



# Media framing the reception of unmanned aerial vehicles in the United States of America



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## ABSTRACT

When the United States Congress mandated implementation of unmanned aerial vehicles (UAVs) into the domestic airspace in 2012, there was substantial opposition to the policy change. Critics expressed fears regarding their threat to privacy and safety, and legislatures considered numerous bills that would significantly limit or even ban domestic unmanned flight. UAV advocates used various methods to counter UAV's negative image.

This study examines media stories regarding UAVs over a four-year period (2011–2014) and demonstrates that despite the backlash against expansion, media frames emphasizing benefit rather than risk dominated in the U.S. media. The economic opportunities presented by UAVs appeared in most media reports and over time reports increased of relatively noncontroversial applications, such as agriculture. Citizen advocacy or frames that emphasized the personal freedom to fly a UAV also increased. Industry and university officials, who usually support expansion, were the most frequent sponsors of media statements. The framing of media reports can influence public debate. Potential risks of a new technology can be amplified or minimized depending on how the media present the issue to the public.

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## 1. Introduction

Unmanned aircraft vehicles (UAVs) have until recently been associated with lethal military operations by the United States of America (U.S.). However, there has been growing interest in their domestic applications since the adoption of the Federal Aviation Administration (FAA) Modernization Act of 2012 (PL 112-95), which mandated that the FAA safely integrate commercial UAVs into American airspace by September 2015. Advocates of unmanned aircraft claim that they can make significant contributions in the fields of criminal justice, agriculture, journalism, film production, and search and rescue. However, this emerging technology faced significant roadblocks to acceptance after the Congressional mandate to integrate UAVs into the domestic airspace. The FAA proceeded very slowly to draft regulations to allow commercial flight, citing safety concerns. Further, UAV supporters confronted

hostile public opinion and state and federal lawmakers suspicious of the legalization for domestic use.

This analysis examines how the U.S. media over a four-year period (2011–2014) has covered the implementation of UAVs into domestic airspace. Like many emerging technologies, domestic unmanned flight combines risk with a high level of potential benefit. It has also been highly politicized. The paper starts with a description of the political and regulatory environment surrounding domestic unmanned flight after Congress authorized its expansion. It then presents a discussion of media framing and the research questions examined regarding the media and unmanned domestic flight. After reviewing the project's research design and methods, the paper discusses the findings regarding the media's coverage of UAVs. It concludes with suggestions for future research.

### 1.1. Contentious environment for domestic drone expansion

Domestic UAV uses raised complex issues, privacy, and safety in particular [6,14,15,24]. Public opinion showed a great deal of unease; a survey reported that 63% of Americans were opposed to drones flying through most of U.S. airspace [59]. The intensity of the

Abbreviations: AUVSI, Association for Unmanned Vehicle Systems International; FAA, U.S. Federal Aviation Administration; UAV, Unmanned Aerial Vehicle; UAS, Unmanned Aerial System; U.S., United States of America.

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opposition was apparent in the policy debates. One town passed an ordinance banning all drones [64], and at least one other municipality considered issuing licenses to shoot down drones [61]. There were impassioned speeches in Congress pointing to the dangers of UAVs [33,66], but it was the U.S. states where most of the political activity to restrict UAVs has taken place [43].

Between 2012 and 2015 almost 500 UAV-related bills have been introduced in the U.S. states, and several states adopted laws restricting UAV use [43]. UAV supporters had reason to fear that legitimacy would never develop; proposed legislation in some states would prohibit UAV ownership or make it illegal to take aerial photography. Some states would allow aerial photography only if the landowner has given permission [7,42]. One bill analysis reported that regulations that prohibit UAV use over private property will significantly limit or even end most commercial and research use of UAVs [51].

The opposition cited safety concerns. Military UAVs have high crash numbers [40], and some have pointed to the danger to winged aircraft from unmanned flights [68]. Government officials had also raised the possibility that UAVs could be hijacked by disrupting or taking control of the UAV's non-encrypted signals from the Global Positioning System [9]. Several incidents raised concerns regarding the safety and the liability that flyers of recreational and especially commercial UAVs may face. Operators have lost control of UAVs in public areas [32], in one case killing a man [26].

UAV advocates worked to counter the negative press reports and prevent the adoption of restrictive legislation. To differentiate domestic UAVs from militarized UAVs, the term "drone" was never to be used by industry [37,41]. Positive projections regarding drones' impact on economic development were widely disseminated, with the agricultural sector receiving particular attention [65] (Fig. 1).

In 2012–2013 news of militarized drones (Fig. 2) combined with revelations that the U.S. National Security Agency was collecting information on millions of people produced strong resistance to the Congressional mandate to integrate UAVs into U.S. airspace. Were domestic UAVs useful tools producing tremendous economic benefit or spying robots that could create significant safety hazards? The way in which UAVs were framed in the media would likely play an important role in the development of their legitimacy.

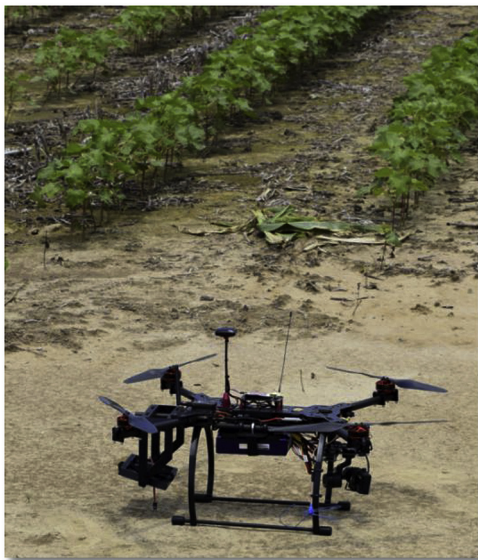


Fig. 1. Agricultural UAV used for commercial crop scouting.

## 1.2. Framing, the media, and UAVS

Considerable research shows that media framing can play an important role in views formed around emerging technologies [55]. Media frames refer to the way journalists, groups, policymakers, and others interested in a particular public policy present information. A frame highlights some aspects of reality while concealing facts as it typically makes more salient targeted information or perspectives [12,16,17]. Journalists frame stories with the goal of making the complex information interesting and understandable [25]. Policy actors use media framing to persuade. A frame may suggest the superiority of some types of political action over others [11,58]. Effective framing can mobilize supporters for an issue, increase support, and demobilize antagonists [5]; W. A [23,49,50,52]. Political actors may strategically provide information to journalists with the goal of dominating the frames presented [16,34]; M. A [60].

This study analyzes how the U.S. media has covered the contentious issue of domestic UAV expansion. Unmanned flight differs from other public policies such as nanotechnology or bioengineering. Most Americans have observed or can visualize UAVs. The public's knowledge of UAV's potential is likely much higher than with many other technologies, but potential dangers are also better understood. Thus, the pattern of media coverage of UAVs may or may not parallel the media's reporting of other science and technology policies.

The following questions are addressed over the four-year study period:

1. What frames are present in the media coverage of domestic expansion?
2. Has coverage of domestic applications changed through the study period? UAVs have a variety of uses. While some applications, such as agriculture, are relatively noncontroversial, UAV deployment by law enforcement has met with considerable resistance.
3. What types of UAV applications are identified in the articles?
4. Who is the source of the statistics, quotes, or paraphrased statements that appear in the articles about UAVs? Coding is done for each article to ascertain who is providing the information appearing in the media reports. The first three sources in each article are categorized. An analysis of media sources provides context regarding the articles beyond the frame used.
5. Are there a variety of sources for the statistics, quotes and paraphrased statements and are they representative of the pattern often found in reporting on science and technology?
6. When citizens rather than interest groups, government officials, or scientists are the source of media statements, are these statements supportive of UAV expansion or not? The tone of citizen comments regarding domestic expansion were coded to provide insight into the role of the U.S. public in the media coverage.

## 1.3. Sources and methods

Keyword searches of an online data bank using only U.S. sources supplied the analyzed stories. It contained current and archived content from local (serving a city or region) and national (circulates through the whole country) newspapers, blogs, newswires, journals, broadcast transcripts and videos. This news bank (Access World News: Research Collection, NewsBank Inc., Naples, Fla.) included a total of 6227 sources and content from all 50 states [27,44]. Since the U.S. Congress mandated the implementation of UAVs into domestic U.S. airspace in 2012, beginning in 2011

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