

38TH ANNUAL

AIRPORT LAW WORKSHOP



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Advanced Air Mobility and
Airport Electrification:
Challenges and Opportunities

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Introduction and overview



Advanced Air Mobility

What is it?

When is it happening?

What are the legal risks?



Airport Electrification

What do all these words mean?

What sorts of legal hurdles are there?

What are new funding opportunities?



What is Advanced Air Mobility?



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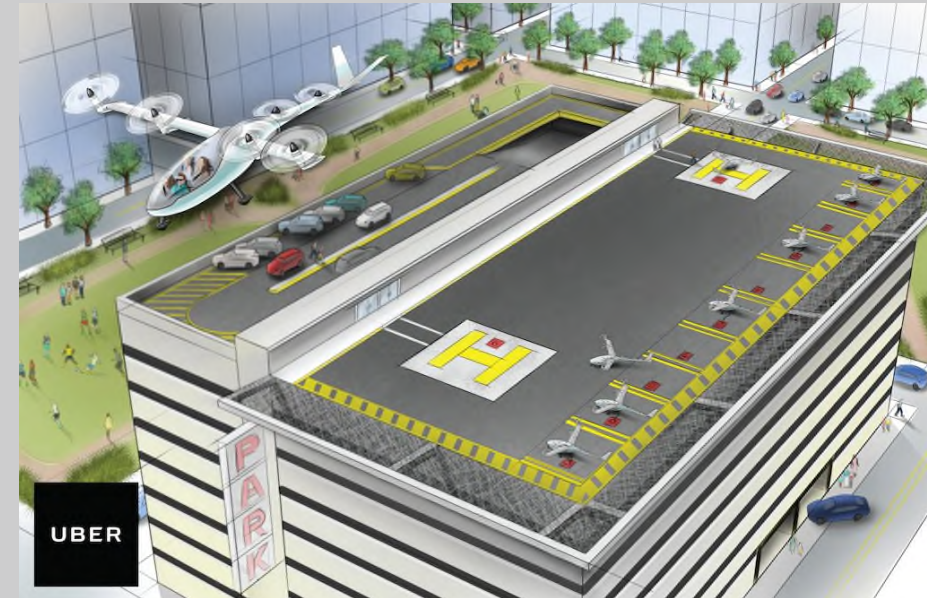
Two regulatory paths



There are two regulatory “paths” required to enable AAM...



Credit: joby.com



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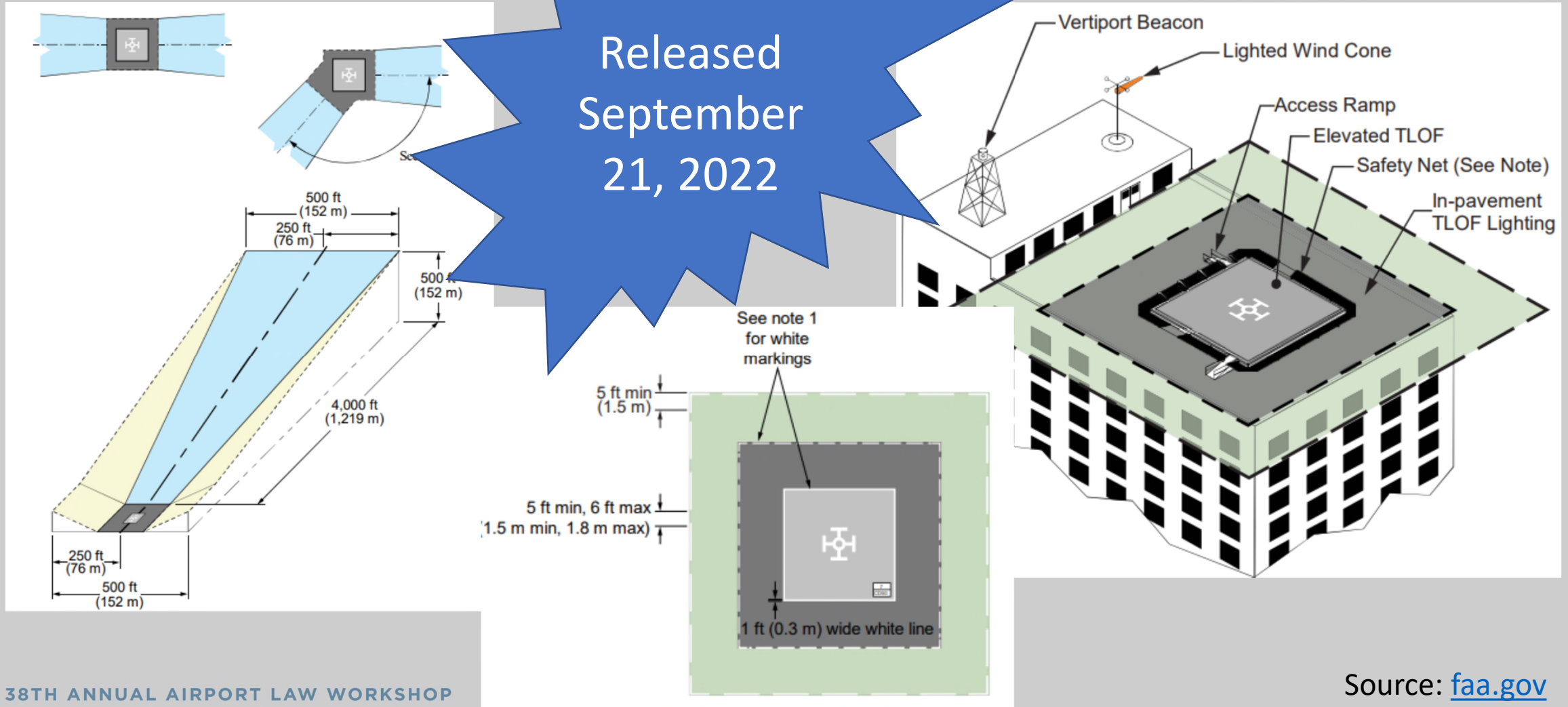
...and both are evolving (slowly).



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Vertiport development and operational risk



- Potential liability for negligent design
- Risk of future non-confirming facilities
- Risk of abandoned/obsolete facilities
- Potential exclusive rights issues
- AIP/PFC funding likely limited
- Wildlife and hazard mitigation uncertain



Vertiport siting and control



Ground infrastructure (vertiplaces):
Vertihubs, vertiports, and vertistops

Vertihub



Vertiport



Vertistop



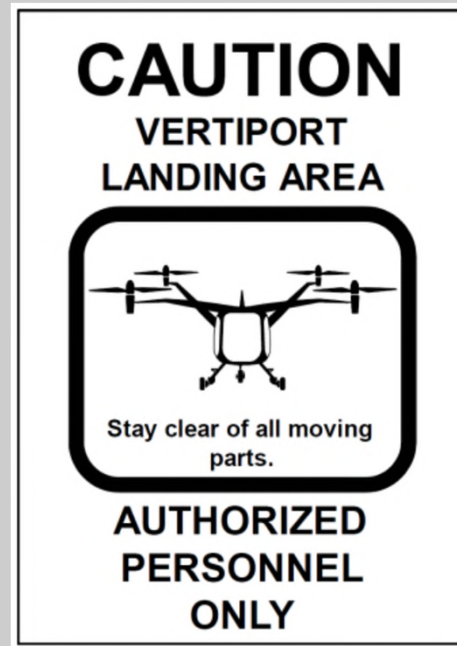
Source: dronelife.com



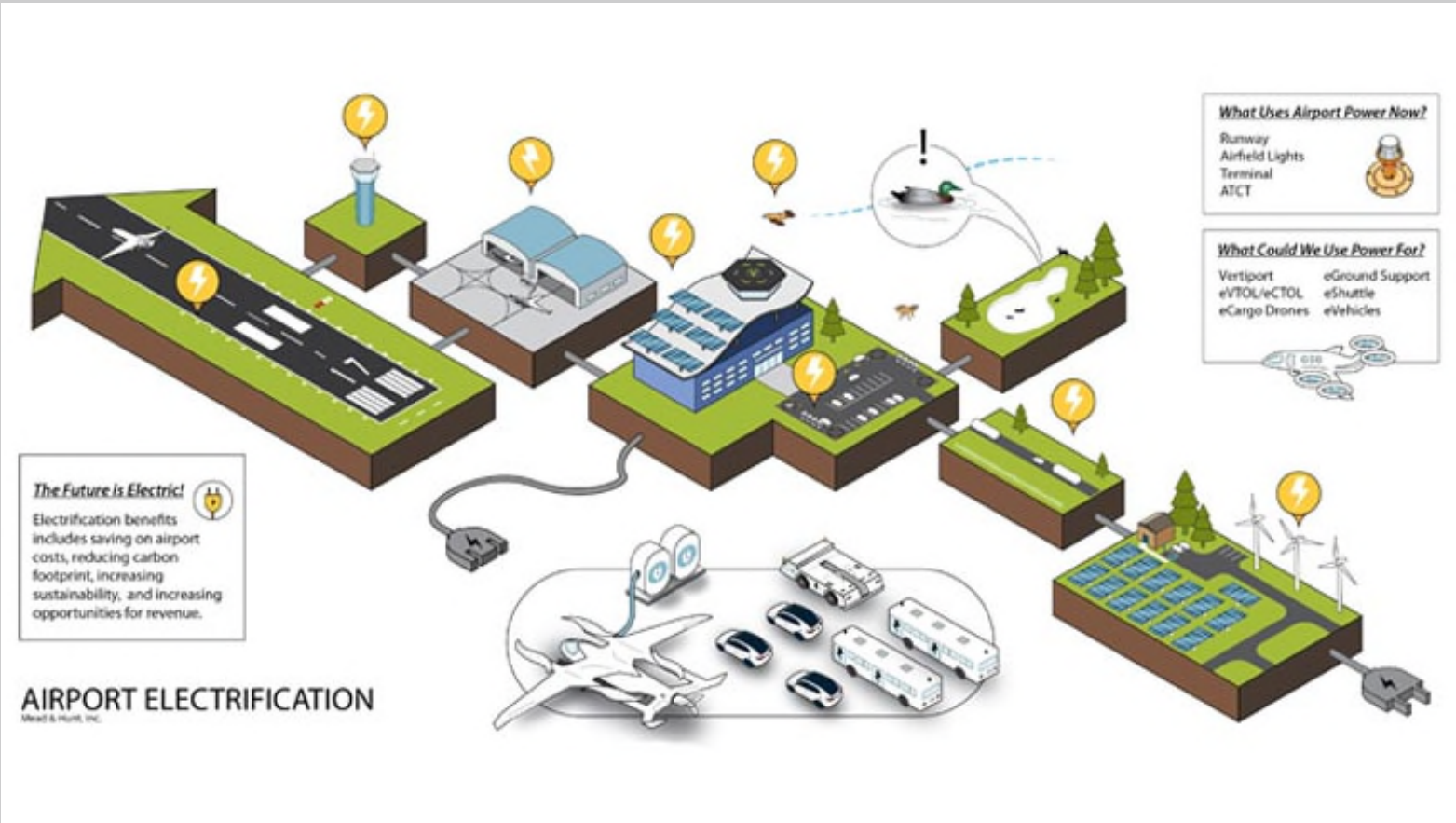
Other regulatory considerations



- Preemption under the Airline Deregulation Act?
- Passenger screening
- Airport Rescue and Firefighting (ARFF)
- And many more!



Electrical Capacity



Source: [Mead & Hunt](#)

Airport electrification: some lingo



ENERGY

POWER

CAPACITY

DEMAND

TRANSMISSION

DISTRIBUTION

WATTS

BEHIND-THE-METER

KILOWATTS

MEGAWATTS

GIGAWATTS

MICROGRID

VOLTAGE



Airport sponsors don't want to be utilities



- In most states, “selling” or “providing” power to anyone else makes you a “utility”
 - If airport sponsor develops solar, batteries, generators, etc. → careful who gets to use that energy
- Exceptions (usually) for providing power from EV charging stations
 - Can those extend to electric aircraft?



Why electrify?



Solar and microgrids

- Reliability
- Flexibility and customization
- Climate objectives
- Potential cost savings



Photo source: New York Times (showing Tallahassee International Airport control tower)



Photo source: Denver International Airport; Printed at DenverPost.com

EV charging

- Passenger demand
- Rental fleets
- TNC fleet turnover



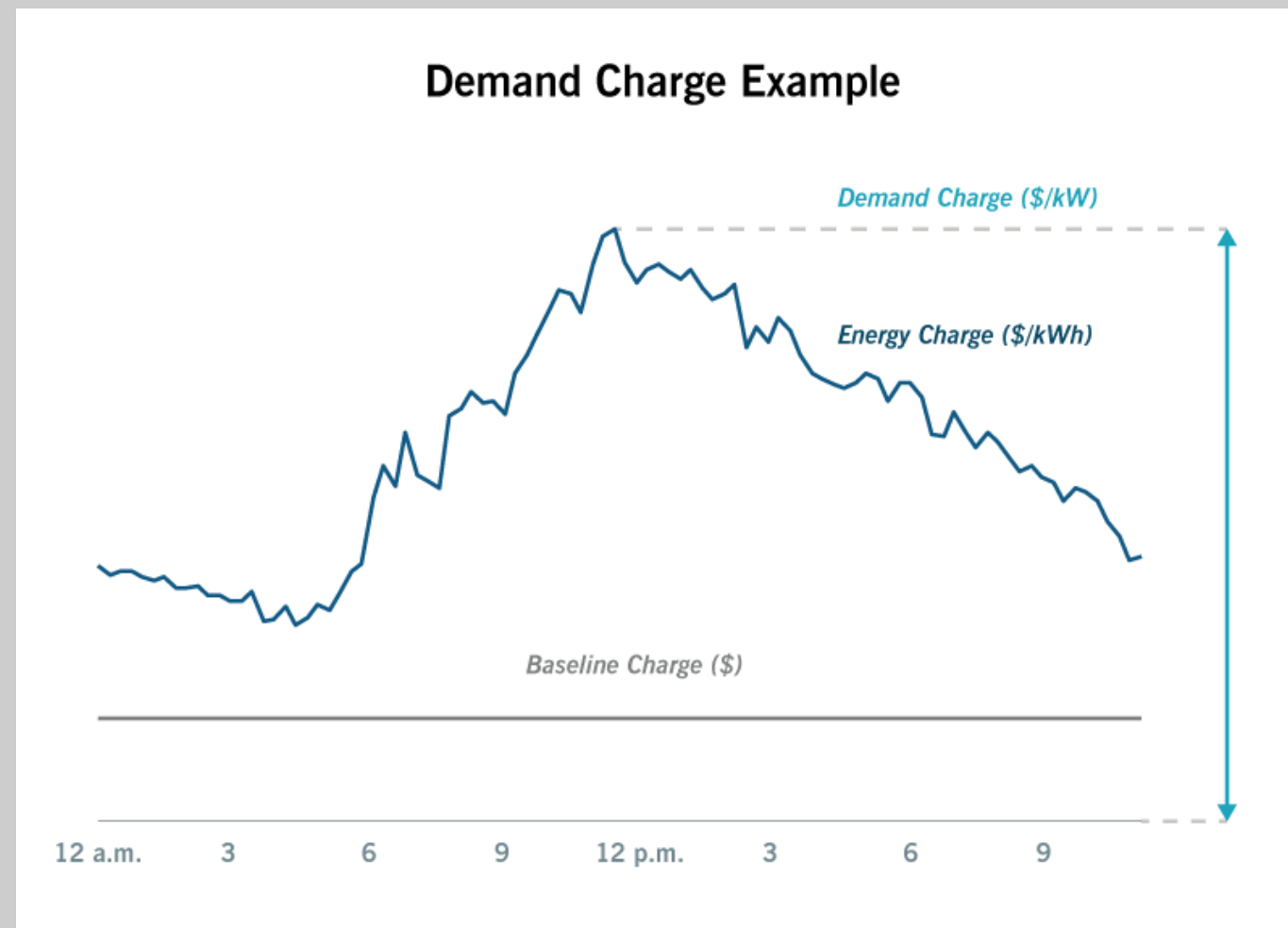
Charging: size and speed both matter



3 components of power costs:

1. Baseline / fixed costs (\$)
2. Energy charge
(\$ * total electricity used)
3. Demand charges
(\$ * peak capacity)

can be prohibitively high for commercial-level charging without appropriate rate structures



So...let's build it. Start with the map!

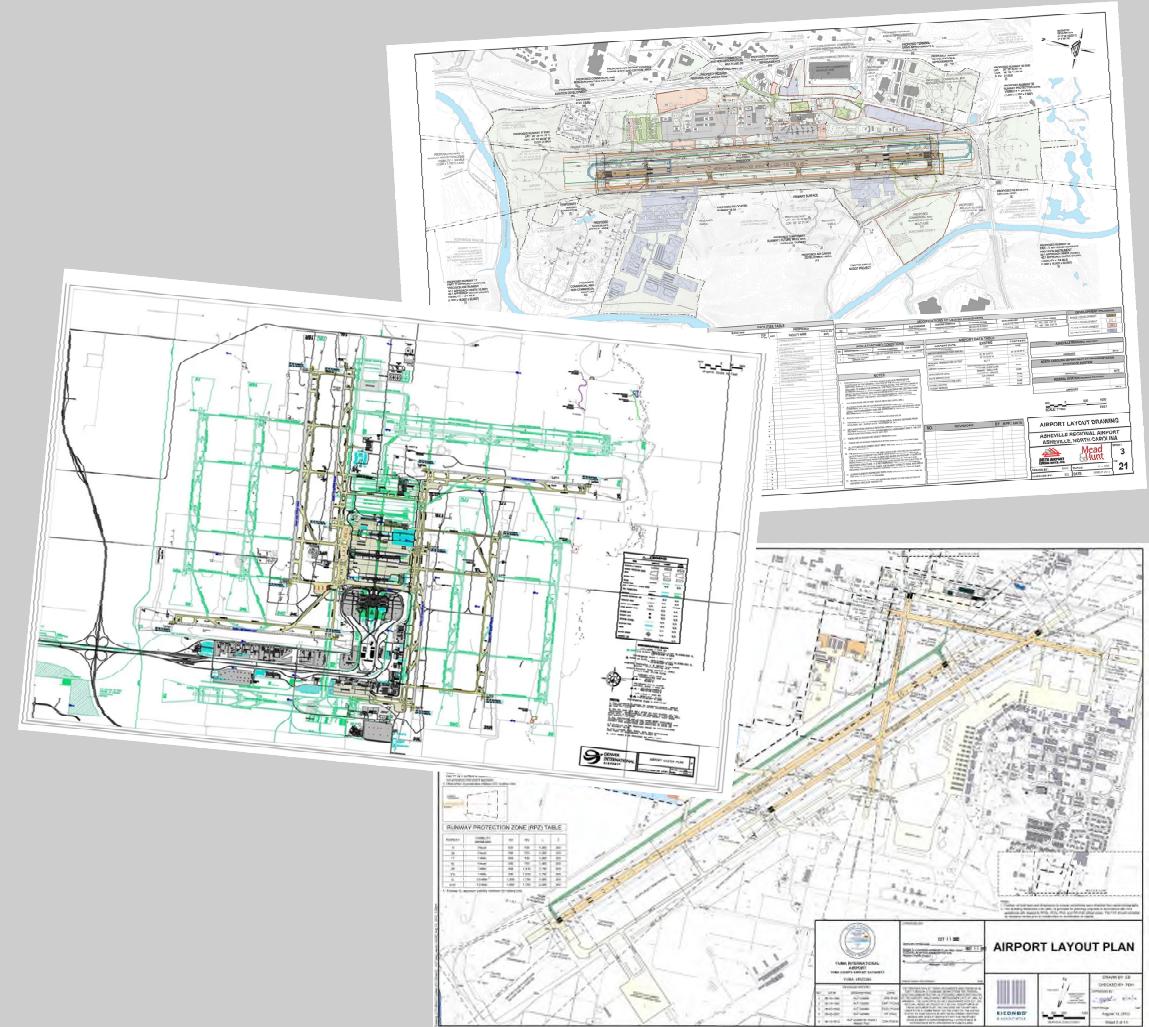


Update the ALP if the project:

- Changes use of airport property
- Is ground-mounted or changes building max height
- Requires new footprint or change the footprint of existing structures

File Form 7460?

FAA approval subject to Section 163



So...let's build it. Lease? Approval/release?



Leasing?

- Consult with FAA and show prudent financial benefit
- Consider limited-scope license instead

Deed restricted?

- Get written consent from FAA
- Formal release usually not required

Federally funded land?

- May need release from grant assurances
- Cumbersome process



So...let's build it. Lease? Approval/release?



Caution: Changes In Law Ahead

Tunded land?

- Cumbersome process



Project governance and delivery



Power purchase agreements

- Airport buys power from private developer
- Ensure airport gets fair market value for non-aeronautical use of property

Net metering arrangements

- Airport owns generation project “behind-the-meter” to offset purchases from utility
- Can often sell excess power to local utility

Airport-owned microgrid

- Airport owns the project components
- Trade-offs: more upfront risk and O&M obligations vs. more flexibility and benefits

Site lease

- Airport leases site to project developer and gets rental income
- Project owner sells power to utility or other offtaker



Show me the money!



Inflation Reduction Act (aka Build More Clean Energy Act)

- Expanded tax credits for wind and solar projects
- New tax credits for energy storage
- New tax credits for clean hydrogen technologies
- New tax credits for clean fuels and commercial vehicles
- Expansion of who can take advantage of tax credits

Airport Energy Resiliency and Renewable Energy Act

- If passed, would create new \$125M FAA grant program to fund airport energy projects



Show me (more) money!



Advanced Aviation Infrastructure Modernization Act

- Would provide grant funding for vertiport design.
- Once two AAM aircraft are certified and an Advisory Circular for vertiport standards is developed, would provide grant funding for vertiport construction and enabling projects.





Questions?

www.kaplankirsch.com | www.aaae.org | www.imla.org

