

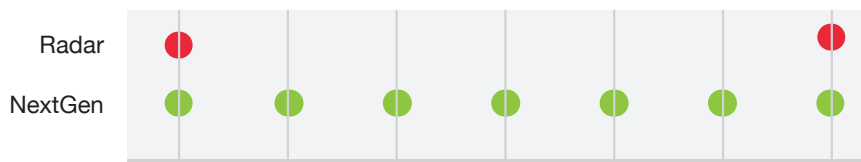
# NextGen: An Overview

NextGen, the Next Generation Air Transportation System, is a set of programs being implemented by the Federal Aviation Administration (FAA) over the next several years. This modernization program is a complex undertaking that the FAA believes will lead to more efficient and accurate flight trajectories that will benefit travelers and airlines.

## SOME BACKGROUND

Since the 1950s, airplanes have been guided by radar systems. While there have been steady improvements to the technology, satellite-based Global Positioning Systems (GPSs) can deliver more precise position information. For example, due to radar tracking's limitations, planes maintain a 5-mile buffer in the air and a 3-mile one on landings.

### NextGen Updates Positions Much More frequently



*Radar-based systems update positions once every 6–12 seconds. However, NextGen-based systems update every second, making flying safer.*

GPS and digital technologies will change that. They provide the precise position of an airplane, whether over land or water, to air traffic controllers and other aircraft within 150 miles. GPS also updates the aircraft position every second, which is more frequently than the 6 to 12 seconds with radar.

## ADVANCING AIR SAFETY

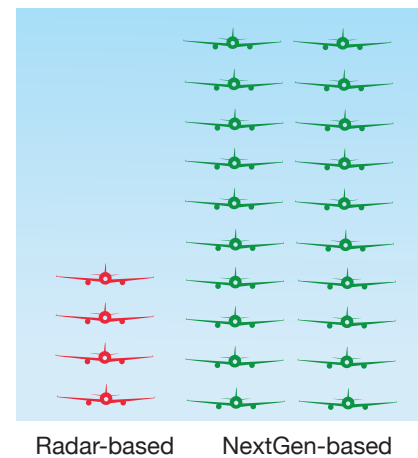
The new navigation procedures enabled by NextGen will improve the management of air traffic, making our already safe skies even safer. NextGen also enables shorter and more direct flight paths. These, too, increase system safety.

## BOOSTING EFFICIENCY

Weather has often been a major factor in flight delays. With GPSs, airports can now support take-offs and landings when low clouds would have limited or prevented aircraft from flying or landing.

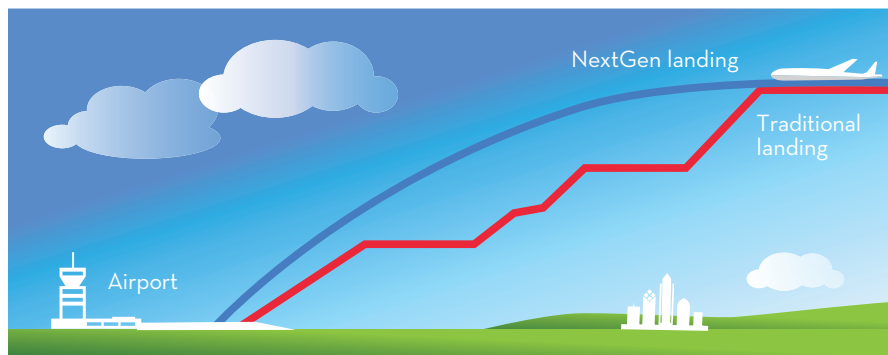
NextGen affects every aspect of the air travel experience, from departure gate to arrival gate. Knowing the exact position of aircraft on the ground allows better timing of gate pushback, reduces stacked airplanes waiting

### Slope Time



*Ski season in Colorado brings big business from tourism. Traditionally, unpredictable weather from November to April meant about 75 flight delays per day at some close-to-the-slopes airports. Complaints were rampant. Frustrations were elevated. Following the installation of critical NextGen infrastructure the complaints have dropped to zero. How precise is it? Before NextGen controllers could only accept four arrivals and departures per hour. With NextGen: 15 to 20 per hour.*

for takeoff, and enables controllers to more efficiently guide aircraft to the gate.

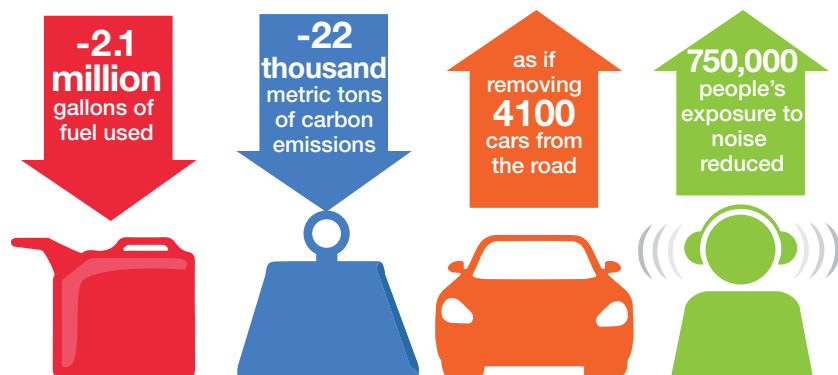


*The Greener Skies Over Seattle initiative has demonstrated environmental benefits.*

The new system allows pilots to land in a continuous descent approach, unlike the traditional “stairstep” approach currently used in some locations. This new descent is much smoother as airplanes are better able to glide in at reduced thrust.

## IMPROVING THE ENVIRONMENT

With NextGen, airport takeoffs and landings follow more precise flight tracks. Continuous descent reduces nitrous oxide emissions. Along with better management of airplanes on the ground, this means less fuel burned and lower exposure to noise from gate to gate.



## FIND OUT MORE

Visit [www.faa.gov/nextgen/](http://www.faa.gov/nextgen/) to learn more.

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