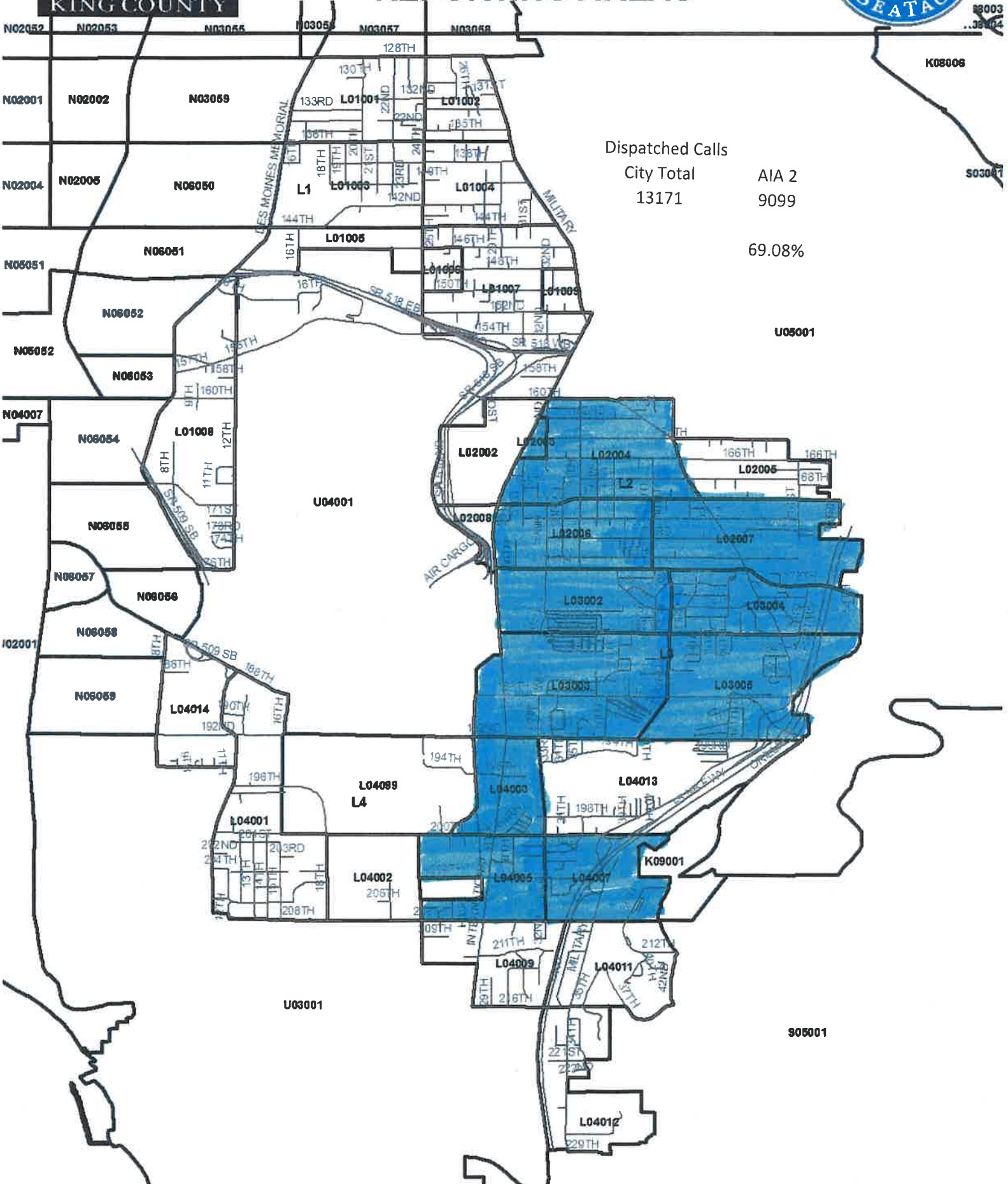


Dispatched Calls
City Total 13171
AIA 1 5466
41.50%



99003
..39004



Dispatched Calls
City Total
13171

AIA 2
9099
69.08%

U05001

S05001

FAA Organizational Structure & Community Involvement



ATO Community Involvement Manager for Airspace Projects



Equivalent Operations for DNL = 65

DNL Metric

- DNL metric provides cumulative noise exposure to many individual noise events
- Can reach given DNL with single loud noise event or many quieter noise events

Aircraft Noise over Time

- Aircraft noise from 1970s is different than aircraft noise today
- Aircraft from 1970s produced the same acoustic energy as 10 to 30 aircraft operations today

Equivalent DNL

- A few, but relatively loud, events in 1970s would result in DNL 65 dB
- Many, relatively quiet events today would also result in DNL 65 dB
- However, noise experience would be very different

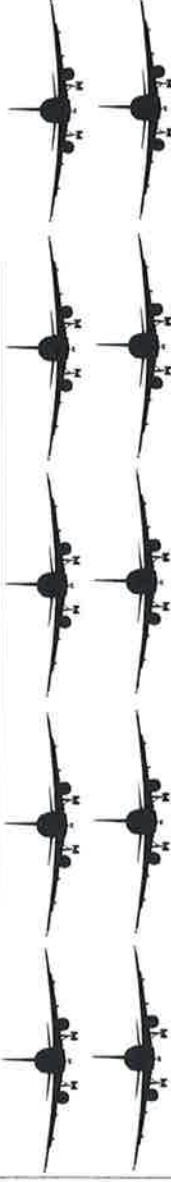
Car Horn

1 Event/Day SEL 114.4 dBA = 65 DNL



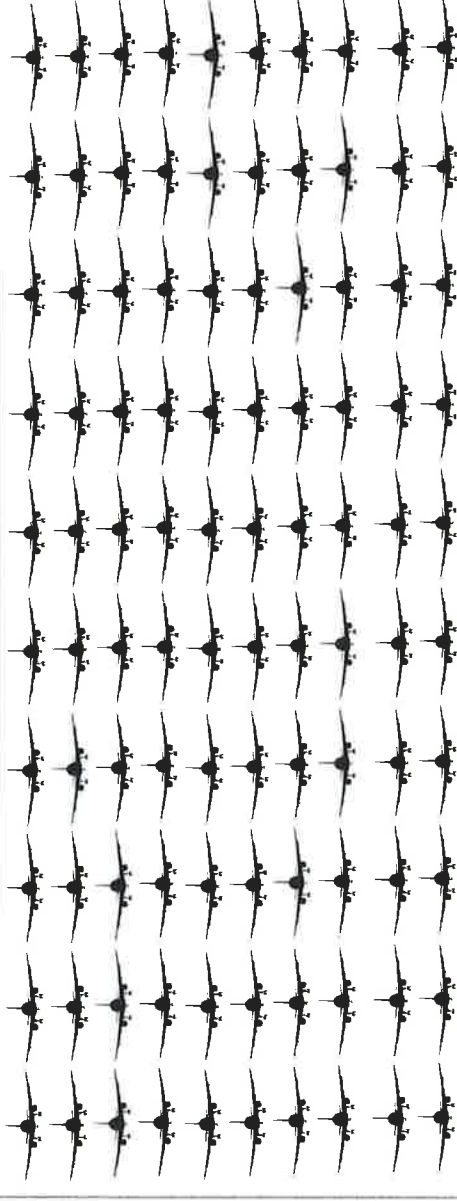
Chain Saw

10 Events/Day SEL 104.4 dBA = 65 DNL



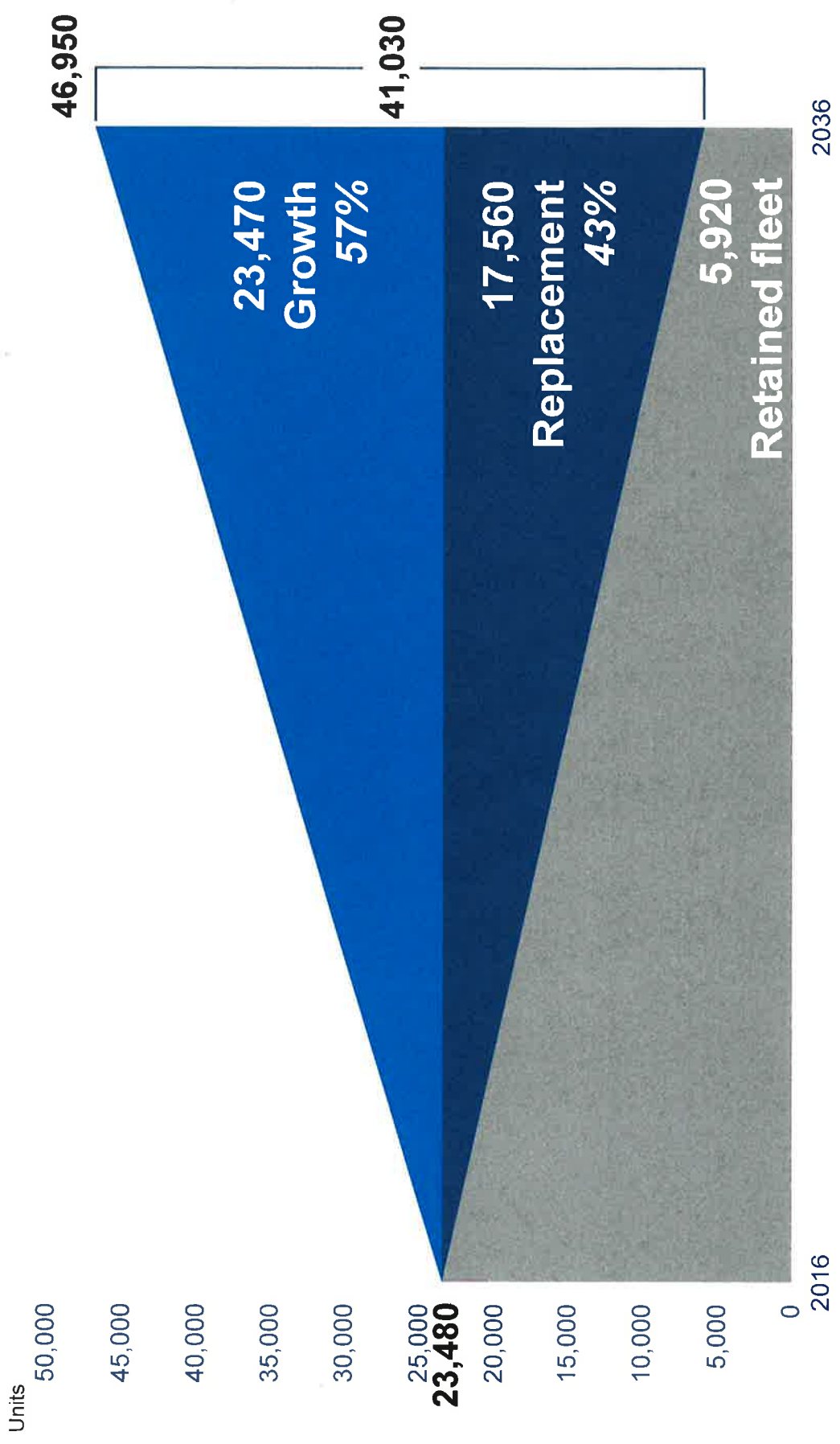
Lawn Mower

100 Events/Day SEL 94.4 dBA = 65 DNL



Federal Aviation
Administration

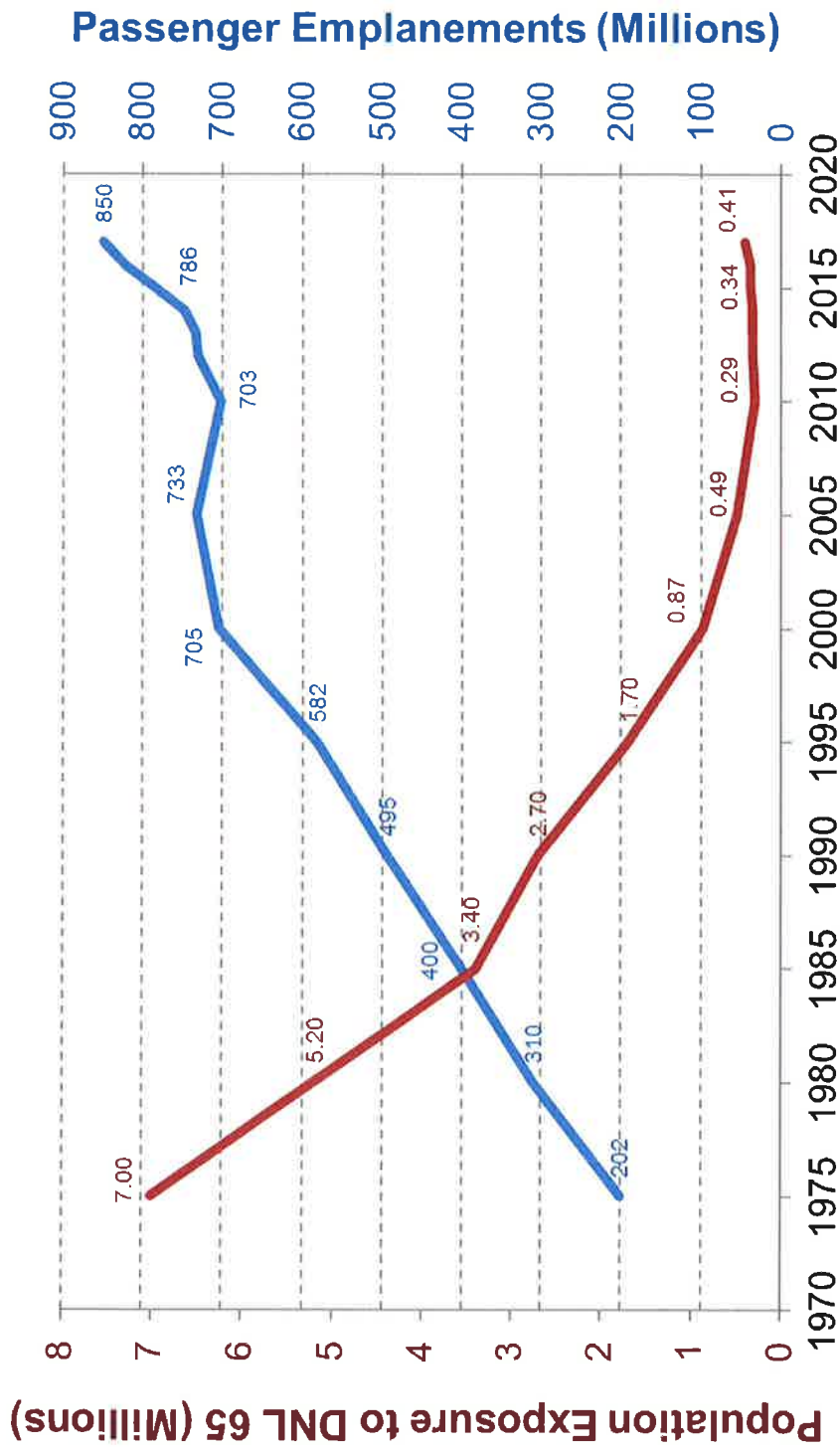
Airplanes will be replaced with quieter, more efficient, newer generation airplanes



SOURCE: Boeing CMO 2017

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Historical Trends in Noise Exposure and Emplanements



A factor of 20 decrease in community noise exposure has been achieved despite a four-fold increase in passenger enplanements, but it has also been accompanied by increased community concerns



Closing Observations

- Environmental and energy constraints are significant.
- Aviation noise causing considerable challenges today.
- Need a balanced approach to address aviation environmental impacts and energy concerns.
- Alternative fuels and technology will be key to overcoming environmental constraints.
- New users of NAS will present additional challenges (Unmanned Aerial Systems, Commercial Space Vehicles, Civil Supersonic Aircraft).
- We are advancing understanding, but not waiting; we are using best available methods to seek solutions now.



Market: Large UAS & HALE

HALE UAS

Upper E
Airspace



Class A
Airspace

Subsonic
Fixed wing

Helicopter

Market:
Thin/Short Haul

Small
airport

International
Airport

Large
UAS

Weather Tolerant
Operations

Weather Tolerant
Operations

Airport

Weather Tolerant
Operations

Weather Tolerant
Operations

Airport

Airport

Urban Veriport

Weather Tolerant
Operations

Weather Tolerant
Operations

Veriport at airport

Airport

Distribution
Center

Droneport

Veriport at airport

Airport

Asia

U.S.A.

Market: Small / Medium UAS

Market: Urban Air Mobility

UAS-NAS Project – SIO Operational View Representation



National Aeronautics and Space Administration

LEGEND

- █ Detect and Avoid (DAA) Technologies
- █ Air Traffic Control (ATC) Services
- █ Control and Non-Payload Communications (CNPC) Network
- █ Satellite Command and Control (C2) Links

ACRONYMS

- ACAS Xu: Airborne Collision Avoidance System, UAS Variant
- ADS-B: Automatic Dependent Surveillance—Broadcast
- BRLOS: Beyond Radio Line of Site
- BVLOS: Beyond Visual Line of Site
- TCAS-II: Traffic Alert and Collision Avoidance System
- UAS: Unmanned Aircraft Systems

