

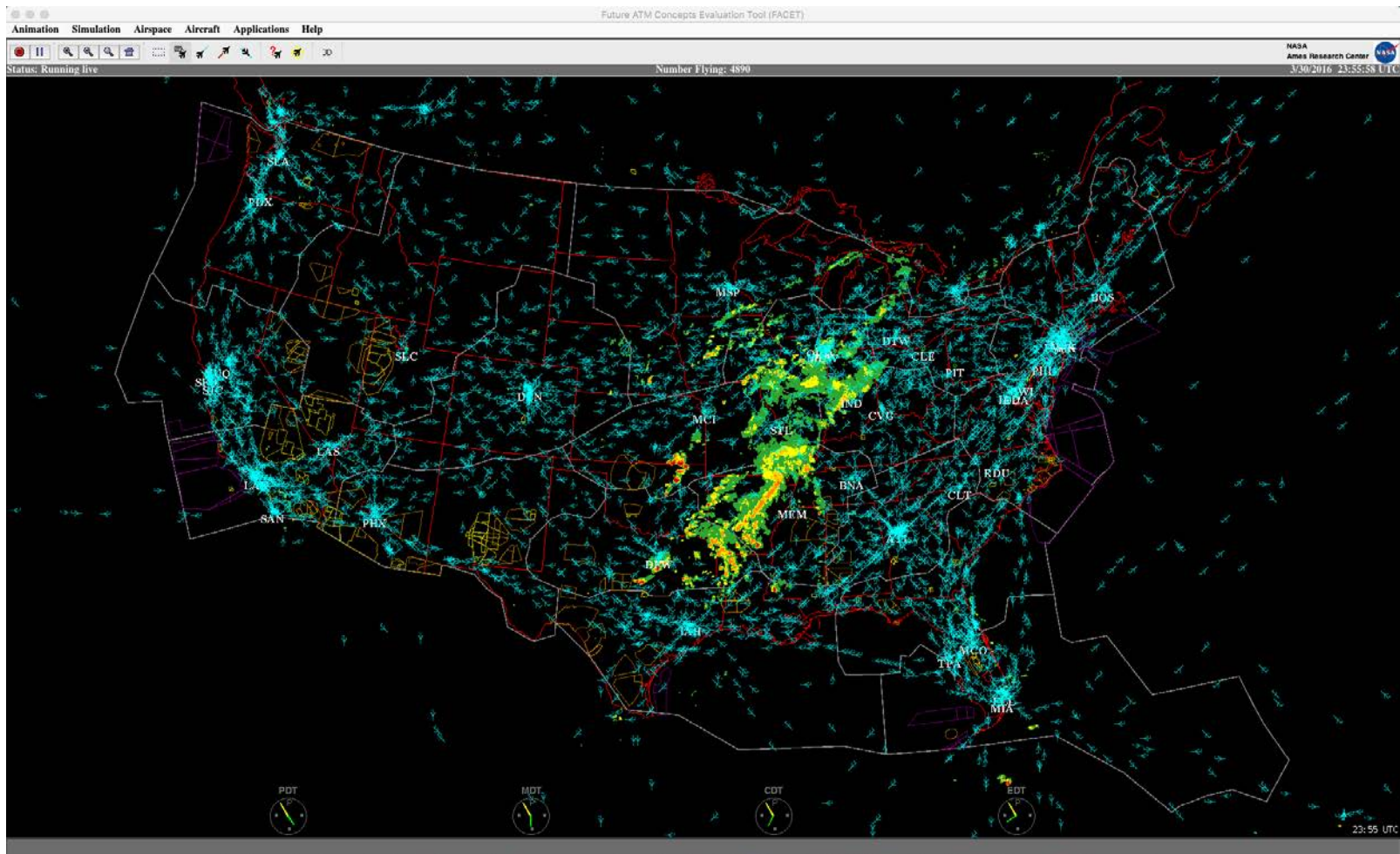


Urban Air Mobility (UAM) *Thoughts on Vertiports*

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Cascadia Urban Air Mobility Forum
Feb. 28, 2020

National Airspace System (NAS)



Conventional Traffic, Weather, SUA/TFR,
Dynamic Sectorization, TMIs



Urban Air Mobility

- Research - viability, infrastructure, safety and convenience, scalability, traffic management, and public acceptance
- Benefits - mobility, commutes and deliveries, and decreased congestion, emissions, and noise

NASA

- ATM-eXploration Project, UAM Sub-Project
- ConOps, Technical Challenges, Reference Implementations, Interoperability
- Series of simulations for UAM airspace management, high-tempo information exchange, connecting partners, and preparation for flight tests

Regional Modeling UAM Planning Tool

- Region/city and attributes selection
- Environmental, zoning, transit systems, hospitals, etc.
- Algorithmic aggregation of attributes
- Grid-based location suggestions and vertiport selection
- Route structure design (weather, noise, battery, etc.)
- Frequency/density impact assessment



Planning Tool (Continued)

- Properties
 - Environmental, demand, multi-modal
 - Open source
 - Open architecture
- Needs
 - Attribute selection
 - Tool structure/design
 - Demand profiles

We're on our way!

Layers

Bing Aerial with Labels

Open Street Map

Background Noise

Composite Noise

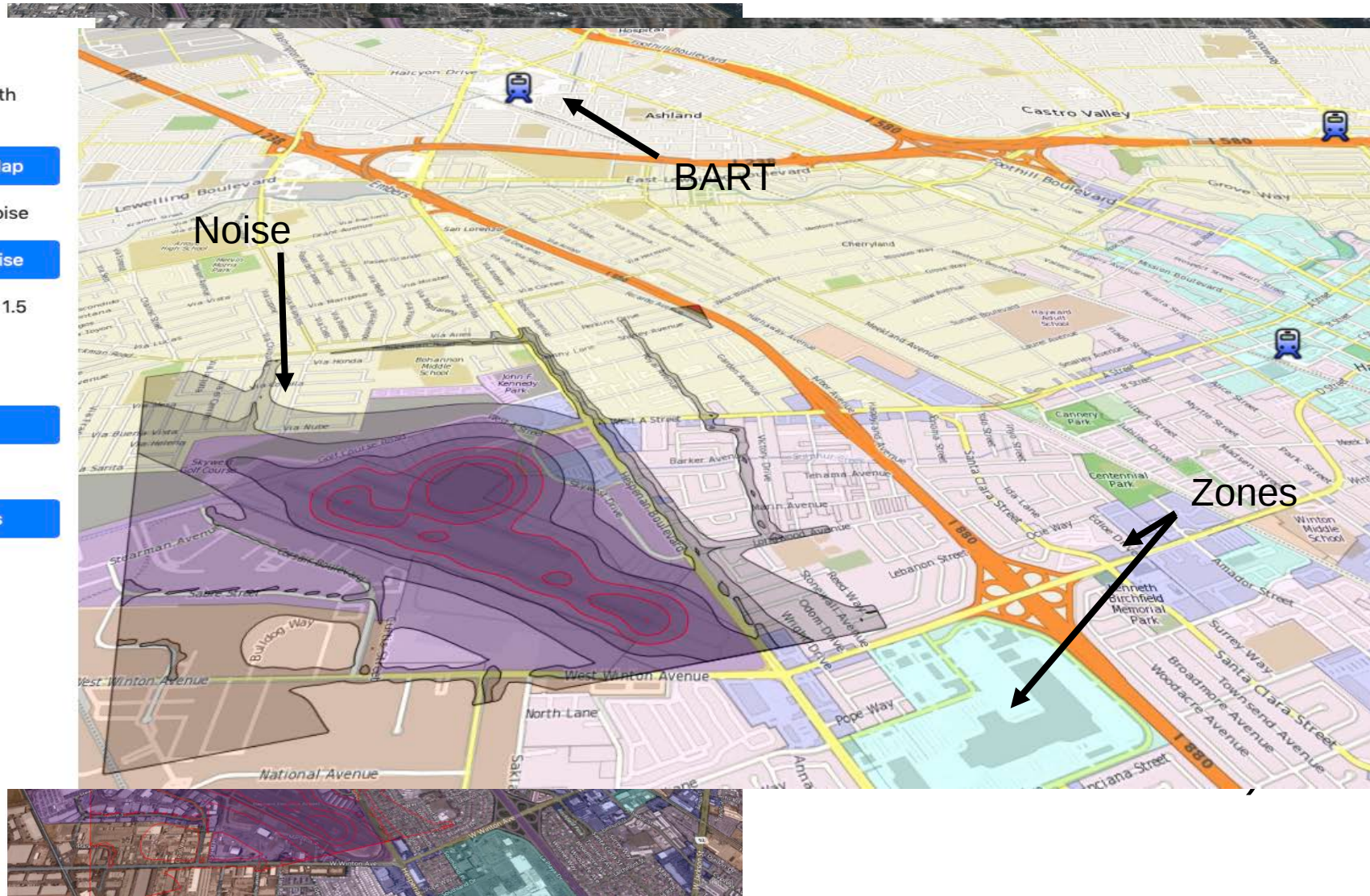
Added noise > 1.5 dBA

Vertiports

Zoning

Feasibility

Rail Stations





Demo

(Kapil.Sheth@nasa.gov)



- industrial, commercial, residential, downtown, open space, airports, mixed use
- BART, CalTrain,
- Distance to BART
- Parameters for the vertiport
- Animate pictures
- Aggregation function, Criteria used to aggregate with a weighting function