DCA South of Airport Aircraft Noise and Mitigation Study

Recommendations and Noise Analysis
October 23, 2025

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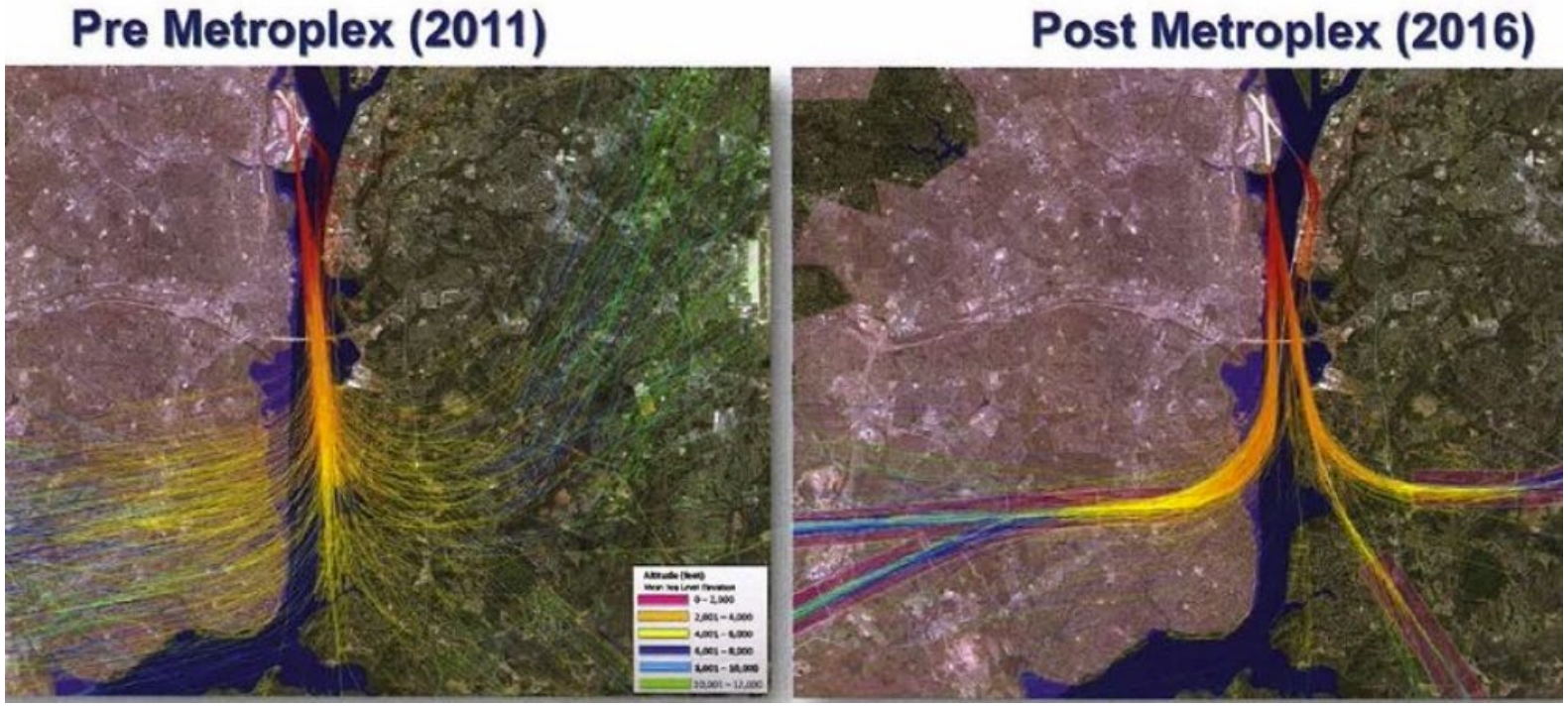
AGENDA

01	Welcome
02	Project Objectives
03	Design Team & Design Philosophy
04	Recommendations
05	Next Steps
06	Discussion / Q&A

Project Objectives

Changes in the airspace and flight procedures (arrivals and departures), post-Metroplex, resulted in changes in flight paths including increased overflights of residential populations south of DCA.

The primary objectives of this project included reducing overflights and noise exposure for residents of the City of Alexandria and Fairfax and Prince George's Counties.



Source: https://houseofreps.maps.arcgis.com/apps/MapJournal/index.html?appid=04b6ea5feb1e4b61b8bb4be439bd882b

CWG and Steering Committee Representatives

CWG Representatives

Fairfax County:
Bob Meier – Mt Vernon Residents
Mike Rioux – Mt Vernon Residents

Prince George's County:
Eric Woods – Ft. Washington
Bill Parker – Accokeek

City of Alexandria:
Travis Ludwig – Captain with United Airlines
Norman Leader – Retired Air Traffic Controller

Steering Committee Representatives

Fairfax County
Katie Hermann - Assistant Director, Department of Planning and Development, Planning Division (DPD-PD)
Corinne Bebek – Senior Environmental Planner, DPD-PD

Prince George's County
Dawn Hawkins-Nixon – Associate Director, Department of the Environment (DoE)
Deborah Patrick – Special Assistant to the Director, DoE

City of Alexandria
Felipe Ip – Acting Environmental Manager, T&ES
Melissa Atwood – Senior Environmental Specialist, T&ES

Project Design Team

Travis Ludwig - City of Alexandria
CWG representative, Captain with United Airlines

Norman Leader - City of Alexandria
CWG representative, Retired Air Traffic Controller

Bob Meier - Fairfax County
CWG representative, Fairfax County Airports Advisory Committee (AAC) member

Mike Rioux - Fairfax County
CWG representative, Fairfax County AAC member

Eric Woods - Prince George's County
CWG representative, Prince George's County – Ft. Washington

Bill Parker - Prince George's County
CWG representative, Prince George's County – Accokeek

(DCA Community Working Group (CWG) Representatives)

Design Philosophy

1. **Maximize flight paths over the center of the Potomac River and "compatible" areas, including industrial areas, major highways, utility corridors, etc.**

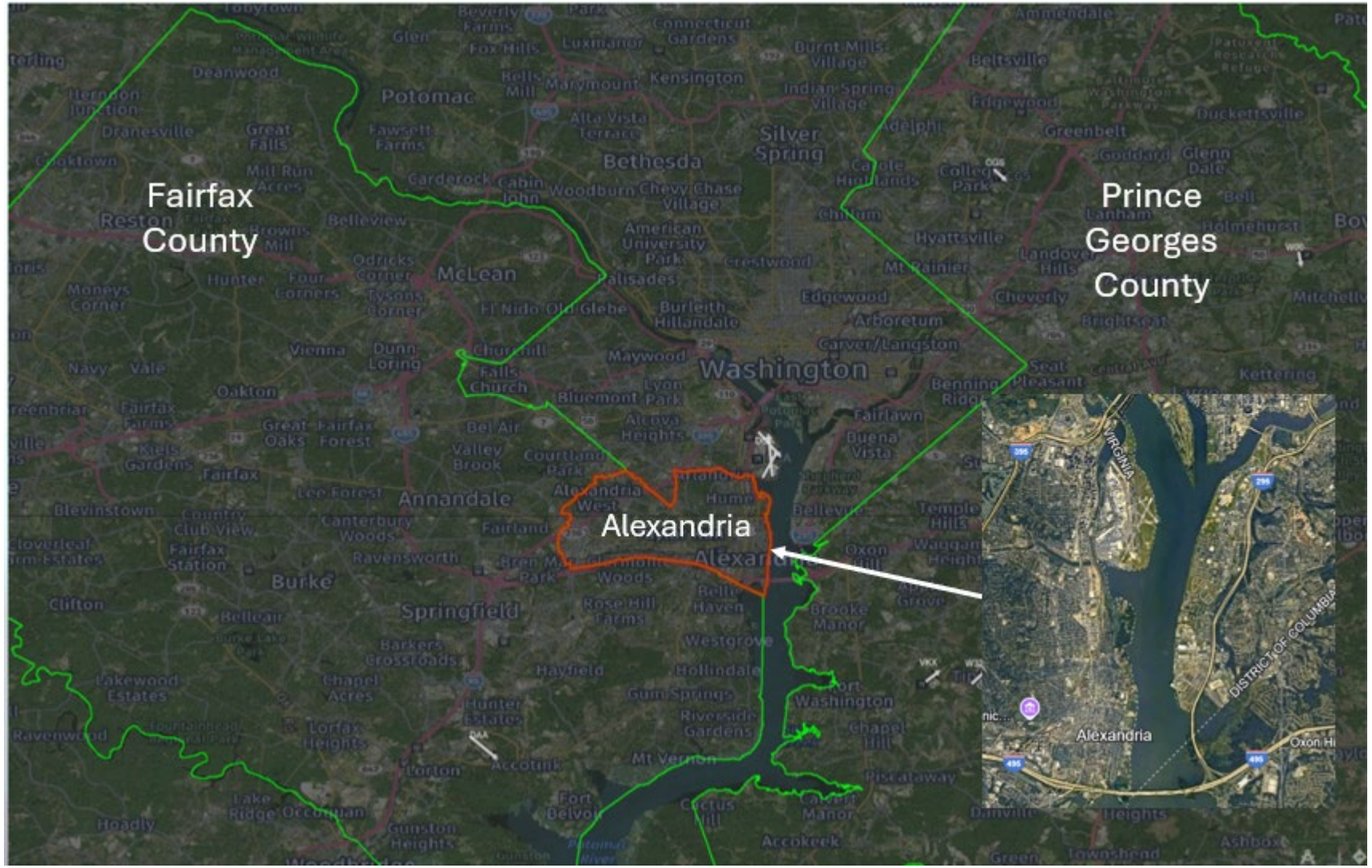
2. Maximize altitude – Use Optimized Profile Descent to reduce noise over noise-sensitive areas.

3. Increase track variability – Reduce concentration over noise-sensitive areas.

4. Avoid disproportionate impact to any single entity (county, city, town, neighborhood, etc.).

5. Minimize overhead flights of noise sensitive areas (schools, hospitals, churches, historic sites, parks, etc.).

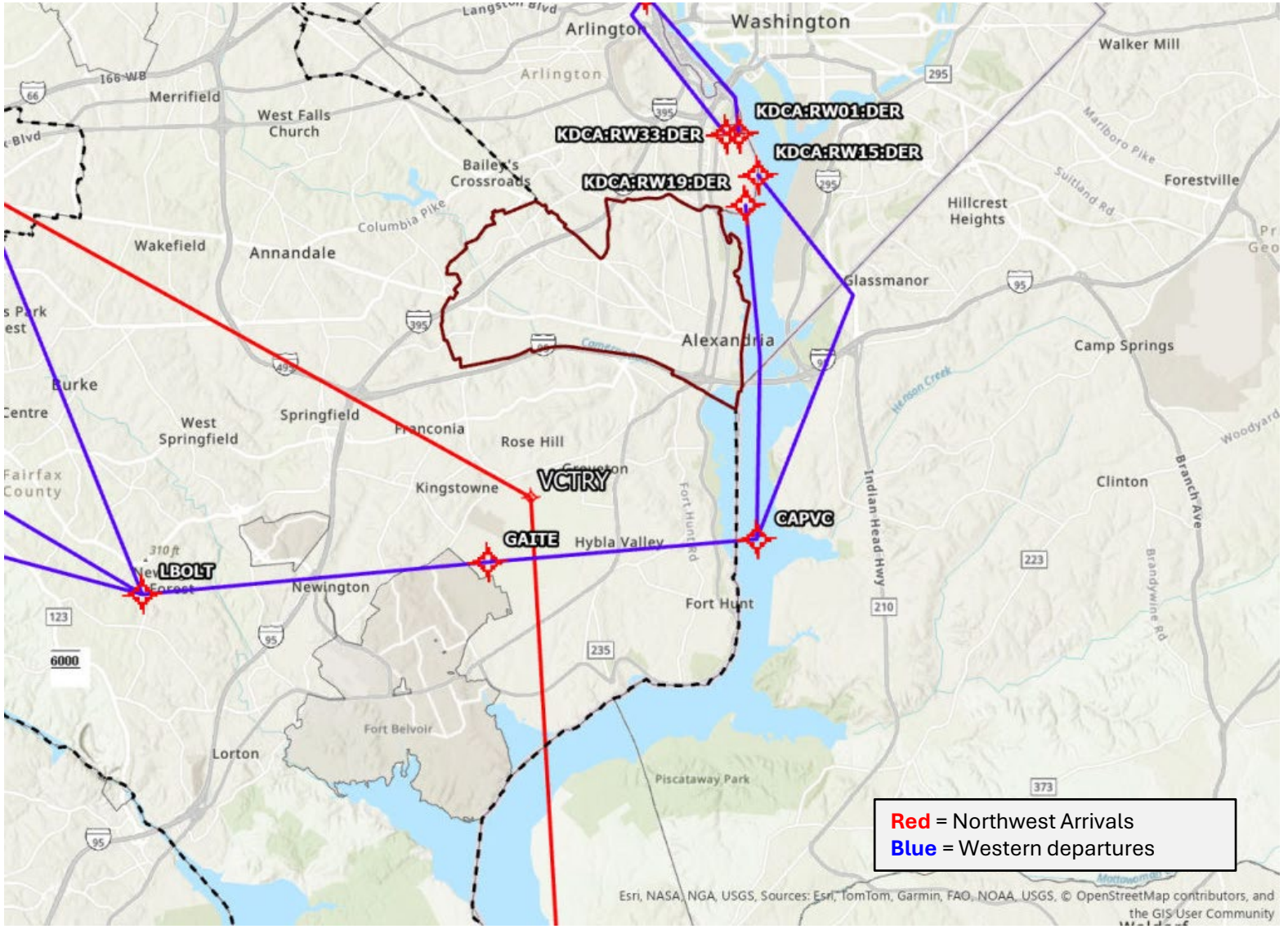
Study area for jurisdictions south of the airport



North and South Flows

Airspace and Flight Procedure Changes

Current Arrival/Departure Routes

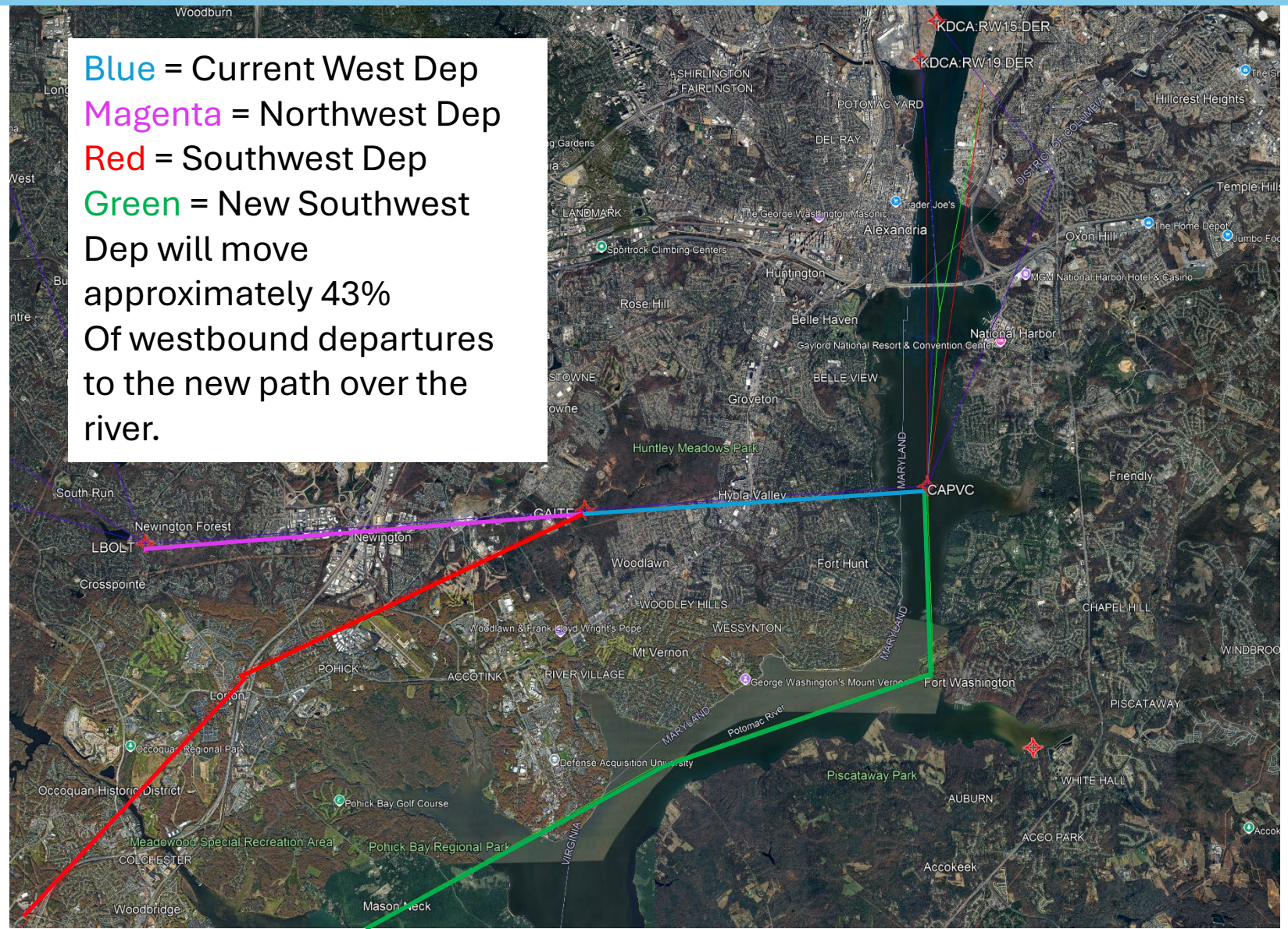


Flight Procedures Changes – South Flow (Departures)

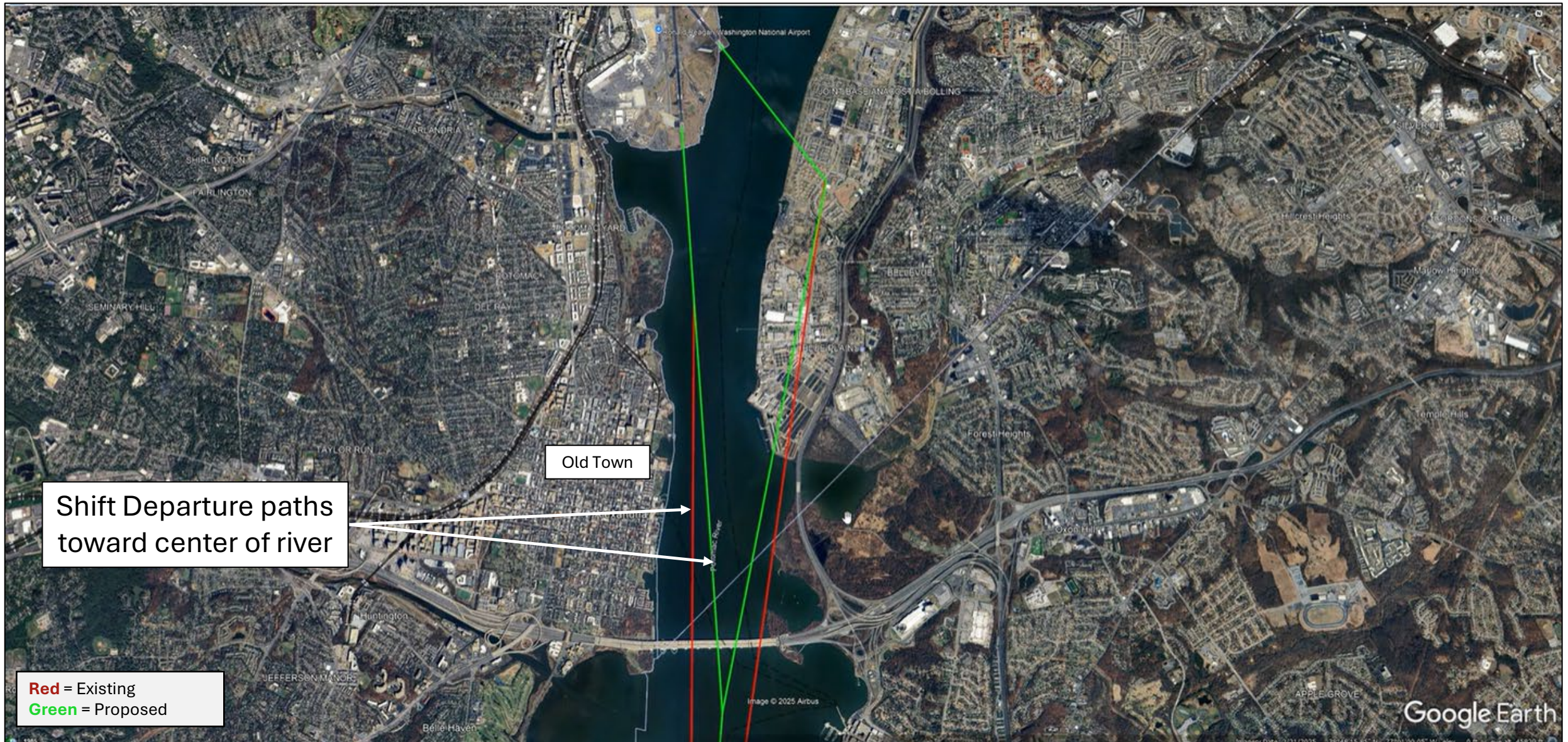
Changes affecting Fairfax County and Prince George's County

Departures were adjusted to maximize overflight of the river, in accordance with the Design Philosophy. Additionally, the CAPSS arrival was moved east towards the river and Prince George's County to enable aircraft to climb higher, sooner, and more often when DCA is in a south-flow, thereby reducing noise for communities below.

There are no significant changes for Charles County associated with the South Flow recommendations.



Flight Procedures Changes – South Flow (Departures)



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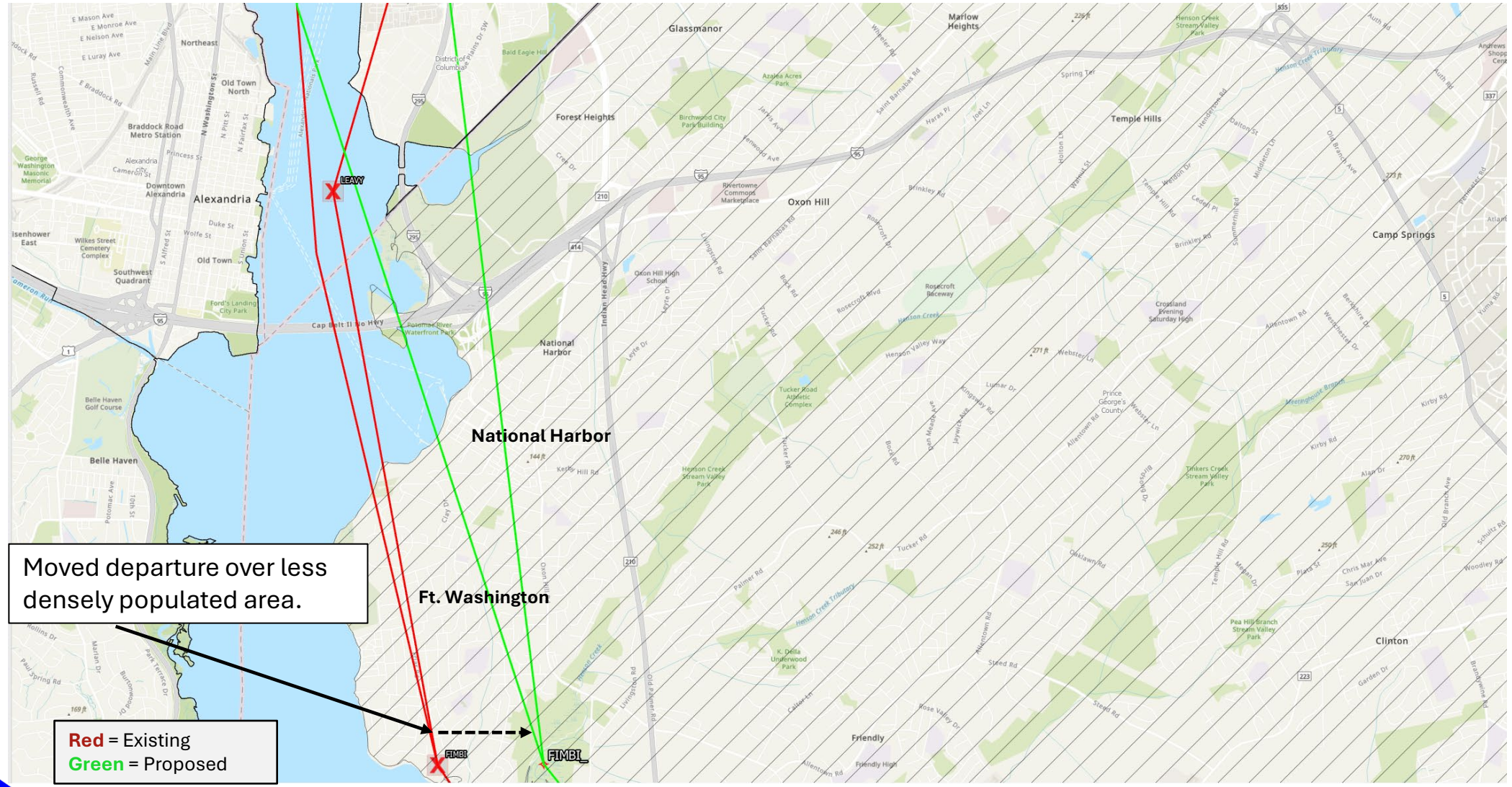

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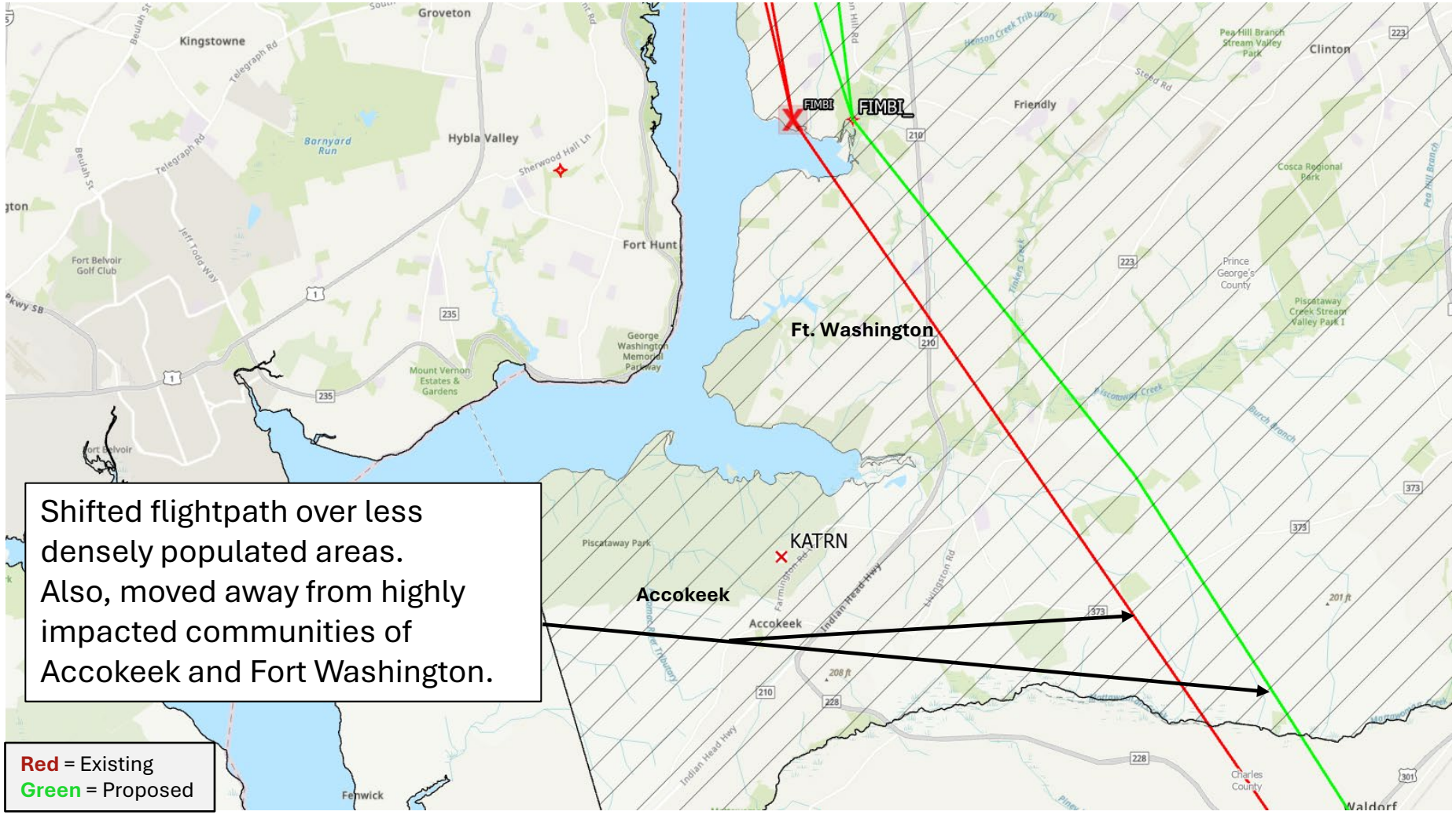


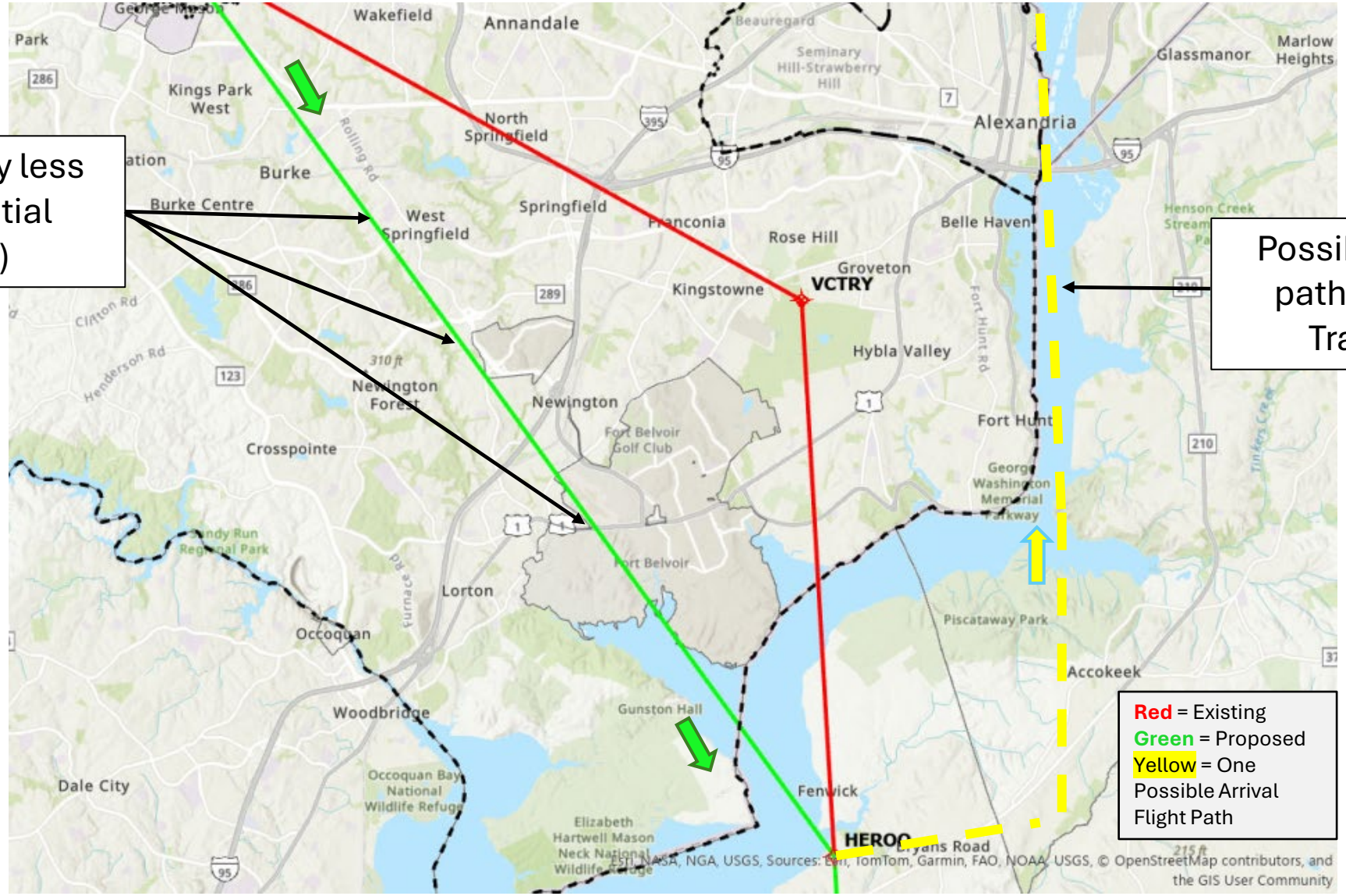
Flight Procedures Changes – North Flow

Primary recommendations for flight procedure changes in North Flow

- **Modify CAPSS Arrival, Instrument Landing System (ILS), and Area Navigation (RNAV) Approaches to Runway 1**
  - **Option 1:** This preferred option would raise the altitude along the approach and enable use of an Optimized Profile Descent (OPD) to the initial approach fix (IAF) for the ILS to Runway 1. The option continues a descent from 9,000 feet on the CAPSS STAR to a new IAF at 5,000 feet, and a new crossing altitude at KATRN at or above 3,000 feet.
  - **Option 2:** This alternate option proposes stopping aircraft at 9,000 feet and allowing Air Traffic Control (ATC) to descend the aircraft to the new IAF at their discretion keeping aircraft higher on approach and providing air traffic control more options for safety and separation from southbound departures routed below the arrivals.
  - Options 1 and 2 recommend raising the altitude at KATRN, which has been a longstanding request of Prince George's County residents in Accokeek and Ft. Washington
- **Encourage an Optimized Profile Descent (OPD) to Runway 1 option**
  - Includes an increase in altitude for KATRN Waypoint from 2,500 to 3,000 feet.
- **Raise altitude at KATRN waypoint from 2,500 to 3,000 feet**
  - ***Note-*** *Air Traffic Control (TC) use of the 3,000-foot crossing at KATRN is highly recommended but not mandatory. ATC may vector aircraft at lower altitudes if required for separation and sequencing.*

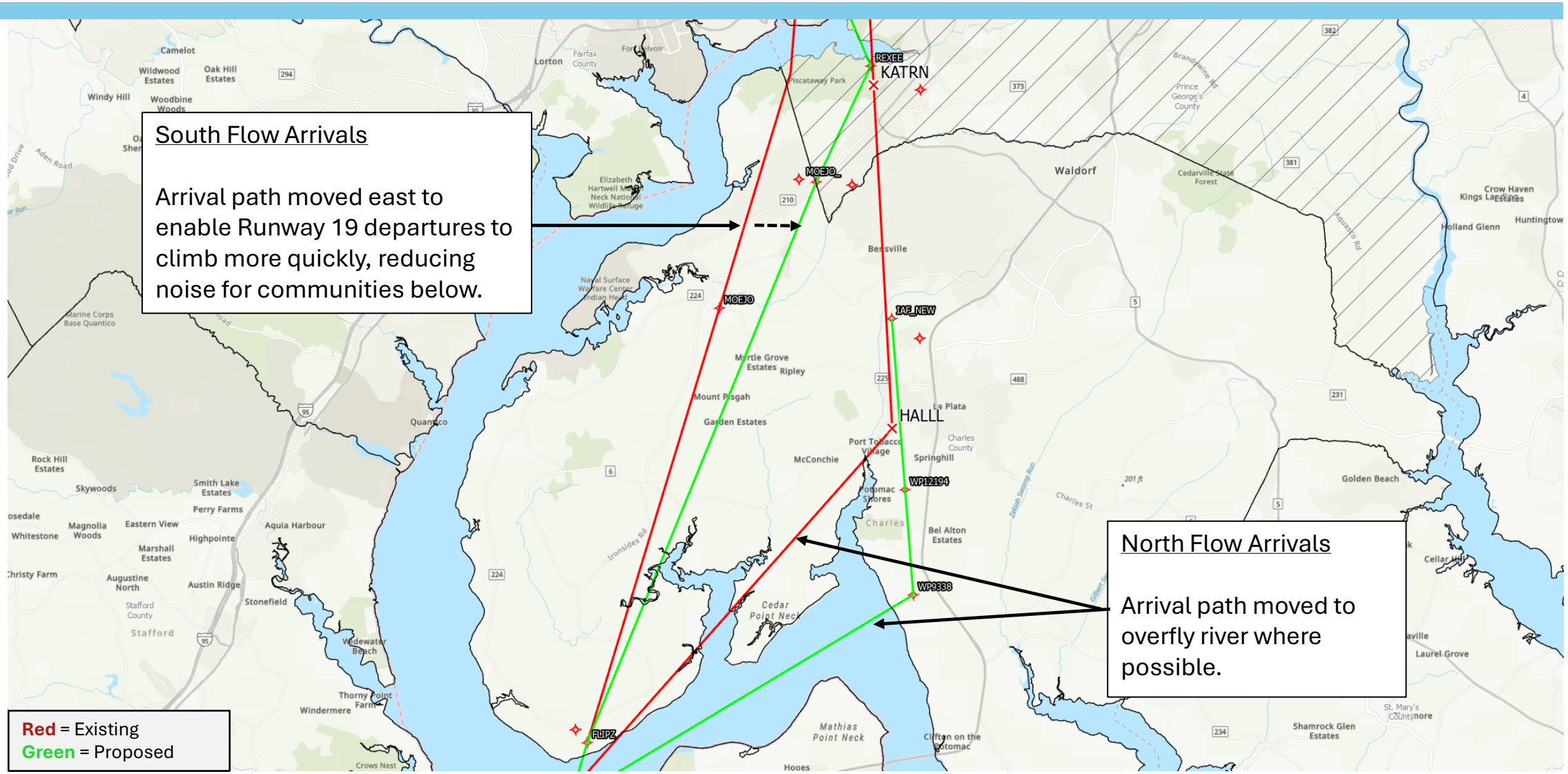
Flight Procedures Changes – North Flow (Arrivals)

Shifted to overfly less dense residential (Zoomed In)

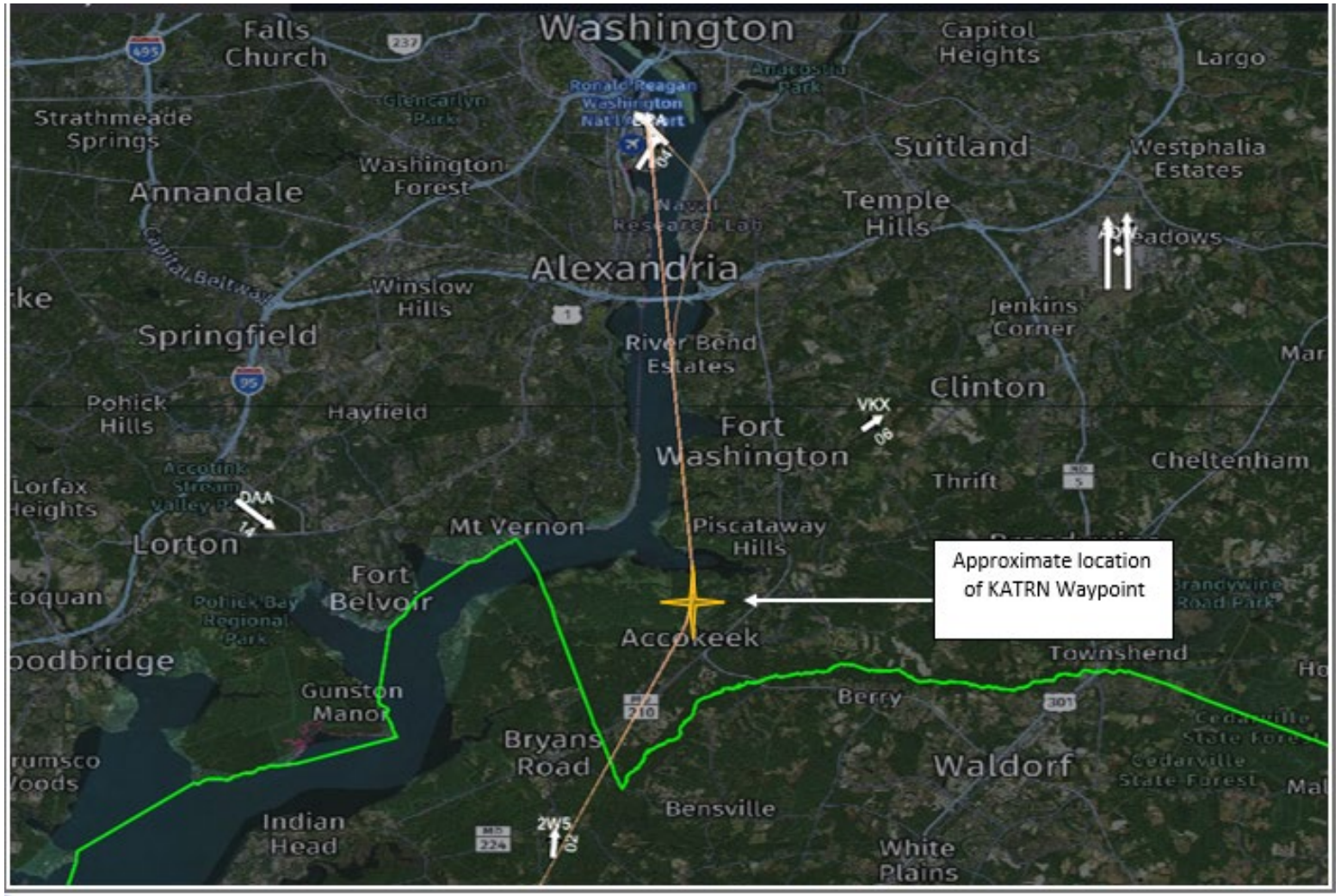


Possible arrival flight path, guided by Air Traffic Control

Flight Procedures Changes – Both Flows (CAPSS STAR)



Flight Procedures Changes – North Flow (Arrivals) Prince George's County



Changes Affecting Prince George's

Increased the altitude of the KATRN Waypoint on the CAPPS Arrival. This will result in aircraft arrivals flying higher when over Accokeek and nearby communities in Prince George's County .

This change would be published in the flight procedure, however, Air Traffic Control (ATC) may still vector aircraft below this altitude as necessary for sequencing and separation.

An increase in altitude along the arrival. No lateral change in flight path.

Flight Procedures Changes – North Flow (Arrivals)

Noise Analysis

Measuring Aircraft Noise

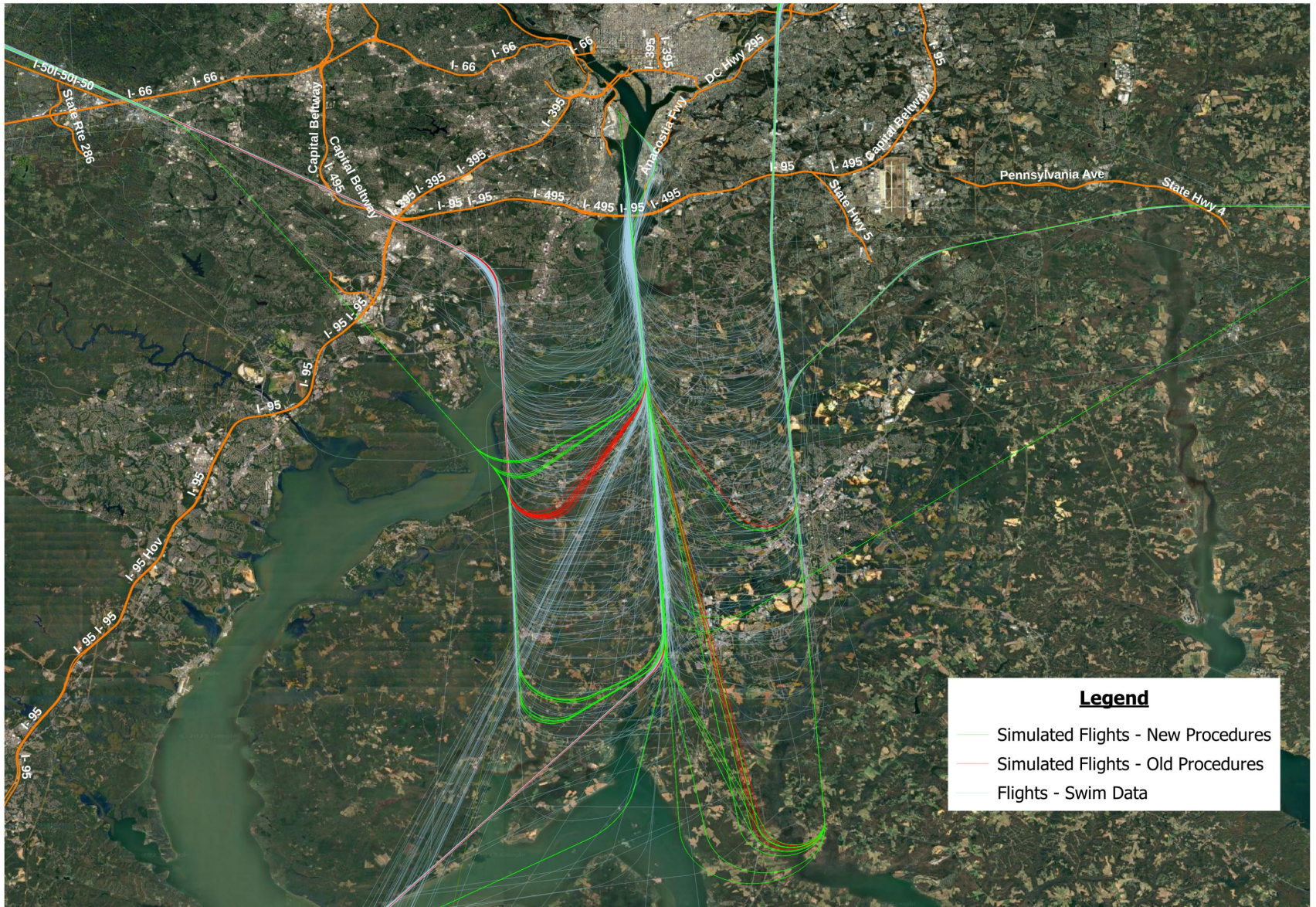
The scale below is intended to provide a basic understand of noise levels which are expressed in decibels (dB or dBA). As indicated, the typical sound level for people speaking (3 ft apart) is 64-65 decibels. Other common noise sources are also listed.

Source: Fundamentals of Noise and Sound. (n.d.). Retrieved July 2022, from https://www.faa.gov/regulations_policies/policy_guidance/noise/basics

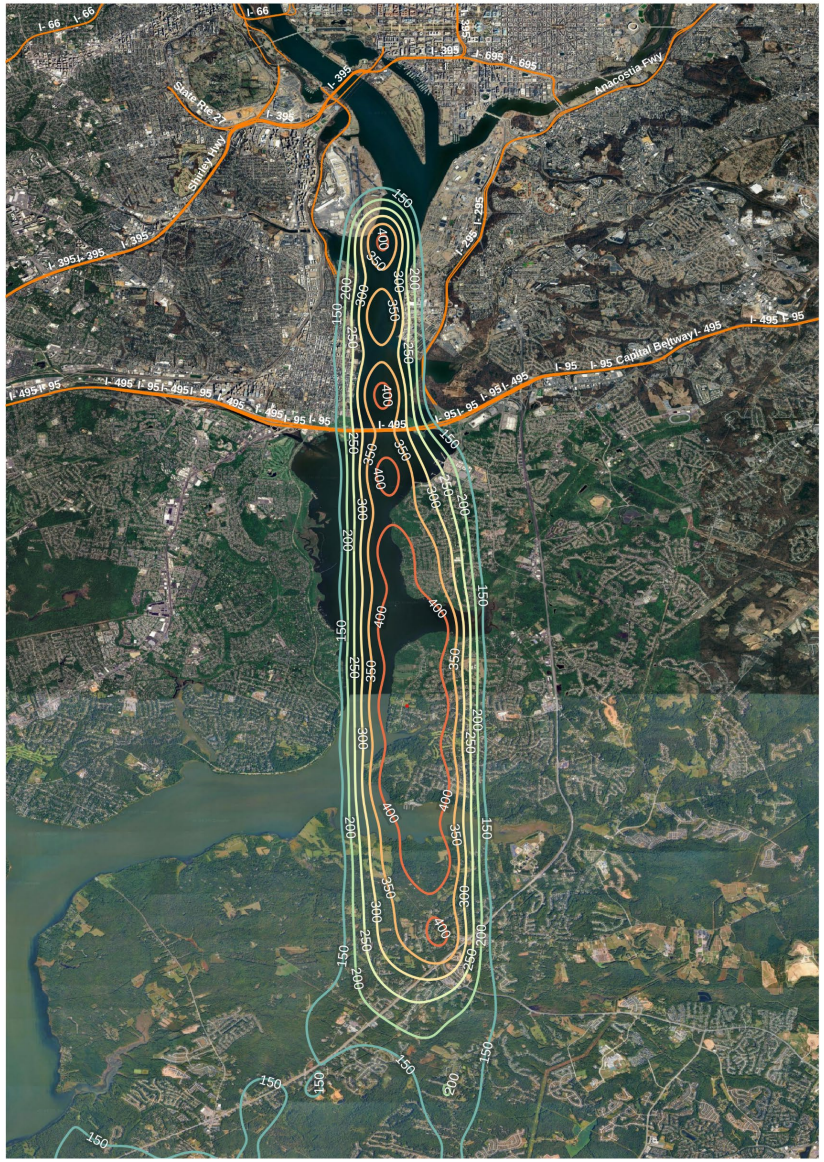
Noise Analysis

Metrics used in this noise analysis were the Number of events Above a certain decibel level. For example, NA55 is the Number of Events Above 55dB within a given time period. For the following graphics, we used a typical day of traffic for each operation, north and south. The north operation day had 417 flights and the south operation day had 421 flights. The Vianair software compared the existing flight paths to the new notional flight paths to obtain the results.

North Flow Arrival Tracks



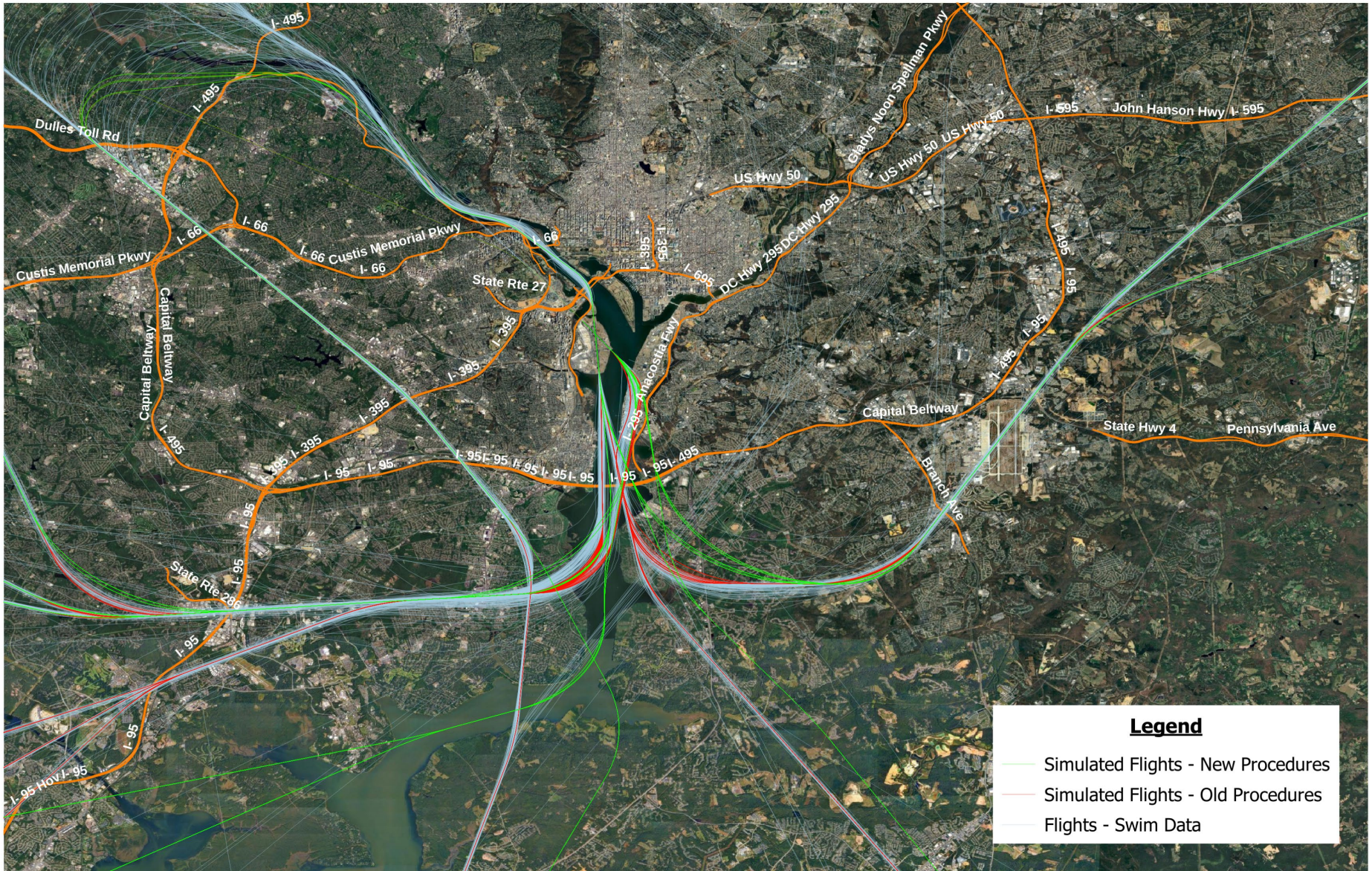
North Flow Arrivals NA55 Old vs New



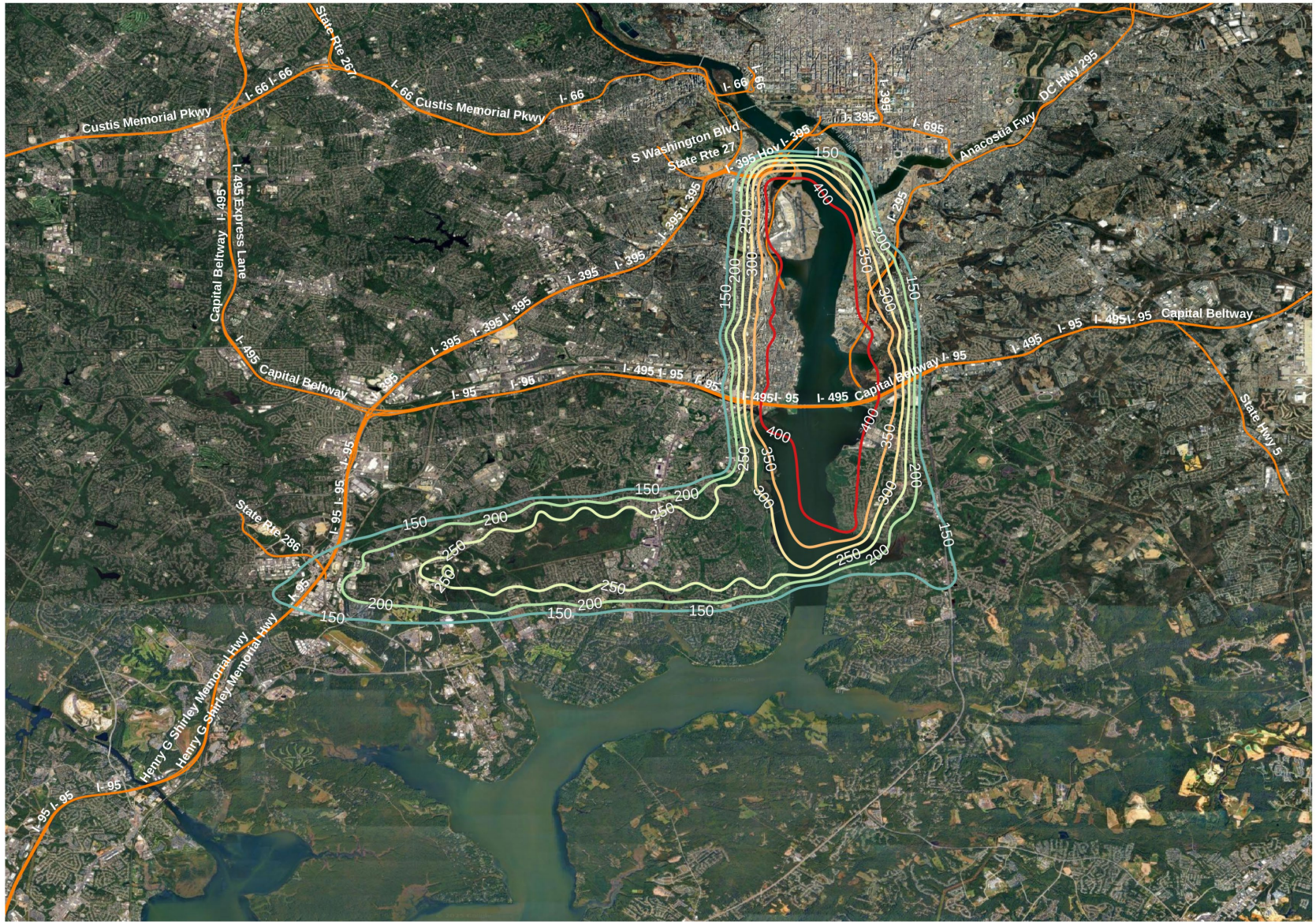
North Flow Arrivals NA65 Old vs New

North Flow Arrivals NA75 Old vs New

South Flow Departure Tracks



South Flow Departures NA55 Old



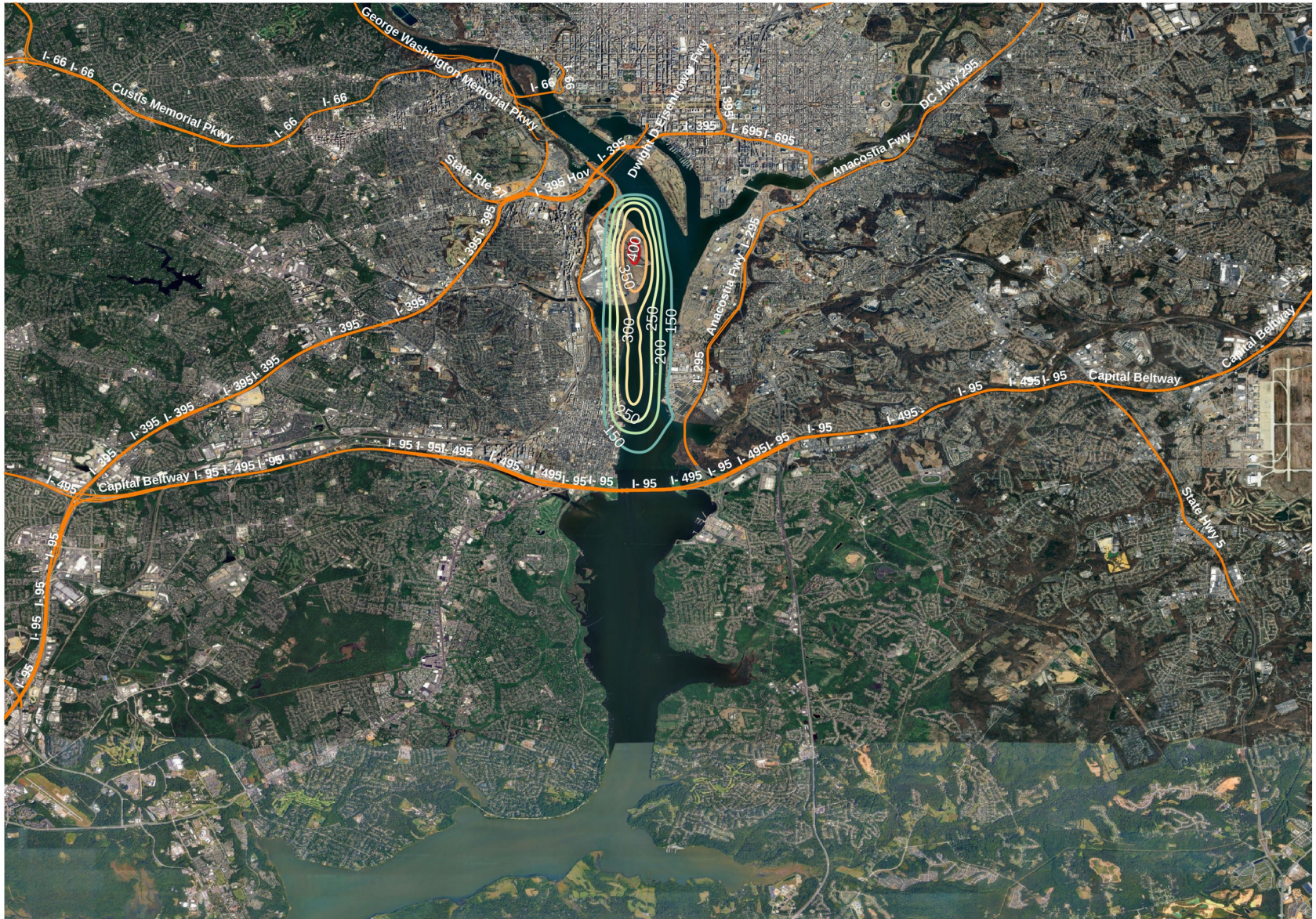
South Flow Departures NA55 New

South Flow Departures NA65 Old

South Flow Departures NA65 New

South Flow Departures NA75 Old

South Flow Departures NA75 New



Next Steps

- Public Meetings and Council / Commission briefings: May/June 2025

- Design Team reviews public input and finalizes recommendations

Note- *The likelihood of the FAA approving the recommendations increases substantially when the plan has been presented to each community and the Community Working Group (CWG) of the DCA Roundtable has reached consensus. Affirmative input from each of the jurisdictions within the Study Area (Fairfax, Alexandria, and Prince George's.) will assist the CWG to reach consensus more easily.*

- Final CWG Briefing – October 2025

- Timeline: FAA Submission expected late Fall 2025

- Project information can be found at: www.vianair.com/soa

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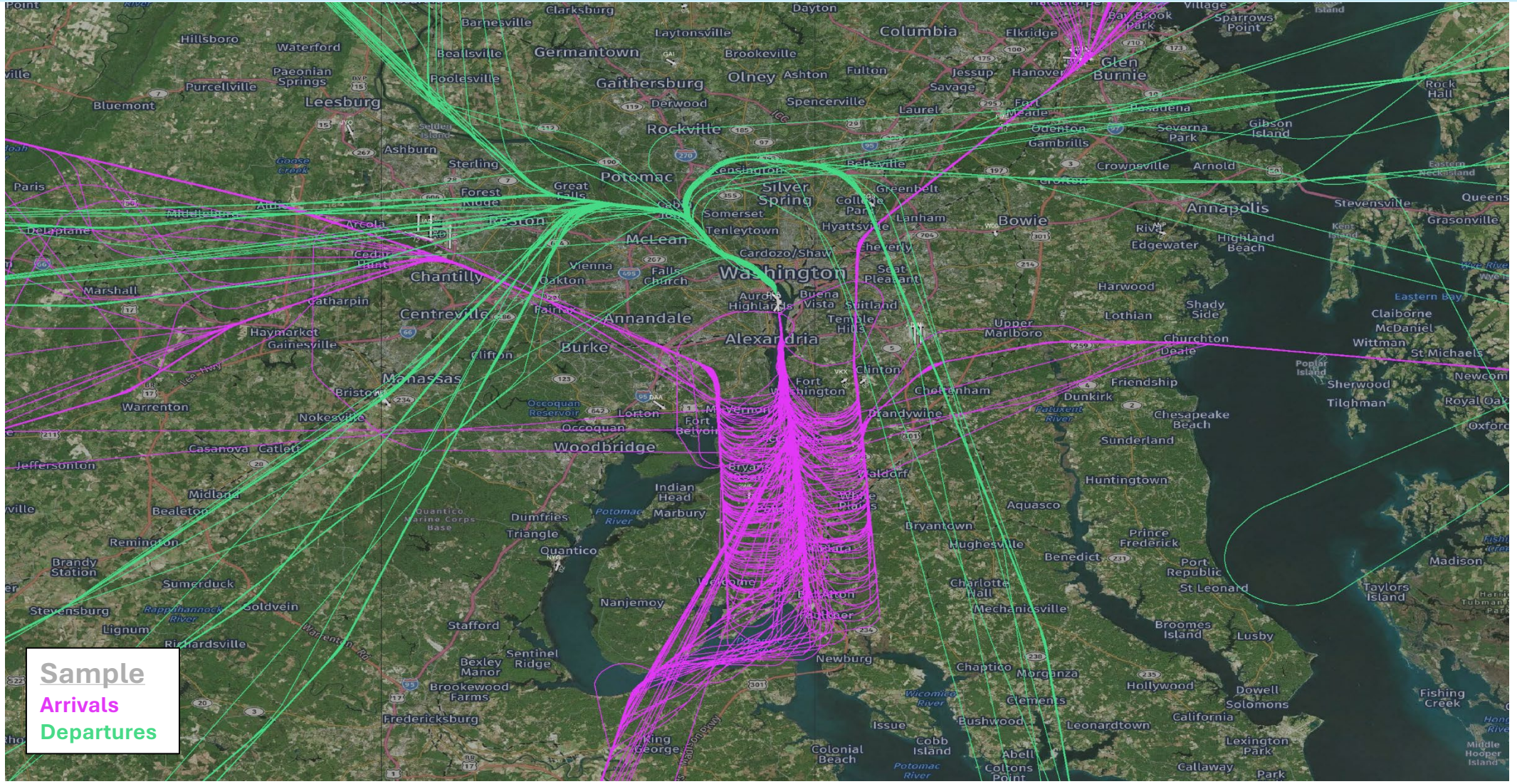
www.vianair.com

info@vianair.com

Typical Day of North Flow Operations



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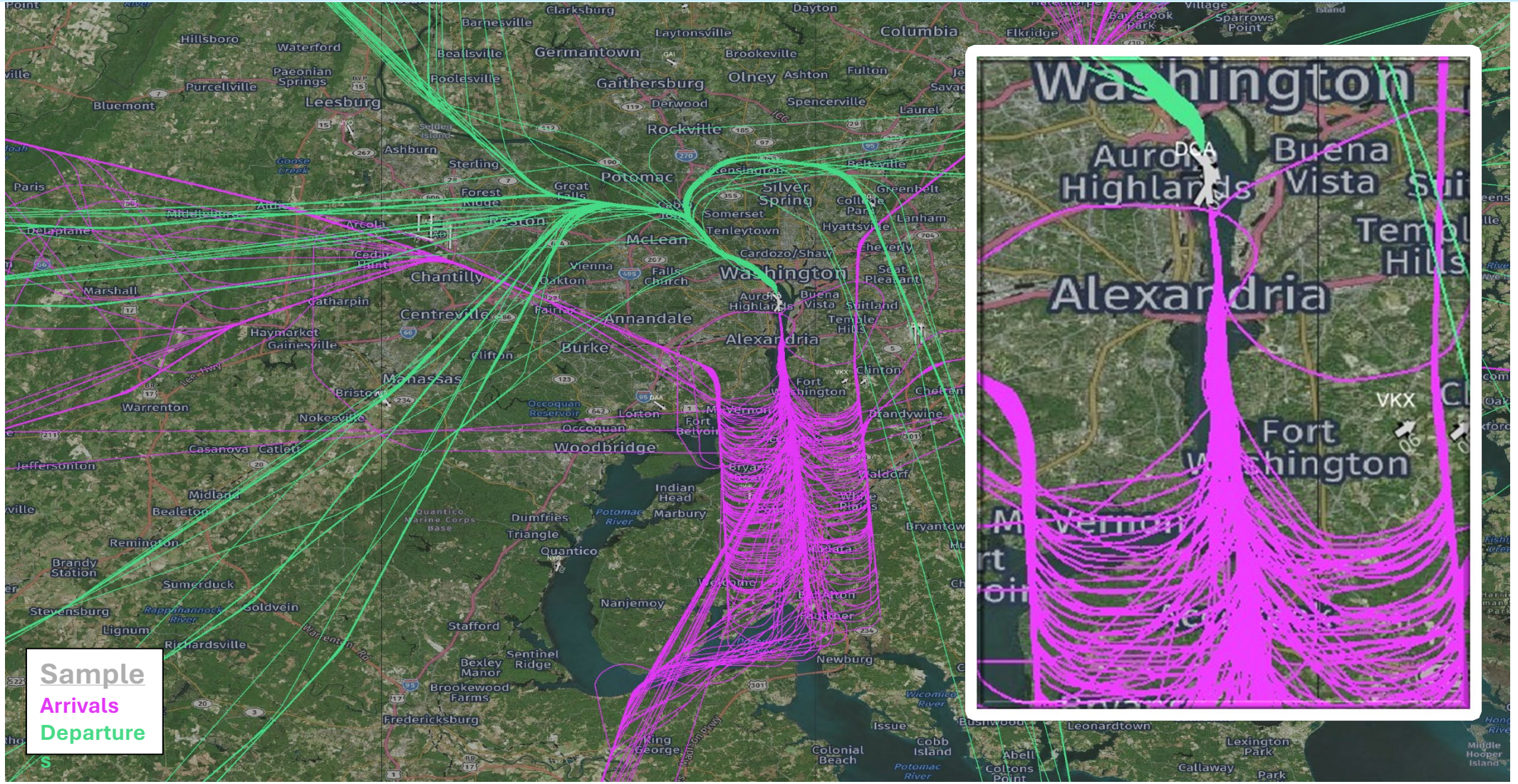
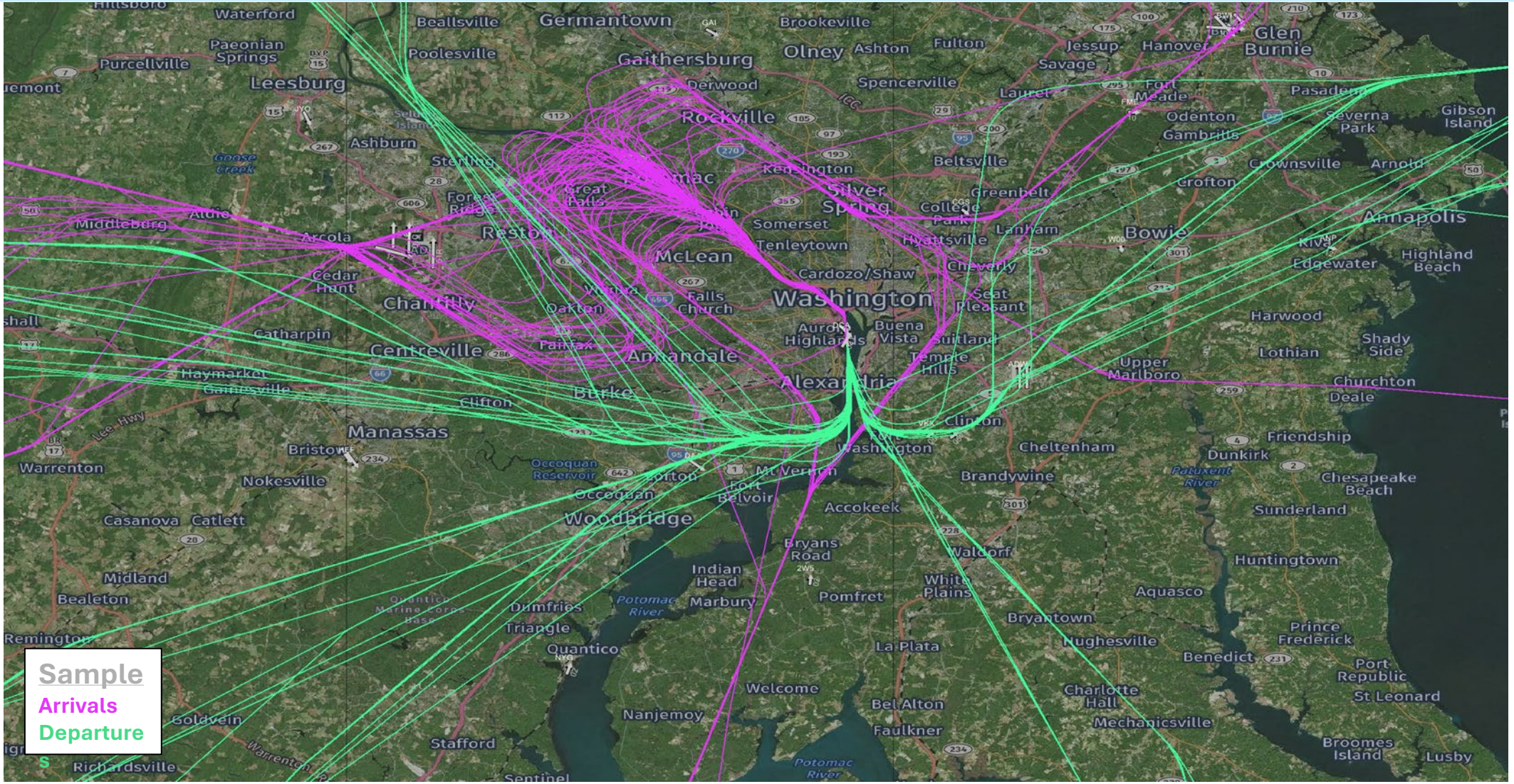
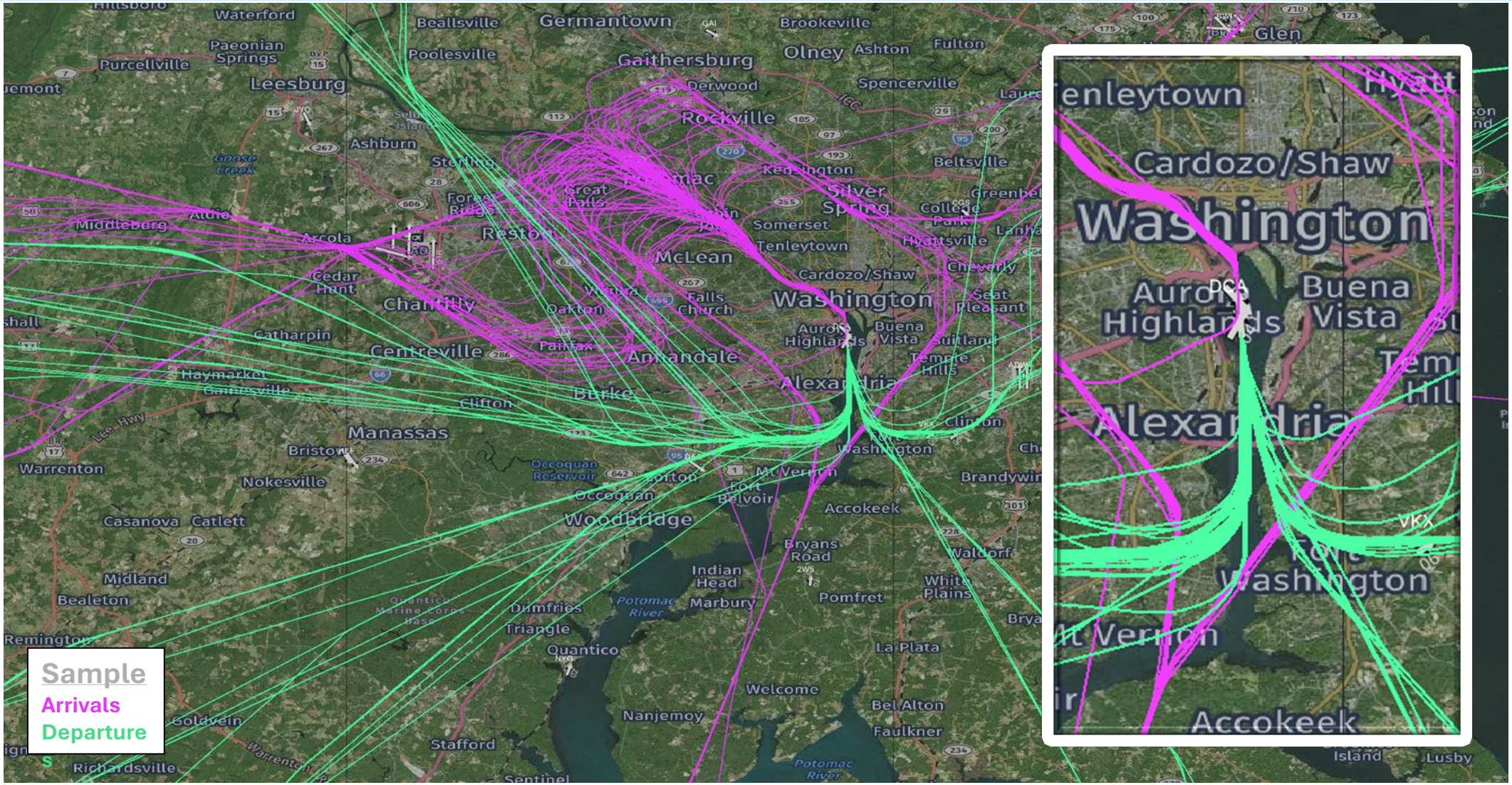


Typical Day of South Flow Operations



Typical Day of South Flow Operations



North Flow – CAPSS STAR – KATRN 3000

Noise Exposure (NA55)