State and Local Legislation: More Hurdles for Unmanned Aerial Systems (UAS) Integration?

Drs. David C. Ison, Brent A. Terwilliger, & Dennis Vincenzi
College of Aeronautics
Embry-Riddle Aeronautical University - Worldwide
Research Problem

- Congressional mandate for the integration of unmanned aerial systems (UAS) in the National Airspace System (NAS) to take place by 2015, significant interest in UAS investment, operations, and research has taken place.
- Complex array of requirements and restrictions have been placed on UAS stakeholders by the Federal Aviation Administration (FAA).
- Limited Congressional legislative guidance.
Research Problem

- Public concerns about privacy in and around UAS operations has created additional convolution.
- State & local (city) level have proposed or imposed various laws/restrictions on UAS operations due to lack of federal action.
- UAS stakeholders face changing regulatory landscape further complicating research and development of their systems.
Method

- Examined UAS-related regulatory constructs at the state and local levels with exploratory approach: “exploratory research relies on [...] the collection of qualitative data and inductive analysis because sufficient information is not available” on a topic (Patton, 1987, p. 37)

- Utilized typological analysis “dividing everything observed into groups or categories on the basis of some canon for disaggregating the whole phenomenon under study” (LeCompte and Preissle, as cited by Hatch, 2002, p. 152).
Method

- Unit of analysis for this study was the law/resolution/enactment or its proposed equivalent.
- Criterion sampling was used to select all laws or proposed laws of state and local governments (Patton, 2002) (State $n = 68$; Local $n = 9$).
- Typologies were developed in accordance with previous research (Hofmann, 2003; Kapnik, 2012; Roberts, 2009; Siekmann, 2013; Vincenzi, Ison, & Liu, 2013; Yung, 2013).
Results: State

Status

- Passed: 64%
- Proposed*: 21%
- Pass one body: 6%
- Failed: 9%

*Includes those currently under consideration or referred to committee
Results: State

- Proposed: 53% included specific privacy provisions
- Passed: 100% included them
- Few non-law enforcement exemptions
Legend: red (passed/enacted), light red (passed but vetoed), yellow (partial pass), green (proposed) black (died in last session), grey (no legislation).
Results: State

- **Anti-Terror**
  - Passed
  - Not Passed

- **Exigent**
  - Passed
  - Not Passed

- **Warrant**
  - Passed
  - Not Passed
Results: State

- No weaponized systems
- Data collection restrictions
- Delete data once used
- Inability to use incidental data
- Tracking and reporting of surveillance to legislative bodies
- Military exempt
Results: State

- **Monetary**
  - Passed
  - Not Passed

- **Civil**
  - Passed
  - Not Passed

- **Misdemeanor**
  - Passed
  - Not Passed
Results: Local

Status

- Passed: 44%
- Proposed: 56%
Results: Local

- No weaponized systems
- Drone free zones
- No municipality purchases/usage
- Military exempt
Results: State vs. Local
Results: State vs. Local

- Monetary
- Civil
- Misdemeanor

State vs. Local comparison for monetary, civil, and misdemeanor categories.
Discussion/Conclusions

- Hesitation on adoption of restrictions
- State laws more specific and protective of citizens
- Local laws less specific and more prone to moratoriums on use or adoption
- Few exemptions for non-law enforcement use
- Added layer of regulations complicates manufacturer and operator landscape
- Further study required for tracking legislation and implications for industry
References

- See paper for exhaustive listing
Questions?

Contact: Dr. David Ison – david.ison@erau.edu