



# LAX/Community Noise Roundtable

Aviation Noise News Update

January 10, 2017

# World's Largest Jet Engine Begins Flight Testing



General Electric has mounted its GE9X engine on its Boeing 747-400 flying testbed to begin flight tests of the largest jet engine ever developed

- The 105,000 lb. thrust engine will be installed on Boeing's 777X commercial passenger aircraft
- The 11' 2" fan blades will be housed in a 14' 6" nacelle, which is larger than a 737 fuselage
- The first flight of a GE9X on a 777-9 is expected to occur in early 2019
- Despite its size, the GE9X is expected to be the quietest and cleanest GE engine ever produced in terms of pounds of thrust per decibel
- The 777-9 must meet the Stage 5 noise standards to operate in the United States



Image Credit: General Electric

# ACRP Solicits Submissions to its New IdeaHub



In November 2017, the Airport Cooperative Research Program (ACRP) announced the availability of its web-based IdeaHub tool at <https://ideahub.trb.org/>

- Annually, ACRP solicits ideas on a wide range of aviation issues (e.g., aircraft noise) that would benefit from focused research
- The IdeaHub tool is intended make the process of submitting and selecting research ideas easier, more transparent, and more collaborative
- ACRP stated, “After registering, anyone can share an idea that could help the airport industry.”
- IdeaHub users may vote in favor of or against research ideas. Research ideas that address a clear need and have wide support may become formal Problem Statements that then compete for research funding
- An idea submitted by Roundtable Facilitator Steve Alverson titled, “Identifying Viable Techniques for Modifying NextGen Flight Track Design to Reduce Community Noise Exposure and Annoyance,” received widespread support and has moved into the team building phase of the process



Image Credit: ACRP

(<https://crp.trb.org/ideahub/>)

(Airport Noise Report: Volume 29, Number 42, December 1, 2017)

# FAA and Phoenix Submit Plan to Court for Approval



On November 30, 2017, the FAA and City of Phoenix submitted to a federal appeals court a joint plan to return to the flight tracks that predated the RNAV flight tracks that resulted in widespread community complaints and lawsuits

- First step of the two step plan is to replicate to the greatest extent practicable the pre-September 2014 flight tracks
  - The FAA will engage in community outreach with the support of the City before completing this step
- The second step is to develop satellite-based procedures for westbound departures that approximate the pre-September 2014 flight tracks
  - The FAA will consider feedback on the procedures from throughout the Phoenix area
- The FAA will also conduct safety and environmental reviews of the revised procedures
- Phoenix Mayor Greg Stanton said, “This agreement will make sure that those most impacted by noise as a result of the 2014 changes will get quicker relief.”

# Release of FAA Annoyance Survey Results Delayed

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The FAA did not release of the results of the new national aircraft noise annoyance survey at the end of 2017 as expected

- The FAA provided no explanation for the delay and has not provided an updated release date
- The survey, conducted at 20 unidentified airports nationwide, may provide the basis for the FAA to change the longstanding DNL 65 standard that is used to delineate incompatible land uses that may be eligible for federally funded noise mitigation programs such as sound insulation
- Community groups and elected officials have requested that the FAA lower the current DNL 65 standard to DNL 55
- The FAA will conduct a public review and comment process after the survey results are released

# Crossover Narrowbody Jets Meet Noise Challenge



By working closely with engine manufacturers, crossover narrowbody jet manufacturers are providing integrated solutions to reducing aircraft noise

- Crossover narrowbody jets are slightly larger than regional jets, but on the smaller end of the mainline air carriers' fleets; typically in the 70 to 150 seat range
- Bombardier, Mitsubishi, and Embraer are working closely with Pratt & Whitney to optimize the noise reduction abilities of the PW1000G Geared Turbofan (GTF) engine by modifying their aircraft designs
- Mitsubishi's Director of Propulsion and Mechanical Systems Christian Soomarchun said, "The GTF engine has been optimized for the MRJ and the MRJ optimized for the GTF engine."
- Pratt & Whitney's Vice President of PW1000G programs Graham Webb said, their family of engines "is unique among powerplants in that the geared architecture allows the fan blades to spin at their optimal speed—1/3 the speed of the turbine. With the fan rotating slower, fan tip speeds are slower, resulting in significant noise reduction. The GTF engine's technology and architecture result in a 75% smaller noise footprint [than current equivalents]."



Image Credit: Mitsubishi Aircraft Corp.