jetBlue

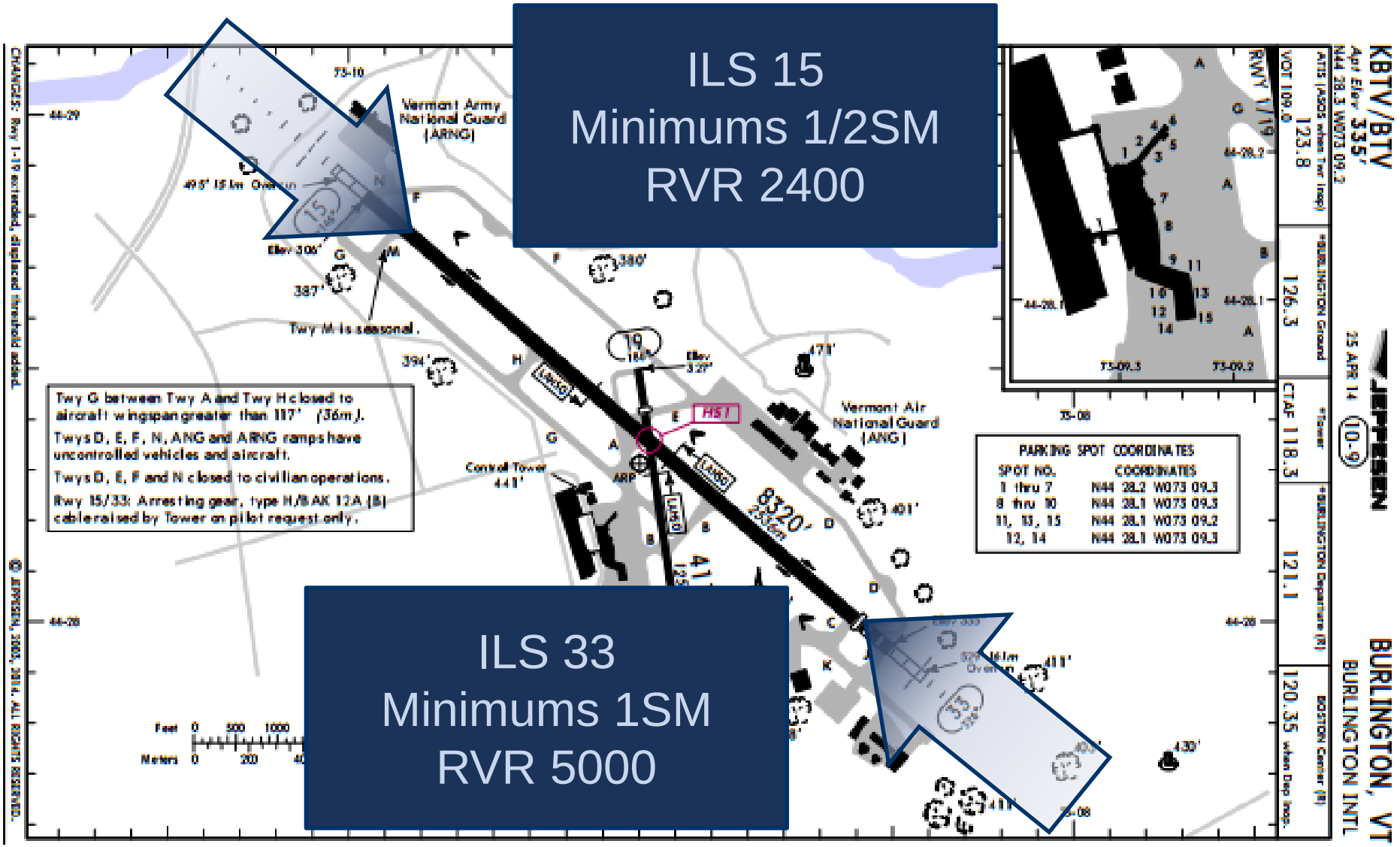
WIND CONSTRAINTS & OPPORTUNITIES
AN AIRLINE OPERATIONS CENTER (AOC) PERSPECTIVE

TOM LLOYD
MANAGER METEOROLOGY & ROUTE OPTIMIZATION
AIR TRAFFIC SYSTEMS

WINDS

- Terminal area winds
  - Runway selection
  - Operating limitations
  - Air Traffic Management (ATM) considerations
- En route winds
  - Route selection
  - Fuel burn calculation

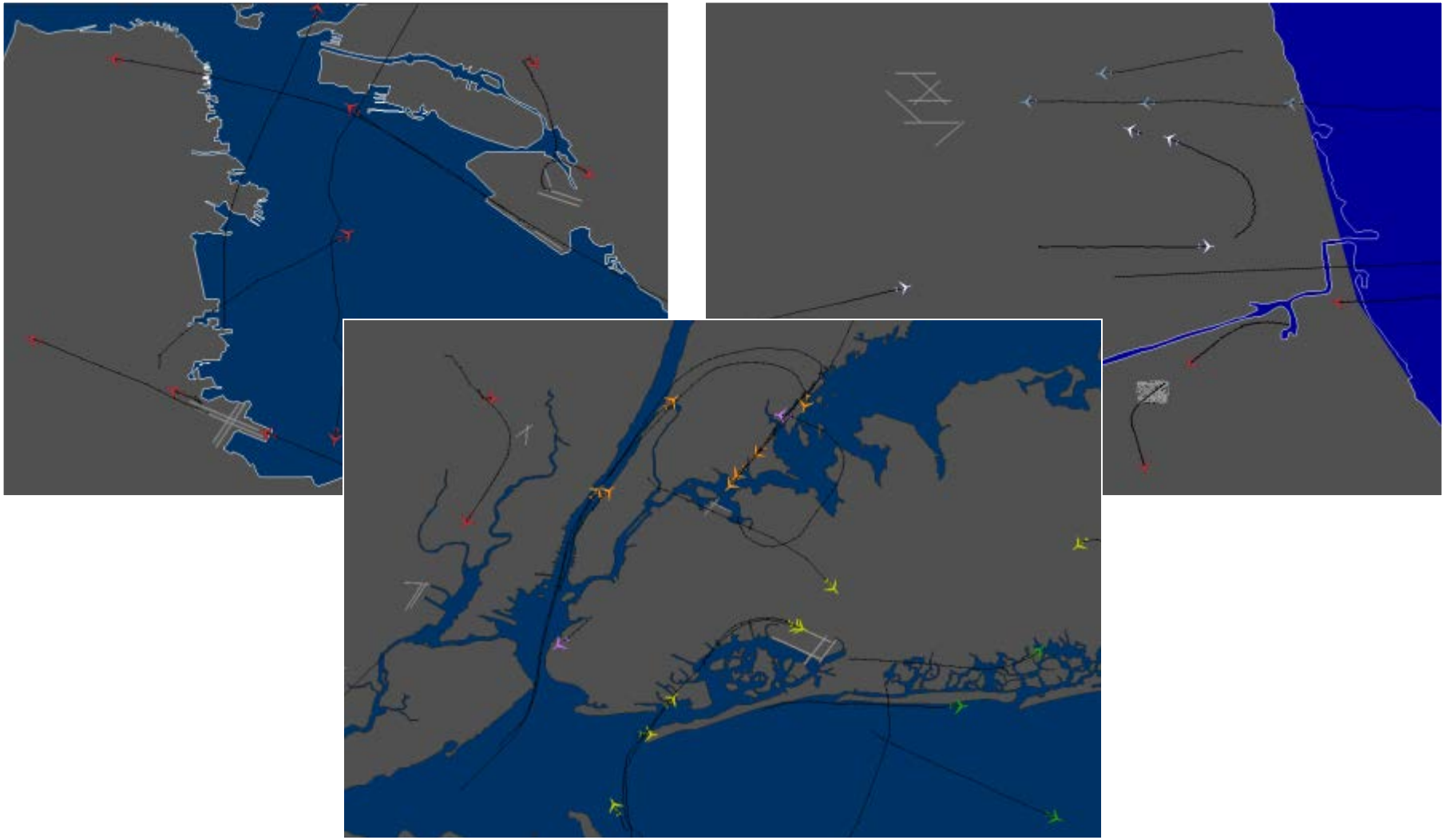
AVAILABLE APPROACHES



FLEET OPERATIONAL RESTRICTIONS

- Varied by fleet type and operator
- Tailwind components
  - Typical max for takeoff/landing = 10 knots
  - Some fleet types = 15 knots
  - Short runways / wet runways
- Crosswind components
  - Vary widely; typically 28-38 knots (could be steady or gusting)
  - Reduced for runway contamination (10-20 knots) or Cat II/III operations (15 knots or less)

ATM CONSIDERATIONS: AIRPORT INTEDERPENDENCY

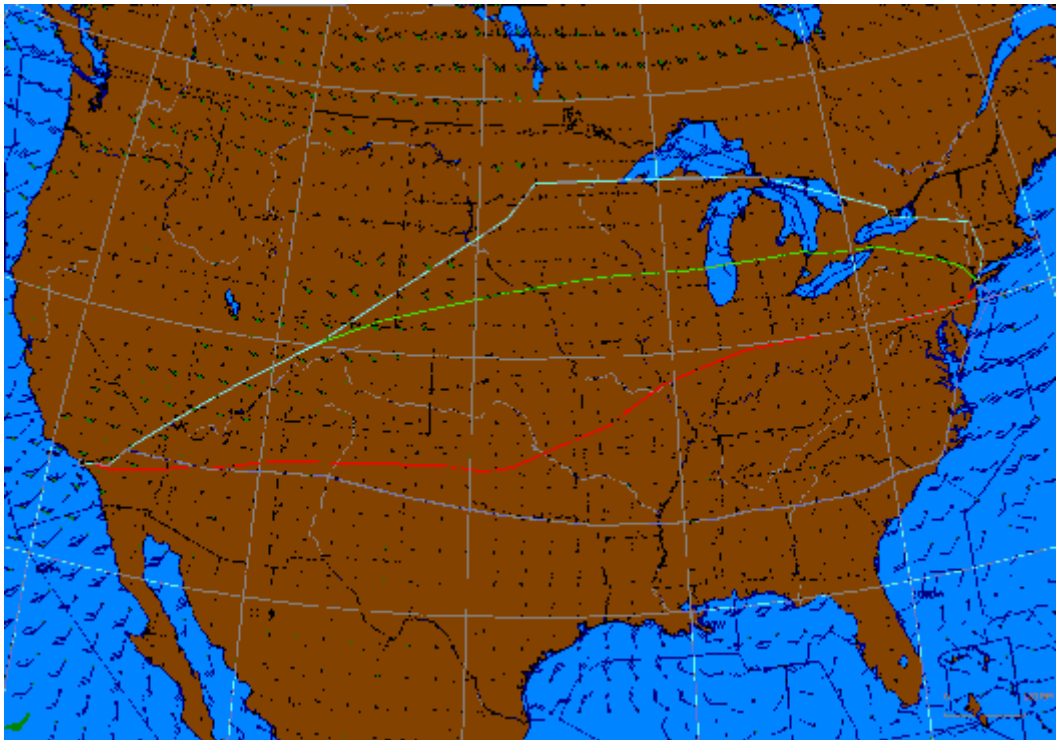


ATM CONSIDERATIONS: AAR

- Airport Acceptance Rate (AAR)
  - Key number which drives Traffic Management Initiatives (TMI)
  - Dependent in part on runway configuration
  - Can be affected by speed over threshold
    - Higher ground speed (tailwind) →
    - Longer runway occupancy →
    - Greater separation required in the pattern →
    - Reduction in AAR

EN ROUTE / WINDS ALOFT

- Route selected using flight planning system
- Wind forecasts
  - GFS output (GRIB format)
  - Gridpoint forecasts
  - Interpolation to fixes and FLs



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THANK YOU!

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