“Once you have tasted flight, you will walk the earth with your eyes turned skywards, for there you have been, and there you will long to return”

Leonardo daVinci, c. 1480

Image Courtesy NASA
About PS&S

Northwestern

- Established 1962
- 295+ Professional Staff
- Full In-house Design Capabilities:
  - Architecture / Engineering
  - Land Development
  - Environmental / Energy-Utility
- Diverse Clientele:
  - Public & Private Sectors
- UAM Task Force Since 2019
Service Lines

ARCHITECTURE
INTERIOR DESIGN

SITE /CIVIL
ENGINEERING

STRUCTURAL
ENGINEERING

MEPF
ENGINEERING

ENVIRONMENTAL
ENGINEERING

ENERGY
SERVICES

Northwestern
Market Sectors

Education | Energy & Utility | Healthcare | Hospitality

Public | Real Estate | Science & Technology | Urban Air Mobility
UAM Core Team

- Experienced, Cohesive, Collaborative...Together
- Creative, Innovative, Passionate
- Extensive Relevant Design & Aviation Experience
- Team Designers Uber Elevate Los Angeles Vertiport 2019-20
- Principal Involvement, Industry Collaboration

Harry Ted Osborne, AIA
Sr Vice President
A/E Group

Charles Clauser, AIA
Sr Director, Architecture
UAM Lead

Jennifer Ganley, LEED AP
Project Manager
Architecture

Daniel Balto, AIA
Sr Director, Architecture

Blake Sherwood, AIA
Sr Architect, Architecture

Stephen Ewing
CRM, Energy Utility
URBANIZATION

CONGESTION

POLLUTION

DIMINISHED
QUALITY OF LIFE

TRAFFIC

STRESS

NOISE
RESHAPING THE CITIES OF TOMORROW...
Vertiport Concepts

Courtesy Varon Corp.
Industry Engagement

- NASA Transformative Vertical Flight Working Group Committees
- Member: Vertical Flight Society (VFS)
- Member: National Business Aviation Association (NBAA)
- Strategic Partners: Jaunt Air Mobility & Varon Corporation
- Strategic Partners: Five Alpha & HeliExperts
- Vertiport Infrastructure Panelists: VFS & Varon Think Tanks
- American Helicopter Museum & Education Center Board Member
- Advisors to NIA, SAAP, NARTP, ACEA at ACY
The Future of Air Mobility

- Aircraft & Systems Maturation
- Operational Regs & Certifications
- Vertiport Design Standards
- Airspace Regulations
- Air Traffic Control Corridors & Routing
- Utility & High-energy Electric Availability
The Future of Air Mobility

- Public Assurance / Acceptance | CAMI
- Local Zoning Ordinance Adoption
- Safety, Security, & 10⁻⁹ Reliability
- Industry Support
- Access For All
- Multi Mission
- Cleaner, Quieter

Northwestern

Courtesy Archer Aviation
Differences – Helicopters & eVTOL

HELICOPTER CHARACTERISTICS

PROS:
- High Payloads Possible
- Powerful Engines
- Vertical Takeoff & Landing
- Multiple Roles

CONS:
- High Noise Profiles
- Carbon-based Fuels
- Numerous Inherent Hazards
- Expensive to Operate

eVTOL CHARACTERISTICS

PROS:
- Distributed Electric Propulsion
- Zero Carbon Emissions
- Vertical Takeoff & Landing
- Multiple Roles for Aircraft Size

CONS:
- May Be Operationally Complex
- Low Payloads Currently
- Range Limited By Battery Capacity
- Requires High Energy Recharging
THE WORLD AWAITS...

THANK YOU

Northwestern