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## **Drones and Insurance: Trends, Challenges, and Public Policy Questions**





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# Outline

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## Overview of Drones

- Definitions and landscape

## Drones and Insurance

- Uses and disruptive technology

## Coming Challenges and Changes in the Legal and Regulatory Environment

## Environment for Commercial Users

## Conclusions



# Overview of Drone Use

## Drones or unmanned aircraft systems (UAS)

- Rapid growth
  - Over 770,000 consumer drones registered with the FAA as of March 2017

Year	Total Hobbyist Fleet		
	Million sUAS Units		
	Low	Base	High
2016	1.10	1.10	1.10
2017	1.94	2.15	2.31
2018	2.37	2.80	3.18
2019	2.60	3.20	3.79
2020	2.69	3.40	4.15
2021	2.75	3.55	4.47

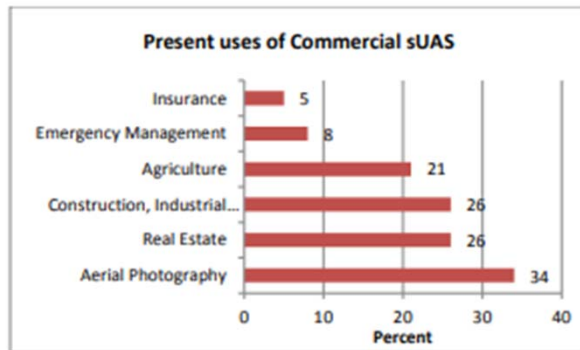
Year	Total Non-Hobbyist (Commercial) Fleet		
	Million sUAS Units		
	Low	Base	High
2016	0.042	0.042	0.042
2017	0.095	0.108	0.235
2018	0.133	0.167	0.445
2019	0.173	0.242	0.742
2020	0.207	0.327	1.133
2021	0.238	0.422	1.616

FAA Aerospace Forecast Fiscal Years 2017-2037



# Overview of Drone Use

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FAA Aerospace Forecast  
Fiscal Years 2017-2037

- Major economic impact
  - 100,000 new jobs by 2025
  - Economic impact of \$82 billion  
(Association for Unmanned Vehicle Systems, 2013)
- Rapid innovation
- Wide variation in use personally and commercially



# Drones and Insurance

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- Risk Assessment / Underwriting
- Claims
- Catastrophes

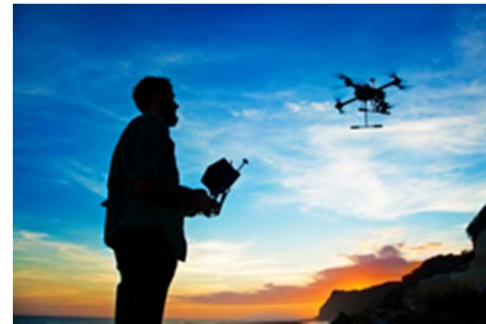


Photo from NCSL Website 2018





# Drones and Insurance

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- **Disruptive Technology**
  - Good things
    - Safety
    - Potential for more data
    - Efficiency
    - Economy
  - Bad things
    - Changes in jobs / procedures
    - Changing legal and regulatory environment
    - Privacy and safety concerns
    - Changing insurance environment



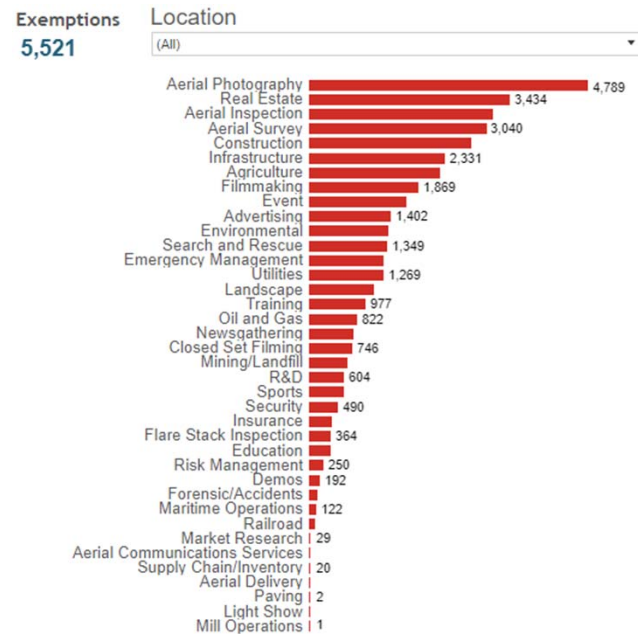
Photo: National Conference of State Legislatures, 2016



# Current Legal and Regulatory Environment - Federal

## Key Sources

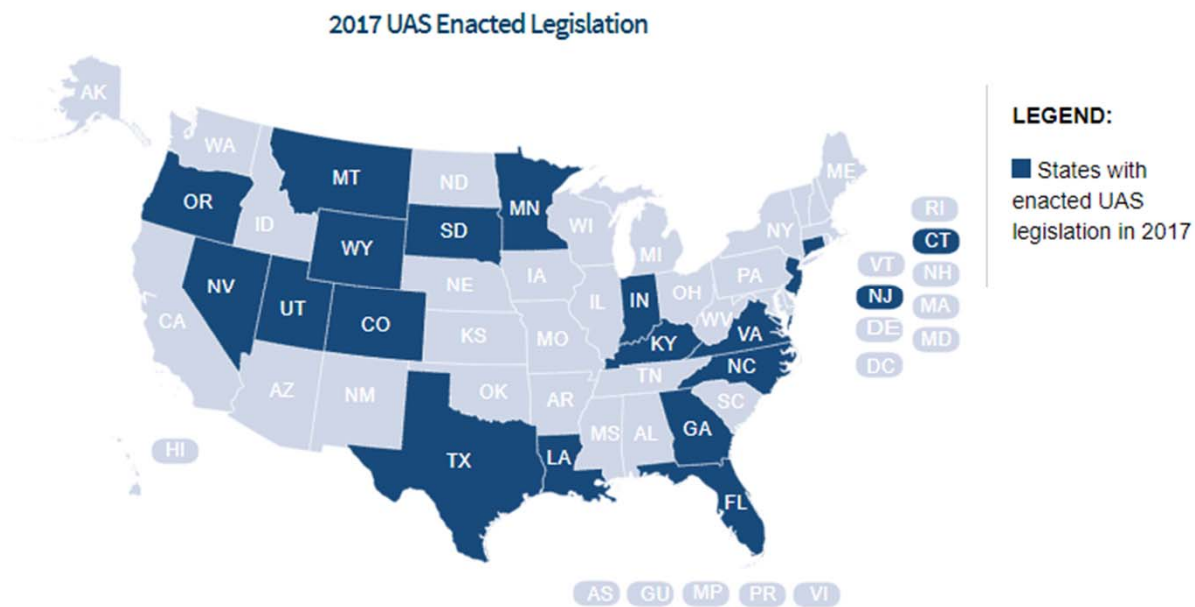
- 2012 FAA Modernization Reform Act (FMRA)
  - Sections 331 and 336
- FAA Enforcement and Proposed Rulemaking
  - Requirements for non-recreational
    - Weigh under 55 pounds
    - Operate only during standard daylight hours and within visual sight
    - Must fly no higher than 500 feet and no faster than 100 mph
    - Operators must be at least 17 and pass the FAA knowledge test
    - Must be registered
- Exemptions under Section 333 of FMRA



From AUVSI Advocacy Website, 2017



# Current Legal and Regulatory Environment - State

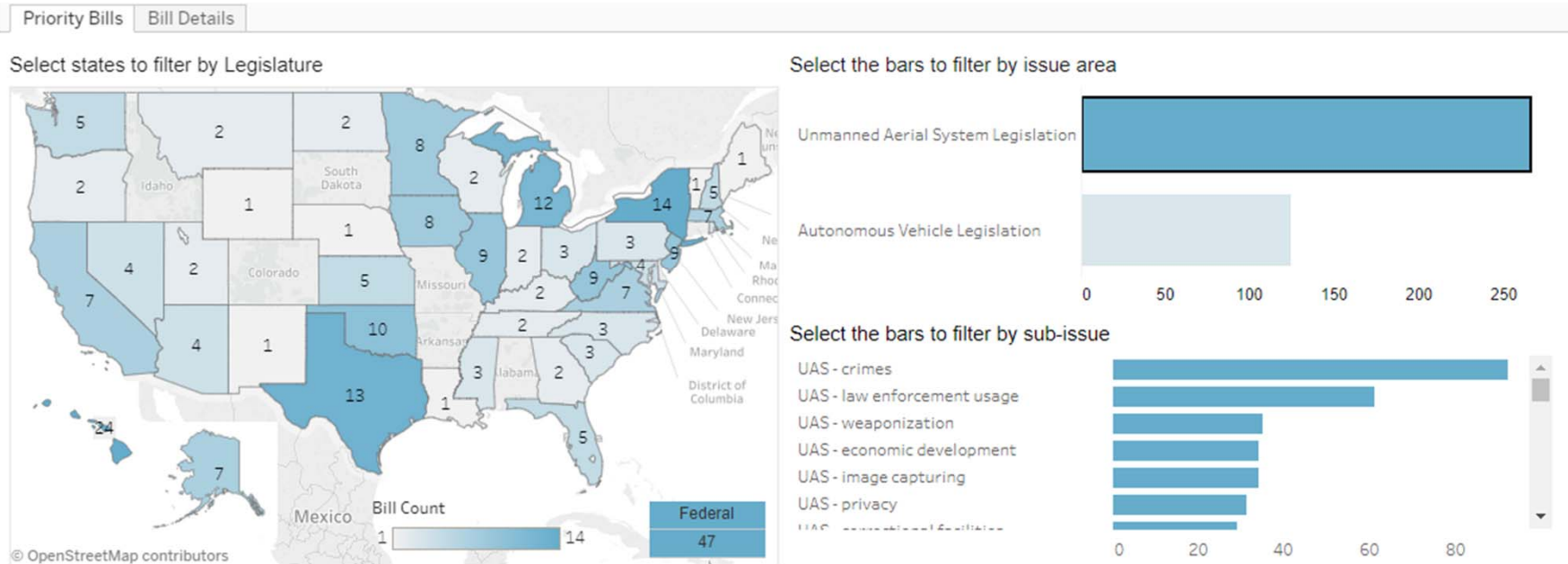


From NCSL Website



# Current Legal and Regulatory Environment - State

## 2017 State Legislative Map



From AUSSI Advocacy Website, 2018 – Includes Autonomous Vehicle Legislation



# Environment for Commercial Users

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- Wide variety of legislation (including pending)
- Registration requirements
- Large potential for profits balanced with uncertainty
- Who do you use to fly the drones?
- Insurance
  - Variation in terms and definitions
  - New products



# Challenges and Changes - Regulatory and Legislative

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- Defining drones as technology allows for smaller / stronger / faster drones
- Integration with FAA and traditional aviation
- Safety challenges as drone use increases
- Evolving issues related to privacy and trespassing
- Blurred lines between hobbyist use and commercial use
- Balancing innovation and safety/privacy concerns



# Conclusions

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- Drones have the potential to transform aspects of insurance and risk management
- Safety and privacy concerns drive many of the legislative questions
- Like all emerging technologies the insurance industry is working to understand risk, create best practices, and develop appropriate coverage and pricing

