# September 21, 2022
# Transportation Interim Committee

UDOT
Keeping Utah Moving

# Advanced Air Mobility

Utah AAM Study

# Project Objectives

**SB-122, SB-166**


- Existing Infrastructure/Asset Documentation
- Comprehensive UAM/AAM Program/Process
- Policies and Regulations to Support AAM



# Advanced Air Mobility in Utah

- 2022 - Zipline Partnership with Intermountain HealthCare (IHC) for Household Medical Delivery
- 2022 - Walmart Partners with DroneUp to Start UAS Delivery in Utah

# Emerging Use Cases

Air Cargo

Passenger Air Mobility

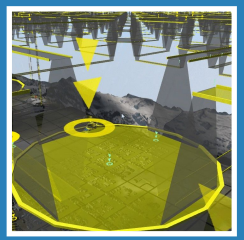

Emergency Services

# Building On Utah Research on AAM

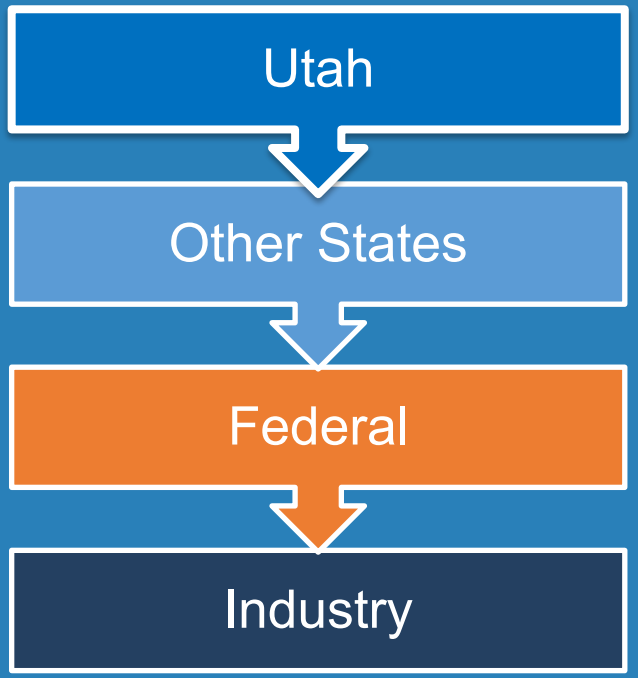

**Strategic Deployment of Drone Centers and Fleet Size Planning for Drone Delivery in Utah**


**Airports as Connected Activity Centers**


**Long-Range Urban Air Mobility Land-Use Planning for Vertiports**

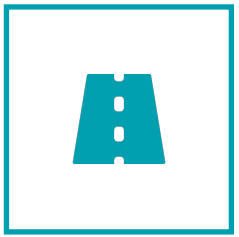


**AAM Corridor Simulation**



# Utah Advanced Air Mobility Study

Infrastructure & Planning



**What Complementary Infrastructure Currently Exists?**

**What Infrastructure is needed to make AAM a reality?**

**How to Achieve Utah's AAM Goals?**

UDOT Keeping Utah Moving

# Regulatory

## Potential Aviation Regulation

### Defining AAM

Consider Defining:

Vertiport

Aerial Transit Corridor

Unmanned Traffic Management

### Avigation Easement

Agreements with Property Owners to Ensure Safe Flight of Aircraft

### State Licenses & Permitting

Division of Aeronautics Licensing and Supervision of Vertiports

### Unmanned Aircraft Registration

Registration and Associated Fee Schedule for Unmanned Aircraft

### AAM Restricted Account

Unique Account Allowing Distinct Separation of Aviation Revenue and Expenditure Streams

# Regulatory

Potential General Regulations and Local Processes

- Zoning Language to Include Take-Off and Landing Operations
- Local Vertiport Overlay Zone
- Municipal Permitting and Business Licensing
- Stakeholder Innovation Task Force
- Encourage State and Municipal Agencies to Develop Innovation Incubators
- Municipal Land-Use Planning for AAM

# AAM Industry Timeline

## 2021-2022

- Initial Air Cargo Operations Certifications, Testing, and Evaluation for Passenger Air Mobility Aircraft

## 2023 - 2024

- Aircraft Type Certifications from FAA
- BVLOS for Air Cargo
- Air Cargo Operations Grow Across Regions

## 2025-2029

- Commercialization of AAM Operations
- Initial Vertiport Construction
- Initial Emergency Services Use Cases for AAM

## 2030-2040

- Multiple City Deployment of AAM
- AAM Integration for Ground and Air Services for Multimodal Transportation Solutions

# Phased Approach

## Phase I
**2-3 Years**
**Meet Current Demand**

- Community Engagement
- Unmanned Traffic Monitoring
- Weather Reporting & Monitoring

## Phase II
**3-5 Years**
**Ogden-Provo**

- Expand Infrastructure Capacity for Traffic Monitoring/Advisories
- Initial Vertiport Infrastructure

## Phase III
**7-15 Years**
**Wasatch Front**

- Aviation & Transportation Plan Development
- Traffic Management/Advisories for Airspace Above Wasatch Front
- Expended Vertiport Infrastructure

## Phase IV
**15-30 Years**
**Statewide Connections**

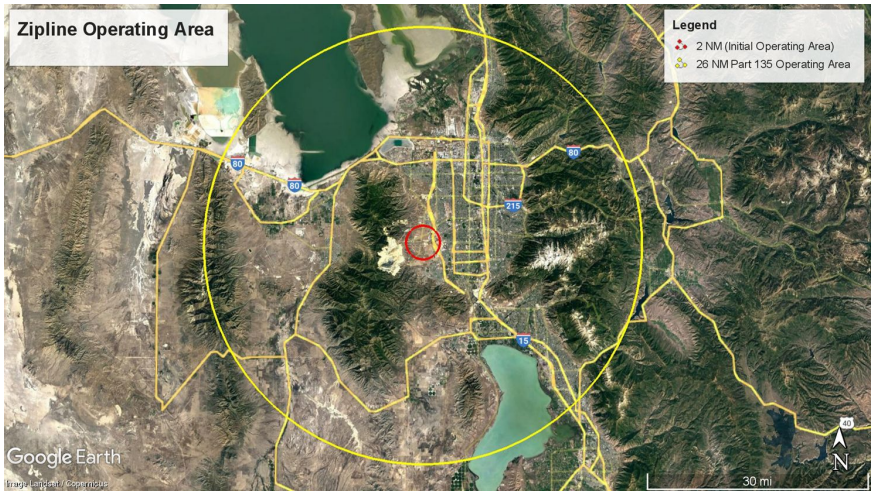
- Connecting Urban and Rural Communities
- Building Efficiency/Accessibility into the AAM System
- Energy Resiliency in Rural Areas/Underserved Communities

# Phase I

2 -3 Years

MEET CURRENT DEMAND

- Community Engagement
- Unmanned Traffic Monitoring
- Weather Reporting and Monitoring

# Phase I - Cost Estimate

$1.9m

**State Investment**

$3.6m

**Private Industry Investment Forecast**

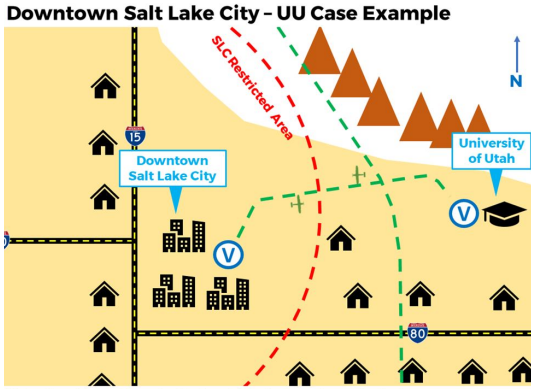
# Phase II

3-5 Years

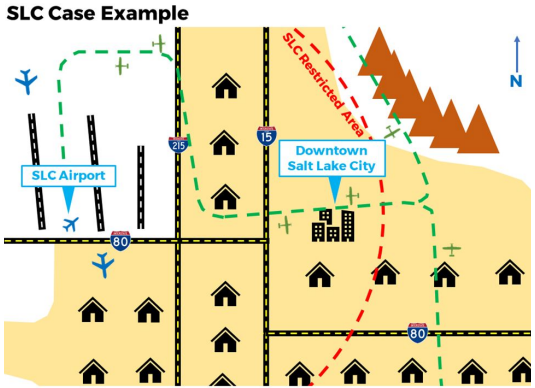
OGDEN-PROVO

- Expand Infrastructure for Traffic Management/Advisories
- Initial Vertiport Infrastructure

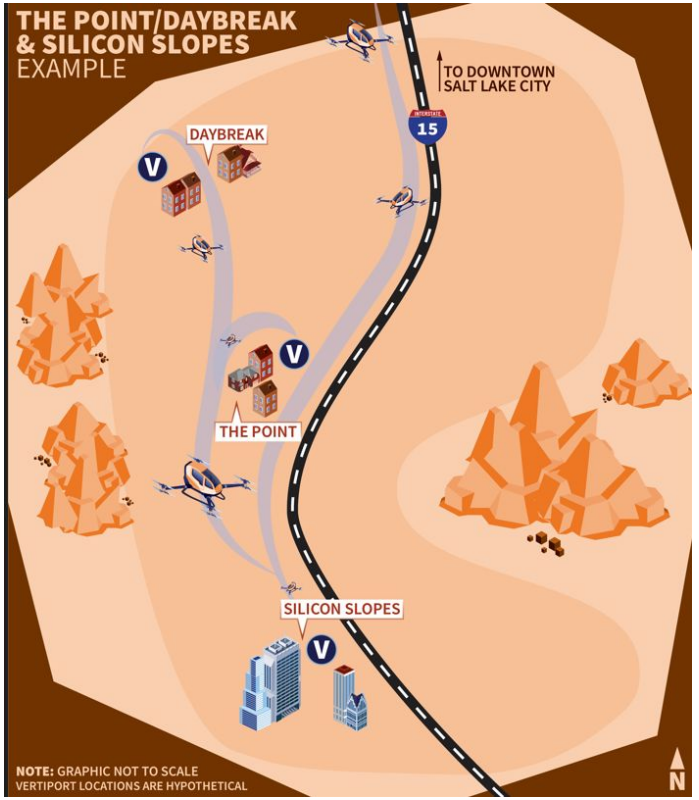
# Salt Lake Vertiport Considerations



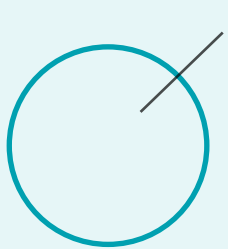

Note: Graphic not to scale. Vertiport locations are hypothetical.




Note: Graphic not to scale. Actual paths near SLC depend on runways in use.



# Phase II - Cost Estimate



$12.2m

State Investment

$52.5m

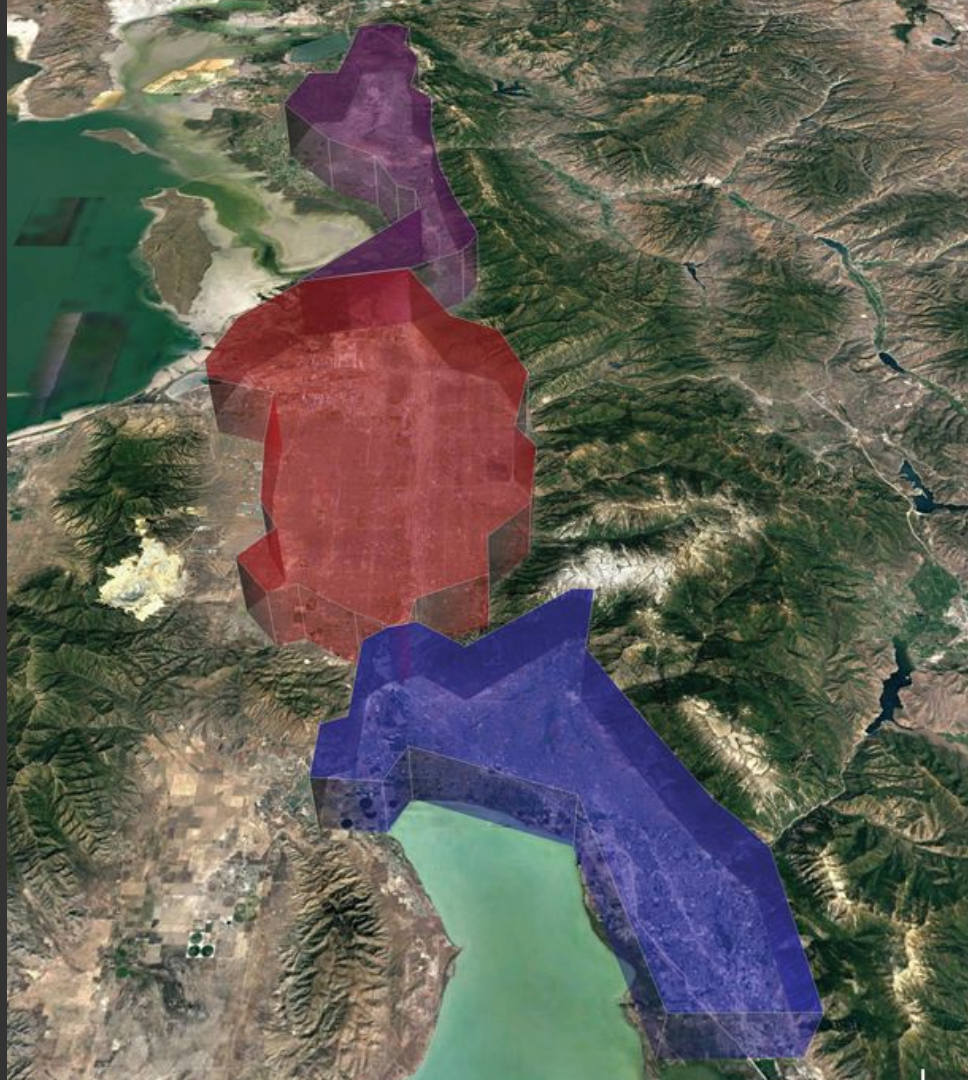
Private Industry Investment Forecast

# Phase III

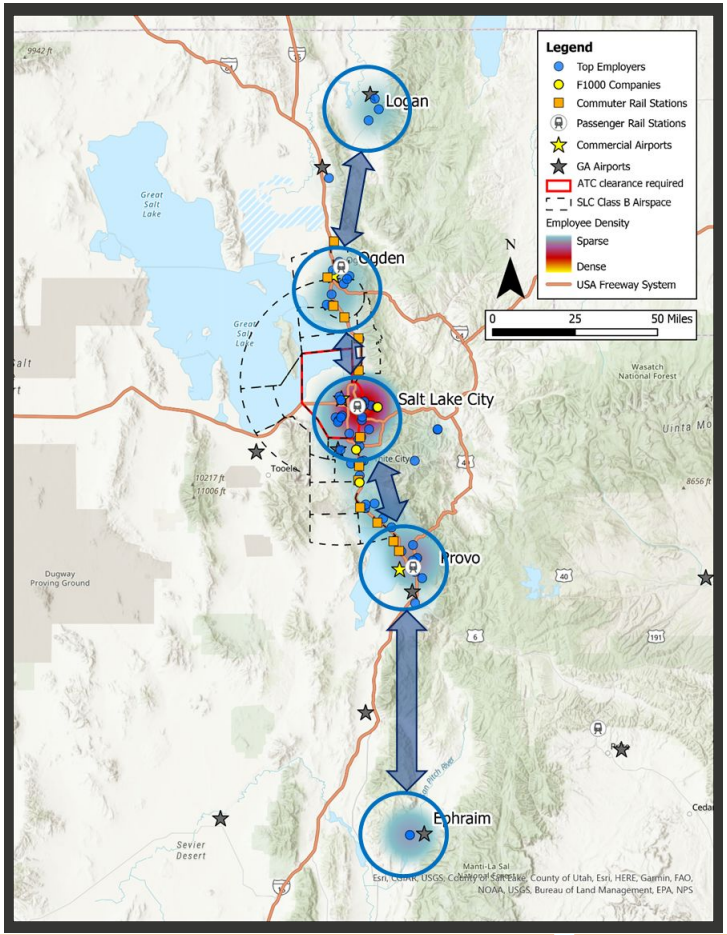
7-15 Years

**WASATCH FRONT**

- Aviation & Transportation Plan Development
- Traffic  Management/Advisories for Airspace Above Wasatch Front
- Expanded Vertiport Infrastructure



# Wasatch Front Aerial Corridor Considerations




Keeping Utah Moving

# Phase III - Cost Estimate

$22.3m

**State Investment**

$96.8m

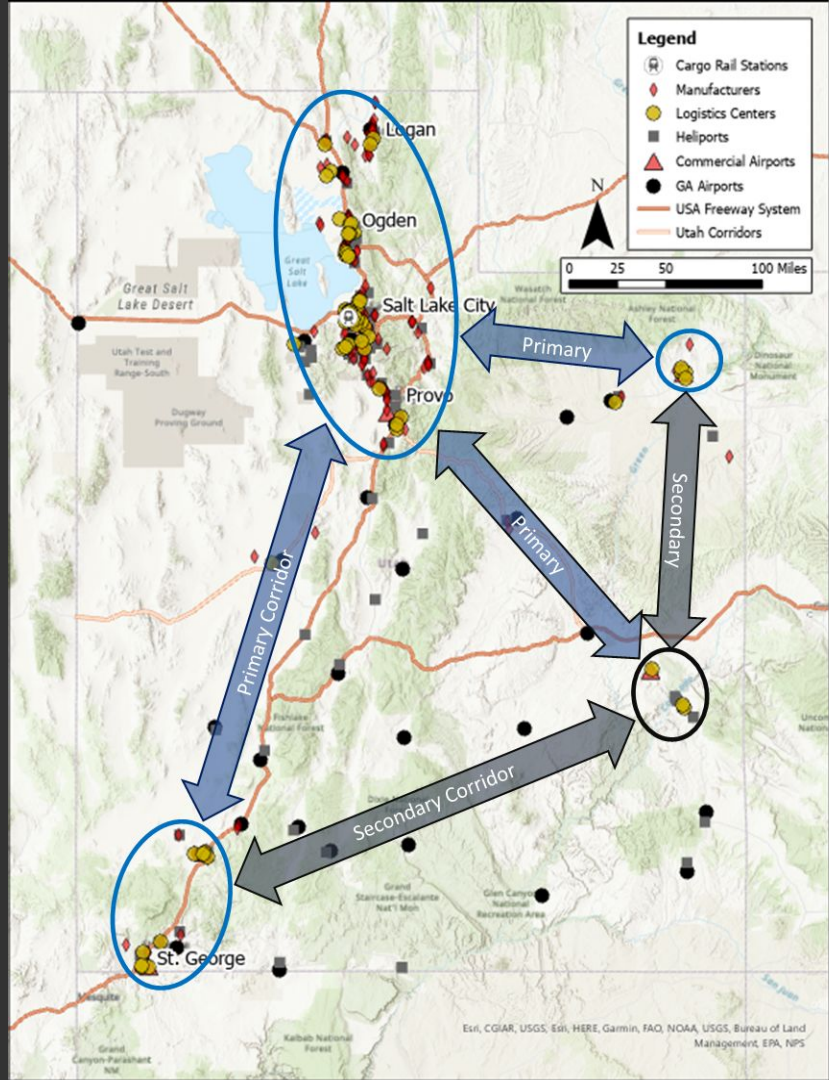
**Private Industry Investment Forecast**

# Phase IV

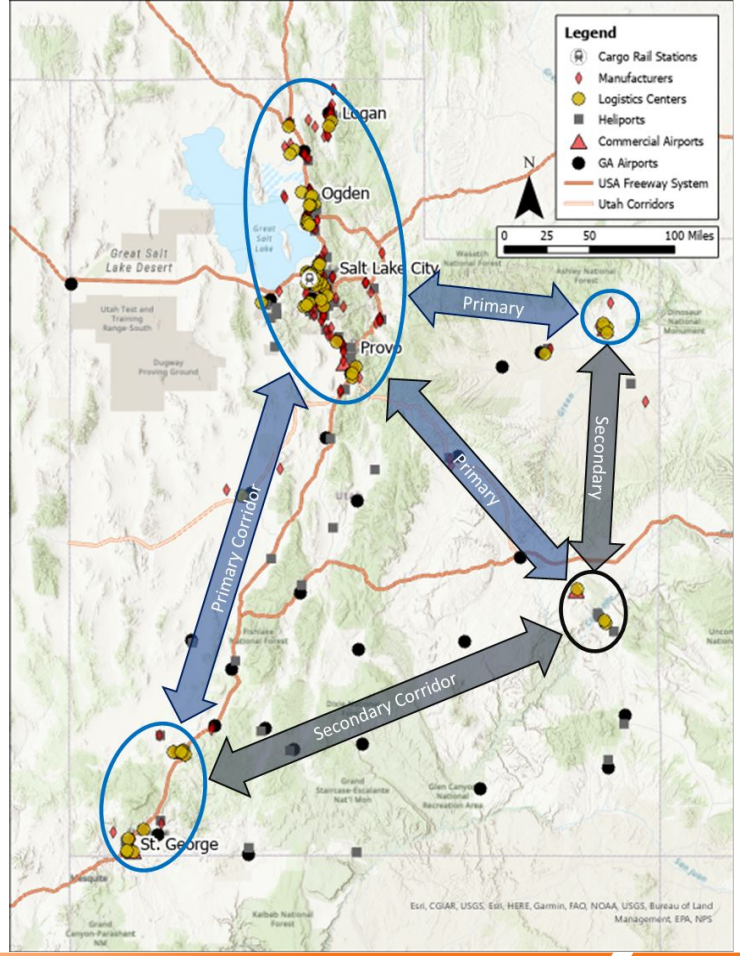
15-30 Years

**STATEWIDE CONNECTIONS**

- Connecting Urban and Rural Communities
- Building Efficiency/Accessibility into the AAM System
- Energy Resiliency in Rural Areas/Underserved Communities



# Statewide Aerial Corridor Considerations




Keeping Utah Moving

# Phase IV - Cost Estimate

131.4m

**State Investment**

297.2m

**Private Industry Investment Forecast**

# Key Take-Aways

1. Potential $1.3B Economic Impact for Greater Salt Lake Market -Phase 1 & 2
2. Greater Community Access
3. Positive Environmental Impact
4. Major Driver for Advances in Autonomy
5. Loss of Economic Development Opportunity
6. Reactive Rather than Proactive to AAM Aviation Policies and Investments

UDOT

Keeping Utah Moving