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Is Regional Aviation still underrated

McKinsey & Company

Regional Air Mobility

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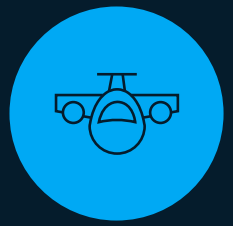
What is Regional Air Mobility?



Air transport of passengers & cargo

including CTOL, STOL, and eVTOL

5-50 passengers

Carried in smaller passenger aircraft

~150-800 kilometers

Leveraged in smaller regional airports and regional flights

Enabled by modern technologies

Such as green propulsion, digitization, and autonomy

The time for Regional Air Mobility is now…

Advancement in electric propulsion, batteries, AI & other systems

3x

Battery energy density improvement over the last 10 years

Serious concern over increasing share of emissions from transport

80%

Of the top 25 airlines globally set emissions reduction targets

Ground infrastructure has not kept up with traffic growth

200+

major airports worldwide, handling 43% of passengers, are capacity constrained and routinely

Worldwide acceptance of mobility as a service

~$125B

Global market for e-hailing, and has the 3rd largest total vehicle size compared to other forms of transport

Regional air mobility use cases

Illustrative examples in California

New point-to-point flight networks utilizing smaller airports

Short feeder flights to major airports

Electric conventional takeoff and landing (eCTOL) on existing commercial routes

What needs to happen to unlock this market?

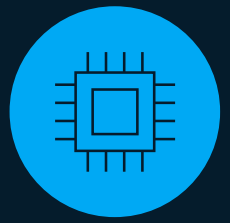
Seamless end-to-end customer experience

Simple booking process

Airport proximity

Frequency

First / last-mile integration



Continuous technological advancement

New propulsion and energy storage

Lighter materials

Advanced simulation/ AI-enabled design

ATM and UTM

Increased public acceptance

Acceptance of autonomy/ semi-autonomy

Neighbours accept more flights at small airports

Reduced noise footprint

Airport & energy infrastructure

Hydrogen and electric charging infrastructure

Green electricity

Green hydrogen fuels

Regulatory

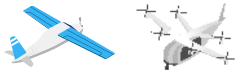
Certification of new technologies

Certification of autonomous ops

While advanced air mobility can save customers time, leaders will need to solve several 'hassle factors' that favor journeys by car

Illustrative comparing 200-mile journey by car vs. AAM

Car



Regional Air Mobility

Trip time

Moderate times savings of 1-2 hours with RAM

Price

Significantly lower average cost per mile for car

Schedule flexibility

Can leave by car at any time, although traffic could be constraint

Planning complexity

Single mode reduces complexity for cars, although required to account for construction and traffic

Reliability

Lower system complexity for automotive drives fewer cancellations

Predictability

Higher risk of traffic and mid-trip delays in car

Mode changes

No mode changes when driving

1. Per passenger based on a 500-mile average stage length.

Source: Expert interviews, McKinsey Center for Future Mobility