



Boston ATCT Standard Operating Procedures

Version E
January 21, 2019

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Version Log & Changes from Previous Version

Changes from the previous three versions are listed at the top of every SOP. Changes within the document are emphasized with a vertical blackline beside changed text.

Version E – January 21, 2019

Adds Opposite Direction Operations procedures Page 32

Version D – August 6, 2018

Removes the requirement for aircraft to verify their SID or transponder code when calling after a PDC/CPDLC Page 15

Version C – April 29, 2018

Clarifies the DEL/GND relationship during split operations Page 16

Chapter 1: Introduction

1.1 Purpose

Welcome to the big leagues! Boston is home to ZBW’s largest and most complex airport – Boston Logan International Airport (KBOS). It is the only ZBW airport that is designated as a Major Facility and classified as a Class B airport.

This SOP prescribes facility-specific procedures for the Boston Air Traffic Control Tower (ATCT).

1.2 Airspace

The Boston ATCT operates airspace delegated by Boston Approach (A90). It provides Clearance Delivery, Ground, and Tower control at Boston Logan International Airport (KBOS).

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1.4 Common Frequencies

Identifier	Position	Frequency	VOX Channel
BOS_DEL	Clearance Delivery	121.65	BOS_121.650
BOS_GND	Ground Control	121.90	BOS_121.900
BOS_B_GND	Secondary/Backup Cab Frequency	121.75	BOS_121.750
BOS_R_GND	Ramp Control	134.05	BOS_134.05
BOS_TWR	Local Control (combined)	128.80	BOS_128.800
BOS_W_TWR	Local West	128.80	BOS_128.800
BOS_E_TWR	Local East	132.22	BOS_132.220
BOS_H_TWR	Skyways	124.72	BOS_124.720

Chapter 2: Runway Configurations

2.1 General

- a. Runway configurations are selected at the discretion of the Local controller, and the selection is based primarily on weather conditions. There are no limits on what configuration is to be used; however, safety and operational efficiency must be considered when deciding which runways are to be used.
- b. Surface winds and instrument approach minima shall be the primary considerations for runway selection.
- c. Aircraft may request a runway that is not active; such operations must be properly coordinated between Ground, Local and Approach.
- d. Configurations listed below reference the arrival runway followed by the departure runway (e.g., 4/9 implies arriving Runways 4R/L, departing Runway 9).

2.2 Restrictions

- a. Arrivals are prohibited on:
 1. Runway 14
 2. Runway 15L at night
 3. Runway 33R when the field is IMC
- b. Departures are prohibited on Runways 15L, 33R, and 32.
- c. Runway 14 may only be used as a departure runway in the 15/9 and 15/15 configurations.
- d. Runway 14/32 may only be used when the actual or forecasted wind is 10 knots or greater:
 1. From the northwest between 275 degrees to 005 degrees
 2. From the southeast between 095 degrees to 185 degrees
- e. Runway 4L shall not be used for jet departures.
- f. Runway 22R shall not be used for jet arrivals. Non-jet arrivals on Runway 22R are only permitted between 0600-2300 local.

2.3 4/9 Configuration

- a. Runway 4R is the primary arrival runway. Runway 4L is the secondary arrival runway. Runway 9 is the primary jet departure runway.
 1. If Runway 4R is used for departures in this configuration, all aircraft shall be given a top altitude of 3,000'.
 2. There is also a 4/4 configuration, in which Runway 4R becomes the primary jet departure runway. In this case, a Runway 9 departure must be given a top altitude of 3,000'.
- b. Non-jet aircraft with on course headings of 175° clockwise through 095° should be assigned Runway 4L. Otherwise, these aircraft should be assigned Runway 9. Note that jet aircraft may never depart Runway 4L due to noise abatement.
- c. Runway 4R may be used for departures for operational necessity. If an aircraft requests 4R, Ground shall coordinate with the Local controller. If approved, Ground shall taxi such aircraft to Runway 4R to hold at the 4L Approach Hold Point.
- d. Landing on Runway 4L is prohibited between 2300 and 0600 Local.
- e. Runway 9 is never used for arrivals.
- f. This configuration is considered a 'calm wind' configuration and may be used when the wind is less than 5 knots from any direction.
- g. When Tower is split:
 1. LCE shall have jurisdiction of Runways 4R and 9. LCW shall have jurisdiction of Runway 4L.
 2. LCW shall work Runway 15R and Runway 33L departures in this configuration (after coordination with GC for runway jurisdiction and LCE for a release).
 3. LCW shall not assign departure headings any further east than 010° without coordination with LCE.
 4. LCE shall not assign departure headings any further west than 040° without coordination with LCW.
 5. LCE shall obtain a release from LCW for all Runway 4R heavy jet and B757 departures.

h. When ILS 15R – VAP 4L is being conducted:

1. A90 will expect these aircraft to “Expect Visual Approach Left Traffic Runway 4L”.
2. Visual separation between the Runway 4R and 4L arrivals must be applied.
3. LCW shall advise these aircraft to report the airport in sight. At that time, clear the aircraft for a Visual Approach.

2.4 27/22 Configuration

- a. Runway 27 is the primary arrival runway. Runway 22L is the secondary arrival runway. Runway 22R is the primary departure runway (all aircraft).
- b. Landing Runway 22R is limited to small category non-jet aircraft.
- c. Landing Runway 22R is prohibited between the hours of 2300-0600 local.
- d. Runway 22L may be used for departures for operational necessity. If an aircraft requests 22L, Ground shall coordinate with the Local controller. If approved, Ground control shall taxi such aircraft to Runway 22L to hold short of 22R.
- e. When split:
 1. LCW shall have jurisdiction of Runway 22R. LCE shall have jurisdiction of Runways 22L and 27.
 2. Missed Approaches. In the event of a Runway 22L or 27 missed approach, LCE shall immediately coordinate with LCW for initial heading assignment and traffic information. LCW shall determine the initial heading; LCE shall retain communication and issue the heading required by LCW.
- f. In this configuration, aircraft may be given takeoff clearance on Runway 22R when:
 1. A Runway 27 arrival is more than 3nm from the Runway 27 threshold.
 2. A Runway 27 arrival is within 0.1nm of the Runway 27 threshold.
 3. A Runway 27 arrival is between 3 and 2.4nm from the Runway 27 threshold and has a ground speed of 150 knots or less.

2.5 22/22 Configuration

- a. Runway 22L is the primary arrival runway. Runway 22R is the primary departure runway (all aircraft).
- b. Landing Runway 22R at all times is limited to non-jet aircraft.
- c. Landing Runway 22R is prohibited between the hours of 2300 – 0600 local.
- d. Runway 22L may be used for departures for operational necessity. If an aircraft requests 22L, Ground shall coordinate with the Local controller. If approved, Ground control shall taxi such aircraft to Runway 22L to hold short of 22R.
- e. The only applicable separation between operations on Runway 22R/22L is wake turbulence. Runway 22L arrivals must be given “caution wake turbulence” referencing Runway 22R departures where applicable. For departures, for wake turbulence purposes, Runway 22R/22L are considered one runway. Except for wake turbulence, traffic information does not need to be passed between traffic on parallel runways.
- f. When split:
 1. LCE has jurisdiction of Runway 22L. LCW has jurisdiction of Runway 22R.
 2. Missed Approaches. In the event of a Runway 22L missed approach, LCE shall immediately coordinate with LCW for initial heading assignment and traffic information. LCW shall determine the initial heading; LCE shall retain communication and issue the heading required by LCW.

2.6 27/33 Configuration

- a. Runway 27 is the primary arrival runway. Runway 33R is the secondary arrival runway. Runway 33L is the primary jet departure runway.
- b. Tower shall not be split.
- c. During periods of low arrivals, departures may use both Runway 27 and Runway 33L. In this situation:
 1. Aircraft with departures gates of PATSS, BLZZR, SSOXS, BRUWN, CELTK, or a departure gate to the south of KBOS shall use Runway 27.
 2. Aircraft with departure gates of HYLND, LBSTA, REVSS, or a departure gate to the north of KBOS shall use Runway 33L.

2.7 27+32/33L Configuration

- a. Runway 27 is the primary arrival runway. Runway 32 is the secondary arrival runway. Runway 33L is the primary departure runway.
- b. The C intersection on Runway 4R should be utilized for non-jet departure aircraft departing via MHT and PSM.
- c. NOTE: The use of Runway 4R for a departure from the C intersection will require coordination with Ground Control for jurisdiction of the runway
- d. Departures from C intersection on Runway 22L are prohibited.
- e. When split:
 1. LCW has jurisdiction of Runway 33L and 27. LCE has jurisdiction of Runway 32.
 2. LCE has jurisdiction of the airspace from the BOS R-151 to the BOS R-180, to the edge of the airspace.
 3. LCW has jurisdiction over all other airspace, excluding LH airspace.
 4. In the event of a Runway 32 go around/missed approach, LCE shall immediately coordinate with LCW for an initial heading assignment and traffic information.

2.8 33/27 and 33/33 Configurations

- a. Runway 33L is the primary arrival runway. Runway 33R is the secondary arrival runway.
- b. On the 33/27 Configuration, Runway 27 is the primary jet departure runway. On the 33/33 Configuration, Runway 33L is the primary jet departure runway.
- c. On the 33/27 Configuration, jet departures unable an RNAV procedure shall be assigned the LOGAN# and use Runway 33L for departure.
- d. Aircraft with on-course headings of 245° through 095° should be assigned an intersection departure on Runway 33L from the Taxiway G intersection.

2.9 33L+32/27 Configuration

- a. Runway 33L is the primary arrival runway. Runway 32 is the secondary arrival runway. Runway 27 is the primary departure runway.
- b. The C intersection on Runway 4R should be utilized for non-jet departure aircraft via CELTK, MHT, PSM, or destined to K90 airspace. However, MVY destined aircraft shall be assigned a southwesterly heading and should depart on Runway 27.
- c. NOTE: The use of Runway 4R for a departure from the C intersection will require coordination with Ground Control for jurisdiction of the runway.
- d. Departures from C intersection on Runway 22L are prohibited.

2.10 33L+32/33L Configuration (Runway 27 is closed or not available)

- a. Runway 33L is the primary arrival runway. Runway 32 is the secondary arrival runway. Runway 33L is the primary departure runway (all aircraft).
- b. The C intersection on Runway 4R should be utilized for non-jet departure aircraft via CELTK, MHT, PSM, or destined to K90 airspace. However, MVY destined aircraft shall be assigned a southwesterly heading and should depart on Runway 33L.
- c. NOTE: The use of Runway 4R for a departure from the C intersection will require coordination with Ground Control for jurisdiction of the runway
- d. Departures from C intersection on Runway 22L are prohibited.

2.11 15/9 and 15/15 Configurations

- a. Runway 15R is the primary arrival runway. Runway 15L is the secondary arrival runway.
- b. On the 15/9 Configuration, Runway 9 is the primary departure runway. On the 15/15 configuration, Runway 15R is the primary departure runway.
- c. Runway 14 may be utilized as a departure runway only.
- d. Due to the traffic flow and low arrival acceptance rate, this runway configuration is only used when strong surface winds from the southeast are present, or maintenance/closures dictate use.

2.12 Nocturnal Procedures

- a. Nocturnal procedures are applied during light traffic conditions between 11pm and 6:30am when the tailwind component will not exceed 10 knots.
- b. Runway 33L is the primary arrival runway.
- c. Runway 15R is the primary departure runway.
- d. When landing Runway 33L and departing Runway 15R, departure releases are required for each aircraft.

2.13 Releases

- a. Turbojet aircraft that will depart on a runway that is not associated with the runway configuration in use require a release from A90, except as indicated below.
- b. The chart below notes the runways (in each configuration) for which a release from A90 is not required. It also notes any restrictions that apply to departures from a secondary runway. For example, in the 4/9 configuration, aircraft departing Runway 4R or 15R do not require a release, but must be instructed to “climb via SID except maintain 3,000”.

Runway Configuration	Runways that do NOT require an A90 Release		
	Primary Runway(s)	Secondary Runway(s)	Special Restrictions for Secondary Runway Departures
4/4	4R, 4L	9, 15R	3,000'
4/9	9, 4L	4R, 15R	3,000'
15/9	9	14, 15R	3,000'
15/15	15R	9, 14	9: Runway Heading, 3,000'
22/22	22R, 22L	15R	N/A
27/22	22R, 22L	15R	Fly Heading 150
27/27	27	33L	4,000'
27/33	33L	27	4,000'
27+32/33L	33L	27	4,000'
33/27	27	33L	4,000'
33+32/27	27	33L	4,000'
33/33	33L	27	4,000'
33/15	Nocturnal ODO – all aircraft require a release		

Chapter 3: Clearance Delivery

3.1 IFR Clearances

a. General

1. IFR aircraft shall be issued clearances corresponding to established [Preferred Routes](#), which are created as prescribed in this SOP, LOAs, and published SIDs.
2. Aircraft landing at A90 BOS Area Satellite airports (BED, BVY, FIT, GHG, LWM, OWD, MA6, 1B9, 28M, 6B6, and 9B1) shall be cleared via the LOGAN SID, expect radar vectors direct destination airport.
3. All aircraft departing KBOS should be assigned a SID. The SID shall be included in the aircraft's flight plan.
4. Non-jet aircraft unable to comply with the SID shall be assigned "radar vectors (first fix), then as filed", and will be issued a heading by TWR. The LOGAN# departure shall still be included in the aircraft's flight plan.
5. Jet aircraft unable to comply with a SID shall be issued a heading in the clearance. The LOGAN# departure shall still be included in the aircraft's flight plan. Assign headings as follows:
 - (a) Runway 4R: Runway Heading
 - (b) Runway 9: Runway Heading
 - (c) Runway 14: Heading 120
 - (d) Runway 15R: Heading 120
 - (e) Runway 22R/L: Heading 140
 - (f) Runway 27: Runway Heading
 - (g) Runway 33L: Runway Heading
6. When other than 133.00, the appropriate departure frequency shall be specified in the clearance.
7. All aircraft shall be issued a discrete squawk code.

b. Area Navigation (RNAV) Departure Procedures

1. RNAV departures shall be issued to all RNAV-capable turbojet departures.
 - (a) BLZZR# – West.
 - (b) BRUWN# – Southeast.
 - (c) CELTK# (RNAV) – East (Atlantic departures).
 - (d) HYLND# (RNAV) – Northwest.
 - (e) LBSTA# (RNAV) – Northeast.
 - (f) REVSS# (RNAV) – West/northwest.
 - (g) PATSS# (RNAV) – West/southwest.
 - (h) SSOXS# (RNAV) – South.
2. The relevant departure procedure is specified in the initial clearance, and must be readback by the pilot:

*UAL76, cleared to the Houston Airport via the REVSS# Departure, then as filed.
Climb via SID. Squawk 1320.*

c. Radar Vektored Departure Procedures

1. The LOGAN# is the primary radar vector departure, and is used by non-jet aircraft, as well as jet aircraft unable the RNAV procedures.
 - (a) All aircraft shall be vectored to a valid departure gate, usually the initial fix of their flight plans. Jet aircraft shall be cleared to maintain an initial altitude of 5,000 feet and expect their cruise altitude ten (10) minutes after departure. Prop aircraft shall be cleared to maintain an initial altitude of 3,000 feet and expect their cruise altitude ten (10) minutes after departure.

KAP5291, cleared to the Nantucket Airport via the LOGAN# Departure, radar vectors Marconi, then as filed. Maintain 3,000. Departure frequency 118.25. Squawk 1321.
 - (b) The phrase “climb via SID” shall not be used for the LOGAN# departure.
2. The WYLYY# RNAV departure is an ATC assigned departure and is available from Runway 27 only, and is rarely used. RNAV-capable aircraft departing Runway 27 should be assigned the applicable RNAV departure procedure.

d. Departure Gates

1. To standardize departure flows and ensure proper and expeditious routing of traffic, Boston TRACON (A90) uses departure exit gates for IFR departures to destinations outside of A90 airspace. Every IFR aircraft leaving KBOS must leave A90 airspace bound for one of these gates, unless a preferred routing specifies an alternate route.
2. The following high altitude departure gates are used for aircraft filed above 10,000':
 - (a) BLZZR [Intersection] – Aircraft with flight plans to the west or southwest. For aircraft unable to comply, GLYDE is acceptable.
 - (b) BRUWN [Intersection] – Aircraft with flight plans to the south, Bermuda, or the Caribbean. For aircraft unable to comply, ACK or MVY are acceptable.
 - (c) CELTK [Intersection] – Aircraft with flight plans to Southern Europe. For aircraft unable to comply, substitute FRILL.
 - (d) HYLND [Intersection] – Aircraft with flight plans to the north or northwest. For aircraft unable to comply, MHT is acceptable.
 - (e) LBSTA [Intersection] – Aircraft with flight plans to the northeast, Atlantic Canada, or Europe. For aircraft unable to comply, PSM or ENE are acceptable.
 - (f) PATSS [Intersection] – Aircraft bound for La Guardia (KLGA) and Newark (KEWR) or with flight plans to the west and the southwest. For aircraft unable to comply, GLYDE, NELIE, or ONEPS are acceptable.
 - (g) REVSS [Intersection] – Aircraft with flight plans to the west or northwest. For aircraft unable to comply, SPENO is acceptable.
 - (h) SSOXS [Intersection] – Aircraft bound for Kennedy (KJFK) or with flight plans to the south. For aircraft unable to comply, LUCOS is acceptable.
3. The following low altitude departure gates are used for aircraft filed at or below 10,000':
 - (a) BOSOX [Intersection] – Aircraft with flight plans to the west and southwest.
 - (b) BURDY [Intersection] – Aircraft bound for Long Island (KISP) or with flight plans to the southwest.
 - (c) DUNKK [Intersection] – Aircraft bound for Hyannis (KHYA) or with flight plans to the southeast.
 - (d) FREDO [Intersection] – Aircraft bound for Martha's Vineyard (KMVY).

- (e) GLYDE [Intersection] – Aircraft with flight plans to the west and southwest.
 - (f) MHT [Manchester VOR] – Aircraft with flight plans to the north and northwest.
 - (g) LFV [Marconi VOR] – Aircraft bound for Nantucket (KACK).
 - (h) PSM [Pease VOR] – Aircraft with flight plans to the northeast.
4. Aircraft that do not file an appropriate departure gate, but file a fix depicted on a departure procedure, should be offered the preferred departure gate for their route of flight. If the aircraft is unable to accept the amended route, controllers shall coordinate with the controller providing departure service and attempt to accommodate the requested route.

e. Maximum Altitudes

1. Clear aircraft at or below the following maximum altitudes. Any altitude restrictions noted on a preferred route shall be applied prior to these restrictions. The restrictions below apply only when no other restriction is published.
 - (a) Traffic landing within an adjacent TRACON/Area: 11,000’ (10,000’ during any rostered event when an aircraft is on a TEC route)
 - (b) Traffic landing JFK: 22,000’
 - (c) Traffic landing LGA/KEWR: 16,000’

f. Cape Air Abbreviated Clearances

2. The Boston ATCT and Cape Air have signed an LOA to provide coded departure clearances. Cape Air (KAP) aircraft wishing to use one of these routes shall file the route request in the Remarks section of their flight plan (e.g. “Route M”), or verbally request clearance via a coded route.

KAP921, cleared to the Nantucket Airport via Route Alpha, squawk 1314.

To	Route	Route String
ACK	Route A	LOGAN# LFV
ALB	Route W	LOGAN# GLYDE V270 CTR
AUG	Route G	LOGAN# PSM ENE
BHB	Route R	LOGAN# PSM ENE
EWB	Route E	LOGAN# DIRECT
HYA	Route H	LOGAN# DUNKK V141 GAILS

LEB	Route L	LOGAN# MHT
MVY	Route M	LOGAN# FREDO MVY017R (Direct)
MVY	Route Y	LOGAN# MVY 359/35DME (Direct)
PVC	Route P	LOGAN# (Direct)
PVD	Route D	LOGAN# (Direct)
RKD	Route K	LOGAN# PSM ENE (Direct)
RUT	Route U	LOGAN# MHT (Direct)
SLK	Route S	LOGAN# MHT V141 BTV

3.2 VFR Clearances

a. VFR departures from KBOS must be assigned a specific Class B airspace clearance. This includes:

1. Airspace clearance.
2. An altitude restriction.
3. Departure frequency:
 - (a) The frequency for Boston Tower (when staffed) is used if aircraft are cleared at or below 2,000’.
 - (b) The frequency for Boston Departure (when staffed), or another appropriate radar controller, is used if aircraft are cleared at 3,000’.
4. Transponder code.

b. Unless otherwise coordinated or a pilot has filed/requested a lower altitude, VFR departures shall be assigned an altitude restriction of 3,000’ and be assigned “runway heading” in the initial clearance.

N314, cleared out of the Boston Class Bravo airspace via fly runway heading. Maintain VFR at 3,000. Departure frequency 133.00. Squawk 1355.

N1JB, cleared to operate in the Boston Class Bravo airspace at or below 2,000. Departure frequency 128.80. Squawk 1356.

c. If the Class B airspace is busy, consider restricting VFR aircraft at or below 2,000’, thus keeping the aircraft with TWR.

1. When an initial altitude of 2,000' is issued, this altitude must be included in the "temporary altitude" for the aircraft so TWR is aware the aircraft will not be contacting departure.
- d. VFR aircraft shall be assigned squawk codes in a similar fashion to IFR aircraft. No VFR squawk code banks are used.
 - e. Helicopter Routes (found on the "Boston Heli" VFR chart on SkyVector) may be issued to departing fixed-wing or helicopter aircraft:

Medflight 91, cleared out of the Boston Class B airspace via the PIKER route, maintain VFR at 1,500, departure frequency 128.80, squawk 1302.

f. Cape Air Abbreviated VFR Clearances

1. As with IFR aircraft, Cape Air aircraft may be given two abbreviated Class B clearances.

Route V	Route B
Cleared out of Class B Airspace via: Runway heading, Maintain VFR at 3000. Expect requested altitude 10 minutes after departure. Departure frequency will be 133.00.	Cleared out of Class B Airspace via: Runway heading, Maintain VFR at assigned altitude. Departure frequency will be 128.8 unless instructed otherwise.

2. If the aircraft's requested VFR altitude is above 2,000, assign Route V.
3. If the aircraft's requested VFR altitude is at or below 2,000, assign Route B.

KAP322, cleared via Route Bravo, maintain two thousand, squawk 1255.

3.3 CPDLC

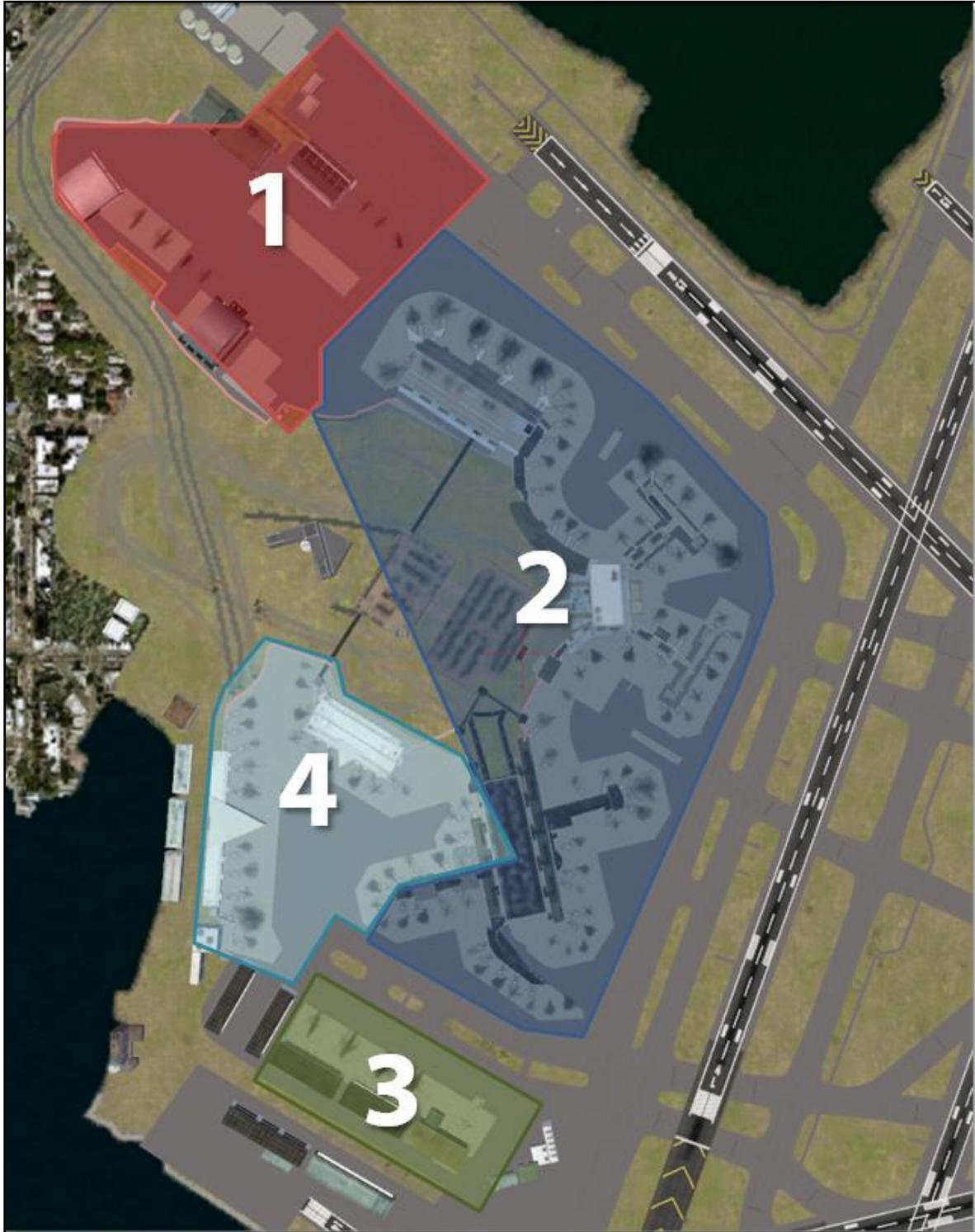
- a. CPDLC is authorized for use at KBOS with any IFR aircraft except General Aviation and Cape Air, who wouldn't be able to receive such messages. Aircraft filed on the LOGAN# departure may be issued the ".pdcn" command, or given a voice clearance. The phase "climb via SID" shall not be used on the LOGAN# departure.

3.4 Clearance Readback

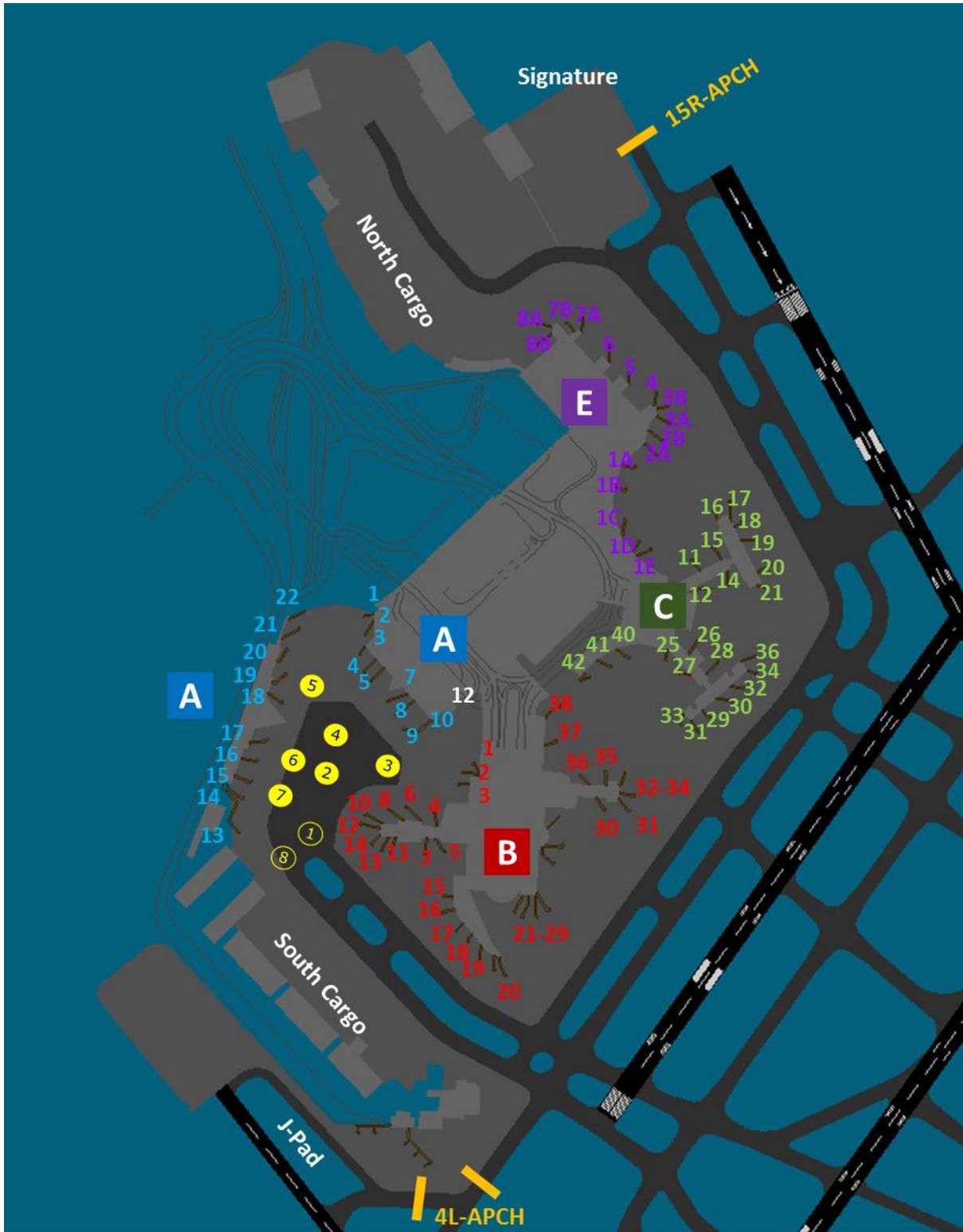
- a. If a SID is issued verbally, confirm the readback.
- b. Once the aircraft has been advised “readback correct” (voice clearance) or the aircraft has called in after receiving CPDLC:
 1. If the aircraft is located area 1, instruct the aircraft to “advise ready to taxi”.
 2. If the aircraft is located in areas 2, 3, or 4 instruct the aircraft to “advise ready to push”. (General aviation aircraft or Cape Air aircraft parked in these areas do not require a pushback and should be instructed to “advise ready to taxi”.)
- c. When DEL is operated as a separate position, aircraft shall advise Clearance Delivery when ready to push or taxi. Proceed as shown:
 1. Obtain the aircraft’s gate or location (either ask the pilot or determine based on the aircraft’s position) and enter it into Box 5 of the flight strip.
 2. Reference the image on the following page:
 - (a) If the aircraft is located in areas 1, 2, or 3, instruct the aircraft to “monitor Ground”.
 - (b) If the aircraft is located in area 4, instruct the aircraft to “pushback your discretion, advise Ground on 121.90 at Spot 7 ready to taxi”.¹
 3. Push the aircraft’s flight strip to Ground.

¹ If Ramp Control is online (typically this only happens during an event), coordinate contact procedures as appropriate.

g. Boston Ground – Pushback Areas



h. Boston Ground – Gates and Other Parking Locations



Chapter 4: Ground Control

4.1 Positions

- a. In general, GND should be operated by one controller on 121.90
- b. Unless otherwise coordinated, GND is responsible for all movements on the terminal side of the closest active runway. Thus, the division of control between TWR and GND takes place on the terminal side of the closest active runway. This is referred to as the “transfer of control point”.
 1. Outbound aircraft will be given taxi instructions by GND up until the first active runway. The crossing instruction for the active runway shall be given by TWR.
 2. Inbound aircraft will be crossed on all active runways by TWR, and then handed off to GND.
 3. When Runway 4L-22R is active, TWR is responsible for aircraft operations on Taxiway “M”.
- c. In exceptional circumstances, a second ground controller (BOS_B_GND) may use 121.75. When this occurs:
 1. The areas of jurisdiction of each GND position shall be established by both controllers prior to the position being opened;
 2. Coordination between the two controllers must be affected as to whether aircraft shall be instructed to “monitor” or “contact” the subsequent controller;
 3. The first controller shall:
 - (a) Issue the departure runway;
 - (b) Issue the route to be used up to the hold point that will be issued; and,
 - (c) Issue a frequency change to the aircraft prior to having it arrive at the holding point.
- d. The subsequent ground controller is responsible to issue:
 1. The departure runway;
 2. The route remaining to get to the departure runway; and,
 3. Any appropriate remaining hold short restrictions.

4.2 Pushback

- a. When DEL is online, aircraft will be monitoring Ground when they are ready to push or taxi. Upon receipt of the aircraft's flight strip, call the aircraft and issue appropriate instructions.
- b. When DEL is offline, aircraft will call ready to push or taxi as appropriate.
- c. Refer to the diagram above:
 1. Aircraft parked in areas 1 or 4 shall be issued taxi instructions immediately. Aircraft requesting to push shall be instructed to "pushback your discretion, advise ready to taxi".
 2. Aircraft in area 2 shall be issued one of the following instructions based on their location:
 - (a) If they will push onto a taxiway: "push approved"
 - (b) If they will push into the ramp: "push your discretion"
 - (c) Any other relevant instructions
 3. Aircraft in area 3 shall be issued "push onto Taxiway Kilo approved", along with any other relevant instructions.

4.3 Coordination with Tower

- a. Coordinate the following with TWR unless otherwise agreed:
 1. Requests for non-standard departure runways
 2. Intersection departure requests
- b. When Runway 33 is used as a departure runway, non-jet departures are commonly issued intersection D. This requires coordination with Tower.

4.4 Taxiing Aircraft

- a. GND must be aware of which runways are active, and quickly determine the most efficient way to taxi various aircraft to and from the active runways.
- b. If an aircraft requests a secondary or non-standard departure runway, coordinate the request with TWR. Additionally, apply any special restrictions that may be necessary:

CXA611, amend clearance to read climb via SID except maintain 3,000, the rest of the clearance remains as previously read.

c. Taxiway Restrictions:

1. Taxiway A between A1 and K, as well as the portion of Taxiway E west of Taxiway A, shall not be assigned to Group 5 or 6 aircraft (i.e., wingspans of 171' or greater). This includes A330, A340, B747, B777, B787, and A380.
2. The A380 is restricted from utilizing Taxiway A and the portions of Taxiways E and K that are northwest of Taxiway B. Otherwise, the A380 is permitted to taxi on any taxiway/ runway and is not restricted from utilizing any runway for arrival/departure. The A888 is expected to park at Terminal E (Gate 8A) or at North Cargo.

d. When issuing taxi instructions that will require an aircraft to hold short of a specified point, issue only the taxi instructions necessary for the aircraft to reach the hold short location:

DAL555, Runway 9, taxi via Kilo, hold short of Runway 4L.

JBU1786, Runway 9, taxi via Quebec, Bravo, Echo, hold short of Runway 4L.

e. The subsequent controller shall issue the remaining route/instructions:

JBU1786, Boston Tower, cross Runway 4L at Kilo, taxi via Mike.

f. Specific runway hold short instructions and crossing instructions are given for each runway (one at a time) an aircraft will encounter along a given taxi route :

KAP2112, Boston Ground, Runway 22R, taxi via Charlie, Bravo, November, cross Runway 15R, hold short of Runway 15L.

(Once the aircraft has crossed Runway 15R:) KAP2112, cross Runway 15L on November, hold short of Runway 22R, monitor Boston Tower on 128.80.

g. Aircraft taxiing to Runway 4R must be given instructions to hold short of the Runway 4L Approach, which is depicted on the airport diagram as the line with the description "ALL AIRCRAFT HOLD HERE" at the intersection of taxiways "B" and "J".

1. Aircraft taxiing to Runways 9 or 4R via taxiways Bravo and Mike shall be given:

Runway 4R, taxi via Bravo, hold short of Juliet.

2. Boston Tower will control traffic crossing the 4L Approach:

Cross Runway 4L Approach on Bravo.

h. GND shall obtain an acknowledgement of a hold-short instruction prior to transferring communication of the aircraft to the LCE/LCW controller.

- i. GND must ensure that when weather conditions are less than ceiling 800' and/or visibility less than 2 miles and the runway is being utilized as an arrival runway, aircraft/vehicles are instructed to hold short of the ILS Critical Areas and ILS Hold Points.

AAL3, hold short of the Runway 4R ILS Critical Area.

- j. Intersection Departures:

1. Intersection departures may be conducted at any time of the day; however, additional caution should be exercised at night. Note that LUAW is not authorized from an intersection at night except at Runway 4R/22L from Charlie.
2. Massport prohibits jet aircraft, or any aircraft exceeding 30,000 pounds maximum certificated gross weight, from departing from an intersection, except:
 - (a) Runway 15R departures (any intersection is allowed)
 - (b) Runway 4R at Taxiways B and M1
 - (c) Runway 22R at Taxiway N2
 - (d) Runway 22L at Taxiway N3
 - (e) Runway 27 at Taxiway D2
3. If requested by the pilot, you may need to provide runway distance available for aircraft departing at intersecting taxiways or runways. More information about the intersection departures is included in Appendix 1.

- k. Ground Movements and Sequencing

1. Sequence aircraft to maximize operational capacity and minimize delays. Consider departure gates/fixes, aircraft speed, and wake turbulence.
2. Examples:
 - (a) If multiple aircraft are requesting taxi clearance at the same time, attempt to stagger departure gates/fixes to maximize separation for Local, Departure and/or Center.
 - (b) If an SF40 (multiengine, turboprop) and a C402 (multiengine, piston prop) both request taxi clearance at the same time, and they are going to the same departure gate, instruct the C402 to taxi behind the SF40, as the SF40 will fly much faster and will build separation for Local, Departure and/or Center.

(c) If a B772 (heavy turbojet) and B190 (small, multiengine prop) both request taxi clearance at the same time, instruct the B772 to taxi behind the B190 to the departure runway. Taxiing the B190 to the runway first will greatly minimize the wake turbulence delays that would be brought about by taxiing and departing the B772 first.

l. Inbound aircraft shall be issued taxi instructions to the appropriate parking location. If inbound airliners do not specify their gate, request that information from the pilot. If the pilot is unaware of the gate assignment, issue taxi instructions to the appropriate terminal.

Airline / Aircraft	Terminal
General Aviation	Signature
FedEx	South Cargo
Other Cargo	North Cargo
Delta	A
Southwest	A
Air Canada / Jazz / Sky Regional	B
American Airlines	B
PenAir	B
Spirit	B
US Airways	B
United	B
Alaska	C
Cape Air	C
jetBlue	C
Sun Country	C
Porter	E
All International Arrivals (all airlines, including U.S. domestic airlines)	E

m. De-Icing Procedures

1. Only direct aircraft to de-ice if requested.
2. All de-icing takes place at the gate, or at the J-Pad on the south side of the field.
3. Aircraft requesting to de-ice shall be given instructions to taxi to the J-Pad. Aircraft will then contact you when ready to taxi, and shall be given normal taxi instructions.
4. When the J-Pad or de-icing is taking place, Runway 14-32 shall be closed.

- n. Controllers should be aware that the original (2006 FSX default) KBOS scenery has several differences. The 2006 Airport Diagram is included in the appendices.

Chapter 5: Local Control

5.1 Airspace

- a. Above 2,000' MSL in the Boston Class B Airspace is delegated to Boston Consolidated TRACON (A90).
- b. Tower airspace is 2,000' MSL and below from the Boston VORTAC to the edge of the Boston Class B Surface Airspace (8 NM), except 1,000' MSL and below underlying Final Vector airspace from the Final Approach Fix (FAF) of the approach in use to the edge of the Class B Airspace (8 NM).
- c. In other words, airspace above 1,000' MSL between the edge of the Class B Airspace and the Final Approach Fix of the active approach belongs to A90. The rest of the 8nm/2,000' airspace belongs to TWR.
- d. Tower airspace can be split into two positions: Local Control East (LCE) and Local Control West (LCW). During a split, the airspace is divided as described in Chapter 3, except that LCW controls "Boston Skyways".
 - 1. Tower may only be split if APP or DEP and GND are online.
 - 2. A single TWR, having jurisdiction of all runways, shall be used when:
 - (a) On the 33/27, 27/33, 15/9, 27/27, 15/15, 33/33, 4/15, 33L+32/27 runway configurations.
 - (b) On all runway configurations when the weather is below ceiling 600' or visibility is below 1.5 miles.

5.2 Radar

- a. Boston ATCT is designated as a Tower with Radar and is restricted to the following radar services/procedures within Tower airspace:
 1. Separation between:
 - (a) Successive departures
 - (b) Successive arrivals
 - (c) Arrivals, departures, and overflights
- b. Issuance of radar vectors.
- c. Visual approach clearances.
- d. Utilization of Visual Separation as appropriate.
- e. All BOS_TWR controllers shall apply radar services as described in this section.

5.3 IFR Departures

a. Releases

1. Silent releases for all aircraft departing on the published configuration (except the nocturnal 33/15 configuration, or any non-published configuration, in which case departure releases are required for each aircraft). See the “Releases” section in Chapter 2 for configuration-specific pre-coordinated runways.
2. All releases are immediately suspended in the event of an unanticipated missed approach. Local must coordinate with Departure to resume releases.
3. TWR shall obtain a release from A90 prior to releasing/departing the first departure associated with a new runway configuration.
4. Aircraft departing from a runway other than the runways in the published configuration require a manual release from A90. The release is valid for 3 minutes. TWR remains responsible for the initial same runway separation once the release is given.
5. In addition, when TWR is split between LCE and LCW, LCE and LCW must request releases internally when an aircraft will depart a crossing runway.
 - (a) Release requests shall include the runway and the aircraft callsign:

Request Release Runway 15R, DAL219.

- (b) Release approvals shall include the runway, the aircraft callsign, the term “Observed and Released”, and the runway.

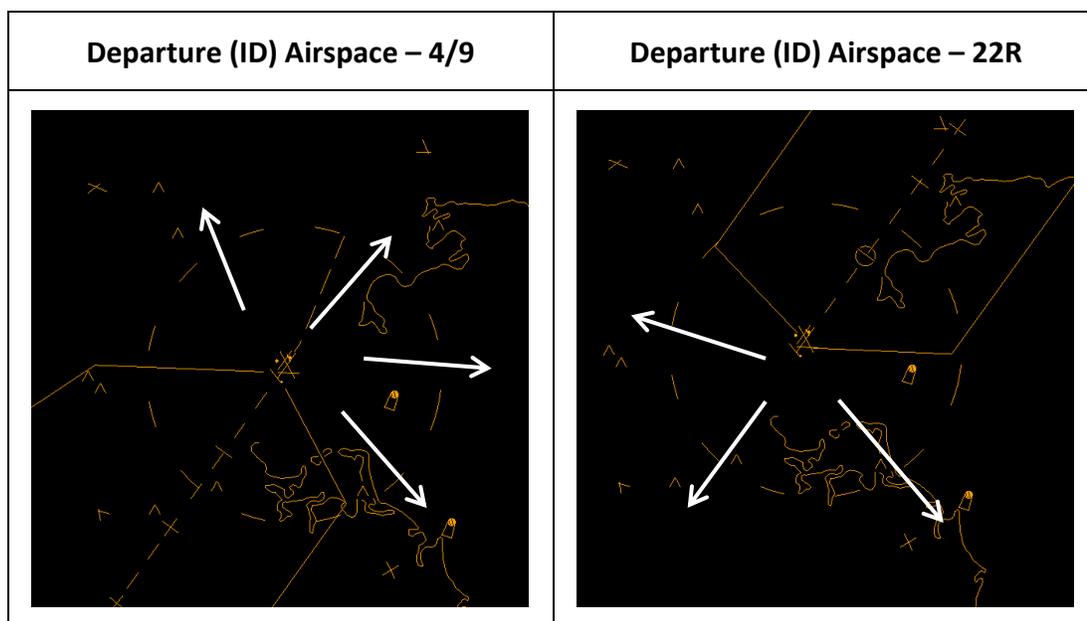
DAL219 Observed and Released Runway 15R.

The “observed” portion of the release is required to allow the responding controller to continue operations once the aircraft has been released and is no longer a factor.

- 6. When a Runway 15R/33L departure must be cleared for takeoff and BOS is operating in a northeast or southwest configuration, the departure must be cleared for takeoff within 5 seconds or the release is void.

b. Departure Headings

- 1. All non-jet IFR aircraft require a heading assignment with the takeoff clearance. Assign a heading that is closest to the aircraft’s on-course heading but is within the departure control (ID) airspace.
- 2. The acceptable airspace for departures is shown on the videos maps in the A90.sct2 sector file:



- 3. When issuing heading assignments, consider the impact of the heading on subsequent jet departures. For example, departing a Runway 22R non-jet on heading 140 will create a delay for the next RNAV jet departure.
- 4. Departure headings for all jet aircraft not cleared via an RNAV departure and that differ from the LOGAN# headings must be coordinated with DEP.

c. Line Up and Wait (LUAW)

5. Inform aircraft issued LUAW of traffic arriving, departing, or holding in position on crossing, parallel, or adjacent runways.
6. At KBOS, landing clearances may be issued when an aircraft is assigned LUAW on the landing runway provided the BOS_TWR controller is certified as S3 or higher. Otherwise, the “continue” phraseology should be used and a landing clearance only given when the LUAW aircraft begins the takeoff roll.
7. If Runway 4R/22L is being used for departures only, aircraft may be instructed to LUAW from intersection C during periods of darkness. This is the only intersection from which LUAW is authorized at night.

5.4 IFR Arrivals

a. Clearing the Runway

1. Issue runway exiting or taxi instructions once an aircraft has touched down and has slowed to a reasonable speed (below 80 knots).
2. Issue crossing instructions for active runways only, followed by a hold short instruction for the first inactive runway the aircraft will approach.
3. Transfer communications either:
 - (a) At the coordinated transfer of control point; or,
 - (b) Specifically state to cross the runway and then to contact Ground:

JBU262, turn left on November, hold short Runway 15L.

(Then,) Contact Ground point niner.

BAW203 Heavy, turn right on Echo, cross Runway 22R, then contact Ground point niner.

4. Be aware of taxiing/moving aircraft when issuing runway turnoff or inbound taxi instructions. For example, when landing Runway 27 or 33L, do not allow arriving aircraft to exit the runway onto Taxiway C unless specifically coordinated with Ground.

b. Missed Approach Procedures

1. Instrument Approach Procedures have published Missed Approach Procedures. However, TWR may also issue alternate instructions to aircraft executing a missed approach.
2. For all missed approaches and go arounds, issue the following instruction:
Fly runway heading, climb and maintain 3,000.
3. The communications transfer shall be completed in a separate transmission from any control instructions.
4. If both DEP and APP control are online, the aircraft conducting the missed approach shall be handed off to Departure control.
5. No departures may be released after an aircraft executes an unanticipated missed approach until DEP controller advises that departures may be released.

c. Land and Hold Short Operations

1. LAHSO is used when surface winds and arrival volume dictate the simultaneous use of intersecting runways for arriving aircraft. The most common instance of this at KBOS is when both Runways 22L and 27 are in use for arrivals.
2. APP must issue the “hold short” instruction in an aircraft’s approach clearance. TWR will then re-issue the “hold short” instruction in the landing clearance.
3. The pilot of the LAHSO aircraft must readback the hold short instruction.
4. Traffic information shall be exchanged between both aircraft.

AAL2110, Boston Tower, wind 250 at 4, Runway 22L, cleared to land. Hold short of Runway 27 for an arriving Boeing 737.

SWA381, Boston Tower, wind 250 at 4, Runway 27, cleared to land, traffic, Airbus A320 landing the crossing runway will hold short of the intersection.

5. The following requirements apply when LAHSO is in effect:
 - (a) Weather:
 - (1) 1,000’ ceiling and 3 miles visibility.
 - (2) Tailwind on the hold short runway shall be less than 3 knots.
 - (3) No reports of wind shear.

6. No aircraft is allowed to perform a LAHSO when a foreign aircraft is utilizing the crossing runway for landing.
7. LAHSO shall not be conducted when any portion of the runway behind the hold-short point is closed for construction and/or maintenance.
8. When an arriving pilot self-identifies as a solo student pilot, the pilot shall not be issued a LAHSO clearance.
9. Traffic information shall be exchanged and a readback shall be obtained from the landing aircraft with a LAHSO clearance.
10. LAHSO shall only be conducted on the following runways/configurations listed below:

LAHSO Runway	To Hold Short Of	Type of Operation	Available Landing Distance
22L	27	Arrival on Runway 27	6,400'
27	22L	Arrival on Runway 22L	5,650'
4L	33R	Taxi on Runway 33R/15L	5,250'
15R	9	Arrival on Runway 9	6,800'

5.5 VFR Operations

d. VFR Departures

1. If a VFR departure will remain below 2,000' MSL:
 - (a) TWR shall assume track and responsibility of the aircraft.
 - (b) When the aircraft reaches the tower airspace boundary, TWR shall drop track and terminate radar service of the aircraft, unless the pilot requests Flight Following.
 - (c) TWR must issue either an exit in relation to the pattern, or instruct the aircraft to "resume own navigation", prior to terminating radar services.
 - (d) TWR must ensure that departing VFR aircraft will not enter other controlled airspace (e.g., Class D at KOWD or KBED) without appropriate coordination and communications transfer.
2. If a VFR departure has filed an altitude above 2,000' MSL, the initial altitude restriction assigned in the clearance will be "at or below 3,000". Treat these aircraft like IFR departures: assign a heading in the departure corridor, and instruct the aircraft to "contact Departure" once airborne.

e. VFR Closed Traffic

1. Generally, VFR closed traffic would not be permitted given the traffic at KBOS. However, during lighter workload periods, VFR closed traffic may be permitted at the controller's discretion.
2. If an aircraft is permitted to fly VFR closed traffic, standard Class B separation is required at all times. At times, this may mean requiring visual separation or altitude restrictions, pending airport configuration and traffic.
3. TWR shall assign either left or right closed traffic in the takeoff clearance.
4. Closed traffic aircraft shall be radar identified by TWR initially, but need not be radar identified each pattern.

f. VFR Arrivals and Overflights

1. Issue clearances into Class B airspace only to radar identified aircraft that will enter Class B airspace in TWR airspace. Aircraft inbound at altitudes above 2,000' will need to contact APP for Class B airspace clearance.
2. Class B airspace clearances shall always include:

- (a) An altitude that restricts aircraft to TWR airspace.
- (b) Control instructions to avoid potential traffic conflicts.

N44949, Boston Tower, squawk 1306. (Once radar identified:) N949, radar contact 12 miles south of Boston, cleared into the Class Bravo airspace via direct Boston, maintain VFR at or below 2,000.

3. Cape Air Arrivals:

- (a) Cape Air aircraft may request one of the following coded arrival routes:

- (1) From airports South of Boston:

- a. **BRAVO 4:** Enter via overhead Norwood Airport (OWD) at 2,500'. Cleared through OWD Class "D" airspace. Expect Runway 4L.
- b. **BRAVO 15:** Enter via Minot's Light at or below 1,800'. Depart Minot's Light heading 020 or as assigned. Expect Runway 15L.
- c. **BRAVO 22:** Enter via Minot's Light at 2,500'. Depart Minot's Light heading 030 or as assigned. Cleared through Beverly Airport (BVY) Class "D" airspace. Expect Runway 22L.
- d. **BRAVO 27:** Enter via Minot's Light at 1,500'. Depart Minot's Light heading 360 or as assigned. Expect Runway 27.
- e. **BRAVO 32:** Enter via direct BOS or heading as assigned at 2,500'. Expect Runway 32.
- f. **BRAVO 33:** Enter via Minot's Light at 1,500'. Depart Minot's Light via the shoreline direct BOS. Expect Runway 33R.
- g. **BRAVO West:** Enter via overhead Norwood Airport (OWD) at 4,500 feet. Depart OWD heading 020 or as assigned. Expect landing Runway 22L to hold short of Runway 27.

- (2) From airports North of Boston:

- a. **BRAVO North:** Proceed direct BOS at 4,500'. Expect runway assignment from Boston Approach.

- (b) The requested route, if available, is issued along with the clearance.
- (c) Cape Air coded arrival routes may only be used when initiated by the pilot.

- (d) All coded arrivals end in “expect runway”, and require specific sequencing (i.e., headings or pattern entry) from TWR.

KAP49, Boston Tower, squawk 1307.

(Once radar identified:) KAP49, radar contact 18 miles southeast of Boston, cleared into the Class Bravo airspace via Bravo 32.

4. Helicopter Routes:

- (a) Helicopter routes (found on the “Boston Heli” VFR chart on SkyVector) may be issued to fixed-wing or helicopter aircraft:

Medflight 311, cleared into the Boston Class B airspace via the QUARE route, maintain VFR at 1,500, report landing assured at the Boston Medical Center.

- (b) When it is necessary to issue an altitude to a helicopter that will be transitioning the Class B airspace and it will not be operating on a published helicopter route, do not assign an altitude below 1,000’ MSL.

5. Helicopter Operations:

- (a) Helicopters may request to land the Boston Medical Center, Massachusetts General Hospital, or other off-airport helipads.
- (b) These aircraft shall be instructed:

Medflight 3 Medevac, landing at the Boston Medical Center will be at your own risk. Report landing assured.

- (c) Once the aircraft reports “landing assured”, a frequency change may be issued. The helicopter must then call back for a new Class B airspace clearance when ready to depart the helipad.

5.6 Opposite Direction Operations (ODO)

a. Cutoff Points

1. The cutoff point for ODO is 10 flying miles from the threshold of the runway of intended landing.

Chapter 6: Appendices

6.1 KBOS Intersection Departure Distances

Reminder: Massport prohibits jet aircraft, or any aircraft exceeding 30,000 lbs. maximum certificated gross weight, from departing from an intersection, except:

- (1) Runway 15R departures (any intersection is allowed)
- (2) Runway 4R at Taxiways B and M1
- (3) Runway 22R at Taxiway N2
- (4) Runway 22L at Taxiway N3
- (5) Runway 27 at Taxiway D2

Taxiway Intersections:

Rwy	Length	Int	Distance								
4L	7861	C	6000	F	5050						
4R	10005	B	9750	M1	8950	E	7300	C	6100	F	5100
9	7000	K	6400	E	4700						
14	5000	J1	3900								
15R	10083	Z	9100	N	7650	Q	5400				
22L	10005	F	4850	C	3900	E	2700				
22R	7861	N2	7500	N1	6900	F	2750	C	1800		
27	7000	D2	6450	D1	6000	C	3850				
33L	10083	D	7450	G	6100	N	2400				

Runway Intersections:

Rwy	Length	Int	Distance	Int	Distance	Int	Distance
4L	7861	15R-33L	4050	15L-33R	2300		
4R	10005	9-27	7900	15R-33L	4650	15L-33R	3000
9	7000	4R-22L	5950	15R-33L	2550		
15R	10083	4L-22R	6700	4R-22L	5200	9-27	2100
22L	10005	15L-33R	6950	15R-33L	5350	9-27	2100
22R	7861	15L-33R	5550	15R-33L	3800		
27	7000	15R-33L	4450				
33L	10083	9-27	8000	4R-22L	4850	4L-22R	3550

6.2 2006 KBOS Airport Diagram

