Advanced Air Mobility:
Integrating the Third Dimension into Metropolitan Transportation Systems

American Planning Association
August 28, 2020

Advanced Air Mobility:

Integrating the Third Dimension to Metropolitan Transportation Systems

Agenda

- Introductions
- What Is Advanced Air Mobility?
- Planning for Urban Air Mobility
- Understanding Infrastructure Considerations
- Understanding Airspace Considerations
- Understanding the Integration Challenge
- Q&A

Supporting the responsible integration of the third dimension into our daily transportation needs through education and advocacy.

CAMI is a 501(c)(3) nonprofit organization dedicated to the responsible integration of advanced air mobility into communities by providing education, communication, collaboration and advocacy.

CAMI understands the importance of connecting communities and industry by working with all stakeholders to develop advanced air mobility that integrates with existing and future urban and regional transportation systems.

CAMI educates and equips state and local decision makers, planners, and the public with the information they need to set policies and design infrastructure and systems to successfully integrate aviation into daily transportation options.

Presenters

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Community Air Mobility Initiative

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Introduction to Advanced Air Mobility

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TECHNOLOGY IS REDEFINING FLIGHT

Courtesy of Radius Capital

Tech Drivers

Propulsion Electrification | **Autonomous Systems** | **Mobility Services**

New Capabilities

eVTOL

Electric and Hybrid-electric

Solution Areas

Moving goods | Moving people | Automating tasks

Thematic Benefits

Lowers the barriers for leveraging UAVs to get jobs done
Lowers the operating cost of small aircraft on short routes
Increases the number of access points to the air
Stimulates latent demand for flight where ground transportation is used today

What is Advanced Air Mobility?

Nothing new: regional airline travel and helicopter service (e.g., Blade) are current/historical forms of AAM in service today.

Everything new: electric aircraft make AAM safer, quieter, greener, and more economical than ever before.

Urban Air Mobility, or UAM, refers to shorter distance urban use cases. Regional Air Mobility, or RAM refers to travel over longer distances away from the urban core.

AAM may share airspace with UAS* but is not UAS: autonomy helps pilot operators but (in most concepts) doesn't replace them in initial operations.

*UAS = unmanned aircraft systems

Zones of Operation:

- City Center
- Suburbs to City
- Edge City to (Edge) City
- Rural Access
- Hub Airport Access

Types of Operation:

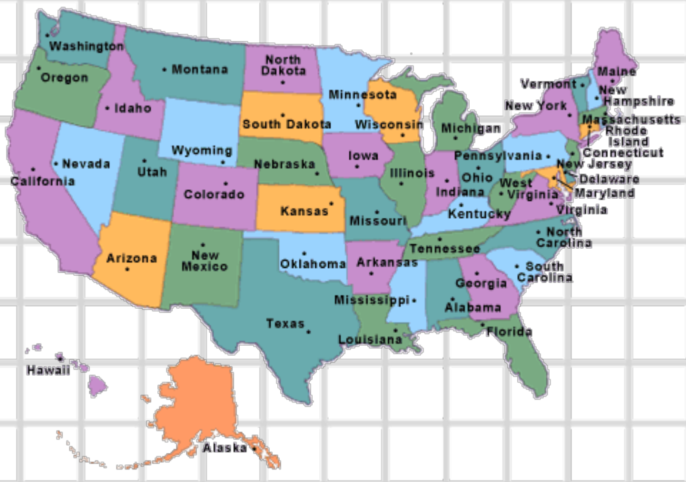
- Airline (micro haul)
- Air Metro
- On Demand (air taxi)
- Airport Shuttle
- Emergency Services

Today's aviation industry operates separately from other forms of urban transportation

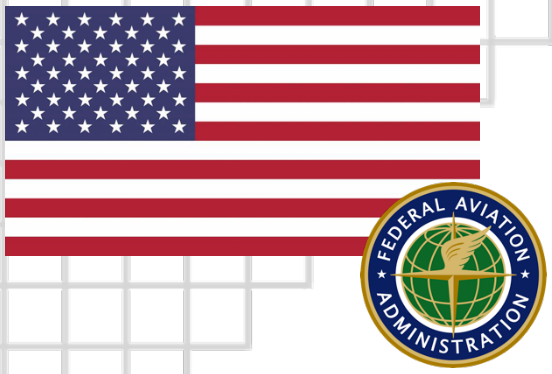
- Passengers leave behind the urban environment when they enter airport premises
- Ground traffic is restricted and controlled

Advanced Air Mobility requires aviation to integrate into an existing urban transportation system that has its own challenges

- Traffic Congestion
- Urban Sprawl
- Environmental Impacts
- Transit under/over use
- Noise
- ... and others



VS



VS

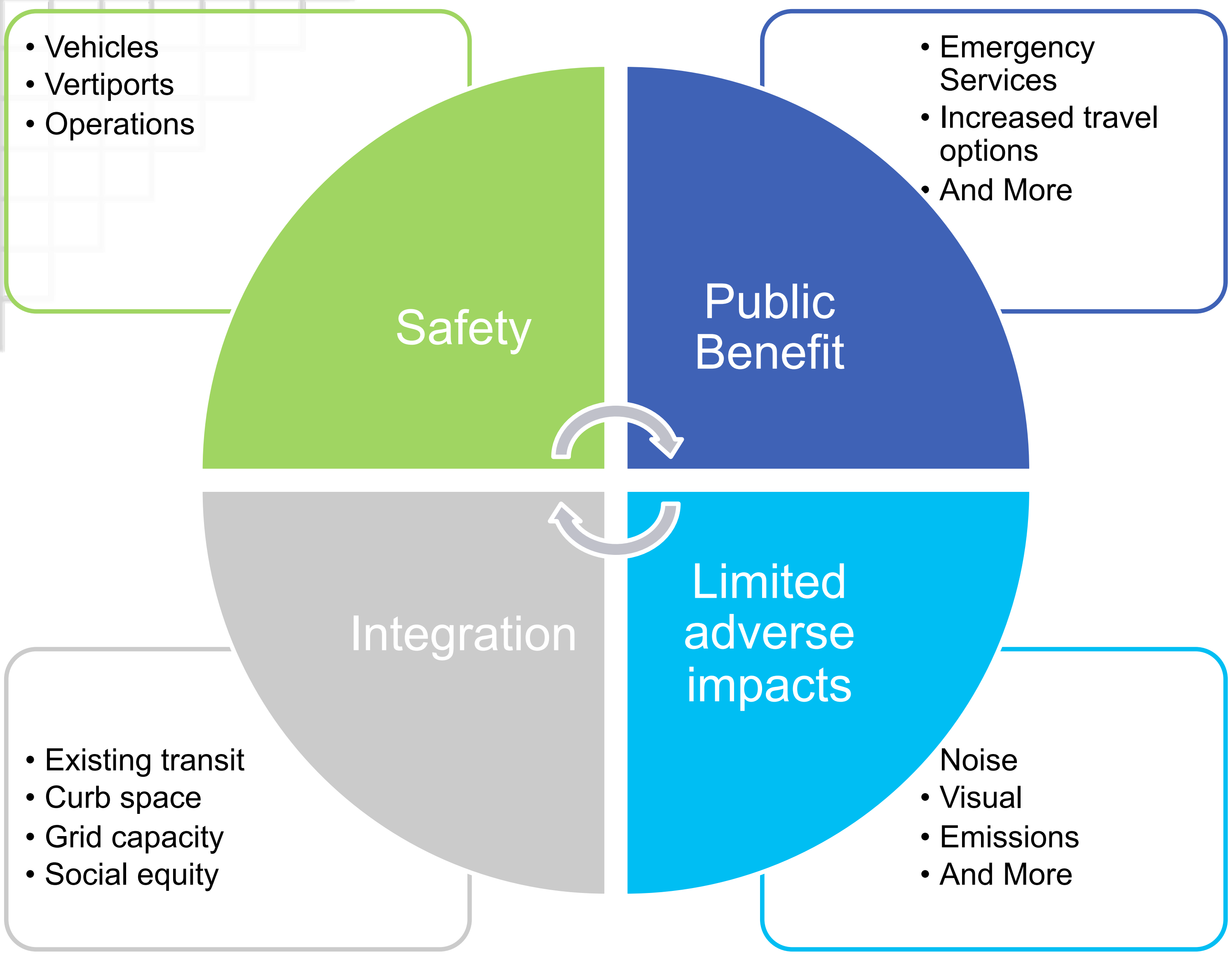
AAM also requires the aviation industry to interact with new jurisdictions and players

- FAA – certification, airspace management
- Federal code & preemption
- State and local regulations – e.g., land use, zoning, transportation regulation
- State common law – liability, property rights, nuisance

Community Air Mobility Initiative

- Elected Officials
- Urban Planners
- Business & Real Estate
- Manufacturers & Operators
- Public
- Essential Services
- Airports & Port Authorities
- Federal Regulators
- Transportation Departments

Public Acceptance is multifaceted.



Some potential public benefits may be surprising

Reduced need for vehicle traffic within urban core

Reduced emergency response times

Increased range of access to the urban core

Additional transportation demand management options

Urgency-trip pairing with commuter transit

Stronger connection of rural areas to urban opportunities

Increased utility of GA airport infrastructure

Additional disaster response capabilities

Increased electrification for lower in situ emissions

Elimination of transportation deserts

Workforce development and economic opportunities

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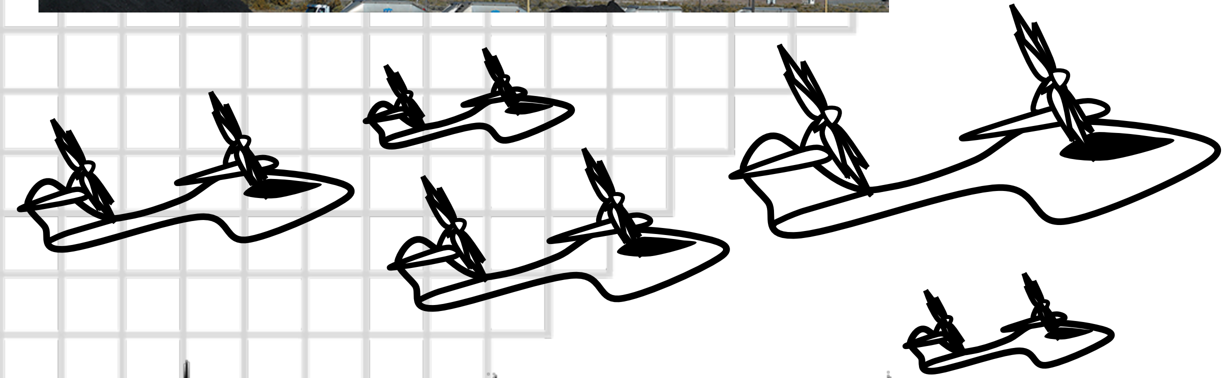
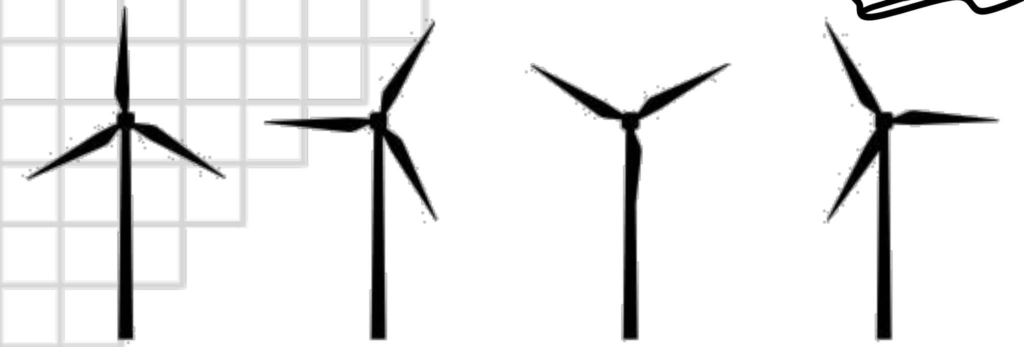
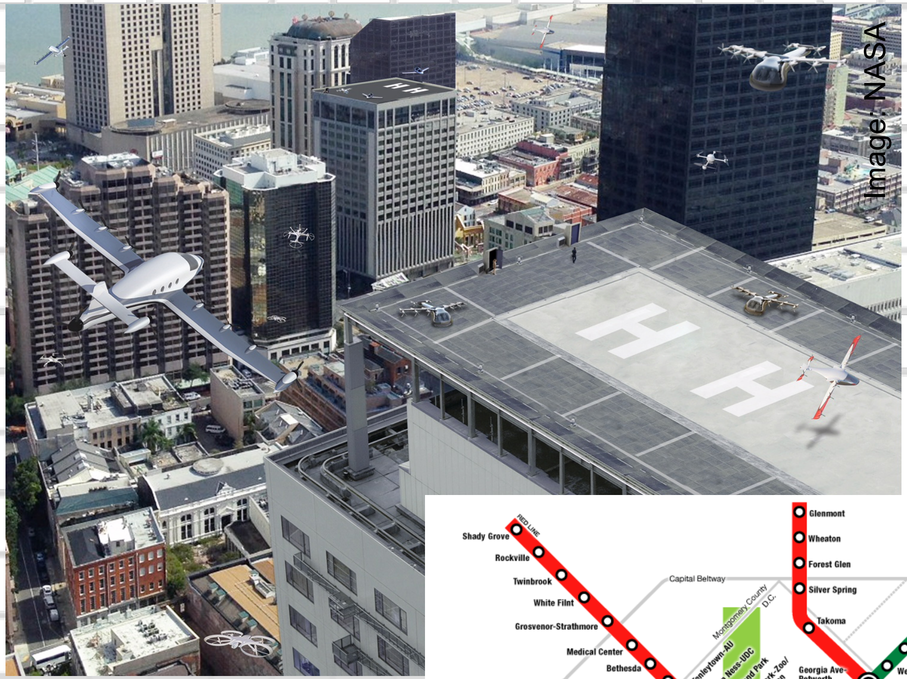
Image: CNN





There will be some level of undesirable impacts. Being transparent about this will help minimize them and build trust with the public.

- Electric vehicles are only as green as their grid and battery disposal
- Visual impact
- Congestion may just shift
- Risk of urban sprawl
- **Noise**



Integration needs to consider the existing transportation landscape, accessibility, social equity, and secondary impacts.

- Integrate with transit options to provide « urgency travel »
- AAM can address transportation deserts in underserved areas
- Social equity and broad public benefit are important, not just the most profitable locations
- Use zoning advantageously
- Ensure grid capacity

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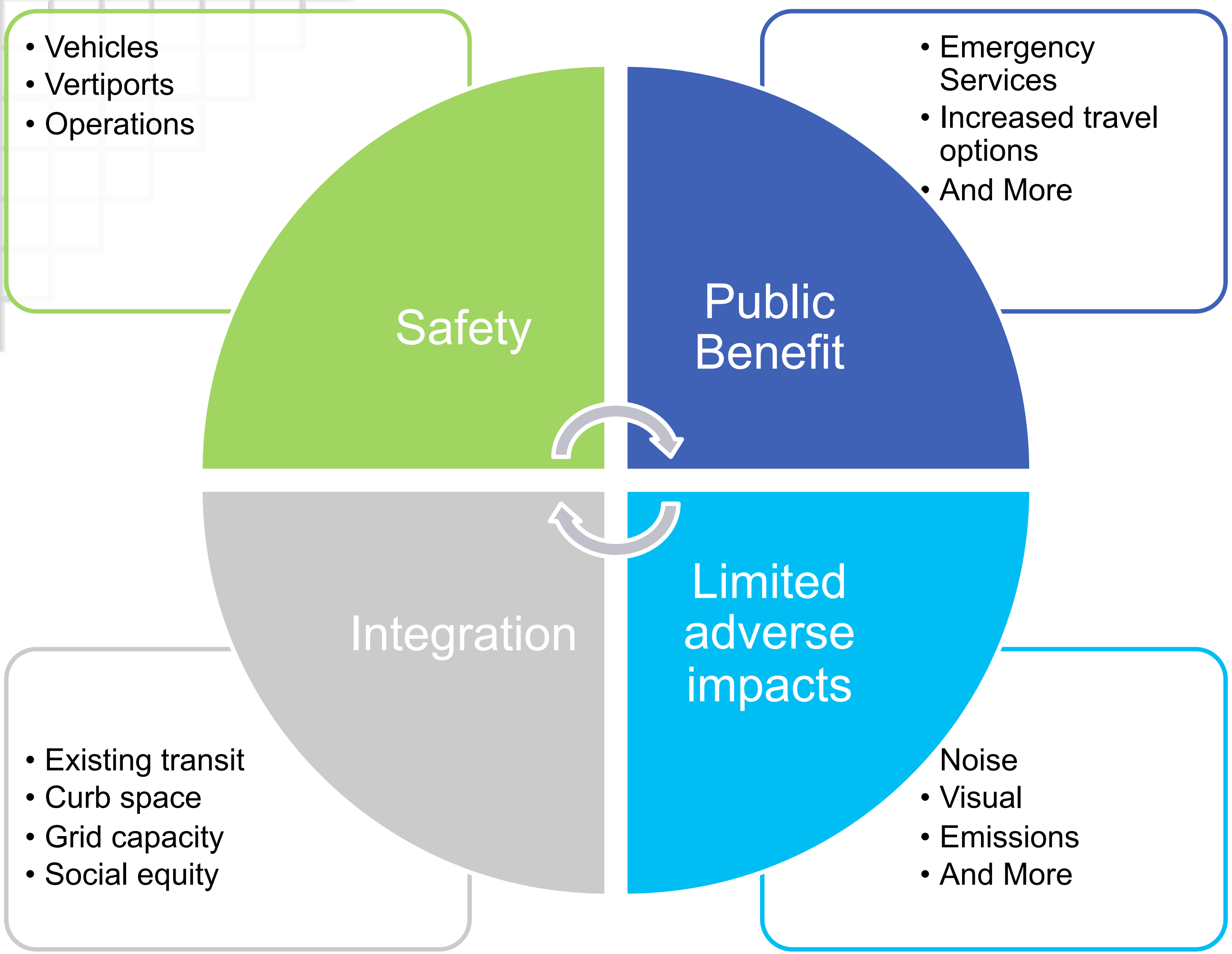
Public Acceptance is multifaceted.

- Are communities prepared to adopt AAM and successfully integrate it?
- Is industry prepared to support communities and make long-term beneficial decisions?



Planning for Urban Air Mobility

August 28, 2020

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Planning for Urban Air Mobility - Overview

- What planners need to know
- On-demand aviation use cases
- Introduction to understanding community integration
- Understanding potential concerns with UAM
- The role of the built environment
- Long range planning considerations
- The “Complete Trip”
- UAM Mobility Hubs
- UAM Infrastructure Considerations

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What Planners Need to Know

- What is UAM and what are the various use cases?
- What are potential concerns with UAM?
- Who, what, and how is UAM regulated?
- What types of tools can planners use to guide the evolution of UAM in communities?
- How does the built environment relate to UAM?
- What are some planning and implementation considerations?
- What is the role of the built environment and how can planners help?

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On-Demand Aviation Use Cases

- Passenger mobility, goods delivery, emergency response and other use cases using a variety of manned and unmanned aircraft
  - Twelve operational passenger helicopter services globally as of March 2020 (*excludes pre-arranged charter services*)
  - More than 250 vertical take-off and land (VTOL) aircraft and electric rotorcraft under development
- Market valued at approximately $5B USD in 2018
- Forecast Market Potential
  - Global: $74B to $641B USD in 2035
  - Goods delivery: $3.1B to $8B USD in 2030
  - Passenger mobility: $2.8B to $4B USD in 2030
- Several studies estimate profitability for passenger mobility and goods delivery in the late 2020s and early 2030s

Cohen and Shaheen 2020

Understanding Community Integration: The Convergence of Two Historically Distinct Disciplines

Local Communities

- City councils, mayors, city managers
- Urban planners, transportation engineers
- Public transit
- Residents and businesses
- Disadvantaged communities
- Others

UAM and UAS Community Integration

Aviation

- Federal government
- Port authorities
- Air carriers
- Manufacturers and suppliers
- Tenants and employees
- Communities impacted by operations
- Others

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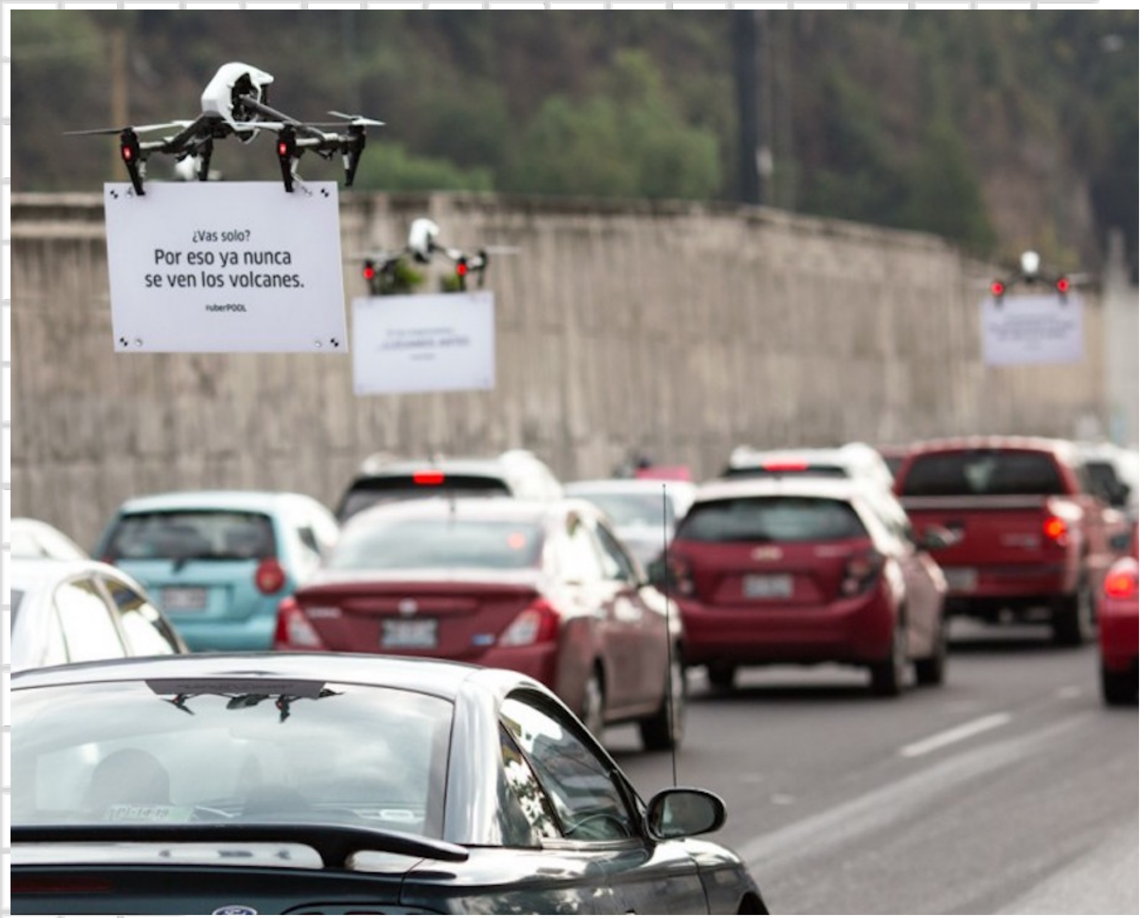
Understanding Potential Concerns with UAM



- Safety
  - New aircraft designs
  - Electric range anxiety
  - Remotely piloted and autonomous operations
- Equity, Accessibility, and Affordability
- Visual Pollution
- Noise Pollution
- Privacy and Increased Air Traffic Over Residential Areas
- Impacts of vertiports on neighborhoods

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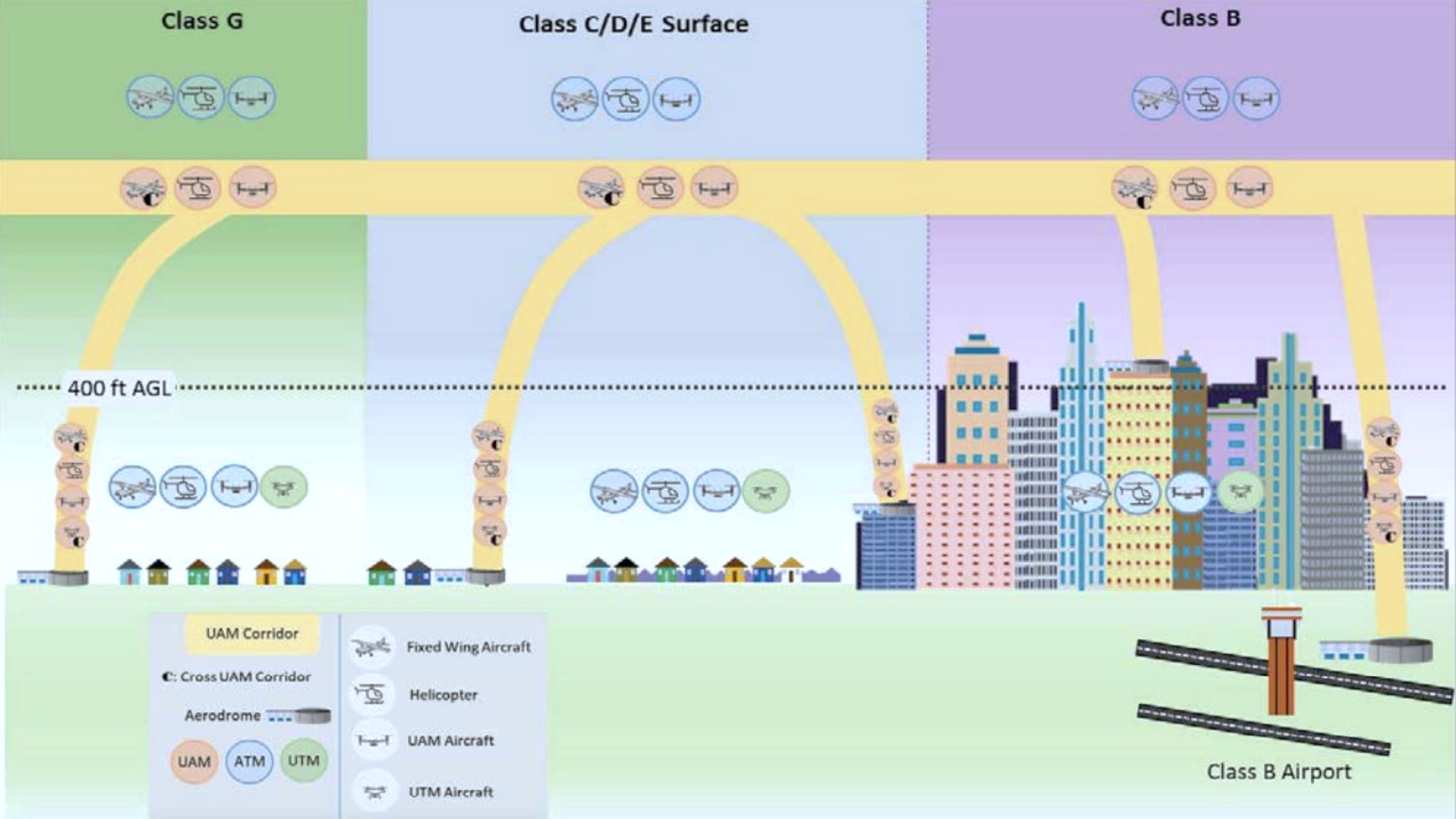
Early Understanding of Potential Societal Barriers

	Excited	Happy	Neutral	Confused	Concerned	Surprised	Skeptical	Amused
GEOGRAPHIC LOCATION				Survey Results				
Houston, N = 344	32%	24%	27%	8%	9%	11%	19%	3%
San Francisco Bay Area, N = 337	33%	25%	27%	8%	9%	11%	20%	3%
Los Angeles, N = 345	32%	24%	27%	8%	9%	11%	19%	3%
Washington, D.C., N = 341	32%	24%	27%	8%	9%	11%	20%	3%
New York City, N = 344	32%	24%	27%	8%	9%	11%	19%	3%
GENDER				Survey Results				
Female, N = 976	26%	22%	26%	10%	11%	11%	20%	4%
Male, N = 734	37%	23%	23%	6%	10%	8%	18%	4%
INCOME				Survey Results				
Less than $10,000, N = 78	14%	17%	40%	8%	3%	4%	10%	3%
$10,000 - $14,999, N = 53	19%	23%	30%	6%	6%	6%	6%	6%
$15,000 - $24,999, N = 101	25%	12%	36%	7%	3%	6%	7%	3%
$25,000 - $49,999, N = 212	28%	15%	27%	8%	5%	3%	11%	2%
$50,000 - $74,999, N = 210	28%	22%	25%	7%	4%	5%	8%	0%
$75,000 - $99,999, N = 192	30%	30%	14%	7%	5%	2%	9%	1%
$100,000 - $149,999, N = 182	36%	14%	25%	4%	6%	1%	12%	2%
$150,000 - $199,999, N = 101	27%	21%	20%	8%	6%	6%	9%	2%
$200,000 or more, N = 112	35%	12%	21%	7%	11%	4%	11%	0%
AGE				Survey Results				
18 - 24 years, N = 110	22%	25%	34%	5%	2%	4%	5%	2%
25 - 34 years, N = 271	32%	28%	19%	4%	4%	3%	8%	1%
35 - 44 years, N = 191	43%	16%	17%	6%	5%	2%	8%	3%
45 - 54 years, N = 132	30%	16%	21%	8%	9%	3%	9%	2%
55 - 64 years, N = 178	26%	15%	29%	9%	7%	4%	8%	1%
65 - 74 years, N = 169	14%	12%	33%	9%	6%	4%	18%	1%
75+ years, N = 42	10%	14%	31%	10%	7%	2%	24%	0%

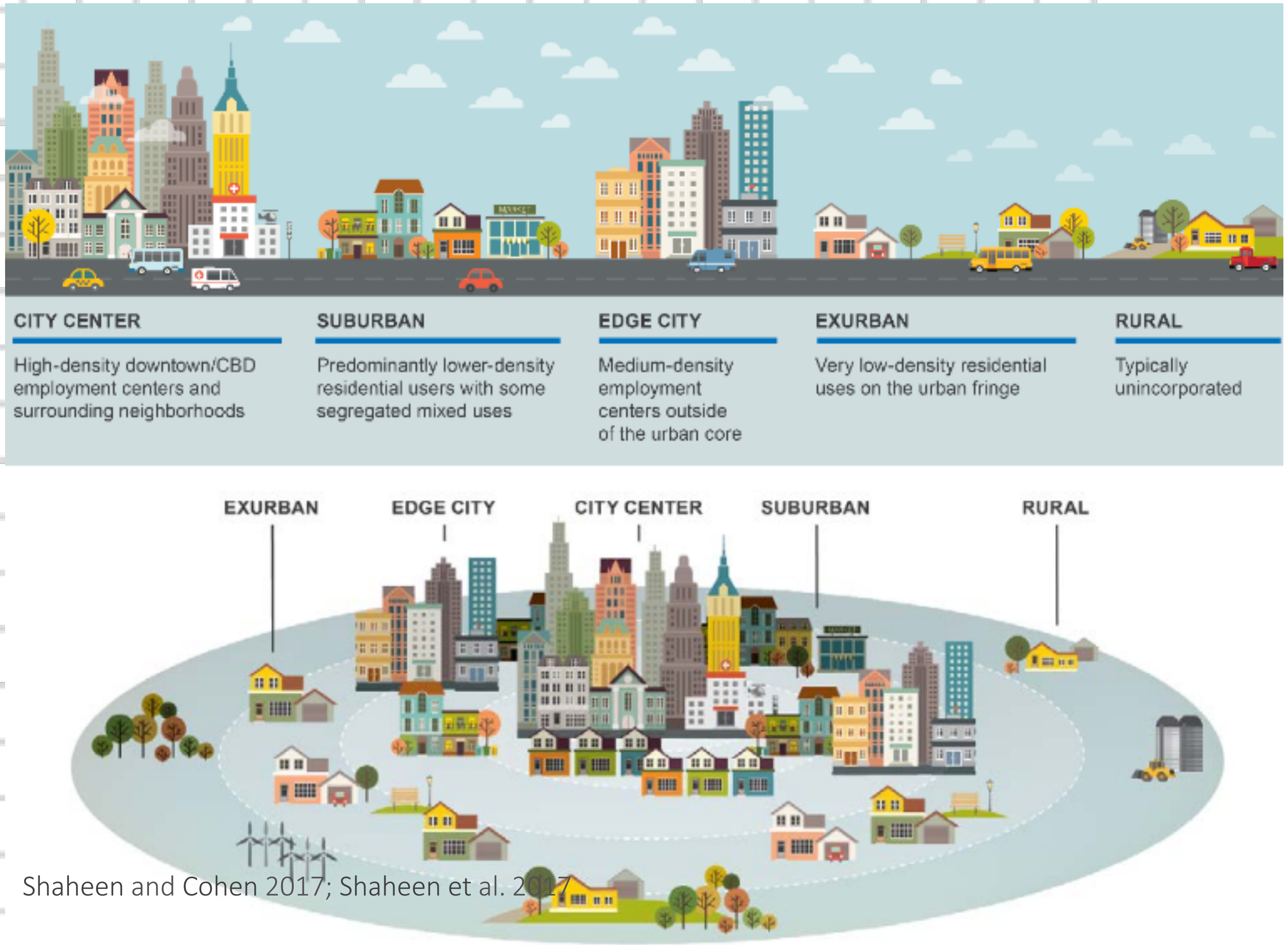
Shaheen, Cohen, Farrar 2019

- Generally, neutral to positive reactions to the UAM concept, with some skepticism
- Public perception of fully autonomous aircraft is one of the largest barriers
- Cost is a primary consideration
- Personal security was an important factor (e.g., confidence in the aircraft, security/safety from flying with potentially dangerous or unruly passengers)
- Some respondents expressed privacy concerns (e.g., people flying overhead, sight lines into homes/yards) and increased noise levels)



Class G
Class C/D/E Surface
Class B
400 ft AGL
UAM Corridor
C: Cross UAM Corridor
Aerodrome
UAM
ATM
UTM
Fixed Wing Aircraft
Helicopter
UAM Aircraft
UTM Aircraft
Class B Airport

UAM and the Role of the Built Environment



Shaheen and Cohen 2017; Shaheen et al. 2017

- Context in the built environment matters
- One size does not fit all
- Strategies must be tailored to meet a diverse array of needs, use cases, and urban contexts
    - Small and rural communities
    - Auto-oriented mega regions
    - Transit-oriented mega regions

A Few Key Issues for Planning Consideration

- How is UAM defined in local policies/ordinances
- How should rights-of-way be designed and preserved (vertiport curbspace and airspace access)
- Should there be policy differentiation between use cases (e.g., emergency response, goods delivery, passenger mobility)
- How to manage demand among multiple service providers for vertiport access
- Determining the monetary value of vertiport access
- How to address administrative issues, such as insurance, liability, signage, etc.

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Long Range Planning Considerations

The public and private sectors need to work together to:

- **Understand how UAM could fit into the transportation ecosystem**
- **Identify and mitigate societal barriers and equity concerns**
- **Consider inclusion into long range policies and planning**
  - Incorporate UAM into general/comprehensive, community, and specific plans
  - Include UAM into multimodal capital projects
  - Plan to adapt other infrastructure for UAM
- **Planners have a variety of tools at their disposal**
  - Ex. Planning and vision documents, community engagement, form-based code, incentives, overlay zoning, permitting, code enforcement etc.

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The Complete Trip

Planning and Booking a Trip

Traveling to the Vertiport

Flying UAM

Last Mile Connection

Arriving at the Destination

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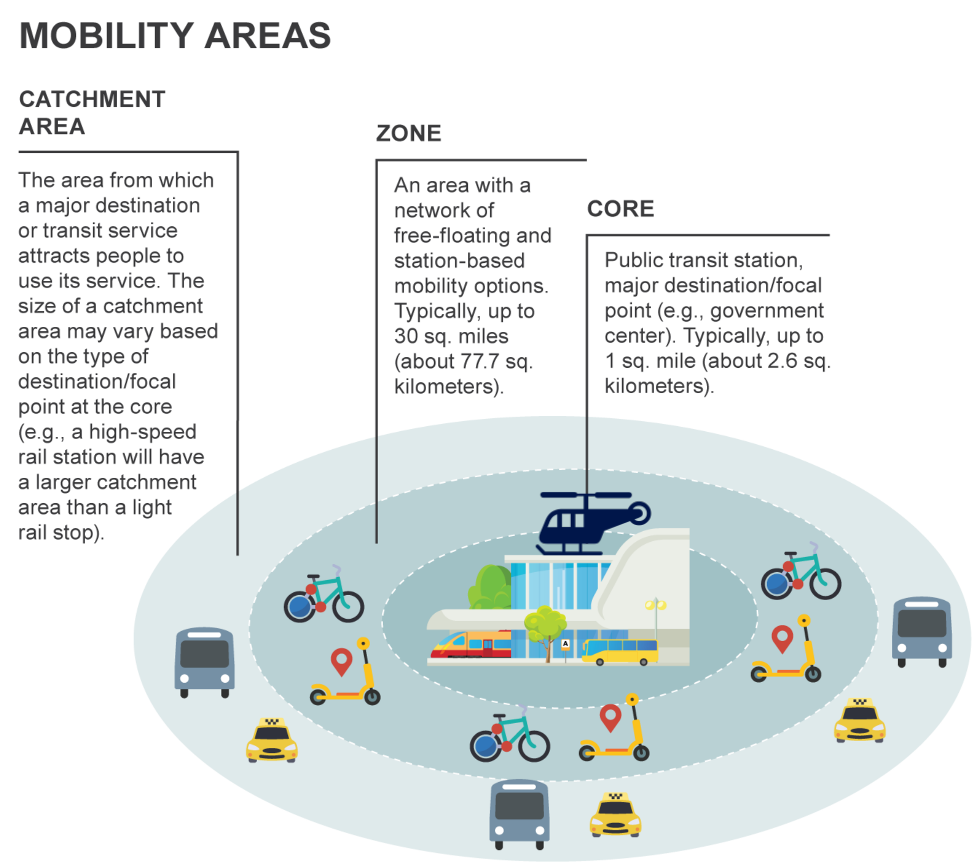
UAM Mobility Hubs



Transportation Modes

- Shared mobility, micromobility, public transportation, AVs, UAM
- Last mile delivery, UAS, robots, courier services

Transportation Services

- EV charging, AV parking

Amenities

- Dining, retail, entertainment, fitness

Land Use

- Residential, hospitality, retail, mixed-use, public spaces

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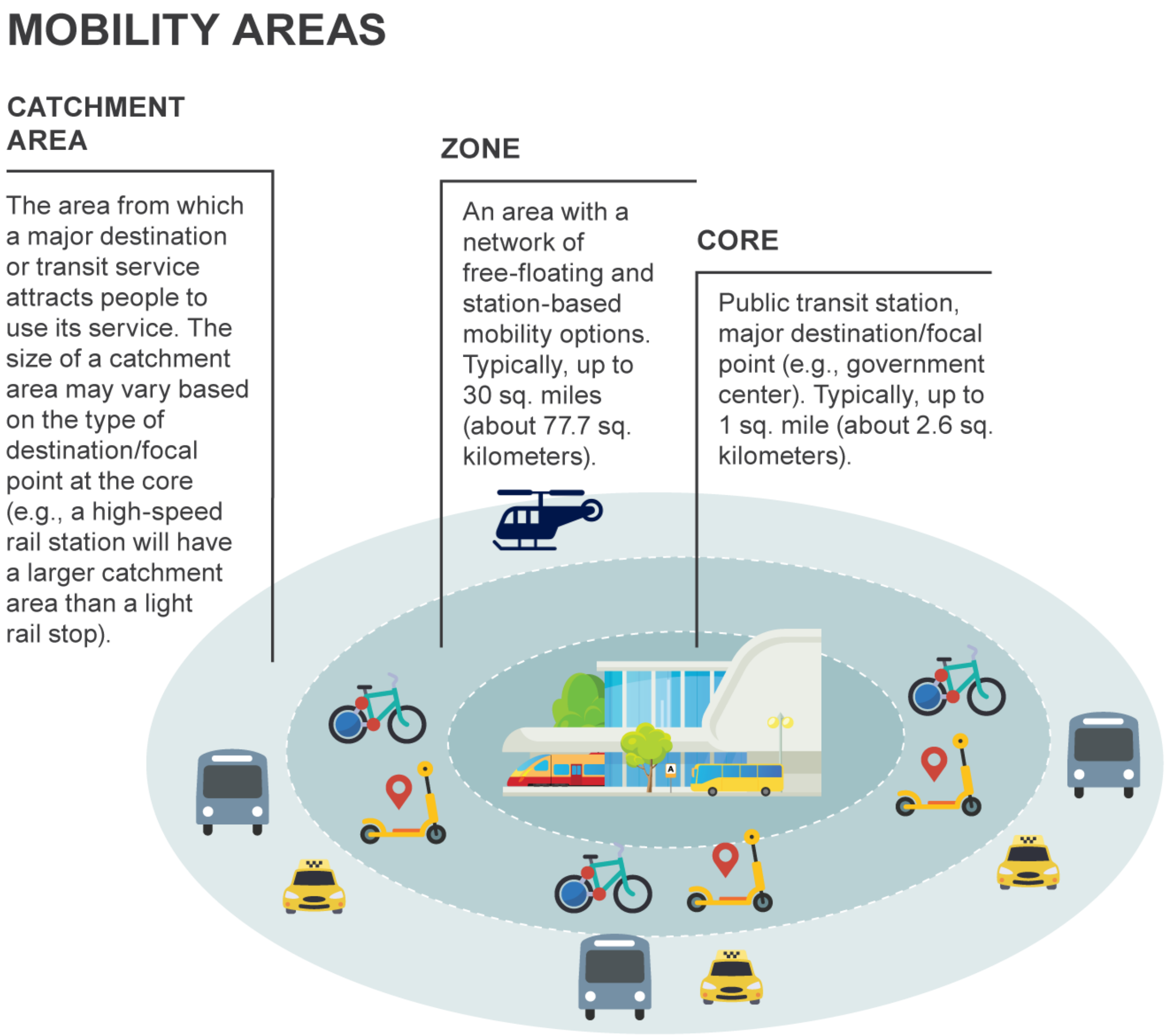
UAM Mobility Hubs: Other Planning Considerations



- Airspace access
- Aircraft parking
- Battery charging and swapping
- Facility security
- Open access to accommodate a variety of aircraft types, operators, and users

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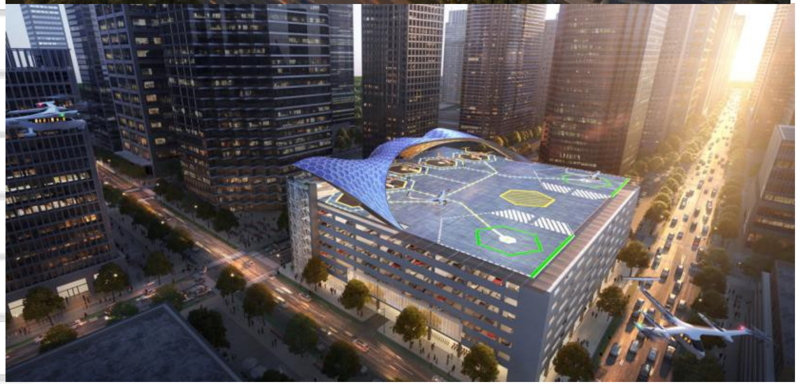
UAM Infrastructure Considerations



- What is the built environment we are trying to serve?
- Are we building new or repurposing existing infrastructure?
- What types of land uses/infrastructure need to be repurposed, renovated, or redeveloped to support UAM?
- What first- and last- mile connections are needed?
- How do we prioritize public transportation, pooled vehicles, and active transportation?
- How do we integrate vertiports into nearby land uses?
- What are the adverse impacts and how do we mitigate them?

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Understanding The Infrastructure – The Built Environment

08 28 2020

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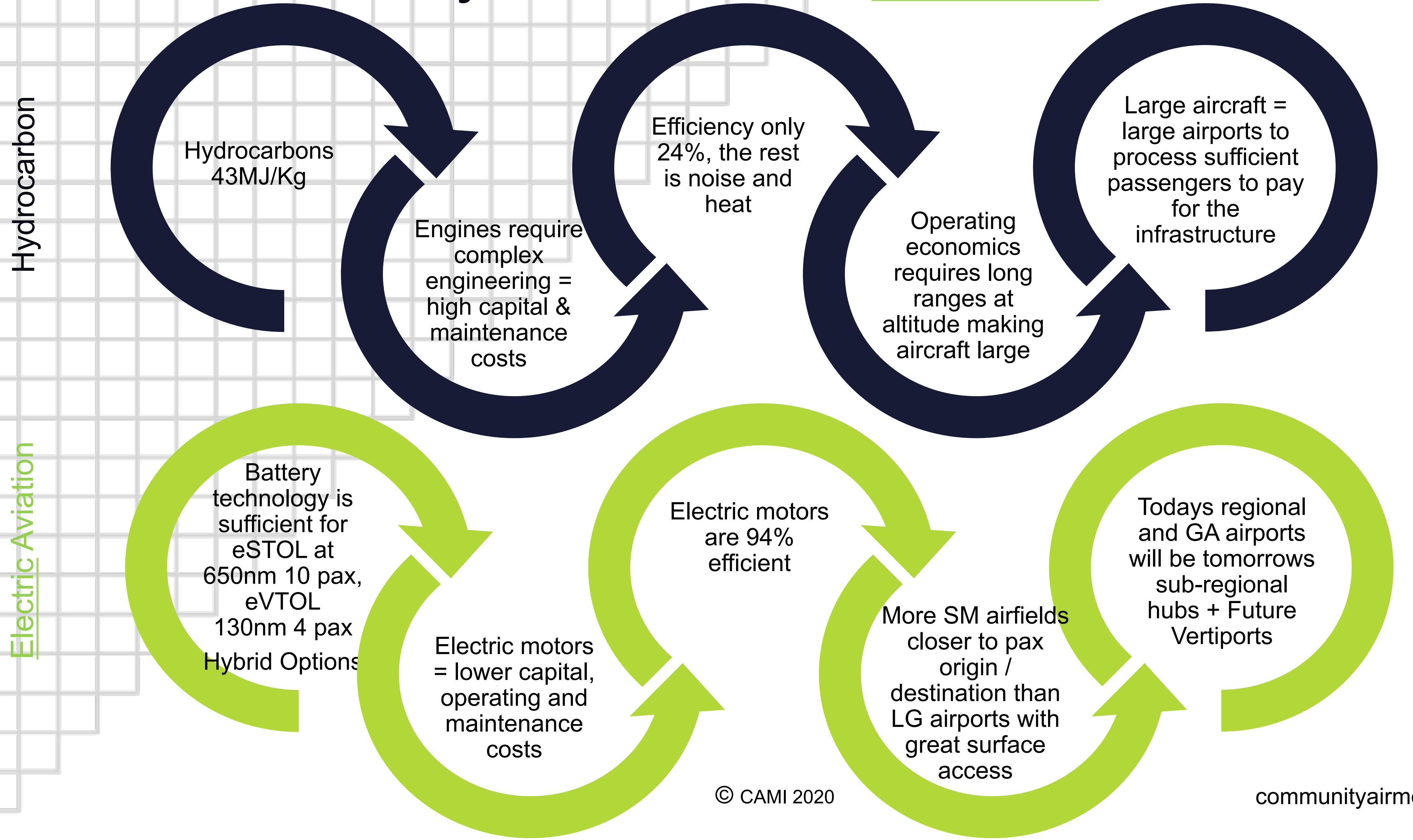
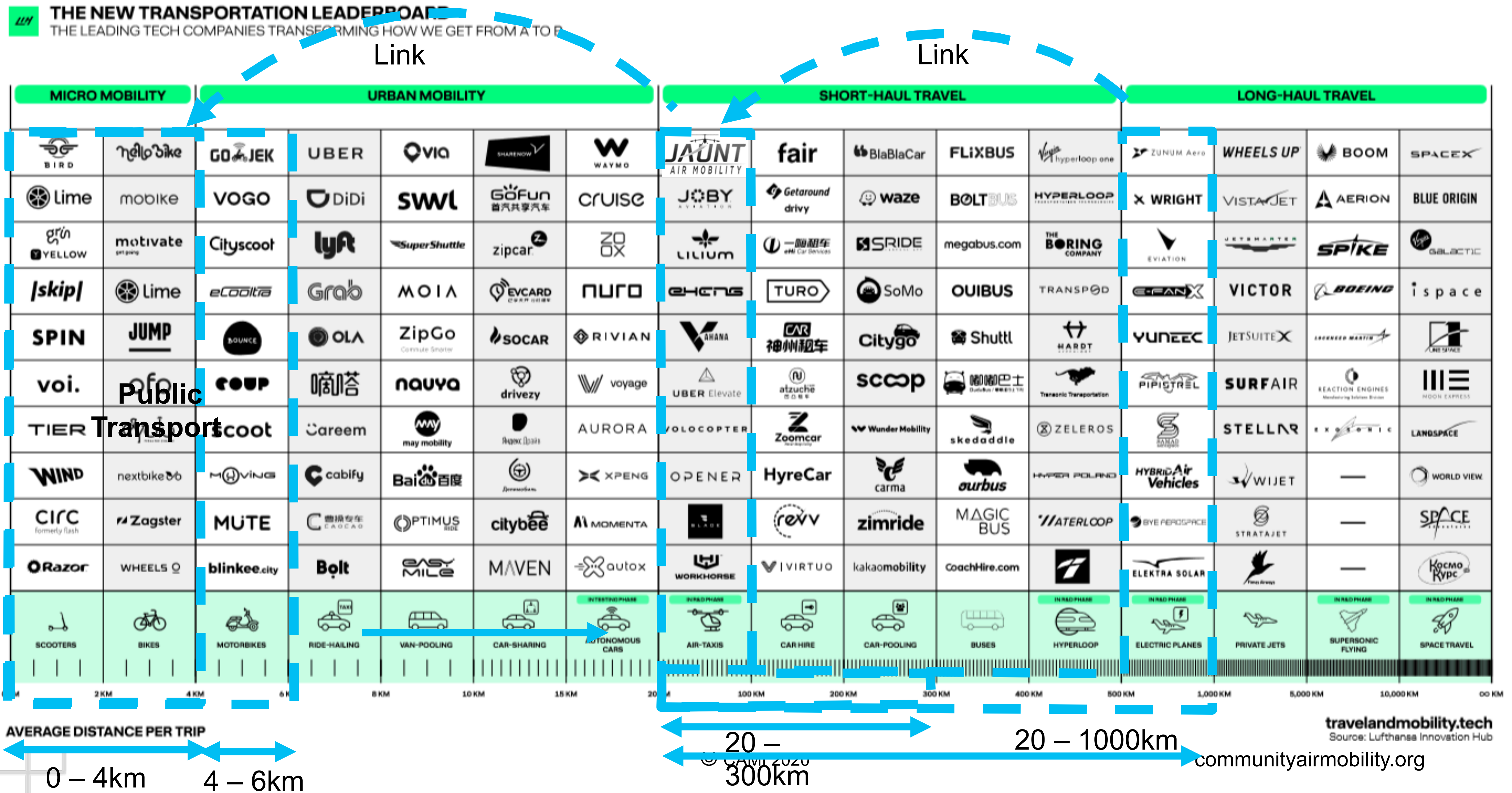
Economics of Hydrocarbon v Electric Aviation



Fixed Wing eCTOL/eSTOL & eVTOL


THE NEW TRANSPORTATION LEADERBOARD
THE LEADING TECH COMPANIES TRANSFORMING HOW WE GET FROM A TO B
Link
Link
MICRO MOBILITY
URBAN MOBILITY
SHORT-HAUL TRAVEL
LONG-HAUL TRAVEL
Public Transport
SCOOTERS
BIKES
MOTORBIKES
RIDE-HAILING
VAN-POOLING
CAR-SHARING
AUTONOMOUS CARS
AIR-TAXIS
CAR HIRE
CAR-POOLING
BUSES
HYPERLOOP
ELECTRIC PLANES
PRIVATE JETS
SUPERSONIC FLYING
SPACE TRAVEL
2 KM
4 KM
8 KM
10 KM
15 KM
100 KM
200 KM
300 KM
400 KM
500 KM
1,000 KM
5,000 KM
10,000 KM
∞ KM
AVERAGE DISTANCE PER TRIP
0 – 4km
4 – 6km
20 – 300km
20 – 1000km
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travelandmobility.tech
Source: Lufthansa Innovation Hub
communityairmobility.org

Vertiports - Types

- **Small Airfields -** Existing airfields with close proximity to urban areas with a natural affinity to a destination city
- **Dedicated Regional / Urban Vertiports -** Purpose built landing facilities for EVTOL and or ESTOL near large urban areas with a natural connection to a destination city
- **Commercial City Vertiports -** Either existing heliports, city based airports or purpose built vertiports. Key characteristics - ability to handle a high volume of ATMs during peak periods (commuter peaks). Can be single FATO vertiports on the top of buildings. These may be non commercially operated
- **Support Vertiports -** Purpose built vertiports for the maintenance and or recharging of EVTOL. Can be co-located with other business where there is a synergistic relationship i.e. cargo distribution warehouses

communityairmobility.org

City Vertiport Concepts

- **Capacity is Key** - Commercially operated city based vertiports will need to have high hourly capacity to service peak morning and late afternoon demand to make them financially viable
- **Location, Location, Location** - Co-location with existing public transport networks is key to helping to secure planning permission. It not about competition its about complementing
- **Social Acceptance** - Achieved through demonstrating social utility, low noise impact and accessible to a wider range of society via lower costs to the user.

Start with a plan

- A system plan for the incorporation of electric aviation into the macro regional fabric
  - Identify existing aviation assets both for VTOL and CTOL operations and assess their current contributions
  - Develop a thorough understanding of how electric aviation can enhance or hinder the movement of people and goods in the area of study
  - Assess large vertiport concepts vs smaller vertiport concepts and how they would affect road and public transport systems
  - How will high volume vertiport impact public transport networks? Redistribution and congestion reduction or concentration leading to insufficient capacity at peaks?
  - What airspace restrictions are applicable?
  - Understand what automation does to capacity of vertiports
    - There are natural limits – recharging time, passenger processing space

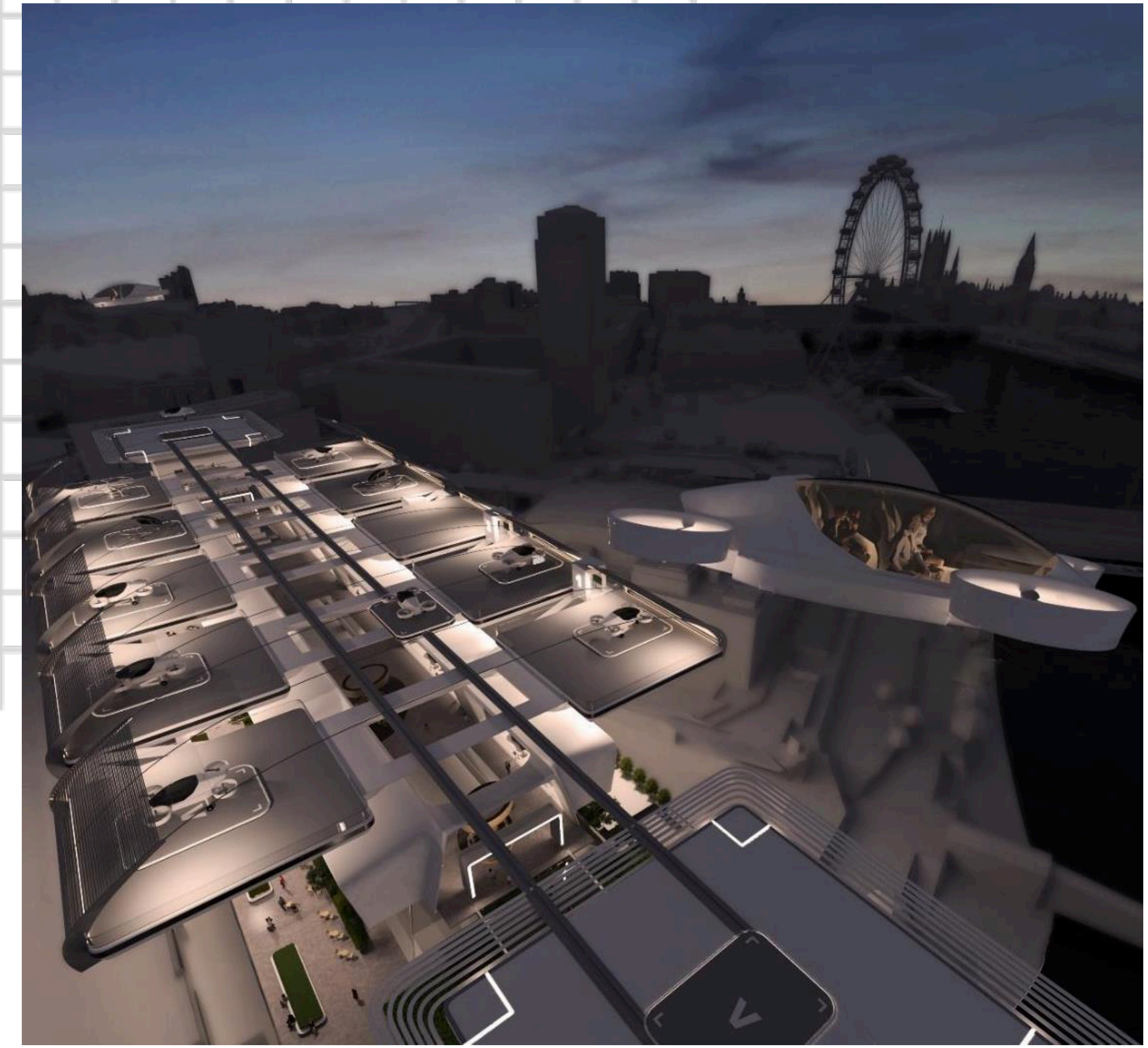
What Built Infrastructure does Urban Air Mobility Need?

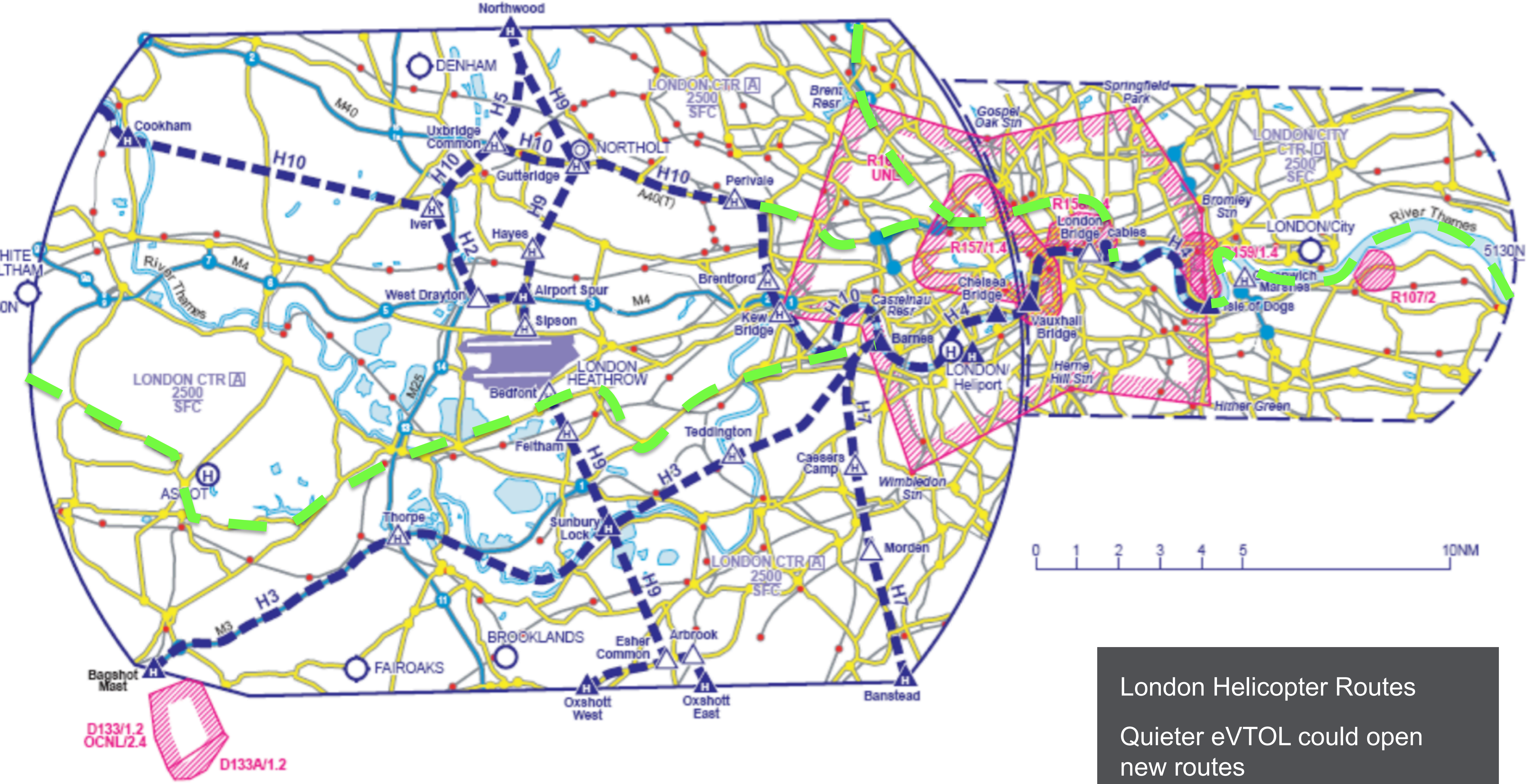
- A good public transportation system
- Acceptance of micro modes of travel and supporting infrastructure/ system
- A robust utility system (electricity, water, waste water, hydrogen?)
- Airspace – its not built infrastructure but it is designed and has a finite capacity

Challenges for Built Infrastructure

- **Space** – Although eVTOL have a relatively small footprint you still need lots of space to site a sufficient number of parking stands and passenger processing facilites to support commercial volumes of traffic
- **Electricity** – Recharging will require significant amounts of power during peak times thus a robust utility strategy needs to be put in place
- **Public Transport Capacity** – Ensuring that the public transport system is able to accommodate influx of passengers
- **Social Acceptance** – Noise & commoditisation of the service.
- **Zoning** – Zones being identified because of other issues which make them incompatible with the service that electric aviation offers

Example Study: Waterloo Vertiport

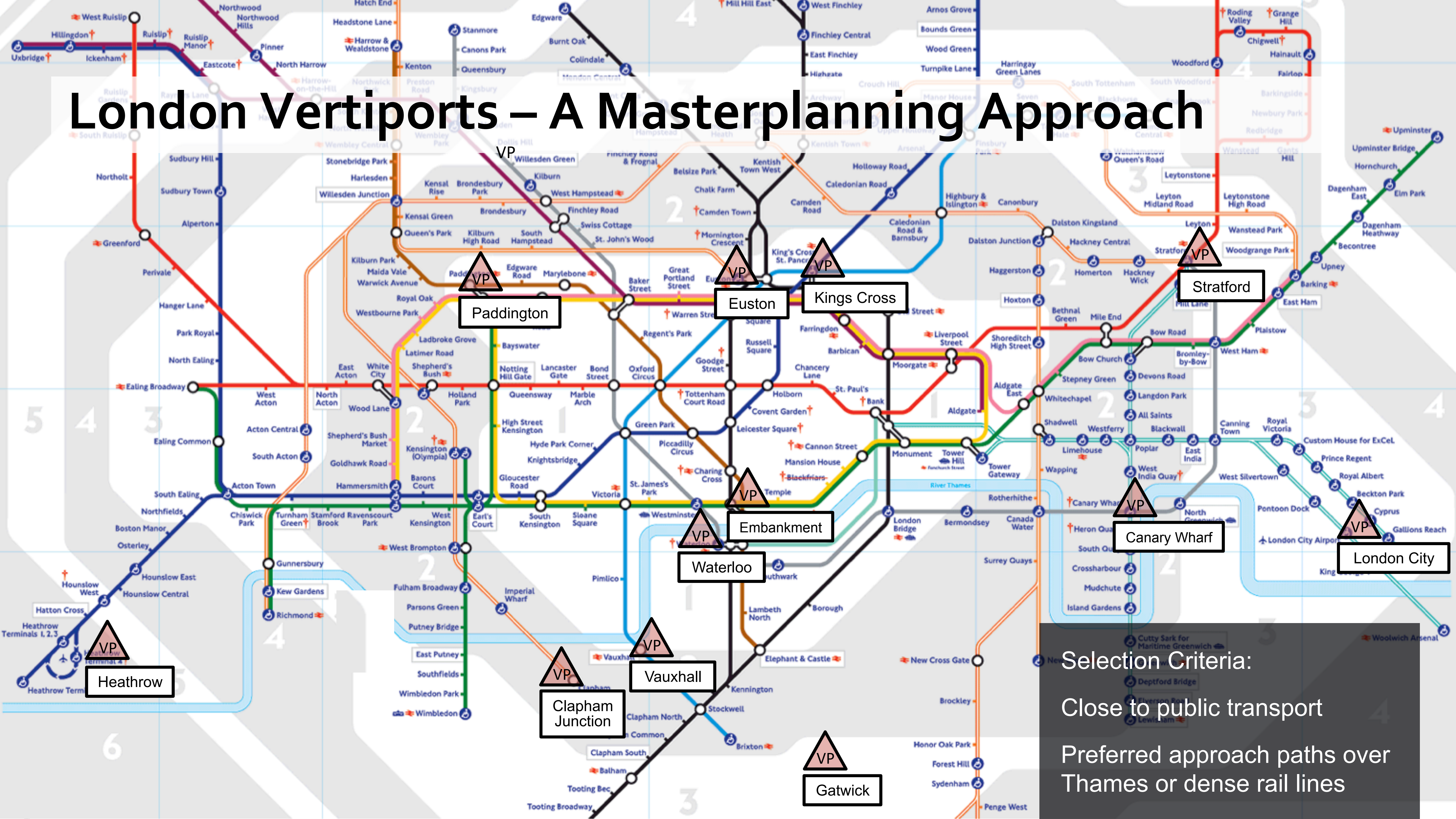




London Helicopter Routes

Quieter eVTOL could open new routes

London Vertiports – A Masterplanning Approach

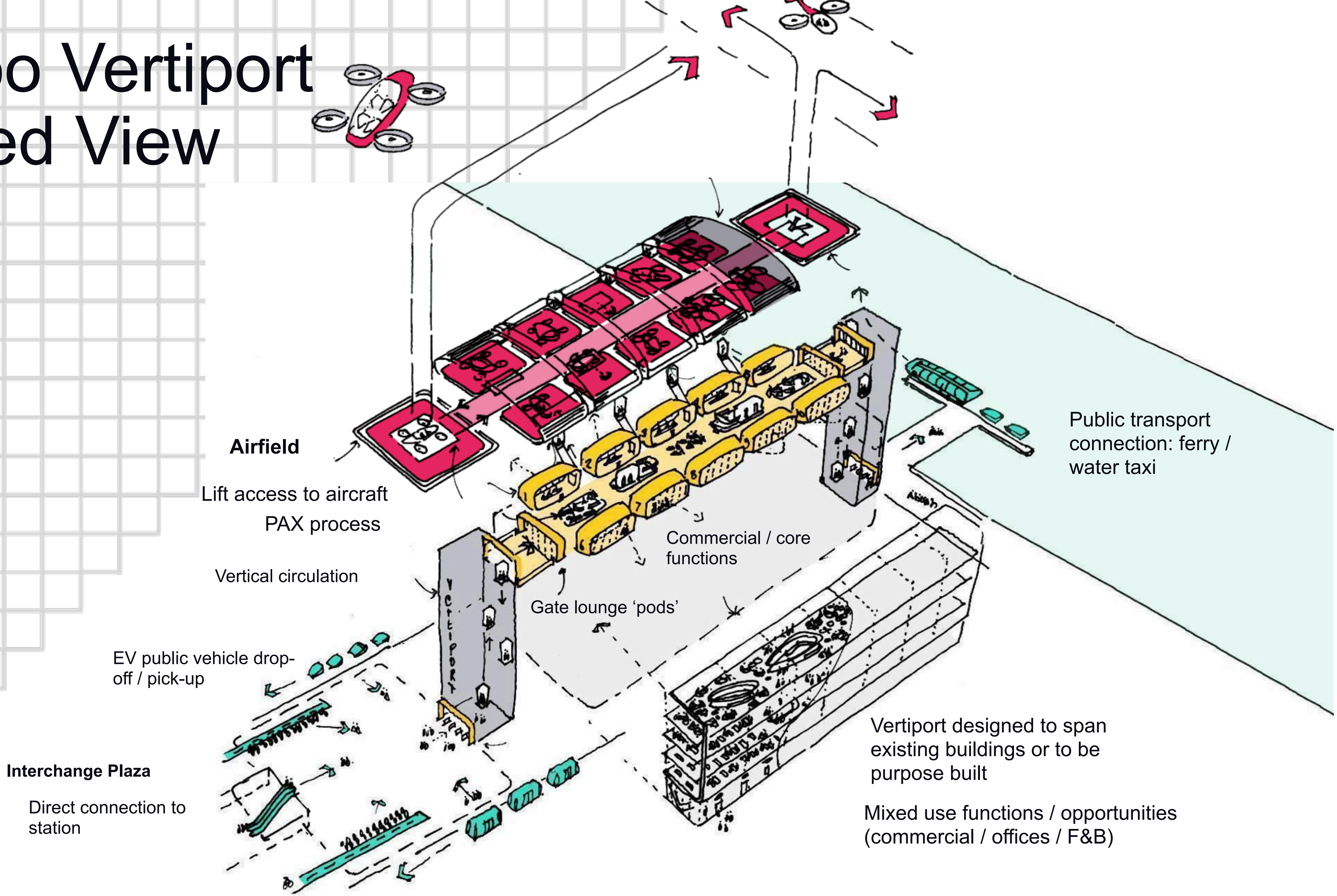


Selection Criteria:

Close to public transport

Preferred approach paths over Thames or dense rail lines

Waterloo Vertiport Exploded View

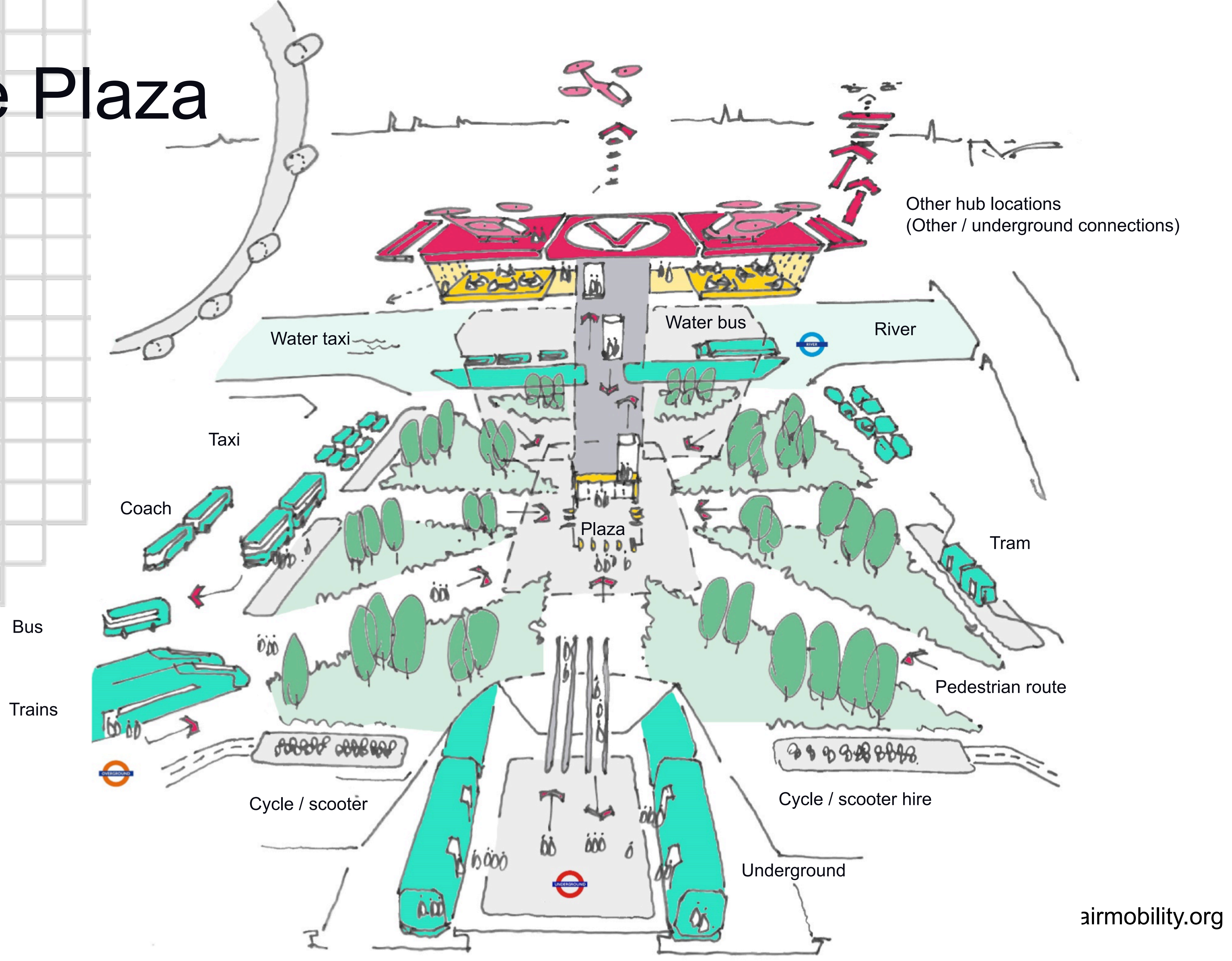


Interchange Plaza

Sustainable Multimodal Transportation Hub

Vertiport City - How will vertiports influence the local community?

Ref. Airport City by John D. Kasarda



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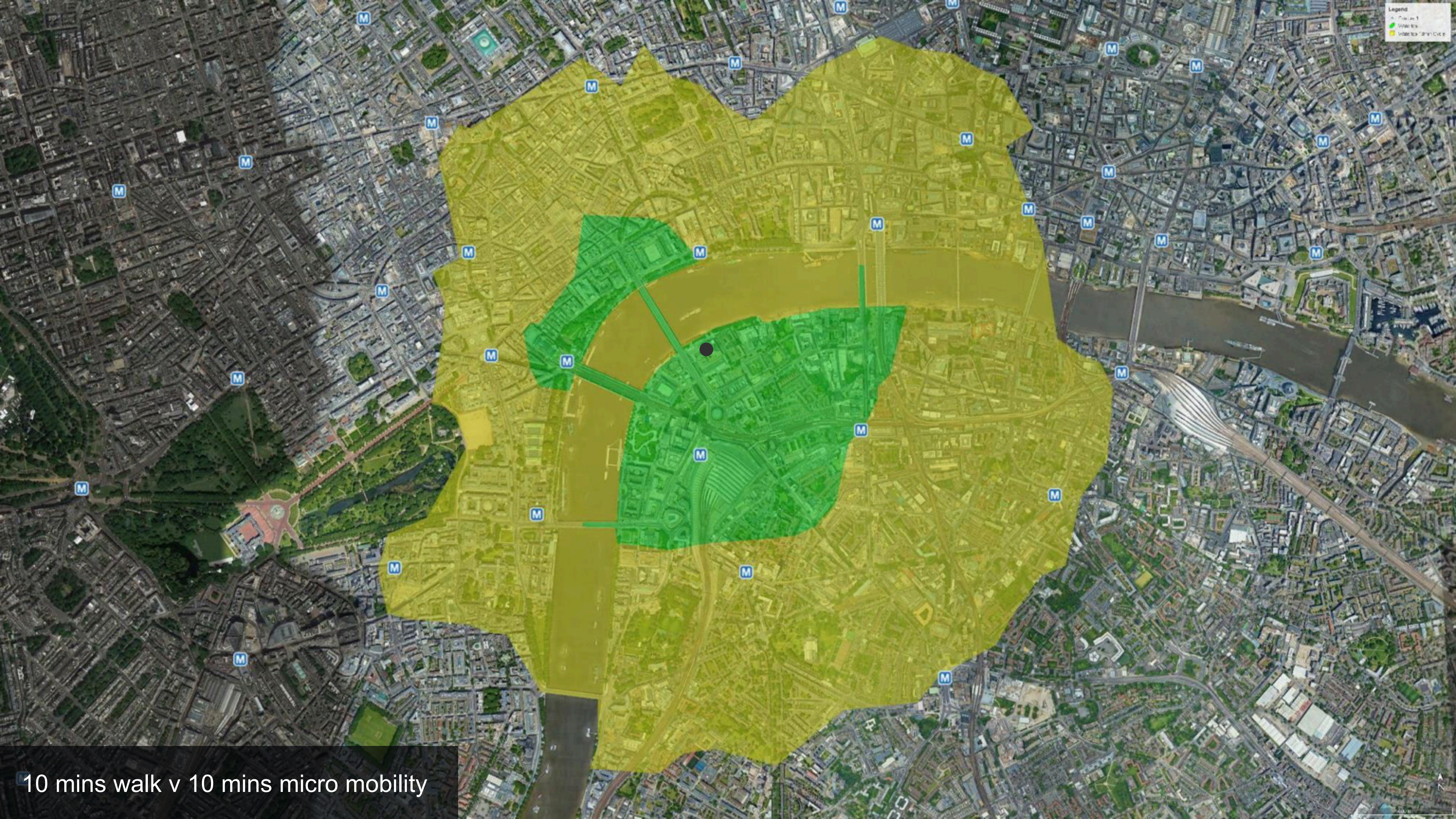
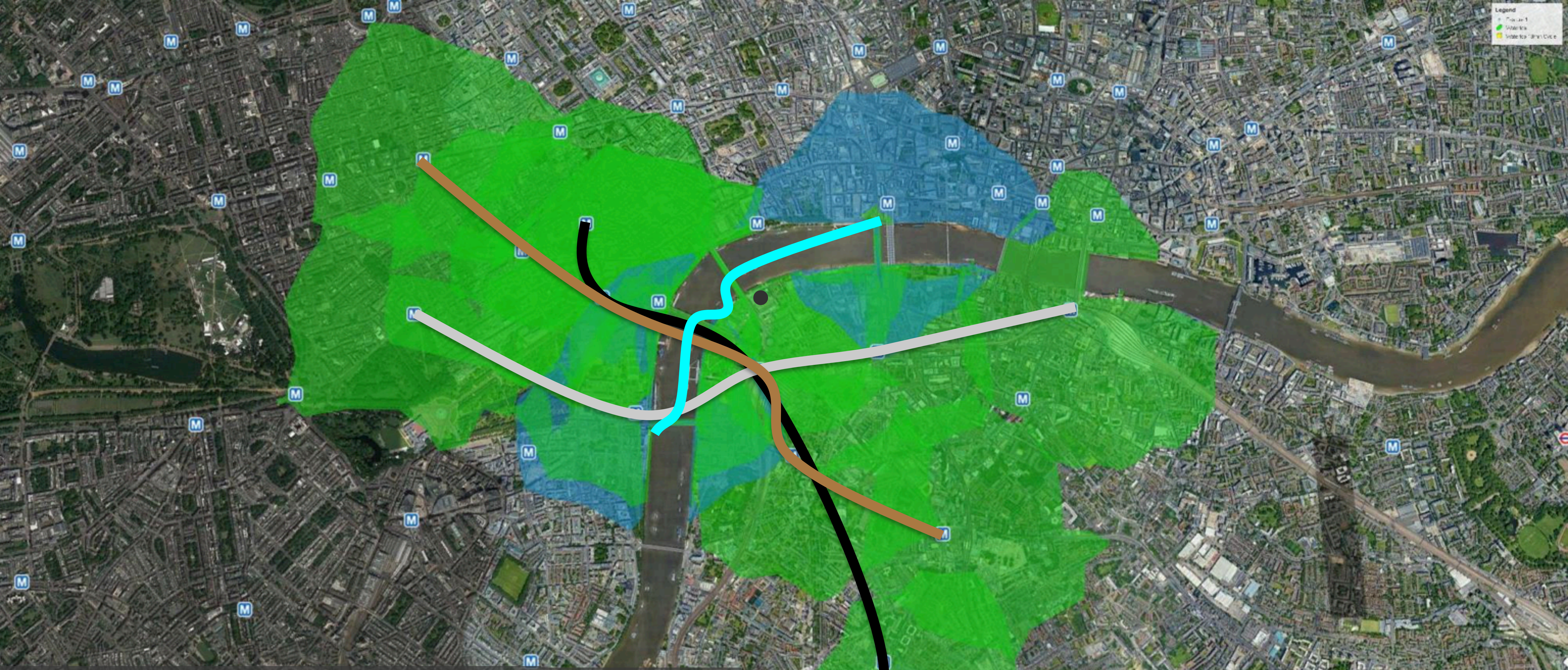
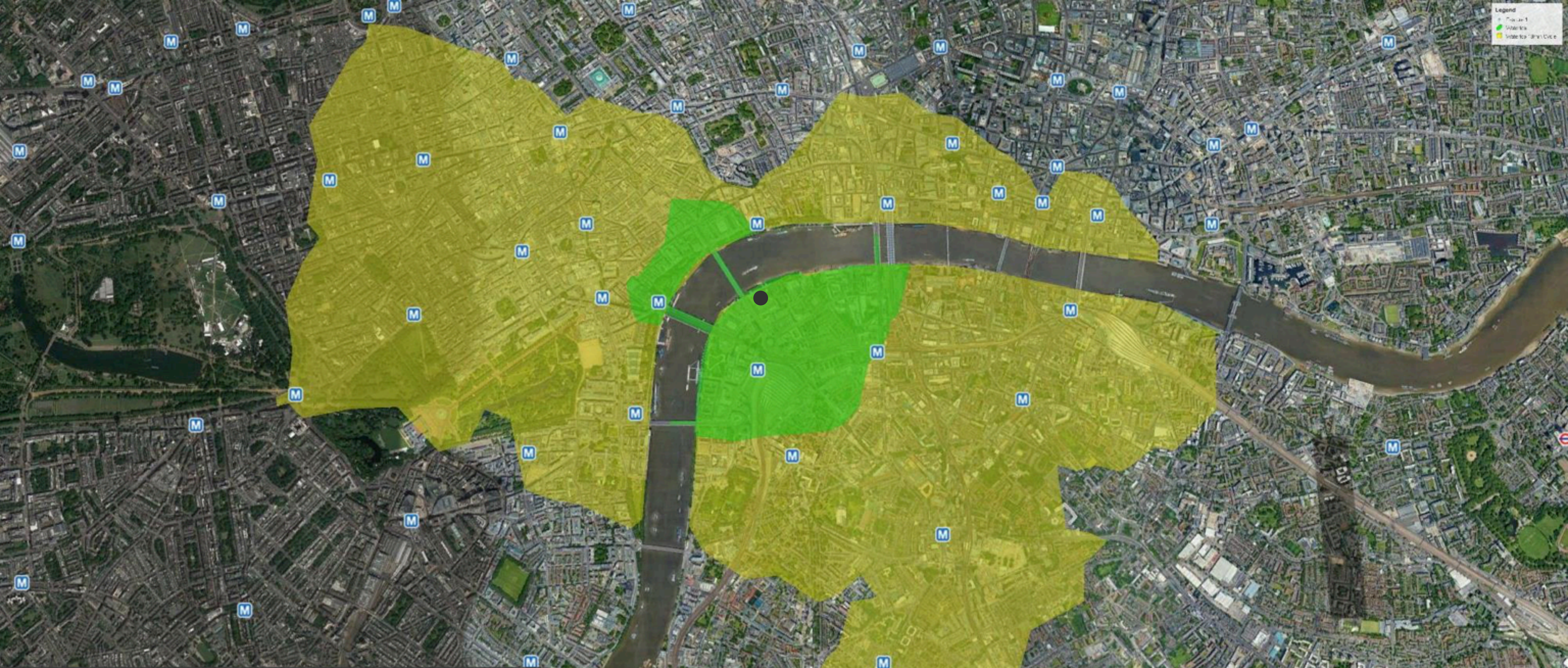
Vertiports need to compliment and not compete with public transportation


Legend
10 mins walk v 10 mins micro mobility



Jubilee	Northern	Bakerloo	River Bus
Green Park	Charing Cross	Oxford Circus	Blackfriars
Westminster	Embankment	Piccadilly Circus	
Waterloo	**Waterloo**	**Waterloo**	**Waterloo**
Southwark	Kennington	Lambeth North	Westminster Pier
London Bridge	Oval	Elephant & Castle	



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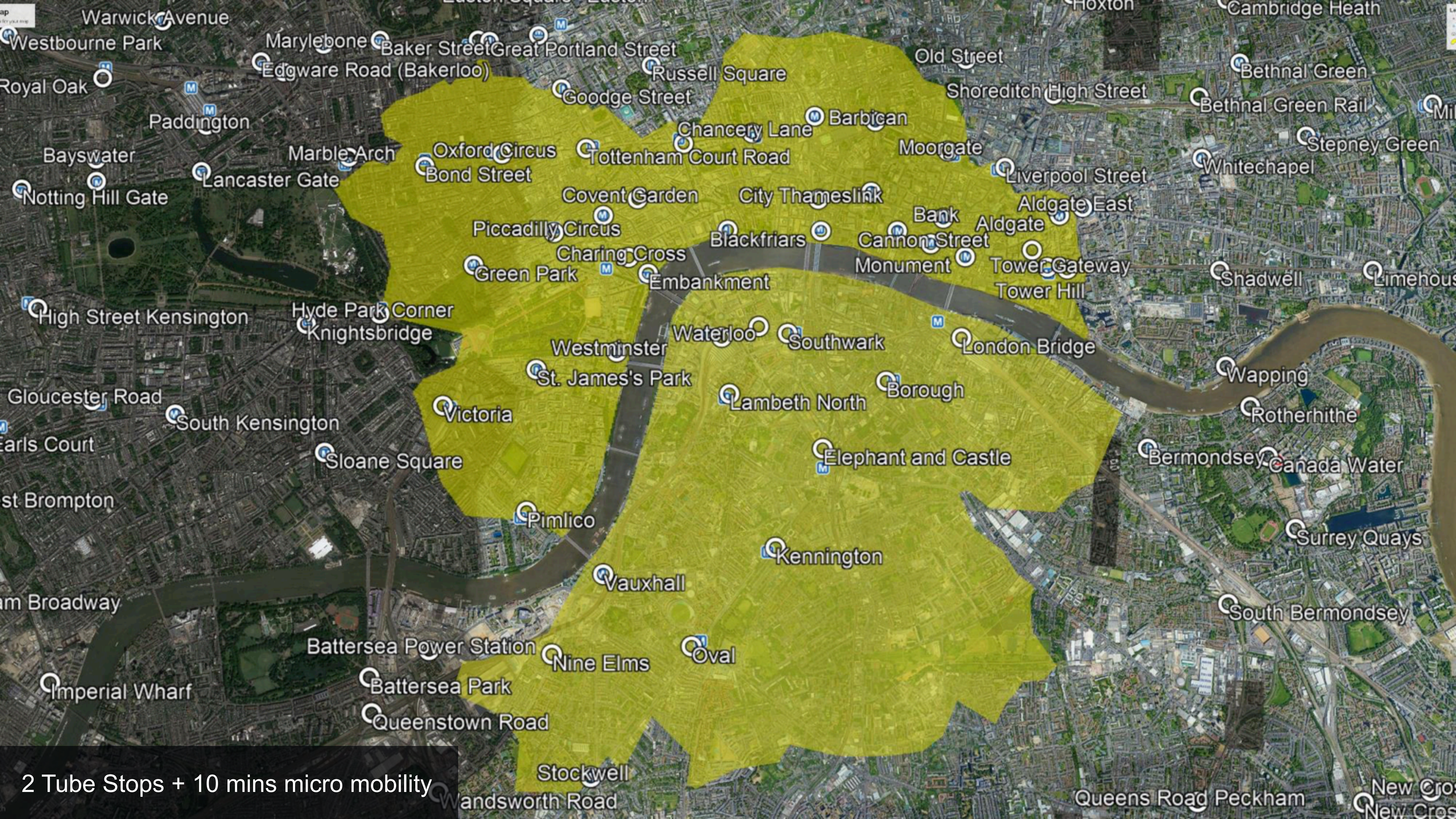

2 Tube Stops + 10 mins micro mobility

Uber 2018
Uber 2019
Uber
UBER
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Recap – Infrastructure – What you are looking for

- Provides context to aviation system planning linking vertiports and wider transportation system regardless of geographic and local, county, state boundaries
- Understanding of local transportation policy
- Understanding of impact on local road transportation network
- Seeks to compliment and not compete with public transportation
- Drives passengers onto local transportation systems for journeys between 1 & 3 miles which may include commercial micro mobility.
- Addresses social inequality by supporting local job opportunities

Understanding Airspace Considerations

August 28, 2020

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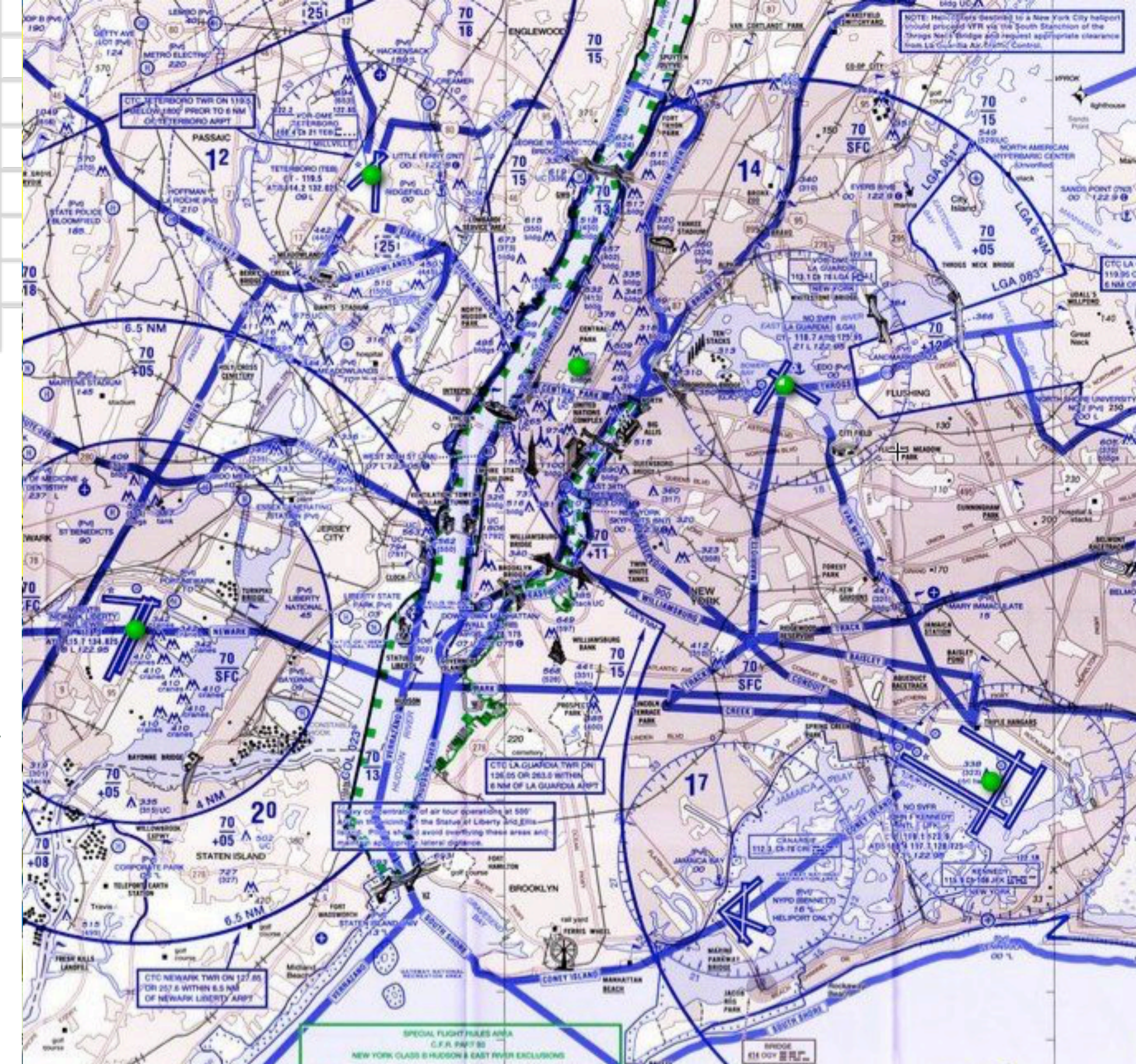
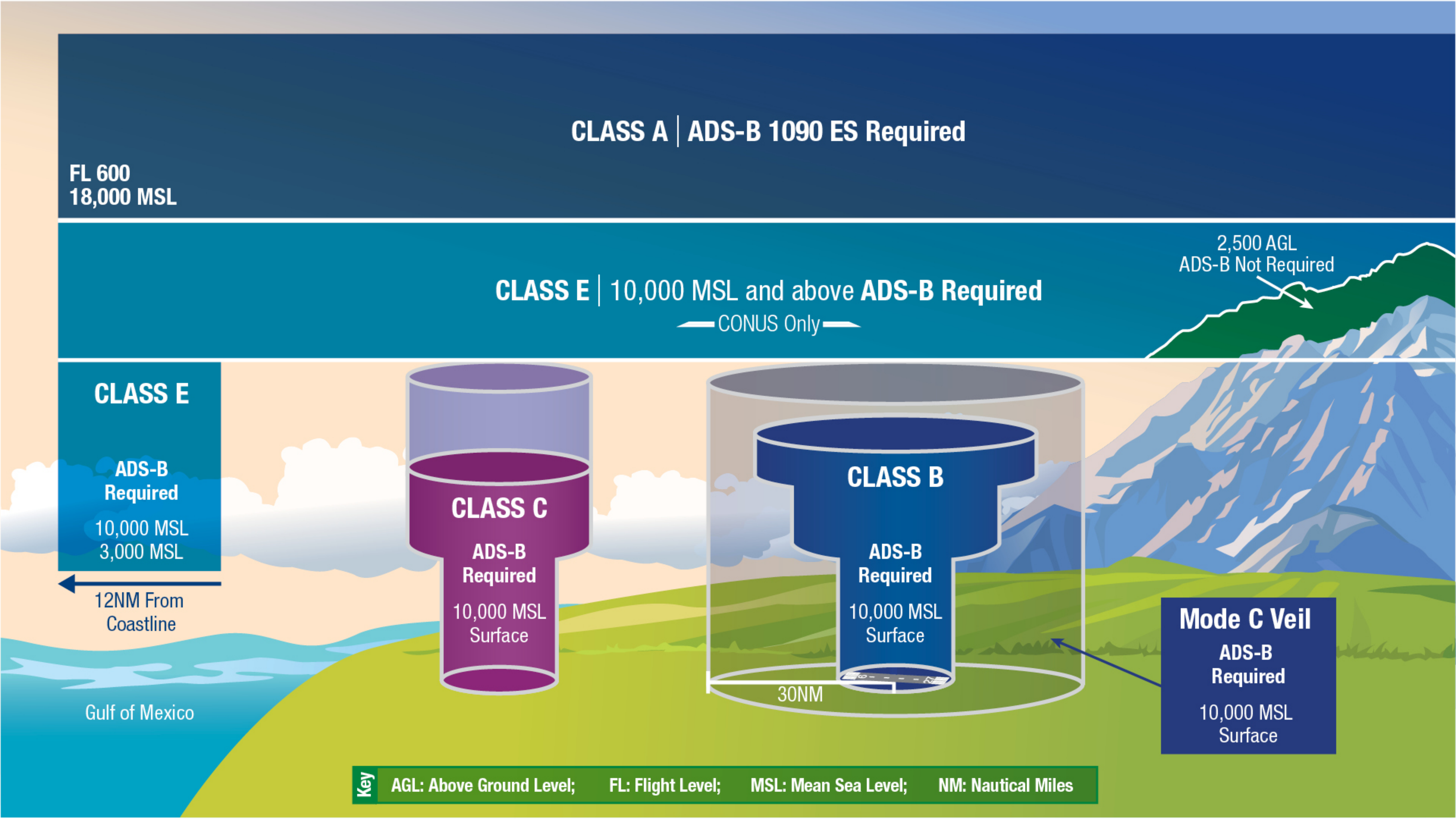
Urban and Suburban Airspace

- Mixture of controlled and uncontrolled airspace
- Commercial Service airports, General Aviation airports, heliports
- Segregated operations by altitude and aircraft type
- Utilize geographic features

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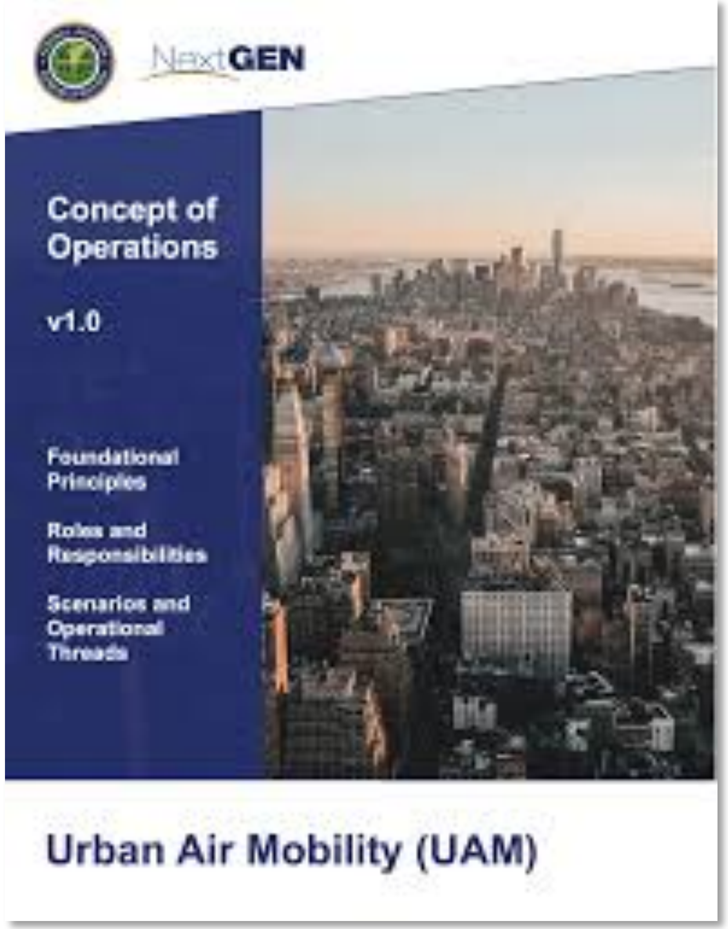
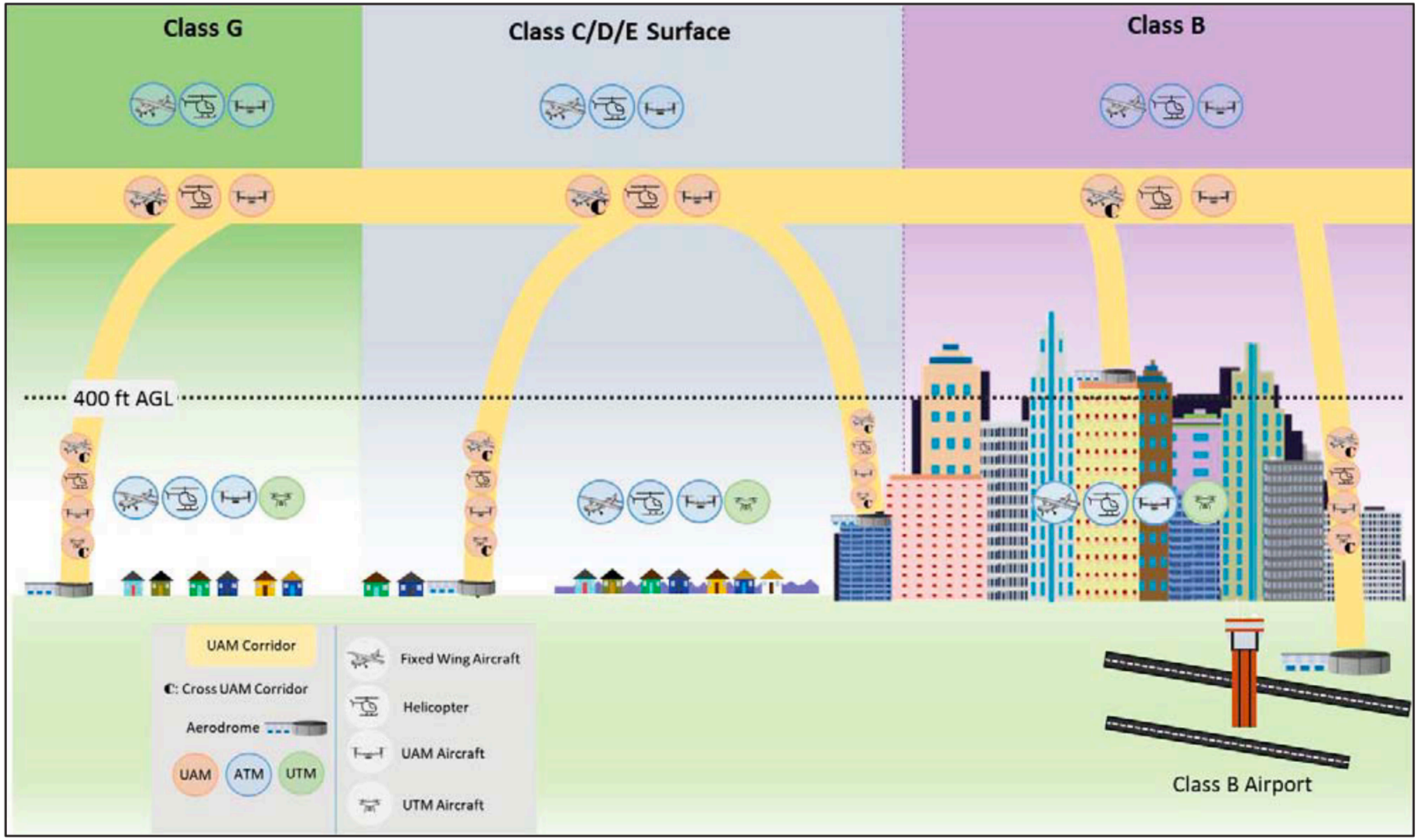
FL 600
18,000 MSL
CLASS E | 10,000 MSL and above ADS-B Required
CONUS Only
2,500 AGL
ADS-B Not Required
CLASS E
ADS-B Required
10,000 MSL
3,000 MSL
12NM From Coastline
Gulf of Mexico
CLASS C
ADS-B Required
10,000 MSL
Surface
CLASS B
ADS-B Required
10,000 MSL
Surface
30NM
Mode C Veil
ADS-B Required
10,000 MSL
Surface
Key
AGL: Above Ground Level;
FL: Flight Level;
MSL: Mean Sea Level;
NM: Nautical Miles

FAA Urban Air Mobility (UAM) Concept of Operations

- Published Jun 26, 2020
- Joint work of FAA, NASA and industry
- “UAM ConOps Version 1.0 is initial stage of work in progress and the concept will be continuing to mature and modified through ongoing Government and industry stakeholder collaboration.”

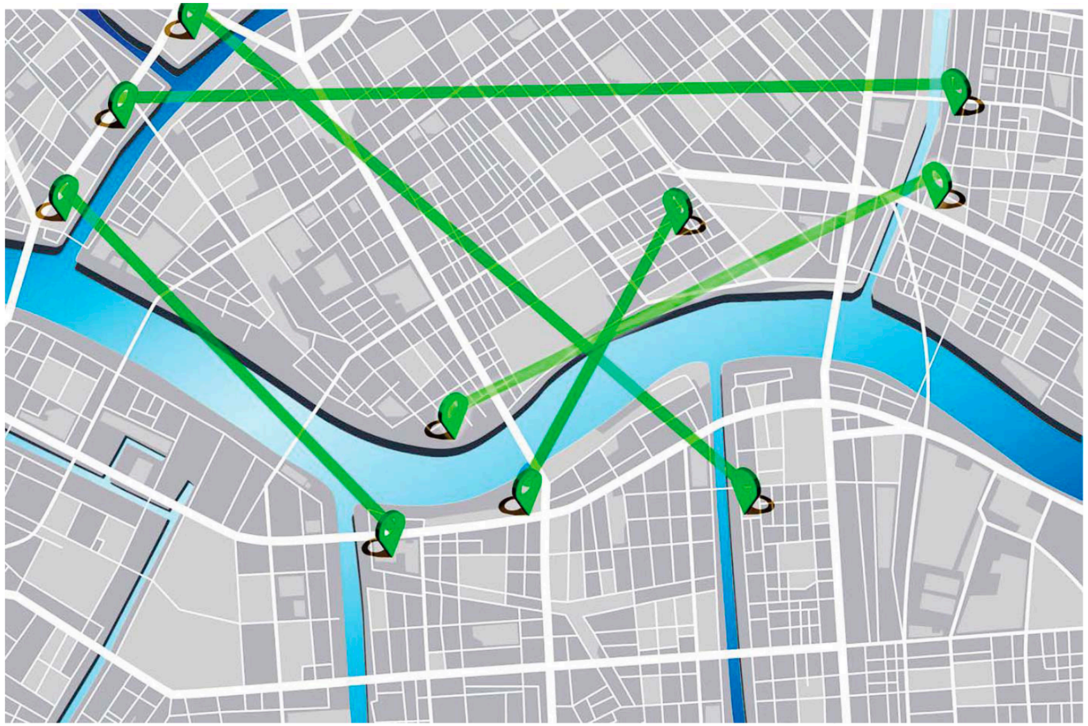


FAA UAM CONOPs – UAM Corridors



NASA UAM CONOPs – UAM Corridors

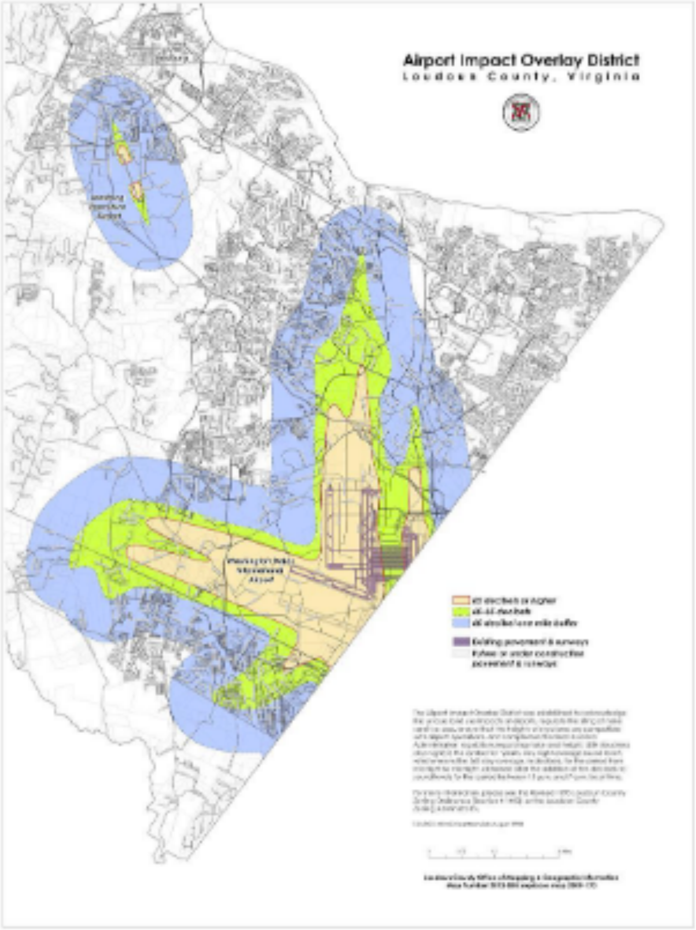
- From CONOPs document:
  - Minimal impact to existing airspace traffic management and unmanned traffic management
  - Public interest stakeholder needs (e.g., local environmental and noise, safety, security)
  - Stakeholder utility (e.g., customer need)



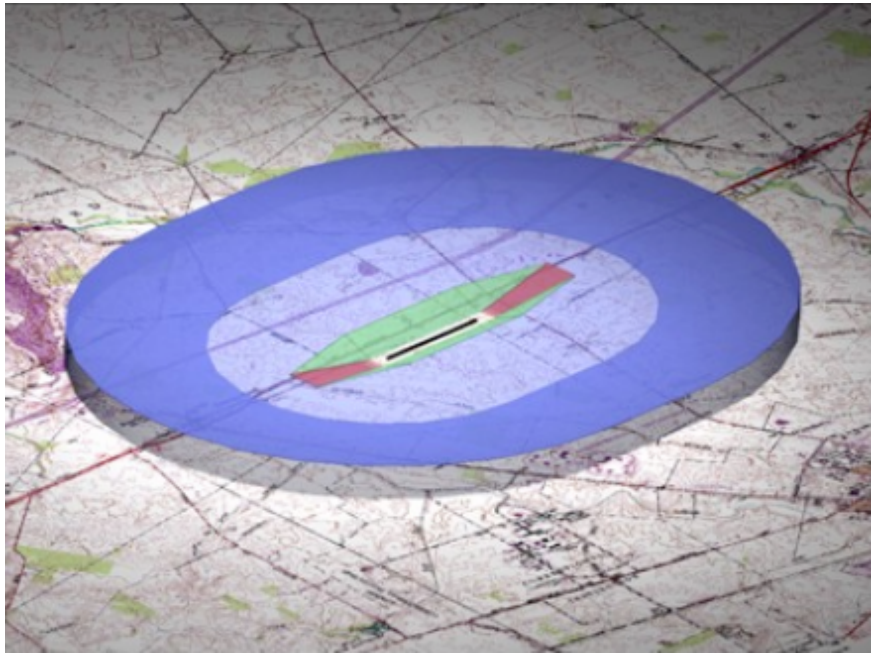
Where does zoning and the national airspace intersect?

- Zoning protects taxpayer's investment in airport infrastructure
  - Airspace Hazards
  - Compatible Land Use

- Authority
  - Airspace - Federal
  - Zoning/Land Use - State/Local



Ohio - Airport Zoning – Chapter 4563



- 4563-02 Airport hazard a public nuisance
- 4563.03 Airport zoning boards
- 4563.031 Zoning regulations
- 4563.032 Adopting federal obstructions standards
- 4563.04 Conflict between zoning regulations
- 4563.05 Airport zoning commission.
- 4563.06 Adoption of airport zoning regulations - procedure.
- 4563.07 Zoning regulations shall be reasonable.
- 4563.08 Determination of airport hazard area.
- 4563.09 Zoning regulations not to interfere with continuance of nonconforming use.
- 4563.10 Political subdivision or zoning board not granted power to prohibit certain uses.
- 4563.11 Administration and enforcement of zoning regulations.
- 4563.12 Permit required prior to substantial change or alteration.
- 4563.13 Airport zoning boards of appeals.

Land How can local planners approach airspace issues?

- Safety
  - Height limitations, protection of investment, population density
- Noise/Visual
  - Parks, Amphitheaters, Stadiums
  - Building Codes
- Expansion
  - Future growth, sustainability

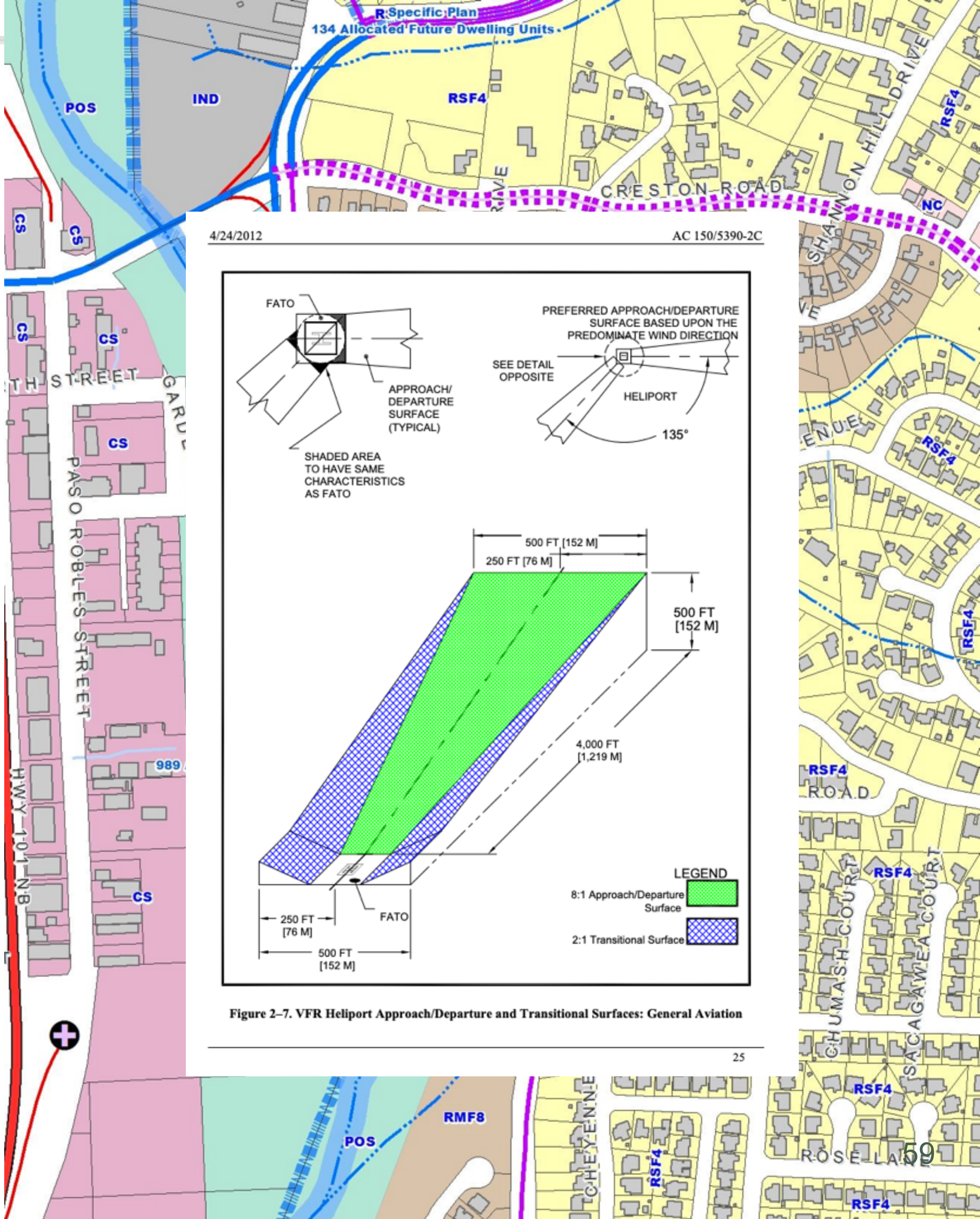
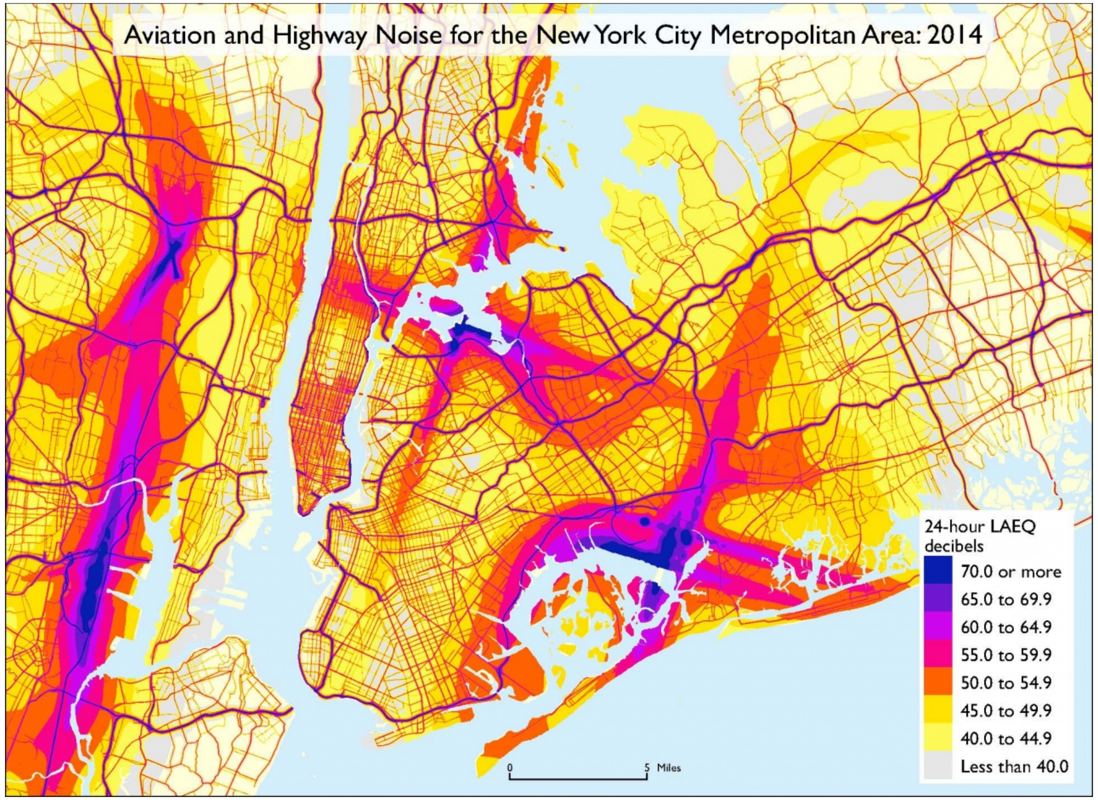


Figure 2–7. VFR Heliport Approach/Departure and Transitional Surfaces: General Aviation

Community Feedback Regarding Aircraft Operations

- Noise
- Congestion
- Traffic
- Frequency
- Security
- Safety



Conclusion

- **UAM operational routes evolving**
  - Must integrate with existing manned and unmanned traffic
  - UAM Corridors proposed, evolve over time based on demand
  - Engage in conversation now!
- **Utilize experience and tools from the past**
  - Airport Zoning and Land Use protects existing aviation infrastructure investment
- **Engage all stakeholders**
  - FAA
  - UAM Operators
  - UAM Customers
  - General Public

Integrating The Third Dimension

August 28, 2020

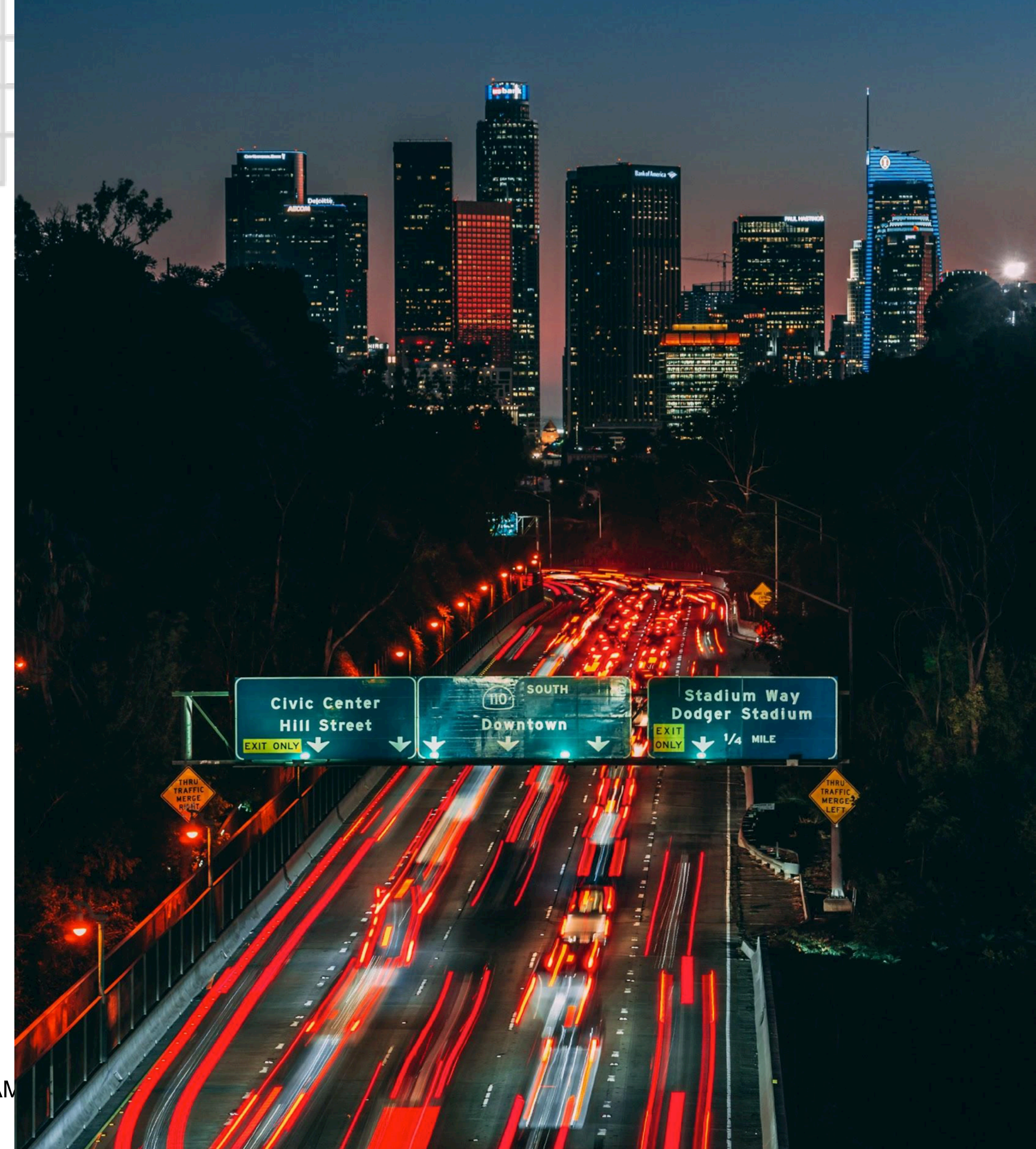
Todd Petersen
Co-Founder, Ellis & Associates
todd@ellis-and-associates.com

Los Angeles
1954

Gatwick Airport
1958

New York City Today

In Los Angeles, you can reach
12 times as many jobs
in an hour by *car*
as you can by *transit*



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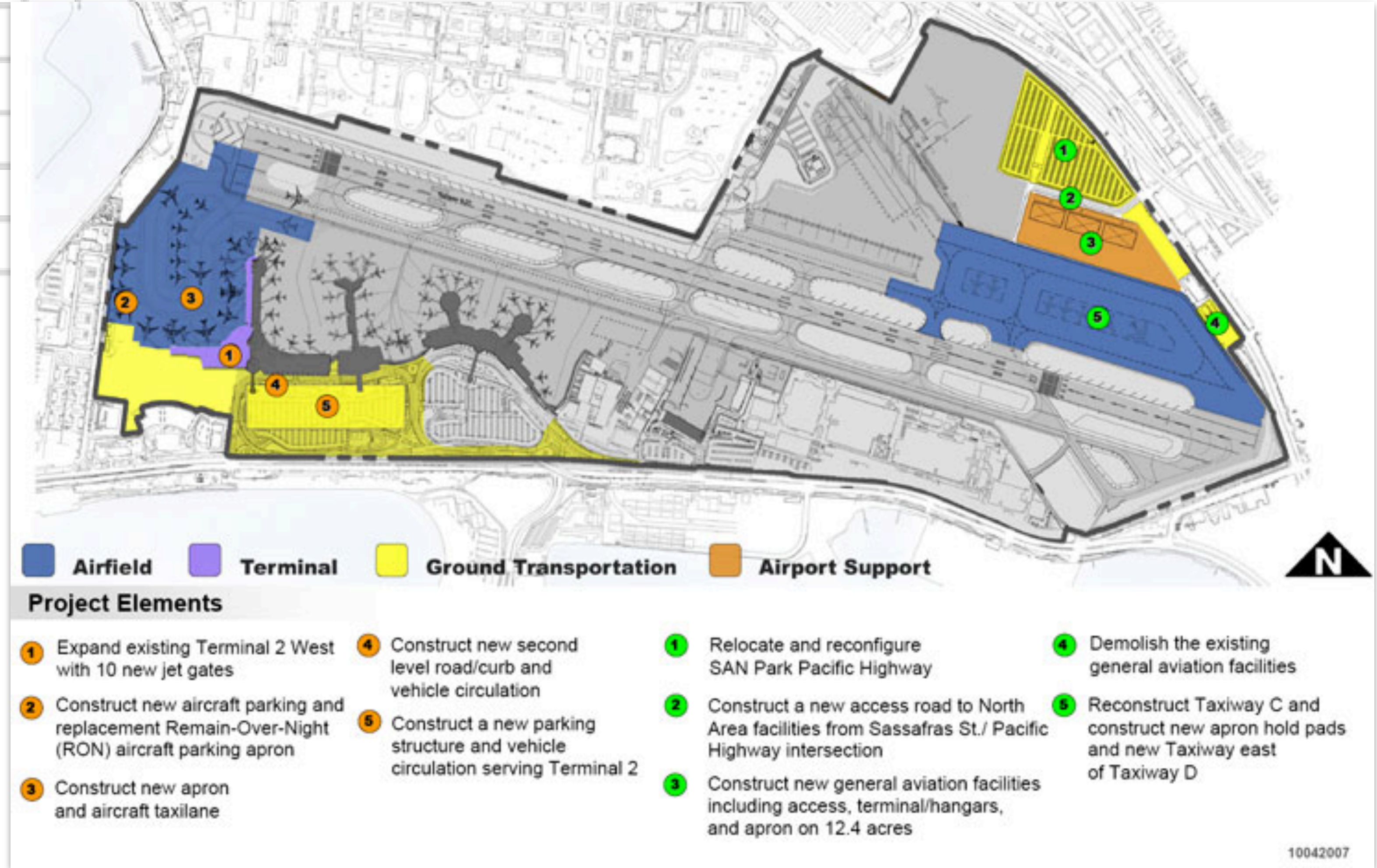
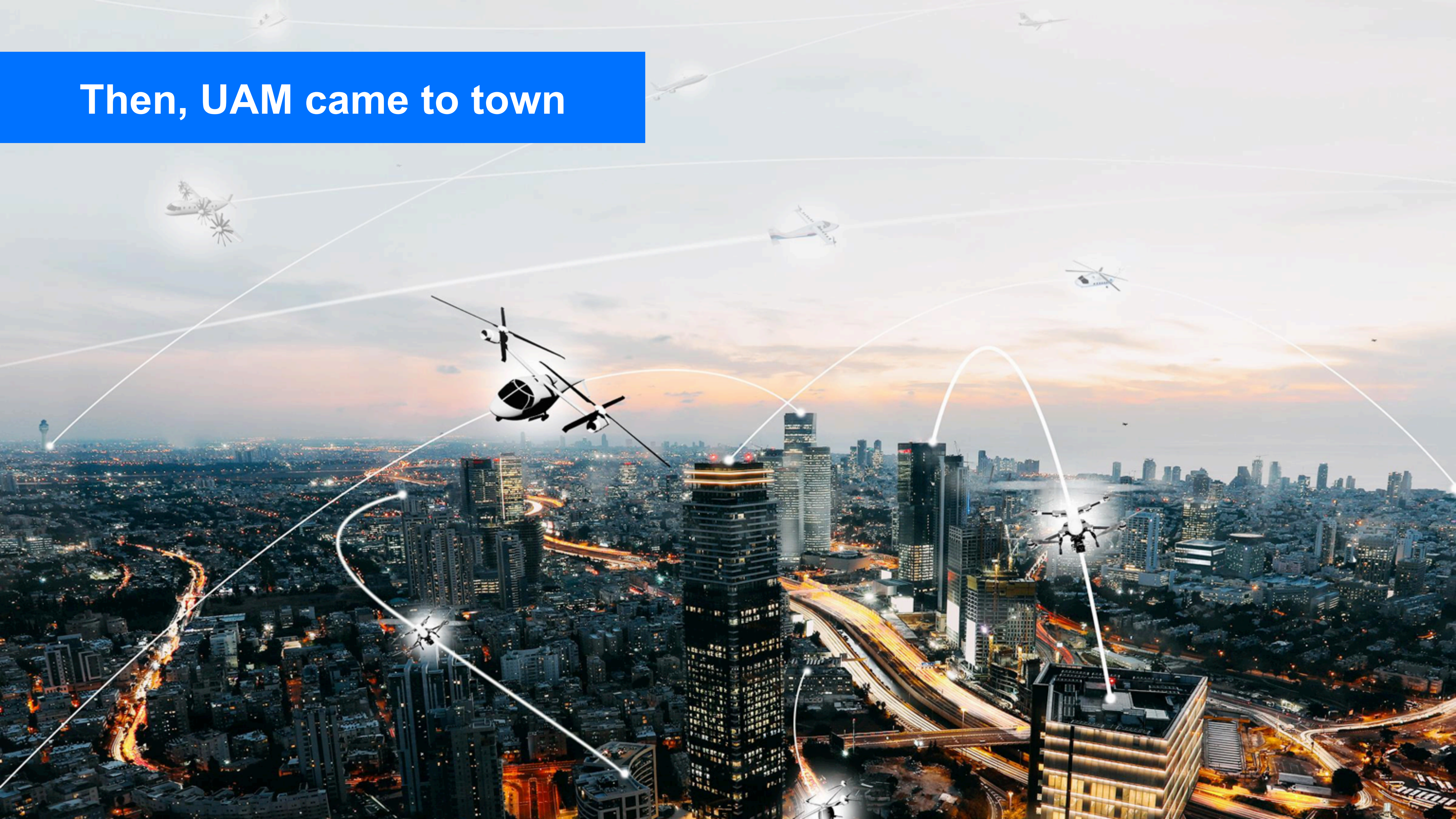
Traditional Airport Planning



Then, UAM came to town



What is my role?

What happens
when the
entire city
is an airport?

CAMI
Community Air Mobility Initiative

What happens when there are many types of **aircraft?**

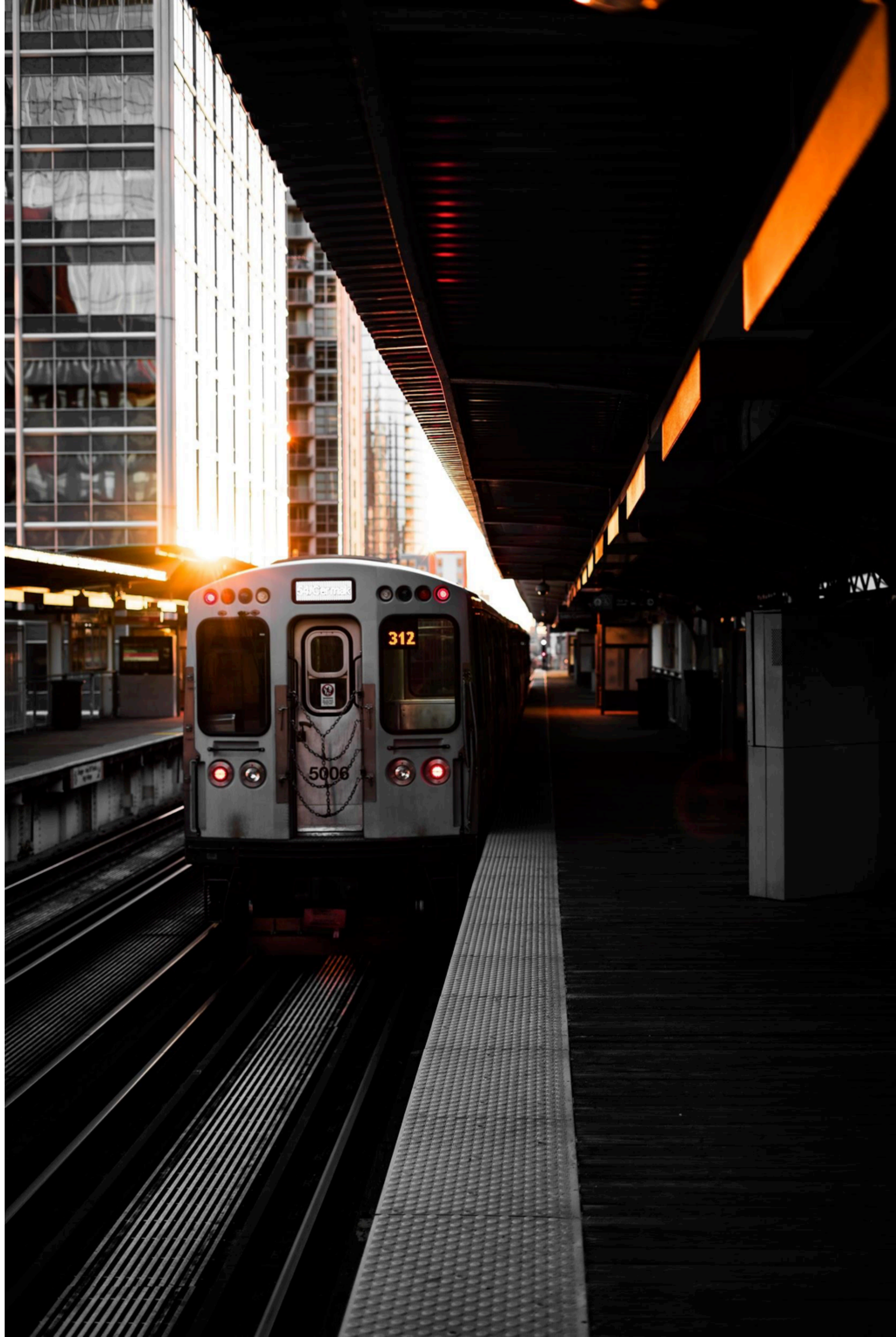
CAMI Community Air Mobility Initiative

Planners now have to decide:

1. What is a city airport or vertiport, exactly?
2. What am I solving for? Noise? Equity? Pollution?
3. How do I express those desires and changes?
4. If I’m doing this, what does the FAA do?

The Good News

UAM is just another mode of transportation



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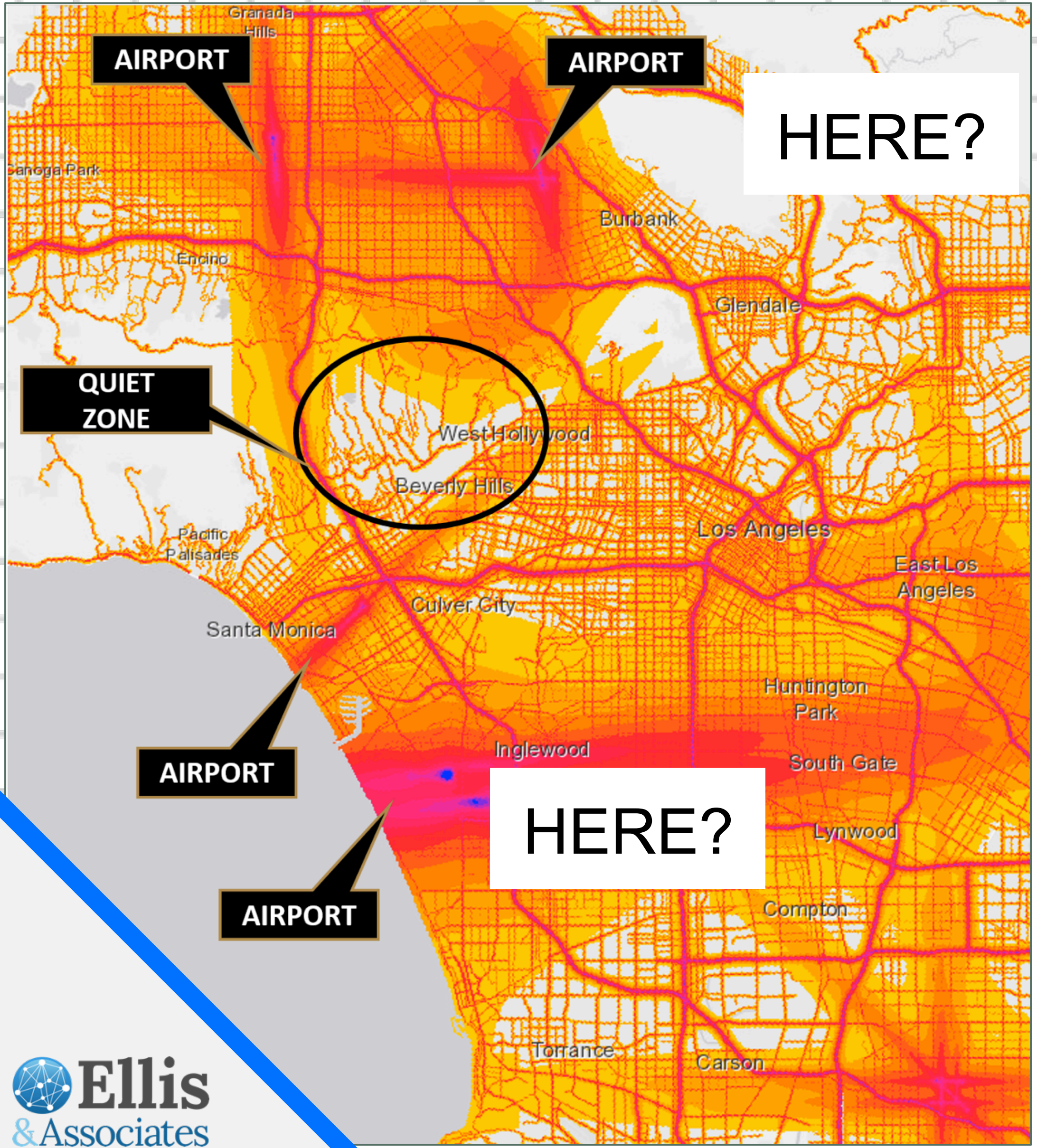
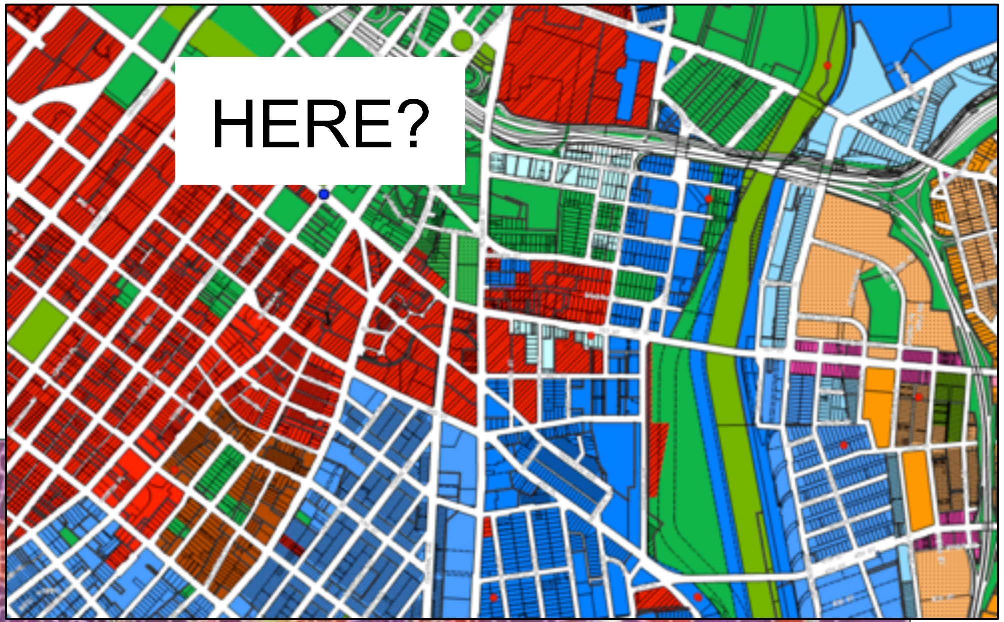
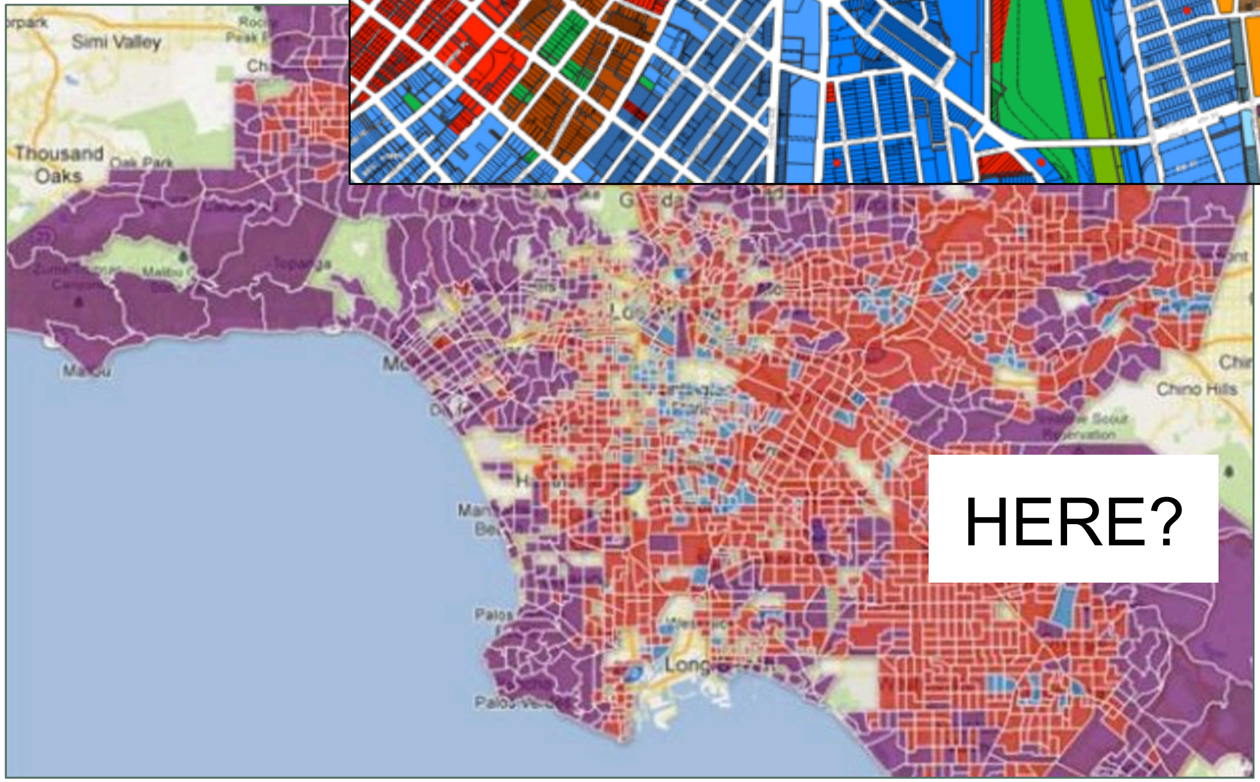
Community Air Mobility Initiative

Where Will They Land?

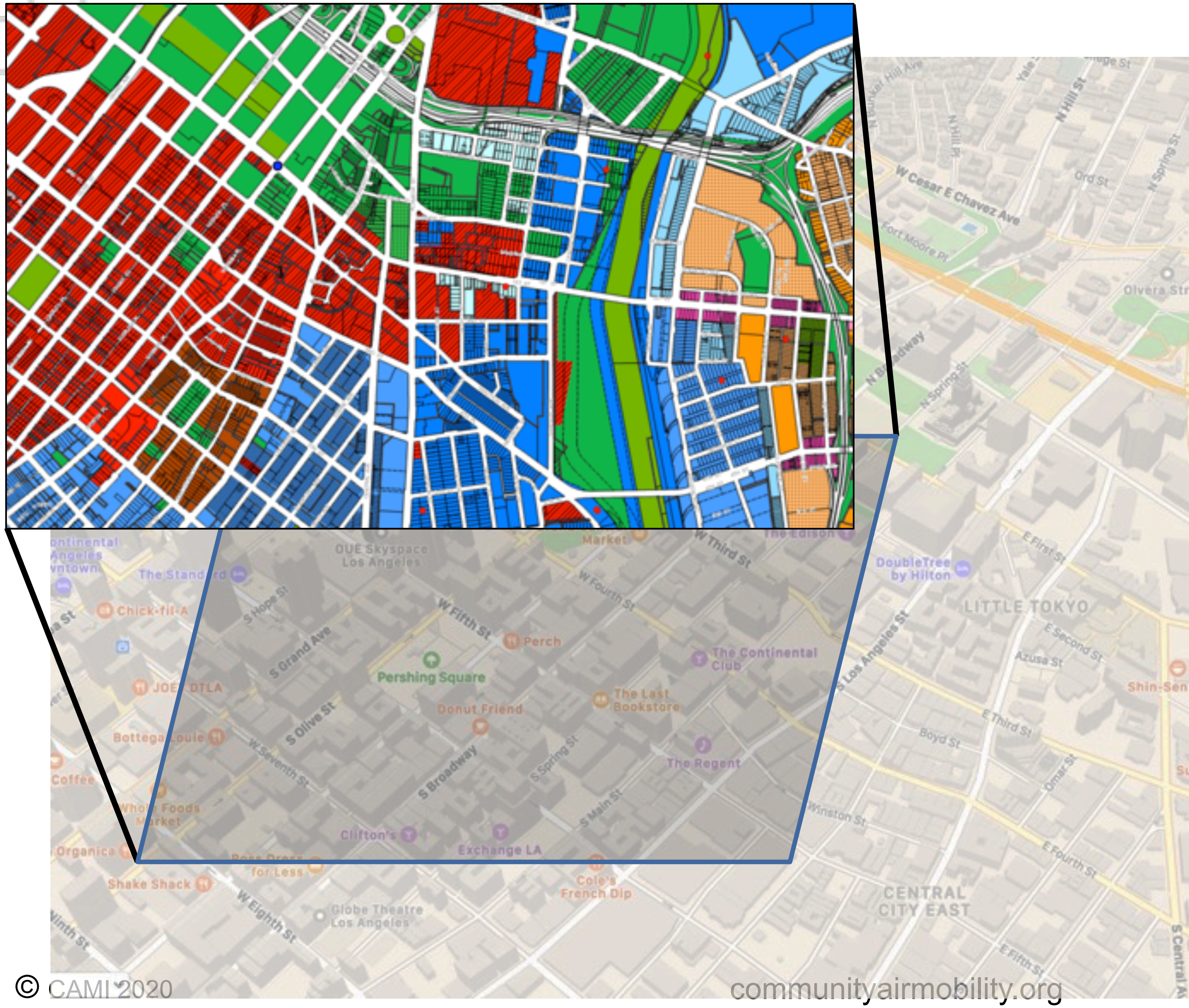




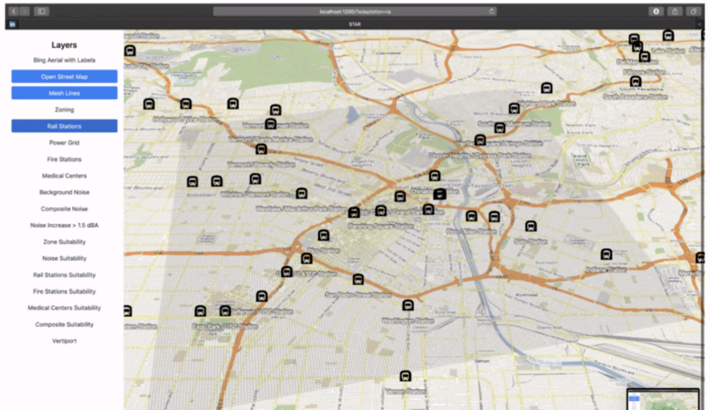


Land-Use, Landings & Takeoffs

A15E-10



NASA Tooling



Attributes, a_i: zoning, train stations, power grid, fire stations, hospitals, noise (plus others like Airspace, ground congestion, etc.)

5

CAMI Community Air Mobility Initiative

Classification of Vehicles

A15E-10

Frequency

10 - Landing / Takeoff Events per hour

XX - Prohibited

NULL - Unlimited

Energy Class

E - Electric

P - Petroleum

Vehicle Weight Class (mass / 100)

05 - 500-599 lbs

25 - 2500-2599 lbs

Urban Vehicle Class (A-F)

A - Quietest, most acceptable aircraft (Modern Car)

F - Most Offensive, least quiet vehicle (2-blade helicopter w open tail-rotor)

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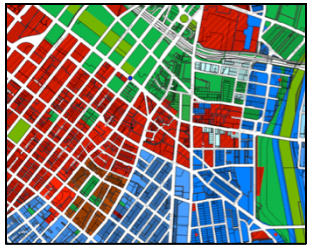
Land-Use Policy Making

Research, Public Engagement, and Outreach

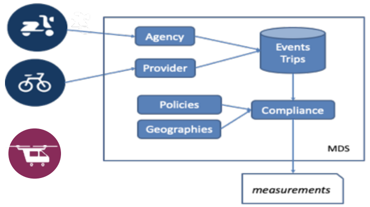
Framework

Land-Use Policy



Landing & Takeoff

Permitting

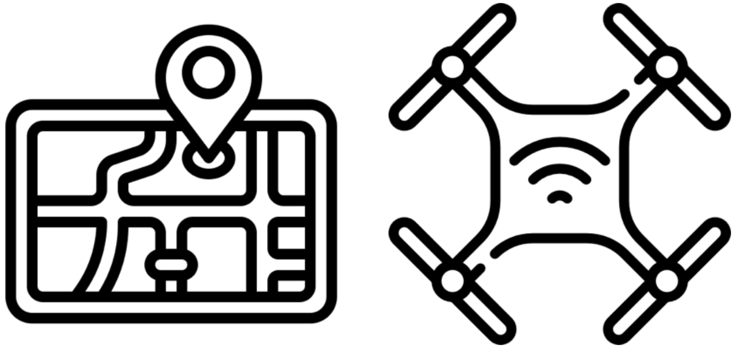


Digital Tools

How will it work?

City Policy & Planning

Digital Policy Tools



UAM Operations & Regulations

How will it work?

1

Iyana lives in downtown LA and buys a product online

2

The Retailer contacts a shipper and notifies that a package is ready to be delivered

3

The Shipper dispatches a Class A vehicle to the landing zone in compliance with Land-Use Policy

The FAA
Monitors the flight en-route ensuring the vehicle is safe

The Mayor issues a policy directing public / private partnerships to co-invest in UAM infrastructure

A City Planner determines where to place this infrastructure and authors a **Digital Policy**

The package arrives at Iyana's location according to city policy

4

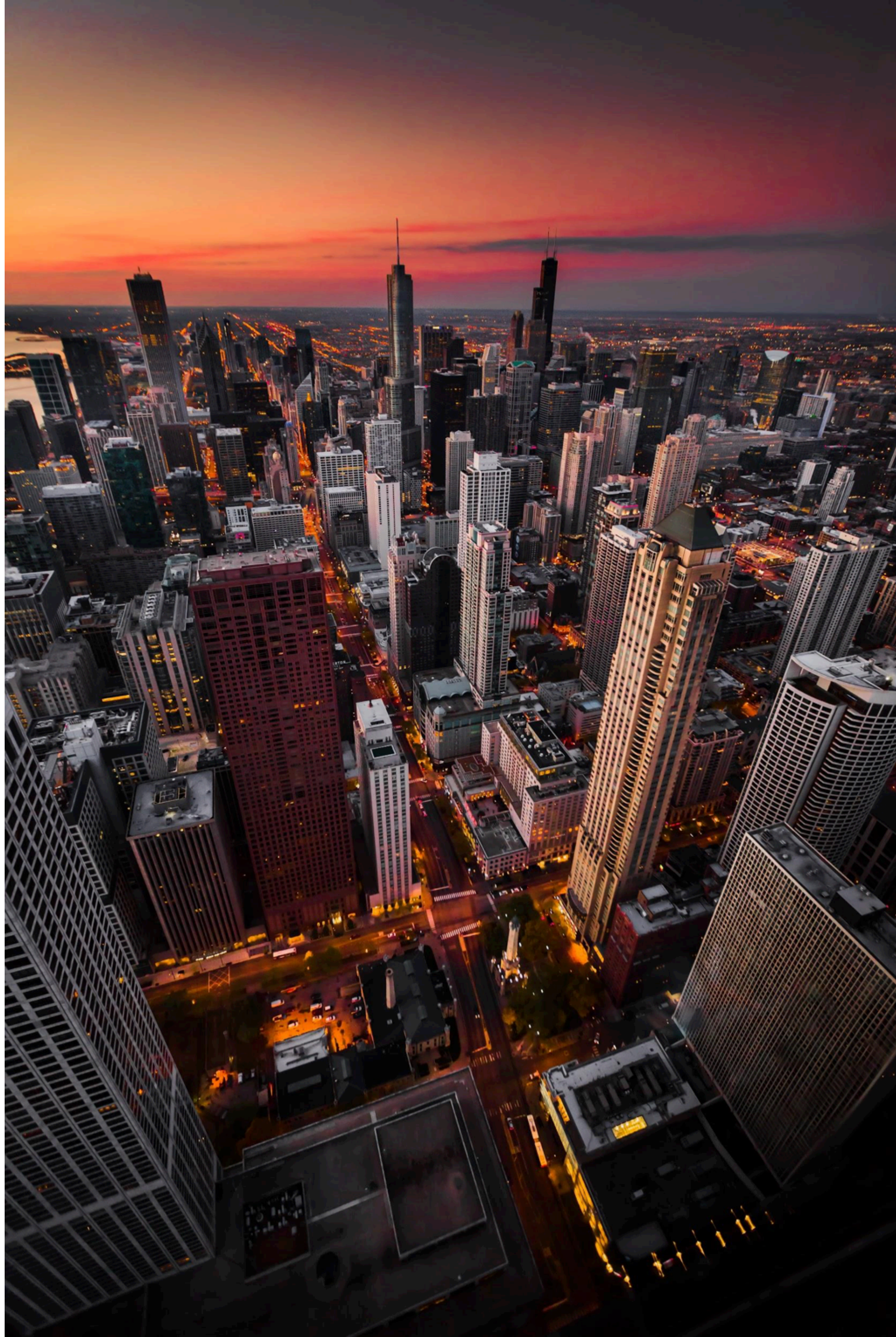
5

The Shipper was able to deliver the package safely and efficiently.

The city was ensured that the package arrived without disrupting neighbors

Parting Thoughts

- This future is still very much in development -- you're right on time
- Now is the time to make your voice heard
- Collaboration & Community Engagement is Key
- Decisions made today will impact the next 50+ years of planning practices
- Technology will be a catalyst

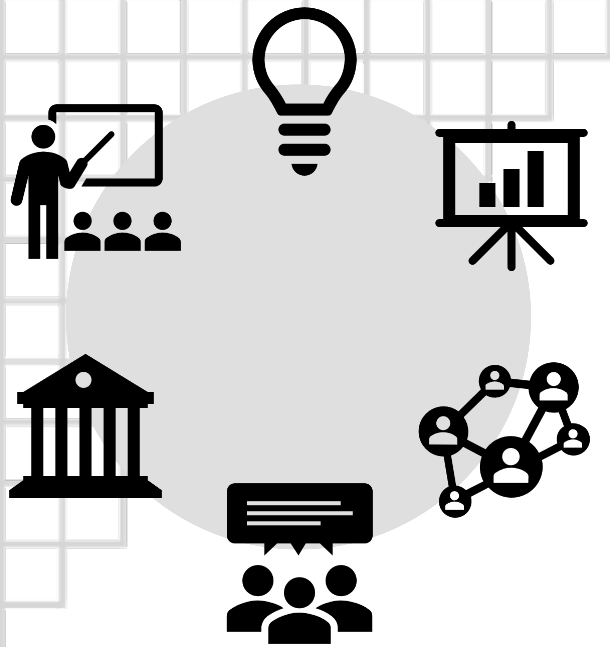


CAMI Community Air Mobility Initiative

CAMI’s Online Resources

- **UAM 101 videos**
- **Why We Need Advanced Air Mobility for our Cities (coming soon)**
- **Resource Library:**
  - **What is Urban Air Mobility?**
  - **Community Benefits of Urban Air Mobility**
  - **eVTOL Aircraft: What they are & why they matter**
  - **Urban Air Mobility Operations Overview**
  - **Legal Considerations for Urban Air Mobility Part 1: Aviation Law**

CAMI's 2020 Activities: Executing on our mission one year after our founding



- Online resource library
- UAM 101 half day workshop for state and local transportation leaders
- Over a dozen presentations at other symposia, conferences, working groups and meetings
- Participation in industry groups including UAM Coordinating Council, NASA AAM Working Groups, NASA / VFS TVF Working Groups, Cascadia Urban Air Mobility Group, WEF UAM Working Group
- Targeted audience webinars – APA, NASAO, etc.
- Topical deep dive webinars (coming soon)

CAMI
Community Air Mobility Initiative

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CAMI

Community Air Mobility Initiative

Supporting the responsible integration of the third dimension into our daily transportation needs through education and advocacy.

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