

Next-Gen Flight Procedure Analysis: Design vs. Real World Realities

The background of the slide is a detailed flight procedure diagram. It features a network of white and green lines representing flight paths, waypoints, and holding patterns. Several waypoints are labeled with alphanumeric codes and aircraft types, such as 'COA612 061 B737', 'LOF5414 049 E145', 'COA186 043 B752', 'BTA3311 038 AT43', and 'COA260 018 MD80'. The diagram is overlaid on a dark blue background with a grid of dashed lines.

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PDX RNP Approach Project



Catalyst: Port's decision to decommission the PDX-VOR

Problem: FAA had numerous flight procedures tied to the PDX-VOR



RNP Project Influences

FAA Priorities

Categorical
Exclusion

Minimize
Development
Time

Maximize
Efficiency

Airport Priorities

Calculate
Environmental
Impacts

Analyze all
Flightpath
Alternatives

Quantify Noise
Impacts to
Community

Boeing Priorities

Reduce Aircraft
Environmental
Footprint

Validate
Performance
Models

Collect Real
World
Operations Data

Boeing – Airport Collaboration Goals

Leverage Unique Expertise

Seamless Information Exchange

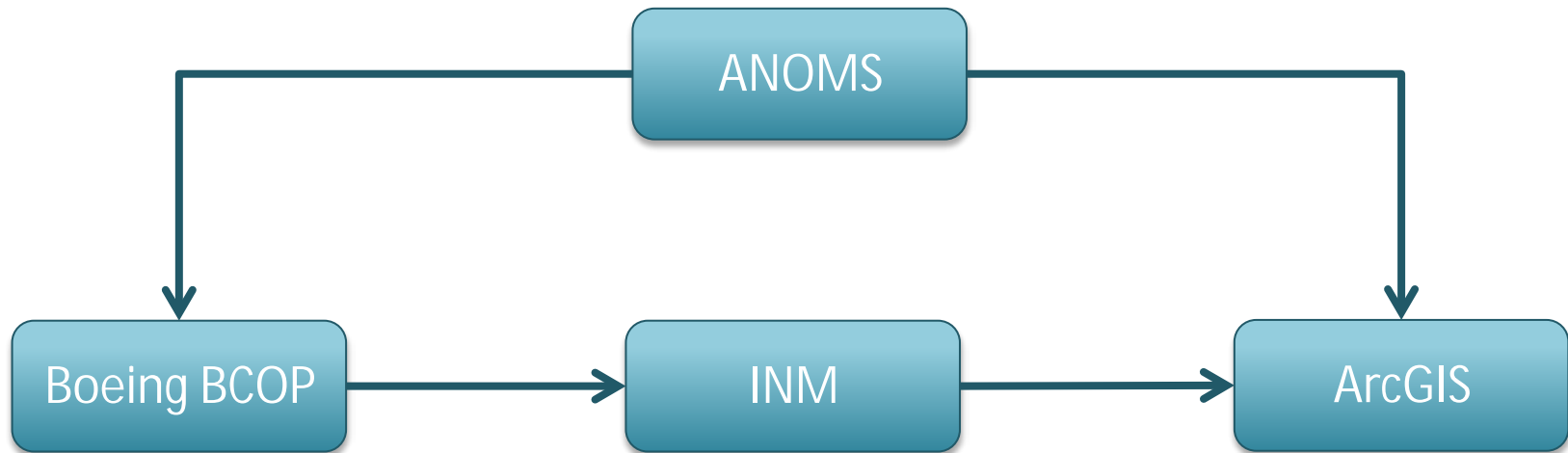
Improve Fidelity of the Data

More Accurate Environmental Analysis

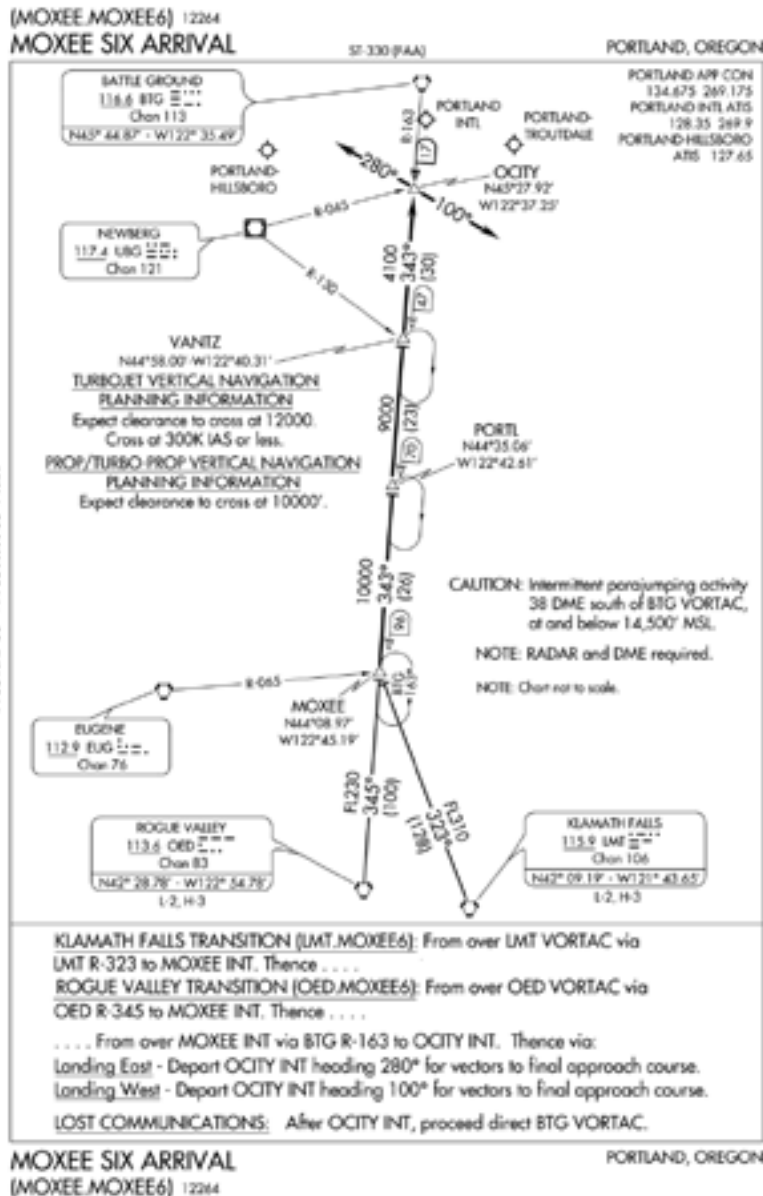
Information Exchange Between Boeing and the Airport



Data Analysis Pathway



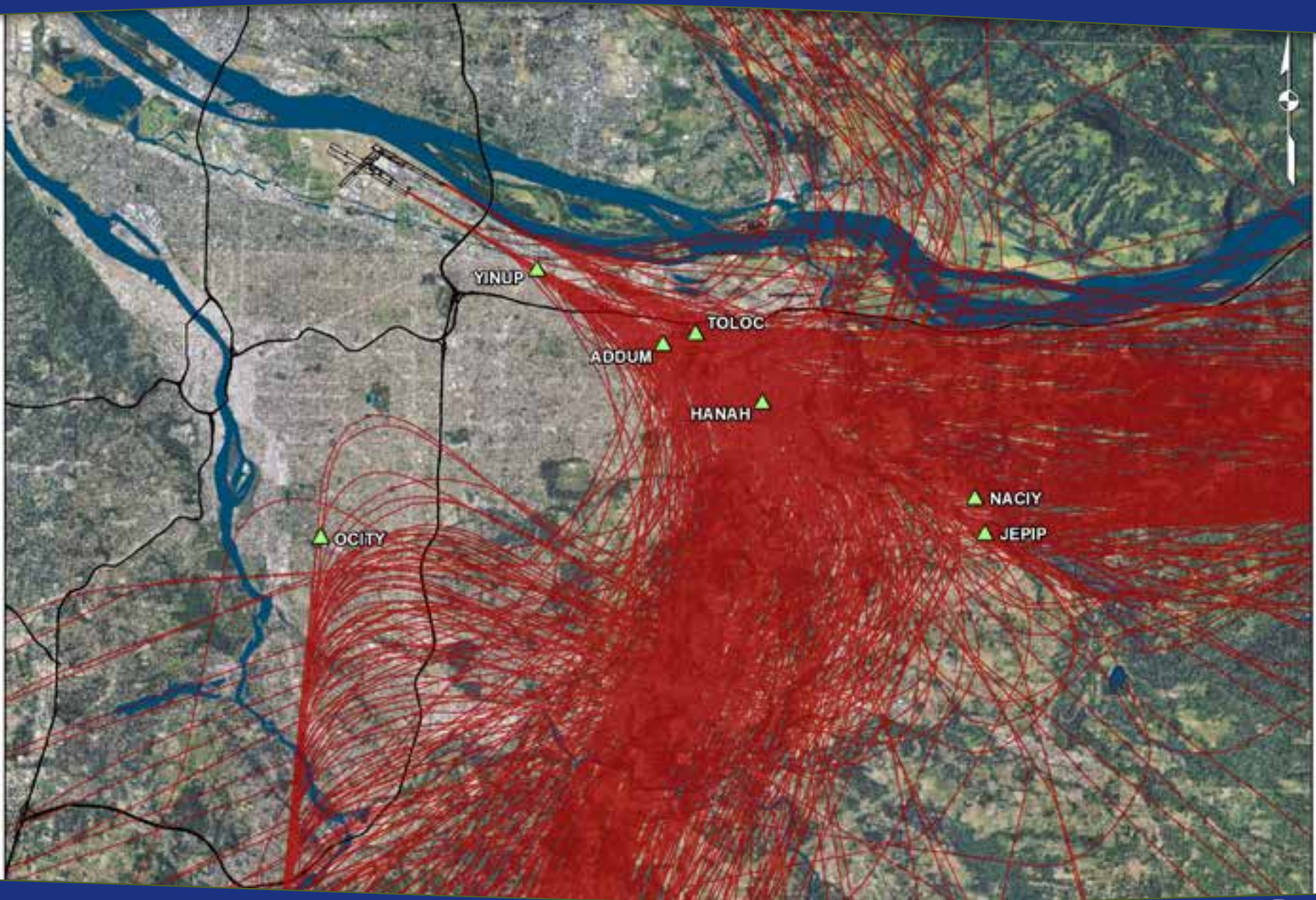
PDX – MOXEE6 FAA Arrival Plate



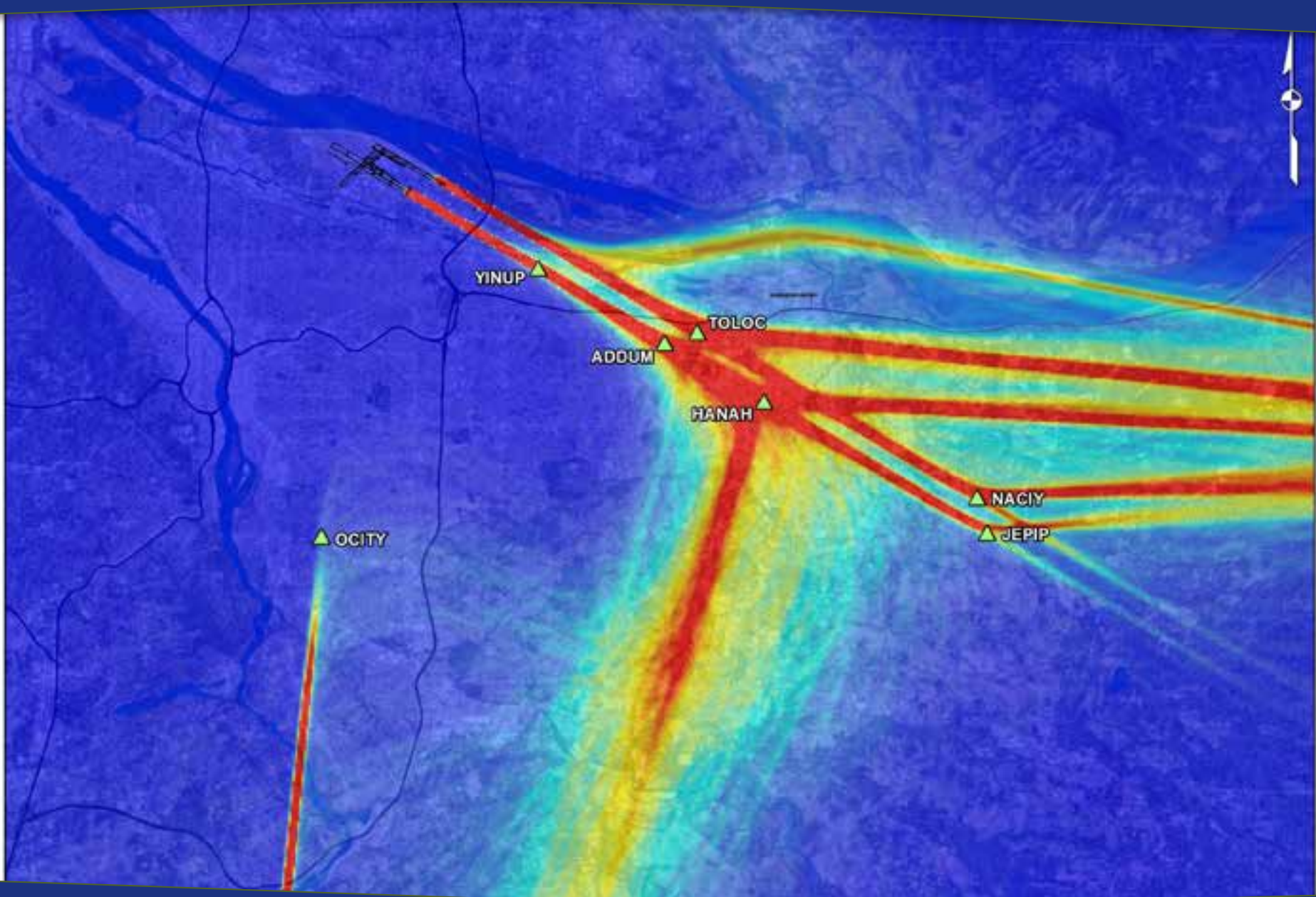
PDX – MOXEE6 Arrival Map



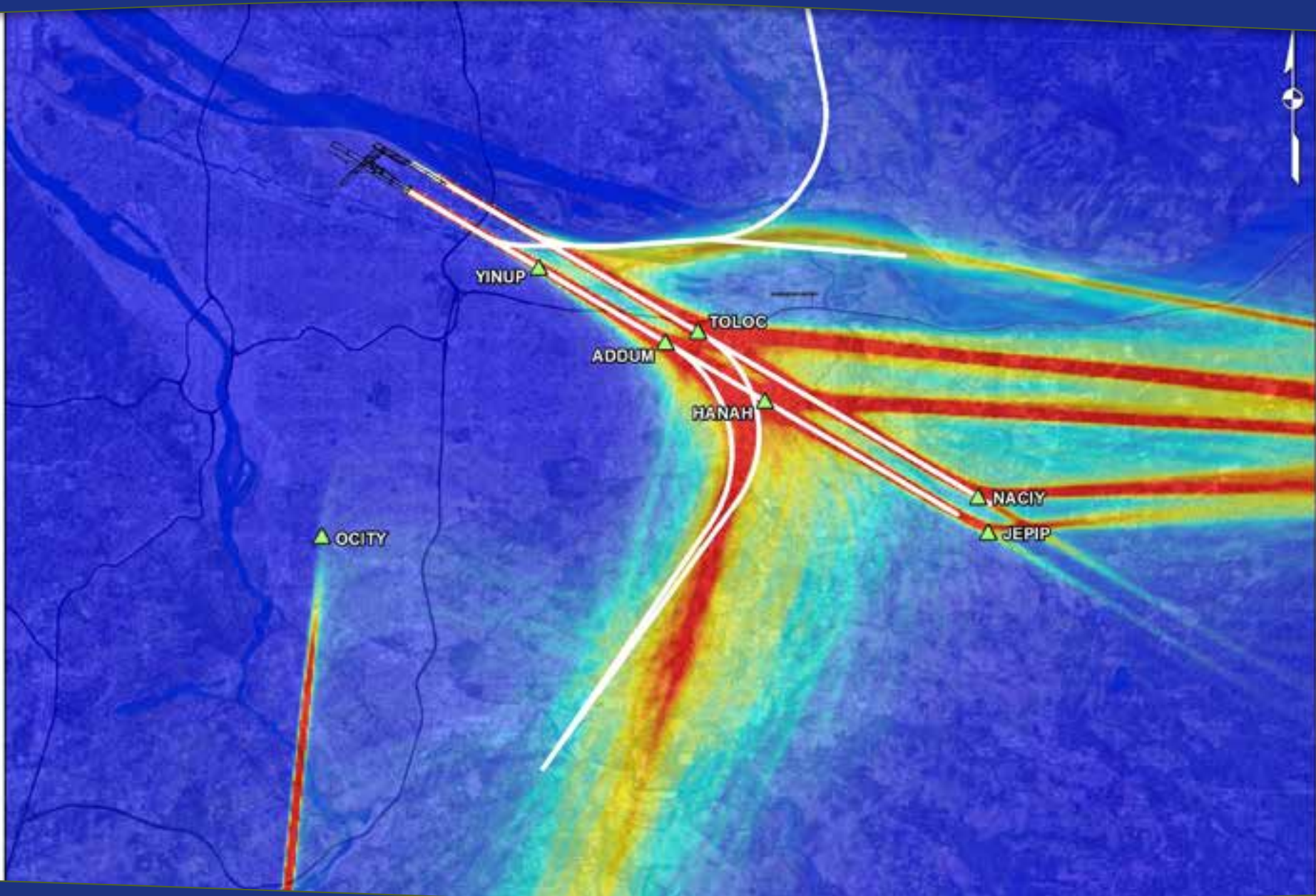
Existing Approach Track Dispersion



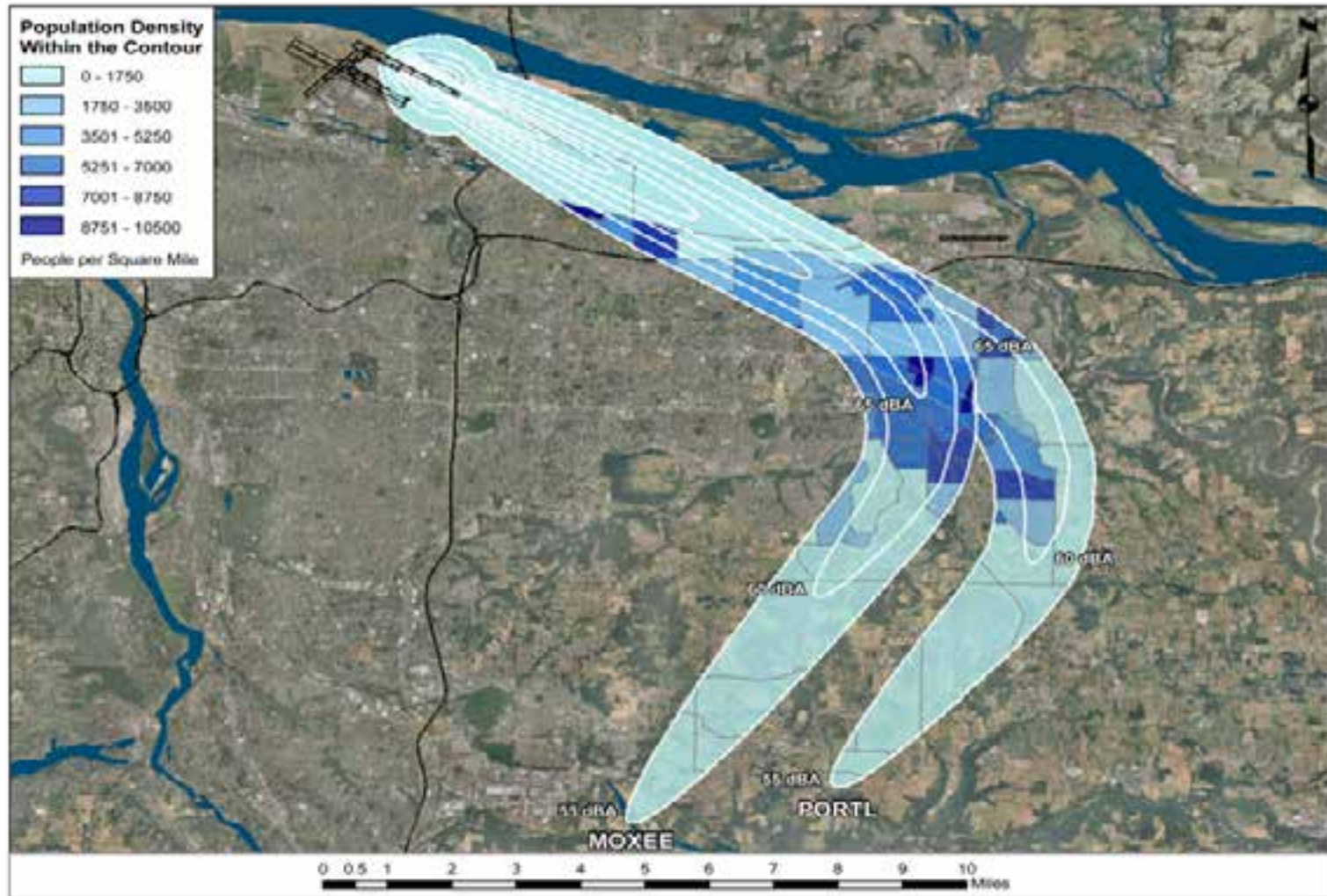
Existing Approach Flight Track Concentrations



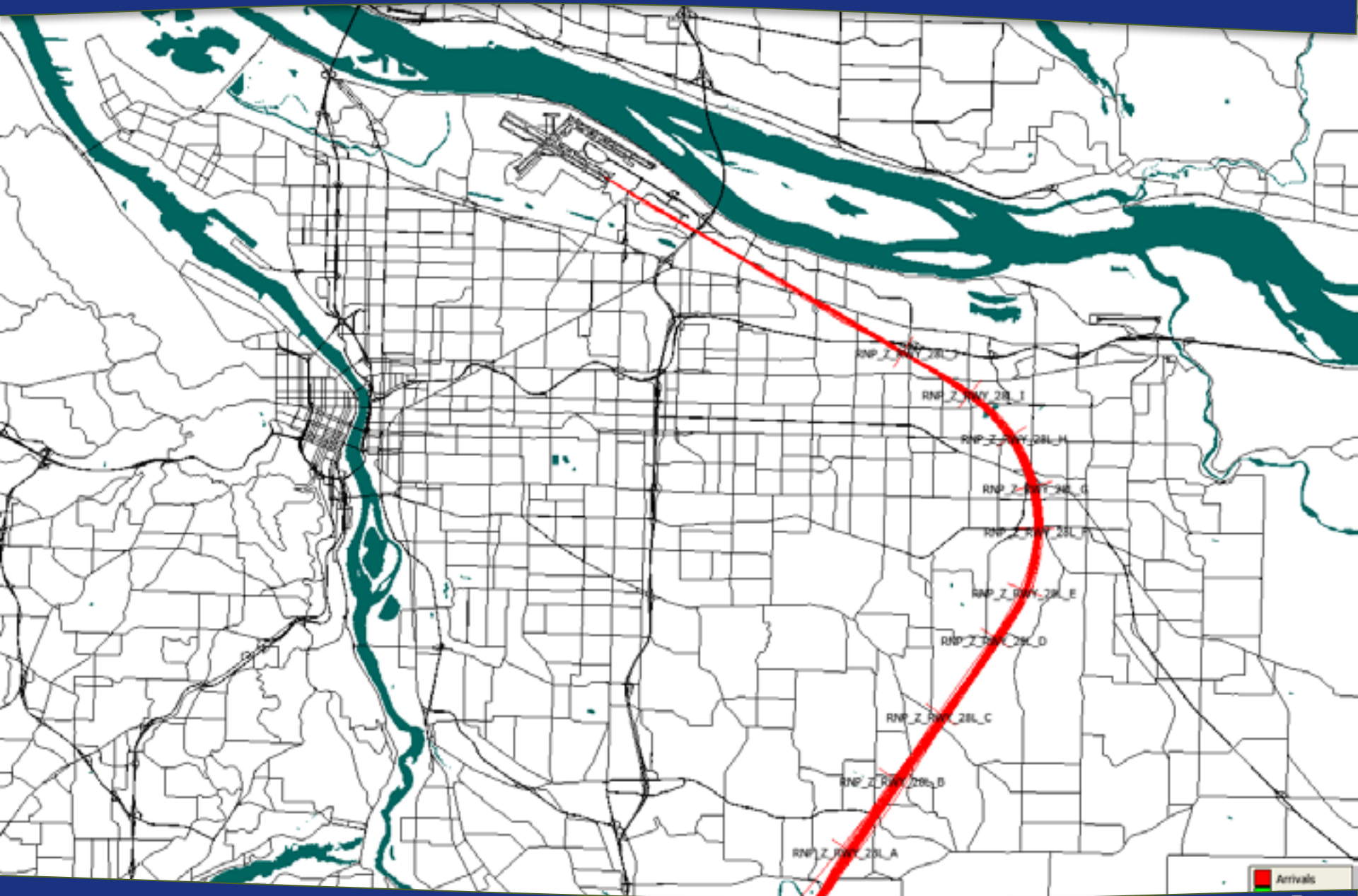
Proposed RNP Approach Tracks



Single Event Noise Contour 737-800W (CFM56-7B27)

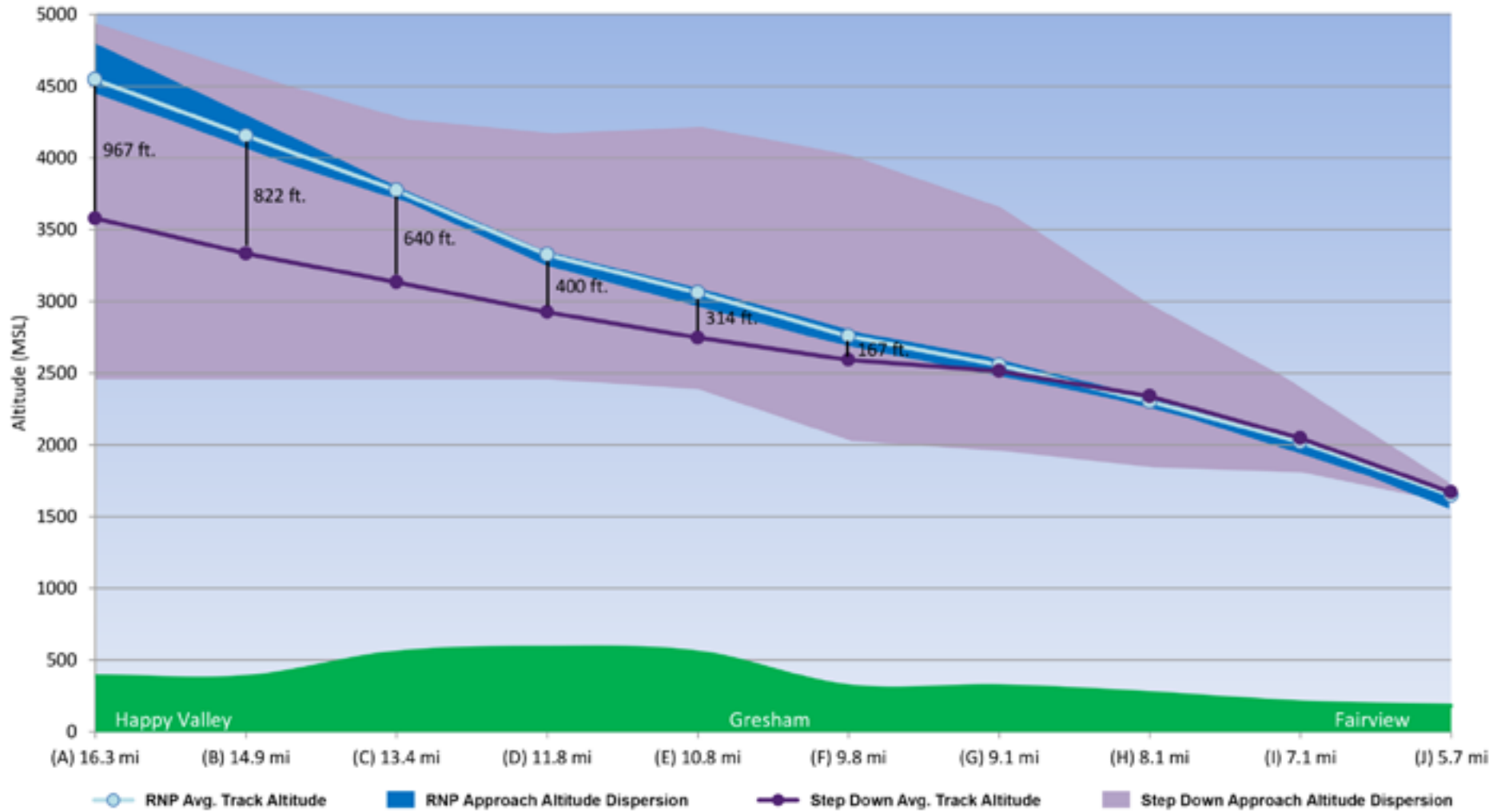


Validating Assumptions Post RNP Implementation



RNP and Step Down Vertical Profile Comparison

Vertical Profile Difference Between RNP-Z and Traditional Stepdown Approach to Runway 28L



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