



## **URBAN AIR MOBILITY LAW**

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**30, June, 2023**

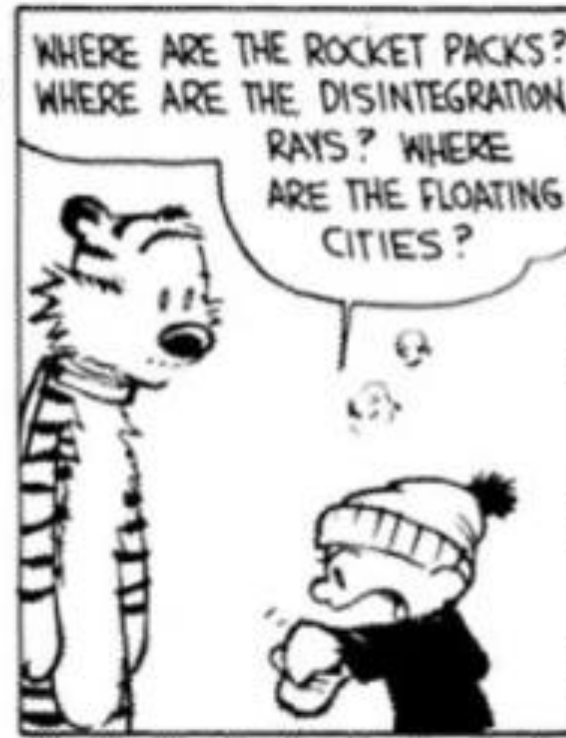


# WHERE ARE THE *FLYING CARS*?

A new decade.



WHERE ARE THE FLYING CARS?  
WHERE ARE THE MOON COLONIES?  
WHERE ARE THE PERSONAL  
ROBOTS AND THE ZERO GRAVITY  
BOOTS, HUH? YOU CALL THIS A  
NEW DECADE?! YOU CALL THIS  
THE FUTURE?? HA!



DECEMBER 28, 29, 30, 1989

Calvin & Hobbes

← NEWSROOM

# Groupe ADP & Volocopter at Forefront of Electric Urban Air Mobility: A World First in Summer 2024

JUNE 20, 2023

SHARE



*“Reimagining human connection”*

*“Reimagine how we **live** and spend **time**”*

*“Taking **urban** transport into the sky”*

*“Piloted at launch but ready for **autonomous** operations”*

*“Designed for **Daily Life**”*

*“**Faster, Cleaner, and Smarter** way to carry people”*

*“Aircraft that will be quiet enough to land in your **neighborhood**”*

*“Effective way to relieve the current **traffic congestion**”*

*“**People** first”*

*“It is a **lifestyle**, a way of travel; the future is now”*

**THE PROMISES OF THE NEW INDUSTRY**



**WE BRING**

urban air mobility to life.





No roads.



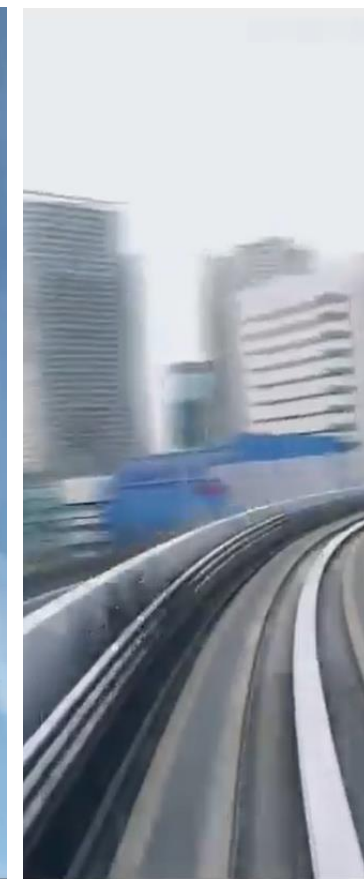
No bridges.



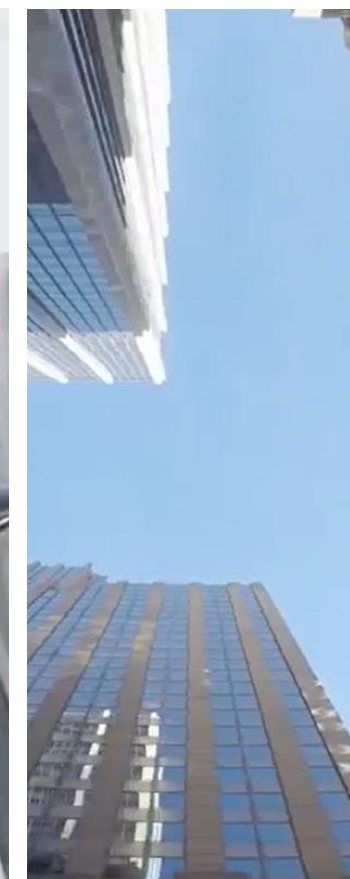
No tunnels.



No emissions.



No tracks.



No traces.



minimal noise.





## Saving time, preventing CO2 emissions

Fill in the simulation below by setting starting and ending points, and see time and CO<sup>2</sup> emissions comparisons for a journey by car versus one using an eVTOL.

### Pick a route and fly

SINGAPORE, from Nagoya Hill Mall to Marina Bay



Fly

Time

Operating Emissions

🕒 0 minutes

🌿 0 kg



eVTOL

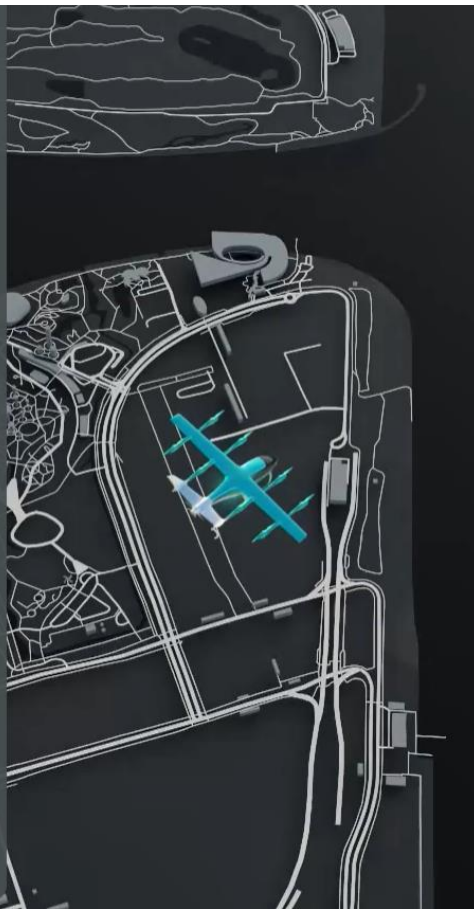
🕒 0 minutes

🌿 0 kg



Car

This simulation is merely educational and does not represent performance compromises required for real-world travel, such as traffic conditions and weather. Assumptions: eVTOL at a constant speed of 200km/h on a regular non-windy day; automobile emissions are calculated using United States Environmental Protection Agency (EPA) numbers for a typical passenger vehicle. Learn more on the link: [Click here](#)



## ABOUT US

# WE WERE BORN TO FLY



Reimagining human connection by creating safe, sustainable and accessible mobility experiences

For us, mobility is not just about routes, solutions or infrastructure. It's about people. We think of mobility as the key to making life more fluid and cities more friendly. We can reduce distances and improve the quality of time for everyone. All of this in a practical, accessible, and smart way.

## EVTOL

# HUMAN-CENTRIC DESIGN



Our eVTOL is 100% electric and its human-centric design ensures the safety, accessibility and comfort of both passengers and the community by minimizing noise. It will be piloted at launch but ready for autonomous operations in the future.





A paradigm shift in mobility  
is coming. Join us.



#### THE TRANSFORMATION STRATEGY


Supernal integrates with  
existing transit. Seamlessly.





# Electric Aerial Ridesharing

## Designed for Daily Life



We all want to spend less time traveling and more time living. At Joby Aviation, we're making that possible with our pioneering electric aircraft. It's a faster, cleaner, and smarter way to carry people through their lives.

## Quiet as a Conversation

From the beginning, we knew our aircraft had to fade into the background of life. Our expert team of engineers has dedicated years to delivering an aircraft that will be quiet enough to land in your neighborhood. [Listen here.](#)

## OUR MISSION

Taking the lead in the once-in-a-century mobility revolution

## EVOLUTION OF THE SKYDRIVE FLYING CAR



**SD-03**

Demonstration flight successfully completed in 2020



**SKYDRIVE**

Scheduled to be debuted in 2025



**SD-XX**

Concept model



# EHang AAV

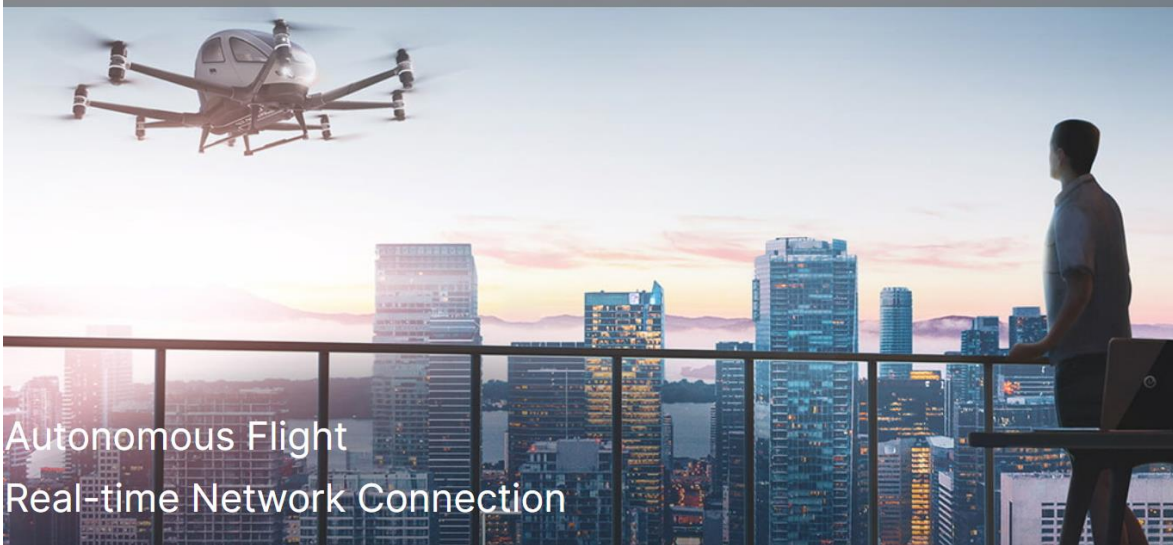
## The Era of Urban Air Mobility is Coming

It is a lifestyle, a way of travel; the future is now.

**EHANG | 亿航**

Passenger Transportation

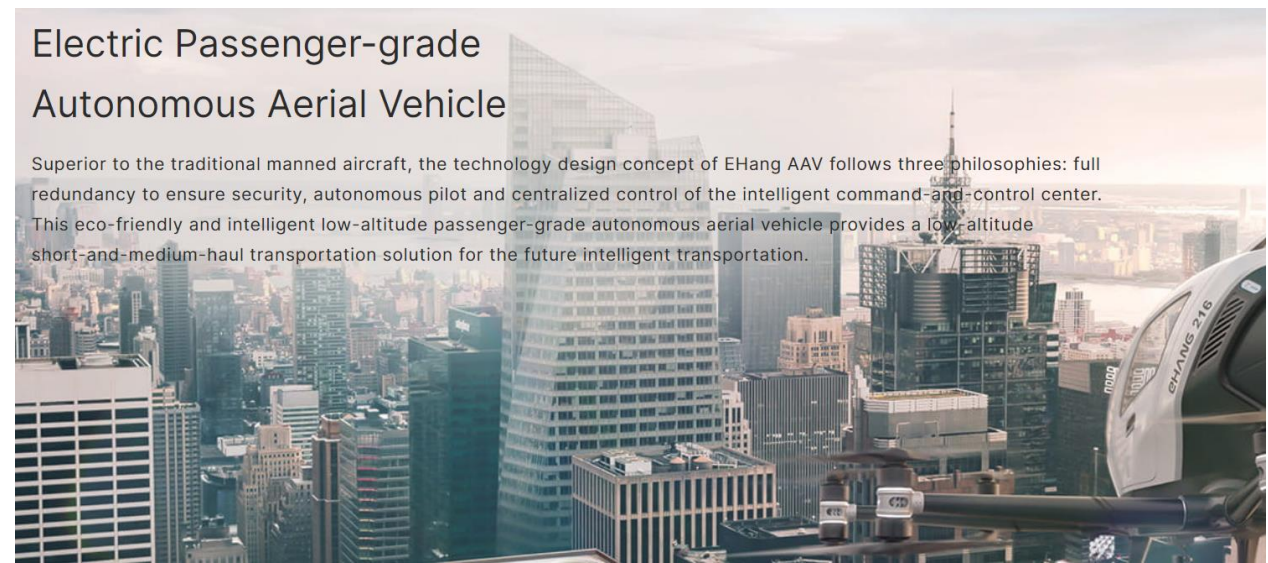
Overview



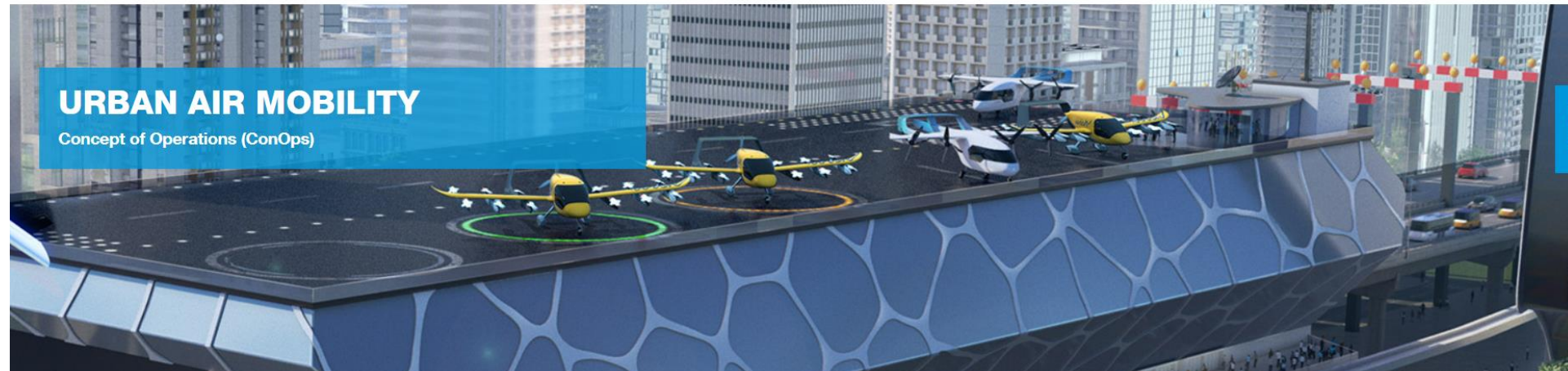
Autonomous Flight  
Real-time Network Connection

### Electric Passenger-grade Autonomous Aerial Vehicle

Superior to the traditional manned aircraft, the technology design concept of EHang AAV follows three philosophies: full redundancy to ensure security, autonomous pilot and centralized control of the intelligent command-and-control center. This eco-friendly and intelligent low-altitude passenger-grade autonomous aerial vehicle provides a low-altitude short-and-medium-haul transportation solution for the future intelligent transportation.







# URBAN AIR MOBILITY

Concept of Operations (ConOps)



# Urban Air Mobility

Taking urban transport into the sky

ARCHER × UNITED 

Newark Airport to New York City in 10 minutes



# Osaka

TRIP DETAIL

Osaka Station

Kansai Airport

OSAKA STATION



KANSAI AIRPORT

## The beginning

cases of use

- Airport Shuttle
- Emergency
- Cargo
- Tourism



SkyDrive is certainly one of the leaders out of Japan for UAM. That said, the manufacturing of air ... ver más

[Ver traducción](#)



Japanese eVTOL developer harnesses Suzuki production faci...



**THE NEXT STEP**  
*door-to-door  
air mobility*



Our aim is to create a two-seat, ultra-compact flying car that allows take-offs and landings in **small areas**, including convenience **store parking lots** and **building rooftops**.

Additionally, our development path envisions a flying car that also can be driven on land to enable true **point-to-point mobility to any destination**.



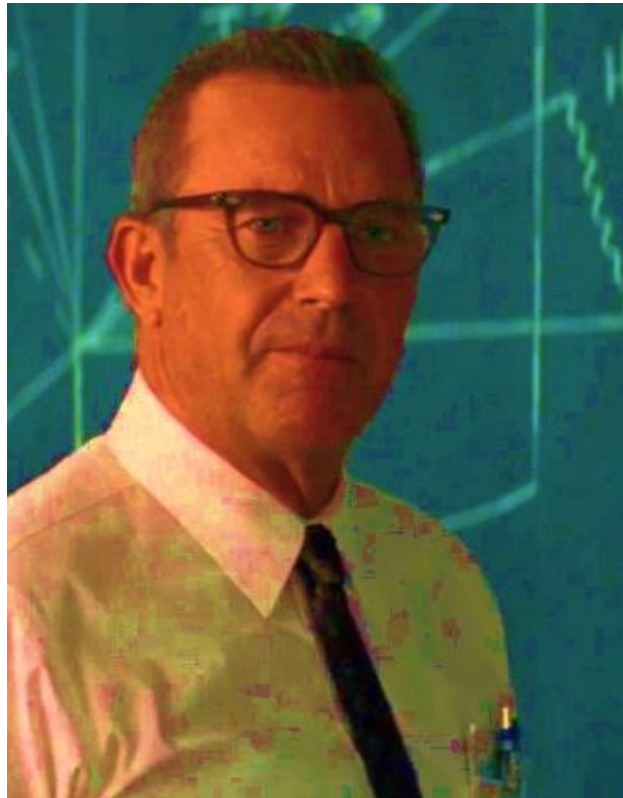
how to think about **Urban Air Mobility Law?**





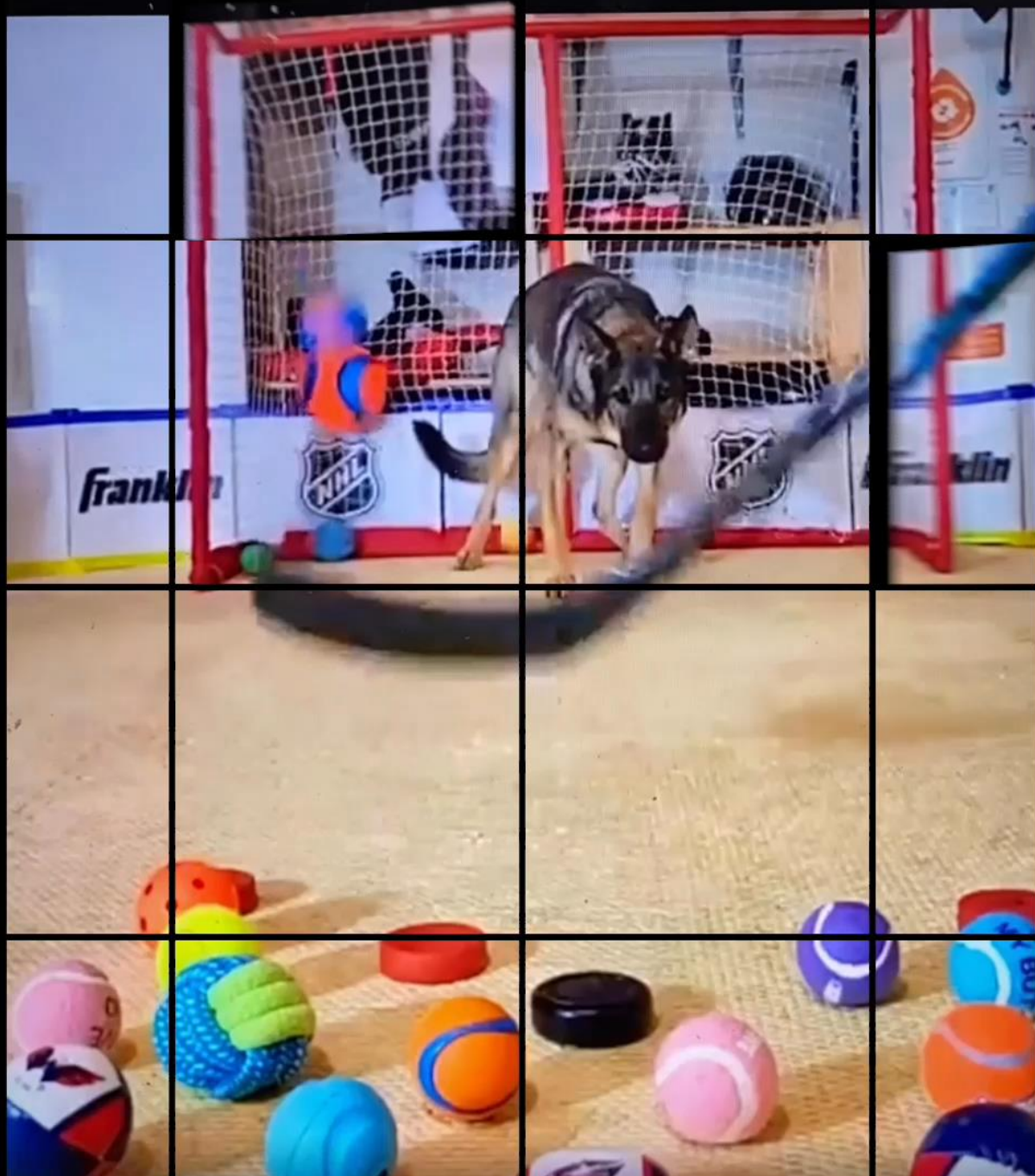


- To look **beyond** the law and rules ... **around** them ... **through** them.
- answer the questions we **don't even know** how to ask.
- To think about public policy and laws **that do not yet exist**




how to think about **Urban Air Mobility Law?**





"Keeping the focus on **what is relevant** is the most effective way to achieve concrete goals, no matter **how confusing** the scenario may be"

**Marc Vidal**

 Fuente: [National Hockey League \(NHL\)](#)

 Recupera posts: <https://lnkd.in/eRaAyMHE>

CLIMATE  
CHANGE  
IS RELEVANT



Bruno Latour

# Où atterrir ?

Comment s'orienter  
en politique

La Découverte



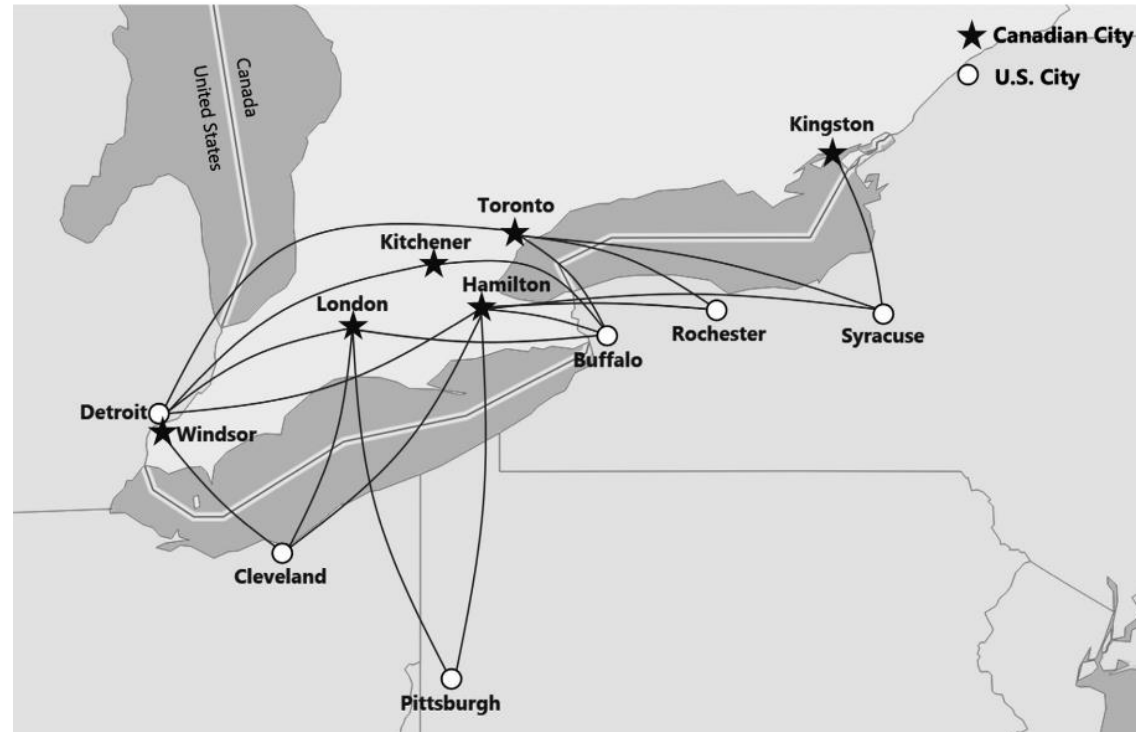
## HorizonUAM Use Cases



CITIES

ARE RELEVANT

## Potential eVTOL Transborder Market Pairs in Great Lakes Region





PEOPLE  
ARE RELEVANT



how to think about **Urban Air Mobility Law**?





## **PREMISE 1**

***“we are already in the moon”***

# PREMISE 2

**"Urban Air Mobility has NO precedent"**

Climate Change

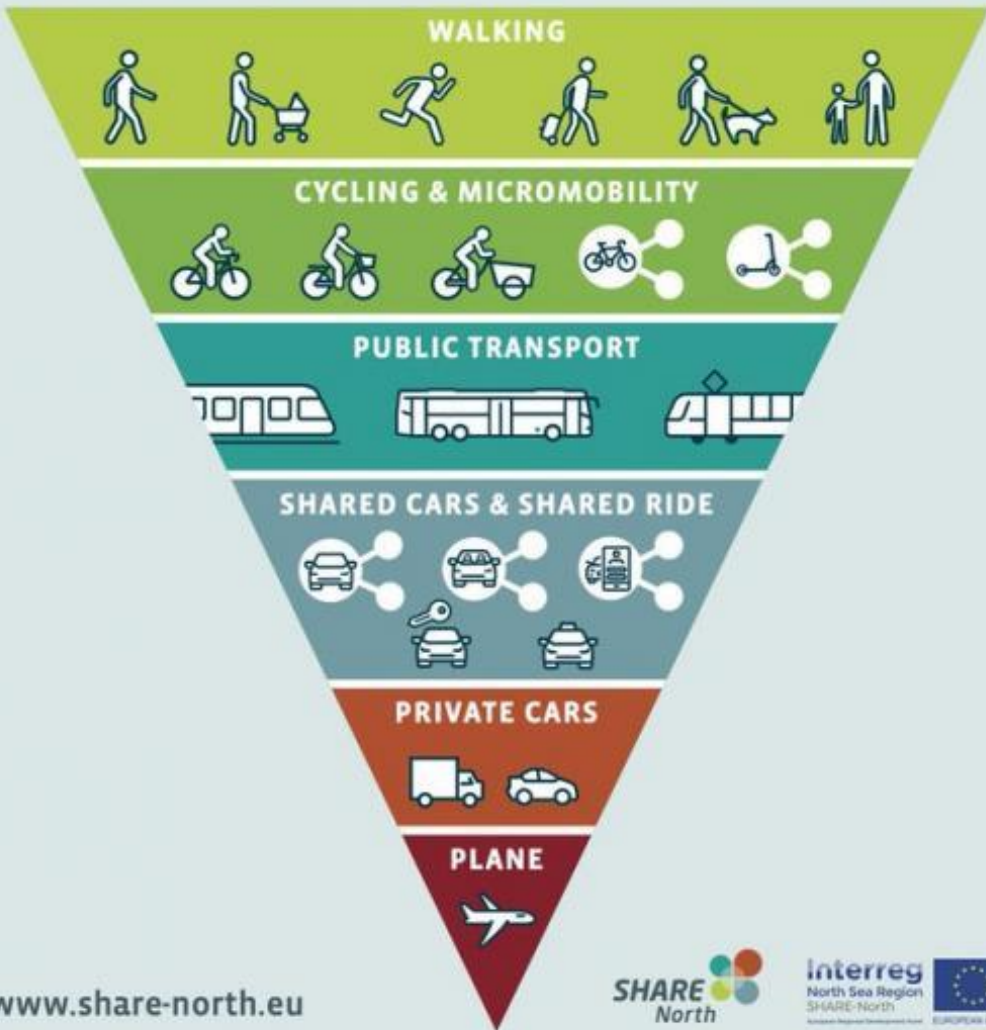
New Technologies 4.0

New Role of the City

New Rights & Duties

New Impacts on Local  
Jurisdiction

# MOBILITY PYRAMID



The basis of the new urban air mobility (UAM) is more typical - although not exclusive - of the evolution of the **CITY-AUTOMOBILE symbiosis** than of the technological evolution of CIVIL AVIATION.

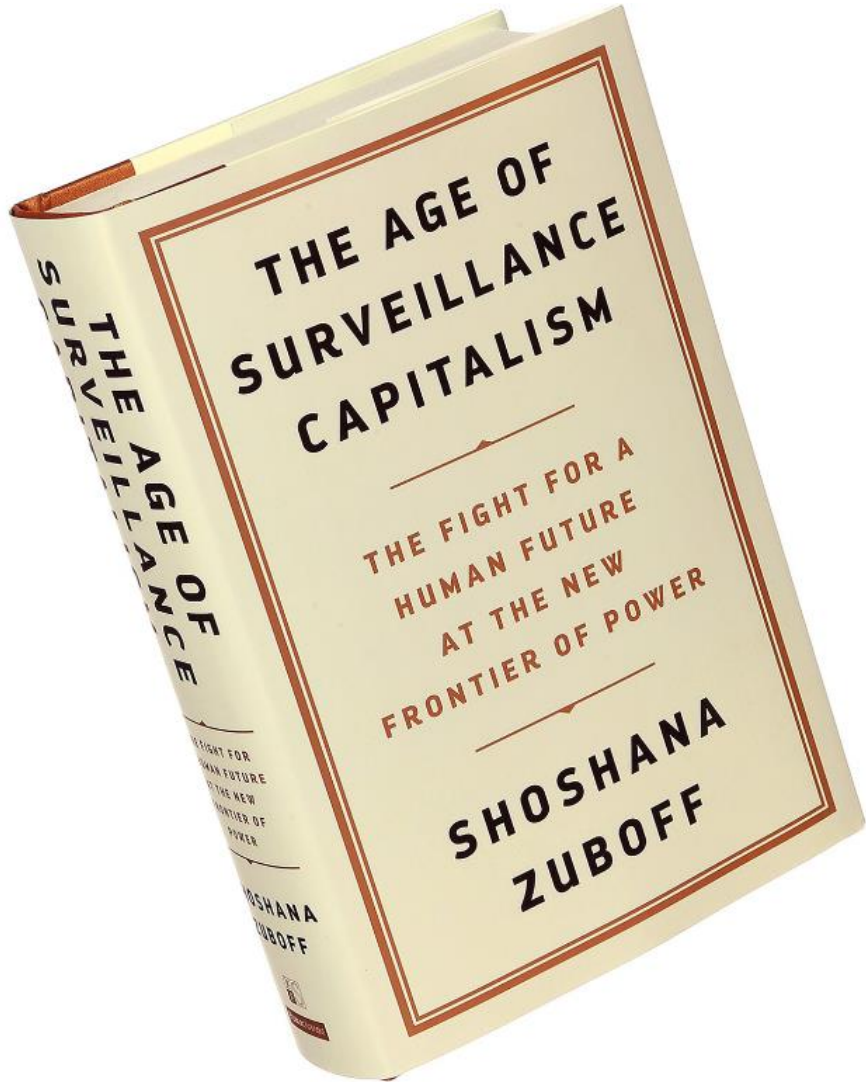




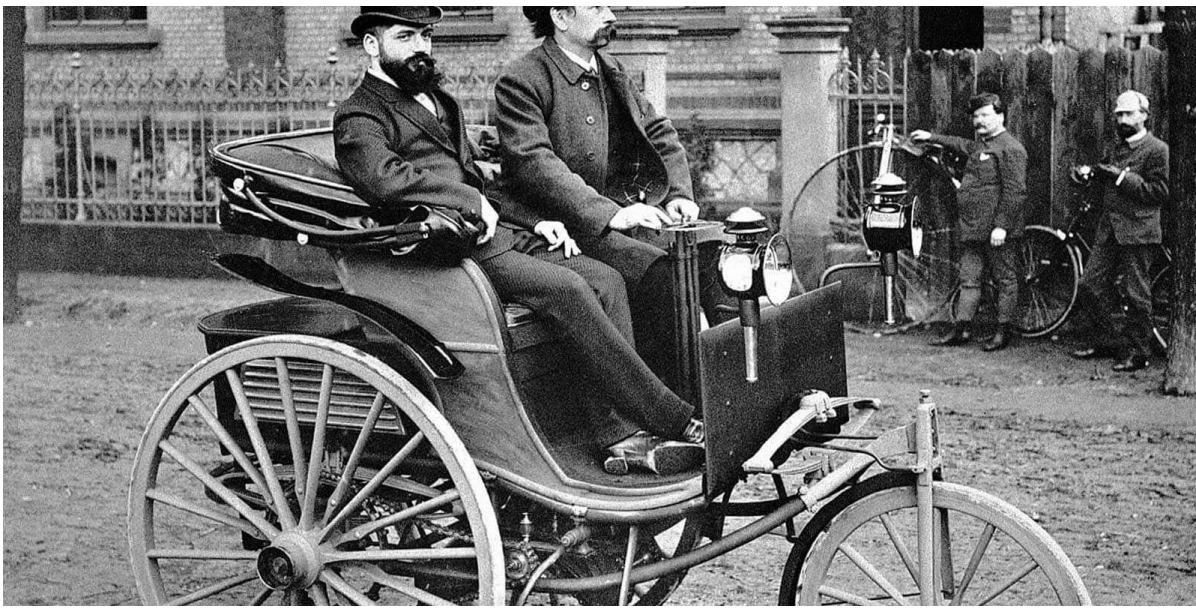


TO THINK URBAN AIR MOBILITY LAW  
AS SOMETHING ***UNPRECEDENT***

# ***THE UNPRECEDENT***



1. There is a natural tendency to analyze it according to the categories - or prisms - **with which we are familiar** and,
2. It is not a **mere prolongation** of the past.



## Horseless Carriage Syndrome



This **car** was one of the first to be designed for use with an engine. Still, it looks very much like a **carriage!** Carriages were what everyone knew.

It took some time for the **engineers** to get to know what kind of design works best with a motorized car.

And for **business** people to think of new uses for the car.



# Horseless Carriage Syndrome



**New technologies** start out by mimicking the old stuff.

This is not necessarily a problem: it's easier for people to understand a thing when it looks like something they're familiar with.

**But after a while, this can become limiting.**

5<sup>th</sup> Ave New York City, April 15, 1900

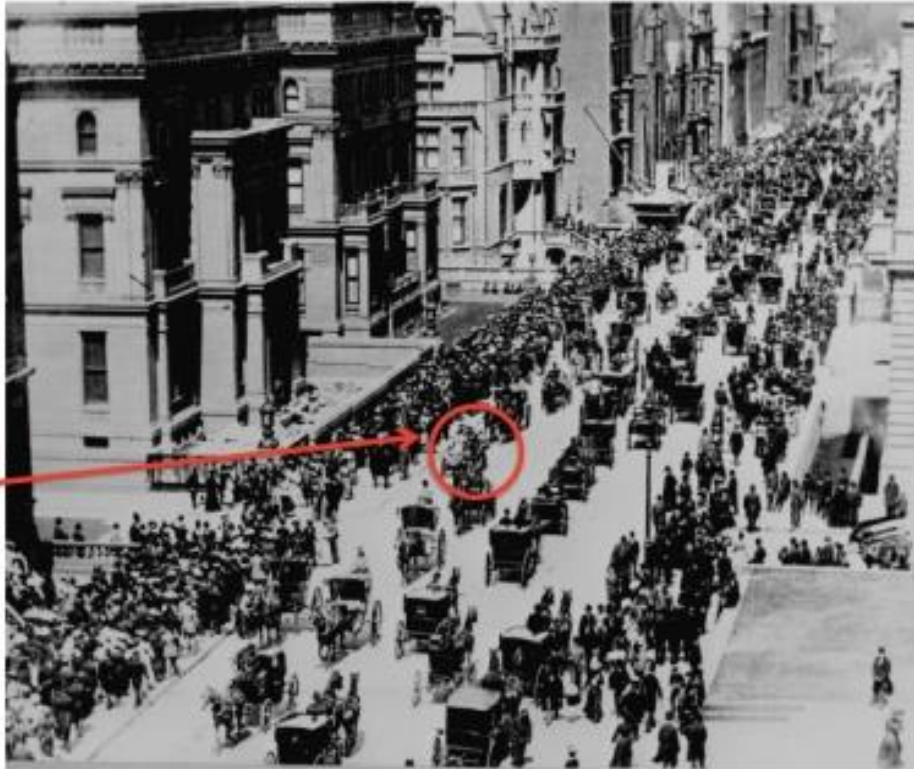


Photo: Fifth Ave NYC on Easter Morning 1900

Source: US National Archives from (Wikipedia)

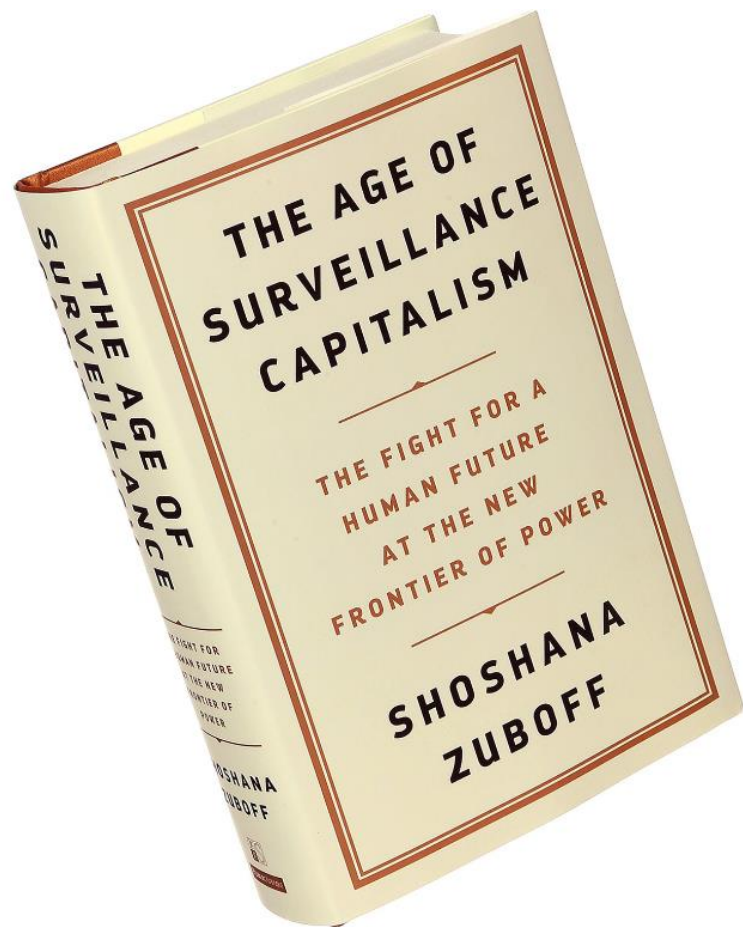
**1900:**  
**Where**  
**is THE**  
**CAR?**

Leading Market Disruption. Copyright © 2001-2014 by Tony Seba

5<sup>th</sup> ave. NYC, 1913



# *it is necessary to AVOID the "horseless carriage syndrome"*



- The AUTOMOBILE is not a horseless carriage
- The creation of the car required interpreting and analysing its use under NEW categories, NEW concepts, different from the horse-drawn carriage, and therefore, NEW legislation.





When cars became popular, **local governments** established **traffic laws** to limit collisions with horse-drawn wagons and ensure safety.

It did not take cars long to clog the streets and **cities to begin setting** speed limits, installing traffic lights, designing one-way streets and adding parking meters. Yet, it did take drivers longer to start obeying these laws.

The book “Rules of the Road” was written by **William P. Eno in 1903.**

Eno, “the father of traffic safety,” introduced many **road regulations**, such as the need for slow traffic to remain to the right and cars to pass only on the left, as well as one-way streets, crosswalks for pedestrians, stop signs and safety islands.

He believed that **stoplights** would never work and **police would always be necessary** at intersections.



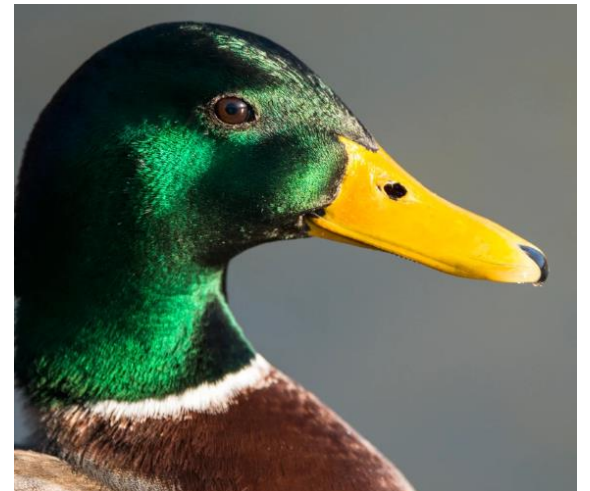
**William P. Eno**

# platypus (*Ornithorhynchus anatinus*)



It is a **mammal**, but ...it **lays eggs** and exhibits **aquatic** habits

it has the **tail of a beaver** and the **feet of an otter**, but... it has the **beak of a duck**;





# The eVTOL



It flies, like an **aircraft**, but...more like a **helicopter**



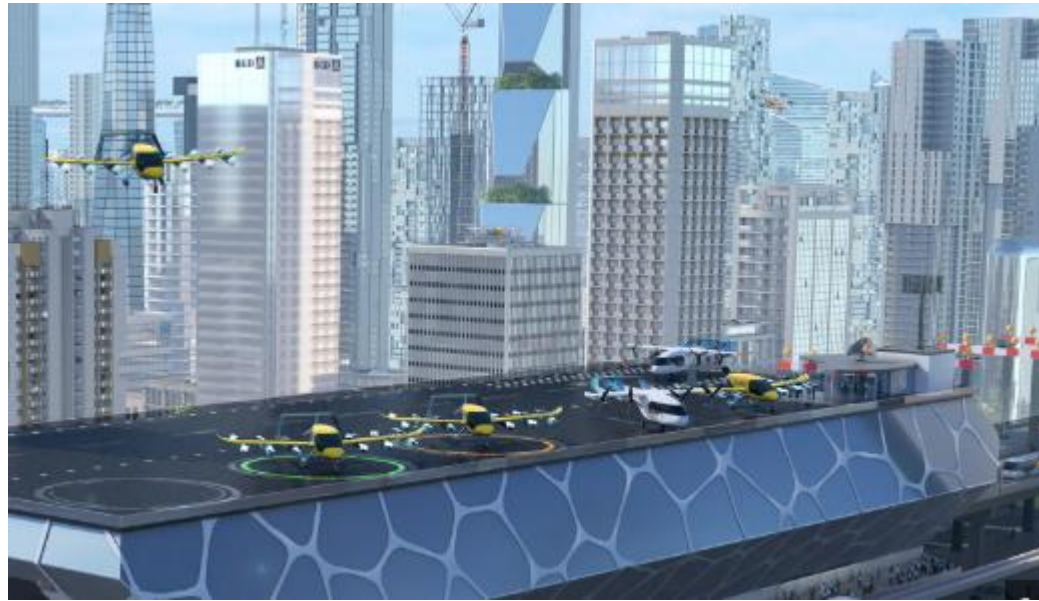
It has an **engine** but it is **electric**, **silent** and **zero CO2 emissions**



it flies like an **aircraft** but to cover destinations instead of **cars**



# The Vertiport



is infrastructure similar to Heliport although not dedicated to landing Aircraft

eVTOLs land there, but Air Taxis or Flight Machines are not helicopters.

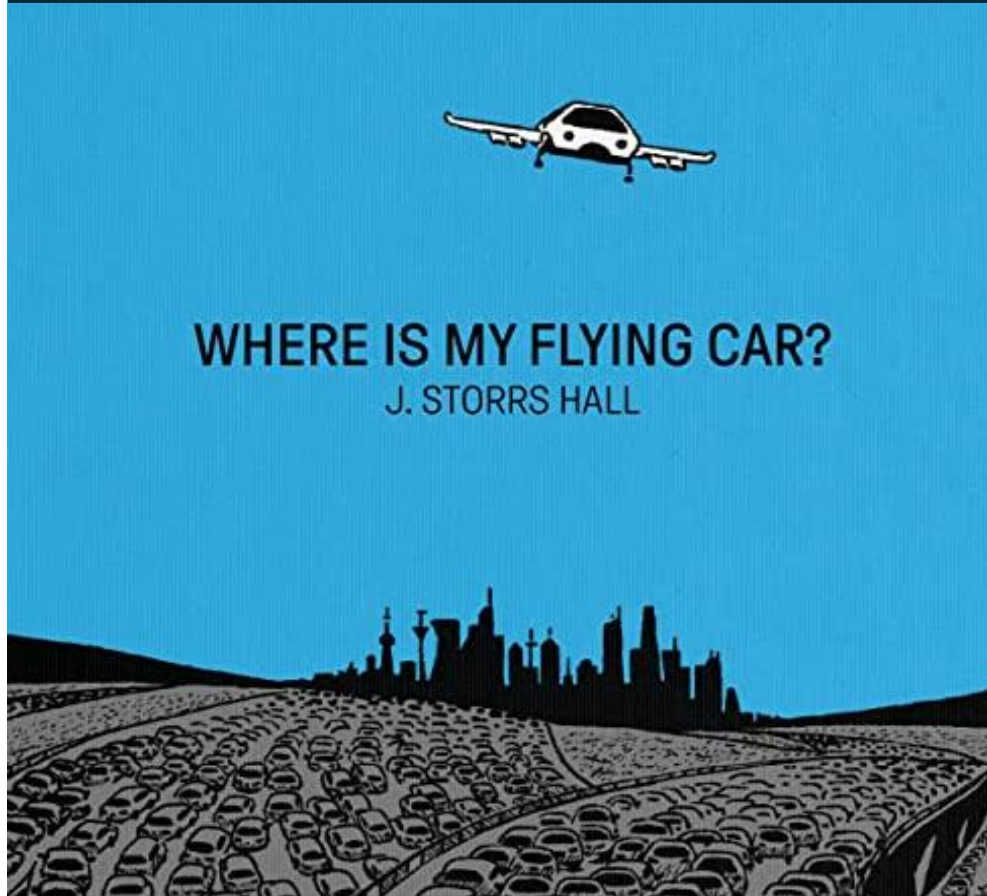
Is not necessary be operated by an airport operator

It could be used by people who may not be air transport passengers





to look **around** the aviation law,  
**through** it



The **AUTOMOBILE** was not a horseless carriage  
**1903**

From a legal Perspective

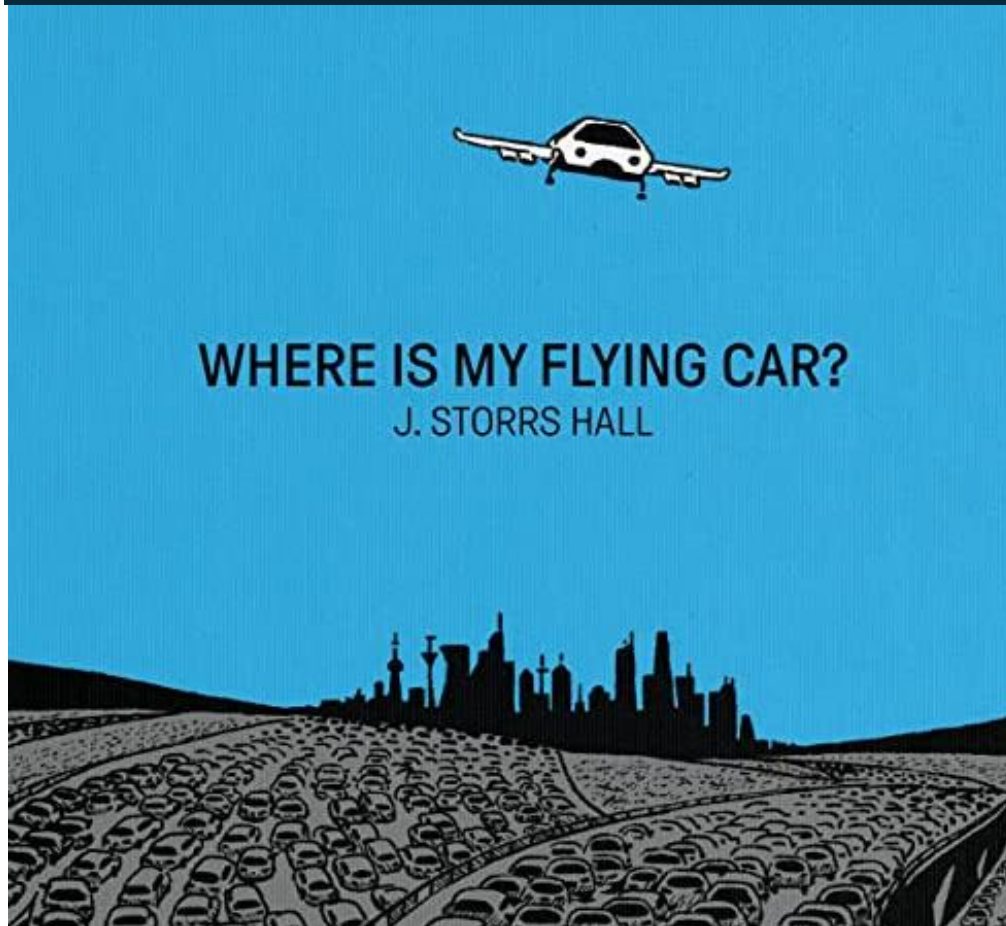
1) Is eVTOL an AIRCRAFT in 2023?



2) could it be an obstacle to the UAM?



*to look **around** the aviation law,  
**through** it*



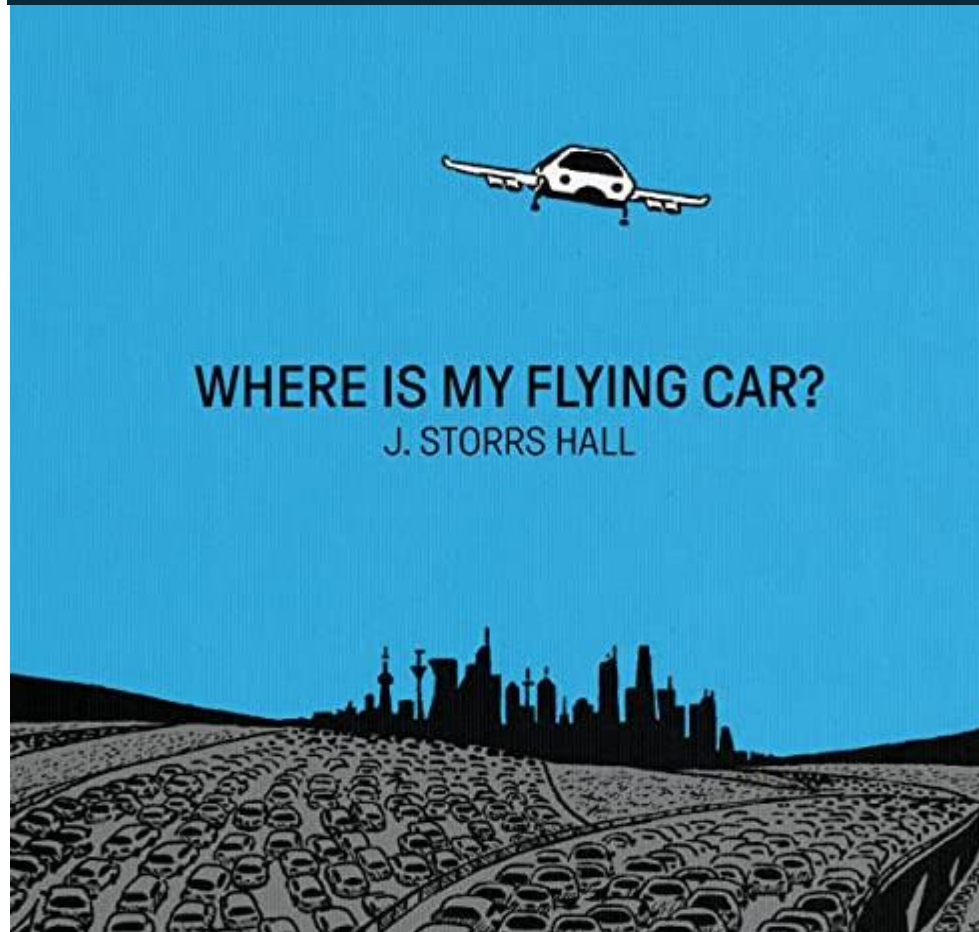
## Constitutional Principles

- SOVEREIGNTY
- FEDERALISM





to look **around** the aviation law,  
**through it**

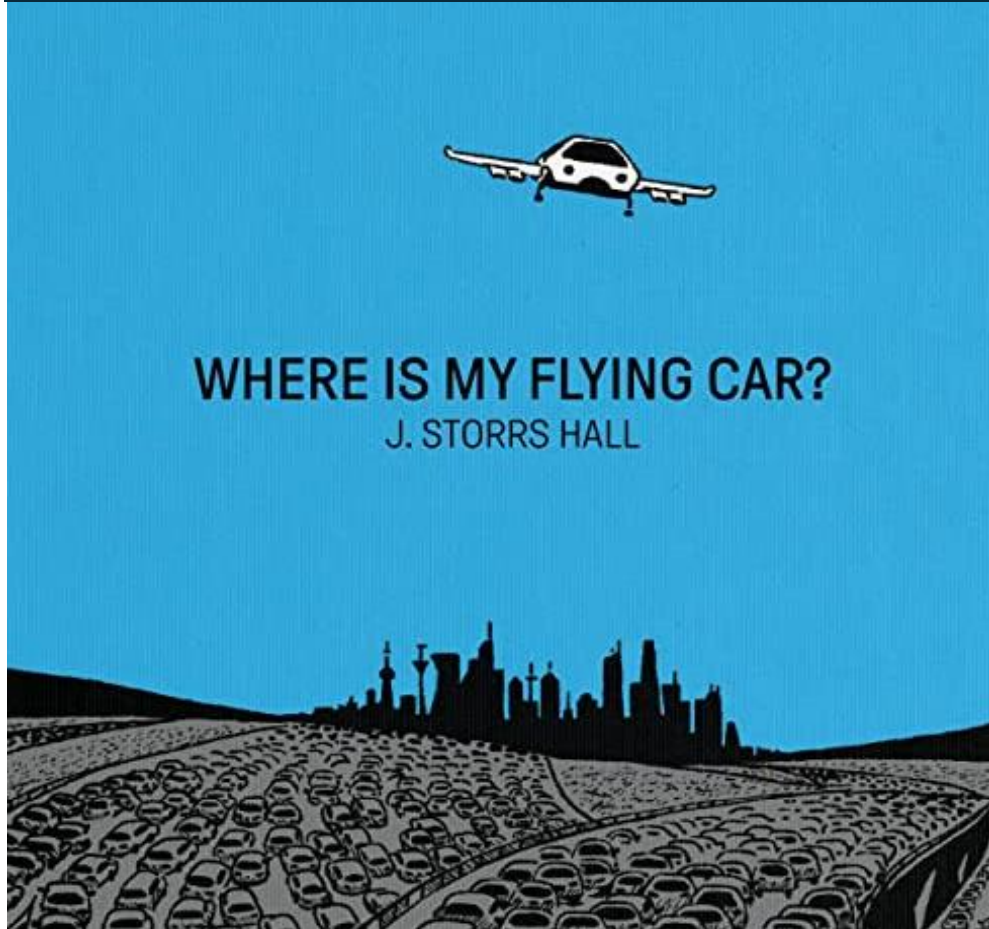


## Public International Air Law...it is applicable?

- CHICAGO CONVENTION 1944
- Bilateral Air Services Agreements (traffic rights)
- The Convention on International Interests in Mobile Equipment and Protocol on Matters Specific to Aircraft Equipment (2001)
- The Montreal Convention 1999



*to look **around** the aviation law,  
**through** it*

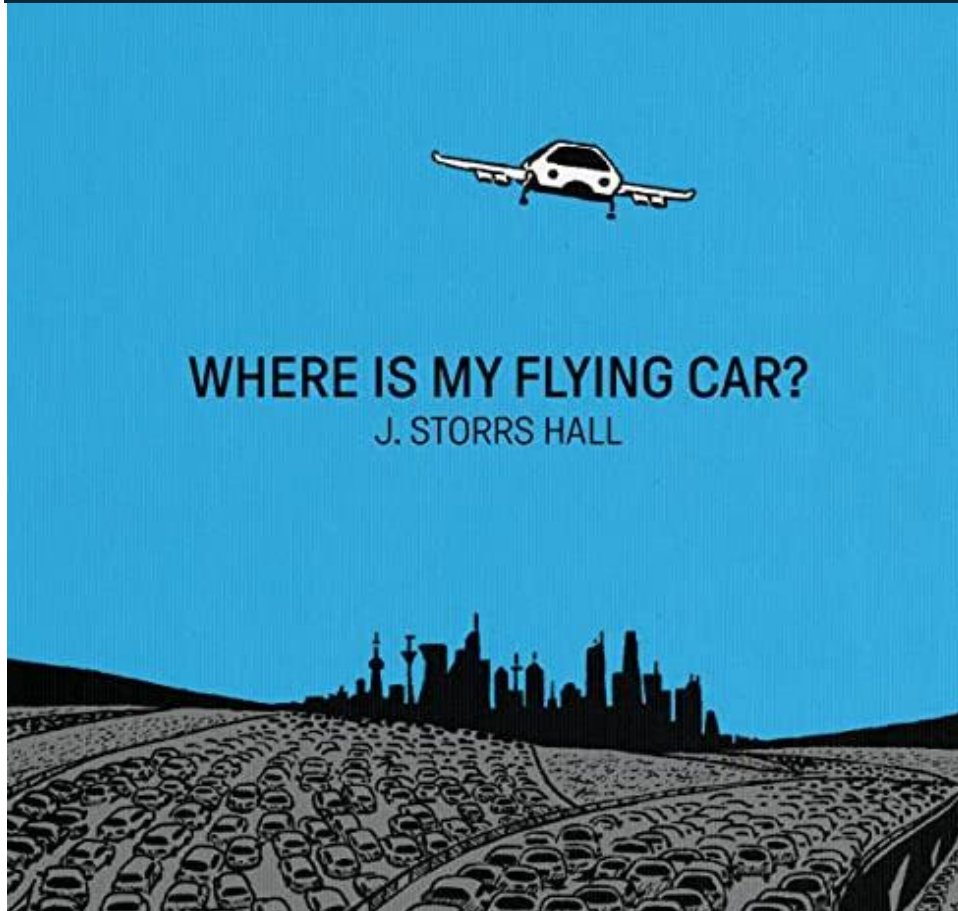


## **AIR LAW... it is applicable?**

- Aviation Policy
- Air Transport Contracto
- Passenger Right
- Air Navigation Services
- Aeronautical Infraestructure
- Airports as Monopolies
- Dominant Carrier
- Public Utility
- Privatisation
- Consumer Protection
- Environmental Legislation
- Security
- Insurance



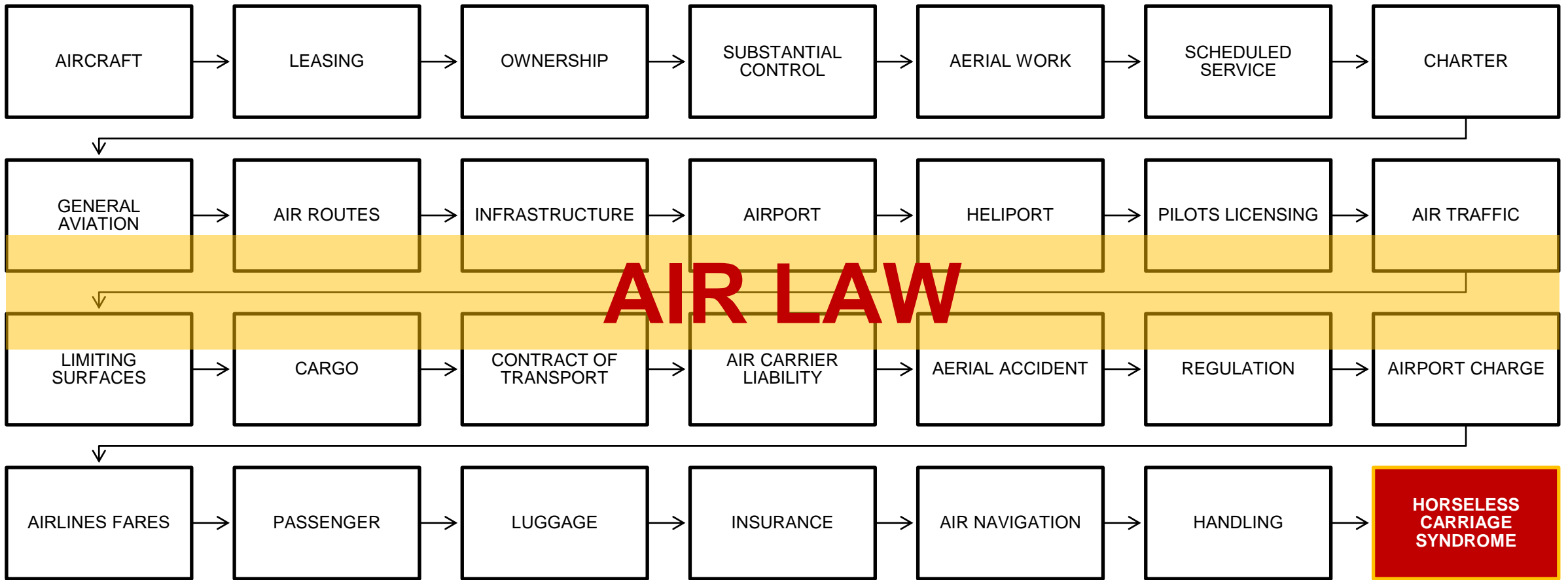
to look **BEYOND**  
the aviation law



## Local / Municipal Jurisdiction

- Transfer original competences from the CAA or ANSP to local authority or a private company
- NEW Specific competences, rules, law principles according to Urban Air Mobility DNA





High risk



# In conclusion (1): a *new acceptance* is needed

CAA  
Certification

**TECHNICAL**



CO2  
EMISION

Noise Level  
REDUCTION

**ENVIRONMETAL**



People  
MASSIVE  
Adoption

**SOCIAL**



**LEGAL ACCEPTANCE**

# In conclusión (2): UAM as a **Body of Law**

it is necessary to know, which rules should be

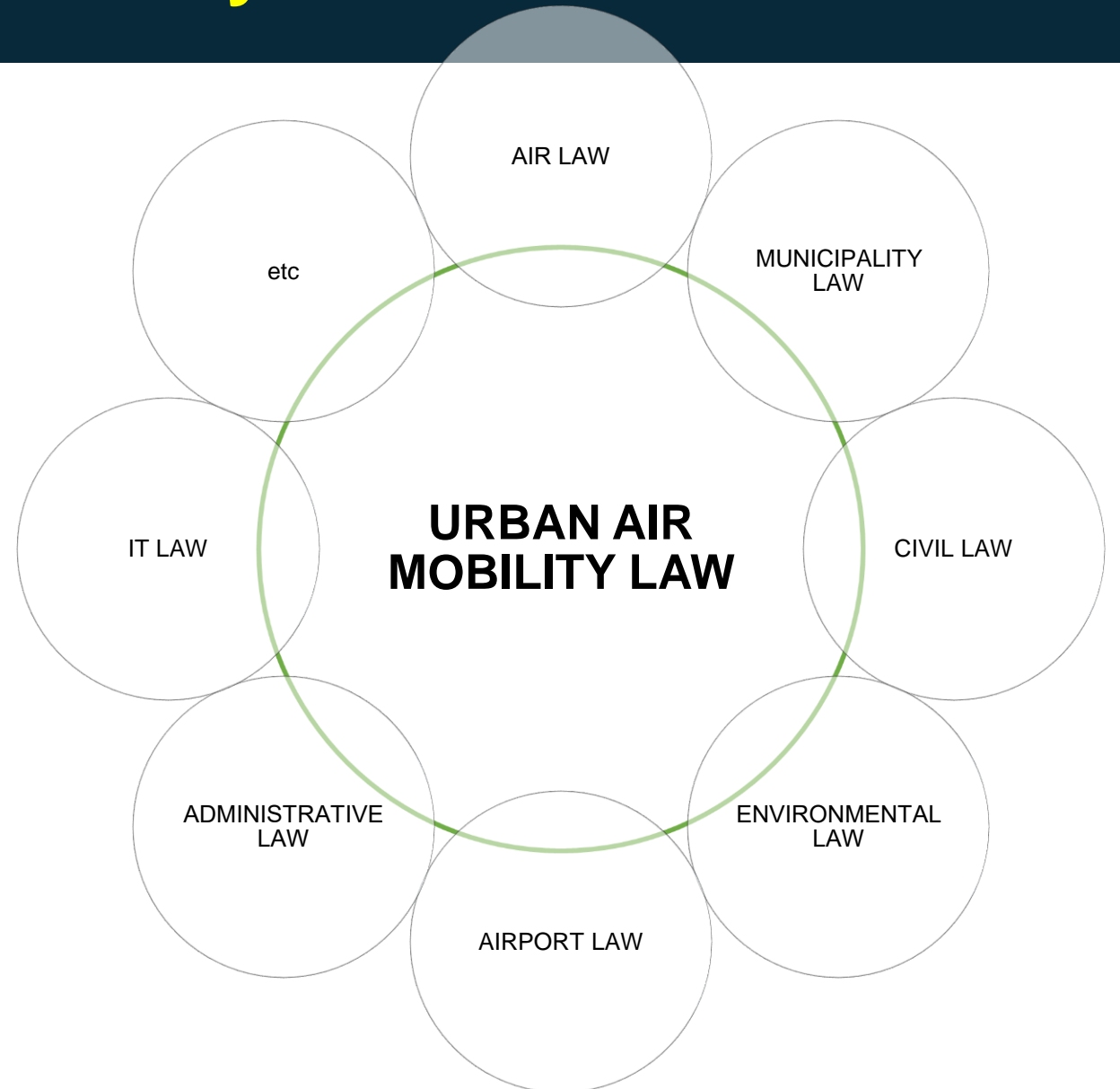
**Discarded**



**Adapted**

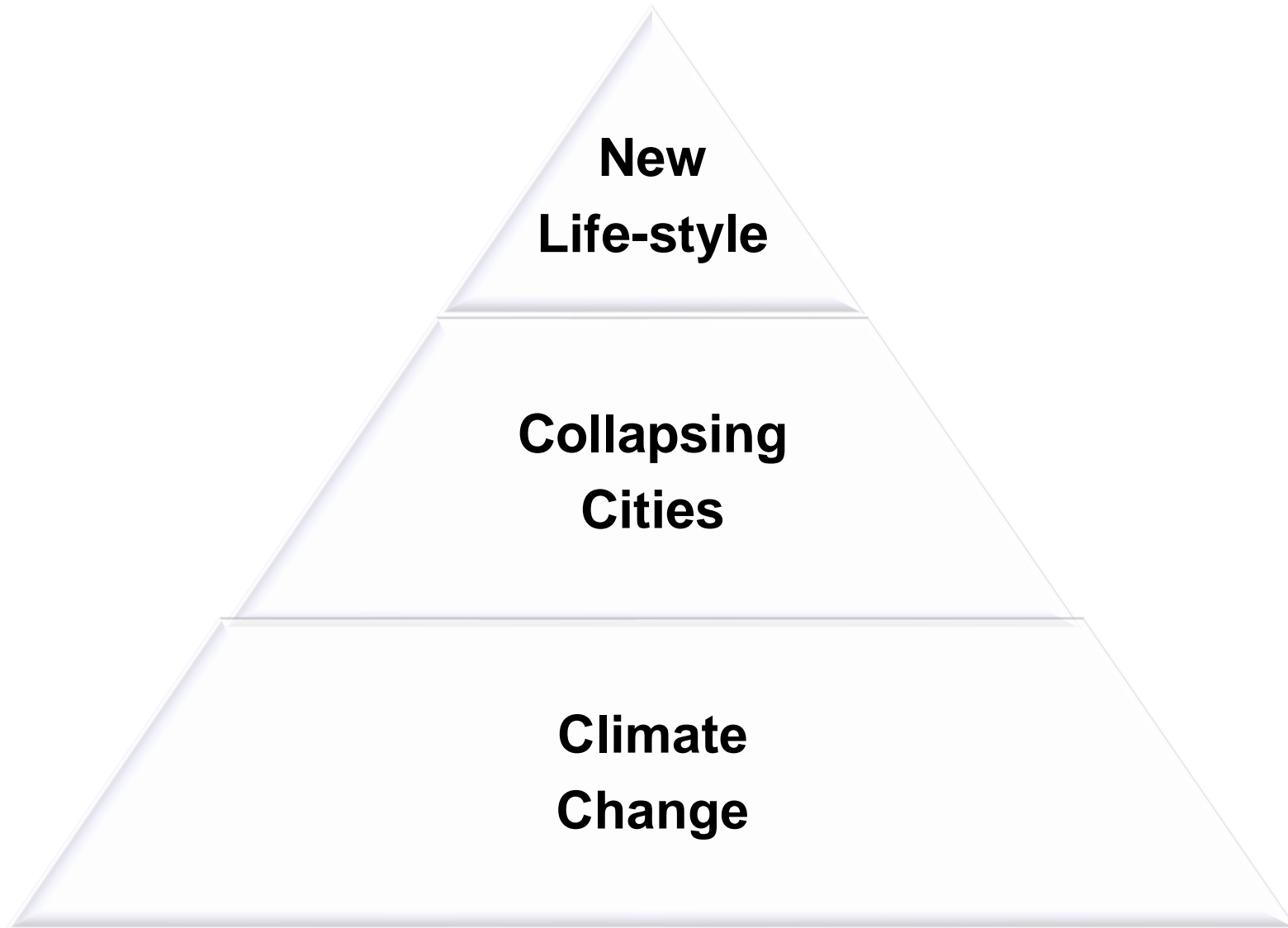


**Created**





# In conclusion (3): **pillars** of URBAN AIR MOBILITY LAW



# URBAN AIR MOBILITY LAW



**“...I AM ALREDY THERE, ARE YOU?”**



**THANK YOU FOR YOUR ATTENTION**