



COMMITTEE ON AERONAUTICS NEWSLETTER

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IN THIS ISSUE:

From the Committee Chair and Committee Secretary	2
Subcommittee List	3
Special Remembrance	
Randal R. Craft, Jr., <i>In Memoriam: Judge Robert Sweet</i>	4
Articles	
Jonathan Callaway, <i>Intro of the Rotorcraft</i>	6
Jonathan Callaway, <i>Falling with Style: The Autorotation</i>	8
Jonathan N. Halpern, <i>Some White Collar Issues for the Savvy Aviation Lawyer</i>	10
Michael P. Peck, <i>Is the Low-Cost Carrier Model a Good Fit for Long-Haul Flights?</i>	12
Albert J. Pucciarelli, <i>The Future was Fifty Years Ago – Remembering Apollo 11</i>	17
Racquel H. Reinstein, <i>Analysis of Federal Preemption Issues as they Pertain to Existing Municipal and State Restrictions on the Use of Unmanned Aircraft Systems</i> ..	21
Racquel H. Reinstein, <i>Tour of John F. Kennedy International Airport</i>	27
Fun Pages	28

The views and opinions expressed in these articles are those of the authors and do not necessarily reflect the views of the New York City Bar Association.

From the Committee Chair and Committee Secretary:



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Welcome to another issue of the Committee on Aeronautics Newsletter – our ninth! The prior issues are posted (by year) on the Committee’s section of the New York City Bar’s public website (click on the “News” button): <http://www.nycbar.org/member-and-career-services/committees/aeronautics-committee>. We hope that our Committee Members and Committee Alumni (and, of course, other readers accessing this Newsletter on the Bar’s website) continue to find each issue very interesting.

Our Committee focuses on a wide variety of aviation-related issues, including, for example, dispute resolution (casualty and contract), business, engineering, finance, intellectual property, and regulatory matters. We have 19 subcommittees covering various aviation-related topics.

The Committee holds monthly meetings from September to June, usually featuring presentations by guest speakers. It is a vibrant committee, and membership has grown substantially over the last few years.

As we did last year, the Committee plans to hold a “Hot Topics in Aviation” event at the City Bar’s landmark building in October. The International Bar Association’s Aviation Law Committee, the Lawyers-Pilots Bar Association, and the New Jersey State Bar Association’s Aviation Law Committee are all expected to co-sponsor the event with our Committee.

Please stay tuned for more information about upcoming Committee activities.

¹ Before retiring in April 2018, Alan Reitzfeld was a senior partner in Holland & Knight LLP’s Litigation Practice Group, where he played a leading role for many years defending airlines in multi-district litigation arising out of numerous major domestic and foreign commercial jet airline crashes and other incidents. In addition to chairing this Committee, Alan is the Chair of the International Bar Association’s Aviation Law Committee.

² Sarah Passeri is a partner in Holland & Knight LLP’s Litigation Practice Group. Ms. Passeri’s practice focuses on aviation and complex litigation matters, as well as asset-based financing, leasing, acquisitions, sales and securitizations, with a particular emphasis on aviation and equipment finance. She has experience flying single-engine aircraft.

SUBCOMMITTEE LIST

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Subcommittee on ICAO Developments	Maria C. Iannini
Subcommittee on Rotary-Wing Aviation	Jonathan Callaway
Technical Advances in Aviation Subcommittee	Jenny A. Urban

SPECIAL REMEMBRANCE

In Memoriam: Judge Robert Sweet

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Senior Judge Robert W. Sweet of the Southern District of New York died on March 24, 2019, at 96 years old, and given my experiences with Judge Sweet, Alan Reitzfeld asked me to say a few words about him. In our circles, he was most widely known as the judge who handled the multidistrict litigation of two major airline accidents: the TWA Flight 800 Boeing 747 crash off the coast of Long Island in 1996 and the American Airlines Flight 587 Airbus A300 crash near JFK Airport in 2001. We were lead counsel and co-lead counsel for the airlines in these cases, and I also represented American in a six-week trial before Judge Sweet of a wrongful-death claim arising out of the DC-10 crash near Chicago's O'Hare Airport in 1979.

Judge Sweet's background went far back and for that reason was not well known by younger lawyers who encountered him in the last couple of decades. He was in the Navy during World War II – commanding a submarine chaser in the Atlantic – and then got his undergraduate and law degrees from Yale. After practicing law in New York City (better than chasing submarines), he was an Assistant U.S. Attorney for the SDNY in the 1950s. Most important, in the 1960s, he served as the chief Deputy Mayor for NYC's Mayor John Lindsay (his roommate at Yale Law School), following which he returned to private practice as a partner at Skadden Arps. (Incidentally, you might be surprised to learn that, back then, Leslie Arps was a member of the NYCBA Aeronautics Committee.) President Jimmy Carter appointed Judge Sweet to the bench in 1978, and he went on senior status in 1991.

Judge Sweet had a great sense of humor, and he was almost always pleasant to be with. The downside of his pleasantness was that he would occasionally be too permissive of some attorneys' rather egregious acts and omissions. I should also note that it has been reported that he admitted being flippant with attorneys at times.

In any event, Judge Sweet knew how to handle equitably the multiple death claims from a mass disaster. Although we aviation defense attorneys sometimes felt that he had a tendency to overvalue the claims, this was outweighed by the value of his predictable consistency in the face

¹ Bob Craft leads the National Aviation Industry Team at Holland & Knight LLP. He has extensive experience as lead counsel to airlines and manufacturers of aircraft and components, especially in major domestic and foreign air-crash cases and in NTSB and other investigations. He also has broad experience as lead counsel in non-aviation product-liability cases. He is a frequent speaker and writer on legal matters and in June 2015 was given the rare honor of presenting the Spring Lecture at the New York State Court of Appeals.

of innumerable claimants' arguments that their claims were exceptional and shouldn't be treated like the other claims. In the litigation arising out of the crash of Flight 587 in which 265 persons died, he took a very effective hands-on approach to settling the claims. He met personally with claimants, defendants, and their counsel. Based on the settlements of ten exemplar cases, in subsequent cases he utilized a matrix of factors that helped him to ensure that similarly situated claims would be treated similarly. We found Judge Sweet's consistent approach to be a substantial influence in persuading the litigants that the settlement amounts he recommended or facilitated were fair and reasonable. The remarkable result was that there were no trials required to resolve plaintiffs' claims against the defendants in any of the Flight 587 cases.

Alert lawyers will wonder why the Judicial Panel on Multidistrict Litigation assigned the Flight 800 and Flight 587 cases to Judge Sweet in the SDNY even though both crashes occurred in the EDNY, but I'll save that intriguing story for another time. For now, let me just say that we argued for this assignment to Judge Sweet and that some EDNY judges were none too happy with the JPML.

A memorial service for Judge Sweet is currently scheduled to take place in the SDNY ceremonial courtroom at 4:00 PM on September 20.

ARTICLES

Intro of the Rotorcraft

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Chair, Subcommittee on Rotary-Wing Aviation



This is a new column in the Newsletter that will discuss topics relating to rotary-wing aviation, including technical and legal issues. While the term rotary-wing may imply the mental image of an antique telephone sprouting wings and gliding across the sky, it generally refers to helicopters but also includes several other forms of aircraft. In addition to a helicopter's ability to hover, rotary-wing aircraft differ from their fixed-wing predecessors in several other ways.

A fixed-wing aircraft typically has two large lift-producing wings, called airfoils, fixed to each side of the aircraft's body, or fuselage, whereas rotorcraft achieve flight by rotating a varied number of articulated airfoils at high speeds. These airfoils, called rotor blades, are attached to a torque driven rotorhead that spins at a constant RPM during flight to maintain lift. Once the rotorhead is spinning fast enough, the rotor blades individually produce lift the same way fixed-wing airfoils do and are subject to the same laws of physics and aerodynamic principles. Rotary-wing flight is possible because each rotor blade's angle of attack allows a total aerodynamic force (TAF) that produces more lift than drag when rotating at optimal speeds. When this occurs, the pilot can then manipulate each rotor blade's angle of attack allowing controllability and maneuvered flight.

In rotary-wing flight, the most important law to consider is Newton's Third: For every action there is an equal and opposite reaction. If a traditional helicopter only had one rotorhead producing lift, the fuselage would begin to spin opposite of the rotorhead the moment flight is achieved. This is because the torque applied to the rotor-system would also apply an equal and opposite force on the fuselage causing an uncontrollable spin and an associated loss of lift. To compensate for this opposing force, most traditional helicopters are fitted with an anti-torque tail-rotor. This rotor functions the same as the main-rotor except that its TAF is applied horizontally to oppose the rotational force of the fuselage allowing maximum use of the main-rotor's TAF.

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The capabilities and characteristics of a rotary-wing aircraft differ drastically from fixed-wing norms. The most notable difference is a rotorcraft's controllability at low airspeeds. Rotorcraft can perform an approach at high speeds, then quickly slow to a crawl allowing them optimal time to establish a safe landing to a precise spot that may not even be on a runway. This ability has prompted the FAA to establish rotary-wing specific routes and approaches that allow an aircraft to get much lower to the ground while still maintaining a safe flight profile. Heli-ports are controlled in the same fashion as an airport, but their obvious differences and smaller footprint allow them to be located in congested urban areas and otherwise difficult spots for establishing the infrastructure that an airport requires.

While there are several rotorcraft specific laws, their adaptability to various environments and situations makes them an incredible asset for numerous situations. From medevac to VIP transport service, rotorcraft provide more capabilities and opportunities than ever before and continue to rapidly evolve to meet new demands and missions all over the world.

Falling with Style: The Autorotation

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Chair, Subcommittee on Rotary-Wing Aviation



While it may be obvious that helicopters utilize a torque producing powerplant to create lift, what happens when their powerplant fails? Most fixed-wing aircraft can glide without engine power because their airfoils are still producing lift as the aircraft maintains forward airspeed allowing a relatively safe landing. During an emergency involving the loss of engine power, as well as a handful of other situations, a helicopter achieves the safest landing possible by performing what is called an autorotation.

To simply explain the function of this maneuver, imagine a child holding a wind-spinner out the window of a car moving at a constant speed. As the air hits the spinner, it begins to rotate faster and faster until it eventually can't rotate faster and begins to cause drag. Now, imagine a helicopter in forward flight suddenly losing power and falling from the sky. The pilot manipulates the controls to trade some forward airspeed for a constant rate of descent (ROD), through the help of gravity, that pushes airflow up through the bottom of the rotor-system. As this aircraft falls, upward moving air drives the rotorhead like the wind-spinner out the window of a car. As constant gravity continues to pull the aircraft towards the earth, the rotor head accelerates its rotational speed which allows a controllable ROD while also storing kinetic energy in the rotor blades outer tips. Near the ground, the pilot uses the stored kinetic energy in the rotor blades to pull in the last bit of available lift to cushion the landing. As the pilot manipulates the controls to do this, the fast-moving rotorhead will then produce a "bump" of lift in exchange for a slower RPM. This "bump" must occur very close to the ground to minimize the downward motion just prior to touching the ground. Using this "bump" of lift too early can be catastrophic because creating the "bump" slows the rotorhead RPM down so drastically that it can no longer produce any lift at all resulting in a much harder landing than desired.

While mastering this maneuver is of paramount importance to all rotary-wing pilots, it is inherently dangerous to practice. The last 100 feet of an autorotation are exceptionally important to practice because, in a real-world emergency, they may be the last 100 feet a pilot ever flies. Student rotary-wing pilots are required to demonstrate their ability to perform an autorotation per FAA-H-8083-21 but few specific requirements are currently defined in terms of initiating the

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maneuver. Flight Standards Service (2005). *Straight In Autorotation*. In F. S. Service, *Private Pilot Practical Test Standards for Rotorcraft* (pp. 1-18). Washington, D.C. Federal Aviation Administration.

The FAA has given recommendations for practicing an autorotation as well as some requirements for manufacturers to ensure their products have autorotative capabilities, but there is still a lot of grey room between the guidelines and the actual result. In a recent advisory, the FAA noted that out of 513 helicopter mishaps relating to an autorotation, 13 percent of the incidents occurred during autorotation training exercises that were poorly performed.² To correct for this, the FAA now recommends minimum altitudes prior to initiating any form of autorotation training. This will allow the pilot time to establish a correct autorotative profile, practice controlling airspeed and ROD while also providing additional altitude below when the final steps of the maneuver are performed. This additional altitude at the bottom of the maneuver is critical because as a pilot is learning this maneuver, any slight error can result in a much higher ROD at an altitude too low to safely recover from.

Conversely, this additional altitude may potentially cause more harm than good. As an aircraft gets closer to the ground, the pilot tends to shift their focus outside rather than looking at their gauges. A pilot who practices terminating autorotations at higher altitudes, let's say no lower than 500 feet, will have a rehearsed sight picture that is too high above the ground for an autorotation in a real emergency. Putting it simply, a pilot practicing higher altitude autorotations will, by trained instinct, pull in the final "bump" of lift too high in the air, lose all remaining kinetic energy in their rotorhead and plummet towards the ground at a much higher rate of speed almost guaranteeing their death. While the risk associated with practicing autorotations is high, the risk associated with learning autorotations incorrectly is relentlessly unforgiving. Practicing autorotations at a higher altitude is acceptable only if students are made aware of the difference in altitude that a proper autorotation must be performed at. Otherwise, instructors are failing to give students the tools they need to survive the dangers they very well may face.

² Federal Aviation Administration. (2016, August 31). *AC 61-140A Autorotation Training*. Retrieved from Federal Aviation Administration: https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_61-140A.pdf.

Some White Collar Issues for the Savvy Aviation Lawyer

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Unruly airline passengers occasionally make headlines for allegedly assaulting or intimidating a flight crew member or flight attendant or for other rowdy and illegal conduct – or worse. Apart from bad behavior in the skies, the world of aviation law below may encounter issues implicating white collar crimes as well. And when tragedy strikes, post-hoc investigations often focus on the accuracy and truthfulness of safety and other compliance certifications concerning aircraft and their parts. For example, under 18 U.S.C. Section 38, it is a felony to falsify or conceal a material fact concerning an aircraft part or make a material fraudulent representation concerning any aircraft. Similarly, exported or imported products may attract unwanted scrutiny for a similar criminal violation if their transport was based on any fraudulent record or document or other information. Likewise, for example, false or fraudulent statements knowingly and willfully made to the FAA – or knowingly used for commercial purposes – can be subject to criminal prosecution. Savvy aviation lawyers would be well-advised to consider – or refer to their colleagues in the white collar defense bar – the various criminal implications of aviation-related submissions or statements to be relied on, including those made to any regulatory or law enforcement agency.

International commerce also puts the aviation industry at risk for other potential criminal violations. Lawyers should carefully review proposed projects and commercial transactions abroad (or involving foreign products or services) for potential prohibited transactions under OFAC sanctions programs – and the need for a general or specific license. Also, anytime a manufacturer, airline or other industry member is required to obtain a license or permit by any foreign governmental agency, questions and appropriate due diligence should be implemented to help ensure there are no untoward payments – or communications – in connection with official conduct. (The same goes for interactions on the domestic side as well.) The proposed engagement of third-party agents, representatives and distributors to secure government permits or for other transactions warrants a lawyer’s scrutiny and follow-up to ensure compliance with the Foreign Corrupt Practices Act (FCPA) and related laws and regulations. Moreover, depending on the nature of the transaction or issue at hand, a comprehensive review of the facts

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would be well-advised so that other criminal laws – international bribery laws apart from the FCPA, the Travel Act, money laundering, and the standby all-encompassing mail and wire fraud offenses, among others – could be considered in context. Such a review could be counted on to better protect the clients’ interests at home, abroad and in flight – as well as the safety of travelers around the globe.

Is the Low-Cost Carrier Model a Good Fit for Long-Haul Flights?

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Chair, Aviation Finance Subcommittee



Remember Freddie Laker?² How about his Skytrain Airlines Ltd.,³ the airline that offered the first low-cost Transatlantic scheduled commercial passenger service?⁴ If you can recall from first-hand experience either the man or the airline,⁵ then you were present at the dawn of U.S. airline deregulation⁶ and the low-cost carrier (LCC)/long-haul (LH) revolution. And if you were present when LCC/LH service began, then you surely are familiar with such storied LCC/LH airline names as People Express,⁷ Norwegian Air Shuttle ASA (currently operating through its

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² Sir Frederick Alfred Laker (6 August 1922 – 9 February 2006). Britannica, T. E. (2019, February 05). Sir Freddie Laker. Retrieved from <https://www.britannica.com/biography/Freddie-Laker>.

³ Bailey, J. (2006, February 11). Sir Freddie Laker, 83, Pioneer in Low-Fare Airline Travel, Is Dead. *The New York Times*. Retrieved April 30, 2019, from <https://www.nytimes.com/2006/02/11/obituaries/sir-freddie-laker-83-pioneer-in-lowfare-airline-travel-is-dead.html>.

⁴ In 1978 a ticket from New York to London cost \$135 (as opposed to \$500 or more on PanAm); no reservations needed. Menn, J. (2006, February 11). Freddie Laker, 83; Englishman Pioneered Low-Cost Air Travel. *Los Angeles Times*. Retrieved April 30, 2019, from <https://www.latimes.com/archives/la-xpm-2006-feb-11-me-laker11-story.html>.

⁵ Skytrain Airlines Ltd. Failed in 1982. Morrell, P. (2008). Can long-haul low-cost airlines be successful? *Research in Transportation Economics*, 24(1). Retrieved April 8, 2019, from <https://www.sciencedirect.com/science/article/abs/pii/S0739885909000158>.

⁶ Unnikrishnan, M. (2015, June 4). A Law That Changed The Airline Industry Beyond Recognition. Retrieved April 30, 2019, from <https://aviationweek.com/blog/law-changed-airline-industry-beyond-recognition-1978>.

⁷ History of People Express. (n.d.). Retrieved April 30, 2019, from <http://www.century-of-flight.net/Aviation%20history/coming%20of%20age/usairlines/People%20Express.htm>.

subsidiary Norwegian Long Haul AS),⁸ Virgin Atlantic Airways Limited,⁹ WOW Air¹⁰ and AirAsia X.¹¹ There have of course been several others, a large portion of which are no longer with us. And more are on the horizon.¹²

The LCC operating model, that has rapidly expanded in the less-than-three-hour short-haul market,¹³ has not translated well in the LH arena.¹⁴ The LCC phenomenon began in the United States as a result of airline deregulation in 1978.¹⁵ The hallmarks of LCC operations are (i) a point to point network, (ii) single class seating, (iii) a homogeneous fleet,¹⁶ (iv) the no-frills

⁸ Coolidge, C. (2018, February 16). Norwegian Air: The World's Best Long-Haul, Low Cost Airline. *Forbes*. Retrieved April 30, 2019, from <https://www.forbes.com/sites/carricecoolidge/2018/02/16/norwegian-air-the-worlds-best-long-haul-low-cost-airline/#192d1a3f2057>.

⁹ Branson, R. (2014, June 21). Virgin Atlantic: 30 years of fun, flying and competition. *The Telegraph*. Retrieved April 30, 2019, from <https://www.telegraph.co.uk/finance/comment/10917094/Virgin-Atlantic-30-years-of-of-fun-flying-and-competition.html>. Richard Branson was very much influenced by Sir Freddie Laker. See Coleman, A. (2016, April 10). Why Mentors Can Be The Making Of Entrepreneurs Like Branson. *Forbes*. Retrieved April 30, 2019, from <https://www.forbes.com/sites/alisoncoleman/2016/04/10/why-mentors-can-be-the-making-of-entrepreneurs-like-branson/#18f54ca21778>.

¹⁰ WOW Air, an Icelandic budget carrier, ceased operations on March 28, 2019. Moniuszko, S. M. (2019, March 28). WOW Air ceases operations and cancels all flights, leaving thousands stranded and angry. *USA Today*. Retrieved May 8, 2019, from <https://www.usatoday.com/story/travel/flights/2019/03/28/wow-air-ceases-operations-cancels-all-flights-thousands-stranded/3296950002/>.

¹¹ AirAsia X Airline Profile. (n.d.). Retrieved May 4, 2019, from <https://centreforaviation.com/data/profiles/airlines/airasia-x-d7>.

¹² Sindreu, J. (2019, May 3). A New Low-Cost Revolution in Air Travel? *The Wall Street Journal*. Retrieved May 12, 2019, from <https://www.wsj.com/articles/a-new-low-cost-revolution-in-air-travel-11556888401>.

¹³ Short-haul flights are generally considered to be those of under 3 hours duration, medium-haul flights are those of 3 to 6 hours duration and long-haul flights are those of more than 6 hours duration (although there is an ultra-long-haul category for flights of more than 12 hours duration). See The difference between long-haul & short-haul piloting. (2015, July 17). Retrieved May 4, 2019, from <https://www.mcginleygroup.co.uk/blog/the-differences-between-longhaul-and-shorthaul-piloting/bp67/> (McGinley Aviation Group).

¹⁴ Robert L. Crandall, the former CEO of American Airlines, believes that LCC's are ill suited for LH operations and that their impact in that arena will be marginal. He has been quoted as saying "At some stage, it's going to be who's going to be prepared to lose the most money." Hamilton, S. (2018, March 26). Pontifications: An old pro thinks long-haul LCC model is about who loses the most money. Retrieved May 5, 2019, from <https://leehamnews.com/2018/03/28/is-long-haul-lcc-viable/>.

¹⁵ *Definition and Identification of Low-Cost Carriers* (Working paper No. STA/10-WP/9). (2009). Montréal, Quebec, Canada: Tenth Session of the Statistics Division of the International Civil Aviation Organization (ICAO) (23-27 November 2009). Retrieved, May 4, 2019, from https://www.icao.int/Meetings/STA10/Documents/Sta10_Wp009_en.pdf.

¹⁶ This simplifies the licensing requirements for the personnel who fly and maintain the aircraft (see Vidović, A., Štimac, I., & Vince, D. (2013). Development of Business Models of Low-Cost Airlines. *International Journal for Traffic and Transport Engineering*, 2013, 3(1): 69 – 81, 3(1), 69-81. doi:DOI: [http://dx.doi.org/10.7708/ijtte.2013.3\(1\).07](http://dx.doi.org/10.7708/ijtte.2013.3(1).07)). It is possible that this element of the LCC model may change in light of the recent problems with the 737 Max aircraft. Southwest Airlines was only operating 34 737 Max aircraft when the model was grounded by the FAA (approximately 4.5% of their fleet) (see Gilbertson, D. (2019, March 12). Boeing 737 Max: How many of those planes fly for Southwest, American, United, and where? *USA Today*. Retrieved May 4, 2019, from <https://www.usatoday.com/story/travel/flights/2019/03/12/boeing-737-max-how-many-fly-southwest-america-united-and-where/3143113002/>), but imagine the impact on the airline if the problem had occurred years later when all 292 737 Max aircraft that it has on order had been in operation (see Diaz, P. (2019, February 5). Southwest Orders Additional Boeing 737 MAX Aircraft. Retrieved May 4, 2019, from <https://airlinegeeks.com/2019/02/05/southwest-adds-more-boeing-737-max/> (AirlineGeeks)). The possibility of such a catastrophe has not gone unnoticed by Southwest's pilots (and probably not by its management either) (see Gates, D. (2019, April 12). 737 MAX crisis prompts Southwest pilots to question its all-Boeing fleet. *The Seattle*

fare,¹⁷ (v) high fleet utilization and fast turn-arounds, (vi) low labor costs, (vii) low overhead costs, (viii) low distribution costs and (ix) the use of secondary airports instead of primary airports.¹⁸ Considering the applicability of these elements to the LH market in turn, (1) traditional LCC's lack an adequate feeder network for LH traffic and some LCC's entering the LH market have grossly underestimated transient demand (i.e., that generated by feeder routes to a hub-and-spoke system) and overestimated point-of-departure demand,¹⁹ (2) value conscious passengers may be willing to tolerate compact seating on short-haul flights of around two hours, but passengers on long-haul flights require greater pitch (i.e., the distance between any point on a seat and the same point on the seat in front of it),²⁰ there is an increased demand for premium seating and a single class of service does not allow the LCC to maximize profit by distinguishing between business and leisure travelers,²¹ (3) using a single type of aircraft for LH operations no longer seems to be an article of faith for LH carriers,²² (4) the benefits of customizable/no-frills fares is only marginally transferrable because the one-time charges for baggage, blankets, pillows, etc. do not generate additional income when the flight duration increases from short-haul to LH,²³ (5) similarly, the benefits of quick-turns are lost on longer legs that require fewer rotations,²⁴ (6) LH carriage will almost certainly cause labor costs to increase because a larger crew is needed on larger aircraft and the crew spends more time at foreign destinations where

Times. Retrieved April 4, 2019, from <https://www.seattletimes.com/business/boeing-aerospace/737-max-crisis-prompts-southwest-pilots-to-question-its-all-boeing-fleet/>.

¹⁷ This is also referred to as “customizable fares” and “unbundling.” Spinks, R. (2017, December 4). The Battle of the Low-Cost, Long-Haul Flights is about to go Next Level. Retrieved May 4, 2019, from <https://qz.com/quartz/1145905/the-low-cost-long-haul-flight-trend-is-set-to-expand-in-2018/>.

¹⁸ Kloeg, J., & Schaal, H. (2014, December 16). Low-cost, long-haul -- Flight of fancy or business of the future? Retrieved May 4, 2019, from <https://www.prologis.aero/wp-content/uploads/2014/12/Low-cost-long-haul-Flight-of-fancy-or-business-of-the-future.pdf>.

¹⁹ OASIS Hong Kong Airlines Limited (OASIS), formerly a Hong Kong based LH/LCC, is an example of an LCC limited by, among other things, its failure to see the need to attract feeder traffic from outside Hong Kong. Although it had interline agreements with many airlines around the world (see Hong Kong Airlines have signed interline traffic agreements with airlines worldwide. (n.d.). Retrieved May 4, 2019, from https://www.hongkongairlines.com/pdf/interline_traffic.pdf), it had no appreciable feeder traffic (see *supra* note 18). OASIS was in operation just 18 months. See Machan, T. (2008, April 9). OASIS Hong Kong Airlines goes into liquidation. *The Telegraph*. Retrieved May 4, 2019, from <https://www.telegraph.co.uk/travel/1307946/Oasis-Hong-Kong-Airlines-goes-into-liquidation.html>.

²⁰ Konig, Z. (2016, July 25). Comparing Economy Seat Pitch, from 29 to 34 Inches. Retrieved May 4, 2019, from <https://thepointsguy.com/2016/07/comparing-economy-seat-pitch/> (The Points Guy).

²¹ Soyk, C., Ringbeck, J., & Spinler, S. (2017, May 4). *Long-haul low cost airlines: A new business model across the transatlantic and its cost characteristics*, pp. 6 and 19 [Draft manuscript, WHU - Otto Beisheim School of Management]. Vallendar and Düsseldorf, Germany. Retrieved May 5, 2019, from https://agifors.wildapricot.org/resources/Documents/Anna%20Valicek%20Papers/2017/Long-haul%20low%20cost%20airlines%20-%20A%20new%20business%20model_Christian.pdf.

²² As an example, Norwegian Air Shuttle planned to use its 737 MAX 8's in its Transatlantic service until the airplanes were grounded. See Goldstein, M. (2019, March 12). Norwegian Air Shuttle Shuts Down Boeing 737 MAX Fleet. *Forbes*. Retrieved May 5, 2019, from <https://www.forbes.com/sites/michaelgoldstein/2019/03/12/norwegian-air-shuttle-shuts-down-boeing-737-max-fleet/#5fbc36fd752>. This represented a change from its traditional all-787 Dreamliner Transatlantic fleet. See Garcia, M. (2017, May 31). Going the Distance: Low-Cost Carriers Fly Further with New Aircraft and Added Amenities. *Apex Experience*, 7.3(June/July). Retrieved May 5, 2019, from <https://apex.aero/2017/05/31/going-distance-low-cost-carriers-fly-further-new-aircraft-added-amenities>.

²³ *Supra* note 18.

²⁴ *Id.*

they must be accommodated during their stay,²⁵ (7) fuel as a portion of direct operating costs is approximately 30% in the short-haul market but increases to 50% in the LH market, so LH operations erode the low overhead advantage of the LCC model,²⁶ (8) the distribution costs (or costs of attracting customers) would be expected to increase because LH traffic, and especially LH leisure traffic, is more dependent on travel agents and advertising²⁷ and (9) the use of secondary airports, which is so successful in the short-haul market, does not work as well in LH carriage because secondary airports often lack feeder routes from more remote regions.²⁸

In addition to the inherent deficiencies of the LCC model when applied to LH flight, any LCC attempting to break into lucrative LH routes will be vulnerable to attack by the legacy carriers that already service those routes. Legacy carriers, such as United, Air France and Air Canada have responded to the LCC/LH challenge by incorporating higher density seating in economy class thereby reducing the prices of those tickets.²⁹ And it is easier for a legacy carrier to vary seating in response to seasonal demand.³⁰ In addition, legacy carriers derive approximately 50% of their LH revenue from the premium cabin even though it constitutes only 10-20% of available seats, thereby enabling them to further reduce the cost of economy tickets.³¹ Finally, legacy carriers have deeper pockets than most LCCs and can absorb losses longer in the event of price competition on the route.³²

In light of the foregoing, is LCC/LH carriage limited to the few lucky operators hovering at the margins of the market? Robert Crandall, the former CEO of American Airlines, certainly thinks so.³³ But a more nuanced analysis may be necessary in order to answer that question definitively. As of 2014, the percentage of LCC/LH operators who, after announcing their intention to begin flights, either never started operations or stopped their LH flights shortly after beginning were as follows:³⁴

- Middle East and Africa – 100%
- Europe – 75%
- The Americas – 67%
- Asia/Pacific – 25%

Perhaps the Asia/Pacific market is more receptive to the inconveniences of LCC/LH flight. In addition, there is some evidence that premium demand is limited so the traditional LCC single-

²⁵ *Id.*

²⁶ Binggeli, U., & Weber, M. (2013, June). A short life in long haul for low-cost carriers [Editorial]. *McKinsey & Company - Travel, Transport and Logistics*. Retrieved May 8, 2019, from <https://www.mckinsey.com/industries/travel-transport-and-logistics/our-insights/a-short-life-in-long-haul-for-low-cost-carriers>.

²⁷ *Id.*

²⁸ *Supra* note 21, pp. 4 and 19.

²⁹ Mutzabaugh, B. (2016, February 9). United confirms 10-abreast seating on some of its 777s. *USA Today*. Retrieved May 8, 2019, from <https://www.usatoday.com/story/travel/flights/todayinthesky/2016/03/09/united-confirms-10-abreast-seating-some-its-777s/81519220/>.

³⁰ *Supra* note 26.

³¹ *Id.*

³² *Id.*

³³ *Supra* note 14.

³⁴ *Supra* note 18.

class seating arrangement might be a better fit in that market.³⁵ And there is other evidence of the success of LCC/LH operations in the region. Jakarta has just opened a dedicated LCC terminal and Cebu Pacific, Indonesia AirAsia, Lion Air, Malindo Air, Sriwijaya Air and Thai Lion Air have moved into the facility.³⁶ IndiGo, a large Indian LCC, is aggressively expanding and its CEO has publicly stated that the airline is in the market for longer-range aircraft.³⁷ Japan and Korea, neither of which has its own LCC/LH airline but both of which have large populations centralized in urban areas and expensive legacy carriers, could be the next big Asia/Pacific market.³⁸ And the situation in Japan is changing rapidly thanks to more capable narrow-body aircraft. Jetstar Japan and Peach, both Japanese LCCs, have announced plans to start LH narrow-body service.³⁹

So things might not be as bleak for LCC/LH carriers as Mr. Crandell thought back in early 2018,⁴⁰ at least insofar as the Asia/Pacific region is concerned. It may not be something to bet the house on, but there is no doubt in my mind that some intrepid souls will do exactly that. And if they succeed, as they well might in the Asia/Pacific region, we will all admire them. The airline industry, and the LCC/LH arena in particular, is no place for the timid.

³⁵ *Id.* Please note, however, that the growing Chinese middle class could change this calculus.

³⁶ Chuanren, C. (2019, May 3). Jakarta opens dedicated LCC terminal. Retrieved May 10, 2019, from <file:///Users/michaelpeck/Downloads/JakartaopensdedicatedLCCterminalAirports&RoutescontentfromATWOnline.webarchive>.

³⁷ Kotoky, A. (2019, May 7). IndiGo Budget Airline Prepares for Another 'Large' Airbus Order. Retrieved May 10, 2019, from <https://www.bloomberg.com/news/articles/2019-05-07/airline-built-on-airbus-jets-prepares-for-another-large-order>.

³⁸ Long haul LCCs: Big opportunities in Japan and Korea. (2018, March 20). Retrieved May 10, 2019, from <file:///Users/michaelpeck/Downloads/LonghaulLCCs:bigopportunitiesinJapanandKorea|CAPA.webarchive> (CAPA Center for Aviation).

³⁹ Low cost long haul narrowbody aircraft: Asian gamechanger? (2019, January 25). Retrieved May 10, 2019, from <https://centreforaviation.com/analysis/reports/low-cost-long-haul-narrowbody-aircraft-asian-gamechanger-457383> (CAPA Center for Aviation).

⁴⁰ *Supra* note 14.

The Future was Fifty Years Ago – Remembering Apollo 11

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In July, 1968, just weeks after I graduated from high school, my cousin, Ray Cerrato, an aerospace engineer, asked if I would like to visit him at his job. And what a job it was! He was working for NASA on manned space flight at the Kennedy Space Center (“KSC”). That humid, Florida day at KSC will forever be a vivid memory. We entered the gigantic Vehicle Assembly Building (the “VAB”) where the size and complexity of all I beheld was astonishing, most spectacularly the Saturn Vs that were being assembled for the first lunar orbital flights. (Apollo 8 orbited the Moon on Christmas Eve later that same year.) I saw the mammoth crawler that would carry the fully-assembled Saturn Vs and their launch platforms and towers out to Launch Pads 39A and 39B. I visited an office where even then re-usable vehicles to follow the Saturn program were seen as concepts that later became the Shuttle program. A year later, on July 20, 1969, Neil Armstrong and Buzz Aldrin walked on the Moon while Michael Collins orbited the Moon in the Apollo Command Module awaiting their return in the upper stage of the Lunar Excursion Module (the “LEM”). I felt a special connection because I had seen the tools of this effort up close the summer before. The Apollo program with its six successful Moon landings (Apollo 13 being the only mission that had to abort its intended Moon landing) has been called “man’s greatest adventure,” and I believe it was so.

Just four months ago, I again visited KSC as part of the Lawyer-Pilots Bar Association conference at Cocoa Beach, Florida. I landed my own airplane on the 15,000-foot long, 200-foot wide Shuttle runway, and the next evening I attended a reception under the beautifully displayed Saturn V that was built for subsequent Moon landings that were “scrubbed.” The American will to continue beyond those six lunar landings seemed quickly to evaporate in the early 1970s. As in 1968 when I first saw a Saturn V up close, I was equally in awe at its size and complexity. I thought about the famous clips of those Saturn Vs initially lifting slowly from the pad and minutes later speeding through the ever-thinning and darkening atmosphere at multiples of the speed of a bullet – 225,000 feet high and 6,000 mph at first-stage separation. Amazing in 1969 and no less amazing in 2019.

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The last of six successful Moon landings was by the Apollo 17 crew on December 11, 1972. And so by the end of 1972, the spectacular national effort initiated by President Kennedy had come to an end. In a speech before Congress on May 25, 1961, President Kennedy had implored the Congress and the American people to meet the challenge of space exploration and to land a man on the Moon and return him safely to earth before the decade was over. That was accomplished by Apollo 11.

It was almost ten years after the last Apollo mission that the first Shuttle (Columbia) was launched. Perhaps it is meaningful that the Shuttle used the same launch facilities as the Saturn V. But for the Shuttle vehicles, the 400-foot high launch towers were substantially reduced in height because the Shuttle in launch configuration is only 158 feet tall compared to the Saturn V's 363 feet. While the Shuttle was originally intended to be a quickly re-usable vehicle with multiple launches every month, the changed priorities of the American public and the unforeseen technical problems of the Shuttle, coupled with its greater-than expected cost per launch, greatly impeded the Shuttle program. Rather than a stepping stone to more lunar missions and a possible mission to Mars, it became exclusively an earth-orbit program that was extended much longer than expected until the last Shuttle, mission 135, landed on July 21, 2011. The Shuttle, even with two failures that killed the entire crew, was seen over time as dated and the product of a now tired, underfunded and even unimaginative government bureaucracy. It never captured the kind of public interest that the Apollo program engendered.

Our national fervor for space exploration by humans has never been what it was in the 1960s. In that same decade Americans experienced the struggle in the streets for civil rights, the divisive and very costly Vietnam War that peaked the same year as the Apollo 11 Moon landing, the sexual and cultural revolutions (recall the 1969 Woodstock concert) and the assassinations of four American leaders, including President Kennedy. Even so, we went to the Moon!

The effort to meet the challenge put out there by President Kennedy, motivated in no small part by our competition with the Soviet Union on so many fronts, was enormous.² When I think about the clunky TV in our home, my transistor radio with such poor AM-only reception and the absence of so much technology we enjoy today, the Apollo program stands out as a leap into the future. Its predecessor programs, Mercury and Gemini, that provided the training for the skills the astronauts would need later, relied on military rockets as their boosters (Redstone, Atlas and Titan) and generally seemed suited to their time. After all, even the Soviets, who could not keep up with us in basic consumer products, were able to achieve a manned (and womanned) earth orbital flight, and they did so before we launched Alan Shepard into a sub-orbital flight on May 5, 1961. But Apollo was different. Its concept started to take shape as soon as President Kennedy stepped down from the podium on May 25, 1961. It would be thoroughly new and imaginative. By 1965, after the lessons from the Mercury and Gemini programs were available to the engineers, the details and quickly thereafter the construction of buildings, static test stands,

² Luna 15, a Soviet unmanned capsule, orbited the Moon during the Apollo 11 mission and on July 21, 1969, it crashed onto the lunar surface just hours before the Apollo 11 astronauts departed the lunar surface. The Soviet intention may have been to accomplish an unmanned landing that would look so smart to the world if the American astronauts died in the manned attempt. No other country, including the Soviet Union, has accomplished a manned lunar landing.

launch complexes, innovative equipment, space suits, a lunar lander, a lunar rover, enormous rocket engines, special metals, new welding techniques and so much more went into high gear.

On November 9, 1967, the first Saturn V, was launched. It was a major advancement over the original heavy-lift Saturn I that was developed in 1961 with military earth-orbit missions in mind. The first Saturn rockets, originally called the C-5 rocket, were designed by Wernher von Braun and his German engineering team. It was a follow-up rocket to the successful Jupiter series. Hence the name “Saturn,” the next planet after Jupiter. Then came the task of mounting an Apollo capsule with a three-person crew onto the new Saturn V. The first such module, Apollo 1, caught fire in a test on the launch pad in February 21, 1967 killing three astronauts, the only casualties of the Apollo program. So confident was NASA in the never-before-flown Saturn V and so urgent was need to get to the Moon before 1970, that later that same year, on November 6, 1967, the first Saturn V ever launched had a newly designed but un-manned Apollo capsule at its top in a daring “full stack” launch. The launch vehicle and capsule and the capsule’s service module performed perfectly. The first time a crew flew on the Saturn V was only one year later. It was Apollo 8 launched on December 21, 1967, that went all the way around the Moon with three astronauts on board and took those spectacular photos of “the good earth” seen arising above the lunar horizon.

The displays of the Saturn V, the Apollo Command Module and its Service Module and the LEM as museum artifacts is ironic. For me, they evoke wonderful memories of a great adventure of mankind that I was so fortunate to witness. But they also look like vehicles for the future, or like props from a science-fiction series about manned flights to other planets. And when I look at the Moon, I can hardly believe that there are six LEMS up there. The first stage of the LEM was used as a launch platform for the second stage. Then after the crew transferred from the second stage of the LEM and crawled back into the Command Module waiting in lunar orbit, it was allowed to plummet back to the lunar surface. (Would you go to the moon in the LEM?) And there are the flags and that plaque about going there “in peace for all mankind” and experiment packages, and even golf balls, left on the Moon. Maybe time is not linear but circular? For me, that Apollo 11 mission fifty years ago could be a mission envisioned for fifty years from now.

While my children and grandchildren know the Moon landing from the old MTV logo and from grainy video footage of the “one small step,” fortunately now there is renewed interest. Jeff Bezos is trying to recover some of the 65 F-1 first stage engines that performed without a single failure and that lie off the Florida coast on the ocean bottom. His company Blue Origin, along with Space X (Elon Musk) and Virgin Galactic (Richard Branson) all have their own facilities at KSC and now hold out the renewed prospect for a return to the Moon and beyond. Movies like Hidden Figures, In the Shadow of the Moon, CNN’s Apollo 11 (fantastic new video) and PBS’s Race to the Moon allow all of us to return to that time. July 20, 1969 – it is a time in both the past and simultaneously in the future.

The following photos were obtained from the National Aeronautics and Space Administration Apollo 11 Image Gallery (<https://history.nasa.gov/ap11ann/kippsphotos/apollo.html>):

“Apollo 11 liftoff from launch tower camera”

(<https://history.nasa.gov/ap11ann/kippsphotos/39961.jpg>)



“Aldrin unpacks experiments from LM”

(<https://history.nasa.gov/ap11ann/kippsphotos/5927.jpg>)



Analysis of Federal Preemption Issues as they Pertain to Existing Municipal and State Restrictions on the Use of Unmanned Aircraft Systems

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Presently there are municipalities across the country that ban the use of unmanned aircraft systems (“UASs”), through either outright bans, such as in New York City,² or otherwise onerous requirements to obtain permission to fly UASs. This article analyzes the extent to which such UAS bans and restrictions violate principles of federalism.

I. The Current FAA State and Local Framework

The FAA was first directly empowered to regulate UASs in the FAA Modernization and Reform Act of 2012 (Public Law No. 112-95). In § 333 of this law, Congress directed the FAA to establish the safe operation of UASs into the national airspace system. The FAA responded with a series of regulations and orders. UASs are presently regulated under 14 C.F.R. § 107 et. seq. The Federal Aviation Administration (“FAA”) has determined that UASs are subjected to various forms of restrictions based upon the class of airspace operated within (classes A through G, with no restrictions in class G airspace), the size and payload of the UAS, and contains visual line of sight and daylight requirements. The FAA offers opportunities to apply for a waiver of these requirements.

On December 15, 2015, the FAA published a fact sheet (“Fact Sheet”) on its understanding of the interplay between federal, state, and local regulation of UASs.³ This Fact Sheet laid out the principles of federal law as they pertain to aviation safety. The FAA stated that Congress has vested the FAA with authority to regulate the areas of airspace use, management and efficiency, air traffic control, safety, navigational facilities, and aircraft noise at its source. 49 U.S.C. §§ 40103, 44502, and 447-01-44735. The Fact Sheet contemplated that while the FAA has statutory authority to regulate flight traffic, there are some areas that state and local authorities

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² See <https://www1.nyc.gov/nyc-resources/service/5521/drones>. “If you see a drone being flown in the City, call 911.

³ See <https://www.faa.gov/news/updates/?newsId=84369>.

would have a role. The Fact Sheet went on to list examples where state and local authorities have a role, and where they would not. Below is that list:⁴

EXAMPLES OF STATE AND LOCAL LAWS FOR WHICH CONSULTATION WITH THE FAA IS RECOMMENDED

- Operational UAS restrictions on flight altitude, flight paths; operational bans; any regulation of the navigable airspace. For example – a city ordinance banning anyone from operating UAS within the city limits, within the airspace of the city, or within certain distances of landmarks. Federal courts strictly scrutinize state and local regulation of overflight. *City of Burbank v. Lockheed Air Terminal*, 411 U.S. 624 (1973); *Skysign International, Inc. v. City and County of Honolulu*, 276 F.3d 1109, 1117 (9th Cir. 2002); *American Airlines v. Town of Hempstead*, 398 F.2d 369 (2d Cir. 1968); *American Airlines v. City of Audubon Park*, 407 F.2d 1306 (6th Cir. 1969).
- Mandating equipment or training for UAS related to aviation safety such as geo-fencing would likely be preempted. Courts have found that state regulation pertaining to mandatory training and equipment requirements related to aviation safety is not consistent with the federal regulatory framework. *Med-Trans Corp. v. Benton*, 581 F. Supp. 2d 721, 740 (E.D.N.C. 2008); *Air Evac EMS, Inc. v. Robinson*, 486 F. Supp. 2d 713, 722 (M.D. Tenn. 2007).

EXAMPLES OF STATE AND LOCAL LAWS WITHIN STATE AND LOCAL GOVERNMENT POLICE POWER

Laws traditionally related to state and local police power – including land use, zoning, privacy, trespass, and law enforcement operations – generally are not subject to federal regulation. *Skysign International, Inc. v. City and County of Honolulu*, 276 F.3d 1109, 1115 (9th Cir. 2002). Examples include:

- Requirement for police to obtain a warrant prior to using a UAS for surveillance.
- Specifying that UAS may not be used for voyeurism.
- Prohibitions on using UAS for hunting or fishing, or to interfere with or harass an individual who is hunting or fishing.
- Prohibitions on attaching firearms or similar weapons to UAS.

⁴ See https://www.faa.gov/uas/resources/policy_library/media/UAS_Fact_Sheet_Final.pdf

UAS law was significantly changed last Fall with the passage of the FAA Reauthorization Act of 2018, which is discussed below.

II. The FAA Reauthorization Act of 2018

The FAA Reauthorization Act of 2018⁵ (Public Law No. 115-254) (“the Act”) was passed last fall, and the corresponding rules, regulations, and reports have not been issued in any final form as of yet. The Act was over 1,200 pages long, and made significant changes to overall aviation law. As far as specifically UAS law, the Act accomplished some of the following:

- Expedited the development and implementation of an unmanned traffic management (UTM) system.
- Gave the FAA the flexibility needed to appropriately regulate all UAS, including to impose remote identification and tracking requirements.
- Enabled federal law enforcement to conduct tailored countermeasures operations with due consideration to the ongoing safety of the national airspace and privacy and civil liberties.
- Established a process to develop consensus industry standards in lieu of protracted type and airworthiness certification.
- Improved the pathway to safely enable ubiquitous UAS delivery operations through a rigorous, risk-based certification process.
- Increase transparency in the Part 107 waiver approval process.

The Act called for an Aviation Rulemaking Committee to be formed to develop standards with respect to the technology and systems. No final report has been issued (Section 383). There was also to be a pilot program on the safety enforcement of UASs, to be completed within a year of the enactment of the Act. This has not been completed (Section 372). Nonetheless, the broad federalism principles have been established, and this article is being written with this in mind.

The Act in Section 373 stated that the Comptroller General of the United States (the GAO Office) shall conduct a study on the relative roles of the federal, state, local, and tribal governments in the regulation and oversight of low-altitude operations of unmanned aircraft systems (UASs) in the national airspace system. Within 180 days of the enactment of the Act, the GAO was supposed to submit the report. The GAO’s website as of June 12, 2019 did not show that a report has been completed and thus the GAO’s office is behind schedule.

The Act and prior law and precedent sets forth a legal framework in which the federal government has the right to set the manufacturing specs of UASs, as well as limitations on UASs based upon the class of airspace, time of day, altitude, and UAS payload. This same Act, as the Fact Sheet, also explicitly stated that there is SOME role for the states (certainly in respect to enforcement of privacy laws, as noted in Sections 357 and 358), and thus there is not a total federal field preemption with respect to UAS law.

⁵ See <https://www.congress.gov/bill/115th-congress/house-bill/302/text?q=%7B%22search%22%3A%5B%22FAA+Reauthorization%22%5D%7D&r=2>.

III. UAS Case Law Precedents

Two relevant cases specific to UASs were found, though both are district court decisions that would form persuasive authority. No case has made it through the docket that applies the Act as of yet.

Singer v. City of Newton, 284 F.Supp.3d 125 (D. Mass. 2017), concerns the City of Newton's municipal ordinance restricting the use of UASs within the city. This ordinance required that UAS users register their UASs with the city, and obtain the express permission of property owners before they fly their UASs over public or private land. The *Singer* court first noted that "field" preemption occurs "when a state's exercise of police power infringes upon the federal government's regulation of aviation." *Singer* at 129. The *Singer* court then noted that there was not total federal field preemption of UAS law, because the FAA itself noted, in its fact sheet pertaining to its laws, that State and local police power – including land use, zoning, privacy, trespass, and law enforcement operations – are generally not subject to Federal regulation, and explicitly contemplated some level of state or local regulation of UASs. *Id.* at 130. In looking at the specific Newton ordinance, the Court invalidated the ordinance as being conflict preempted by federal UAS laws for the following reasons: (1) the UAS registration requirement explicitly contradicted the federal government's exclusive right to register UASs (*id.* at 131); (2) Newton's requirement that all UASs must obtain either public or private permission before flying over public or privately owned land essentially operated as a wholesale UAS ban, in contravention to the FAA's charge to "develop a comprehensive plan to safely accelerate the integration of aircraft systems into the national airspace system." *Id.* at 131-132, citing Pub. L. No. 112-95 § 332; (3) the requirement that UASs only be operated within a visual line of sight also conflicts with Federal laws on when UASs may be operated, and beyond that, the federal government offers waivers for its visual observer rule, and not an absolute ban on UASs operating beyond a visual line of sight (*id.* at 132-133).

The second precedent, *Pan American v. Municipality of San Juan*, 2018 WL 6503215 (D. Puerto Rico 2018) concerned municipal ordinances governing a street festival; most of the case examined the commercial speech doctrine, but one challenged ordinance banned UASs and helicopters during the Festivities (a multi-day cultural event promoting Puerto Rican culture) that did not have explicit authorization from government agencies or the municipality of San Juan. The Court, citing to *City of Newton*, contemplated that there were potential preemption problems, but ultimately the plaintiffs were to use an operator that was authorized to fly by the FAA, and thus the Court held that it did not have to consider the preemption question. *Id.* at 25.

IV. Additional Case Law Precedents

UAS law is still a new field, and so looking afield, there are some important precedents that touch upon the same principles at play as to the extent to which a municipality or state may regulate the use of UASs.

A. Noise Control

Courts have held that states and municipalities have no ability to control the level of noise within their jurisdictions. *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624, 633–34 (1973). Although “[c]ontrol of noise is of course deep-seated in the police power of the [s]tates,” the Court held that the federal noise-control statute left “no room for local curfews or other local controls.” *Id.* at 638. Similarly, the Minnesota Supreme Court held that the Minnesota Pollution Control Agency could not regulate airport noise because state regulations were preempted by federal law. *Minnesota Pub. Lobby v. Metro. Airports Comm’n*, 520 N.W.2d 388, 393 (Minn. 1994). As the Supreme Court noted, allowing state-by-state regulations to control air traffic would be “totally inconsistent with the objectives of the federal statutory and regulatory scheme” because such regulations “would cause a serious loss of efficiency in the use of the navigable airspace.” *Burbank*, 411 U.S. at 627–28. In other areas, there may be some room for state and municipal authority.

B. Airport Plans/Expansion

Burbank-Glendale-Pasadena Airport Authority v. City of Los Angeles, 979 F.2d 1338 (9th Cir. 1992) concerned an airport that brought action against a municipality that required that all airport building and expansion plans had to be reviewed by the City of Los Angeles. The Court held that the federal government preempted that field and the municipality had no authority to require review of an airport’s plans:

It is settled law that non-proprietor municipalities are preempted from regulating airports in any manner that directly interferes with aircraft operations. *See City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624, 93 S.Ct. 1854, 36 L.Ed.2d 547 (1973); *San Diego Unified Port District v. Gianturco*, 651 F.2d 1306, 1314 (9th Cir.1981), cert. denied, 455 U.S. 1000, 102 S.Ct. 1631, 71 L.Ed.2d 866 (1982). Although the City of Los Angeles concedes that it is prohibited from controlling aircraft operations, it argues that this Ordinance is a legitimate exercise of the City’s police powers that in no way impinges upon the areas preempted by federal regulation. We disagree.

The problem with this Ordinance is that it conditions the construction and reconstruction of taxiways and runways on the prior approval of the City. This the City may not do. The proper placement of taxiways and runways is critical to the safety of takeoffs and landings and essential to the efficient management of the surrounding airspace. The regulation of runways and taxiways is thus a direct interference with the movements and operations of aircraft, and is therefore preempted by federal law.

Id. at 1340-1341.

C. Municipal Bans on Aerial Banners

Center for Bio-Ethical Reform, Inc. v. City and County of Honolulu, 455 F.3d 910 (9th Cir. 2006) concerned the City of Honolulu’s ban on towing aerial banners over the beaches of Honolulu. The plaintiff obtained an explicit waiver from the federal government to fly its plane over a densely populated area, though that waiver itself noted it “does not constitute a waiver of any State law or local ordinance.” The Court held that there was no field or conflict preemption here, because:

The FAA Handbook, which is the same one analyzed in *Skysign* and in this appeal, suggests including “similar provisions in waivers for banner tow operations ... that the certificate and its special provisions ‘do not supersede any local, state, or city ordinance(s) prohibiting aerial advertising.’”

Id. at 1116.⁶

V. Takeaways about Federal Preemption of UAS Law

State and municipal UAS restrictions have only been formally ruled upon in the *Newton* decision. It should be noted that this decision was made before the Act was finalized in the Fall of 2018, and before the coming GAO report that is meant to sort out the responsibilities to enforce UAS laws between federal, state, and municipal actors. Nonetheless, if a state or municipality requires that UASs must be registered with a locality, sets noise restrictions, enacts UAS flight bans or height limits, or seeks to regulate the make and model of UASs, based upon the principles of federalism outlined in this article, such restrictions have a good potential to be overturned in a court. Other forms of UAS restrictions would likely be acceptable, such as criminal penalties for privacy violations, and requiring that UAS launch pads (to the extent they will exist) only be located at certain sites within a state/municipality. By contrast, if a state or municipality creates additional burdens on UAS users in areas that are considered the exclusive domain of the federal government, such restrictions may be shot down.

⁶ See *Skysign Intern., Inc. v. City and County of Honolulu*, 276 F.3d 1109 (9th Cir. 2002)

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On May 23, the Aeronautics Committee of the City Bar toured John F. Kennedy International Airport (“JFK”).

The team met first at Building 14 of the airport to meet with Mr. Jim Steven, Program Director of JFK Redevelopment, who spoke to the planned redevelopment of the airport and how these redevelopment plans would improve the customer experience.

Following this talk, Mr. James Cicardo, Chief Operations Supervisor at JFK, led a behind-the-scenes tour of the airport. The team toured the firehouse, walked the runway and saw the ongoing runway construction and redevelopment, took a picture by an A380 aircraft, toured a baggage handling facility, and then ended the experience at the TWA Hotel, enjoying drinks at the bar.

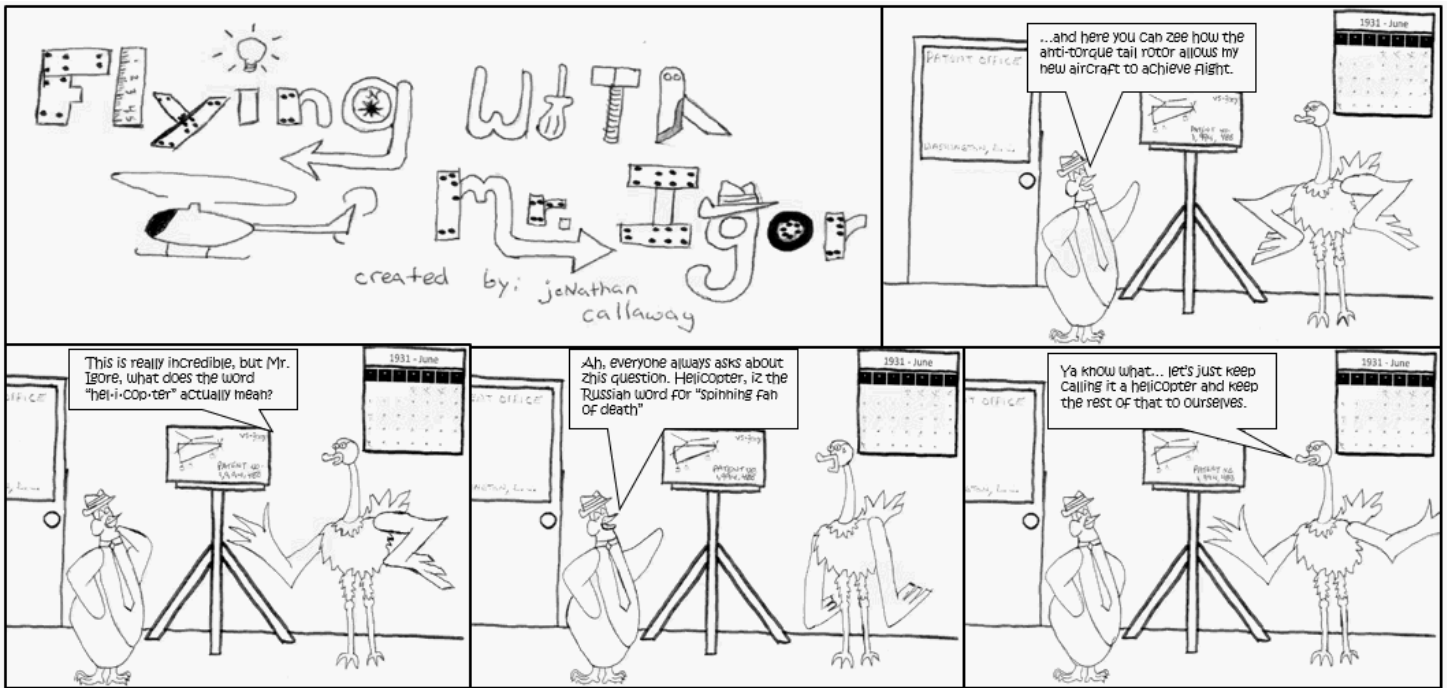
This tour helped the team of aviation attorneys see how the airport functions behind the scenes, and helped the group fully visualize how aircraft safely ferry passengers to destinations around the world.

¹ Racquel Reinstein is an attorney working for the Port Authority of New York and New Jersey. She also is mom to an adorable toddler named Zoe, and enjoys reading about aviation regulations in her spare time. *[Committee Chair’s Note: The Aeronautics Committee thanks Racquel very much for organizing the wonderful tour described in the above article. Many thanks also to the Port Authority for their thoughtful gifts to the tour participants, including a very cool Port Authority reflective vest (see photos in the Fun Pages), pin, key chain and information packet.]*

FUN PAGES¹

Comics

By Jonathan Callaway, Chair of the Subcommittee on Rotary-Wing Aviation



¹ Please submit original aviation-related drawings, puzzles, pix, etc. for the Fun Pages to areitzfeld@gmail.com.

Puzzles

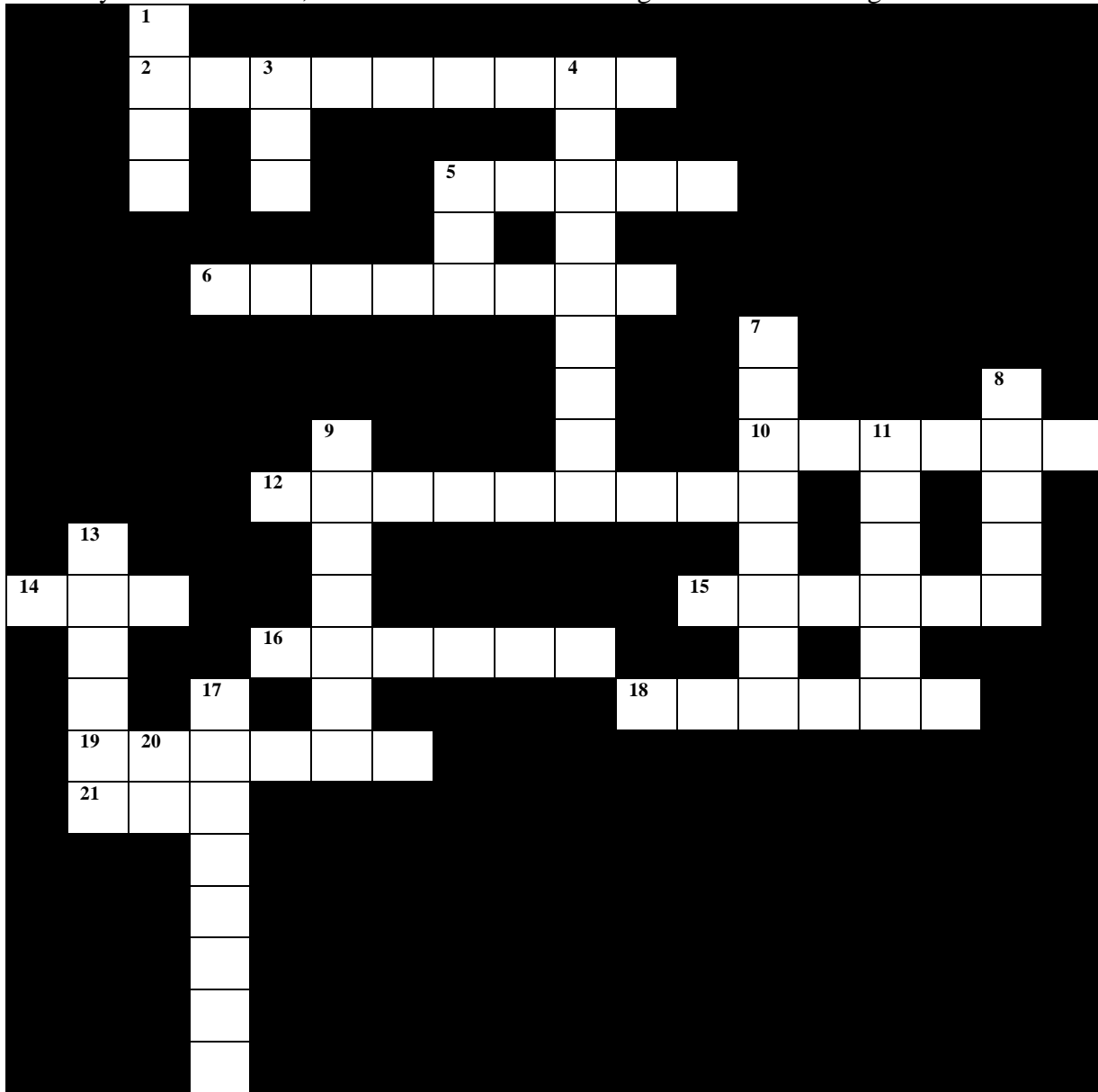
Aerospace Word Search Puzzle

By Maria C. Iannini, Chair Subcommittee on ICAO Developments

D	X	Y	E	V	Y	R	P	N	P	Y	K	U	G	B	V	I	Z	X	X	F	W	A	P	P	AIR
M	T	Y	Z	X	O	Q	B	W	Q	X	E	O	U	H	W	Q	K	H	Z	X	Z	T	L	P	AIRLINES
E	M	A	K	K	C	O	B	B	C	Y	N	Y	S	V	K	F	I	G	X	A	G	X	S	D	AIRPLANE
D	L	N	Z	I	O	X	N	A	G	S	A	F	I	J	G	S	R	R	Z	C	T	B	E	A	AVIATION
Y	L	M	H	V	R	V	Q	X	B	R	L	P	R	C	Z	A	I	W	U	I	B	J	N	R	BLACKHOLE
Q	Q	W	Y	X	S	H	A	L	J	F	P	O	X	F	E	X	N	C	G	I	E	M	I	C	BOEING
F	G	T	F	S	D	S	U	K	W	R	R	Z	K	T	J	O	G	S	N	X	V	H	L	B	DRONE
F	N	G	R	N	A	Y	X	H	R	N	I	R	I	A	I	F	R	V	W	U	Q	T	R	C	ICAO
H	I	M	I	D	X	O	F	O	R	S	A	L	O	T	J	D	C	E	E	G	S	N	I	B	LAWYER
X	E	A	C	F	Q	J	W	H	V	X	L	L	A	K	A	I	V	C	J	T	S	C	A	D	PILOT
A	O	R	N	A	M	H	L	D	E	E	V	I	D	L	K	U	N	A	C	Q	B	T	T	K	SATELLITE
J	B	P	P	M	C	Q	K	C	T	W	V	K	E	R	R	X	P	A	R	H	N	E	S	SPACE	
F	U	I	D	W	G	J	R	A	C	A	D	A	F	C	E	V	Y	S	X	S	S	Y	P	T	
T	Z	L	W	R	C	P	S	O	S	U	B	P	Z	H	Y	K	O	D	M	Q	I	O	P	A	
G	N	O	E	A	D	O	M	B	Q	S	V	I	O	X	W	G	U	U	D	B	C	E	L	T	
C	Q	T	G	B	B	X	R	G	U	C	C	I	F	O	A	C	I	G	F	C	T	M	T	T	
H	V	I	W	Z	X	Z	F	S	K	E	A	W	M	G	L	E	X	D	X	Z	X	F	H	C	
W	O	U	R	S	C	I	P	D	G	M	B	X	H	H	K	N	N	W	X	Z	A	S	P	D	
C	G	K	M	G	E	A	Z	R	Y	G	P	W	D	T	T	V	O	W	A	S	G	T	T	T	
S	G	G	P	H	X	B	B	L	A	T	A	K	M	M	Y	E	L	O	H	K	C	A	L	B	
H	M	E	Q	W	M	I	L	Y	T	A	Y	S	B	B	Y	Y	V	G	B	E	C	K	T	R	
S	I	K	Q	H	L	E	I	R	Q	V	B	O	Q	M	X	Y	Q	H	D	H	Z	L	H	B	
J	B	W	R	G	J	P	U	H	W	X	L	P	A	Y	G	V	X	J	N	Z	W	D	F	W	
P	E	N	O	R	D	I	X	A	A	I	A	J	N	I	Q	N	W	J	H	I	P	K	P	R	
T	A	J	Q	I	S	P	M	B	C	I	F	M	M	Z	Q	M	V	P	P	Z	B	M	R	B	

Crossword Puzzle – “Landing Spots”

By Michael Davies, Chair of the Drone/UAS Regulation & Licensing Subcommittee



Across

Down

- 2 _____ Field, Lindbergh’s starting point and present-day shopping mall
- 5 _____’s Run (1976 sci-fi film) (BOS)
- 6 The gates have slots here (LAS)
- 10 Liverpool’s is named after him (LPL)
- 12 He won his only Oscar in 1969 (SNA)
- 14 June honoree (or DaNang’s airport)
- 15 PMO is here
- 16 Some people call it Charles deGaulle (CDG)
- 18 Pacific island (MDW)
- 19 Noteworthy Secretary of State (IAD)
- 21 It keeps you cool until the engines are running

- 1 Counterpart of 16 across (ORY)
- 3 An American hub
- 4 The Little Flower (LGA)
- 5 British Airways hub
- 7 Before Kennedy there was this (IDL)
- 8 Needlepoint is one (HOU)
- 9 19-time Oscars host (BUR)
- 11 Tokyo hub (NRT)
- 13 Tokyo hub (HND)
- 17 Closed NYC airport once home to the Goodyear blimp (FLU)
- 20 Not down

Committee Photos

March 21 Presentation by Maria Iannini on “Introduction to Space Law.”



May 23 Tour of John F. Kennedy International Airport





June 5 Spring Gathering

