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Could Urban Air Mobility Enable Growth In Latin American Cities?

[Graham Warwick](#) June 09, 2020



“Urban geodesic” flight lanes connect vertiports at low altitude, staying clear of controlled airspace.

Credit: Varon Vehicles

One size may not fit all when it comes to urban air mobility. As different regions of the world recover from the COVID-19 crisis in different ways, the market for air taxis could evolve in different directions.

If working from home continues after the novel coronavirus pandemic subsides, some market observers contend, then gridlock could be slow to return to the streets of the most congested U.S. cities and demand for urban air taxis could be delayed. But the same might not hold true outside the U.S.

- Vertiports are also hubs for energy, real-estate and data
- “Urban geodesic” of low-level flight lanes links hubs

A Colombian startup paints a different picture of the need for urban air mobility (UAM) in Latin America, where the safety and security of travelers, and governments’ inability to rebuild crumbling infrastructure and grow their cities, could be the major drivers.

“How UAM is being worked in the U.S. will not be able to be replicated in Latin America. There are many reasons that have to do with city infrastructures, government capabilities and society paradigms,” says Felipe Varon, Bogota-based founder and CEO of Varon Vehicles.

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“All of these differences impact the vehicle performance that we are looking for, the airspace integration architecture that we need to develop,” he says. “It impacts the vertiport design.” Bureaucratic, regulatory and even climate conditions are also different outside the U.S.

“We were looking at how to overcome those barriers, and we knew that the way to do it was to begin implementation outside the U.S.,” Varon says. “We knew the answer was to walk that same learning curve we all have to . . . to make these things safe. . . . [But starting] the walk outside the U.S. was going to be better, faster and cheaper.”

Varon says the startup was invited by a European country to implement its UAM system there but instead saw the “huge” advantage of starting in its home country. “We are implementing our first infrastructure hub in Colombia with the support of the government and the aeronautical regulators,” he says.

“It’s faster to do it here, and it is definitely cheaper to do the certification process, flight testing, all the way into service,” Varon says. “So it’s that same learning curve. We are not going to cut any corners because safety is a priority, and the perception of safety is equally important. It has to be achieved.”

The startup is not developing a UAM vehicle. Instead it is offering a transportation system that consists of vertiports connected by defined, permanent low-altitude flight lanes along which vehicles can fly without burdening air traffic control.

“The vehicles are tools to achieve a goal,” Varon says. “The real business is an urban business. It’s a mobility issue. And the mobility problem in the U.S. and the developed world is entirely different from the mobility problem in the developing world.

“In the U.S., the mobility issue is reduced to the traffic problem—the loss of time,” he says. “Here we have the same problem, but with a whole bunch of other layers on top of that. We have pollution. We have the inability of governments to renew defective infrastructure. We have criminality. In a nutshell, it is really much worse here than in the U.S.”

There is also the difference in scale. In the San Francisco Bay Area, for UAM to make sense, Varon says, trips need to be 50-60 mi. Bogota, one of the biggest cities in Latin America, is just 15-16 mi. across but it can take 2.5 hr. to cross the city, he says.

“With the network we need to lay out, the longest trip between vertiports is going to be 6-8 mi.,” Varon says. “That impacts the performance that we require from the vehicle. It impacts the airspace integration architecture, the maintenance cycles, the design of the vertiports.

“That’s why you cannot replicate UAM from the developed world in the developing world,” he says. “And that’s why we are being supported by our government. Because they have realized they can lead the world in creating a solution to a problem that is endemic to us.”

Varon’s approach is to use UAM to create an infrastructure business that has four pillars, one of which is transportation. The others are energy, real estate and data, which would also generate revenue streams for the business. The startup’s plan is to franchise the infrastructure hubs.

“The reason we take this high-level view is because our overall pitch is about city growth,” Varon says. Vertiports can be located outside cities to alleviate the growth pressure. “Especially in Latin America, where governments are not able to provide that connectivity with rail or metro systems, we can provide a way to generate growth in the surroundings of cities without the need for physical infrastructure,” he adds.

The vertiports or infrastructure hubs “are where the magic happens,” Varon says. Commercial and retail space and housing development at and around these hubs will drive the real estate business, while the energy generation, transmission and storage needed for UAM can also supply the local community. Weather, passenger and other data gathered during UAM operations also have value, he says.

Likening what his company is doing to “bringing the burger together with the french fries and drink to make the first McDonald’s,” Varon says the startup has entered the construction phase for its first UAM infrastructure in Colombia. “Our plan is to be operating within the next five years. That’s our first McDonald’s,” he says.

Having launched its seed-financing round, Varon is talking to UAM vehicle and subsystem manufacturers, presenting its argument that working with Colombia could offer a quicker route to certification and operation. “We don’t have the answers to all the questions,” Varon says. “But we do have a clear idea of where we need to go and why we need to go that way.”



Graham Warwick

Graham leads Aviation Week's coverage of technology, focusing on engineering and technology across the aerospace industry, with a special focus on identifying technologies of strategic importance to aviation, aerospace and defense.



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