Skip the Traffic: Fly Your Car
A User’s Perspective

Wednesday October 11, 2017 | 3:30 pm - 4:30 pm

PRESENTED BY:
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Samson Switchblade Owner
Switchblade Demonstrations
Where’s My Flying Car
Skip the Traffic: Fly Your Car, A User’s Perspective

Why would anyone want a flying car – The practical reasons?

• Benefits of Point to Point Travel
• First Response – Helicopter/Vertical lift Vehicles
• What is in a Name?
• Dual Use – Safety Considerations
• My Choice
• What it will take to be fully implemented
• Future
Benefits of Point to Point Travel

Avoiding Traffic

In heavy traffic if just 4% of the vehicles could be removed the speed of the remaining vehicles in traffic could double.
Benefits of Point to Point Travel

Avoiding Road conditions

Tolls and Pot Holes
Benefits of Point to Point Travel

Better Efficiency

- Less wasted time and fuel
- Reduced travel limitations

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<th>Private Driving</th>
<th>Private Air</th>
<th>Rental Car</th>
<th>Commercial Air</th>
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Benefits of Point to Point Travel

Business Use:

- Easier and more efficient to visit clients or work sites
- Taking advantage of the best of new technology
- Lower acquisition cost, Useful for smaller businesses
- Impressive
Benefits of Point to Point Travel

Personal Use:

• Live where I want despite the distance
• Travel further and faster to the places I want to visit
• No TSA lines, delayed or cancelled commercial flights, no need for a rental car
• Travel on my schedule, whatever that may be
Benefits of Point to Point Travel

Examples:

Mojave to Burbank to Apple Valley and back – Shopping and a movie in LA
Total Driving Time: 4 hours 35 minutes
Total Distance: 263 miles
Total Flying Time: 1 hour 10 minutes
Total Distance: 170 nm
Million Air at Burbank to Fry’s Electronics:
Driving Distance: 2.4 miles one way
Driving Time: 7 minutes one way
Totals: 4.8 miles and 14 minutes

Apple Valley Airport to Red Robin for lunch then to AMC Theater for a movie then back to Apple Valley Airport
Driving Distance: 25.2 miles
Driving Time: 43 minutes
Benefits of Point to Point Travel

Examples:

St. Mary’s Airport to Ocean City Airport in Maryland
One Way Driving Time: 3 hours 30 minutes
One Way Distance: 176 miles
Toll: $4.00
One Way Flying Time: 0 hour 31 minutes
One Way Distance: 67 nm
Toll: 0
Benefits of Point to Point Travel

Examples:

St. Mary’s Airport MD to Brandywine Airport PA (West Chester, PA – American Helicopter Museum)
One Way Driving Time:
3 hours 18 minutes

One Way Distance:
175 miles

Toll: $4.00 - $11.00

Traffic on I-95?
One Way Flying Time: 0 hour 54 minutes
One Way Distance: 111 nm
Toll: 0
Traffic: Bypassing DCA and some maneuvering around PHL.
First Thought – Helicopter/Vertical lift Vehicles

Pros:

• Truly Point to Point capable
• Only need a spot to land, not a runway
• Tilt rotor design offers greater forward speed.
First Thought – Helicopter/Vertical lift Vehicles

Cons – Limitations:

- Weather dependent – VFR for most operations
- Small with limited weight carrying capability
- Rotor effects
- Generally lower forward speeds and lower altitudes
First Thought – Helicopter/Vertical lift Vehicles

Vehicles in Development:

- Versions of Tilt-Rotor – XTI Aircraft
- Distributed Electric Propulsion - Lilium
- Uber-Elevate
- AirBus
- Same Weather plus Power Limitations
What is in a Name?

Impact of Terminology

• Aircraft
• Car
• Something else
What is in a Name?

Flying Car

A type of personal air vehicle that provides door-to-door transportation by both ground and air. (Wikipedia) Can be used every day.
What is in a Name?

Roadable Aircraft

A hybrid vehicle that combines the flying capability of an aircraft with the option of being driven as an automobile on the ground. The roadable aircraft is typically recognized as a small plane with retractable wings that has both the freedom to fly in the open sky and drive conveniently and flexibly along roads. Most roadable aircraft fall into one of two styles: integrated (all components can be carried in the vehicle, or on a trailer attached to the vehicle), or modular (some aeronautical sections are left at the airport while the vehicle is driven). (Wikipedia) Primarily a flying vehicle but be on the road for that “last mile” between the airport and the destination.
What is in a Name?

Multi-Mode Vehicle

Looks and feels like a high performance ground vehicle that transforms to look and feel like a high performance air vehicle. (The Samson Switchblade – The First Flying Sports Car.)
What is in a Name?
Impact of Terminology
What is in a Name?

Impact of Terminology: Money – Taxes

- Aircraft have higher taxes and registration expenses.
- Aircraft have more concerns in being able to justify business use and depreciation.
- It will always be a car, just sometimes it drives in the air.
  - Cars are registered and taxed on the state level yet they are a valid expense on federal tax forms.
  - Aircraft N numbers are registered on the federal level. The car would not be left on the airfield where some would find it and consider it an aircraft.
- Multi-Mode Vehicle, is that like an SUV? Yes, it can handle all types of terrain, it just does it by flying over it. SUVs were first categorized as trucks since they were built on truck frames. The Switchblade is a three wheeled motorcycle, which happens to be able to fly. Motorcycles often can use HOV lanes without the same restrictions or cost as four wheeled vehicles. N number only exposed during flight operations. It still has a license tag.
Dual Use – Safety Considerations

To Fly or To Drive
Dual Use – Safety Considerations

To Fly or To Drive

• What is safer in this situation, to fly or drive?
  – Backed up traffic, poor road conditions, etc. – Fly
  – Bad flying weather – Drive
Dual Use – Safety Considerations

To Fly or To Drive

• In flight decision making:
  – Great weather – continue to fly
  – Deteriorating weather – push through it or land and drive through it.
My Choice

• Motive: Avoid Traffic, Pot Holes, and Tolls

• Advantages Desired: Point to Point Travel, Flexible Use, Travel on my schedule, Faster than driving, Range, Fuel economy

• Price vs Time: Availability of vehicle at an acceptable price

• Options considered:
  – Helicopter – Mosquito/Swift home built
  – PAL-V – Motorcycle/Gyrocopter, production model only purchase
  – Samson Switchblade – home built, builder assist program, price, flexible operations, engineering priorities, access and availability of manufacturer, expected high performance operation in both ground and flight modes, uses auto-gas vs av-gas, Three wheeled motorcycle – HOV lane use, no FAA or DOT waivers required, looks good, legally requires a runway.
What it will take to be fully implemented?

• Capability
  – True Point to Point operations
  – Airspeed at least Two to Three times the speed on the road
  – Payload with fewer trade offs
  – Integrate into any airspace desired: Uncontrolled to fully IFR.

• Acceptance
  – Price
  – Appealing appearance
  – Safe
  – Mass Production and availability
  – Easy maintenance
  – Easier access to enter National Airspace System
Future

- Propulsion Systems
  - Hybrid
  - anti-gravity (Flubber, Doc Brown, and Jetsons)
- Desired Capabilities
  - True All Weather Capability
  - Vertical Take-off and Landing
  - Faster
Possibilities

What may be the Next Best Option?