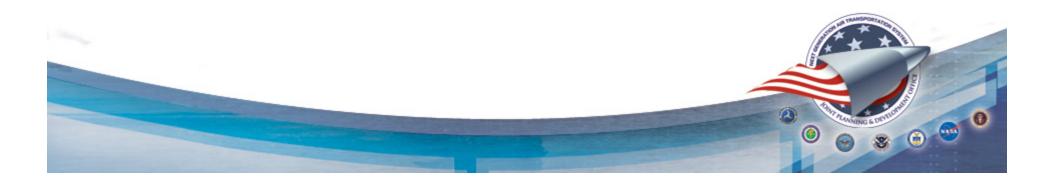# Today's ATM System

- A complex, highly safety critical man machine system

- Procedural command and control system

- Designed to help people (the air traffic controllers) do their job

- Separate aircraft and manage traffic flows

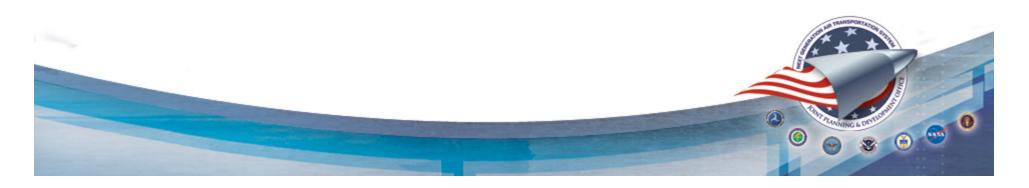- "Automation" consists of real time info displays, some decision support tools

NexGen 2025 ATM System

- Much more highly automated
- New role for people and for machines (machines responsible for many functions, including aircraft separation)
- More done in cockpit – NexGen system is distributed on ground and in the air
- Direct communication between computers in airplane and computers on the ground

NexGen System Needs

- System design will include backup and recovery mechanisms involving both people and computers

- Software safety will have to consider people and computers on ground and in airplane as an integrated system

- Will need faster time to certification

- NexGen will require compatibility between certification of air and ground systems

- Will be subject to frequent software upgrades

Thank You!

contact info:
andres.zellweger-1@nasa.gov
202.220.3392