



# **The Choctaw Nation of Oklahoma**

## **The UAS IPP & Starting a UAS Program**

### **September 2020**

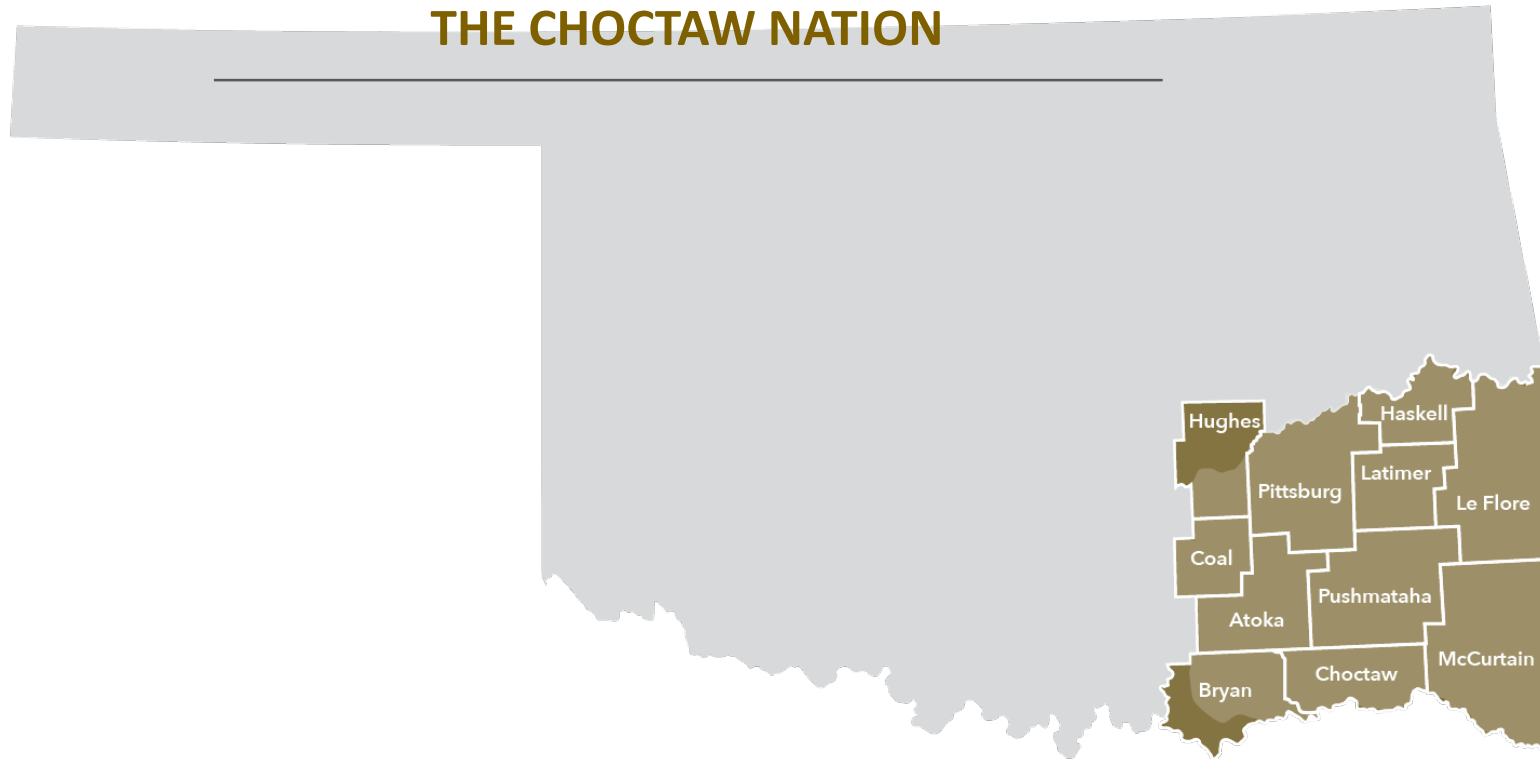


## J. Grimsley's Background

- B.S. – Aerospace Engineering
- M.S. – Mechanical Engineering
- **Current Executive Director of Advance Technology Initiatives – Choctaw Nation of Oklahoma**
- **Current Oklahoma Transportation Commissioner**
- Former Associate Vice President for Research at the University of Oklahoma
- Former Assistant Vice President at Science Applications International Corporation (SAIC)
- Former electronics engineer with the U.S. Air Force
- Founding President of the Unmanned Systems Alliance of Oklahoma (USA-OK)
- AUVSI Member of the Year in 2014



## THE CHOCTAW NATION



The Choctaw Nation consists of 10½ counties in the southeastern part of Oklahoma. The Choctaw Nation is bounded on the east by the State of Arkansas, on the south by the Red River, on the north by the South Canadian, Canadian and Arkansas Rivers. The western boundary generally follows a line slightly west of Durant, then due north to the South Canadian River.



# Emerging Aviation Technology and Value to the Choctaw Nation

- As the third-largest tribal government, we have unique government responsibilities and functions that can benefit from advanced aviation technology
- Part of our mission is to seek and develop economic opportunities for tribal members and our communities
- We have a strong interest in building a strong STEM pipeline



# Oklahoma Department of Transportation

- ODOT currently utilizing UAS for similar applications as other states
  - Agency use - drones purchased by the department and those are operated by Office Services Division.
  - Drones as a service (engineering) - drones are frequently used on engineering contracts for everything from the more advanced Lidar surveying to video footage of construction sites during construction management.



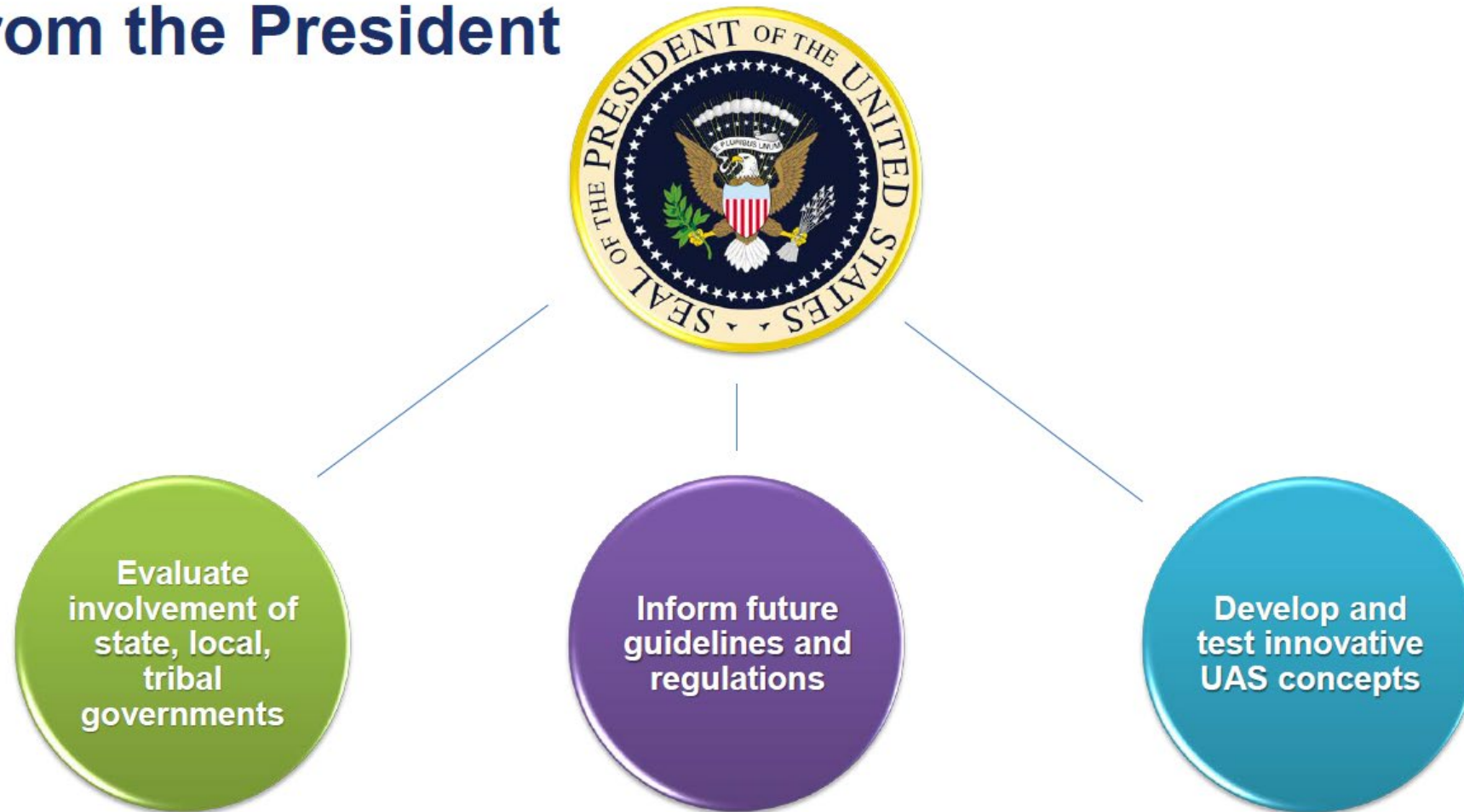


# The UAS Integration Pilot Program (IPP)





## From the President





## Choctaw Nation Selected to Participate in FAA Drone Program Known as UASIPP

by STACY HUTTO



Chief Gary Patton and representatives from the City of San Diego, California; Innovation and Entrepreneurship Investment Authority, Herndon, Virginia; Kansas Department of Transportation, Topeka, Kansas; Lee County Mosquito Control District, Ft. Myers, Florida; Memphis-Shelby County Airport Authority, Memphis Tennessee; North Carolina Department of Transportation, Raleigh, North Carolina; North Dakota Department of Transportation, Bismarck, North Dakota; The City of Reno, Nevada; and the University of Alaska - Fairbanks, Fairbanks, Alaska learned they had been chosen for the initial Unmanned Aircraft Systems, or drones, Integration Pilot Program, or UASIPP, when U.S. Transportation Secretary Elaine L. Chao made the announcement on Wednesday, May 9.

### Tribes:

- Choctaw Nation of Oklahoma

### States:

- North Carolina
- Virginia
- Kansas
- Alaska

### Cities:

- Reno, Nevada
- San Diego, California

### Airport Authorities:

- Memphis-Shelby County Airport Authority





# How the Choctaw Nation Strategically Leveraged the UAS IPP

- Developed strategic industry and academic partnerships
- Developed a robust structure for community stakeholder engagement
- We were able to carefully analyze and develop a vision and plan for an emerging aviation technology test range



# Choctaw Nation UAS IPP Winning Team

- Industry partners such as Bell Flight, GE/AIRXOS, Intel Corporation, uAvionix, Iris Automation, American Electric Power (AEP) and Public Service of Oklahoma (PSO)
- The Noble Research Institute (NRI) was our sole agricultural partner and subject matter experts
- Academic partners: Oklahoma State University (OSU) and University of Oklahoma (OU)

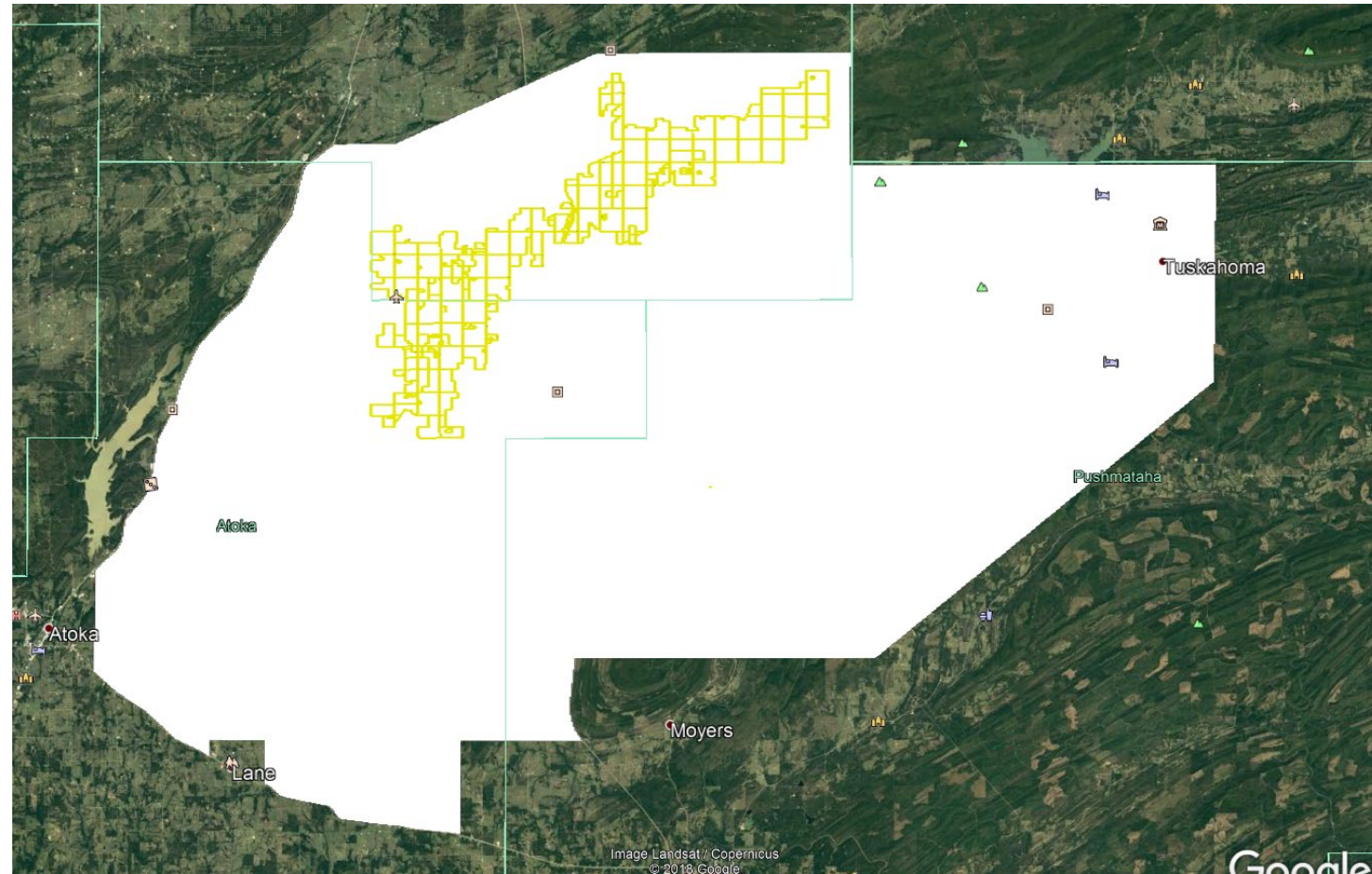


# Choctaw Nation UAS IPP Missions

Type	Priority	Mission
<i>Ag Operation</i>	1	Feral Hog Trap Re-bait
<i>Ag Inspection</i>	2	Night-time agricultural inspection
<i>Public Safety</i>	3	Operations over People / Public Safety
<i>Government Function</i>	1	CNO GIS
<i>Ag Inspection</i>	2	Livestock Monitoring
<i>Public Safety</i>	3	Fire Manangment Applications
<i>Ag Inspection</i>	2	Property Security
<i>Ag Inspection</i>	2	Ag-related Infrastructure Inspection
<i>Public Safety</i>	3	Weather Research Mission
<i>Ag Inspection</i>	2	Weed Management
<i>Ag Inspection</i>	2	Fence Monitoring
<i>Ag Inspection</i>	2	Crop Monitoring/Scouting
<i>Ag Inspection</i>	2	Range & Soil Health Monitoring
<i>Ag Inspection</i>	2	Wildlife Monitoring
<i>Ag Inspection</i>	2	Remote data harvesting



# “Airspace 5”





# Choctaw Nation UAS IPP Community Stakeholder Outreach





## Townhalls and Community Outreach

- First ever IPP community outreach meeting in the U.S. on July 31, 2018 in Atoka, OK
- Reached thousands of people through multiple townhall meetings, community outreaches, and many industry events







## CNO Conference and Camp

- Hosted 29 Choctaw youth at initial drone camp
- 2019 Emerging Aviation Technology Conference - largest gathering in Oklahoma focused on drones and emerging aviation with approximately 376 attendees







# NASA chief praises Choctaw drone program

Posted: Jan 17, 2020 4:20 PM CST  
Updated: Jan 17, 2020 4:22 PM CST

By Baylee Bates, KTEN News



DURANT, Okla. -- Choctaw Nation headquarters had a special visitor on Friday: NASA Administrator Jim Bridenstine, who attended an event highlighting the [Unmanned Aircraft Systems Integration Pilot Program](#).

That's an FAA drone program with the [Choctaw Nation](#) and eight other government entities

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Members test drones to help establish a regulatory



NASA Administrator Jim Bridenstine, left, is welcomed by Choctaw Nation Chief Gary Batton. (KTEN)



## Choctaw Nation Obtains Public Aircraft Operations Authorization

by Native Business Staff | Feb 10, 2020 | Featured, Happening Now, News, Technology



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## Bell's APT 70 multicopter completes first BVLOS flight

Posted on February 18, 2020 by Vertical Mag



The Bell Autonomous Pod Transport (APT) 70 multicopter drone has completed its first beyond visual line of sight (BVLOS) flight, traveling along a 10-mile path at Choctaw Nation test site under the Unmanned Aircraft Systems Integration Pilot Program (UASIPP).



The Bell Autonomous Pod Transport 70 is capable of rotation and translation in flight to achieve high speeds and long-range flight. Bell Photo

The trial, completed on Jan. 16, is one of over 120 flights Bell has now performed with the APT 70, including an 18-mile flight with a 60-pound payload at Bell's testing site near Fort Worth, Texas.

"Our partnership with Choctaw under the UASIPP has allowed us to push the boundaries on our eVTOL technology," said John Wittmaak, program manager, UAS. "By unlocking new



Choctaw Nation of Oklahoma and Bell Announce Agreement as part of the FAA UASIPP

See all news



# Choctaw Nation Major IPP Accomplishments

- First tribal government to participate as a lead participant
- First tribal government to be recognized by the FAA as a “public aircraft operator” or PAO



## Some Lessons Learned

- The local communities are far more accepting of UAS and advanced aviation technologies than commonly believed
  - Transparency and involvement are crucial to success
- True BVLOS for small UAS will not be ubiquitous in the near future
- Tribal governments can be very successful lead participants in advanced transportation pilot programs
- Emerging aviation technology can improve quality of life in rural communities





# Tips for Starting a UAS Program

- First, recognize and realize that UAS are part of aviation, and subject to the aviation regulatory process and system.
- Second, a commitment to public stakeholder involvement is critical:
  - Transparency is critical
  - Develop and follow consistent policies for data collection, data retention, and data use
  - Provide access for the public to comment and communicate



## Tips for Starting a UAS Program, Cont'd

- Third, set realistic goals and expectations for the UAS program.
  - Remember that UAS is a tool, and is a great tool for some applications, and less useful or practical for others.
  - Remember that the aviation regulatory process is slow-moving.
- Fourth, make sure and seek expert involvement and advice
  - Can help with developing training programs for staff
  - Can help navigate the regulatory process



**jgrimsley@choctawnation.com**  
**Cell: 405-514-7365**