

# The Elusive Flying Car

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For nearly half-a-century, research and development firm, Moller International has been trying to develop a *vertical takeoff and landing* vehicle—a flying car. Moller imagines all kinds of uses for their so-called Skycar: personal transportation, air taxis, and emergency services...just to name a few. Moller's most recent prototype, the Skycar M400, looks like an elongated sports car fused with four oversized jet engines (two in the rear, and two in the front). Its rotary engines turn upwards to lift the vehicle off the ground and then rotate to provide forward thrust for cruising.

According to Moller's general manager, Brian Calkins, "The fundamental technical challenges are all pretty well satisfied at this point. "

Yet, video demonstrations have shown their prototypes barely hovering above the ground while tethered to a crane.

"I don't see them delivering what they have promised," says Pete Yost, a veteran aeronautical engineer and Senior Member of the American Institute of Aeronautics and Astronautics. "If you talk to other people in the aerospace community, they'll say probably the same thing.

"Boeing has been working on VTOL technology for over 20 years and they have had crashes and things like that. And they have spent millions and millions of dollars. You need some pretty sophisticated computer systems to control the engines, stabilization, and the transition from vertical to horizontal flight."

But even if the technology worked, Moller would have to deal with the Federal Aviation Administration.

Legend has it that during the 1950s Ford Motor Company launched a feasibility study on the demand for flying cars. But, supposedly, the FAA asked Ford to drop the project due to the limited air traffic control capabilities of the day.

Since then, NASA and the FAA have been developing the next generation in air traffic control computer systems. Their "highway in the sky" could accommodate exponentially increased air traffic for years to come.

Moller believes this technology could easily accommodate the Skycar. But it seems the company has overestimated the real-world applications of this technology.

“You wouldn’t be able to just take off and land anywhere you please,” says Yost. “In fact, helicopters, even though they can technically takeoff and land anywhere, are restricted in where they can fly and land.”

Yost believes that the closest we may ever get to achieving a flying car is with something like Terrafugia’s Transition—an aircraft with wings that retract so it can be driven on the road. It can’t takeoff or land vertically so it needs a runway. And you need a pilot’s license in order to fly it. So really, it’s not so much a flying car as it is a plane that can be driven short distances like a car. (Presumably for recreational pilots who want to park their aircraft in their own garage.) Hardly the kind of awe-inspiring vehicle dreamers and futurists had in mind. But it really can fly and it’s practical.

“With VTOLs, “ says Yost, “if there’s power loss or engines failure, you’re going to drop like a rock. But, with a roadable aircraft, if the engine fails you can still land the plane.”

It seems the flying car has no place outside of our dreams. There are simply too many reasons for it to fail and few reasons for it to succeed. Sure, we would like to have flying cars, but we don’t need them. Modern day ideas and technologies have already surpassed our dreams.

After all, why fly to work when you can work from home? Why build sky highways when we could build pedestrian friendly cities and reduce urban sprawl? And why fly to Europe when you can ride a train?

Yes really, a few years ago retired MIT researchers Ernst Frankel and Frank Davidson proposed that magnetic levitation technology could allow people to travel from New York to London in the time it takes to watch a television sitcom. And we really do have the technology to build such a transcontinental maglev system today.

Such an undertaking wouldn’t be unheard of: There’s already the underwater Channel Tunnel between England and France. And Russia is planning to build a \$60 billion, 2700-mile tunnel between Siberia and Alaska for delivering oil and natural gas.

So you’ll probably ride a supersonic train across the ocean before you ever step foot in a flying car.