



## MEMORANDUM

TO: Mayor and City Council Members

FROM: Jim Smith, Executive Director  
Aviation Department 

DATE: April 26, 2017

SUBJECT: Federal Aviation Administration's NextGen Implementation

I am writing to inform you of the recent Federal Administration's (FAA) presentation to the Austin Airport Advisory Commission regarding the FAA's NextGen Program and their plan to implement NextGen in the Fall of 2017.

The FAA's NextGen program applies to the National Airspace System; the basis for NextGen is a set of evolving air traffic control and aircraft navigation technologies designed to transform the US air traffic control system from a ground-based system to a satellite-based system. When implemented, NextGen will allow aircraft to fly more direct routes, thus reducing aircraft operating times and delays, fly at a reduced power setting and provide benefits for the environment through reductions in carbon emissions, fuel consumption, and noise exposure in some areas. However, in some areas, some people will see aircraft where they have not seen aircraft before.

The NextGen program includes making adjustments to the extended flight paths for Austin Bergstrom International Airport (ABIA). These adjustments will shift flight paths in the Austin airspace in areas where people normally did not see commercial aircraft. The FAA presented a video detailing the adjustments of extended arrival and departure paths into and out of ABIA, and they have posted the video to their NextGen website, attached below is a link to their video presentation.

<https://www.faa.gov/nextgen/communityengagement/aus/>

The FAA follows the National Environmental Policy Act (NEPA), and FAA Order 1050.1, and is in the process of conducting their environmental review for Austin's NextGen implementation. The environmental review includes modeling for changes in aircraft noise and air emissions and the findings will be posted in summer of 2017 on the same website link.

Aviation staff will be monitoring the NextGen implementation, and will be working with the FAA for any outreach opportunities to keep the Airport Advisory Commission informed on the FAA's NextGen program. Attached is an industry information sheet regarding NextGen. If you have any questions, feel free to contact me at 512-530-7518.

Xc: Elaine Hart, Interim City Manager  
Bert Lumbreras, Assistant City Manager



## NEXTGEN AND AIRPORTS

### Introduction

For the past 3 years, ACI-NA has made the point that the FAA's Next Generation Air Transportation System—NextGen—begins and ends at airports. NextGen is the FAA's blanket term for modernization of the U.S. air traffic control system. NextGen includes the frequently-mentioned transition from ground-based air traffic navigation and surveillance systems and flight procedures (e.g., instrument landing systems and radar) to satellite-based systems. It also includes improvements in the way air traffic data is collected, distributed, and used throughout the national air transportation system as well as significant improvements in the automation of air traffic control systems.

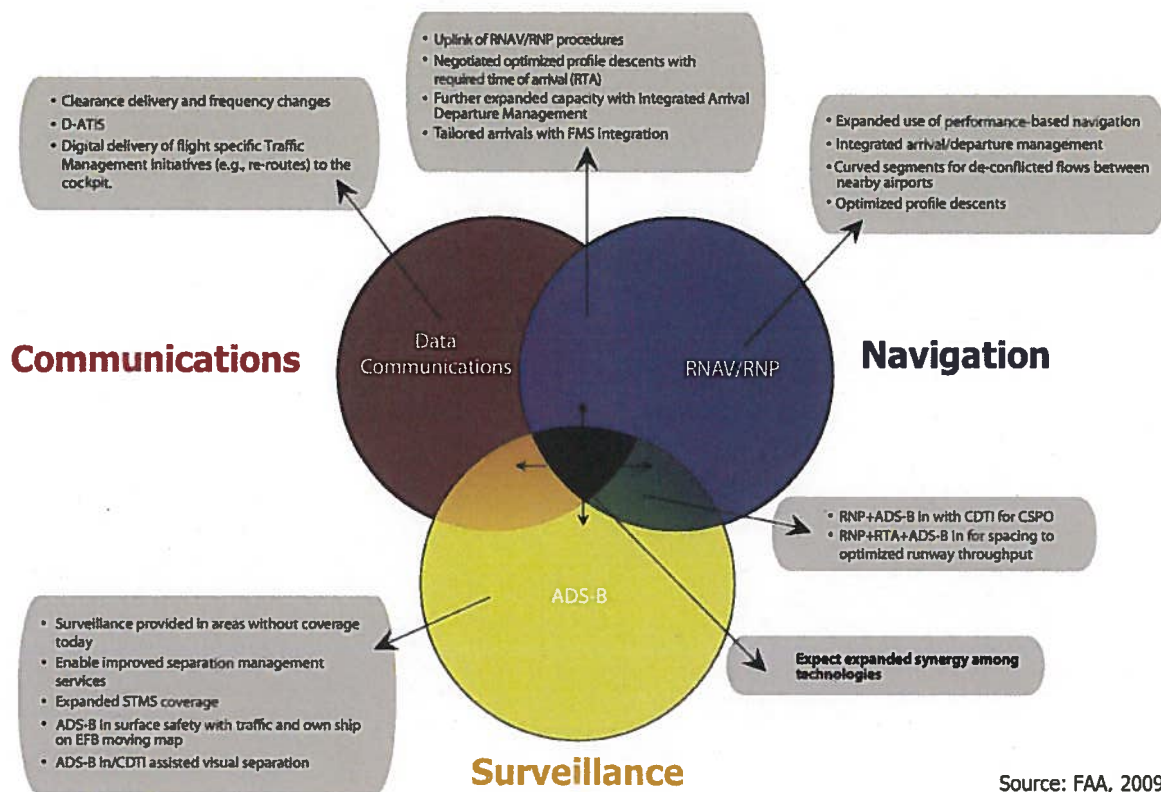
The diagram on the following page shows the three major building blocks of NextGen:

1. **Area Navigation/Required Navigational Performance (RNAV/RNP) flight procedures**, which enable aircraft to fly precise, more efficient flight paths without the need for ground-based navigational aids.
2. **Automated, dependent surveillance-broadcast (ADS-B) surveillance systems** that will enable aircraft to be tracked accurately in the air and on the ground without radar.
3. **Enhanced data communications capabilities** that will enable airports, airlines, private aircraft operators, and air traffic controllers to have a common, shared operational picture and facilitate advanced air traffic control automation.

### What Can NextGen Do for Airports?

Why does NextGen matter so much to airports? Delay data collected by the FAA consistently shows that airports—especially those in congested metroplex areas—are where the majority of delays are incurred. However, the impacts of these delays congestion extend far beyond these airports. Smaller airports with air service to these metroplexes are frequently affected by ground delay programs and other traffic management initiatives, which delay departing flights. These impacts are especially significant for airports like Madison, Wisconsin; Fresno, California; and Allentown, Pennsylvania at the edge of metroplex airspace. Passengers that use these airports weigh these potential delays—and how they affect the reliability of their flight connections—when deciding whether they should fly from their hometown airport or drive directly a hub airport instead.

Regardless of where they occur, high airport delays leave passengers frustrated, angry, and disappointed. They hurt airport efforts to serve the traveling public and maintain high levels of customer service. They also hurt productivity and economic competitiveness.



NextGen promises to reduce these delays by reducing the impact that poor weather conditions have on airport capacity, reducing delay-causing interactions among nearby airports, and enabling airports to make use their existing infrastructure more effectively. These benefits will result from enhanced airport surface surveillance and traffic management, improved flight procedures, and reduced separations, all of which are enabled through implementation of NextGen surveillance, communications, and navigation technologies.

Smaller airports also stand to gain from NextGen implementation, which offers the potential for new, inexpensive instrument approach procedures; expanded radar-like surveillance coverage—especially in mountainous areas; and enhanced margins of safety.

NextGen's RNAV/RNP flight procedures also open up new frontiers in airspace procedure design and will hopefully enable reductions in aviation noise impacts on surrounding communities via innovative flight procedure design.

As shown in the diagram below, NextGen's impacts will vary from airport to airport. Small airports in the mountain west may gain new instrument approaches via RNAV/RNP that couldn't be provided with traditional instrument landing systems as well as radar-like surveillance services that improve airport access. Large airports in major metropolitan areas will experience delay reductions and may have the opportunity to "deconflict" flight procedures to and from nearby airports through RNAV/RNP and ADS-B. All airports will see improvements to safety through better flight procedures and enhanced airborne and surface surveillance of aircraft and ground vehicles.



**Non-hubs:** Better airport access, enhanced surveillance, improved safety



**Small and medium hubs:** Reduced ground infrastructure needs, reduced environmental impacts, enhanced ability to support large hubs



**Large hubs:** Capacity enhancement, new airfield development concepts, reduced airport interactions

Cumulative Capability

#### Need for Airport Involvement in NextGen Planning & Implementation

In order to realize NextGen benefits, airport operators—who know the communities they serve best—must be involved in the development of NextGen capabilities in and around their airports early in their development to ensure noise and other environmental impacts on their surrounding communities are considered appropriately. This is especially true when NextGen implementation involves changes to existing flight procedures and associated aircraft noise exposure. Without such involvement, we risk potentially lengthy and expensive legal and environmental challenges to NextGen initiatives. As importantly, we also risk undermining hard won credibility that airports have established with their communities.

Fortunately, the FAA has been reaching out to airports around the country to involve them in NextGen implementation efforts. Whether at the national level—via groups like the NextGen Advisory Committee—or in local or regional forums—such as the ongoing Optimization of Airspace & Procedures Study Team, this collaboration among the airports, aircraft operators, and the FAA is proving critical to successful NextGen implementation. We encourage the FAA continue and enhance such collaboration, even in the face of the aggressive RNAV/RNP procedure implementation deadlines mandated by Congress in FAA reauthorization legislation.