ADVANCED TECHNOLOGY INITIATIVES

James L. Grimsley / Executive Director – Advanced Technology Initiatives
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.
Why?
U.S. traffic deaths per capita
Annual percent change ending in September of each year

Source: National Highway Safety Administration
The Great Horse-Manure Crisis of 1894

The problem solved itself.

Wednesday, September 1, 2004

We commonly read or hear reports to the effect that “If trend X continues, the result will be disaster.” The subject can be almost
Easter morning 1900: 5th Ave, New York City. Spot the automobile.

Source: US National Archives.

Easter morning 1913: 5th Ave, New York City. Spot the horse.

Source: George Grantham Bain Collection.
Electric Propulsion
May 2018: Choctaw Nation of Oklahoma selected as only tribal government to participate in the FAA UAS Integration Pilot Program (IPP).

October 2020: Choctaw Nation started the FAA BEYOND program as the UAS IPP ended. BEYOND program is 4 years.
Choctaw Nation of Oklahoma Emerging Aviation Technology Center

- The Choctaw Nation of Oklahoma (CNO) is the third largest federally-recognized Native American tribe in the United States.
- CNO is constructing an advanced aviation testing center located on 44,000+ acres of tribally-owned land in Southeastern Oklahoma.
- The test range is 25 miles long and can support a variety of testing scenarios for emerging aviation technology such as safe beyond visual line of sight (BVLOS) operations of unmanned aircraft and rapid access to flight testing for electric vertical take-off or landing (eVTOL) systems.
- CNO is making considerable investments in infrastructure (buildings, landing facilities, ground-based radar, communications links, etc.) to support a variety of test activities.
- The CNO was the only tribal government selected to participate in the Federal Aviation Administration (FAA) UAS Pilot Program (UASIPP) and is the only tribal government participating in the follow-on FAA BEYOND program.
- Package delivery, linear infrastructure inspection and weather research will be our focus during the BEYOND program.
Emerging Aviation Technology Center
Choctaw Nation of Oklahoma Emerging Aviation Technology Center
Ground-Based Radar System
Choctaw Ranch is:
- 135 miles to Plano, TX
- 115 miles to Tulsa, OK
- 118 miles to Ft. Smith, AR
- 150 miles to Oklahoma City, OK
- 155 miles to DFW Airport
“Emerging technologies can be an ‘equalizer’ for quality of life and safety for rural and remote areas.”
National Rural Health Association Policy Brief

EMS Services in Rural America: Challenges and Opportunities
Nikki King, MHSA, Marcus Pigman, MHA, Sarah Huling, BS- ARRT, ARDMS, and Brian Hanson, PhD

Executive Summary:

Across the United States, about 57 million people, or 18% of the total population, call rural communities home. While rural America may conjure idyllic images of family farms, the truth is far more staggering. Rural Americans, on average, tend to be older, sicker, and poorer. The Centers for Disease Control (CDC) concludes in a recent report that “percentages of potentially excess deaths among persons aged <80 years from the five leading causes were higher in nonmetropolitan areas than in metropolitan areas,”. 26.7% of rural children live in poverty, a nearly 7% increase in recent years due, for the most part, to declining average family incomes. In addition to declining incomes, the gap in life expectancies between rural and urban Americans has also been widening. A study of data that ranged from 1969-2009 found that the average life expectancy of rural Americans was just 76.7, nearly 2.5 years below that of their urban counterparts. However, in some rural regions, the difference between urban and rural life expectancies is as much as 20 years. Despite this clear need for increased healthcare access in rural areas, only 9% of practitioners in the U.S. work in rural America. Additionally, rural hospitals are facing closure crisis, with about 41 percent of Critical Access Hospitals (CAHs) facing negative operating margins, which further decreases possible points of care for people with a pronounced need.
Other Missions
Forest Fire Missions
Pecan Grove Inspections..
Infrastructure Inspection

Aerial Image showing Cross Member damage only observable from the air
Search and Rescue at Night

Lost puppy hiding under a tree

Cattle heat signature in mountains
Tornado Post-Damage Assessment Flights
Tornado Post-Damage Assessment Flights
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 outreach events, and many industry events
Our predictions…

• We see more activity in the near-term with crewed eVTOL systems
  • Clearer regulatory path to operations
  • Can be accommodated much easier in the NAS

• UAS (and especially small UAS) will still require a few years before we can see regular expanded and advanced operations (BVLOS, etc.)
  • Several rulemaking efforts must be completed first
Benefits of Emerging Aviation Technology for Rural and Remote Areas

• Our ground transportation network will be increasingly more difficult to expand and sustain in the future.

• Whereas infrastructure expansions such as rural broadband are accelerating, ground transportation infrastructure is not.

• “Democratization” of eVTOL can greatly benefit rural, remote and developing areas.
Yakoke! (“Thank you!”)

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