendation. The FAA believes that a phased approach can be used effectively to address this recommendation with tools that are in development. The agency seeks to protect and restore critical runway capacity by extending the use of the Converging Runway Display Aid (CRDA) — an automation tool for controllers that uses visual spacing cues on converging paths to provide spacing information and situational awareness. RPI extends the usefulness of CRDA by providing terminal controllers with an accurate depiction of the relative spacing between aircraft merging into the Area Navigation (RNAV) arrival flow. This information supports controller decisions regarding sequencing, spacing and merging traffic. The work outlined below in 2010 and 2011 is intended to provide a basis for follow-on investment decisions and subsequent deployments where warranted by a supporting business case. All airports listed above will be considered.

ACTION PLAN

- 2010: Analyze operations at BOS, BWI and JFK to determine potential CRDA operational benefit
- 2010: Demonstrate RPI at a minimum of two terminal sites to support future NextGen capabilities
- 2011: Leverage data collected from demonstration activities to develop an RPI requirements document to enable field implementation in 2012

TASK FORCE RECOMMENDATION
(Operational Capability 12)

Implement Closely Spaced Parallel Operations (CSPO) in a phased manner: Increased use of staggered approaches

Locations: ANC, ATL, BNA, DFW, DTW, IAH, LAS, LAX, MCO, MDW, MEM, MIA, PHX, PIT, SAT, SDF, SEA, SFO, EWR (already under development)

FAA RESPONSE

Through this recommendation, the Task Force seeks the authorization of additional dependent, staggered approaches to runways spaced less than 2,500 feet apart, as allowed under FAA Order 7110.308.

The FAA concurs with this recommendation. Authorizing additional such approaches will increase runway capacity at the airports where these procedures can be beneficial and can be safely implemented.

ACTION PLAN

- 2010: Approve additional dependent, staggered approaches (7110.308) for additional runway ends at airports already using the procedure, as well as at other qualifying airports:
  - o EWR 4/22
  - o MEM
  - o SEA 34C/34R
  - o IAD and DEN are under review

TASK FORCE RECOMMENDATION
(Operational Capability 13)

Implement CSPO in a phased manner:
Revise the blunder assumptions

Locations: CMH, DAL, FLL, IND, JFK, MEM, MSP, PDX, PHX, RDU, SLC, and all other airports that have (or will have in the future) parallel runways with centerlines spaced between 2,500 and 4,300 feet apart (defined as closely spaced parallel runways).

FAA RESPONSE

Through this recommendation, the Task Force is asking the FAA to re-evaluate its severity and frequency assumptions about aircraft blunder rates. A blunder occurs when an aircraft on an approach to a parallel runway intrudes into the established safety buffer between the two parallel runways. A revision in the blunder assumptions could establish the safety case for operating simultaneous independent approaches to closer runway spacing than is currently allowed.

The FAA concurs with this recommendation. The FAA views this as the first stage in a multi-stage effort to improve the efficiency of closely spaced parallel runway operations. Safely decreasing the spacing minimums for simultaneous independent approaches can increase capacity and reduce delays in the near-term, while providing for airport growth in the future. Today, a significant amount of capacity is lost in instrument conditions where parallel runways are spaced less than today's 4,300 feet standard. This results in delays that can ripple through out the system. In addition to immediate capacity benefits, revisions to CSPO standards may allow airports to build new runways within their existing boundaries, which will provide for long-term capacity growth and avoid land-use impacts to neighboring communities. The first stage, outlined below, relies only on current aircraft and infrastructure capabilities – we believe that the data we are developing will support some reduction in the current runway spacing requirement of 4,300 feet minimum

RUNWAY ACCESS

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

RUNWAY ACCESS

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

spacing for independent approaches. Careful review and consideration of the data will determine the safe minimum.

The FAA is also pursuing follow-on work later in the mid-term that leverages ADS-B, PBN and automation enhancements for paired approaches. This work is aimed at reducing the minimum separation requirement below 1,000 feet.

ACTION PLAN

- 2010: Continue blunder testing for CSPO
- 2011: Complete analyses to re-evaluate the blunder model for CSPO and determine the operational impact in support of decreased minimums
- 2011: Implement an update to FAA Order 7110.65

TASK FORCE RECOMMENDATION
(Operational Capability 14)

Implement CSPO in a phased manner:
Multilateration

Locations: DTW, CMH, DAL, FLL, IND, JFK, MEM, MSP, PHX, PHL, RDU, SLC (Parallel runways with centerlines spaced less than 4,300 feet apart, but greater than 2,500 feet). Simultaneous Offset Instrument Approaches at BOS, EWR and other locations with runway separation less than 2,500 feet.

FAA RESPONSE

Through this recommendation, the Task Force seeks to expand the use of Precision Runway Monitor – Alternative (PRM-A) for CSPO currently supported by Precision Runway Monitor. PRM-A is a certified multilateration system that provides controllers with the precise aircraft position information needed to simultaneously separate aircraft on approaches to closely spaced parallel runways. Successful implementation will require training of controllers, airlines and operators.

The FAA recognizes the potential of PRM-A to enable simultaneous independent operations on closely spaced parallel runways at additional locations. Further business case study is required before the agency can commit resources to additional site-specific implementations, as suggested above.

ACTION PLAN

- 2010: Perform data collection to support a business decision on extended use of multilateration using PRM-A on a case-by-case basis
- 2011: Evaluate collected data in support of additional potential deployment

TASK FORCE RECOMMENDATION
(Operational Capability 37a)

Implement CSPO in a phased manner:
Satellite Navigation or Instrument Landing System (ILS)

Locations: All sites currently conducting simultaneous independent and dependent approaches

FAA RESPONSE

With this recommendation, the Task Force is looking to allow the use of satellite navigation-based procedures as an alternative to ILS during simultaneous and/or dependent parallel approaches at airports that support such procedures. The Task Force believes the option of satellite navigation-based procedures would offer greater flexibility to both controllers and operators, as well as the potential for increasing throughput under instrument conditions.

The FAA agrees with this recommendation and under the proposed action plan the FAA will conduct the work required to achieve its intent. When an ILS is out of service, throughput can plummet by as much as 50 percent. Enabling the use of satellite navigation-based procedures during simultaneous and/or dependent approaches holds the potential to preserve throughput during ILS outages. Further, runways without ILS would not need ILS to qualify for simultaneous and/or dependent approaches if satellite navigation-based approaches were available.

ACTION PLAN

- 2010: Conduct simulations and safety analysis of using any combination of ILS, RNAV, Required Navigation Performance (RNP), Localizer Performance with Vertical Guidance (LPV) and Global Navigation Satellite System Landing System (GLS) during simultaneous and/or dependent approaches to closely spaced parallel runways
- 2011: Update FAA Order 7110.65 to approve any combination of RNAV (with vertical navigation)/RNP/LPV/GLS/ILS for simultaneous independent and dependent approaches to closely spaced parallel runways

RUNWAY ACCESS

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

METROPLEX

Congestion, airports in close geographical proximity, and other limiting factors reduce efficiency in busy Metroplex airspace. Separation rules and environmental concerns also add to operational inefficiencies. Optimized use of performance-based procedures and associated separation rules will improve throughput while also potentially reducing fuel burn, emissions and noise.

METROPLEX

Domains Impacted:

Airports, Air Traffic, Aircraft & Operators, Environment

TASK FORCE RECOMMENDATION
(Operational Capabilities 32a & 29)

Optimize and increase the use of RNAV operations, institute tiger teams that focus on quality at each location.

Locations: NAS-wide, with an emphasis on metroplex sites with the greatest need

FAA RESPONSE

In making this recommendation, the Task Force is looking to expand implementation of RNAV terminal procedures, not necessarily overlaying existing conventional procedures (unless that constitutes the most efficient routing). The Task Force is further calling for procedures that can connect to high-altitude Q and T routes (where structure is needed), or expand the use of the National Reference System (NRS) to enable greater flexibility of routing in en route airspace (where structure is not needed).

The agency agrees that a new strategic approach is needed for PBN procedures in metroplex areas. The FAA believes that this new approach will increase efficiency and reduce delays by maximizing the use of the limited airspace in congested metroplex environments. Leveraging our cross-agency navigation procedures streamlining project, the FAA will pursue an integrated airspace procedures deployment framework. Furthermore, the FAA concurs with the tiger team concept suggested by the Task Force. We intend to transition to this new deployment framework in 2010, and will initiate the initial joint agency-stakeholder teams. Additional follow-on metroplex locations and teams will be initiated based on business assessments and industry-government resource availability.

ACTION PLAN

- 2010: Create initial set of stakeholder tiger teams to address PBN procedure optimization at locations prioritized by need, cost benefit, budget and other considerations
- 2010: Assemble expert procedure design teams to facilitate the long-term development, integration and optimization of PBN procedures
- 2010: Continue to review existing work plans and make adjustments as appropriate to ensure the development of high-value procedures
- 2011: Create implementation teams that execute the results of the initial set of tiger teams
- 2011: Leverage expert design team structure to complete development on remaining scheduled legacy procedures
- 2012+: Leverage expert design team structure in moving toward implementation of integrated airspace procedures

TASK FORCE RECOMMENDATION
(Operational Capabilities 4, 21a and 32b)

Integrate procedure design to deconflict airports, implement RNP with radius-to-fix (RF) capability, and expand use of terminal separation rules

Locations: Metroplex areas including Atlanta, Chicago, Dallas, Denver, Florida, Houston, New York, Northern California, Ohio Valley, Seattle, Southern California, Southern Nevada and Washington, D.C.

FAA RESPONSE

With this recommendation, the Task Force seeks to deconflict metroplex airports by publishing, enabling and providing training for new airspace and procedures, with an emphasis on procedures that use RF turns and RNP values less than 1.0. The implementation of these procedures holds the potential to optimize climb and descent profiles, maximize use of arrival and departure airspace, maximize efficiency in and out of metroplex areas and city pairs, enable greater use of overhead streams and balance runway and fix loading.

As discussed in the previous response, the agency concurs with the ideas presented in this recommendation. We believe we must execute the transition to the new integrated airspace and procedures strategy in a disciplined way. Due to the current timescales involved, we believe we must leverage ongoing activities, particularly those with ongoing or completed environmental reviews, to deliver the desired capabilities in the most timely way. Additional metroplex locations will be initiated as follow-on activities, based on business assessments and industry-government resource availability. As discussed earlier, we believe we must enhance our engagement with stakeholders as we work toward the large-scale redesign of terminal and transition airspace leveraging PBN, including broader use of existing separation rules, to maintain efficiency into the en route environment. The FAA recognizes that these procedures are subject to NEPA review. The agency further recognizes that lateral separation standards must be addressed to realize increased efficiency and throughput, and that proposed procedures and targeted benefits will have to be blended into a mixed-equipage environment (PBN and non-PBN). These standards will help identify the appropriate value of RNP needed to achieve the desired benefits.

ACTION PLAN

- 2010-2012: Complete airspace redesign projects in New York, Chicago, Houston and Southern Nevada. These projects include the broad use of RNAV, the deconfliction of airports and the realignment of airspace to optimize flight and flows.

METROPLEX

Domains Impacted:

Airports, Air Traffic, Aircraft & Operators, Environment

METROPLEX

Domains Impacted:

Airports, Air Traffic, Aircraft & Operators, Environment

- 2010-2012: Initiate integrated airspace and procedure projects at key sites. Candidate sites include all metro areas cited in the recommendation. The concurrent development and implementation of RNAV Standard Instrument Departures (SIDs) and Standard Terminal Arrival Routes (STARs) will ensure an integrated approach to procedural optimization. Decouple operations between primary and secondary/satellite airports located in complex terminal airspace. Advanced features, such as RNP radius-to-fix, may be required (initially with RNP 1).
- 2013-2015: Complete integrated airspace and procedure projects at key sites. Begin next increment of integrated airspace and procedure projects. Expand the use of three-mile separation and controller techniques as appropriate.
- 2013-2015: Complete studies and further refine expanded use of reduced separation rules, surveillance data fusion and automation convergence in support of future NextGen applications.

CRUISE

The Task Force recommendations on the cruise environment aim for better utilization of available airspace to increase capacity and reduce delays. The development of high-altitude RNAV (Q) routes coupled with better information sharing on the status of Special Activity Airspace (SAA) holds the potential for introducing new flexibility into the NAS. Expanding the use of Time-Based Metering and advancing Required Time of Arrival (RTA) capabilities will enable a new level of predictability that will greatly enhance collaborative planning. The FAA is moving forward on all of these fronts.

TASK FORCE RECOMMENDATION
(Operational Capability 24)

Expand use of Time-Based Metering (TBM)

Locations: All NAS-wide locations where Traffic Management Advisor (TMA) — an en route decision support tool — is currently deployed, but not in full use

FAA RESPONSE

Through this recommendation, the Task Force seeks to expand the streamlined traffic flows associated with TBM, the practice of limiting the number of aircraft moving from the en route environment into constrained Terminal Radar Approach Control airspace over a set time. TMA is currently deployed to all 20 domestic en route centers, but not all major OEP airports.

The agency concurs with this recommendation and intends to leverage the capabilities enabled by the new Time Based Flow Metering (TBFM) to meet its intent. As part of its capabilities, TBFM will provide more efficient flow management and maximize available airspace, reducing delays while reducing fuel burn and emissions. TBFM is scheduled for a final investment decision during the first quarter of calendar year 2010. Each site-selection decision leverages a cost-benefit analysis to ensure positive benefits. Additionally, the FAA is developing the necessary policy for TMA data-sharing, and the training requirements for the use of TBFM data by flight operators.

ACTION PLAN

- 2010: Conduct cost-benefit analysis of implementing additional Adjacent Center Metering (ACM) capabilities, which extends TBM beyond the boundaries of a single en route center. Pending positive results, expand ACM to:
  - o   LAX — ACM from ZAB and ZLA
  - o   SFO — ACM from ZSE, ZOA, ZLA and ZLC
  - o   SAN — ACM from ZLA and ZOA
  - o   ATL — ACM from ZDC and ZHU
  - o   IAD — ACM from ZNY
- 2012: Complete an improved training program for FAA traffic management coordinators at sites where TMA is deployed, with the goal of increasing the consistent use of TBM
- 2012-2015: Dependent on first quarter calendar year 2010 final investment decision on TBFM and a positive cost/benefit analysis, deploy TMA to additional OEP airports: TPA, CLE, DCA, BWI, SAN

CRUISE

Domains Impacted:

Aircraft & Operators, Air Traffic

CRUISE

Domains Impacted:

*Aircraft & Operators,
Air Traffic*

- 2013: Dependent on first quarter calendar year 2010 Final Investment Decision on TBFM, make a final investment decision on the integration of TMA data with the traffic flow management systems

TASK FORCE RECOMMENDATION
(Operational Capability 25)

Utilize RTA procedures to leverage collaborative arrival planning

Locations: All en route centers

FAA RESPONSE

In making this recommendation, the Task Force seeks to leverage RTA capabilities in the development of collaborative arrival planning (CAP) processes. An aircraft with an RTA-capable flight management system would be able to automatically adjust its speed in order to arrive at a specified waypoint at a specified time.

The FAA concurs with this recommendation. The predictability offered by RTA capabilities would enhance traffic flow management procedures, and significantly contribute to CAP efforts. The FAA recognizes the need to review and refine existing CAP data sharing policy, and the need to develop air traffic control standard operating procedures and training for the safe and efficient use of RTAs for all stakeholders.

ACTION PLAN

- 2010: Analyze and review CAP performance at Memphis and Atlanta centers with the goal of expanding CAP to additional locations
- 2010: Develop data rights and sharing policies for CAP
- 2010: Work with industry to develop RTA/CAP performance metrics
- 2010: Deliver RTA Safety Management System (SMS) analysis
- 2011: Conduct RTA proof-of-concept demonstration
- 2011-2014: Leverage demonstration results to conduct engineering and analysis necessary to support the development of initial RTA capability
- 2015-2018: Implement limited RTA capability (dependent on the establishment of a positive business case, approved SMS analysis, automation system enhancements and aircraft equipage)

TASK FORCE RECOMMENDATION
(Operational Capability 30)

Develop RNAV-based en route system

Locations: NAS-wide

FAA RESPONSE
Through this recommendation, the Task Force seeks to replace existing "Jet" and "Victor" airway routes with performance-based routing systems, using RNAV and RNP. It further seeks the publication of low-altitude NRS waypoints with

appropriate grid spacing and the creation of performance-based routes that lower Minimum En Route Altitudes to support use by low-altitude piston engine airspace users.

The FAA concurs with this recommendation. We believe we must transition to a strategic direction that integrates a performance-based en-route route structure with a new approach to developing and deploying integrated airspace and procedures in our nation's metroplexes. We believe this transition requires the development of a new nationwide strategy for prioritizing and deploying performance-based navigation capability to achieve the highest system benefits by the most effective means possible. The transition to performance-based routing in the en route environment will increase capacity and efficiency, reducing delays, fuel burn and carbon emissions. The FAA will engage with stakeholders in prioritizing PBN route placement while exploring the potential utility of the NRS for low-altitude general aviation (GA) operators. The FAA views this recommendation — and the resulting FAA action plan — as consistent with our responses under the metroplex heading.

ACTION PLAN

- 2010: In collaboration with stakeholders, deliver a nationwide strategy for the implementation of RNAV Q (18,000 feet and above) and T (below 18,000 feet down to 1,200 feet) routes
- 2011: In collaboration with stakeholders, determine the usefulness of the NRS to the GA community, and/or determine an alternative for low-altitude users

TASK FORCE RECOMMENDATION
(Operational Capability 35)

Special Activity Airspace (SAA) real-time status and scheduling: Increase awareness and predictability of SAA usage

Locations: All en route centers, with priorities listed

FAA RESPONSE

Today, the Department of Defense (DoD) reserves large sections of airspace for mission purposes. It can be difficult to determine when that airspace might be available for civilian use. With this recommendation, the Task Force, seeks to increase the awareness and predictability of SAA usage so that flight operators can more reliably plan and utilize flight routes that cross through inactive SAA without affecting DoD mission needs.

The FAA concurs with this recommendation and believes that the RTCA recommended sites are appropriate for initial consideration. As noted in the action plan, the FAA must work with our industry stakeholders and the DoD as we move forward in this area. The FAA will leverage capabilities that are under development in the FAA's Aeronautical Information Management (AIM) and System Wide Information Management (SWIM) programs to achieve the desired capabilities. NAS users need common, accurate and timely information on the status of SAA to improve collaborative decision making and planning. This will allow users to take greater advantage of available SAA when not being used by the military.

CRUISE

Domains Impacted:

Aircraft & Operators, Air Traffic

CRUISE

Domains Impacted:

Aircraft & Operators,
Air Traffic

To ensure maximum use of SAA is achieved, the FAA will collaborate with DoD and industry stakeholders to reach agreement on protocols and an implementation timeline to resolve zero-notice scheduling conflicts, and on developing automation support tools to ensure real-time sharing of airspace.

ACTION PLAN

- 2010-2014: Conduct business case assessments for implementation at RTCA recommended priority sites (Minneapolis, Denver, Albuquerque, Los Angeles, Seattle, Salt Lake City) for implementation in coordination with the DoD and industry stakeholders
- 2010-2014: Conduct the following activities under the AIM modernization program:
  - o 2010: In collaboration with the SAA community, develop a concept of operations to integrate diverse SAA functions
  - o 2011: In collaboration with the SAA community, conduct an initial benefits analysis and review policy, and develop metrics and requirements
  - o 2010-2014: Develop common digital information exchange services for coordinating and disseminating SAA usage and activation data for planning and tactical use
    - 2010: Enable SWIM exchange of SAA data
    - 2010-2011: Conduct demonstrations of SWIM exchange of SAA data to external users; Volk Combat Readiness Training Center, Juneau County, Wis.; Luke Air Force Base, Maricopa County, Ariz.; Jefferson Range/Jefferson Proving Ground, Madison, Ind.; Eastern Air Defense Sector, Rome, N.Y.
    - Other sites under consideration for demonstration activity: Holloman Air Force Base, Alamogordo, N.M.; Cannon Range, Fort Leonard Wood, Mo.; White Sands Missile Range, White Sands, N.M.
    - 2013-2014: Make integrated SAA data available to NAS systems such as En Route Automation Modernization (ERAM) and traffic flow management
  - o 2011-2014: Implement a measurement system validating real-time use of SAA data
  - o 2014: Integrate SAA status information into air traffic decision support tools to enable strategic and tactical airspace management

NAS ACCESS

Increased safety, efficiency and access to airspace and airports constrained by conventional radar's terrain and distance limitations form the basis of the Task Force's NAS Access recommendations. During periods of low ceilings and visibility, capacity is constrained at many airports used primarily by GA aircraft due to onerous procedural separation standards that allow only one aircraft to land or depart at a time. The FAA is addressing this issue through a two-pronged approach of deploying new surveillance capabilities such as ADS-B and Multilateration, coupled with an aggressive deployment of new Wide Area Augmentation System (WAAS)-enabled LPV approaches. As of December 31, 2009, the agency has published 1,929 LPV approaches at 1,023 airports. In 2010 the agency intends to work collaboratively with the user community to identify and prioritize additional airspace with underlying airports that would benefit from an expanded ADS-B surveillance capability. Concurrently, we will be looking to expand our state and local partnership agreements similar to the Colorado Wide Area Multilateration (WAM) initiative[4] that has been quite effective in enhancing safety and reducing delays.

TASK FORCE RECOMMENDATION
(Operational Capability 22)

Implement LPV approaches to airports without precision approach capabilities

Locations: NAS-wide

FAA RESPONSE

Through this recommendation, the Task Force seeks to increase the rate at which the FAA is improving non-OEP airport access for GA aircraft by publishing WAAS-enabled LPV procedures at airports that lack vertically guided approaches.

The agency concurs with this recommendation. The currently installed foundation of nearly 2,000 WAAS-enabled LPV procedures at more than 1,000 airports provides a solid basis for continuing to develop and implement high value procedures that improve the safety and efficiency of operations. The FAA believes that we must focus on delivering new LPV procedures at locations that can provide the highest value to the aviation community. Providing non-ILS airports with vertical guidance-capable approaches will provide more predictable and efficient service for aircraft that operate in those locations. LPV approaches, which are available to aircraft equipped with GPS/WAAS, increase safety and provide access at many airports that otherwise would not be able to offer precision capability. Increasing the number of LPV approaches will provide greater utility to the approximately 30,000 GA aircraft that are already WAAS-capable, as well as further encourage other operators to equip. In meeting this recommendation, the FAA will increase airspace capacity while limiting the need to install and maintain costly ground-based infrastructure. The FAA will collaborate with stakeholders in prioritizing sites for LPV deployment.

NAS ACCESS

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

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4 Under the Colorado WAM initiative, the state of Colorado in 2009 shared the cost of implementing WAM at four airports where rugged terrain impedes radar coverage. WAM uses multiple sensors to determine aircraft position through the monitoring of transponder signals.

NAS ACCESS

Domains Impacted:

Aircraft & Operators, Airports, Air Traffic

- 2010-2015: Maintain a goal of at least 300 new LPV approaches per year, placing highest priority on the value of new procedures
- 2010: Work with the aviation community to prioritize the schedule of runway ends slated to receive LPV procedures

TASK FORCE RECOMMENDATION
(Operational Capability 28)

Low-Altitude, Non-Radar Access: Provide radar-like services for reduced time and distance flown in non-radar airspace at low altitudes (using ADS-B Out)

Locations: Airports and low-altitude en route and terminal airspace where radar service is not currently available

FAA RESPONSE

At airports outside of radar coverage, current operations are typically limited to one aircraft landing or one aircraft departing at any given time. This limitation significantly impedes access and efficiency. The Task Force seeks to use ADS-B Out to provide radar-like services to non-radar airspace in an effort to reduce time and distance flown.

The agency concurs with the intent of this recommendation. We share the Task Force's view that introducing air traffic control services into non-radar airspace will enable increased safety, capacity and efficiency at airports which currently, due to a lack of surveillance, must employ procedural separation, particularly during periods of adverse weather. As the FAA explores the potential for expanding ADS-B infrastructure deployment in the future, we will maximize the capabilities of ADS-B infrastructure as a means to expand surveillance coverage in collaboration with the aviation community. We are further committed to exploring state and local cost-sharing partnerships, modeled on the Colorado WAM initiative, which could expand surveillance services into low-altitude, non-radar airspace.

ACTION PLAN

- 2010-2013: Continue to deploy ADS-B ground infrastructure
- 2010+: Explore state and local cost-sharing partnerships which could expand surveillance services (e.g., Colorado WAM initiative) into low-altitude, non-radar airspace
- 2011+: Pursue ADS-B program expansion to provide surveillance services in non-radar airspace

CROSS-CUTTING

The Task Force's cross-cutting recommendations are aimed at implementing the communication and data sharing capabilities that will render more flexible, efficient collaborative air traffic management. Today we depend almost solely on voice communication, which results in delays and inefficiencies both on the ground and in flight, reducing opportunities to adjust for weather or other variables that might necessitate a reroute. The effectiveness of air traffic management can be impaired by inadequate communication capabilities as well as poorly understood communications. By employing advanced digital communication and information sharing technologies, the FAA and industry will be able to work together to respond in real time to changing NAS conditions, protecting capacity while minimizing excess fuel burn, carbon emissions and noise.

TASK FORCE RECOMMENDATION
(Operational Capabilities 16, 17, 39, 44 and 42)

Digital air traffic control communications for revised departure clearances, reroutes and routine communications

Locations: NAS-wide, incremental implementation

FAA RESPONSE

Through this recommendation, the Task Force seeks to expedite the implementation of Data Comm Segment 1 to provide near- to- mid-term benefit in both the terminal and en route environments, capitalizing on current standards for equipage. The Task Force also seeks the expanded use of Tailored Arrivals at coastal U.S. airports. Tailored Arrivals are descent procedures that can be customized for a specific aircraft and current weather conditions, making them more time- and fuel-efficient, and more beneficial in the areas of noise and emissions.

The agency concurs with this recommendation and is working to accelerate Data Comm Segment 1 implementation and to leverage existing aircraft capabilities to provide revised departure clearance capabilities. By 2014 we plan to implement the ability to issue revisions to departure clearances due to weather or other airspace issues to one or more aircraft waiting to depart. This capability will provide immediate benefits as a result of reduced delays, fuel burn and emissions. Later in the mid-term, Data Comm will enable more efficient airborne reroute capabilities that will increase the ability to optimize across all phases of flight whenever the need for reroutes exists. This capability will require additional equipage.

FAA demonstrations of Tailored Arrivals have yielded positive results and provided both economic and environmental benefits when the procedures were implemented. The agency concurs with the Task Forces position on Tailored Arrivals and will complete the transition of all findings to meet the requirements for full operational use in specific locations by 2011.

CROSS-CUTTING

Domains Impacted:

Aircraft & Operators, Air Traffic

Domains Impacted:

**Aircraft & Operators,
Air Traffic**

ACTION PLAN

Data Comm Segment 1
- 2011: Deliver a final investment decision on Data Comm Segment 1
- 2014: Enable revised departure clearance capability in the tower environment via VHF Data Link – Mode 2 (VDL-2) for aircraft equipped with Future Air Navigation System (FANS) 1/A+
- 2016: Enable revised departure clearance capability via VDL-2 for aircraft equipped with Aeronautical Telecommunications Network (ATN)
- 2016: Provide airborne reroutes for traffic flow management (TFM) in the en route environment for Data Comm equipped aircraft (FANS 1/A+ or ATN) via VDL-2

Tailored Arrivals
- 2011: Transition Tailored Arrivals from a demonstration project to full operational use (Miami, San Francisco, Los Angeles)
- 2011: Identify potential required changes to automation platforms necessary to support operational implementation of use of Oceanic Tailored Arrivals
- 2011-2014: Collaborate with industry to identify additional coastal airports where there is a positive business case for the implementation of Tailored Arrivals. Due to the dependence of Tailored Arrivals on FANS equipment, these procedures are currently limited to use at airports that support transoceanic traffic.

TASK FORCE RECOMMENDATION
(Operational Capability 47)

Integrated air traffic management: Facilitate an integrated system-wide approach (Collaborative Decision Making/Traffic Flow Management/Air Traffic Control)

Locations: NAS-wide

FAA RESPONSE

This Task Force recommendation seeks the continued enhancement of aviation stakeholders' ability to collaborate on real-time responses to enable an integrated approach to shifting air traffic flows, both in U.S. airspace and throughout the world.

The FAA concurs with this recommendation and will pursue implementation of an integrated system-wide approach to manage the flow of traffic throughout the system. Building on collaborative decision making (CDM) initiatives, the agency will implement improved real-time collaboration decision support tools and the availability to share common data between industry and air navigation service providers. The advancement of real-time collaboration capabilities enables more efficient aircraft movement and improves the use of all available airspace. Implementation of these CDM capabilities will allow system-wide traffic flow adjustments as required during daily operations to improve both efficiency and capacity. Through continued collaboration with industry a CDM/TFM roadmap will be developed to establish a multiyear plan to ensure continuous capability improvements. By 2012, the existing traffic flow management system (TFMS) will initiate electronic negotiation capability which will allow more efficient

flight planning. In addition to the cost and environmental benefits associated with reduced fuel burn, this approach to air traffic flow management allows for optimal use of available surface resources.

ACTION PLAN

- 2010-2011: Continue the analysis necessary to develop the requirements needed to implement proven decision support tools and data sharing capabilities
- 2011: In collaboration with aviation stakeholders, deliver a mid-term traffic flow management capabilities roadmap that outlines improvements that can be accomplished in the 2014-2018 timeframe
- 2012: Upgrade the existing TFMS to include an initial electronic negotiation capability for more efficient flight planning

TASK FORCE RECOMMENDATION
(Operational Capabilities 7b, 8 and 46)

Improve Collaborative Air Traffic Management automation to negotiate user-preferred routes and alternative trajectories

Locations: NAS-wide

FAA RESPONSE

Through this recommendation, the Task Force seeks the implementation of Collaborative Air Traffic Management capabilities that will allow operators and air traffic control to negotiate user-preferred routes and alternative trajectories during times of high congestion.

The FAA concurs with this recommendation. The ability to negotiate user-preferred routes and alternative trajectories in-flight increases NAS flexibility and will allow for more efficient use of available airspace. Such capability would render benefits in the form of reduced delays, as well as the economic and environmental benefits associated with reduced fuel burn.

ACTION PLAN

- 2011-2016: Deploy the ability for traffic managers to electronically transmit reroutes from the traffic flow management automation to en route automation for delivery to the pilot and dispatcher:
  - o   2011: Predeparture reroutes (Tower)
  - o   2014: Airborne reroutes (En Route)
  - o   2016: More complex RNAV clearances, dependent on Data Comm
- 2011: Institute TBFM, a series of enhancements to the TMA decision support tool (dependent on first quarter calendar year 2010 TBFM final investment decision)
- 2012: Upgrade the existing TFMS to include an initial electronic negotiation capability for more efficient flight planning

CROSS-CUTTING

Domains Impacted:

Aircraft & Operators, Air Traffic

POST-TASK FORCE RECOMMENDATION

The Task Force report included several recommendations about continuing to work together. In particular, the report called for the FAA to establish institutional mechanisms to facilitate continued transparency and collaboration in the planning, implementation and post-execution assessment of future activities. Since many of the recommendations suggested collaboration between government and industry, we wish to use already developed forums when appropriate and initiate new forums only when necessary. In May 2010, the FAA will provide a comprehensive proposal for future NextGen engagement with the aviation community. We expect that this proposal will be informed by discussion at the RTCA Spring Forum scheduled for April 6-7, 2010, when the FAA will present our responses to Task Force recommendations, including the agency rationale for not adopting a limited number of proposed activities.

The FAA enlisted the assistance of the Task Force leadership in clarifying Task Force recommendations as the agency was completing this edition of the NextGen Implementation Plan. We acknowledge the need for continued coordination for both planning and execution of NextGen capabilities.

Finally, the report recommended that the FAA and the aviation community track the progress of NextGen plans and operations. By spring 2010, the FAA will initiate work with the aviation community to determine which metrics to use and/ or develop to track NextGen performance from the stakeholder, programmatic and operational perspectives.

ACTION PLAN

- 2010: Provide comprehensive proposal for future NextGen engagement with the aviation committee

ACRONYMS

ACM	Adjacent Center Metering	NRS	National Reference System
ADS-B	Automatic Dependent Surveillance – Broadcast	OEP	Operational Evolution Plan
		PBN	Performance Based Navigation
AIM	Aeronautical Information Management	PRM-A	Precision Runway Monitor-Alternative
ASDE-3	Airport Surface Detection Equipment – Model 3	RF	Radius-to-fix
		RNAV	Area Navigation
ASDE-X	Airport Surface Detection Equipment – Model X	RNP	Required Navigation Performance
		RPI	Relative Position Indicator
ATM	Air Traffic Management	RTA	Required Time of Arrival
ATN	Aeronautical Telecommunications Network	RTCA	Aviation industry group; www.rtca.org
		SAA	Special Activity Airspace
ATPA	Automated Terminal Proximity Alert	SCT	Surface Collaborative Decision Making Team
ATSAP	Air Traffic Safety Action Program		
CAP	Collaborative Arrival Planning	SID	Standard Instrument Departure
CARTS	Common Automated Radar Terminal System	SMS	Safety Management System
		STAR	Standard Terminal Arrival Route
CDM	Collaborative Decision Making	STARS	Standard Terminal Automation Replacement System
CRDA	Converging Runway Display Aid		
CSPO	Closely Spaced Parallel Operations	SWIM	System Wide Information Management
DoD	Department of Defense	TBFM	Time Based Flow Management
ERAM	En Route Automation Modernization	TBM	Time Based Metering
FAA	Federal Aviation Administration	TFDM	Tower Flight Data Management
FANS	Future Air Navigation System	TFM	Traffic Flow Management
GA	General Aviation	TFMS	Traffic Flow Management System
GLS	Global Navigation Satellite System Landing System	TMA	Traffic Management Advisor
		UAS	Unmanned Aircraft Systems
GPS	Global Positioning System	VDL-2	VHF Data Link Mode-2
ILS	Instrument Landing System	VHF	Very High Frequency
LPV	Localizer Performance with Vertical Guidance	VNAV	Vertical Navigation
		WAAS	Wide Area Augmentation System
NAS	National Airspace System	WAM	Wide Area Multilateration
NEPA	National Environmental Policy Act		
NextGen	Next Generation Air Transportation System		

AIRPORT AND FACILITIES IDENTIFIERS

OEP AIRPORTS

ATL	ATLANTA
BOS	BOSTON
BWI	BALTIMORE/WASHINGTON
CLE	CLEVELAND
CLT	CHARLOTTE
CVG	CINCINNATI/NORTHERN KENTUCKY
DCA	WASHINGTON NATIONAL
DEN	DENVER
DFW	DALLAS/FORT WORTH
DTW	DETROIT
EWR	NEWARK
FLL	FORT LAUDERDALE
HNL	HONOLULU
IAD	WASHINGTON DULLES
IAH	HOUSTON INTERNATIONAL
JFK	NEW YORK KENNEDY
LAS	LAS VEGAS
LAX	LOS ANGELES
LGA	NEW YORK LAGUARDIA
MCO	ORLANDO
MDW	CHICAGO MIDWAY
MEM	MEMPHIS
MIA	MIAMI
MSP	MINNEAPOLIS/ST. PAUL
ORD	CHICAGO O'HARE
PDX	PORTLAND (ORE.)
PHL	PHILADELPHIA
PHX	PHOENIX
PIT	PITTSBURGH
SAN	SAN DIEGO
SEA	SEATTLE/TACOMA
SFO	SAN FRANCISCO
SLC	SALT LAKE CITY
STL	ST. LOUIS
TPA	TAMPA

ADDITIONAL AIRPORTS

ANC	ANCHORAGE
BNA	NASHVILLE
CMH	COLUMBUS
DAL	DALLAS LOVE
IND	INDIANAPOLIS
RDU	RALEIGH/DURHAM
SAT	SAN ANTONIO
SDF	LOUISVILLE

AIR ROUTE TRAFFIC CONTROL CENTERS

ZAB	ALBUQUERQUE CENTER
ZLA	LOS ANGELES CENTER
ZSE	SEATTLE CENTER
ZOA	OAKLAND CENTER
ZLC	SALT LAKE CITY CENTER
ZDC	WASHINGTON CENTER
ZHU	HOUSTON CENTER
ZNY	NEW YORK CENTER

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