




Design Variables:  Models:  Constraints 

Minimize: *Distance to 50ft Clearance*

Subject to: *Thrust > Drag*
Lift > Weight

Propulsion Energy < Battery Capacity

Tip Mach Number < Max Tip Mach

SPL < FAA Regulations

cl Distribution < max cl Distribution

Tip Separation > 0

Weight < MTOW

Range > Req. Range

Cruise Speed > Req. Cruise Speed

Composite Strain < Tsai-Wu Failure

Composite Stress < Buckling Stress

Blade Local α < Blade Airfoil Stall α

