U.S. Department
of Transportation
**Federal Aviation
Administration**

Eastern Service Center

1701 Columbia Avenue
College Park, Georgia 30337

October 29, 2020

Ms. Brona Simon
State Historic Preservation Officer/Executive Director
Massachusetts Historical Commission
220 Morrissey Blvd
Boston, MA 02125

Reference: Section 106 Consultation for the Proposed RNAV (GPS) RWL 4L Approach Procedure at Boston Logan International Airport

Dear Ms. Simon

Thank you for your July 24, 2020 comments on our initial June 24, 2020 consultation letter concerning the proposed approach procedure at Boston Logan International Airport. In response to your comments, we have modified our approach with respect to the review of historic resources in the General Study Area and in our delineation of an Area of Potential Effects (APE). We request your review of the modified approach for defining the APE proposed below. Background information about the undertaking is repeated in this letter to make your review of the updated approach easier.

1. Background Information.

The Federal Aviation Administration (FAA) is evaluating a new proposed Area Navigation (RNAV) Global Positioning System (GPS) instrument approach procedure at Boston Logan International Airport (BOS). This new procedure would allow for aircraft to land onto Runway 4L with GPS technological automation as well as allow for landing during low visibility conditions. These additional procedural capabilities would increase the safety and efficiency of the airspace around BOS. Publication of the proposed procedure would constitute an undertaking under Section 106 of the National Historic Preservation Act (NHPA).

Boston Logan International Airport (the Airport) is a large commercial service airport in Massachusetts, with approximately 427,000 takeoffs and landings in 2019, which includes domestic, international, and general aviation activity. It is the primary passenger airport for southern New England as well as the region's busiest passenger service airport. Of the twelve runways available at the Airport, Runway 4L is the only runway that typically handles airline arrivals but does not have an Instrument Approach Procedure (IAP) available to assist landings. An IAP is a series of predetermined maneuvers for the orderly transfer of an aircraft under Instrument Flight Rules (IFR) from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. IFR are rules and regulations established by the Federal Aviation Administration to govern flight under conditions in which flight by outside visual reference is not

safe. When such conditions are present, these are known as Instrument Meteorological Conditions (IMC). IFR flight depends upon flying by reference to instruments in the flight deck, and navigation is accomplished by reference to electronic signals.

Currently, while operating in Visual Meteorological Conditions (VMC), aircraft approaching Runway 4L to land are expected to maintain visual separation from other traffic at all times. As these aircraft presently lack vertical and lateral guidance to the runway, pilots must "hand-fly" the aircraft when arriving to Runway 4L, leading to additional cockpit workload during a critical phase of flight. Additionally, the runway is not available during periods of IMC, so operational flexibility is significantly limited during these times. During periods of significant delay, flights can often land much later than originally scheduled, potentially impacting neighbors during late-night hours. Cancellation of flights during periods of significant delay is not uncommon.

The FAA is proposing the implementation of a publicly available (published) RNAV IAP to Runway 4L. The proposed RNAV procedure will provide lateral and vertical guidance, enabling continuous descent to the runway and offering a more predictable, consistent, and stabilized approach path, thus improving safety. The proposed procedure will be used during IMC conditions and during VMC conditions when advised by local air traffic control.

The proposed RNAV (GPS) procedure will provide a stabilized approach with vertical and lateral guidance. This will reduce cockpit workload and allow aircraft to land at RWY 4L in IMC, which will in turn reduce delays at the Airport and upstream through the NAS. The procedure will also allow for greater controller flexibility during VMC conditions. The proposed procedure is designated as an RNAV (GPS) IAP, which requires that an aircraft flying the procedure remain within one nautical mile of the procedure centerline 95% of the total flight time. As explained in the noise analysis prepared for the FAA's Draft Environmental Assessment, the FAA only expects the new procedure to be used by approximately 359 operations per year. The Draft Environmental Assessment, which includes the FAA's noise analysis, is available on the following website: https://faabostonworkshops.com/. The FAA is currently accepting comments on the Draft Environmental Assessment through November 20, 2020.

The General Study Area (GSA) for the FAA's NEPA review is delineated for purposes of identifying potential environmental impacts. The GSA, as depicted in **Attachment A**, encompasses an area of approximately 1,173 square miles around BOS across Middlesex, Norfolk, Plymouth, and Suffolk counties. The GSA was conservatively constructed to encompass the geographic area where an aircraft flight path could be affected as a result of the proposed procedure.

2. FAA's Proposed Area of Potential Effects

As part of the consultation process required under Section 106, the FAA seeks your input on the proposed APE identified in this document for the undertaking. The Section 106 regulations define the APE as "the geographical area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties if any such properties exist. The Area of Potential Effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects

caused by the undertaking."[1]

The Proposed Action will not cause any physical effects to historic properties. Therefore, the FAA is developing a proposed APE based on consideration of where noise and visual impacts from the undertaking are expected to occur.[2] Specifically, the FAA considered the potential for noise or visual impacts that could alter the character or use of historic properties and the introduction of visual, atmospheric or audible elements that could diminish the integrity of the property's significant historic features.

An analysis was first conducted to identify areas where any historic property that might be present could be affected by the introduction of visual or audible elements from aircraft overflights. Notably, the FAA has determined the Proposed Action will not cause the introduction of new overflights, as aircraft flying the Proposed Action will all fly over areas that are currently overflown by arrivals to BOS.

Next, the FAA considered the projected increase in the number or concentration of overflights over particular areas to assess the potential for an incremental change in noise levels and visual impacts to alter the character or use of historic properties. The Proposed Action was used to generate two dimensional blocks covering all areas of potential change in overflights separated by the waypoints of the Proposed Action. These blocks are shown in reference to the Proposed Action in **Attachment B**. These blocks were then compared to an entire year of overflight data within the GSA as well as estimated usage of the Proposed Action and used to generate overflight data for each block for the No Action and Proposed Alternatives. **Attachment C** shows the year of overflight data in reference to the Proposed Action and these blocks. The radar data shows that the airspace around the Airport is already extremely dense with overflights, with over 427,000 annual operations in 2019.

Table 2.1 of the Draft Environmental Assessment summarizes the number of overflights for each block in the No Action and Proposed Action Alternatives. Based primarily on the overall increase in overflights and filtered by the percent increase in overflights and minimum aircraft altitude, the FAA is proposing to select the APE based on the following blocks: BLOCK3, NUNZO2, BLOCK2, BLOCK1, and NUNZO1. In each of these blocks, the percentage increase in overflights was greater than 0.4% and adding more than 100 overflights annually at a minimum altitude of 4,000 feet or less for the Proposed Action within each block.

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[1] 36 CFR § 800.16(d), https://www.achp.gov/sites/default/files/regulations/2017-02/regs-rev04.pdf

[2] As part of its review under the National Environmental Policy Act, the FAA conducted a noise modeling analysis to determine how this proposed action would affect current aircraft noise exposure levels in the General Study Area. This analysis indicated that the action would not result in any noise increase that would be "significant" under FAA policy, which defines the threshold of significance as an increase in the Day-Night Average Sound Level (DNL) of 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase. However, FAA policy recognizes that this threshold of significance may not be relevant to certain historic properties where a quiet setting is a generally recognized purpose and attribute. *FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, Exhibit 4-1*.

TABLE 2.1
NUMBER OF OVERFLIGHTS* FOR THE NO ACTION AND PROPOSED ACTION ALTERNATIVES BY BLOCK

Block Name	Block Minimum Altitudes (ft)	No Action Alternative Overflights	Proposed Action Alternative Overflights**	Percentage Increase in Overflights
BLOCK1	**0**	**83,599**	**83,958**	**0.43%**
BLOCK2	**1,700**	**81,133**	**81,492**	**0.44%**
BLOCK3	**3,000**	**66,110**	**66,469**	**0.54%**
WOONS1	4,000	45,502	45,520	0.04%
NUNZO1	**4,000**	**43,313**	**43,492**	**0.41%**
NUNZO2	**4,000**	**36,654**	**36,833**	**0.49%**
WOONS2	4,000	3,609	3,627	0.50%
DOWNWIND2	NA	129,230	129,338	0.08%
CAPE2	NA	66,899	66,953	0.08%
CAPE1	NA	69,766	69,820	0.08%
DOWNWIND1	NA	62,462	62,570	0.17%

Source: RoVolus, ESA, September 2020.
*Overflight data was from the calendar year from November 1, 2018 through October 31, 2019
**The Range of overflights added to each block ranged from 18 to 359 overflights

The proposed APE, which is just over 105 square miles, includes the area of the blocks identified in the overflights analysis and this proposed APE is shown in **Attachment D**.

3. FAA's Initial Identification of Historic Properties and Assessment of Effects

The National Register of Historic Places, the Massachusetts Historical Commission, and the Boston Landmarks Commission's data sources were used to gather a comprehensive directory of previously identified historic properties within the GSA. Approximately 4,202 of these resources are within the proposed APE. As noted above, the Proposed Action would not physically affect or alter any historic properties or other cultural resources. The Proposed Action also would not introduce aircraft overflights to resources that are not already overflown by aircraft. However, the FAA is considering the possibility that changes in noise levels or additional visual impacts from an increase in overflights could alter the character or use of certain kinds of historic properties where a quiet setting is a generally recognized purpose and attribute. Therefore, we are asking your assistance in identifying any historic properties within the proposed APE that might meet these criteria. In our experience, these may include isolated properties where a cultural landscape is part of the property's significance, rural historic districts, outdoor spaces designed for meditation or contemplation and certain traditional cultural properties in continuous use. The FAA looks forward to further consultation with your office to discuss whether the undertaking could affect any such historic properties within the APE.

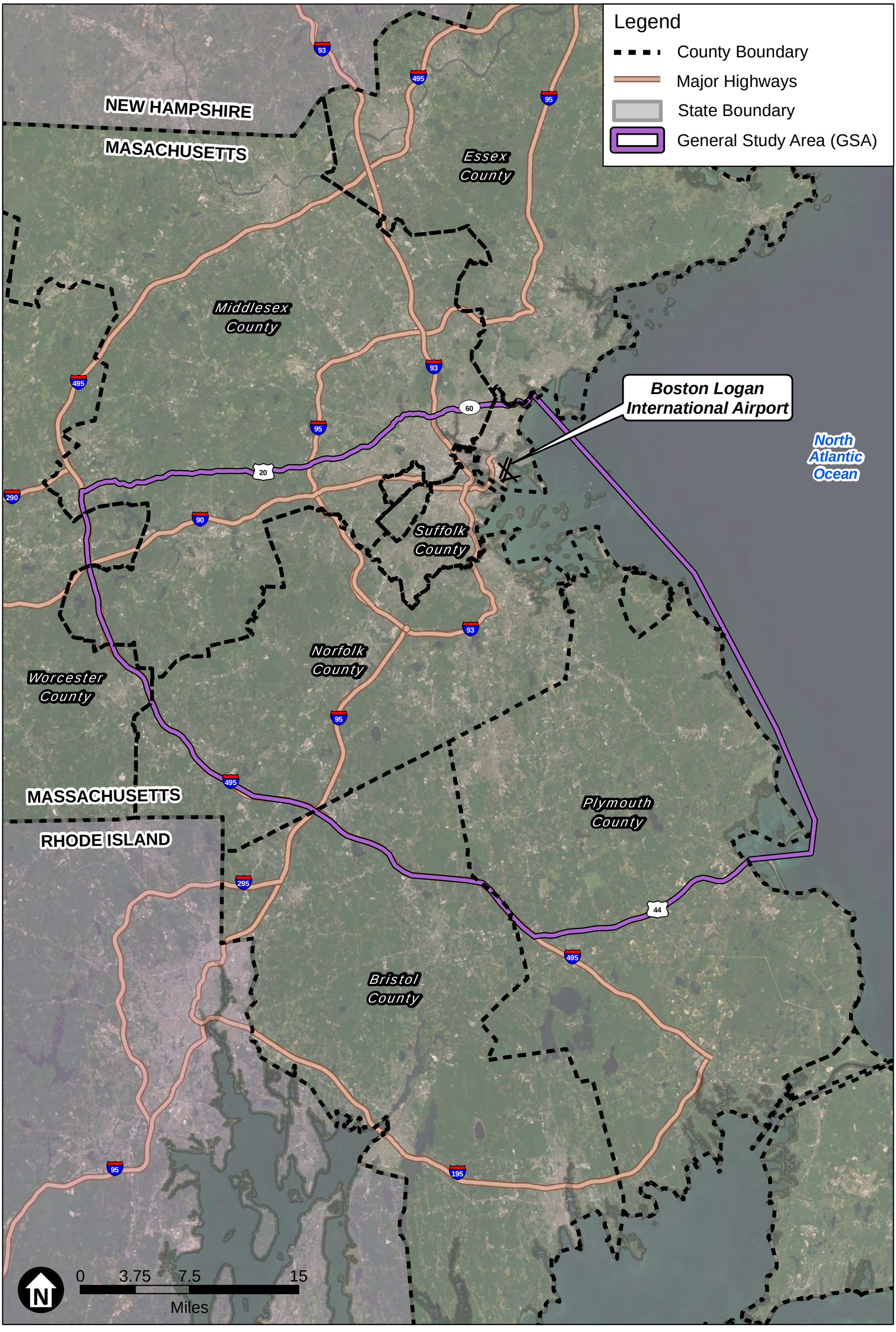
4. Additional Consultation

The FAA has noted the list of historical commissions, regional planning commissions, and other organizations provided in your previous letter. Once the MHC concurs with the proposed APE, the FAA will reach out to each of these organizations.

We look forward to hearing back from you on the FAA's proposed Area of Potential Effects and consulting with you to identify historic resources that could be affected by this undertaking. Following your review, we would appreciate having a conference call to receive your feedback and also to discuss next steps. If you have any additional comments or questions on this undertaking, please contact me at (404)-305-5598, or at veronda.johnson@faa.gov.

Sincerely,

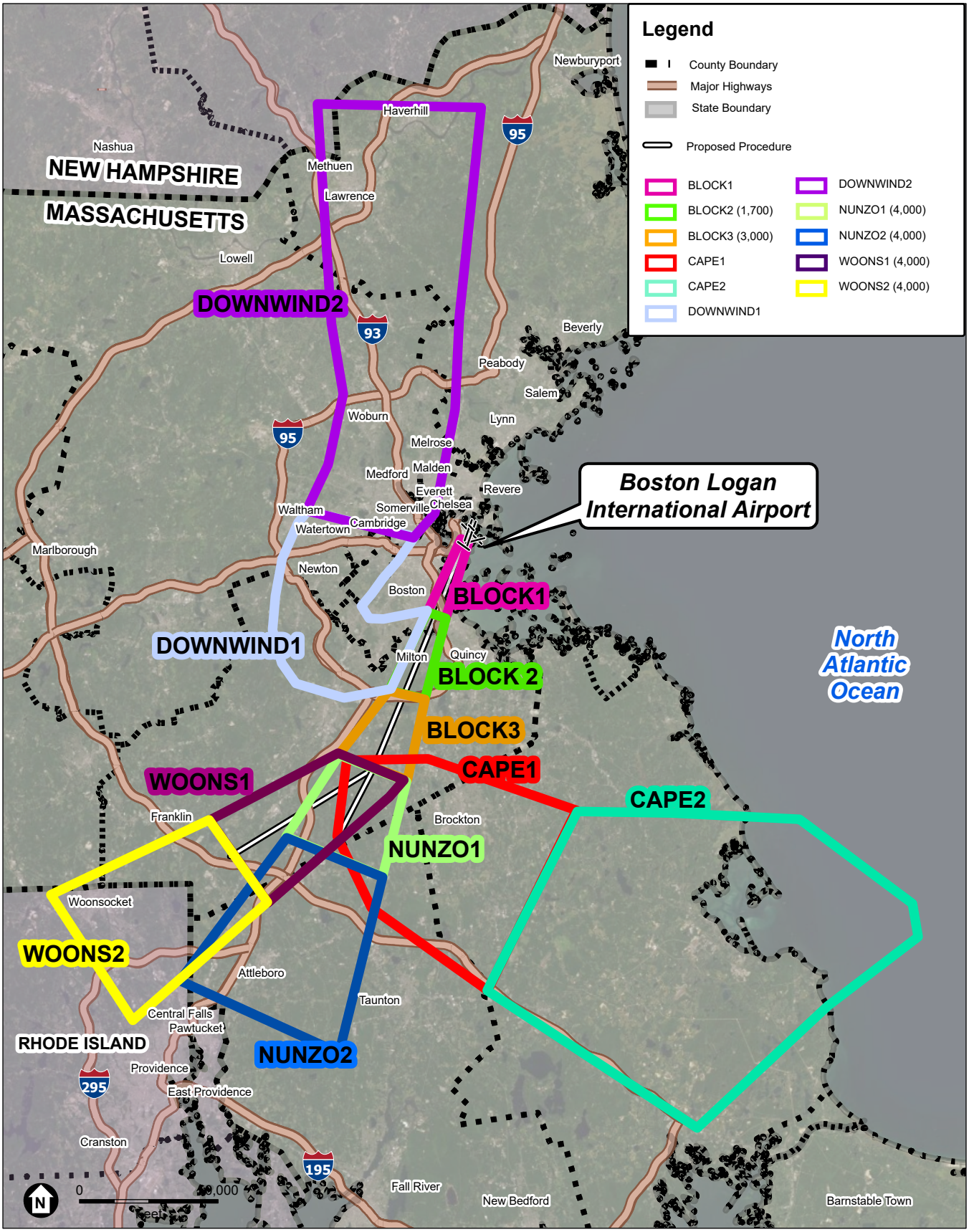
Veronda Johnson
Environmental Protection Specialist
Operations Support Group
Eastern Service Center



SOURCE: Esri; Prepared by Jacobsen Daniels, 2020

Boston Logan RNAV (GPS) RWY 4L EA

Attachment A
BOS EA General Study Area

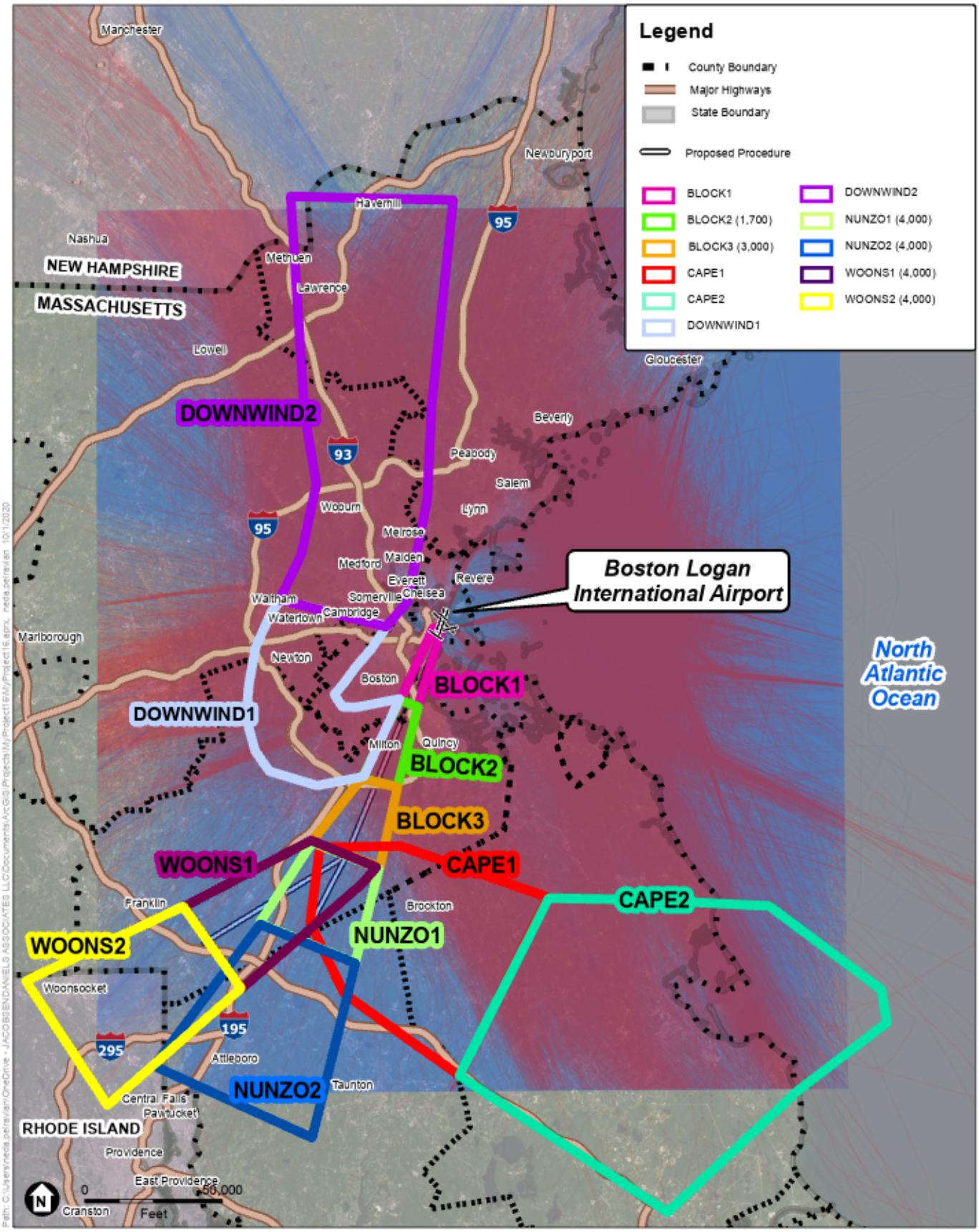


SOURCE: Esri; Prepared by Jacobsen Daniels, 2020

Boston Logan RNAV (GPS) RWY 4L EA

Attachment B

BOS Procedure Corridor Blocks



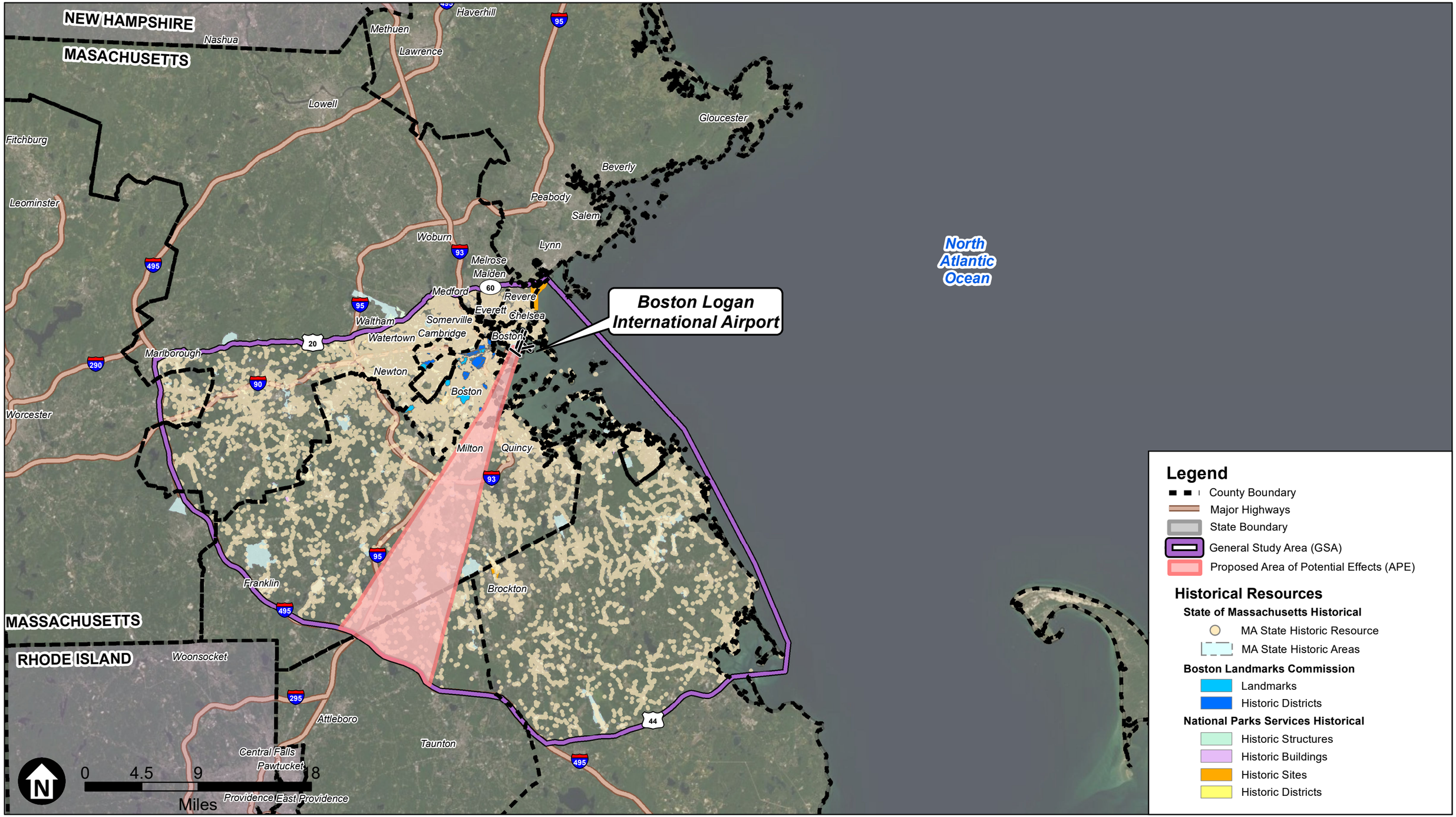
SOURCE: Esri; Prepared by Jacobsen Daniels, 2020

Boston Logan RNAV (GPS) RWY 4L EA

JD RoVolus ESA

Attachment C

BOS Procedure Corridor Blocks and Radar Flight Tracks



SOURCE: Esri; Prepared by Jacobsen Daniels, 2020

Boston Logan RNAV (GPS) RWY 4L EA

JD RoVolus

ESA

Attachment D
Proposed Area of Potential Effects