



**Appendix F**  
**Terminal Facility Requirements Planning Criteria**

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# Terminal Facility Requirements Planning Criteria Fort Lauderdale-Hollywood International Airport



January 2017



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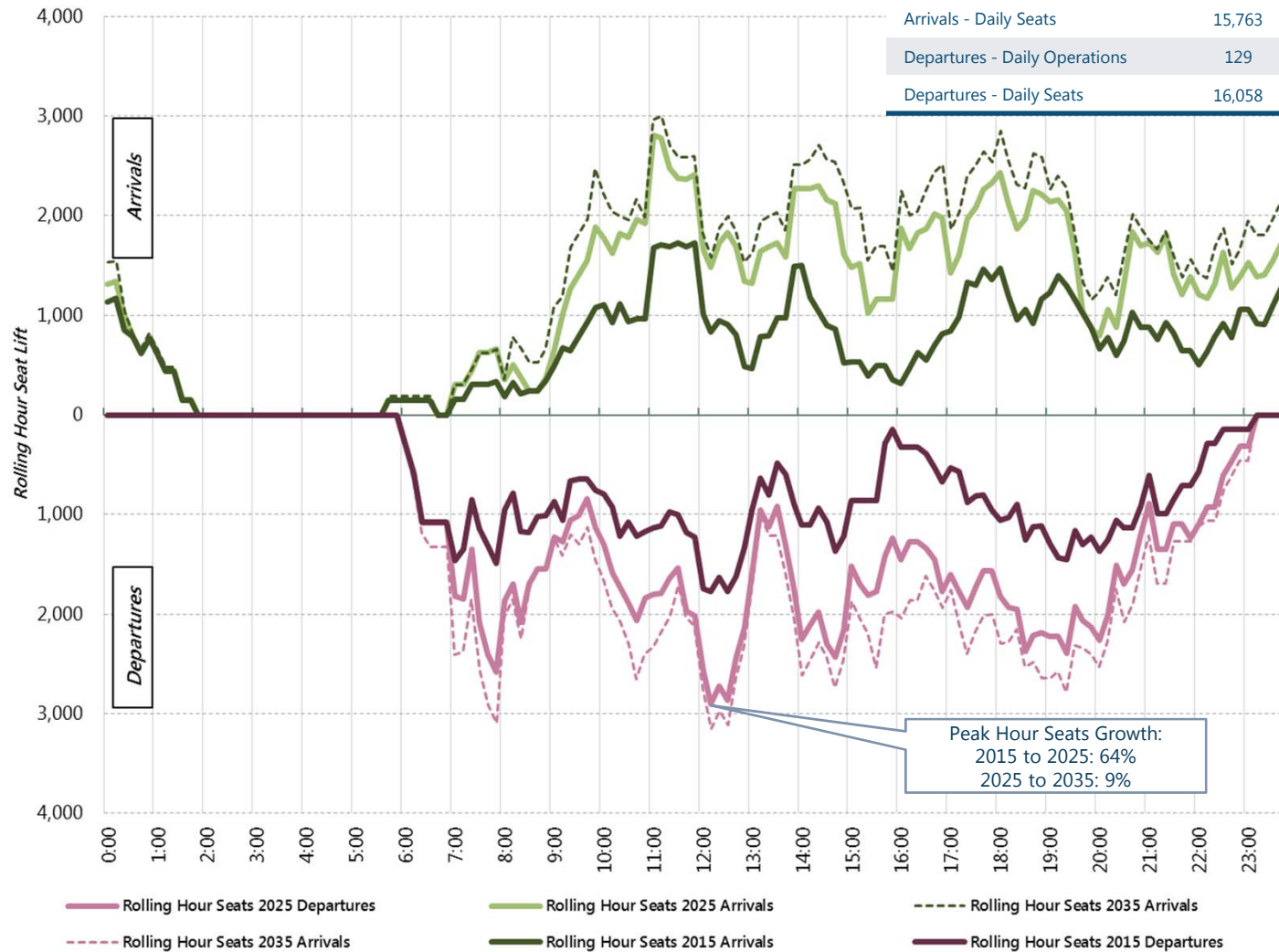
## **Design Basis**

### Design Day Flight Schedules and Terminal Planning Metrics

# Terminal 1

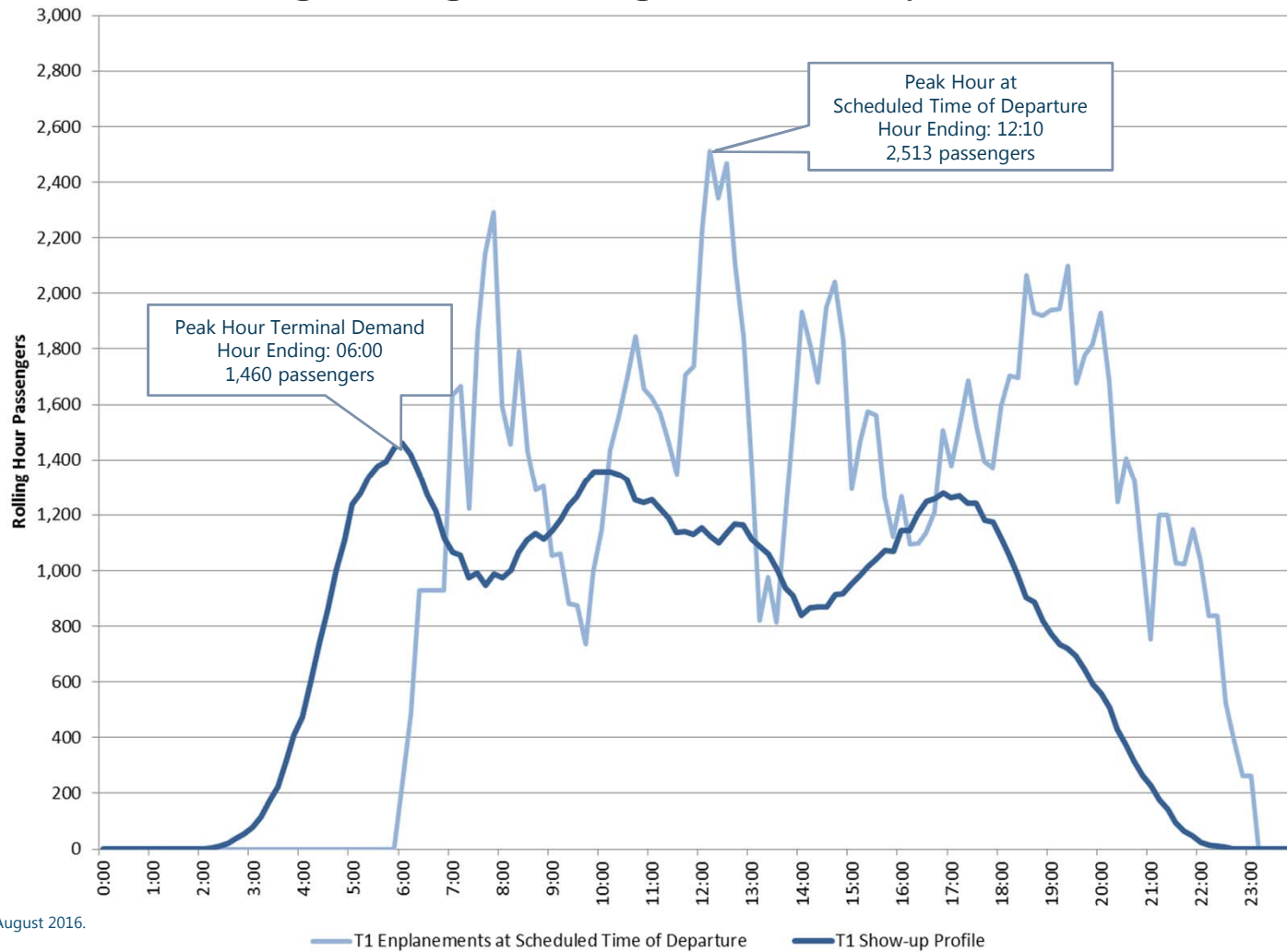


|                               | 2015   | 2025   | 2035   |
|-------------------------------|--------|--------|--------|
| Arrivals - Daily Operations   | 122    | 204    | 227    |
| Arrivals - Daily Seats        | 15,763 | 27,703 | 32,927 |
| Departures - Daily Operations | 129    | 205    | 227    |
| Departures - Daily Seats      | 16,058 | 27,899 | 32,927 |



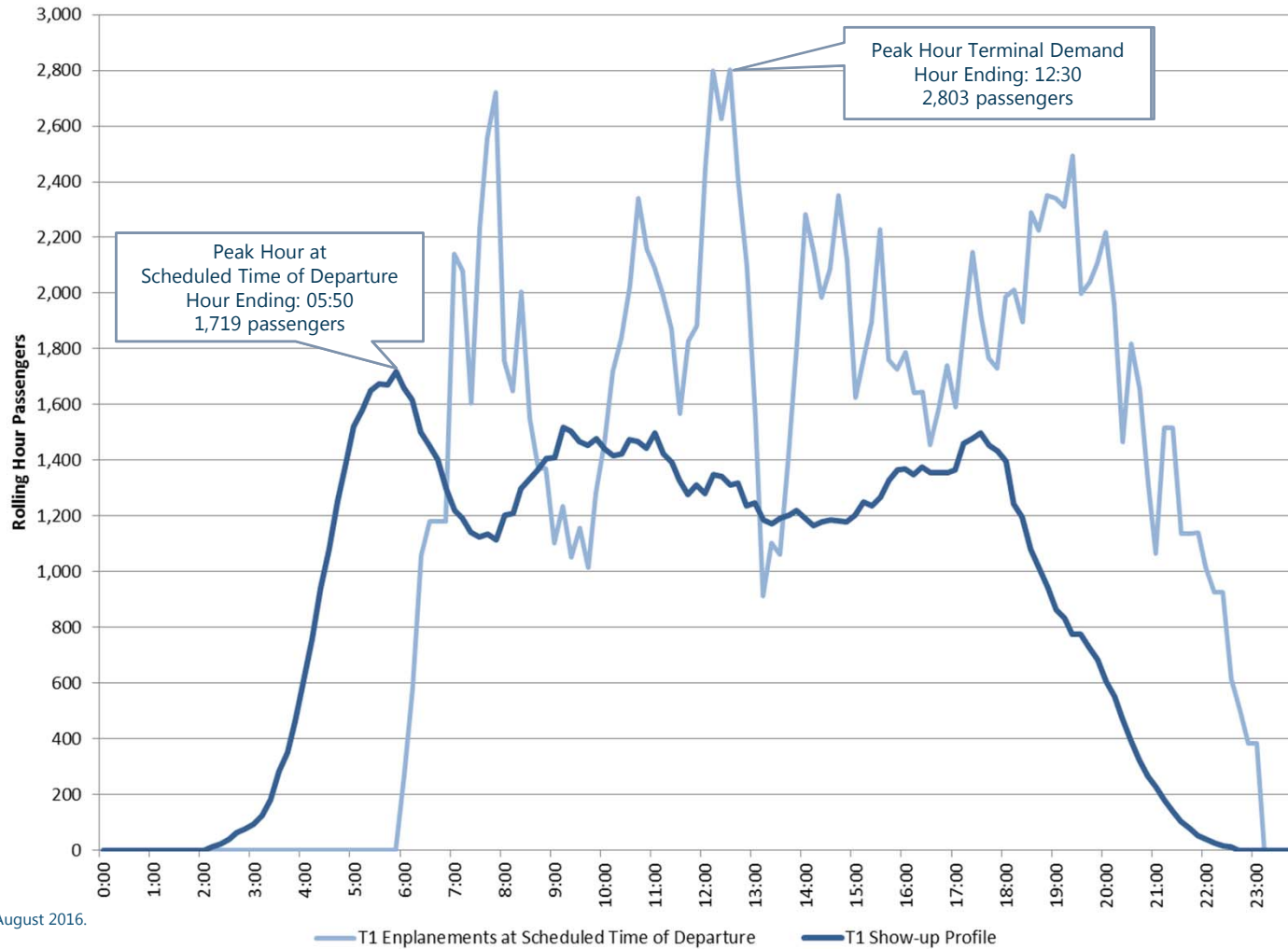
**T1 Airlines:**  
Alaska, Allegiant, Frontier, Virgin America, Silver, Southwest, United, WestJet

# Terminal 1 – 2025 Originating Passengers Show-up Profile



Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

# Terminal 1 – 2035 Originating Passengers Show-up Profile

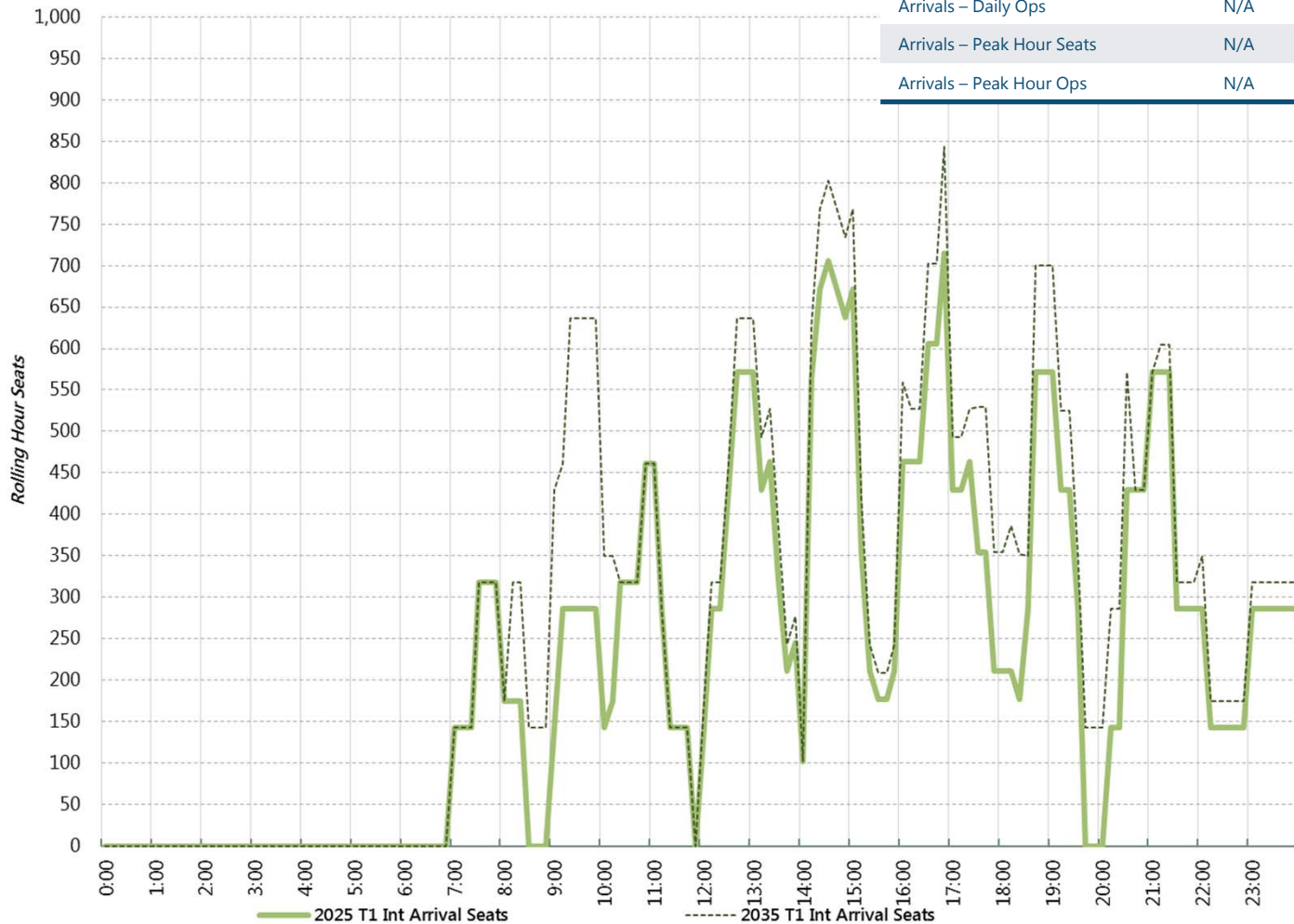


Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

# Terminal 1 – International Arrivals



|                            | 2015 | 2025  | 2035  |
|----------------------------|------|-------|-------|
| Arrivals – Daily Seats     | N/A  | 5,373 | 6,278 |
| Arrivals – Daily Ops       | N/A  | 43    | 48    |
| Arrivals – Peak Hour Seats | N/A  | 715   | 843   |
| Arrivals – Peak Hour Ops   | N/A  | 7     | 7     |



**T1 Airlines:**  
 International non-  
 preclearance flights only  
  
 Silver, Southwest

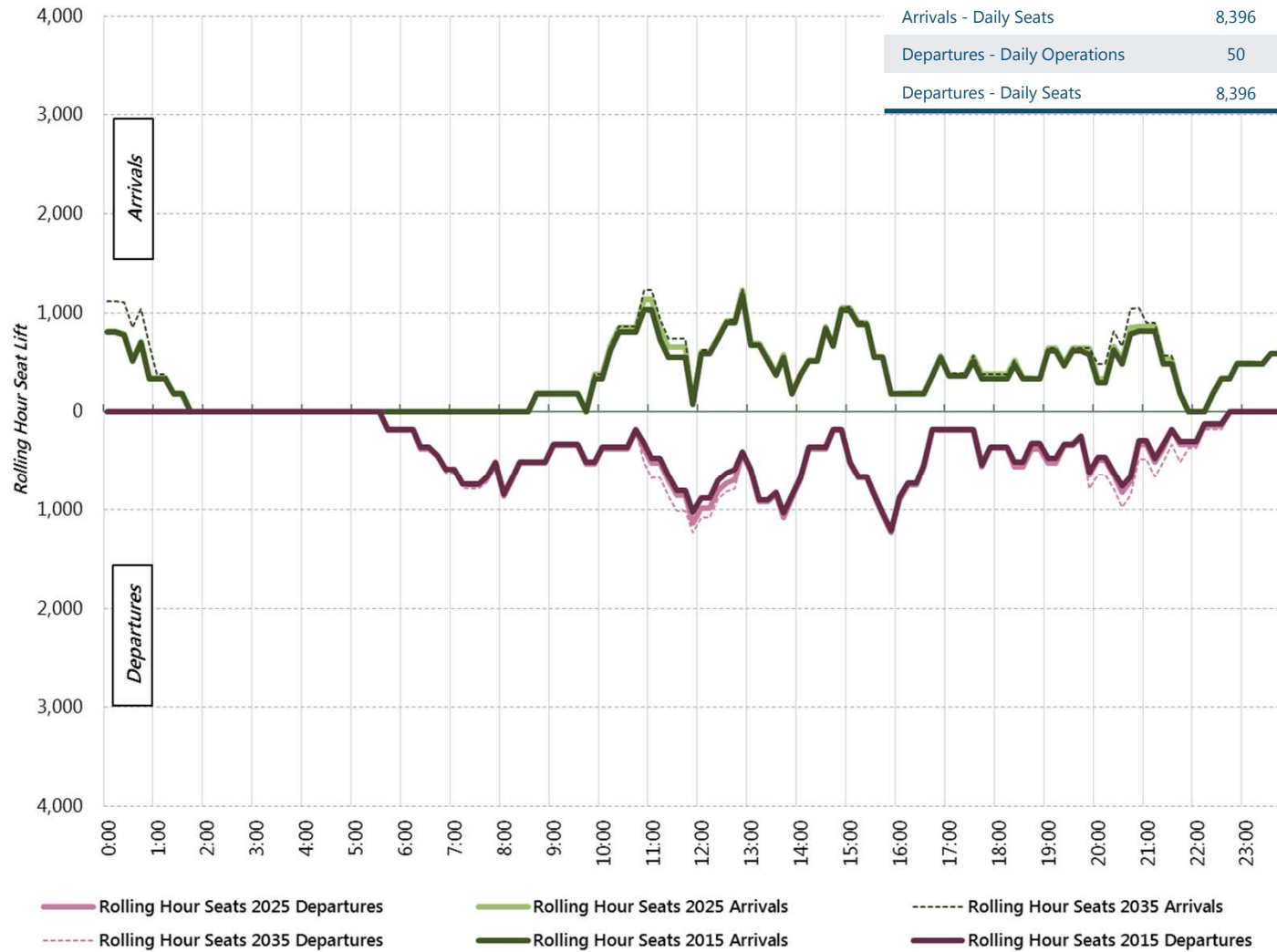


# Terminal 2

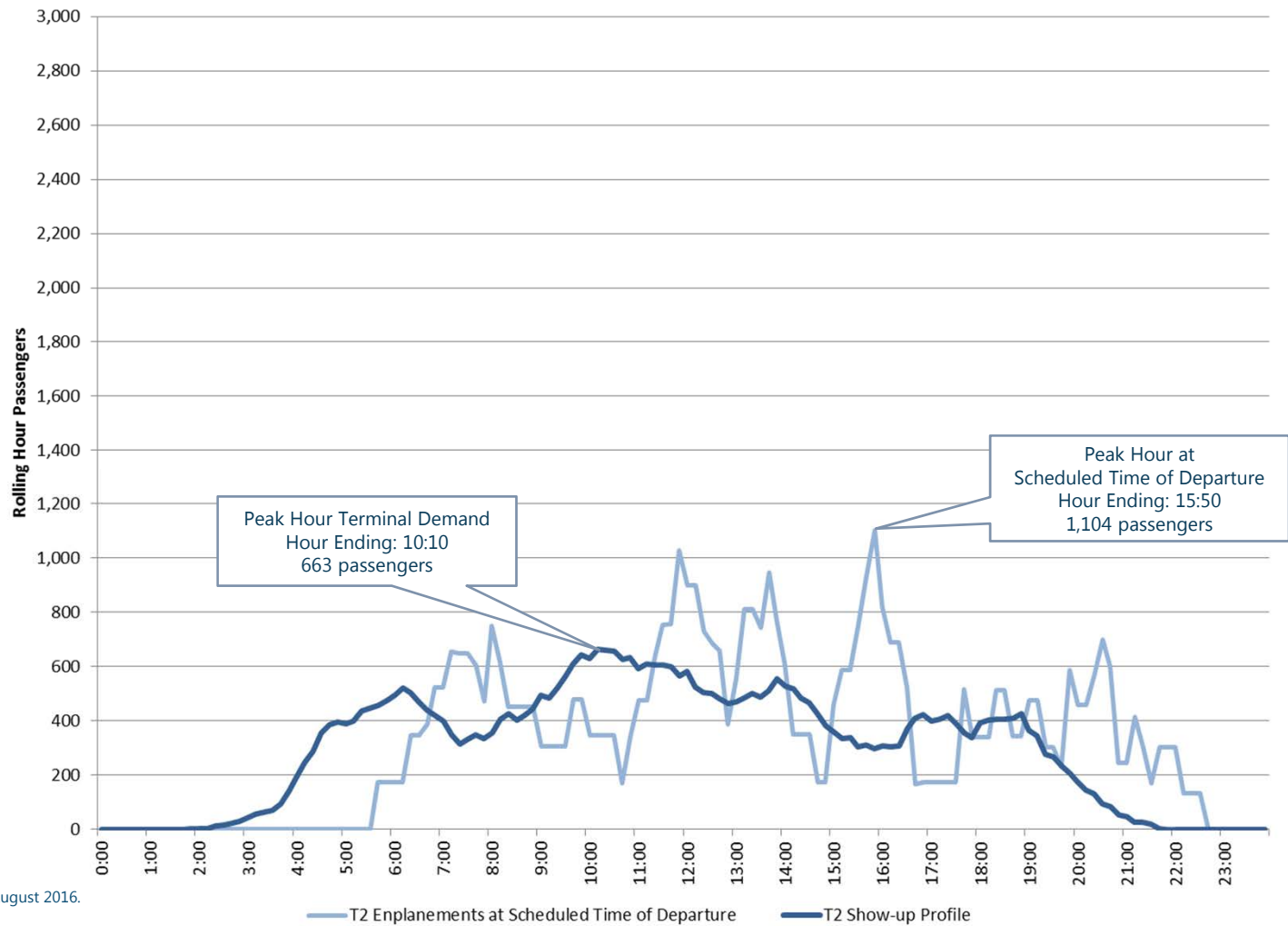


|                               | 2015  | 2025  | 2035  |
|-------------------------------|-------|-------|-------|
| Arrivals - Daily Operations   | 50    | 50    | 53    |
| Arrivals - Daily Seats        | 8,396 | 8,843 | 9,505 |
| Departures - Daily Operations | 50    | 50    | 53    |
| Departures - Daily Seats      | 8,396 | 8,843 | 9,505 |

**T2 Airlines:**  
Air Canada, Delta

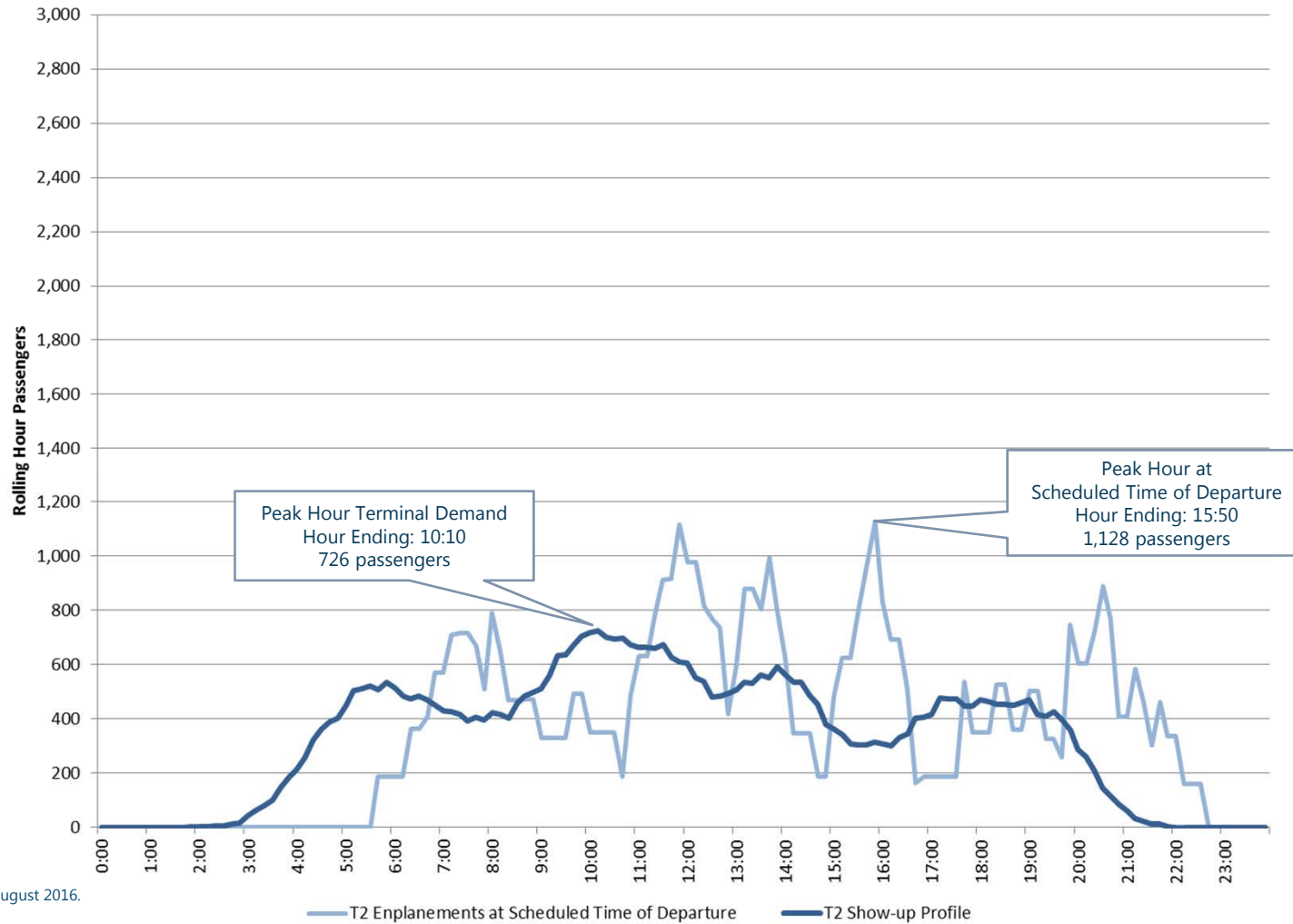


# Terminal 2 – 2025 Originating Passengers Show-up Profile



Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

# Terminal 2 – 2035 Originating Passengers Show-up Profile

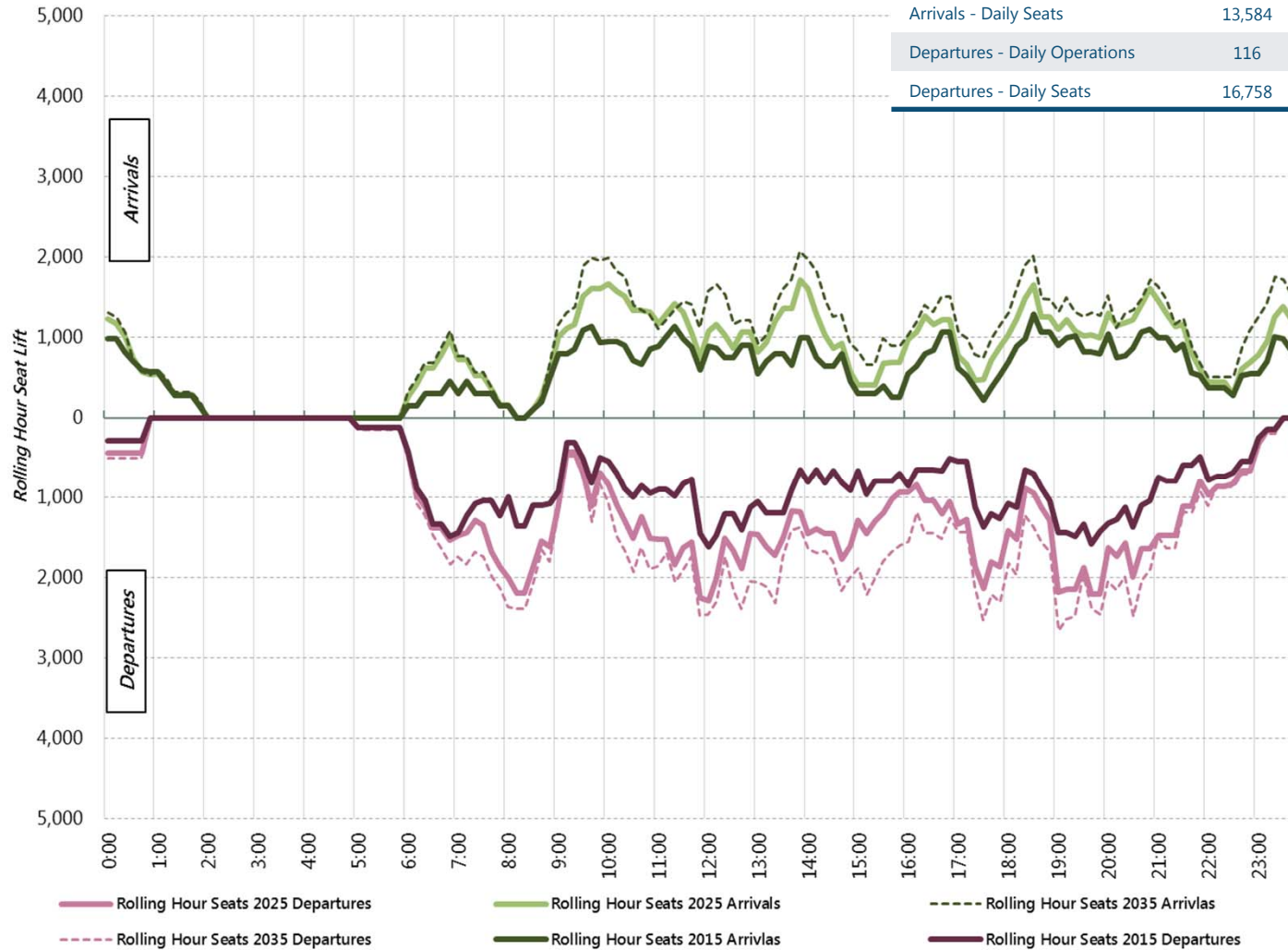


Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

# Terminal 3



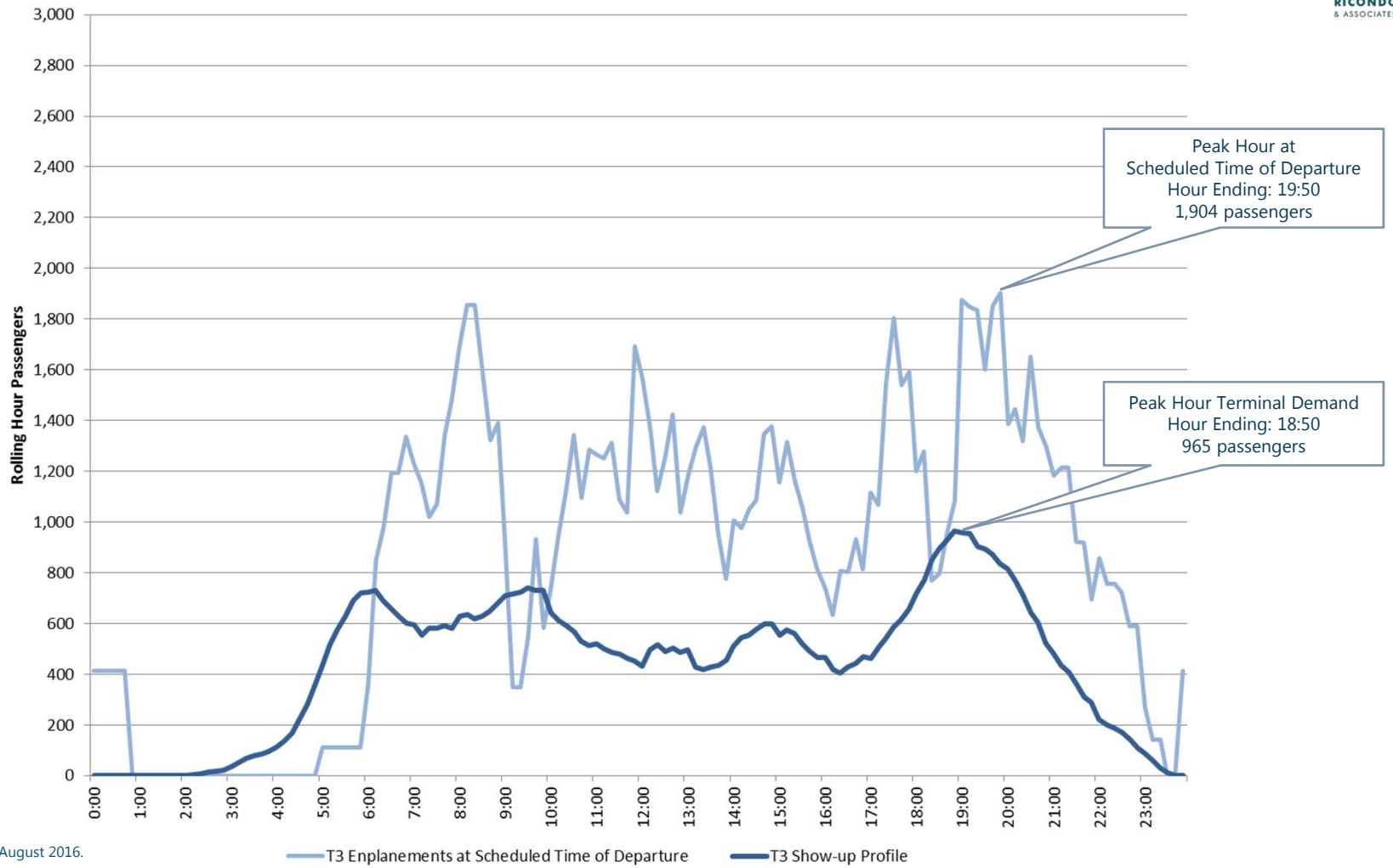
|                               | 2015   | 2025   | 2035   |
|-------------------------------|--------|--------|--------|
| Arrivals - Daily Operations   | 97     | 128    | 146    |
| Arrivals - Daily Seats        | 13,584 | 18,932 | 22,736 |
| Departures - Daily Operations | 116    | 164    | 187    |
| Departures - Daily Seats      | 16,758 | 24,681 | 29,832 |



**T3 Airlines:**  
Azul\*, American\*, Bahamasair\*,  
JetBlue\*, Norwegian\*

*\*All departures and  
domestic/preclearance arrivals*

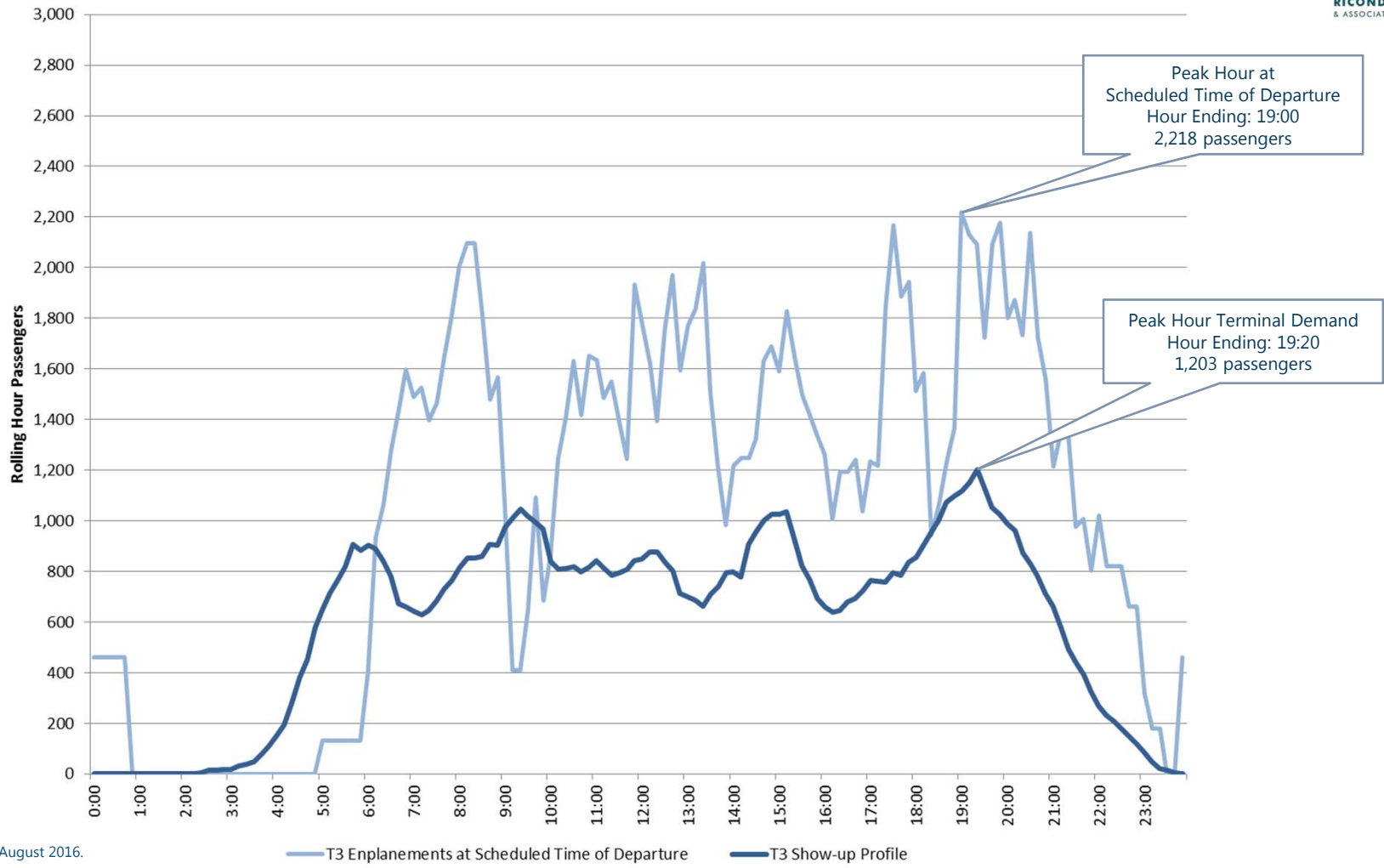
# Terminal 3 – 2025 Originating Passengers Show-up Profile



Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.



# Terminal 3 – 2035 Originating Passengers Show-up Profile

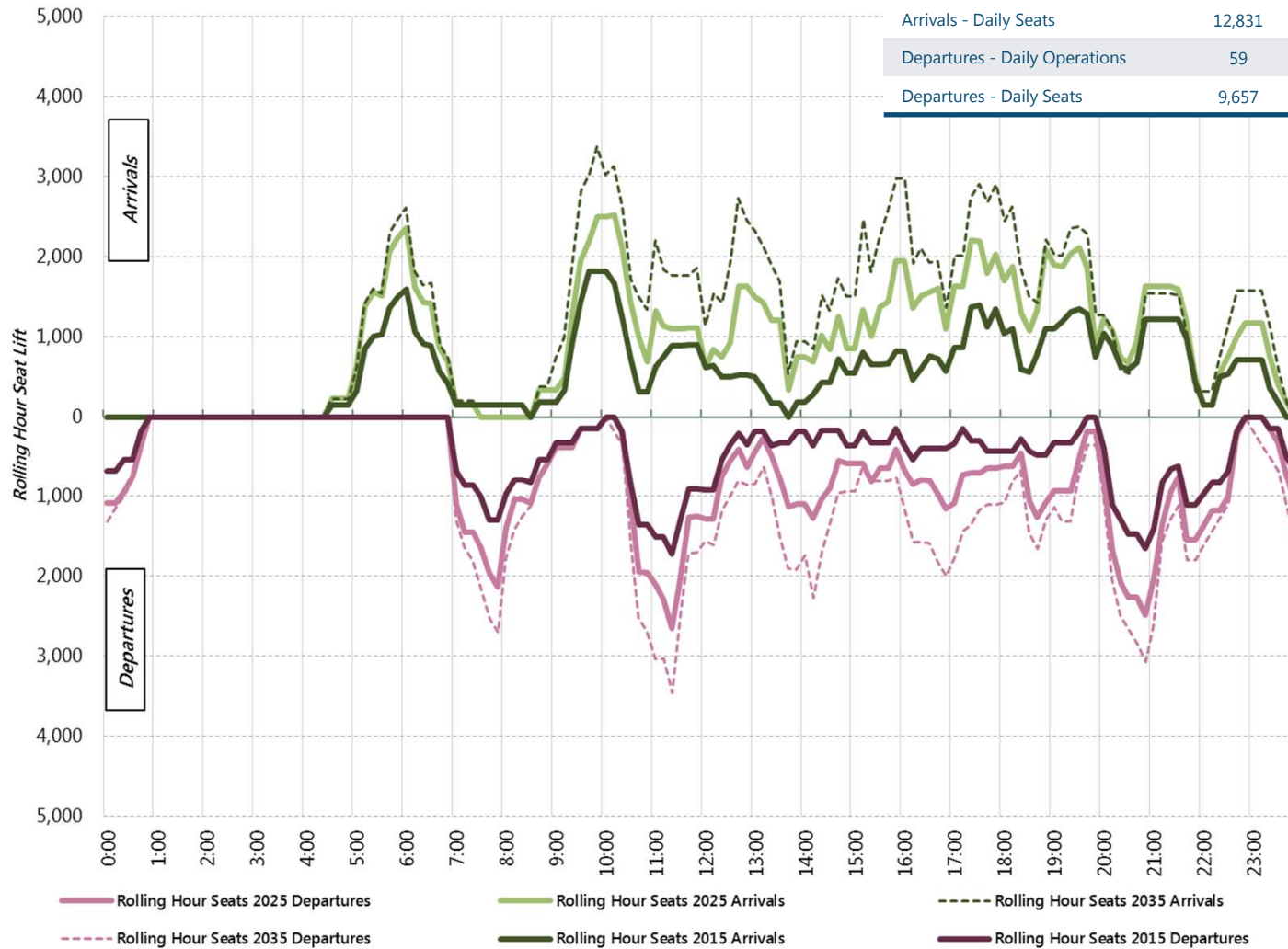


Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

# Terminal 4



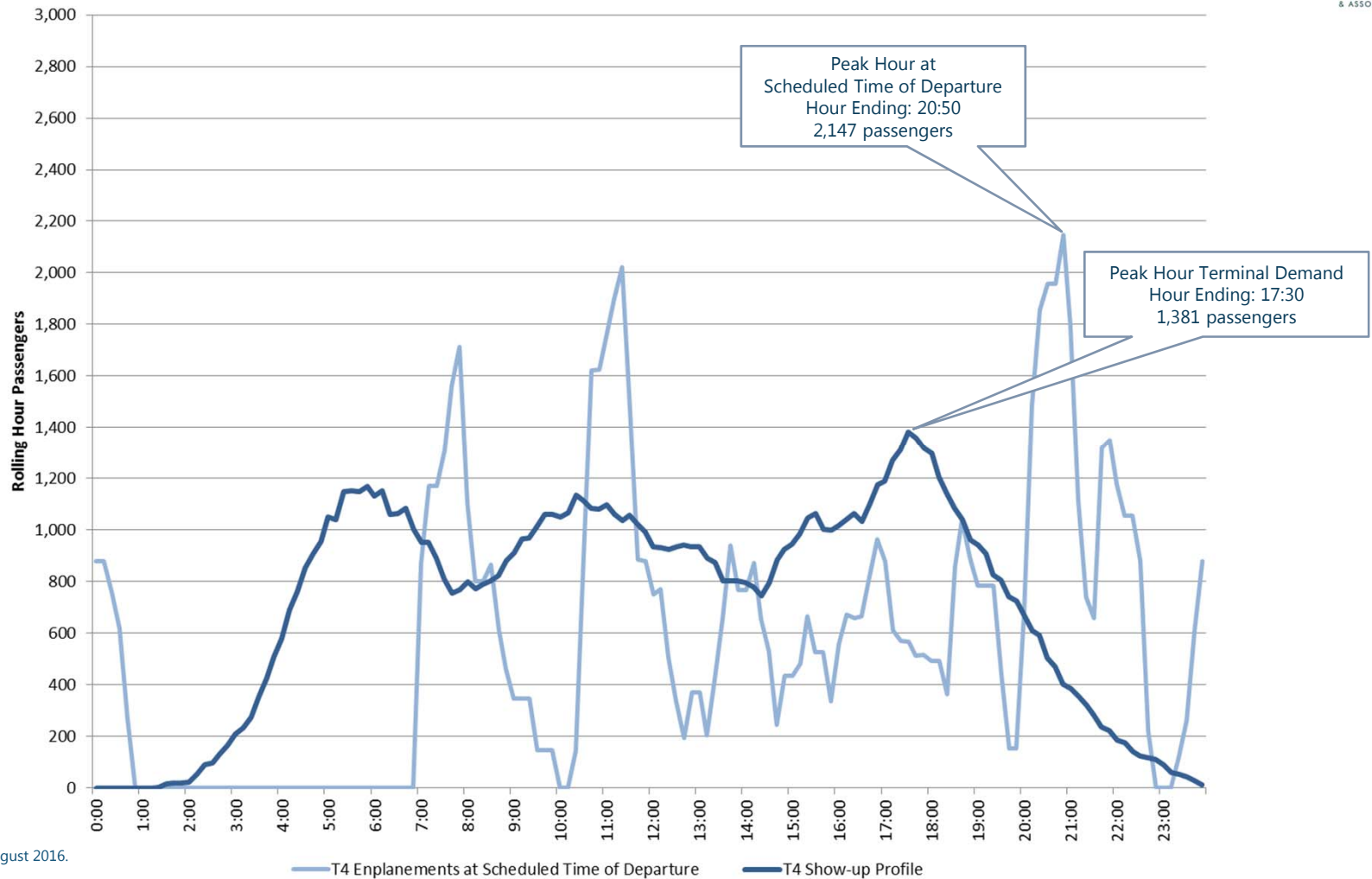
|                               | 2015   | 2025   | 2035   |
|-------------------------------|--------|--------|--------|
| Arrivals - Daily Operations   | 78     | 121    | 162    |
| Arrivals - Daily Seats        | 12,831 | 20,935 | 28,944 |
| Departures - Daily Operations | 59     | 92     | 124    |
| Departures - Daily Seats      | 9,657  | 16,383 | 22,724 |



**T4 Airlines:** Spirit, Air Transat, American\*, Avianca, Azul\*, Caribbean, Cape Air, Copa, JetBlue\*, Norwegian\*, SkyBahamas, TAME, Volaris, New Carrier (TBD)

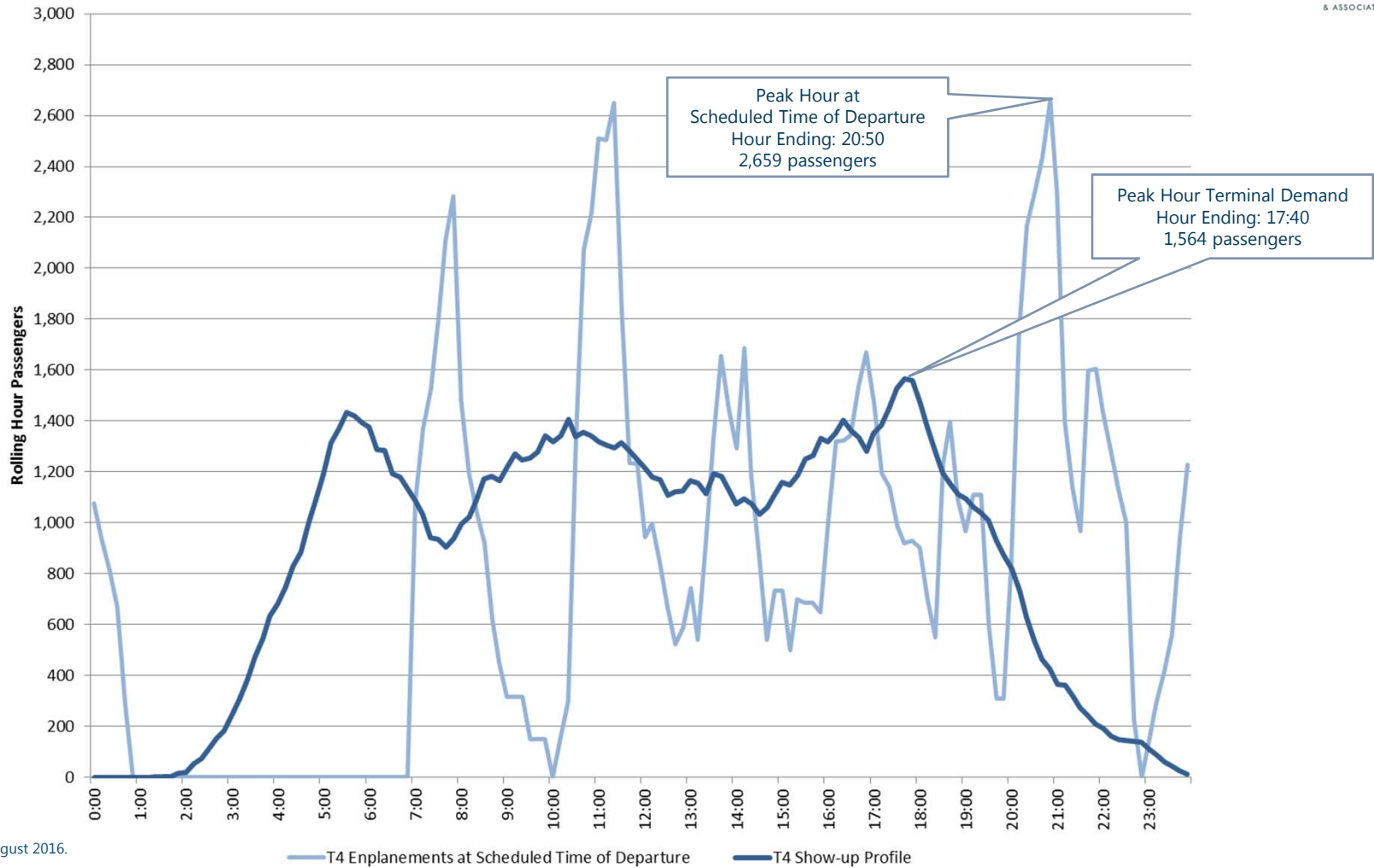
*\*International arrivals only*

# Terminal 4 – 2025 Originating Passengers Show-up Profile



Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

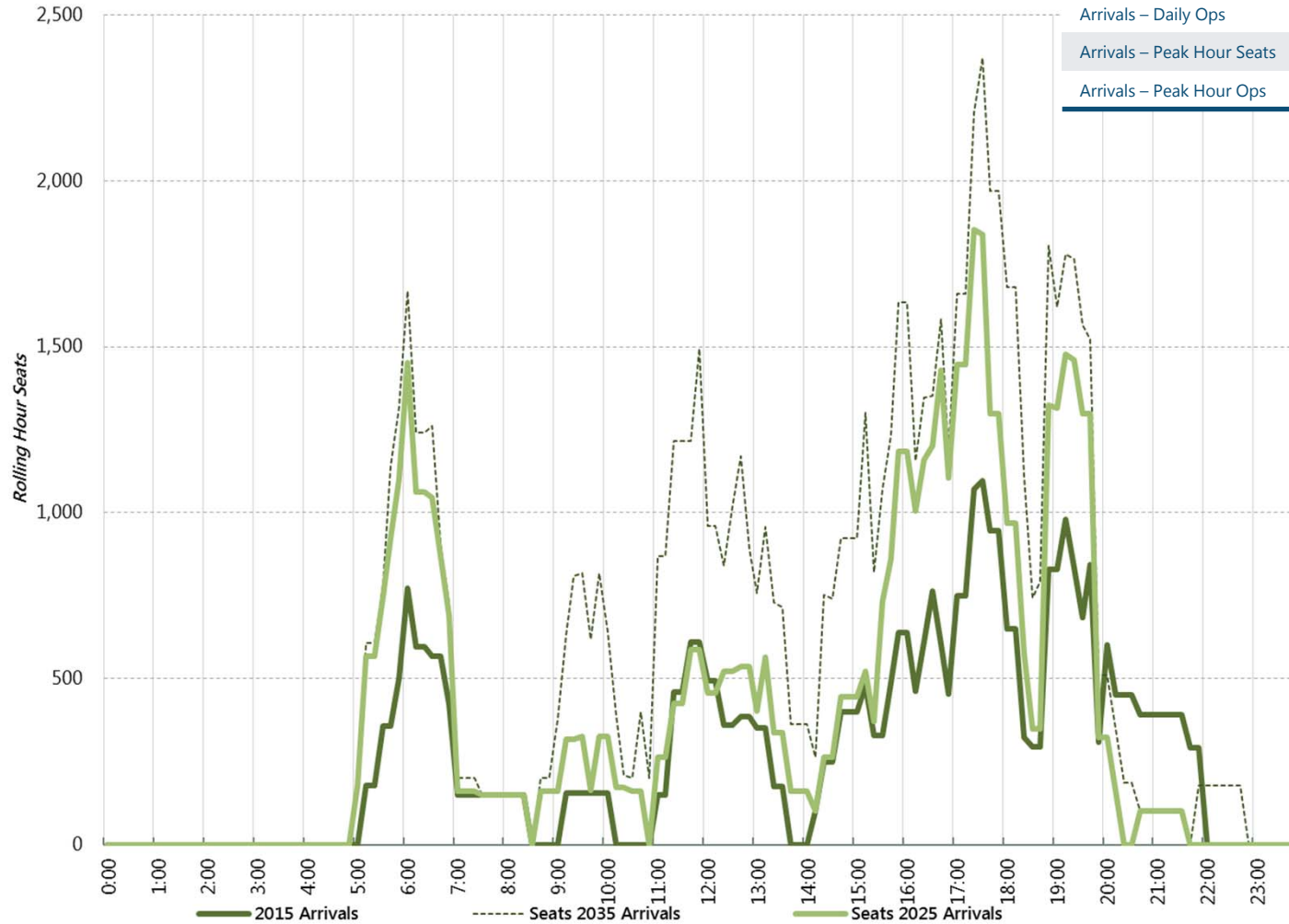
# Terminal 4 – 2035 Originating Passengers Show-up Profile



Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., August 2016

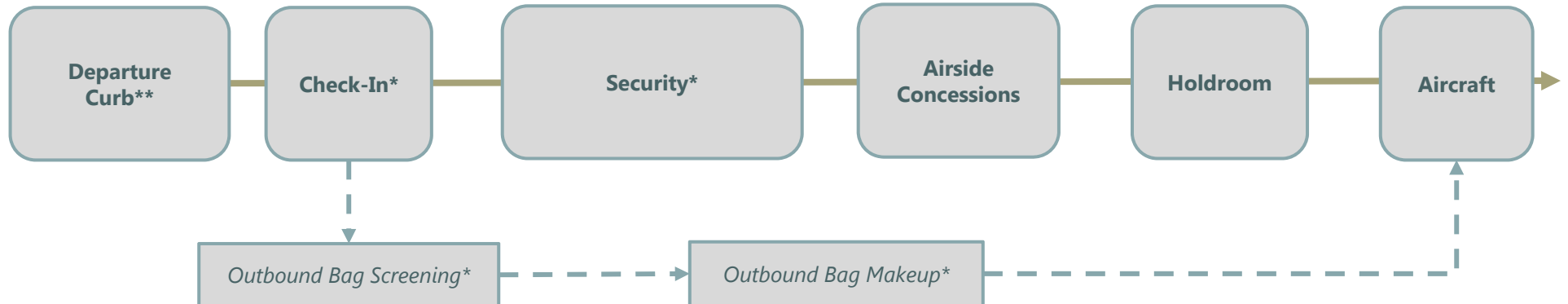
# Terminal 4 – International Arrivals

|                            | 2015  | 2025  | 2035   |
|----------------------------|-------|-------|--------|
| Arrivals – Daily Seats     | 3,174 | 9,013 | 13,363 |
| Arrivals – Daily Ops       | 19    | 73    | 97     |
| Arrivals – Peak Hour Seats | 610   | 1,505 | 2,046  |
| Arrivals – Peak Hour Ops   | 1,096 | 1,852 | 2,370  |





# Passenger Flows – Enplaning Passengers

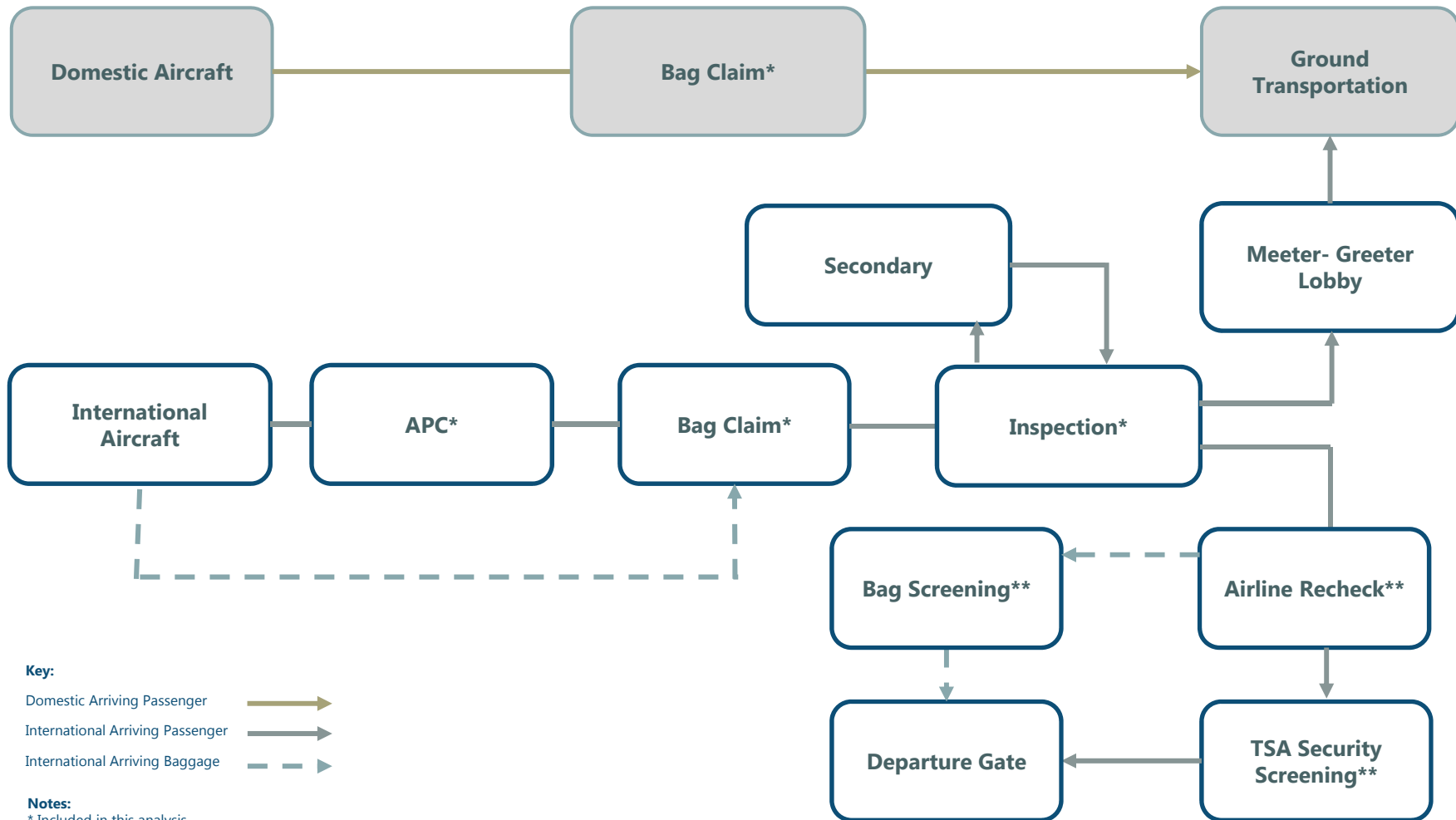


**Notes:**

\* Included in this analysis

\*\* Landside analysis by Kimley-Horn

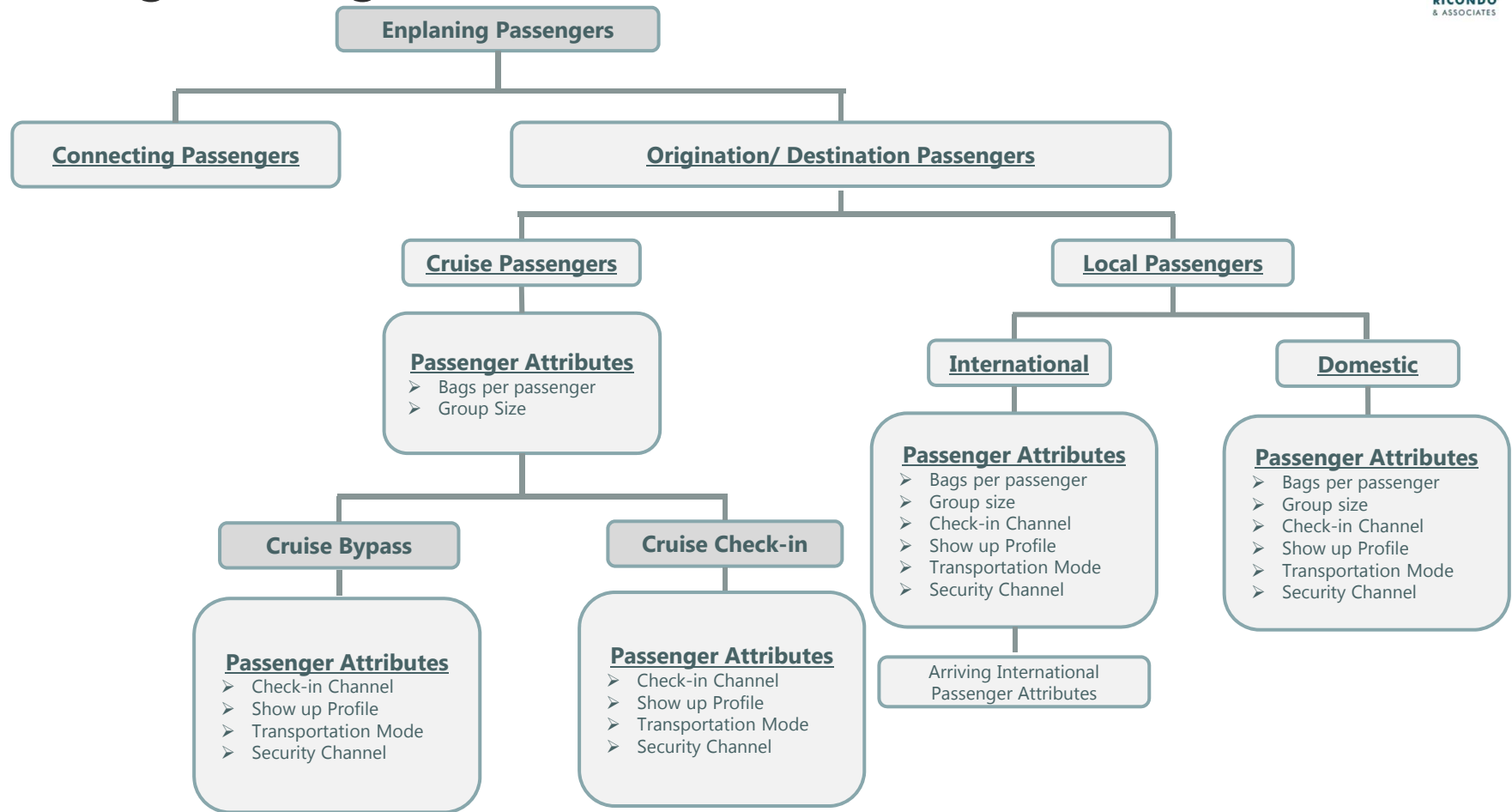
# Passenger Flows – Deplaning Passengers



**Key:**  
 Domestic Arriving Passenger →  
 International Arriving Passenger →  
 International Arriving Baggage - - →

**Notes:**  
 \* Included in this analysis  
 \*\* Model assumes re-induction into departures process

# Enplaning Passengers – Attributes



# General Passenger Attributes



| ATTRIBUTE                                     | UNITS   | ORIGINATION AND DESTINATION PASSENGERS |                 |                  |               |
|---|---------|--|-----------------|------------------|---------------|
|   |         | CRUISE PASSENGERS                      |                 | LOCAL PASSENGERS |               |
| <b>Cruise/Local Split</b>                     | percent | 12%                                    |                 | 88%              |               |
|   |         |  |                 | DOMESTIC         | INTERNATIONAL |
| <b>Group Size</b>                             |         |  |                 |                  |               |
| 1   | percent | 9%                                     |                 | 49%              | 33%           |
| 2   | percent | 29%                                    |                 | 25%              | 28%           |
| 3   | percent | 18%                                    |                 | 13%              | 15%           |
| 4+  | percent | 45%                                    |                 | 14%              | 24%           |
| <b>Bags per Enplaning Passenger (average)</b> | bags    | 0.9                                    |                 | 0.6              | 0.9           |
| <b>Bags per Enplaning Passenger</b>           |         |  |                 |                  |               |
| <b>Checking Bags (average)**</b>              | bags    | 1.5*                                   |                 | 1.3              | 1.5           |
|   |         |  |                 |                  |               |
|   |         | CRUISE BYPASS                          | CRUISE CHECK-IN |                  |               |
| <b>Cruise Passenger Type</b>                  | percent | 22%                                    | 78%             | N/A              | N/A           |

**Notes:**

\* Excludes "Cruise Bypass" passengers

\*\* Average bags per passenger checking bags per simulation modeling results.

**Source:**

2014 AirPax FLL Survey, July /August 2014; Analysis: Ricondo & Associates, Inc., December 2015.

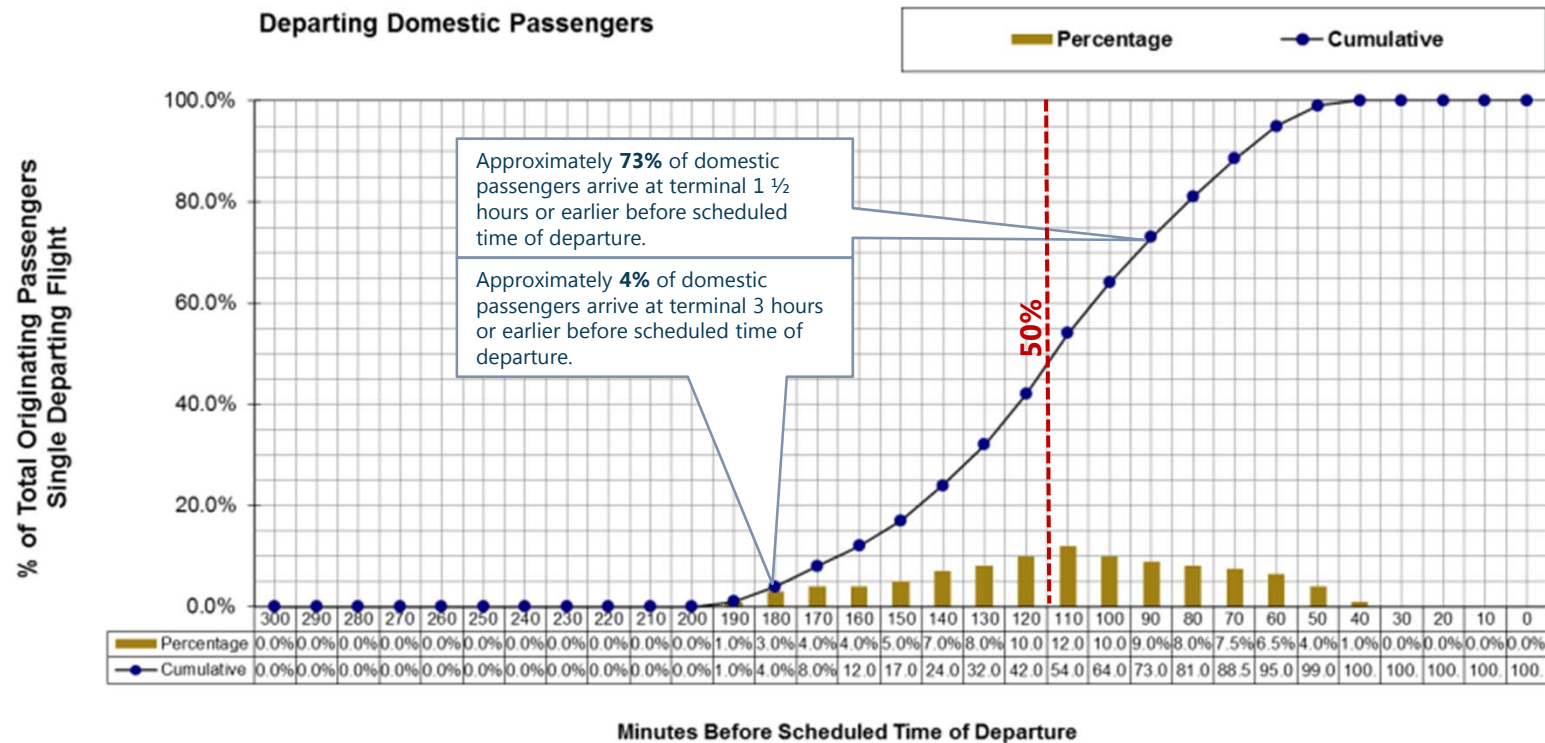
**Prepared by:**

Ricondo & Associates, Inc., January 2017.

# Originating Passenger Show up Profile



- Domestic non-cruise passengers typically arrive at the airport closer to their scheduled time of departure.



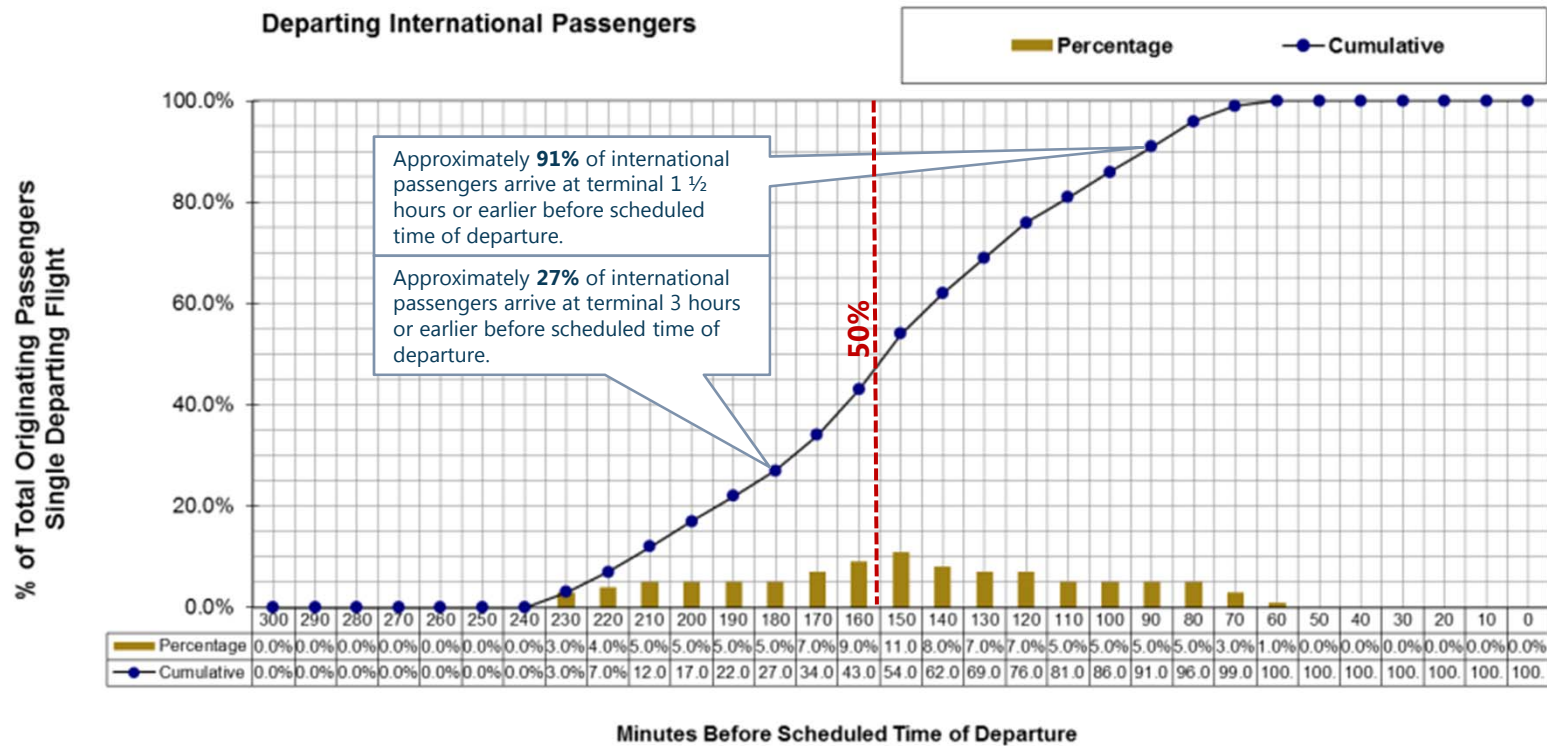
Source:  
2014 AirPax FLL Survey; Analysis: Ricondo & Associates, Inc., December 2015  
Prepared by:  
Ricondo & Associates, Inc., January 2017.



# Originating Passenger Show up Profile



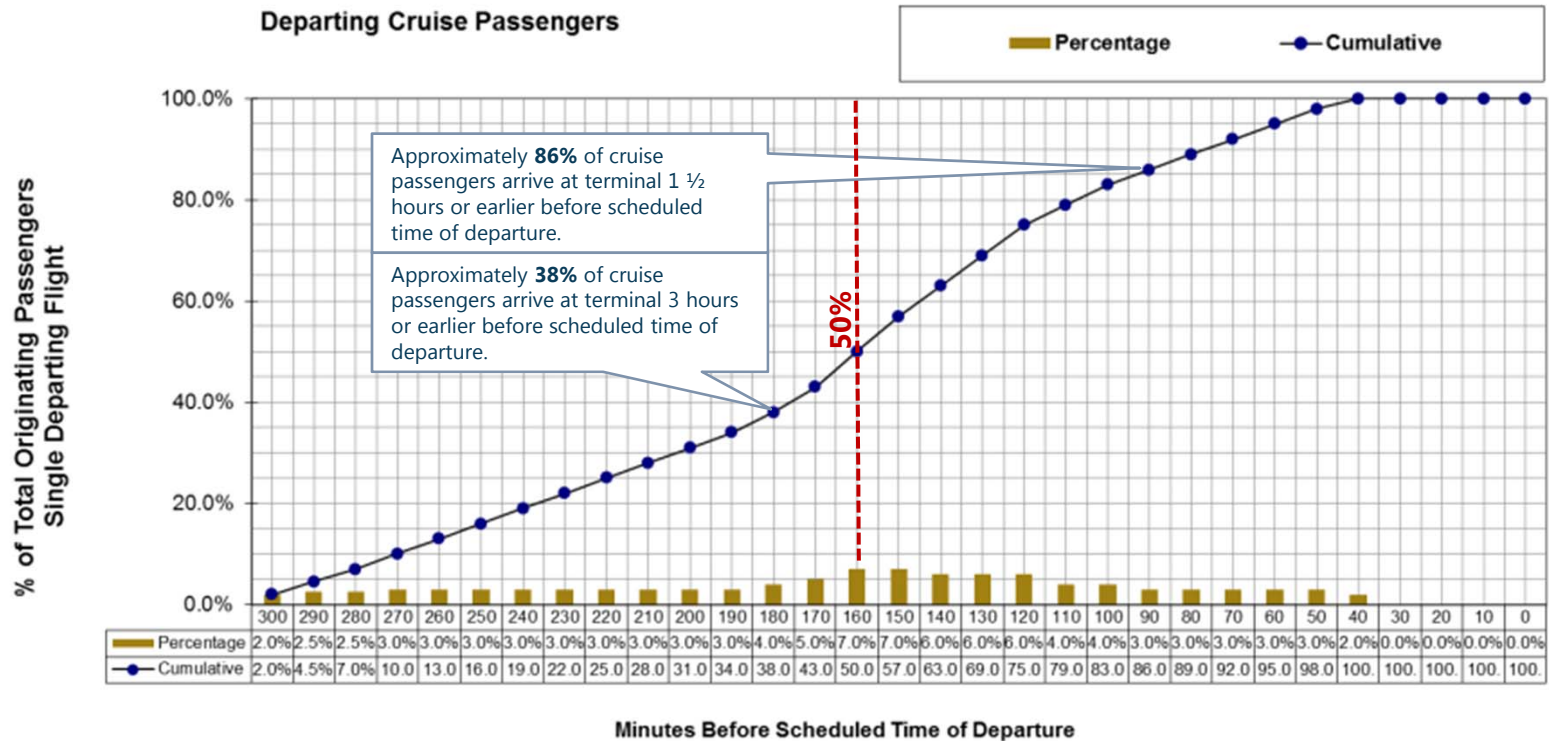
- International non-cruise passengers typically arrive at the airport between 2-3 hours prior to their scheduled time of arrival due to extended check-in processes.



Source:  
2014 AirPax FLL Survey; Analysis: Ricondo & Associates, Inc., December 2015  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

# Originating Passenger Show up Profile

- Cruise passengers can arrive at the airport many hours before their scheduled time of departure, depending on when cruises conclude and when cruise shuttles drop passengers off at the terminal.



Source:  
2014 AirPax FLL Survey; Analysis: Ricondo & Associates, Inc., December 2015  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

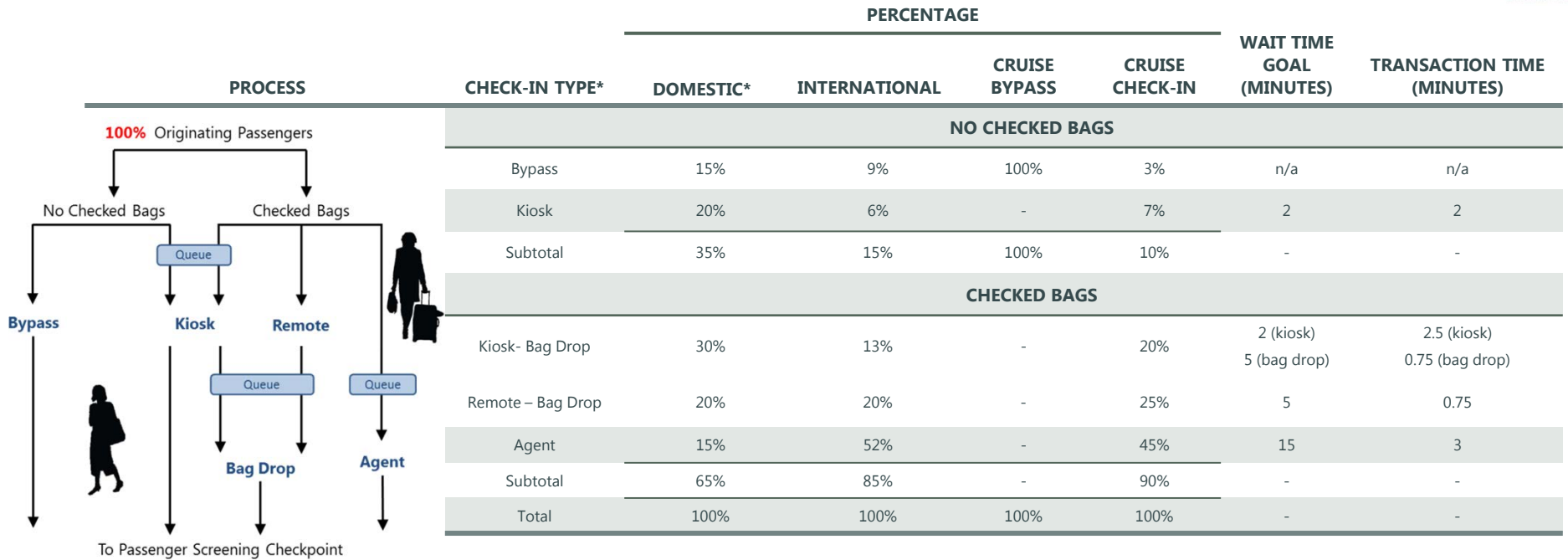
# Level of Service Framework



| PASSENGER<br>TERMINAL<br>PROCESSOR | NOTES  | SPACE STANDARDS FOR WAITING<br>AREAS |           |            |             |         | WAITING TIME STANDARDS FOR PROCESSING FACILITIES |             |         |            |             |                                  |            |    |   |   |  |
|------------------------------------|--|--------------------------------------|-----------|------------|-------------|---------|--|-------------|---------|------------|-------------|----------------------------------|------------|----|---|---|--|
|                                    |  | (ft <sup>2</sup> /pax)               |           |            |             |         | Economy Class (min)                              |             |         |            |             | Business Class/First Class (min) |            |    |   |   |  |
|                                    |  | A                                    | B         | C          | D           | E       | A  | B           | C       | D          | E           | A                                | B          | C  | D | E |  |
| UNITS                              |  | Over Design                          | Optimum   | Suboptimum | Over Design | Optimum | Suboptimum                                       | Over Design | Optimum | Suboptimum | Over Design | Optimum                          | Suboptimum |    |   |   |  |
| ADRM 9 <sup>th</sup> Edition       |  |                                      |           |            |             |         |  |             |         |            |             |                                  |            |    |   |   |  |
| ADRM 10 <sup>th</sup> Edition      |  |                                      |           |            |             |         |  |             |         |            |             |                                  |            |    |   |   |  |
| Public Departure Hall              |  | >24.8                                | 24.8      | <24.8      |             |         |  |             |         |            |             |                                  |            |    |   |   |  |
| Check-in                           |  |                                      |           |            |             |         |  |             |         |            |             |                                  |            |    |   |   |  |
| <i>Self-Service Boarding</i>       | pass/tagging                                 | >19.4                                | 14.0-19.4 | <14.0      |             | <0      | 0-2  | >2          |         |            | <0          | 0-2                              | >2         |    |   |   |  |
| <i>Bag Drop Desk</i>               | queue width 1.4-1.6 m or 4.5-5.0 ft          | >19.4                                | 14.0-19.4 | <14.0      |             | <0      | 0-5  | >5          |         |            | <0          | 0-3                              | >3         |    |   |   |  |
| <i>Check-in Desk</i>               | queue width 1.4-1.6 m or 4.5-5.0 ft          | >19.4                                | 14.0-19.4 | <14.0      |             | <10     | 10-20  | 20          | >20     |            | Business    | <3                               | 3-5        | >5 |   |   |  |
|                                    | queue width 1.4-1.6 m or 4.5-5.0 ft          | >19.4                                | 14.0-19.4 | <14.0      |             | <10     | 10-20  | >20         |         |            | First       | <0                               | 0-3        | >3 |   |   |  |
| Security Checkpoint                | queue width 1.2 m or 4 ft                    | >12.9                                | 10.8-12.9 | <10.8      |             | <5      | 5-10   | 20          | >10     |            | Fast Track  | <0                               | 0-3        | >3 |   |   |  |
| Immigration                        |  |                                      |           |            |             |         |  |             |         |            |             |                                  |            |    |   |   |  |
| <i>Passport Control</i>            | queue width 1.2 m or 4 ft                    | >12.9                                | 10.8-12.9 | <10.8      |             | <10     | 10   | 20          | >10     |            | Fast Track  | <5                               | 5          | >5 |   |   |  |
| <i>Transfers</i>                   | queue width 1.2 m or 4 ft                    | >12.9                                | 10.8-12.9 | <10.8      |             | <5      | 5  | 20          | >5      |            |             | 0                                | 0-3        | >3 |   |   |  |
| Baggage Claim Area                 |  |                                      |           |            |             |         |  |             |         |            |             |                                  |            |    |   |   |  |
| <i>Narrow Body</i>                 | Priority bags to be delivered before Economy | >18.3                                | 16.2-18.3 | <16.2      |             | <0      | 0-15   | >15         |         |            | 0           | 0-15                             | >15        |    |   |   |  |
| <i>Wide Body</i>                   |  | >18.3                                | 16.2-18.3 | <16.2      |             | <0      | 0-25   | >25         |         |            | 0           | 0-15                             | >15        |    |   |   |  |

**Source:**  
International Air Transport Association, Airport Development Reference Manual, 10th Edition, Effective March 2014.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

# Check-in Attributes



**Notes:**  
Values may not add to 100% due to rounding

\* Domestic check-in channel distributions evaluated and standardized by R&A to account for airline operational differences, as well as future changes in check-in technologies and passenger preferences. 2014 AirPax Survey original results: 23% Bypass, 14% Kiosk (no bags), 9% Kiosk (with bags), 24% Remote Bag Drop, 30% Agent. International and cruise check-in passenger channel distributions were not modified from AirPax survey results.

**Source:**  
2014 AirPax FLL Survey; July /August 2014; Analysis: Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

# Security Screening Attributes



| LANE TYPE                        | DOMESTIC | INTERNATIONAL | CRUISE BYPASS | CRUISE CHECK-IN | WAIT TIME <sup>2/</sup> | PROCESSING RATE <sup>3/</sup> |
|----------------------------------|----------|---------------|---------------|-----------------|-------------------------|-------------------------------|
| Standard Lane <sup>1/</sup>      | 71%      | 84%           | 73%           | 73%             | 20 minutes              | 150                           |
| TSA PreCheck® Lane <sup>1/</sup> | 29%      | 16%           | 27%           | 27%             | 10 minutes              | 300                           |

**Notes:**

1/ PreCheck-eligibility based on R&A and TSA discussion of revised PreCheck assumptions.

2/ Standard lane wait time level-of-service (LOS) goal provided in *Terminal 1, 2, and 3 Near-Term Planning Study*, Leigh Fisher, pg.13 June 2011, PreCheck lane wait time goal by R&A

3/ Rate = Passengers per hour per lane; Based on R&A and TSA discussion of assumptions.

**Source:**

2014 AirPax FLL Survey, July /August 2014; Analysis: Ricondo & Associates, Inc., August 2016 (unless otherwise noted)

**Prepared by:**

Ricondo & Associates, Inc., January 2017.

## Requirements Assumptions

- Check-in counters assumed to be preferential use for each airline
- Assumed no restrictions on when passengers allowed to check-in prior to their flight's scheduled time of departure.
- Assumes early bag storage capabilities at each terminal to allow passengers to check-in at any time.
- Check-in positions include two types of counters:
  - Full service agent positions with associated queue and circulation
  - Bag drop positions with 2 kiosks per position and associated queue and circulation
- Bag drop passengers were allowed to use the full service agent counters when the full service queue was empty and vice versa
- A premium "front-of-line" queue was provided for bag drop positions and full-service agent positions to account for an airline's premium check-in.
- Assumes 5ft circulation gap between every group of 12 check-in positions.



# Space Templates



# Check in Counter Position Templates



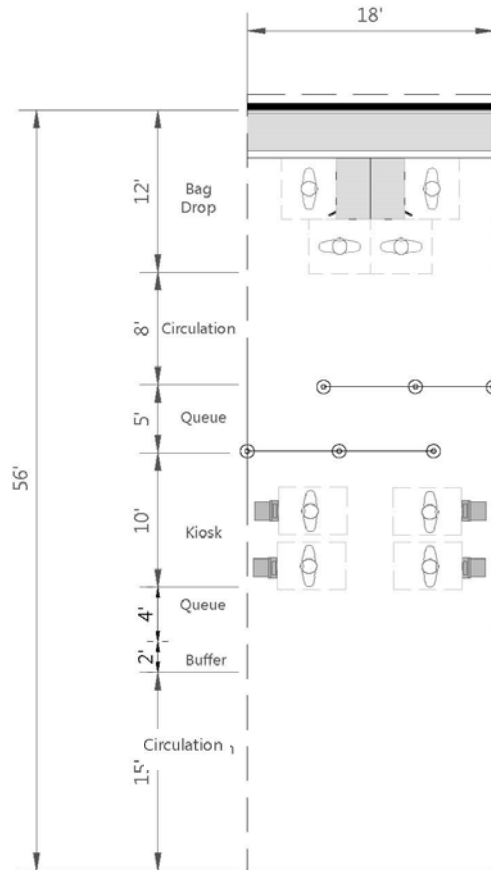
| ATTRIBUTE                   | IN LINE BAG DROP POSITIONS WITH KIOSKS |
|-----------------------------|--|
| Facilities Planning Factors | 1,010 (per two positions)              |

**T4 Lobby Depth:**  
~41' to 51' from back-of-wall

**T3 Lobby Depth:**  
~79' from back-of-wall

**T2 Lobby Depth:**  
~74' from back-of-wall

**T1 Lobby Depth:**  
~71' from back-of-wall



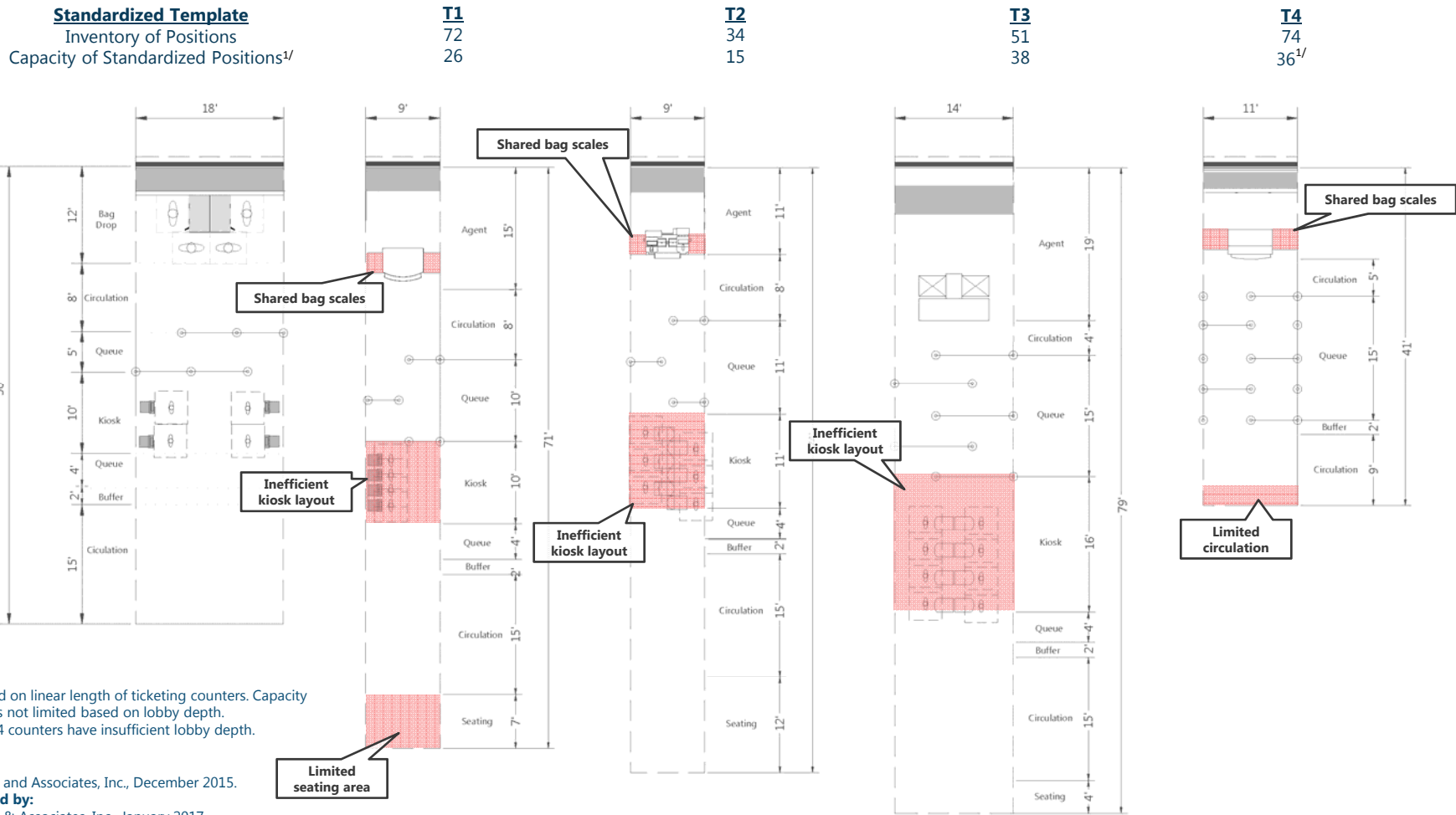
**Notes:**  
Drawings not to scale.

**Source:**  
Ricondo and Associates, Inc., December 2015.

**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

# Space Templates

## Check in Counter Position Templates – Terminal Comparison



**Notes:**  
 1/ Based on linear length of ticketing counters. Capacity numbers not limited based on lobby depth.  
 2/ All T4 counters have insufficient lobby depth.

**Source:**  
 Ricondo and Associates, Inc., December 2015.  
**Prepared by:**  
 Ricondo & Associates, Inc., January 2017.

## Space Templates

# Security Screening Template

### SECURITY SCREENING LANE

|  |       |
|--|-------|
| Facilities Planning Factors (sq ft per lane) | 2,125 |
|--|-------|

#### T4 Lane Depth:

~78' to 219' from queue area to end of recompose

#### T3 Lane Depth:

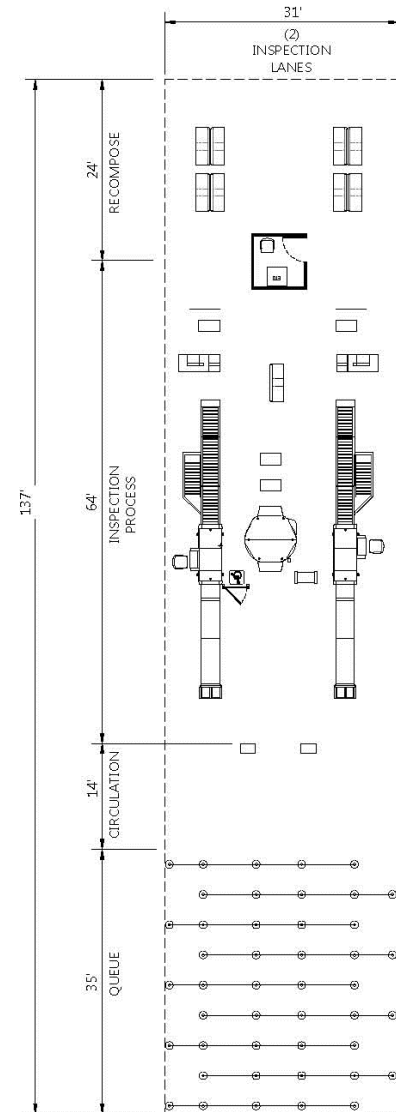
~96' to 125' from queue area to end of recompose

#### T2 Lane Depth:

~56' to 104' from queue area to end of recompose

#### T1 Lane Depth:

~132' from queue area to end of recompose



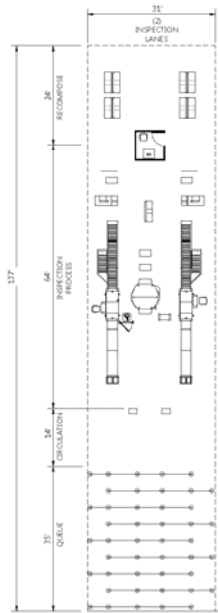
**Notes:**  
Drawings not to scale.

**Source:**  
Ricondo and Associates, Inc., December 2015.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

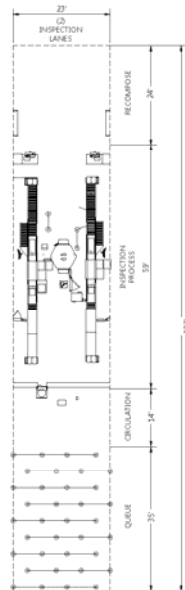
# Security Screening Template



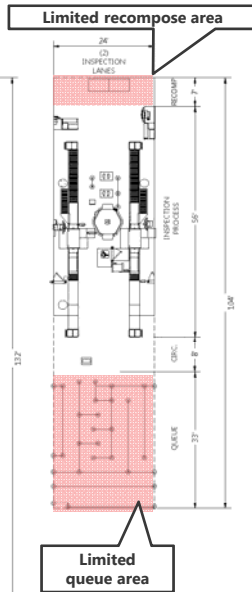
Standardized Template



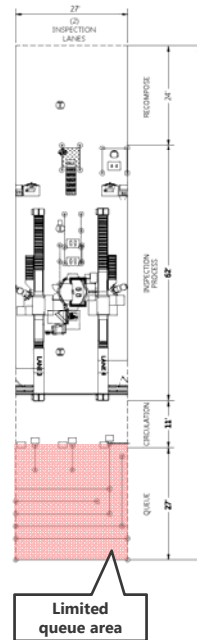
T1



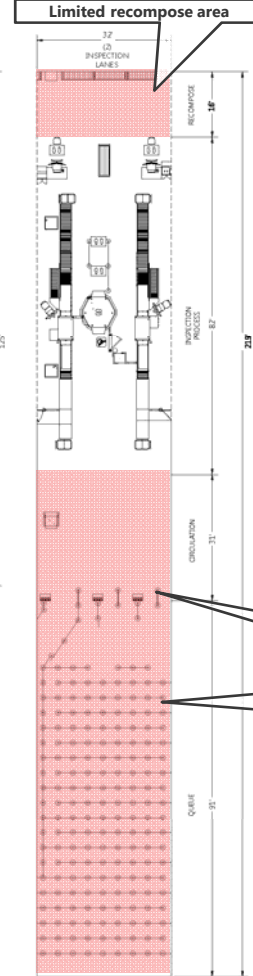
T2



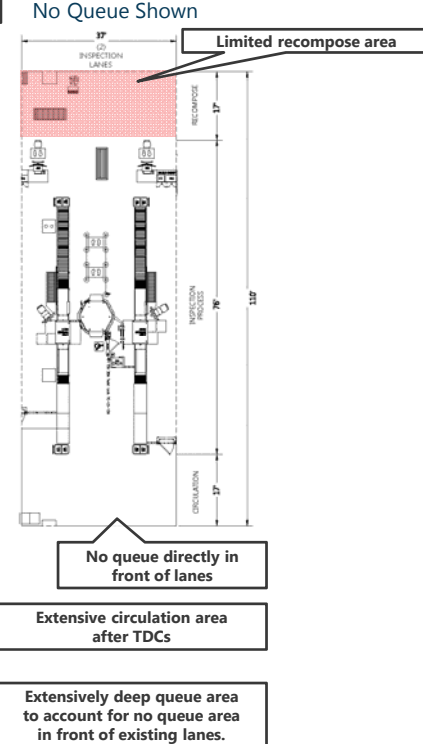
T3



T4 (New Lanes)



T4 (Existing Lanes)



# Outbound Cart Staging – Attributes and Space Template

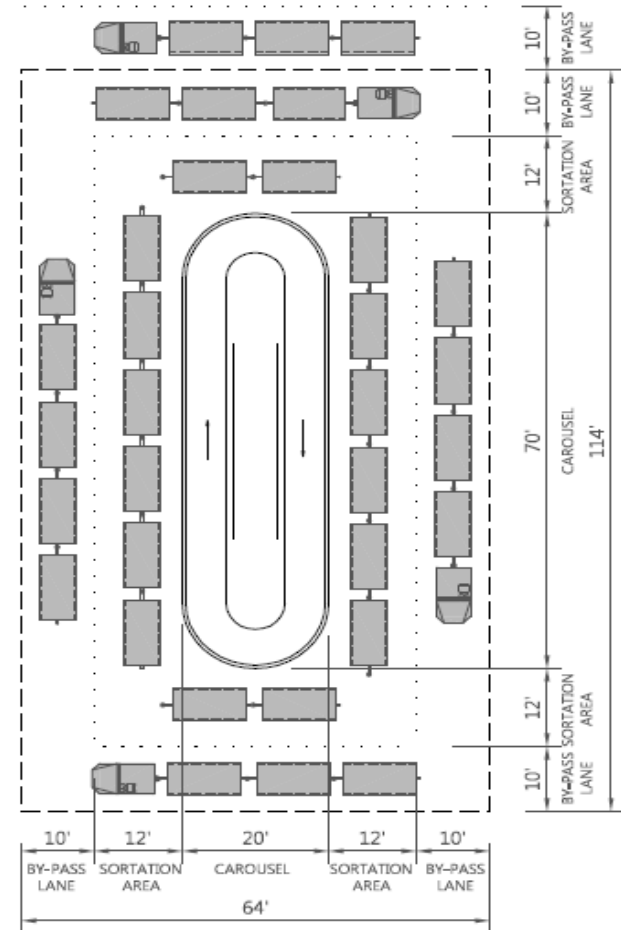


| ATTRIBUTES  | VALUES                    |
|---|---------------------------|
| <b>Facilities Planning Factor</b> (sq ft per cart staged) | <b>465</b>                |
| <b>Cart Staging Profile</b> (minutes prior to departure)  | <u>Cumulative Percent</u> |
| 120 – 100 minutes   | 50%                       |
| 90 – 30 minutes   | 100%                      |
| <b>Aircraft Group</b>                                     | <u>Max Carts Staged</u>   |
| Group II  | 2                         |
| Group III   | 3                         |
| Group IV  | 4                         |
| Group V   | 6                         |
| Group VI  | 8                         |

**Notes:**  
Drawings not to scale.

**Source:**  
Ricondo and Associates, Inc., December 2015.

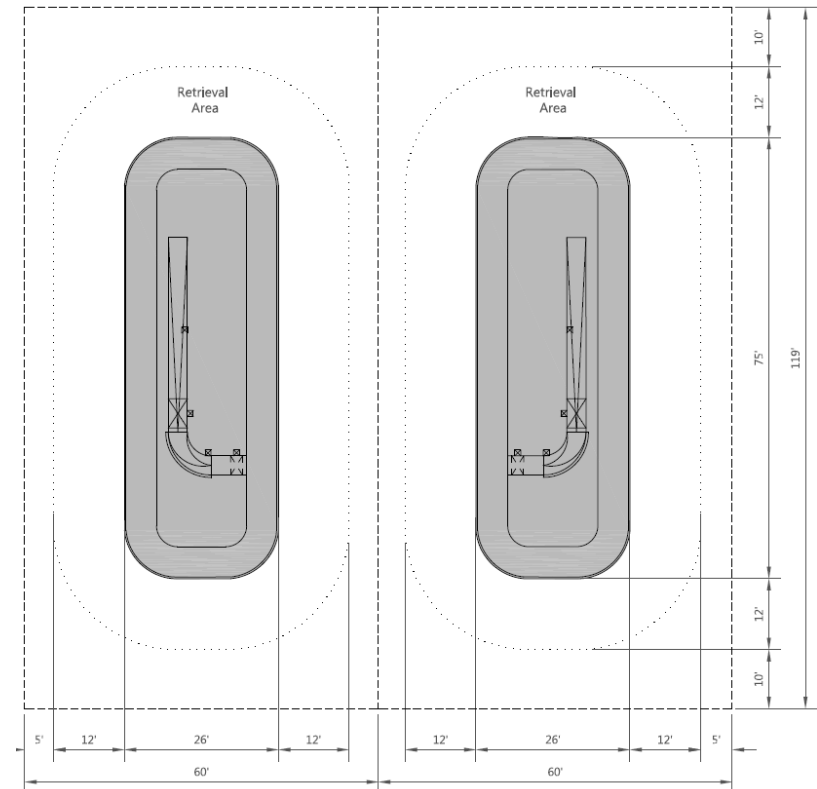
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.



# Domestic Baggage Claim – Attributes and Space Template



| ATTRIBUTES  | OPERATING PARAMETER |
|---|---------------------|
| <b>Facilities Planning Factors</b>                  |                     |
| Presentation Frontage of all New Claim Devices (lf) | <b>180</b>          |
| Total Associated Area (sq ft per claim device)      | <b>7,140</b>        |
| Total Retrieval Area (sq ft per claim device)       | <b>3,204</b>        |
| Last Bag Delivery (minutes after arrival time)      | 20                  |
| Passenger Accumulation (passenger)                  | 60%                 |
| <b>LOS</b>  |                     |
| Retrieval Zone Depth (ft)                           | 12                  |
| Area per Passenger in Retrieval Zone (sq ft)        | 18                  |



**Notes:**  
Drawings not to scale.

**Source:**  
Ricondo and Associates, Inc., December 2015.

**Prepared by:**  
Ricondo & Associates, Inc., January 2017.





# Functional Area Requirements Summary

## Functional Areas

# Terminal 1 Requirements Summary



|   | Units         | Baseline Inventory<br>2016 <sup>1/</sup> | Adjusted Capacity<br>Based On Templates | Requirements |        |
|---|---------------|--|---|--------------|--------|
|   |               |  |   | 2025         | 2035   |
| <b>Check-In</b>   |               |  |   |              |        |
| <b>In Line Bag Drop Positions based on Back Wall Frontage</b><br><i>Includes associated queue and circulation</i>         | positions     | 72                                       | 26 <sup>2/</sup>                        | 31           | 35     |
| <b>Lobby Kiosks</b><br><i>2 associated kiosks per in-line bag drop position</i>   | positions     | 9  | -                                       | 35           | 39     |
| <b>Lobby Depth (linear feet)</b><br><i>56' foot lobby depth required from back of ticketing wall to front of building</i> | linear feet   | 71'                                      |   | 56'          | 56'    |
| <b>Screening Checkpoint<sup>4/</sup></b>  |               |  |   |              |        |
| <b>Total Lanes</b>  | lanes         | 12                                       | -                                       | 9            | 10     |
| Pre✓  |               | -  | -                                       | 2            | 2      |
| Standard  |               | -  | -                                       | 7            | 8      |
| <b>Holdrooms</b>  |               |  |   |              |        |
| <b>Terminal 1</b>   | sq ft         | 54,314                                   |   | 66,444       | 71,796 |
| <b>Outbound Bag Make-up<sup>3/</sup></b>  |               |  |   |              |        |
| <b>Terminal 1</b><br><i>Peak Carts Staged in makeup (preferential use, by airline)</i>                                    | carts         | 86                                       | -                                       | 133          | 146    |
| <b>Domestic Bag Claim</b>   |               |  |   |              |        |
| <b>Terminal 1</b>   | claim devices | 6  | -                                       | 6            | 6      |
| <b>EDS</b>  |               |  |   |              |        |
| <b>Terminal 1<sup>4/5/</sup></b>  | units         | 8  | -                                       | 4            | 5      |
| <b>CBP FIS</b>  |               |  |   |              |        |
| <b>APC Kiosks</b>   | kiosks        | 33                                       | -                                       | 22           | 26     |
| <b>APC Queue Area</b>   | sq ft         | 3,000                                    | -                                       | 4,070        | 4,785  |
| <b>Bag Claim Active Capacity (sq ft)</b>  | sq ft         | 8,760                                    | -                                       | 5,430        | 7,740  |
| <b>Officer Inspection</b>   | positions     | 8  | -                                       | 18           | 20     |
| <b>Officer Inspection Queue Area</b>  | sq ft         | 6,000                                    | -                                       | 2,370        | 2,610  |

Red shading indicates areas where requirements exceed capacity.

Green shading indicates areas where capacity meets requirements.

Yellow shading indicates areas where requirements are at capacity, or where requirements could be met with low investment.

**Notes:**

1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53

2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-lane bag drop positions.

3/ Preferential use airline cart staging requirements. Assumes early bag storage capabilities to allow for passengers to check-in at any time.

4/ Includes international passenger re-check

5/ Future T1 conditions inventory per TSA: 8 units at 505 bags per hour per machine; assumes EDS demand is balanced between East and West rooms

**Source:**

Ricondo & Associates, Inc., August 2016 (unless otherwise noted)

**Prepared by:**

Ricondo & Associates, Inc., January 2017.

Summary Table

# Terminal 1 Requirements for Other Functional Areas

|                                     | Units   | Inventory      | Ratio<br>(if applicable)       | Requirements   |                |
|-------------------------------------|---|----------------|--------------------------------|----------------|----------------|
|                                     |   |                |                                | 2025           | 2035           |
| <b>SUBTOTAL - OTHER FUNCTIONS</b>   |   | <b>457,142</b> |                                | <b>528,086</b> | <b>607,942</b> |
|                                     | Gates   | 23             |                                | 25             | 27             |
|                                     | Percent Increase in Gates Required Beyond Inventory | N/A            |                                | 9%             | 17%            |
| <b>Commercial Program</b>           | sq ft   | <b>93,609</b>  |                                | <b>159,023</b> | <b>198,497</b> |
| Airside                             | sq ft   | 73,542         |                                | 127,218        | 158,797        |
| Landside                            | sq ft   | 3,160          |                                | 31,805         | 39,699         |
| Back of House Storage/Support       | sq ft   | 16,907         |                                | 28,722         | 35,851         |
| <b>Airport</b>                      | sq ft   | <b>5,369</b>   | <b>Sq Ft of Space per Gate</b> | <b>5,836</b>   | <b>6,303</b>   |
| Administration and Executive        | sq ft   | 3,406          | 150 sf/gate                    | 3,702          | 3,998          |
| Operations and Maintenance          | sq ft   | 1,963          | 100 sf/gate                    | 2,134          | 2,304          |
| Services and Amenities              | sq ft   | 0              |                                | -              | -              |
| Police                              | sq ft   | 0              |                                | -              | -              |
| Other Agency                        | sq ft   | 0              |                                | -              | -              |
| <b>Building Services</b>            | sq ft   | <b>128,731</b> |                                | <b>133,871</b> | <b>145,715</b> |
| Non Habitable Utility and Equipment | sq ft   | 86,801         | 9.8%                           | 91,941         | 103,785        |
| Landside                            | sq ft   | 0              | -                              | -              | -              |
| Airside                             | sq ft   | 86,801         | 9.8%                           | 91,941         | 103,785        |
| Loading Docks                       | sq ft   | 0              | -                              | -              | -              |
| Landside                            | sq ft   | 0              | -                              | -              | -              |
| Airside                             | sq ft   | 0              | -                              | -              | -              |
| Misc. Covered Unenclosed            | sq ft   | 41,930         | 4.7%                           | 41,930         | 41,930         |
|                                     | sq ft   | 0              |                                |                |                |
| <b>Other Common</b>                 | sq ft   | <b>229,433</b> |                                | <b>227,824</b> | <b>254,907</b> |
| Circulation & Seating/Lobbies       | sq ft   | 187,369        | 21.2%                          | 198,463        | 224,030        |
| Landside                            | sq ft   | 76,283         | 8.6%                           | 80,800         | 91,209         |
| Airside                             | sq ft   | 111,086        | 12.6%                          | 117,663        | 132,821        |
| Restrooms                           | sq ft   | 25,916         | -                              | 13,213         | 14,729         |
| Landside                            | sq ft   | 6,973          | -                              | 6,930          | 7,721          |
| Airside                             | sq ft   | 18,943         | -                              | 6,283          | 7,008          |
| Unassigned                          | sq ft   | 16,148         | 1.8%                           | 16,148         | 16,148         |
| Landside                            | sq ft   | 0              | -                              | -              | -              |
| Airside                             | sq ft   | 16,148         | 1.8%                           | 16,148         | 16,148         |

1. The total square footage of other functional areas was grown at the same rate as growth in gate requirement.
2. Ratio of each functional area to the total is maintained as the total is grown in 2025 and 2035.
3. Airport services spaces are grown based on the existing inventory's relationship to the total number of gates. The requirement for airport services space is then grown by this factor for every three (3) new gates required.

**Note:**  
Totals may not add due to rounding.  
**Source:**  
Ricondo & Associates, Inc., August 2016 (unless otherwise noted)  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

# Terminal 1 Holdroom Design Aircraft

| 2025 |                              |         |       | 2035 |                              |         |       |
|------|------------------------------|---------|-------|------|------------------------------|---------|-------|
| Gate | Largest Aircraft (Scheduled) | Carrier | Seats | Gate | Largest Aircraft (Scheduled) | Carrier | Seats |
| A01  | 738                          | WN      | 175   | A01  | 738                          | WN      | 175   |
| A02  | 738                          | WN      | 175   | A02  | 738                          | WN      | 175   |
| A03  | 738                          | WN      | 175   | A03  | 738                          | WN      | 175   |
| A04  | 738                          | WN      | 175   | A04  | 738                          | WN      | 175   |
| A05  | 738                          | WN      | 175   | A05  | 738                          | WN      | 175   |
| A06  | 738                          | WN      | 175   | A06  | 738                          | WN      | 175   |
| A07  | 738                          | WN      | 175   | A07  | 738                          | WN      | 175   |
| B02  | 738                          | WN      | 175   | B02  | 738                          | WN      | 175   |
| B04  | 738                          | WN      | 175   | B04  | 738                          | WN      | 175   |
| B05  | 738                          | WN      | 175   | B05  | 738                          | WN      | 175   |
| B06  | 738                          | WN      | 175   | B06  | 738                          | WN      | 175   |
| B07  | 738                          | WN      | 175   | B07  | 738                          | WN      | 175   |
| B08  | 738                          | WN      | 175   | B08  | 738                          | WN      | 175   |
| B09  | 738                          | WN      | 175   | B09  | 738                          | WN      | 175   |
| X01  | 738                          | WN      | 175   | X01  | 738                          | WN      | 175   |
| X02  | 738                          | WN      | 175   | X02  | 738                          | WN      | 175   |
| X03  | 738                          | WN      | 175   | X03  | 738                          | WN      | 175   |
| X04  | 738                          | WN      | 175   | X04  | 738                          | WN      | 175   |
| C01  | 739                          | AS      | 181   | C01  | 739                          | UA      | 179   |
| C02  | 739                          | UA      | 179   | C02  | 739                          | UA      | 179   |
| C03  | 738*                         | WN*     | 175   | C03  | 739                          | UA      | 179   |
| C04  | 739                          | UA      | 179   | C04  | 739                          | UA      | 179   |
| C05  | 738*                         | WN*     | 175   | C05  | 738*                         | WN*     | 175   |
| C06  | 739                          | UA      | 179   | C06  | 739                          | UA      | 179   |
| C07  | 320                          | G4      | 177   | C07  | 320                          | G4      | 177   |
| C08  | 739                          | UA      | 179   | C08  | 739                          | UA      | 179   |
| C09  | 739                          | UA      | 179   | C09  | 320                          | G4      | 177   |

**Note:**  
Minimum holdroom size for Terminal

**Source:**  
Ricondo & Associates, Inc., August 2016 (unless otherwise noted)

**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

The holdroom design aircraft is the largest aircraft scheduled for each gate per the DDFS, or the minimum most prominent Group III aircraft, whichever is largest.

## Functional Areas

# Terminal 2 Requirements Summary



- Terminal 2 has 4 available gates during the 15:50 peak period that could accommodate some additional growth or a relocated carrier from another terminal.

|   | Units         | Baseline Inventory<br>2016 <sup>1/</sup> | Adjusted Capacity<br>Based on Templates | Requirements |        |
|---|---------------|--|---|--------------|--------|
|   |               |  |   | 2025         | 2035   |
| <b>Check-In</b>   |               |  |   |              |        |
| <b>In Line Bag Drop Positions</b><br><i>Includes associated queue and circulation</i>                                     | positions     | 34                                       | 15 <sup>2/</sup>                        | 10           | 12     |
| <b>Lobby Kiosks</b><br><i>2 associated kiosks per in-line bag drop position</i>   | positions     | 36                                       | -                                       | 11           | 14     |
| <b>Lobby Depth (linear feet)</b><br><i>56' foot lobby depth required from back of ticketing wall to front of building</i> | linear feet   | 73'                                      | -                                       | 56'          | 56'    |
| <b>Screening Checkpoint</b>   |               |  |   |              |        |
| <b>Total Lanes</b>  | lanes         | 6  | -                                       | 4            | 5      |
| Pre✓  |               | -  | -                                       | 1            | 4      |
| Standard  |               | -  | -                                       | 3            | 1      |
| <b>Holdrooms</b>  |               |  |   |              |        |
| <b>Terminal 2</b>   | sq ft         | 32,585                                   | -                                       | 28,360       | 28,519 |
| <b>Outbound Bag Make-up<sup>3/</sup></b>  |               |  |   |              |        |
| <b>Terminal 2</b>   |               |  |   |              |        |
| <i>Peak Carts Staged in makeup (by airline)</i>   | carts         | 50                                       |   | 38           | 45     |
| <b>Domestic Bag Claim</b>   |               |  |   |              |        |
| <b>Terminal 2</b>   | claim devices | 3  |   | 3            | 3      |
| <b>EDS</b>  |               |  |   |              |        |
| <b>Terminal 2<sup>4/</sup></b>  | units         | 3  |   | 2            | 3      |

**Green shading** indicates areas where capacity meets requirements.

**Yellow shading** indicates areas where requirements are at capacity, or where requirements could be met with low investment.

### Notes:

1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53

2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-lane bag drop positions.

3/ Preferential use airline cart staging requirements. Assumes early bag storage facility to allow for passengers to check-in at any time.

4/ Future T2 conditions inventory per TSA: 3 units at 674 bags per hour per machine

### Source:

Ricondo & Associates, Inc., August 2016 (unless otherwise noted)

### Prepared by:

Ricondo & Associates, Inc., January 2017.

Summary Table



# Terminal 2 Requirements for Other Functional Areas

|                                     | Units   | Inventory      | Ratio                          | Requirements   |                |
|-------------------------------------|---|----------------|--------------------------------|----------------|----------------|
|                                     |   |                |                                | 2025           | 2035           |
| <b>SUBTOTAL - OTHER FUNCTIONS</b>   |   | <b>151,523</b> |                                | <b>158,019</b> | <b>170,765</b> |
|                                     | Gates   | 9              |                                | 9              | 9              |
|                                     | Percent Increase in Gates Required Beyond Inventory | N/A            |                                | 0%             | 0%             |
| <b>Commercial Program</b>           | sq ft   | <b>37,321</b>  |                                | <b>48,103</b>  | <b>53,079</b>  |
| Airside                             | sq ft   | 20,345         |                                | 38,482         | 42,463         |
| Landside                            | sq ft   | 3,489          |                                | 9,621          | 10,616         |
| Back of House Storage/Support       | sq ft   | 13,487         |                                | 17,383         | 19,182         |
| <b>Airport</b>                      | sq ft   | <b>8,395</b>   | <b>Sq Ft of Space per Gate</b> | <b>8,395</b>   | <b>8,395</b>   |
| Administration and Executive        | sq ft   | -              | -                              | 0              | 0              |
| Operations and Maintenance          | sq ft   | 8,395          | 900 sf/gate                    | 8,395          | 8,395          |
| Services and Amenities              | sq ft   | -              |                                | 0              | 0              |
| Police                              | sq ft   | -              |                                | 0              | 0              |
| Other Agency                        | sq ft   | -              |                                | 0              | 0              |
| <b>Building Services</b>            | sq ft   | <b>16,404</b>  |                                | <b>16,232</b>  | <b>17,007</b>  |
| Non Habitable Utility and Equipment | sq ft   | 8,702          | 3.3%                           | 8,530          | 9,305          |
| Landside                            | sq ft   | 3,220          | 2.2%                           | 3,156          | 3,443          |
| Airside                             | sq ft   | 5,482          | 3.7%                           | 5,374          | 5,862          |
| Loading Docks                       | sq ft   | -              | -                              | 0              | 0              |
| Landside                            | sq ft   | -              | -                              | 0              | 0              |
| Airside                             | sq ft   | -              | -                              | 0              | 0              |
| Misc. Covered Unenclosed            | sq ft   | 7,702          | 5.2%                           | 7,702          | 7,702          |
|                                     |   | -              |                                |                |                |
| <b>Other Common</b>                 | sq ft   | <b>89,403</b>  |                                | <b>85,289</b>  | <b>92,284</b>  |
| Circulation & Seating/Lobbies       | sq ft   | 76,278         | 51.7%                          | 74,770         | 81,567         |
| Landside                            | sq ft   | 32,499         | 22.0%                          | 31,856         | 34,752         |
| Airside                             | sq ft   | 43,779         | 29.6%                          | 42,914         | 46,815         |
| Restrooms                           | sq ft   | 8,490          |                                | 5,884          | 6,083          |
| Landside                            | sq ft   | 4,070          |                                | 3,124          | 3,263          |
| Airside                             | sq ft   | 4,420          |                                | 2,760          | 2,820          |
| Unassigned                          | sq ft   | 4,635          | 3.1%                           | 4,635          | 4,635          |
| Landside                            | sq ft   | 703            | 0.5%                           | 383            | 414            |
| Airside                             | sq ft   | 3,932          | 2.7%                           | 3,932          | 3,932          |

1. The total square footage of other functional areas was grown at the same rate as growth in gate requirement.
2. Ratio of each functional area to the total is maintained as the total is grown in 2025 and 2035.
3. No new gates are required for Terminal 2 in 2025 or 2035, thus no additional commercial, airport, building services, or other common areas are required.
4. Airport services spaces are grown based on the existing inventory's relationship to the total number of gates. The requirement for airport services space is then grown by this factor for every three (3) new gates required.

**Note:**  
Totals may not add due to rounding.  
**Source:**  
Ricondo & Associates, Inc., August 2016 (unless otherwise noted)  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.



# Terminal 2 Holdroom Design Aircraft

## 2025

| Largest |          |         |       |
|---------|----------|---------|-------|
| Gate    | Aircraft | Carrier | Seats |
| D01     | 321      | VX      | 185   |
| D02     | 321      | AC      | 183   |
| D03     | 321      | AC      | 183   |
| D04     | 763      | AC      | 280   |
| D05     | 321      | DL      | 192   |
| D06     | 321      | DL      | 192   |
| D07     | 321      | DL      | 192   |
| D08     | 763      | DL      | 261   |
| D09     | 321      | DL      | 192   |

## 2035

| Largest |          |         |       |
|---------|----------|---------|-------|
| Gate    | Aircraft | Carrier | Seats |
| D01     | 321      | VX      | 185   |
| D02     | 321      | VX      | 185   |
| D03     | 321      | DL      | 192   |
| D04     | 763      | AC      | 280   |
| D05     | 321      | DL      | 192   |
| D06     | 321      | DL      | 192   |
| D07     | 321      | DL      | 192   |
| D08     | 763      | DL      | 261   |
| D09     | 321      | DL      | 192   |

The holdroom design aircraft is the largest aircraft scheduled for each gate per the DDFS, or the minimum most prominent Group III aircraft, whichever is largest.

**Note:**  
No minimum holdroom size necessary for Terminal 2  
**Source:**  
Ricondo & Associates, Inc., August 2016 (unless otherwise noted)  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.



## Functional Areas

# Terminal 3 Requirements Summary



|   | Units         | Baseline Inventory<br>2016 <sup>1/</sup> | Adjusted Capacity<br>Based on Templates | Requirements |        |
|---|---------------|--|---|--------------|--------|
|   |               |  |   | 2025         | 2035   |
| <b>Check-In</b>   |               |  |   |              |        |
| <b>In Line Bag Drop Positions</b><br><i>Includes associated queue and circulation</i>                                     | positions     | 51                                       | 38 <sup>2/</sup>                        | 24           | 28     |
| <b>Lobby Kiosks</b><br><i>2 associated kiosks per in-line bag drop position</i>   | positions     | 36                                       | -                                       | 26           | 29     |
| <b>Lobby Depth (linear feet)</b><br><i>60' foot lobby depth required from back of ticketing wall to front of building</i> | linear feet   | 79'                                      | -                                       | 60'          | 60'    |
| <b>Screening Checkpoint</b>   |               |  |   |              |        |
| <b>Total Lanes</b>  | lanes         | 12                                       | -                                       | 8            | 9      |
| Pre✓  |               | -  | -                                       | 2            | 2      |
| Standard  |               | -  | -                                       | 6            | 7      |
| <b>Holdrooms</b>  |               |  |   |              |        |
| <b>Terminal 3</b>   | sq ft         | 54,231                                   | -                                       | 63,875       | 83,068 |
| <b>Outbound Bag Make-up</b>   |               |  |   |              |        |
| <b>Terminal 3<sup>3/</sup></b><br><i>Peak Carts Staged in makeup (by airline)</i>   | carts         | 95                                       | -                                       | 92           | 100    |
| <b>Domestic Bag Claim</b>   |               |  |   |              |        |
| <b>Terminal 3</b>   | claim devices | 7  | -                                       | 4            | 5      |
| <b>EDS</b>  |               |  |   |              |        |
| <b>Terminal 3<sup>4/5/</sup></b>  | units         | 6  | -                                       | 3            | 4      |

Green shading indicates areas where capacity meets requirements.

Yellow shading indicates areas where requirements are at capacity, or where requirements could be met with low investment.

### Notes:

- 1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53 (In Line bag drop positions revised based on floor plan)
- 2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-lane bag drop positions, associated kiosks, queue area, and circulation.
- 3/ Preferential use airline cart staging requirements
- 4/ Includes international passenger re-check
- 5/ Future T3 conditions inventory per TSA: 6 units at 674 bags per hour per machine

### Source:

Ricondo & Associates, Inc., August 2016 (unless otherwise noted)

### Prepared by:

Ricondo & Associates, Inc., January 2017.

Summary Table

# Terminal 3 Requirements for Other Functional Areas

|                                     | Units   | Inventory      | Ratio                          | Requirements   |                |
|-------------------------------------|---|----------------|--------------------------------|----------------|----------------|
|                                     |   |                |                                | 2025           | 2035           |
| <b>SUBTOTAL - OTHER FUNCTIONS</b>   |   | <b>269,241</b> |                                | <b>320,626</b> | <b>392,153</b> |
|                                     | Gates   | 19             |                                | 20             | 26             |
|                                     | Percent Increase in Gates Required from Inventory | N/A            |                                | 5%             | 37%            |
| <b>Commercial Program</b>           | sq ft   | <b>82,144</b>  |                                | <b>133,234</b> | <b>175,308</b> |
| Airside                             | sq ft   | 46,471         |                                | 106,587        | 140,246        |
| Landside                            | sq ft   | 1,319          |                                | 26,647         | 35,062         |
| Back of House Storage/Support       | sq ft   | 34,354         |                                | 44,279         | 48,859         |
| <b>Airport</b>                      | sq ft   | <b>5,689</b>   | <b>Sq Ft of Space per Gate</b> | <b>5,689</b>   | <b>6,289</b>   |
| Administration and Executive        | sq ft   | -              | -                              | -              | -              |
| Operations and Maintenance          | sq ft   | 5,689          | 300 sf/gate                    | 5,689          | 6,289          |
| Services and Amenities              | sq ft   | -              | -                              | -              | -              |
| Police                              | sq ft   | -              | -                              | -              | -              |
| Other Agency                        | sq ft   | -              | -                              | -              | -              |
| <b>Building Services</b>            | sq ft   | <b>58,000</b>  |                                | <b>58,982</b>  | <b>63,400</b>  |
| Non Habitable Utility and Equipment | sq ft   | 19,248         | 3.7%                           | 20,230         | 24,648         |
| Landside                            | sq ft   | 18,446         | 3.6%                           | 19,387         | 23,621         |
| Airside                             | sq ft   | 802            | 0.2%                           | 843            | 1,027          |
| Loading Docks                       | sq ft   | -              | 0.0%                           | -              | -              |
| Landside                            | sq ft   | -              | 0.0%                           | -              | -              |
| Airside                             | sq ft   | -              | 0.0%                           | -              | -              |
| Misc. Covered Unenclosed            | sq ft   | 38,752         | 7.5%                           | 38,752         | 38,752         |
| <b>Other Common</b>                 | sq ft   | <b>123,408</b> |                                | <b>122,721</b> | <b>147,156</b> |
| Circulation & Seating/Lobbies       | sq ft   | 99,272         | 19.3%                          | 104,339        | 127,123        |
| Landside                            | sq ft   | 48,936         | 9.5%                           | 51,433         | 62,665         |
| Airside                             | sq ft   | 50,336         | 9.8%                           | 52,905         | 64,458         |
| Restrooms                           | sq ft   | 15,312         | 3.0%                           | 9,557          | 11,208         |
| Landside                            | sq ft   | 4,926          | 1.0%                           | 4,797          | 5,663          |
| Airside                             | sq ft   | 12,136         | 2.4%                           | 4,760          | 5,545          |
| Unassigned                          | sq ft   | 8,825          | 1.7%                           | 8,825          | 8,825          |
| Landside                            | sq ft   | 519            | 0.1%                           | 323            | 395            |
| Airside                             | sq ft   | 8,306          | 1.6%                           | 8,306          | 8,306          |

1. The total square footage of other functional areas was grown at the same rate as growth in gate requirement.
2. Ratio of each functional area to the total is maintained as the total is grown in 2025 and 2035.
3. Airport services spaces are grown based on the existing inventory's relationship to the total number of gates. The requirement for airport services space is then grown by this factor for every three (3) new gates required.

**Note:**  
Totals may not add due to rounding.  
**Source:**  
Ricondo & Associates, Inc., August 2016 (unless otherwise noted)  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

# Terminal 3 Holdroom Design Aircraft

## 2025

| Largest |          |         |       |
|---------|----------|---------|-------|
| Gate    | Aircraft | Carrier | Seats |
| E01     | 321      | B6      | 200   |
| E02     | 321      | B6      | 200   |
| E03     | 321      | B6      | 200   |
| E04     | 321      | B6      | 200   |
| E05     | 321      | B6      | 200   |
| E06     | 321      | AA      | 187   |
| E07     | 321      | B6      | 200   |
| E08     | 321      | B6      | 200   |
| E09     | 321      | B6      | 200   |
| E10     | 321      | B6      | 200   |
| F01     | 321      | B6      | 200   |
| F02     | 321      | NK      | 228   |
| F03     | 321      | NK      | 228   |
| F04     | 321      | NK      | 228   |
| F05     | 321      | NK      | 228   |
| F06     | 321      | NK      | 228   |
| F07     | 321      | B6      | 200   |
| F08     | 321      | NK      | 228   |
| F09     | 321      | NK      | 228   |
| F10     | 321      | NK      | 228   |

## 2035

| Largest |          |         |       |
|---------|----------|---------|-------|
| Gate    | Aircraft | Carrier | Seats |
| E01     | 321      | B6      | 200   |
| E02     | 321      | B6      | 200   |
| E03     | 321      | B6      | 200   |
| E04     | 321      | B6      | 200   |
| E05     | 321      | B6      | 200   |
| E06     | 321      | B6      | 200   |
| E07     | 321      | B6      | 200   |
| E08     | 321      | B6      | 200   |
| E09     | 321      | B6      | 200   |
| E10     | 321      | B6      | 200   |
| F01     | 321      | B6      | 200   |
| F02     | 321      | NK      | 228   |
| F03     | 321      | NK      | 228   |
| F04     | 321      | NK      | 228   |
| F05     | 321      | NK      | 228   |
| F06     | 321      | NK      | 228   |
| F07     | 321      | B6      | 200   |
| F08     | 321      | NK      | 228   |
| F09     | 321      | NK      | 228   |
| F10     | 321      | NK      | 228   |
| X05     | 321      | B6      | 200   |
| X12     | 321      | B6      | 200   |
| X13     | 321      | B6      | 200   |
| X15     | 321      | NK      | 228   |
| X16     | 321      | B6      | 200   |
| X17     | 321      | NK      | 228   |

The holdroom design aircraft is the largest aircraft scheduled for each gate per the DDFS, or the minimum most prominent Group III aircraft, whichever is largest.

**Note:**  
No minimum holdroom size necessary for Terminal 3  
**Source:**  
Ricondo & Associates, Inc., August 2016 (unless otherwise noted)  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

## Functional Areas

# Terminal 4 Requirements Summary



|   | Units         | Baseline Inventory<br>2016 <sup>1/</sup> | Adjusted Capacity<br>Based On Templates | Requirements |        |
|---|---------------|--|---|--------------|--------|
|   |               |  |   | 2025         | 2035   |
| <b>Check-In</b>   |               |  |   |              |        |
| <b>In Line Bag Drop Positions based on Back Wall Frontage</b>                         | positions     | 74                                       | 36 <sup>2/</sup>                        | 30           | 38     |
| <i>Includes associated queue and circulation</i>                                      |               |  |   |              |        |
| <b>Lobby Kiosks</b>   | positions     | 16                                       | -                                       | 34           | 36     |
| <i>2 associated kiosks per in-line bag drop position</i>                              |               |  |   |              |        |
| <b>Lobby Depth (linear feet)</b>  | linear feet   | 41' - 51'                                |   | 56'          | 56'    |
| <i>56' foot lobby depth required from back of ticketing wall to front of building</i> |               |  |   |              |        |
| <b>Screening Checkpoint<sup>4/</sup></b>  |               |  |   |              |        |
| <b>Total Lanes</b>  | lanes         | 10                                       | -                                       | 6            | 9      |
| Pre✓  |               | -  | -                                       | 1            | 2      |
| Standard  |               | -  | -                                       | 5            | 7      |
| <b>Holdrooms</b>  |               |  |   |              |        |
| <b>Terminal 4</b>   | sq ft         | 39,498                                   |   | 59,724       | 74,560 |
| <b>Outbound Bag Make-up<sup>3/</sup></b>  |               |  |   |              |        |
| <b>Terminal 4</b>   |               |  |   |              |        |
| <i>Peak Carts Staged in makeup (preferential use, by airline)</i>                     | carts         | 88                                       | -                                       | 85           | 112    |
| <b>Domestic Bag Claim</b>   |               |  |   |              |        |
| <b>Terminal 4</b>   | claim devices | 3  | -                                       | 6            | 6      |
| <b>EDS</b>  |               |  |   |              |        |
| <b>Terminal 4<sup>4/5/</sup></b>  | units         | 6  | -                                       | 3            | 3      |
| <b>CBP FIS</b>  |               |  |   |              |        |
| <b>APC Kiosks</b>   | kiosks        | 40                                       | -                                       | 34           | 44     |
| <b>APC Queue Area</b>   | sq ft         | 4,270                                    | -                                       | 6,325        | 8,140  |
| <b>Bag Claim Active Capacity (sq ft)</b>  | sq ft         | 15,930                                   | -                                       | 9,560        | 13,210 |
| <b>Officer Inspection</b>   | positions     | 30                                       | -                                       | 23           | 28     |
| <b>Officer Inspection Queue Area</b>  | sq ft         | 8,280                                    | -                                       | 3,680        | 4,480  |

Red shading indicates areas where requirements exceed capacity.

Green shading indicates areas where capacity meets requirements.

Yellow shading indicates areas where requirements are at capacity, or where requirements could be met with low investment.

### Notes:

- 1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53 (In Line bag drop inventory revised from 76 to 74 based on floor plans)
- 2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-line bag drop positions.
- 3/ Preferential use airline cart staging requirements
- 4/ Includes international passenger re-check
- 5/ Future T4 conditions inventory per TSA: 6 units at 674 bags per hour per machine

### Source:

Ricondo & Associates, Inc., August 2016 (unless otherwise noted)

### Prepared by:

Ricondo & Associates, Inc., January 2017.

Summary Table

# Terminal 4 Requirements for Other Functional Areas

|                                     | Units   | Inventory      | Ratio | Requirements   |                |
|-------------------------------------|---|----------------|-------|----------------|----------------|
|                                     |   |                |       | 2025           | 2035           |
| <b>SUBTOTAL - OTHER FUNCTIONS</b>   |   | <b>365,858</b> |       | <b>413,025</b> | <b>468,878</b> |
|                                     | Gates   | 14             |       | 17             | 21             |
|                                     | Percent Increase in Gates Required from Inventory | N/A            |       | 21%            | 50%            |
| <b>Commercial Program</b>           | sq ft   | <b>49,006</b>  |       | <b>79,861</b>  | <b>98,919</b>  |
| Airside                             | sq ft   | 30,283         |       | 63,889         | 79,135         |
| Landside                            | sq ft   | 2,956          |       | 15,972         | 19,784         |
| Back of House Storage/Support       | sq ft   | 15,767         |       | 25,695         | 31,827         |
| <b>Airport</b>                      | sq ft   | <b>91,551</b>  |       | <b>98,151</b>  | <b>104,751</b> |
| Administration and Executive        | sq ft   | 73,788         |       | 79,088         | 84,388         |
| Operations and Maintenance          | sq ft   | 17,763         |       | 19,063         | 20,363         |
| Services and Amenities              | sq ft   | -              |       | -              | -              |
| Police                              | sq ft   | -              |       | -              | -              |
| Other Agency                        | sq ft   | -              |       | -              | -              |
| <b>Building Services</b>            | sq ft   | <b>81,076</b>  |       | <b>83,338</b>  | <b>88,970</b>  |
| Non Habitable Utility and Equipment | sq ft   | 32,070         | 4.5%  | 34,332         | 39,965         |
| Landside                            | sq ft   | -              | 0.0%  | -              | -              |
| Airside                             | sq ft   | 38,140         | 5.3%  | 40,830         | 47,528         |
| Loading Docks                       | sq ft   | -              | 0.0%  | -              | -              |
| Landside                            | sq ft   | -              | 0.0%  | -              | -              |
| Airside                             | sq ft   | -              | 0.0%  | -              | -              |
| Misc. Covered Unenclosed            | sq ft   | 49,006         | 6.9%  | 49,006         | 49,006         |
| <b>Other Common</b>                 | sq ft   | <b>144,226</b> |       | <b>151,676</b> | <b>176,239</b> |
| Circulation & Seating/Lobbies       | sq ft   | 118,401        | 16.6% | 126,751        | 147,546        |
| Landside                            | sq ft   | 35,885         | 5.0%  | 38,416         | 44,718         |
| Airside                             | sq ft   | 90,412         | 12.6% | 96,788         | 112,667        |
| Restrooms                           | sq ft   | 12,819         | 1.8%  | 11,919         | 15,687         |
| Landside                            | sq ft   | 3,729          | 0.5%  | 6,391          | 8,514          |
| Airside                             | sq ft   | 9,090          | 1.3%  | 5,528          | 7,173          |
| Unassigned                          | sq ft   | 13,006         | 1.8%  | 13,006         | 13,006         |
| Landside                            | sq ft   | -              | 0.0%  | -              | -              |
| Airside                             | sq ft   | 13,006         | 1.8%  | 13,006         | 13,006         |

1. The total square footage of other functional areas was grown at the same rate as growth in gate requirement.
2. Ratio of each functional area to the total is maintained as the total is grown in 2025 and 2035.
3. Airport services spaces are grown based on the existing inventory's relationship to the total number of gates. The requirement for airport services space is then grown by this factor for every three (3) new gates required.

**Note:**  
Totals may not add due to rounding.  
**Source:**  
Ricondo & Associates, Inc., August 2016 (unless otherwise noted)  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

# Terminal 4 Holdroom Design Aircraft

## 2025

| Largest |          |         |       |
|---------|----------|---------|-------|
| Gate    | Aircraft | Carrier | Seats |
| G01     | 321      | B6      | 200   |
| G02     | 321      | NK      | 228   |
| G03     | 321      | B6      | 200   |
| G04     | 321      | NK      | 228   |
| G05     | 321      | NK      | 228   |
| G06     | 321      | B6      | 200   |
| G07     | 789      | DY      | 344   |
| G08     | 321      | B6      | 200   |
| G09     | 738      | TS      | 189   |
| G10     | 321      | NK      | 228   |
| G11     | 321      | B6      | 200   |
| G12     | 321      | NK      | 228   |
| G13     | 321      | NK      | 228   |
| G14     | 321      | NK      | 228   |
| X03     | 359      | AD      | 350   |
| X04     | 789      | DY      | 344   |
| X05     | 321      | NK      | 228   |

## 2035

| Largest |          |         |       |
|---------|----------|---------|-------|
| Gate    | Aircraft | Carrier | Seats |
| G01     | 321      | B6      | 200   |
| G02     | 321      | B6      | 200   |
| G03     | 321      | B6      | 200   |
| G04     | 321      | NK      | 228   |
| G05     | 321      | NK      | 228   |
| G06     | 321      | NK      | 228   |
| G07     | 789      | DY      | 344   |
| G08     | 321      | B6      | 200   |
| G09     | 321      | B6      | 200   |
| G10     | 321      | B6      | 200   |
| G11     | 321      | B6      | 200   |
| G12     | 321      | NK      | 228   |
| G13     | 321      | NK      | 228   |
| G14     | 321      | NK      | 228   |
| X06     | 789      | DY      | 344   |
| X07     | 359      | AD      | 350   |
| X08     | 772      | NC      | 300   |
| X09     | 789      | NC      | 250   |
| X10     | 321      | NK      | 228   |
| X11     | 321      | NK      | 228   |
| X14     | 321      | B6      | 200   |

The holdroom design aircraft is the largest aircraft scheduled for each gate per the DDFS, or the minimum most prominent Group III aircraft, whichever is largest.

**Note:**

No minimum holdroom size necessary for Terminal 4

**Source:**

Ricondo & Associates, Inc., August 2016 (unless otherwise noted)

**Prepared by:**

Ricondo & Associates, Inc., January 2017.

# All Terminal Requirements



|  | Units     | Terminal 1   |        | Terminal 2   |        | Terminal 3   |        | Terminal 4   |        |
|--|-----------|--------------|--------|--------------|--------|--------------|--------|--------------|--------|
|  |           | Requirements |        | Requirements |        | Requirements |        | Requirements |        |
|  |           | 2025         | 2035   | 2025         | 2035   | 2025         | 2035   | 2025         | 2035   |
| <b>Check-In</b>                            |           |              |        |              |        |              |        |              |        |
| In Line Bag Drop Positions <sup>1/2/</sup> | positions | 31           | 35     | 10           | 12     | 24           | 28     | 30           | 38     |
| Lobby Depth <sup>3/</sup>                  |           | 56'          | 56'    | 56'          | 56'    | 56'          | 56'    | 56'          | 56'    |
| <b>Screening Checkpoint<sup>4/</sup></b>   |           |              |        |              |        |              |        |              |        |
| Total Lanes                                | lanes     | 9            | 10     | 4            | 5      | 8            | 9      | 6            | 9      |
| <b>Holdrooms</b>                           |           |              |        |              |        |              |        |              |        |
| Total Area                                 | sq ft     | 66,444       | 71,796 | 28,360       | 28,519 | 63,875       | 83,068 | 59,724       | 74,560 |
| <b>Outbound Make-up</b>                    |           |              |        |              |        |              |        |              |        |
| Peak Carts Staged in Make-up by Airline    | carts     | 133          | 146    | 38           | 45     | 92           | 100    | 85           | 112    |
| <b>Domestic Bag Claim</b>                  |           |              |        |              |        |              |        |              |        |
| Claim Devices                              | devices   | 6            | 6      | 3            | 3      | 4            | 5      | 6            | 6      |
| <b>EDS<sup>4/5/</sup></b>                  |           |              |        |              |        |              |        |              |        |
| TSA Baggage Screening                      | units     | 4            | 5      | 2            | 3      | 3            | 4      | 3            | 3      |
| <b>CBP FIS</b>                             |           |              |        |              |        |              |        |              |        |
| APC Kiosks                                 | kiosks    | 22           | 26     | -            | -      | -            | -      | 34           | 44     |
| APC Queue Area                             | sq ft     | 4,070        | 4,785  | -            | -      | -            | -      | 6,325        | 8,140  |
| Bag Claim Active Capacity (sq ft)          | sq ft     | 5,430        | 7,740  | -            | -      | -            | -      | 9,560        | 13,210 |
| Officer Inspection                         | positions | 18           | 20     | -            | -      | -            | -      | 23           | 28     |
| Officer Inspection Queue Area              | sq ft     | 2,370        | 2,610  | -            | -      | -            | -      | 3,680        | 4,480  |

**Notes:**

1/ Based on back wall frontage

2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-lane bag drop positions.

3/ 56' foot lobby depth required from back of ticketing wall to front of building

4/ T1 and T4 requirements include international passenger re-check

5/ Future EDS conditions per TSA - T1: 8 units at 505 bags per hour; T2: 3 units at 674 bags per hour; T3: 6 units at 674 bags per hour; T4: 6 units at 674 bags per hour; assumes balanced EDS demand

Green shading indicates baseline inventory/adjusted capacity (check-in) exceeds requirements, red shading indicates requirements exceed baseline inventory/adjusted capacity (check-in), yellow shading indicates requirements are approaching capacity or could be met with little investment

**Source:**

Ricondo & Associates, Inc., August 2016 (unless otherwise noted)

**Prepared by:**

Ricondo & Associates, Inc., August 2016



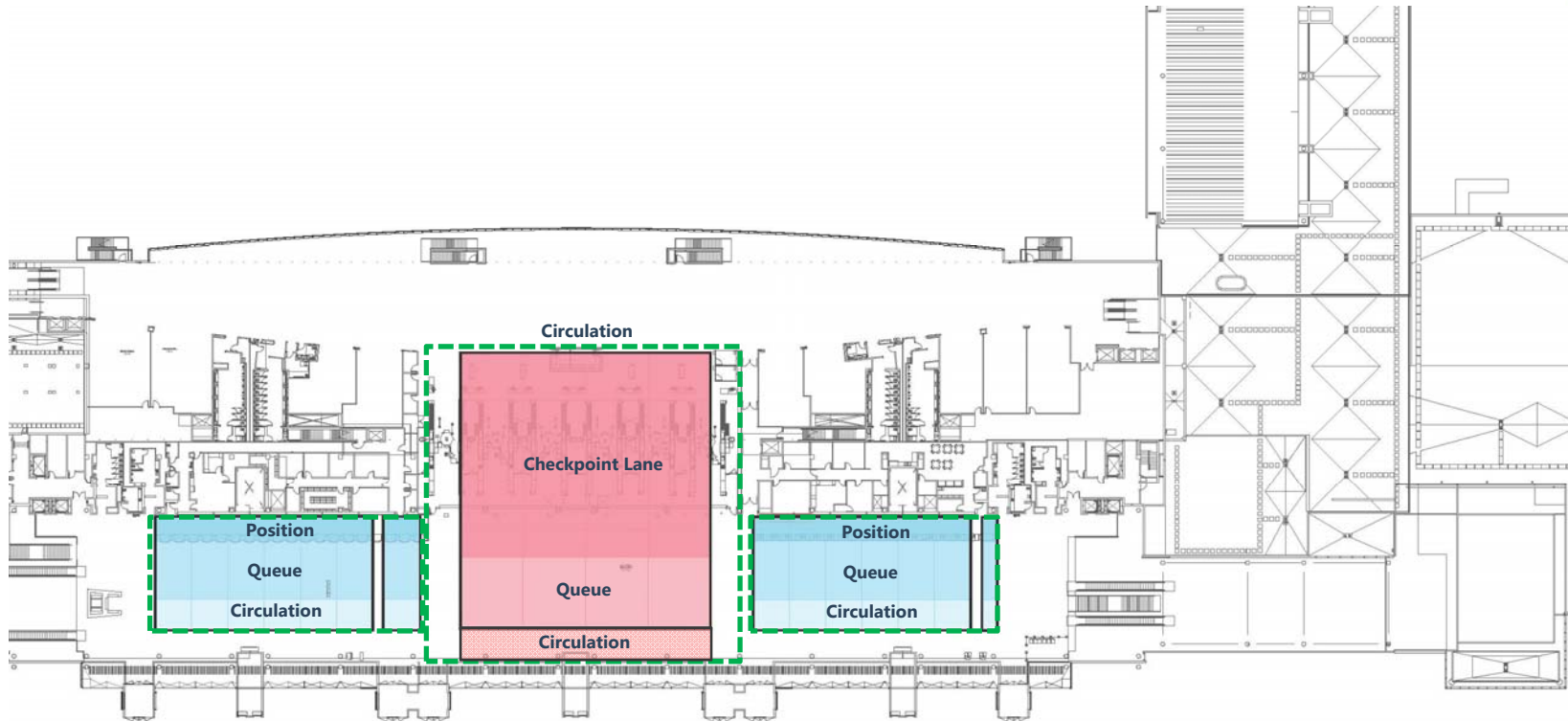
# Supplemental Analysis

# Functional Area Requirements

## Terminal 1

## Functional Areas

# Terminal 1 Level 3 – Airline Check-in and Security Screening - 2025

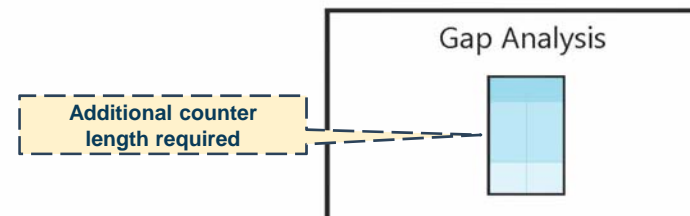


**LEGEND**

- Airline Facilities
- Department of Homeland Security
- 2025 Requirements
- 2035 Requirements

**NORTH** 0 60 ft

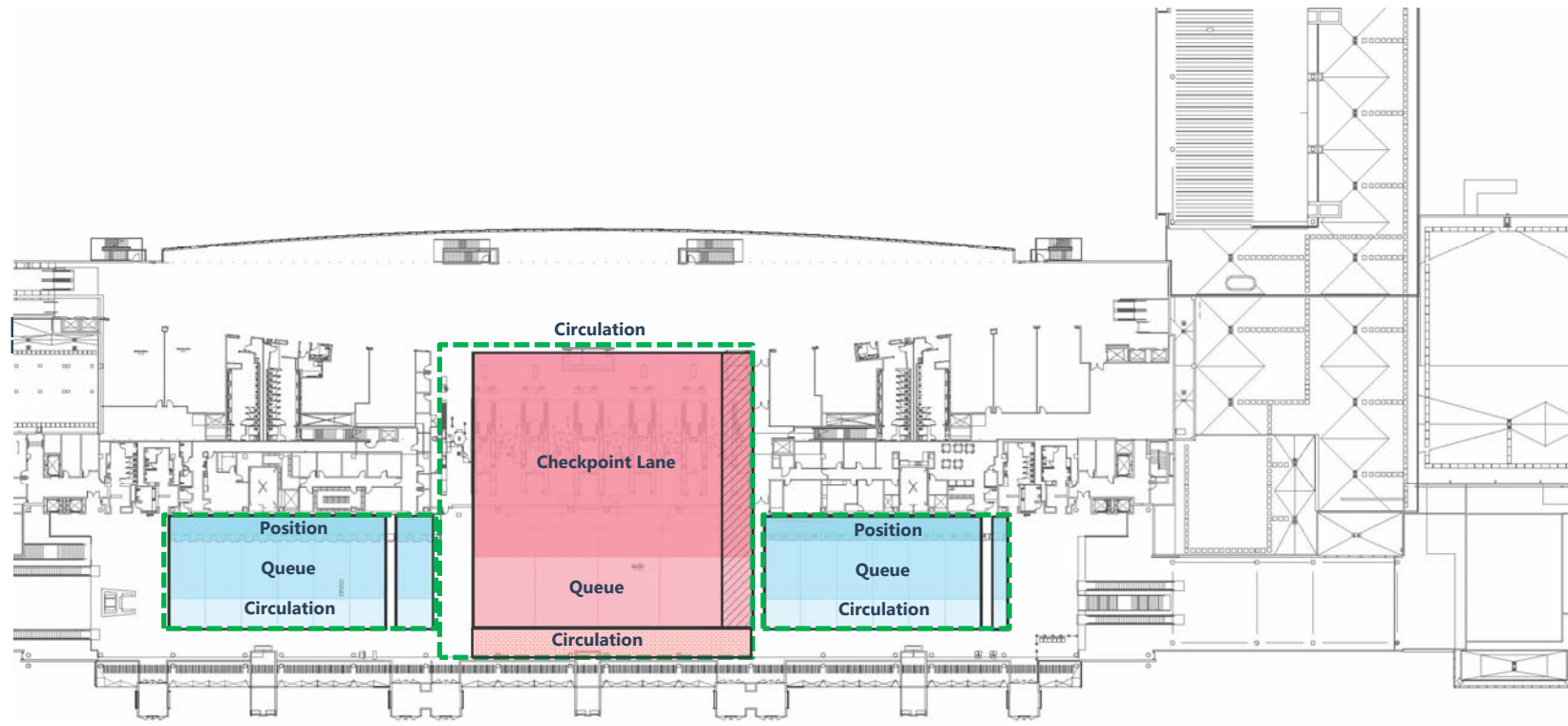
**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.



[Requirements Table \(link\)](#)

Functional Areas

# Terminal 1 Level 3 – Airline Check-in and Security Screening - 2035

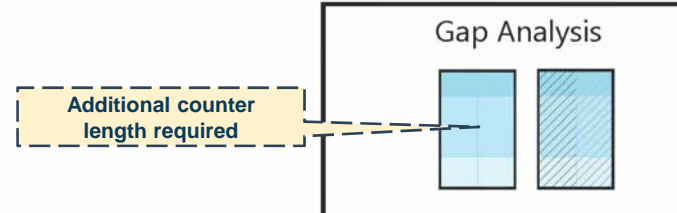


**LEGEND**

- Airline Facilities
- Department of Homeland Security
- 2025 Requirements
- 2035 Requirements

**NORTH** 0 60 ft

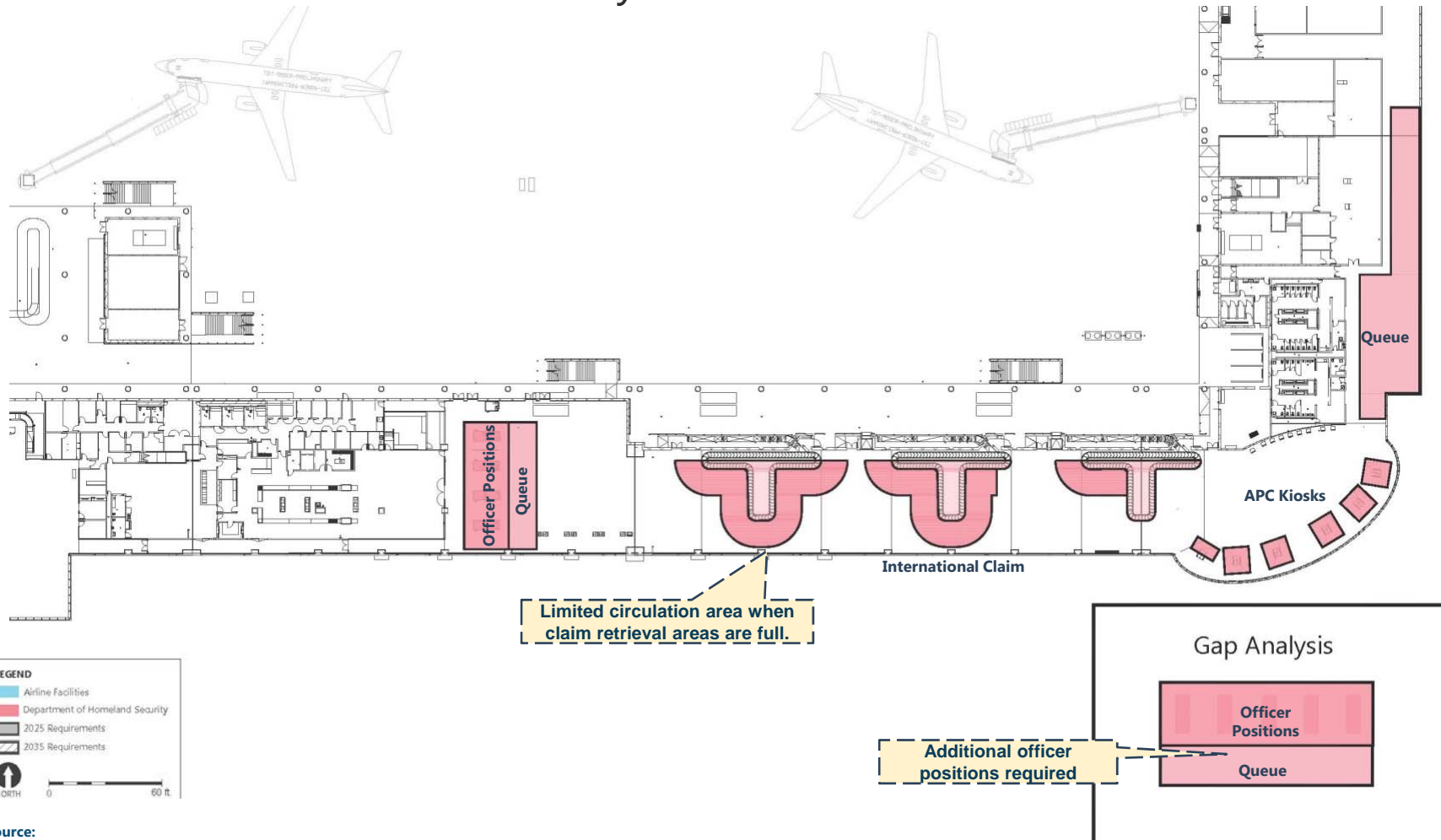
**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.



[Requirements Table \(link\)](#)

## Functional Areas

# Terminal 1 Level 1 – CBP Facility – 2025

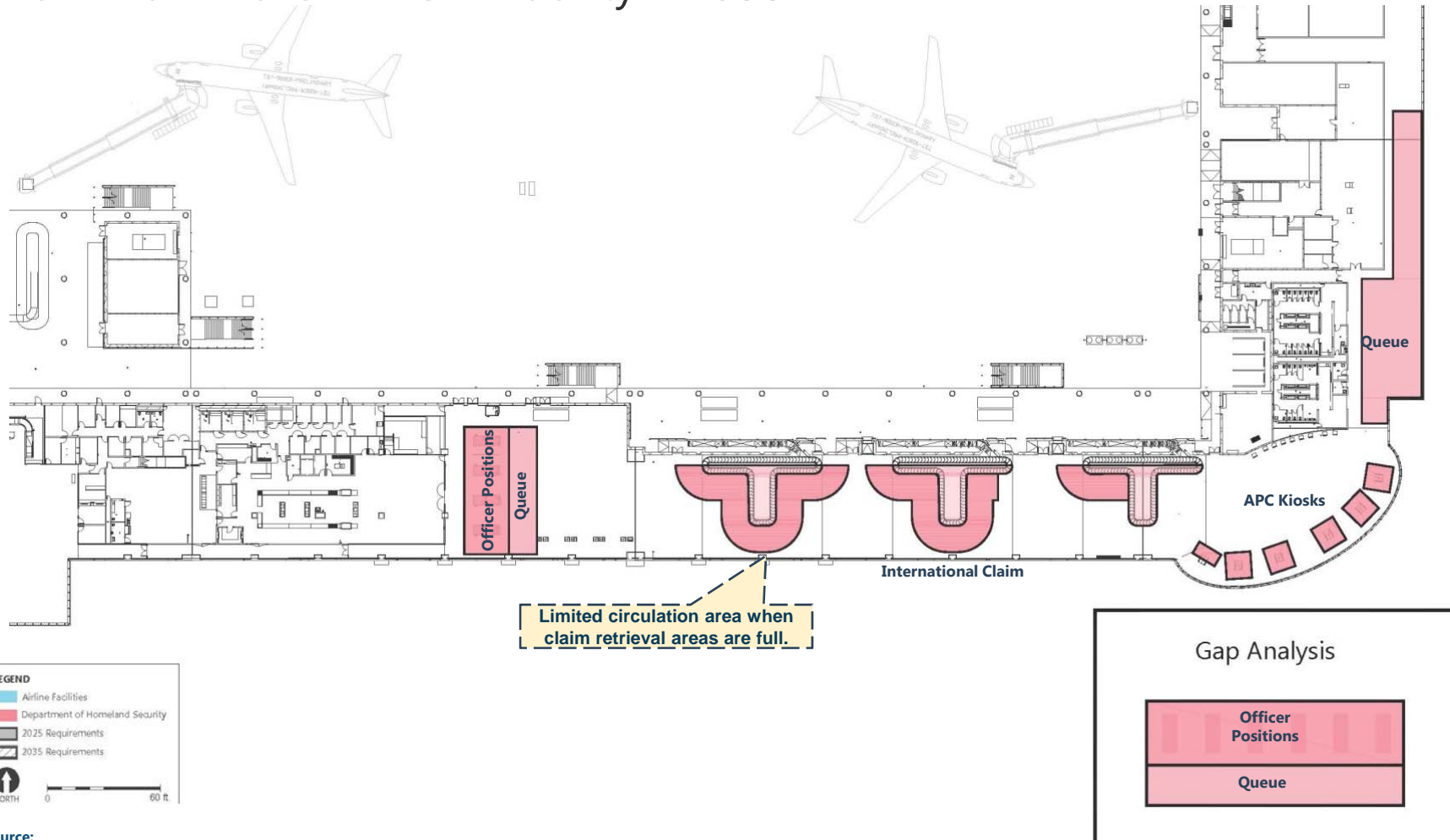


Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

Functional Areas

# Terminal 1 Level 1 – CBP Facility – 2035



**LEGEND**

- Airline Facilities
- Department of Homeland Security
- 2025 Requirements
- 2035 Requirements

**NORTH** 0 60 ft

**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

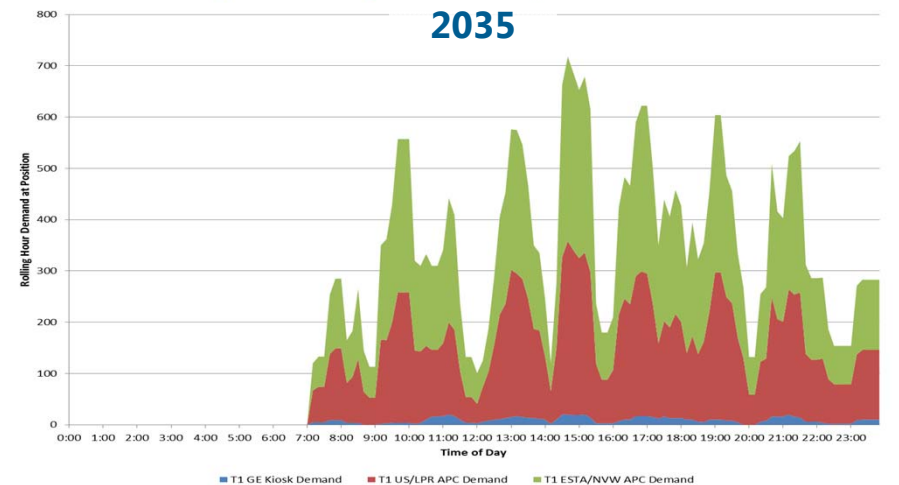
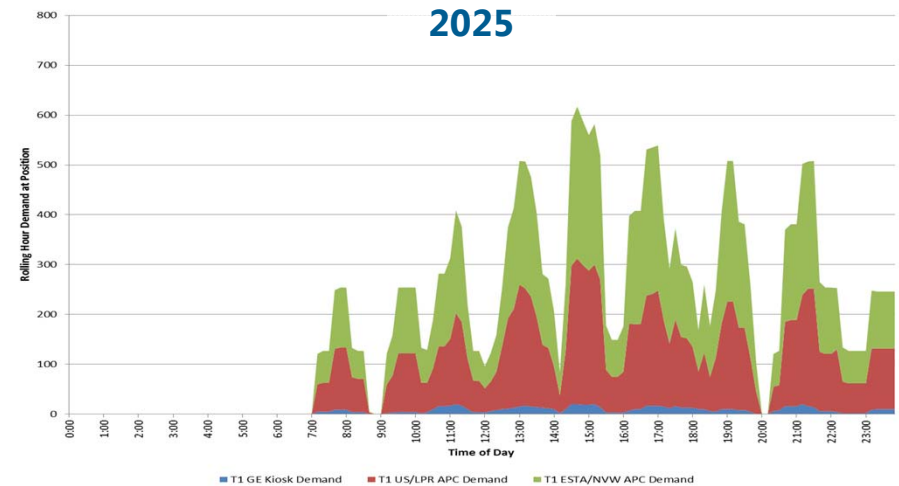
[Requirements Table \(link\)](#)

# Functional Areas

## Terminal 1 – FIS Requirements



|                                | UNITS     | BASELINE INVENTORY 2016 <sup>1/</sup> | ADJUSTED CAPACITY BASED ON TEMPLATES | REQUIREMENTS |       |
|--------------------------------|-----------|---------------------------------------|--------------------------------------|--------------|-------|
|                                |           |                                       |                                      | 2025         | 2035  |
| <b>APC Kiosks/</b>             |           |                                       |                                      |              |       |
| Peak Hour Demand               | pax/hour  | -                                     | -                                    | 617          | 718   |
| APC Kiosks                     | positions | 33                                    | -                                    | 22           | 26    |
| <b>International Bag Claim</b> |           |                                       |                                      |              |       |
| Bag Claim Active Capacity      | sq ft     | 8,760                                 | -                                    | 5,430        | 7,740 |
| <b>Inspections</b>             |           |                                       |                                      |              |       |
| Peak Hour Demand               | pax/hr    | -                                     | -                                    | 577          | 667   |
| Officer Podiums                | positions | 8                                     | -                                    | 18           | 20    |



**Notes:**  
Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53 (In Line bag drop positions revised based on floor plan)

**Source:**  
 Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
 Ricondo & Associates, Inc., January 2017.

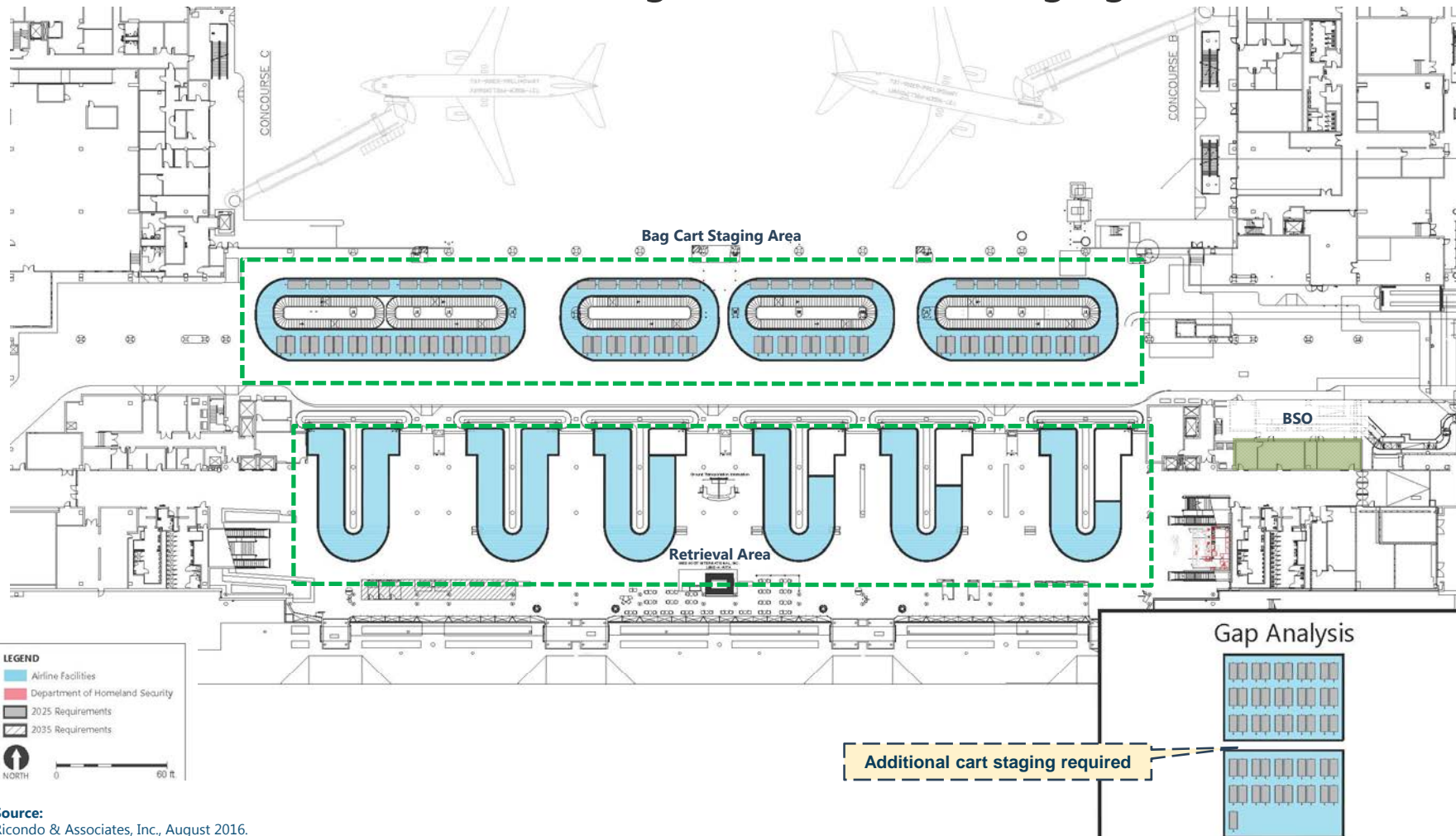
Adjusted Capacity Based on Template

[Requirements Table](#) (link)



## Functional Areas

# Terminal 1 Level 1 – Domestic Bag Claim and Cart Staging – 2025



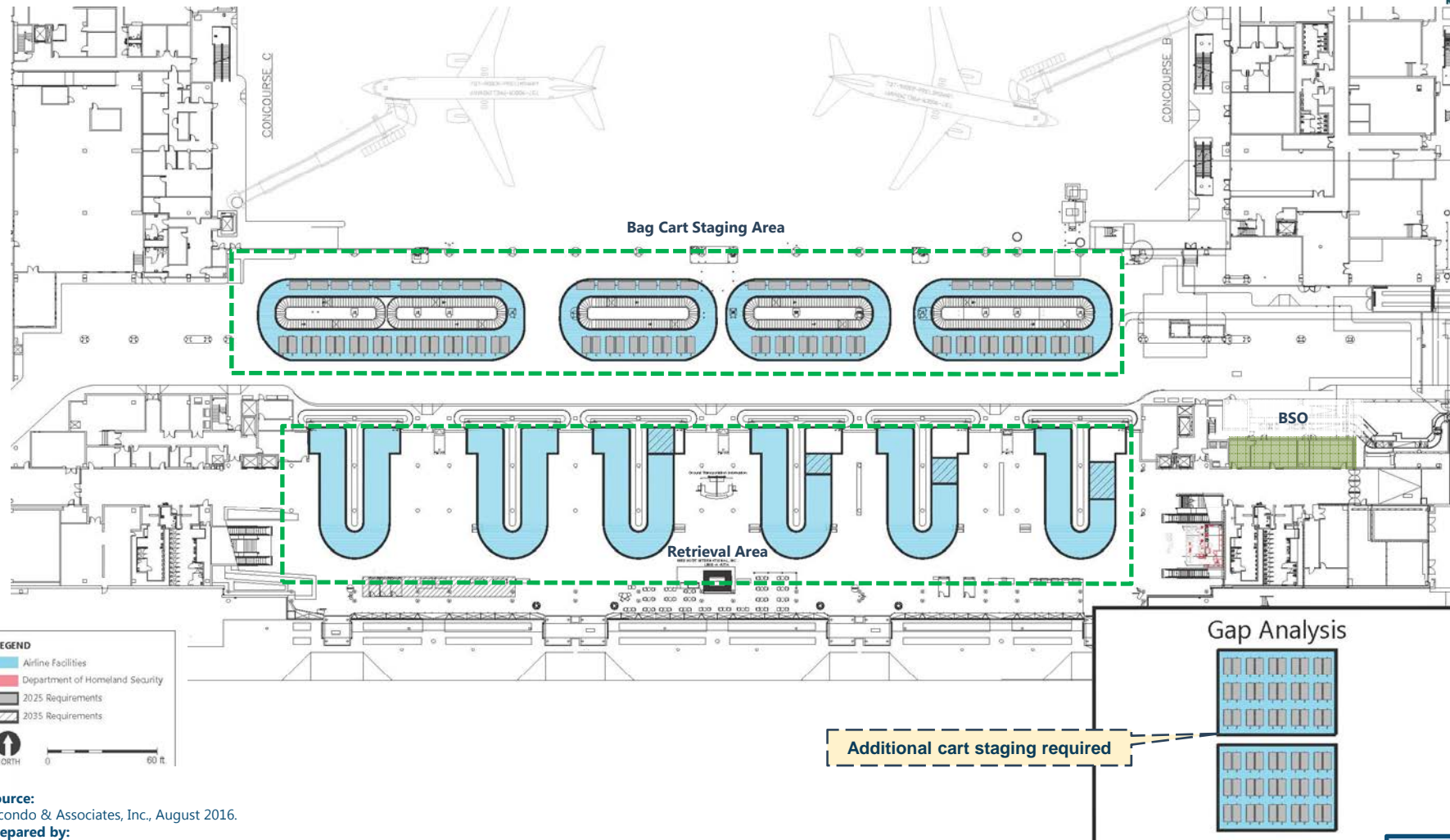
Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)



## Functional Areas

# Terminal 1 Level 1 – Domestic Bag Claim and Cart Staging – 2035



Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

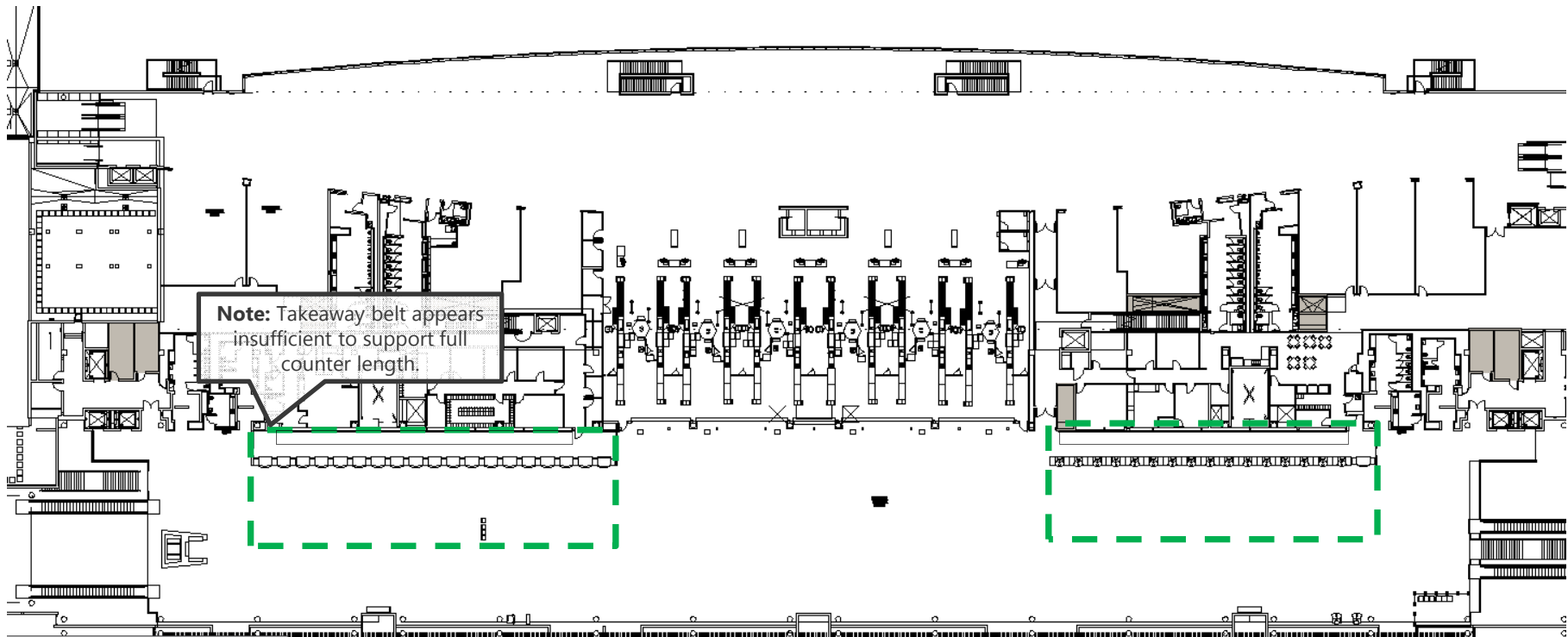
[Requirements Table \(link\)](#)

# Gap Analysis

## Terminal 1

## Gap Analysis

# Terminal 1 – Check-in



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

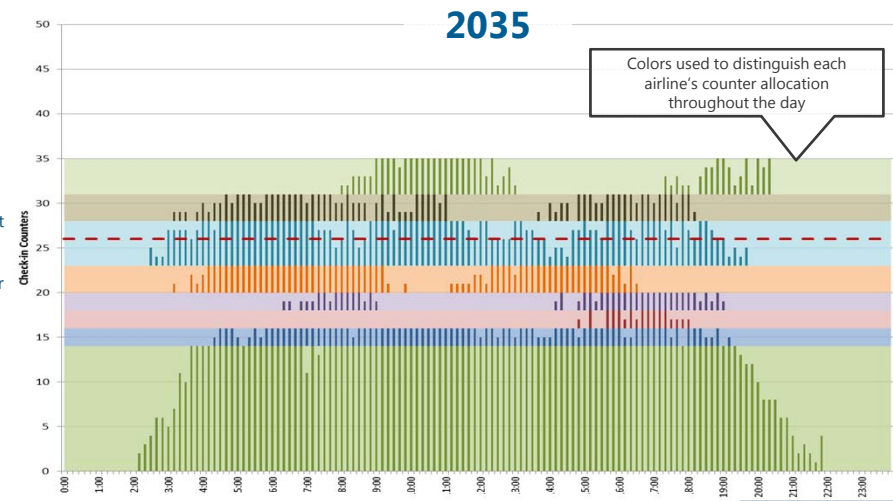
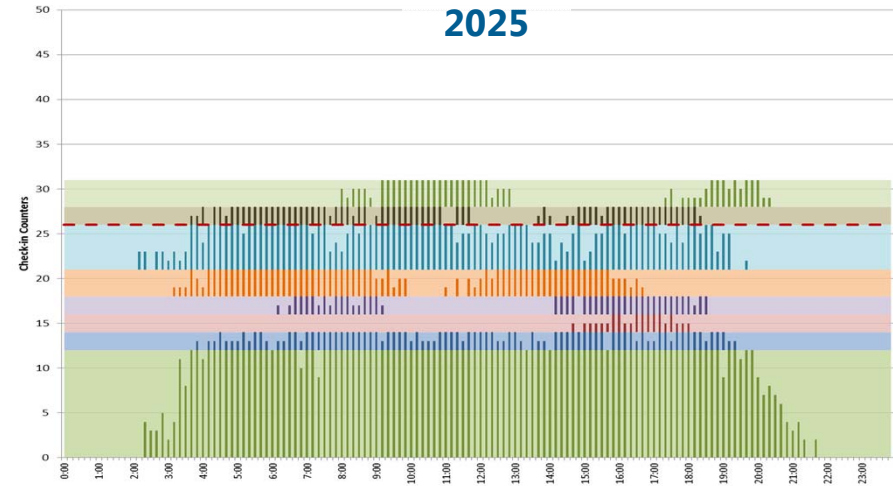
[Requirements Table](#) (link)

## Gap Analysis

# Terminal 1 – Check-in Counter Requirements



|   | UNITS       | BASELINE INVENTORY 2016 <sup>1/</sup> | ADJUSTED CAPACITY BASED ON TEMPLATES | REQUIREMENTS <sup>4/5/</sup> |      |
|---|-------------|---------------------------------------|--------------------------------------|------------------------------|------|
|   |             |                                       |                                      | 2025                         | 2035 |
| <b>In Line Bag Drop Positions<sup>3/</sup></b>                            |             |                                       |                                      |                              |      |
| Includes associated queue and circulation                                 | positions   | 72                                    | 26 <sup>2/</sup>                     | 31                           | 35   |
| <b>Lobby Kiosks</b>   |             |                                       |                                      |                              |      |
| 2 associated kiosks per in-line bag drop position                         | positions   | 9                                     | -                                    | 35                           | 39   |
| <b>Lobby Depth (linear feet)</b>  |             |                                       |                                      |                              |      |
| 56' lobby depth required from back of ticketing wall to front of building | linear feet | 71'                                   | -                                    | 56'                          | 56'  |



**Notes:**

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

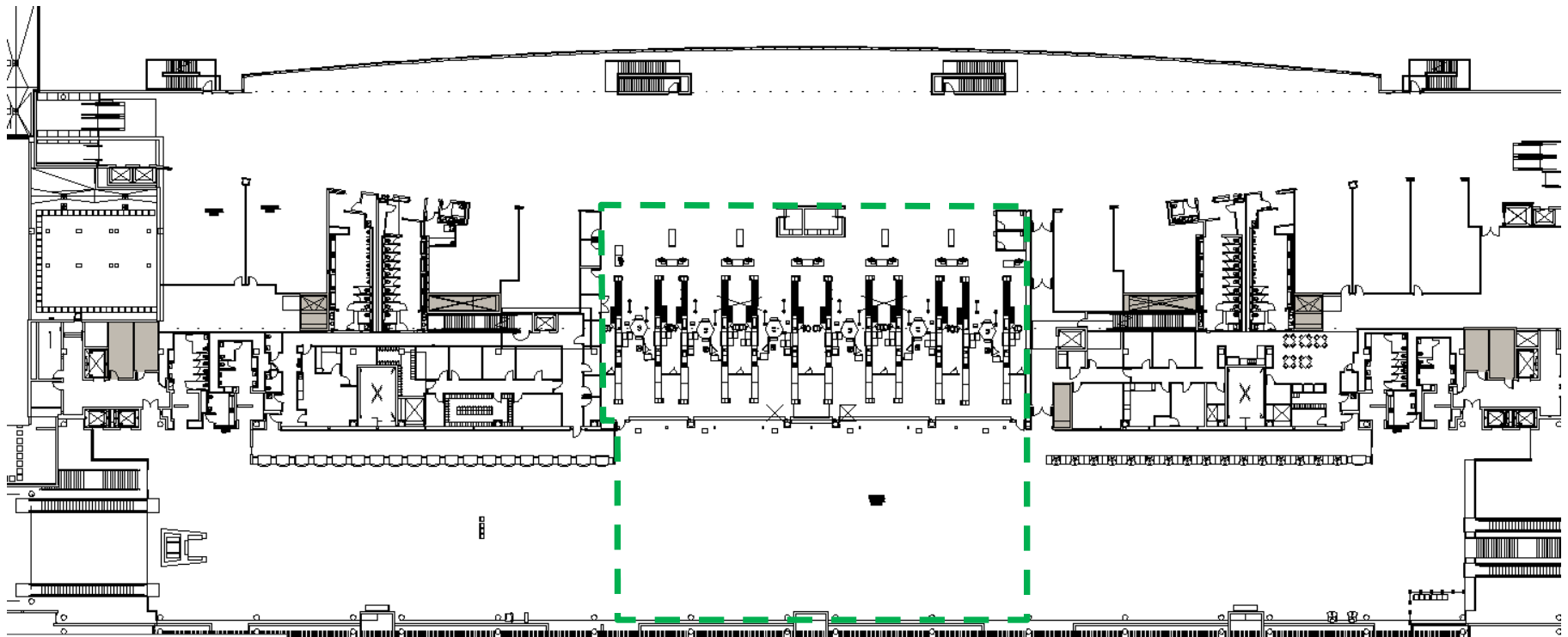
- 1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53 (In Line bag drop positions revised based on floor plan)
- 2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-lane bag drop positions, associated kiosks, queue area, and circulation.
- 3/ Assumes early bag storage facility to allow for passengers to check-in at any time.
- 4/ Vertical bars identify the periods during which an airline staffs its counters.
- 5/ Shaded areas identify an airline's total daily counter allocation (assuming preferential use)

**Source:**  
Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

— Adjusted Capacity Based on Template

[Requirements Table \(link\)](#)

# Terminal 1 – Security Screening



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 1 Security Screening Requirements



|   | UNITS      | BASELINE INVENTORY |                 |                  |
|---|------------|--------------------|-----------------|------------------|
|   |            | 2016               | 2025            | 2035             |
| <b>Peak Hour Originating Passengers</b>                   | Passengers | -                  | 2,242           | 2,667            |
| <b>Peak Hour Security Screening Demand<sup>1/3/</sup></b> | Passengers | -                  | 1,437           | 1,673            |
| <b>Total Screening Lanes</b>                              |            |                    |                 |                  |
| Peak 10-minute Demand                                     | Passengers | -                  | 263             | 288              |
| Screening Lanes   | Lane       | 12                 | 9 <sup>3/</sup> | 10 <sup>3/</sup> |
| <b>TSA Standard Lanes</b>                                 |            |                    |                 |                  |
| Peak 10-minute Demand                                     | Passengers | -                  | 177             | 202              |
| Standard Lanes  | Lane       | -                  | 7               | 8                |
| Projected Max Wait Time <sup>2/</sup>                     | minutes    | -                  | 3               | 5                |
| <b>TSA Pre✓ Screening Lanes</b>                           |            |                    |                 |                  |
| Peak 10-minute Demand                                     | Passengers | -                  | 88              | 89               |
| Pre✓ Lanes  | lane       | -                  | 2               | 2                |
| Projected Max Wait Time <sup>2/</sup>                     | minutes    | -                  | < 1             | < 1              |

**Notes:**

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

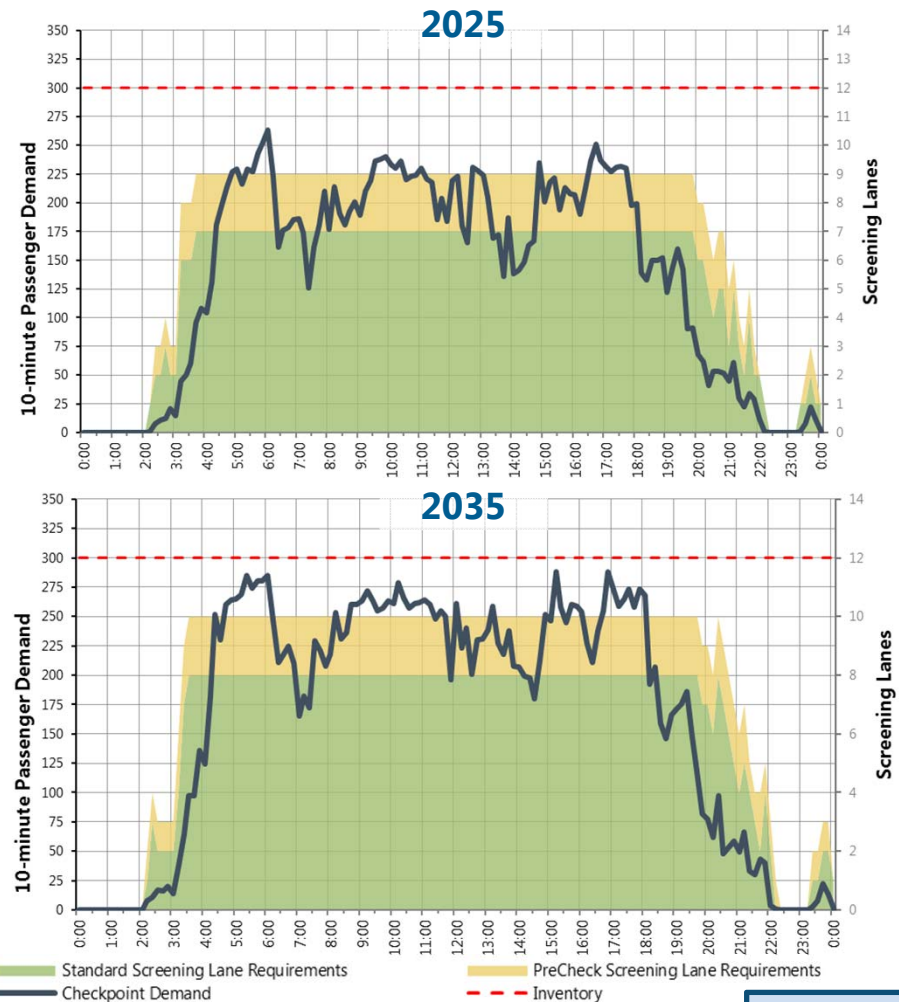
- 1/ Includes all international arrivals as transfers to departing flights at T1
- 2/ Indicates the maximum average wait time recorded during any one 10-minute period
- 3/ Security screening requirements assumes a consolidated checkpoint

**Source:**

Ricondo & Associates, Inc., August 2016

**Prepared by:**

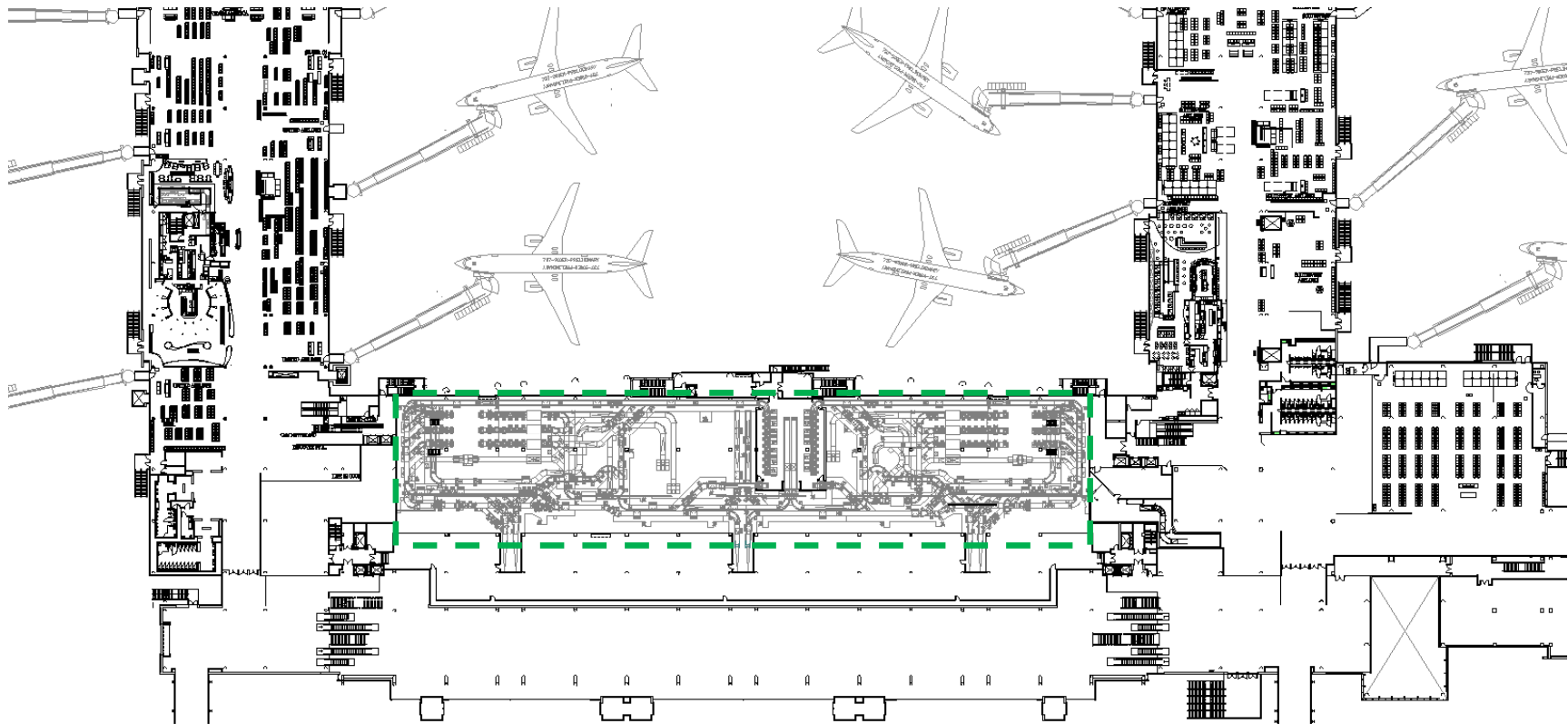
Ricondo & Associates, Inc., January 2017.



Requirements Table (link)

## Gap Analysis

# Terminal 1 Level 2 – Baggage Screening



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

Requirements Table (in)



## Gap Analysis

# Terminal 1 Baggage Screening Requirements



|  | UNITS          | REQUIREMENTS            |       |       |
|--|----------------|-------------------------|-------|-------|
|  |                | BASELINE INVENTORY 2016 | 2025  | 2035  |
| Peak Hour Bag Induction <sup>3/</sup>            | bags           | -                       | 1,010 | 1,230 |
| Bag Screening Device Throughput <sup>1/</sup>    | bags/hr/device | 505                     | -     | -     |
| Bag Screening Device Requirement <sup>1/2/</sup> | devices        | 8                       | 4     | 5     |

$$SF = \frac{x + 2\sqrt{x}}{x}$$

where:  
SF = Surge Factor, and  
x = 10-minute baggage flow.

$$N_{EDS} = \frac{\text{Surged Peak 10 Minute Flow} \times 6}{\text{Throughput}_{EDS}}$$

where:  
N<sub>EDS</sub> = Number of EDS machines, and  
Throughput<sub>EDS</sub> = Number of EDS screened bags per hour (see Chapter 3).

### Notes:

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

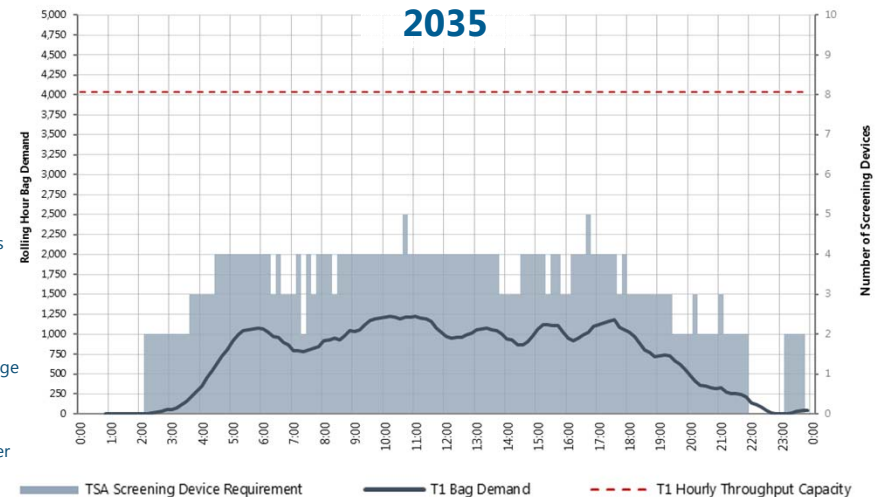
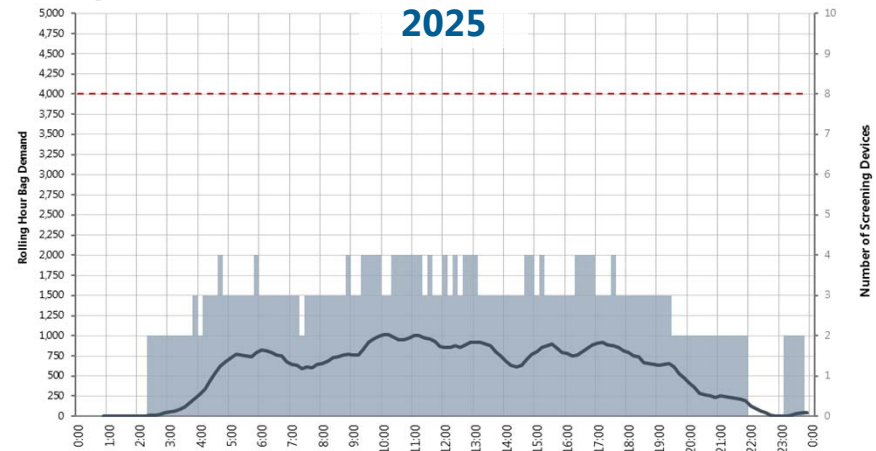
- 1/ Inventory and average hourly throughput per e-mail from Doug Notman, TSA Stakeholder Liaison Manager (8/12/2016); assumes EDS demand is balanced between East and West rooms
- 2/ Requirements are based on TSA planning guidelines for checked baggage inspection systems which include surge factor and n+1. n+1 requirement does not distinguish between various types of bag screening devices.
- 3/ Assumes induction of WN and 3M transfer bags from T1 international arrivals.

### Source:

TSA. Planning Guidelines and Design Standards for Checked Baggage Inspection Systems. Pages 6-1-6-2. November 27, 2009. Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.



Requirements Table (link)



# Terminal 1 – Early Bag Storage



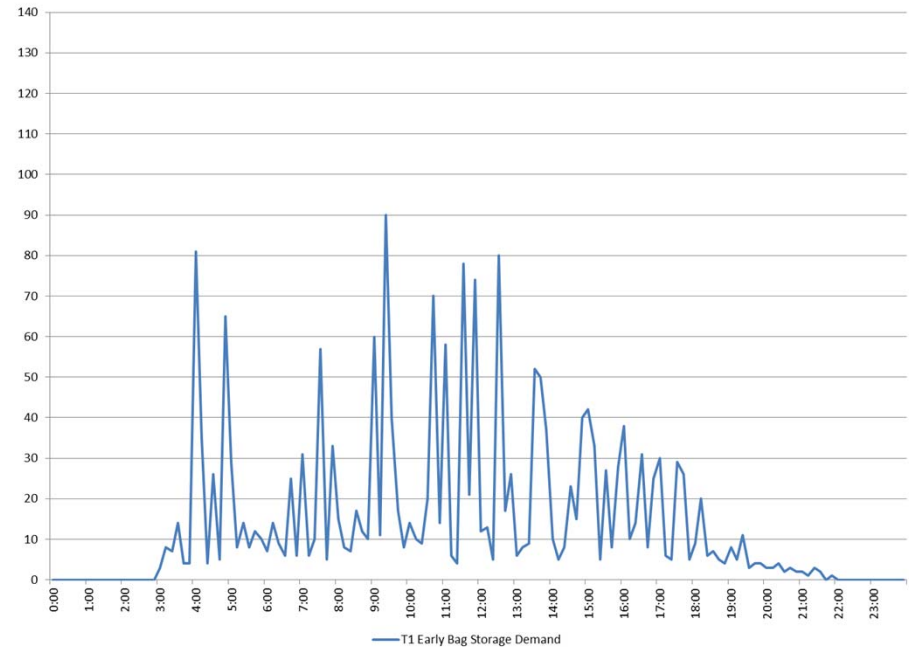
○ **Assumptions**

- Passengers can drop off checked baggage upon arriving at the Terminal and completing the ticketing process
- Passengers with checked bags assumptions shown on slide 20
- Checked bags are held in an early bag storage facility until 180 minutes prior to scheduled time of departure
- At 180 minutes bags are released to bag make-up carousels
- Requirement based on 52.4 MAP (2035) planning activity level.

○ **Requirements**

- Terminal 1 early bag storage room should be able to accommodate approximately 90 checked bags during peak periods
- Size of early bag storage room not defined solely by this requirement

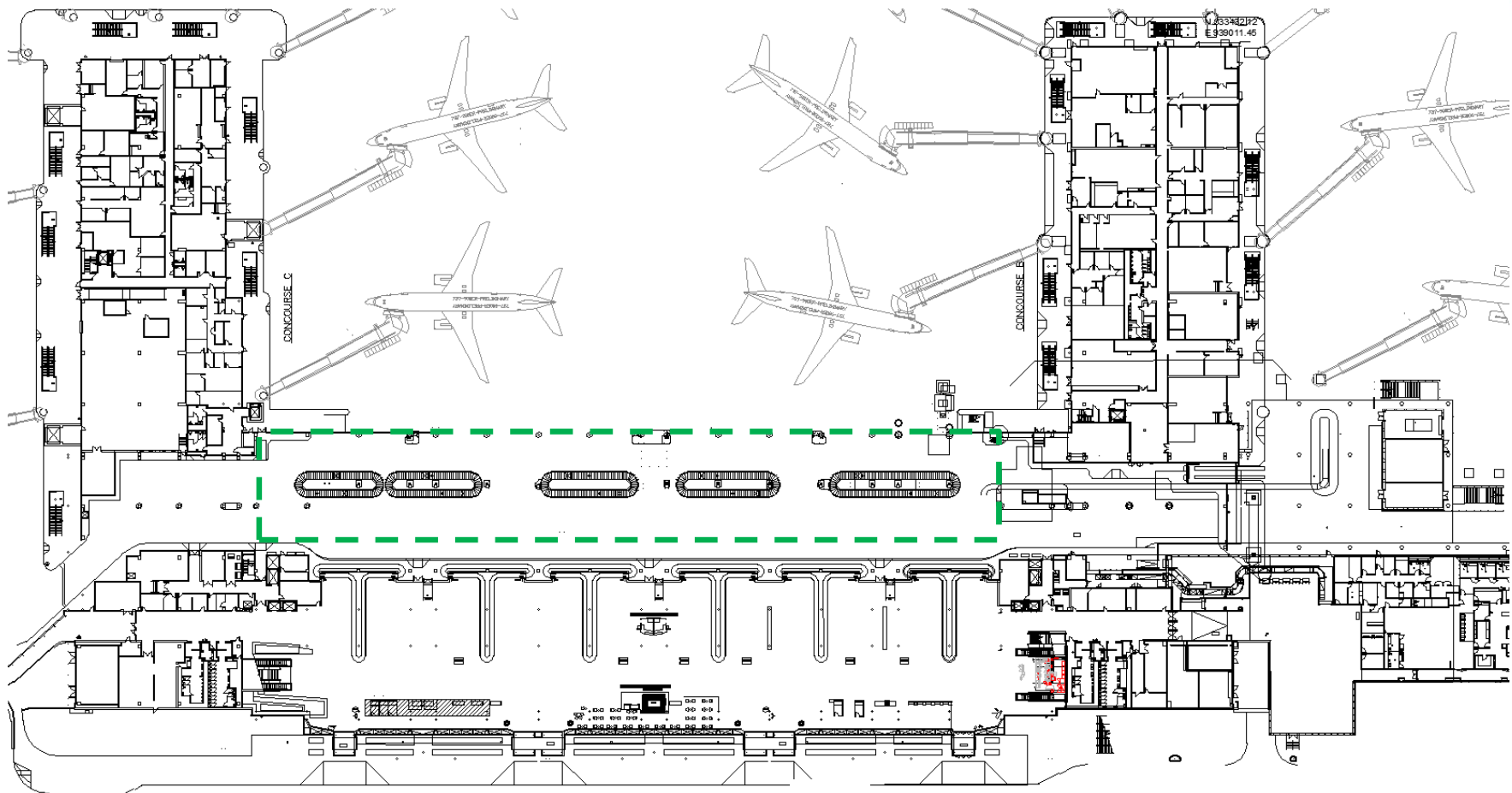
**Terminal 1**  
52.4 MAP (2035)



**Source:**  
Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

## Gap Analysis

# Terminal 1 Level 1 – Outbound Make-up



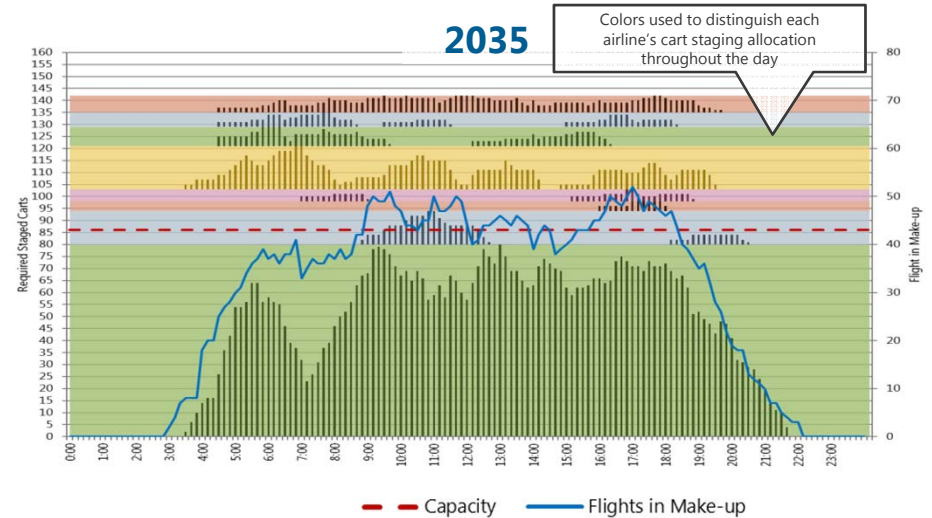
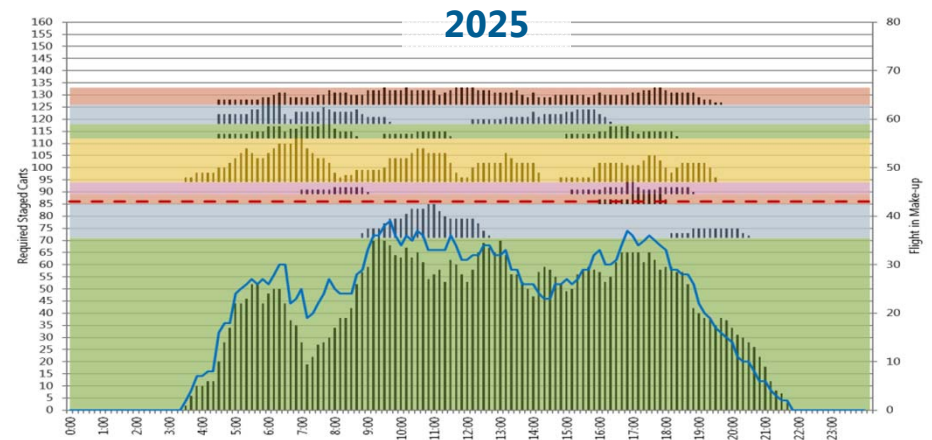
**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

Requirements Table (in)

# Terminal 1 Outbound Bag Make-up Requirements



|                                   | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>1/2/3/4/</sup> |        |           |        |
|-----------------------------------|------------|-------------------------|----------------------------------|--------|-----------|--------|
|                                   |            |                         | 2025                             |        | 2035      |        |
|                                   |            |                         | PREFERRED                        | SHARED | PREFERRED | SHARED |
| Peak 10-minute Flights in Make-Up | operations | -                       | 39                               |        | 52        |        |
| Staged Carts                      | carts      | 86                      | 133                              | 104    | 142       | 108    |



--- Capacity      — Flights in Make-up

**Notes:**  
Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

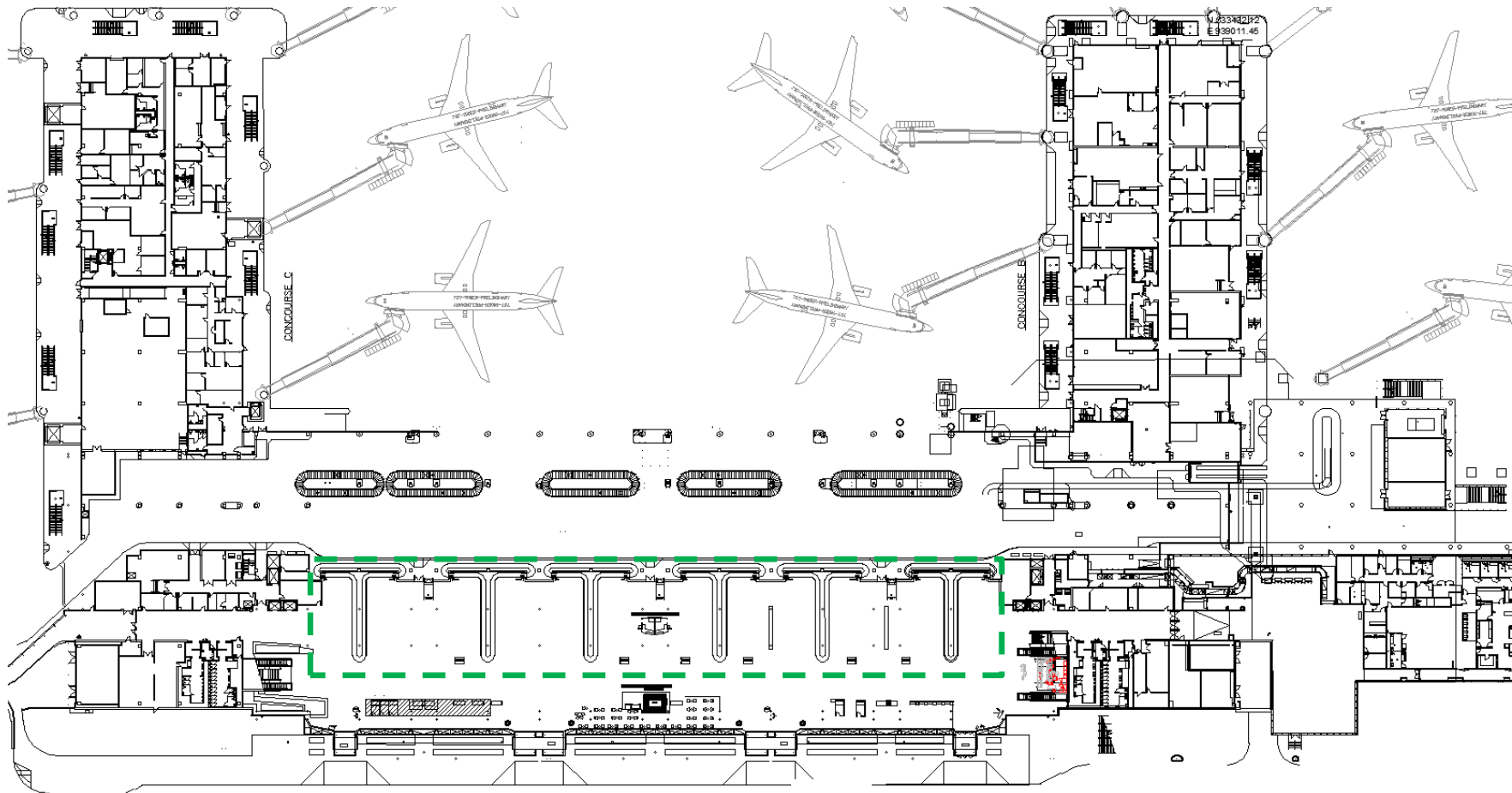
- 1/ Bag make-up requirements based on airline exclusive use.
- 2/ Vertical bars identify the periods during which an airline actively stages carts
- 3/ Shaded areas identify an airline's total daily cart staging allocation (assuming exclusive use)
- 4/ Assumes early bag storage facility to allow for passengers to check-in at any time.

**Source:**  
 Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
 Ricondo & Associates, Inc., January 2017.

Requirements Table (inK)

## Gap Analysis

# Terminal 1 Level 1 – Domestic Bag Claim



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

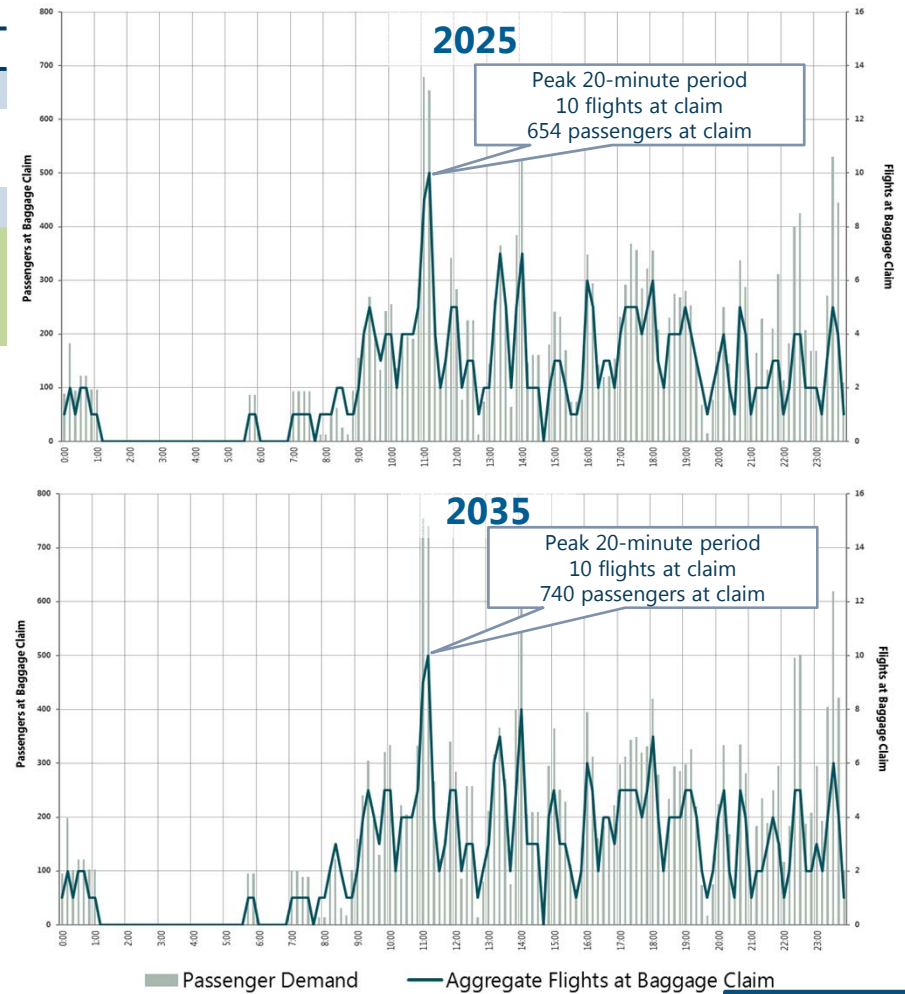
Requirements Table (in)

## Gap Analysis

# Terminal 1 Domestic Bag Claim Demand Activity



|                              | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS |        |
|------------------------------|------------|-------------------------|--------------|--------|
|                              |            |                         | 2025         | 2035   |
| <b>Peak 20-Minute Demand</b> |            |                         |              |        |
| Flights at Claim             | flights    | -                       | 10           | 10     |
| Passengers at Claim          | passengers | -                       | 654          | 740    |
| <b>Carousels</b>             |            |                         |              |        |
| Bag Claim                    | devices    | 6                       | 6            | 6      |
| Passenger Capacity           | passengers | 846                     | 654          | 754    |
| Retrieval Area               | sq ft      | 15,216                  | 11,772       | 13,320 |



### 2025 Flights at Claim:

2X UA B738, 5X WN B73, 1X WS B737, 1X 3M SF3

### 2035 Flights at Claim

1X VX A321, 1X UA B739, 3X WN B738, 1X UA B738, 2X WN B737, 1X WS B737, 1X 3M SF3

### Notes:

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

### Source:

Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.

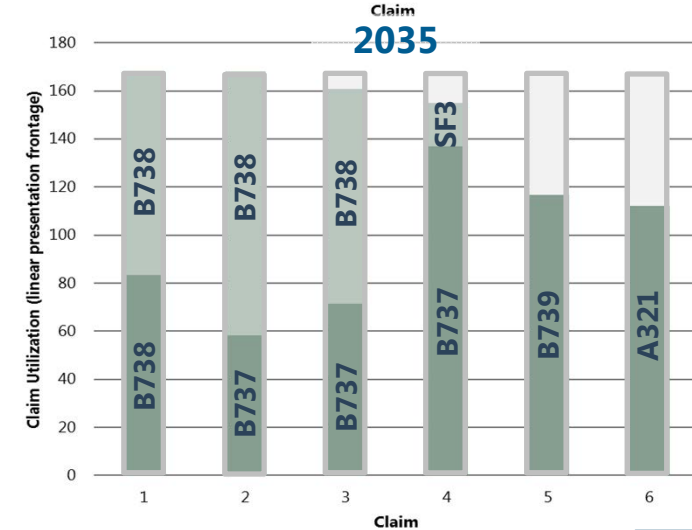
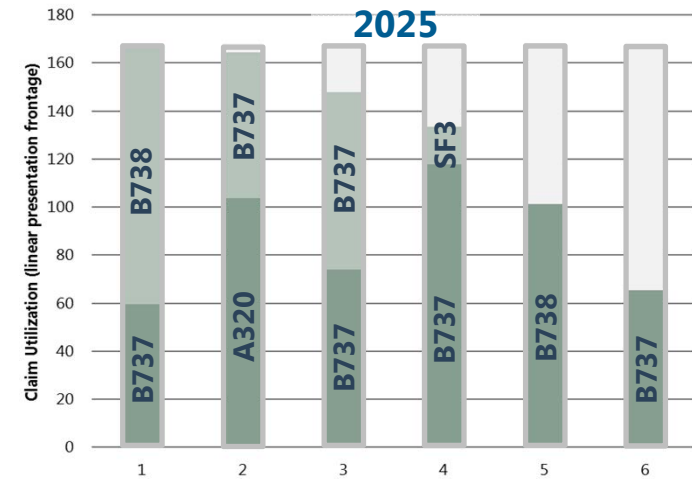
Requirements Table (link)

## Gap Analysis

# Terminal 1 Domestic Bag Claim Requirements



|                              | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>1/2/3/4/</sup> |        |
|------------------------------|------------|-------------------------|----------------------------------|--------|
|                              |            |                         | 2025                             | 2035   |
| <b>Peak 20-Minute Demand</b> |            |                         |                                  |        |
| Flights at Claim             | flights    | -                       | 10                               | 10     |
| Passengers at Claim          | passengers | -                       | 654                              | 740    |
| <b>Carousels</b>             |            |                         |                                  |        |
| Bag Claim                    | devices    | 6                       | 6                                | 6      |
| Passenger Capacity           | passengers | 846                     | 654                              | 754    |
| Retrieval Area               | sq ft      | 15,216                  | 11,772                           | 13,320 |



■ Claim Utilization (linear feet) ■ Claim Availability (linear feet) Requirements Table (link)

### 2025 Flights at Claim:

2X UA B738, 5X WN B73, 1X WS B737, 1X 3M SF3

### 2035 Flights at Claim

1X VX A321, 1X UA B739, 3X WN B738, 1X UA B738, 2X WN B737, 1X WS B737, 1X 3M SF3

### Notes:

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ New devices shown in green

2/ Capacity and requirements assume 18 square feet per passenger.

3/ Assumes flights will not be split between two devices.

4/ Each flight represents specific load factors and O&D factors.

### Source:

Ricondo & Associates, Inc., August 2016

### Prepared by:

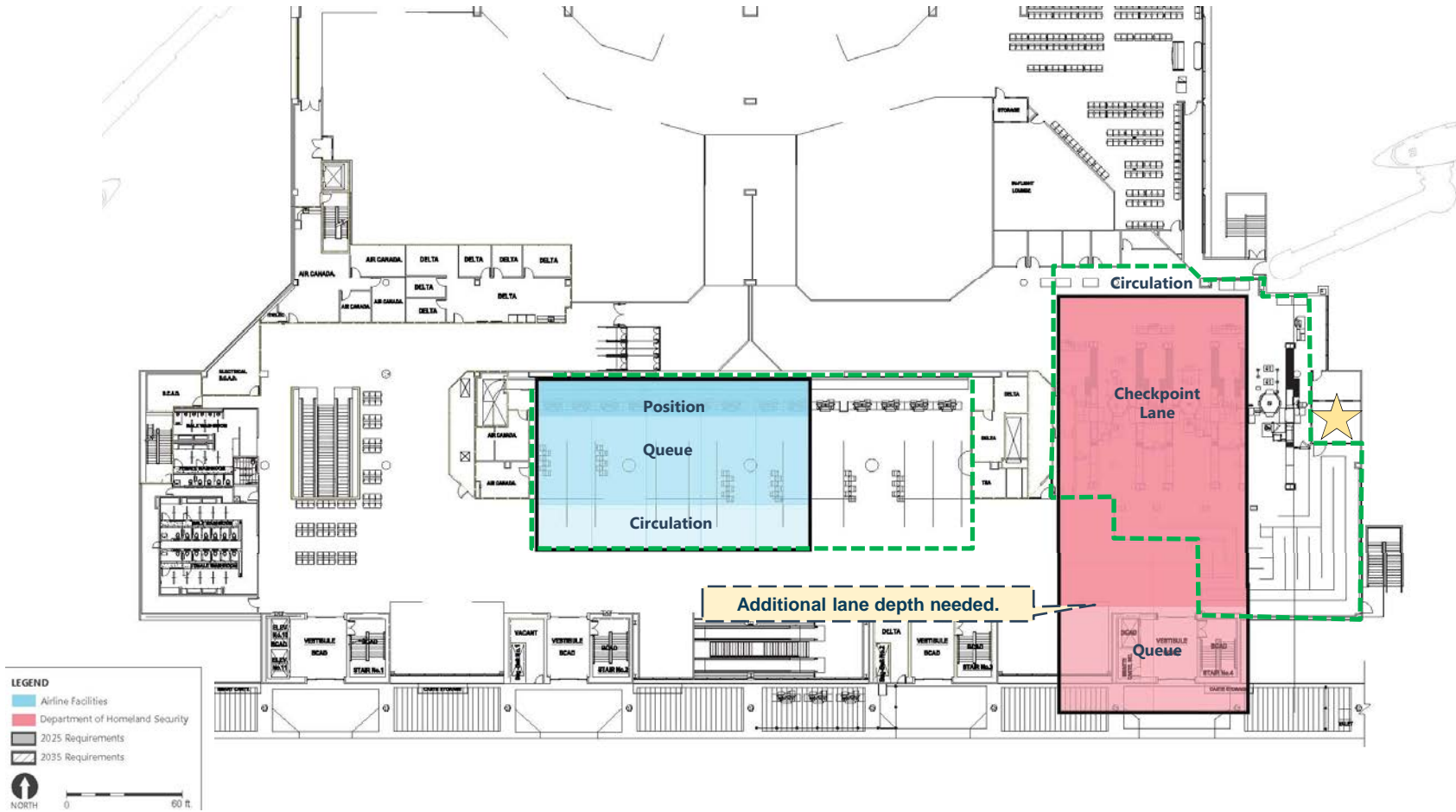
Ricondo & Associates, Inc., January 2017.

# Functional Area Requirements

## Terminal 2

Functional Areas

# Terminal 2 Level 2 – Airline Check-in and Security Screening – 2025



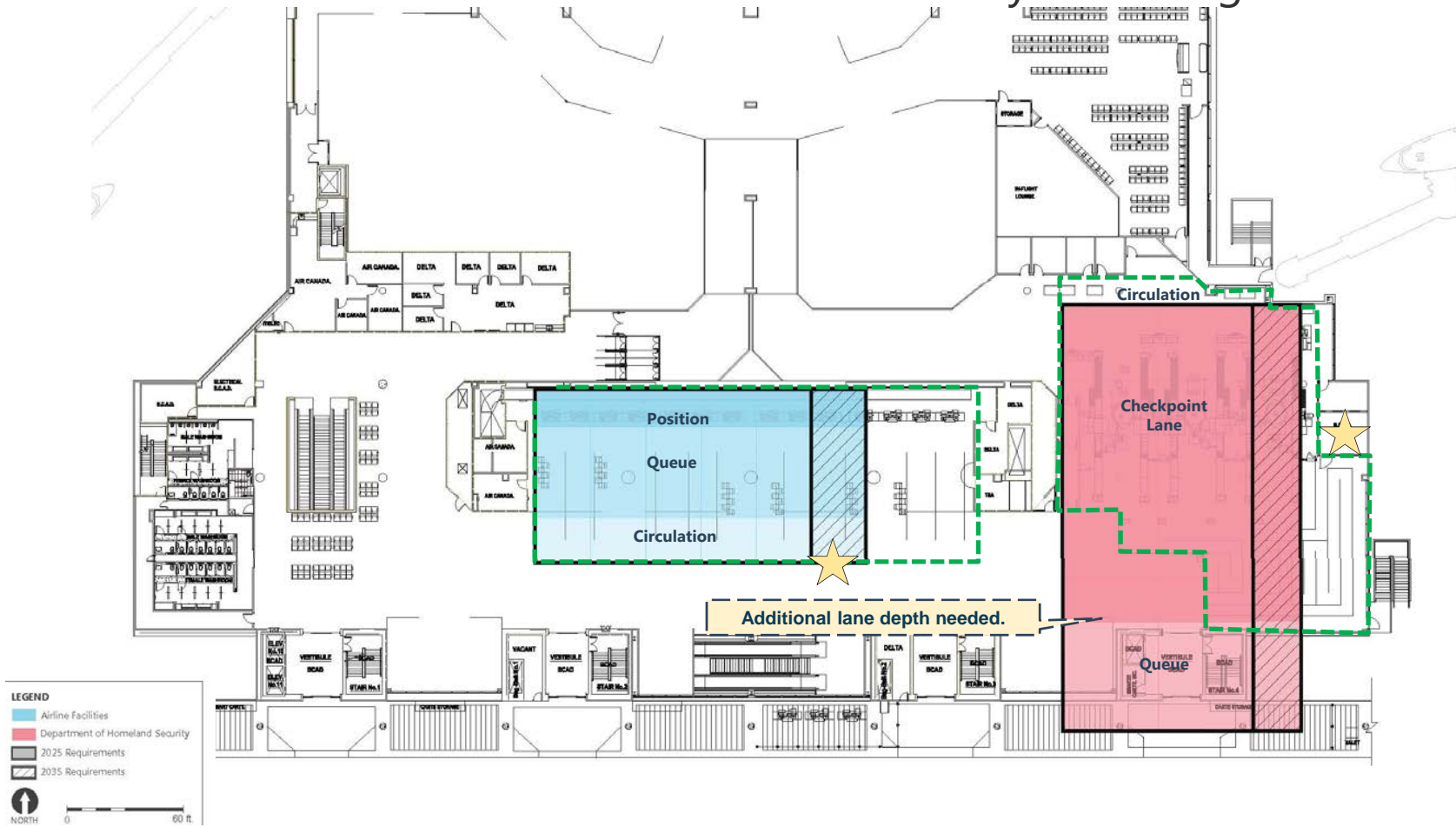
**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)



## Functional Areas

# Terminal 2 Level 2 – Airline Check-in and Security Screening – 2035

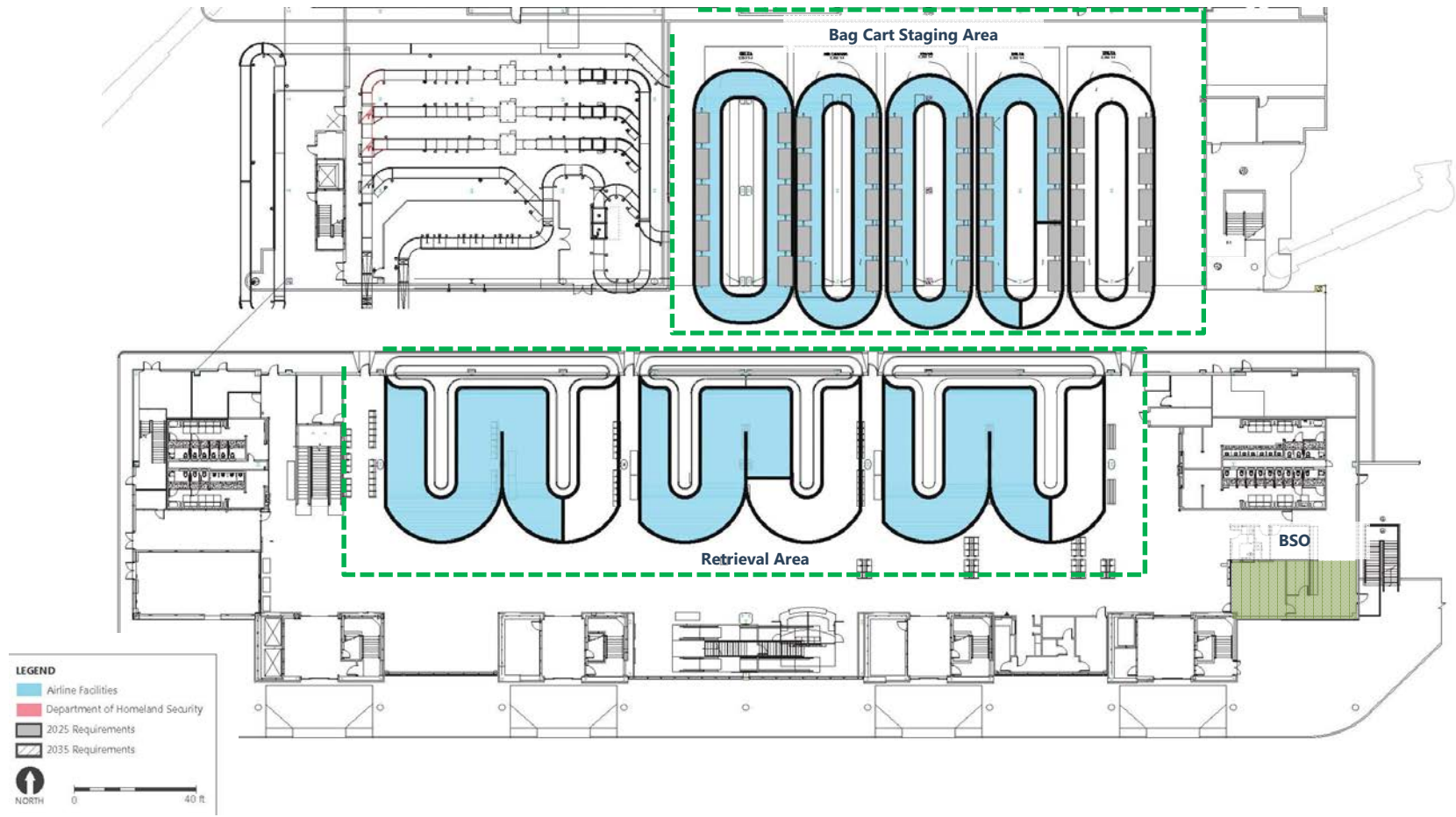


Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

# Functional Areas

## Terminal 2 Level 1 –Domestic Bag Claim and Cart Staging – 2025

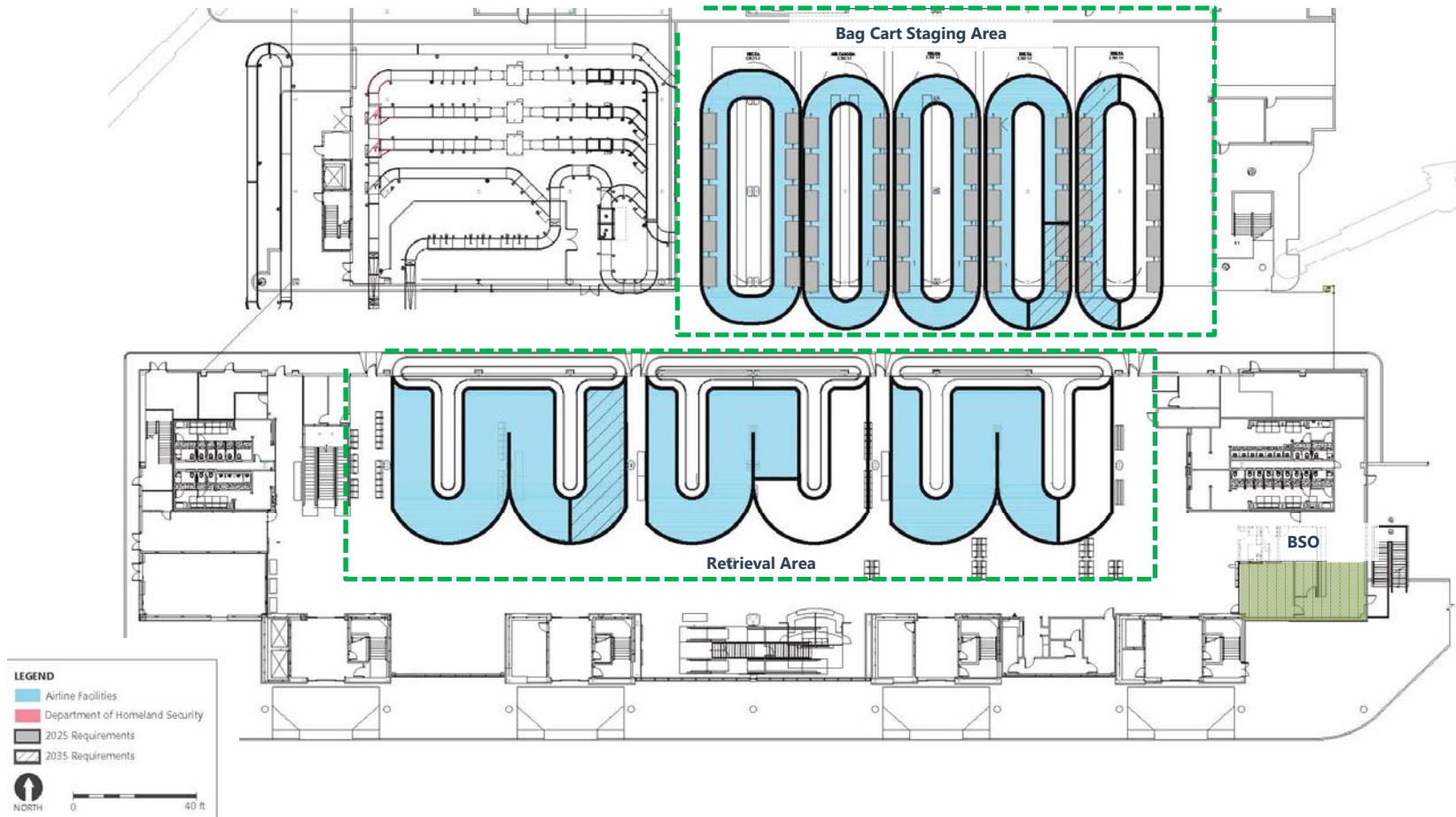


Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Functional Areas

# Terminal 2 Level 1 – Domestic Bag Claim and Cart Staging – 2035



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

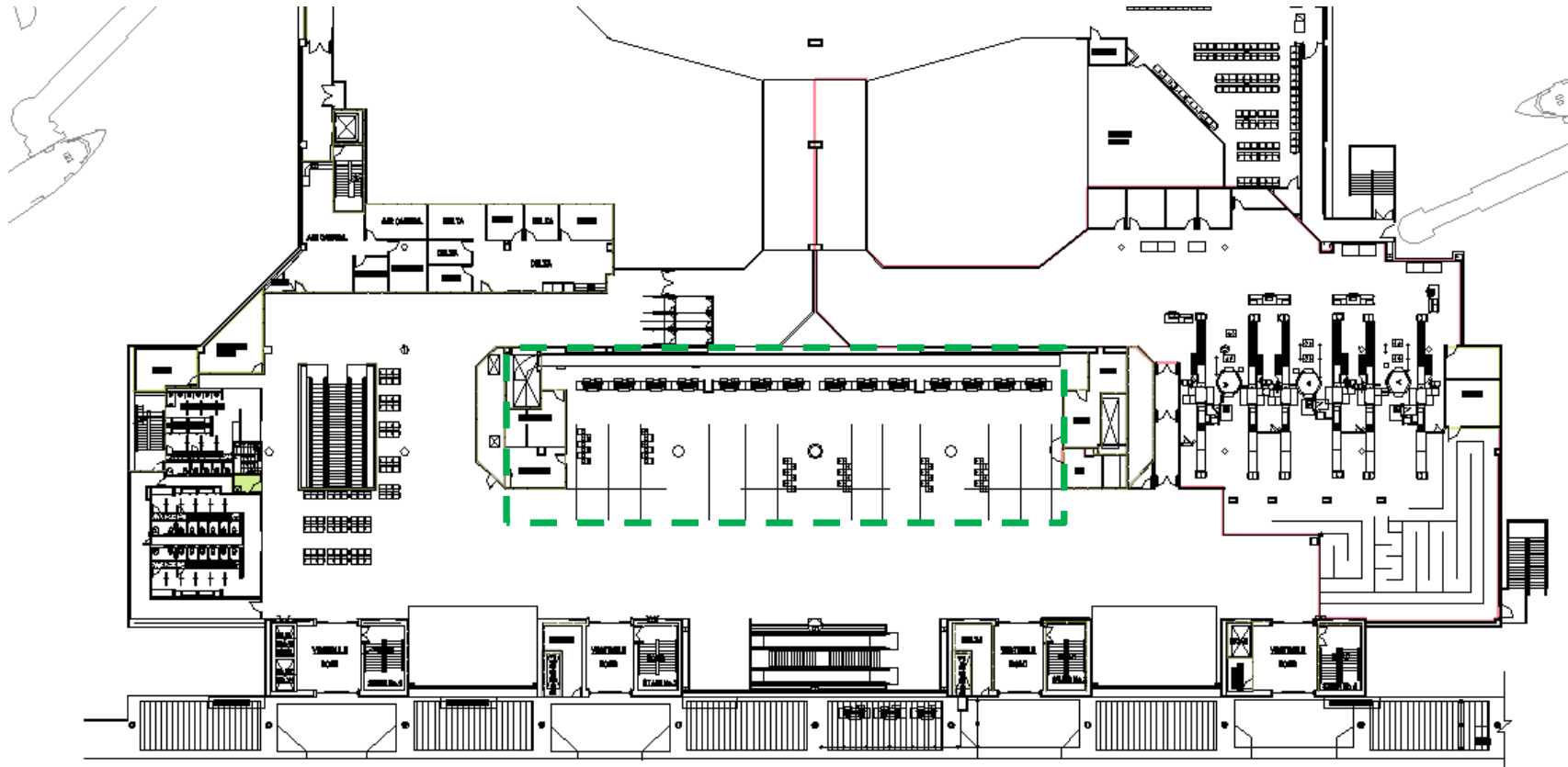
[Requirements Table](#) (link)

# Gap Analysis

## Terminal 2

## Gap Analysis

# Terminal 2 – Check-in



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 2 – Check-in Counter Requirements



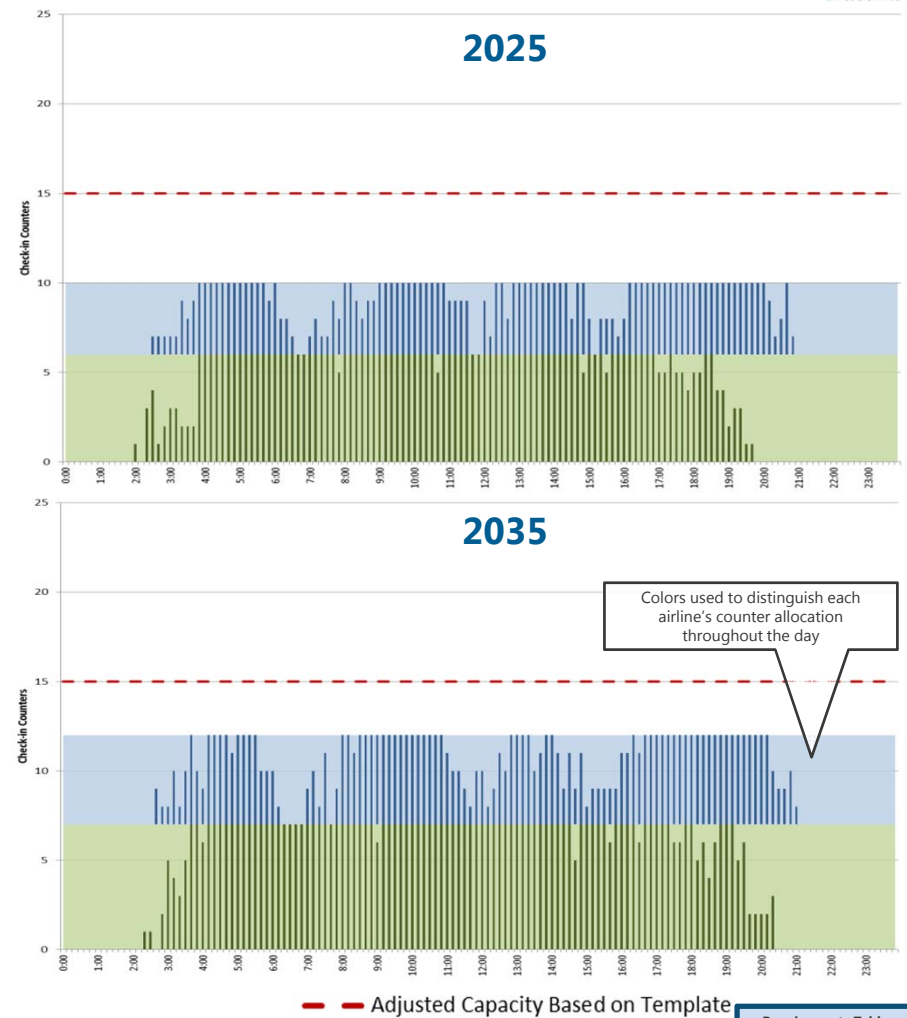
|   | UNITS       | BASELINE INVENTORY 2016 <sup>1/</sup> | ADJUSTED CAPACITY BASED ON TEMPLATES | REQUIREMENTS <sup>4/5/</sup> |      |
|---|-------------|---------------------------------------|--------------------------------------|------------------------------|------|
|   |             |                                       |                                      | 2025                         | 2035 |
| <b>In Line Bag Drop Positions<sup>3/</sup></b>                            |             |                                       |                                      |                              |      |
| Includes associated queue and circulation                                 | positions   | 34                                    | 15 <sup>2/</sup>                     | 10                           | 12   |
| <b>Lobby Kiosks</b>   |             |                                       |                                      |                              |      |
| 2 associated kiosks per in-line bag drop position                         | positions   | 36                                    | -                                    | 11                           | 14   |
| <b>Lobby Depth (linear feet)</b>  |             |                                       |                                      |                              |      |
| 56' lobby depth required from back of ticketing wall to front of building | linear feet | 73'                                   | -                                    | 56'                          | 56'  |

**Notes:**

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

- 1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53
- 2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-lane bag drop positions, associated kiosks, queue area, and circulation.
- 3/ Assumes early bag storage facility to allow for passengers to check-in at any time.
- 4/ Vertical bars identify the periods during which an airline staffs its counters.
- 5/ Shaded areas identify an airline's total daily counter allocation (assuming preferential use)

**Source:**  
Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

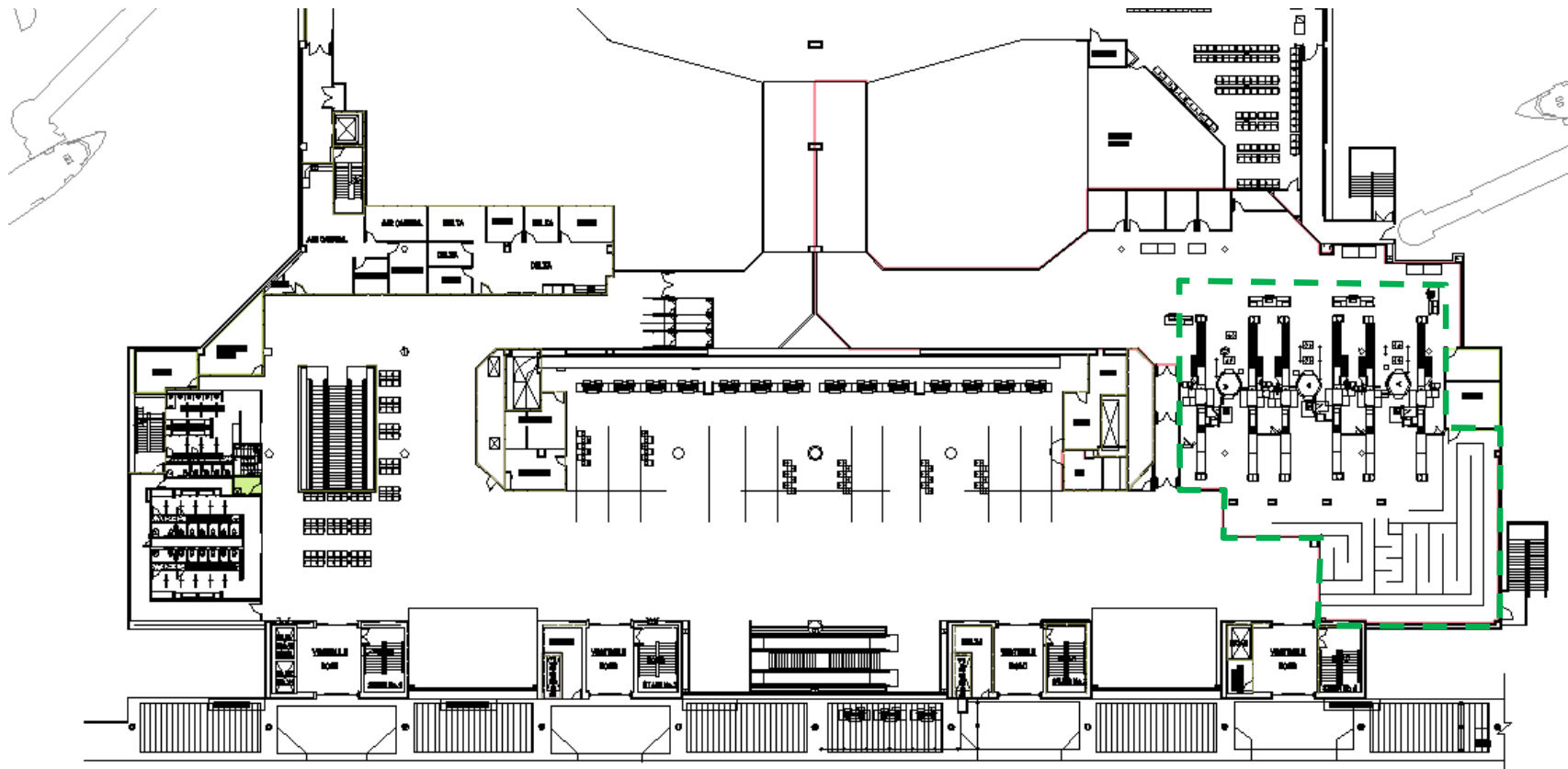


— Adjusted Capacity Based on Template

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 2 – Security Screening



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)



## Gap Analysis

# Terminal 2 Security Screening Requirements



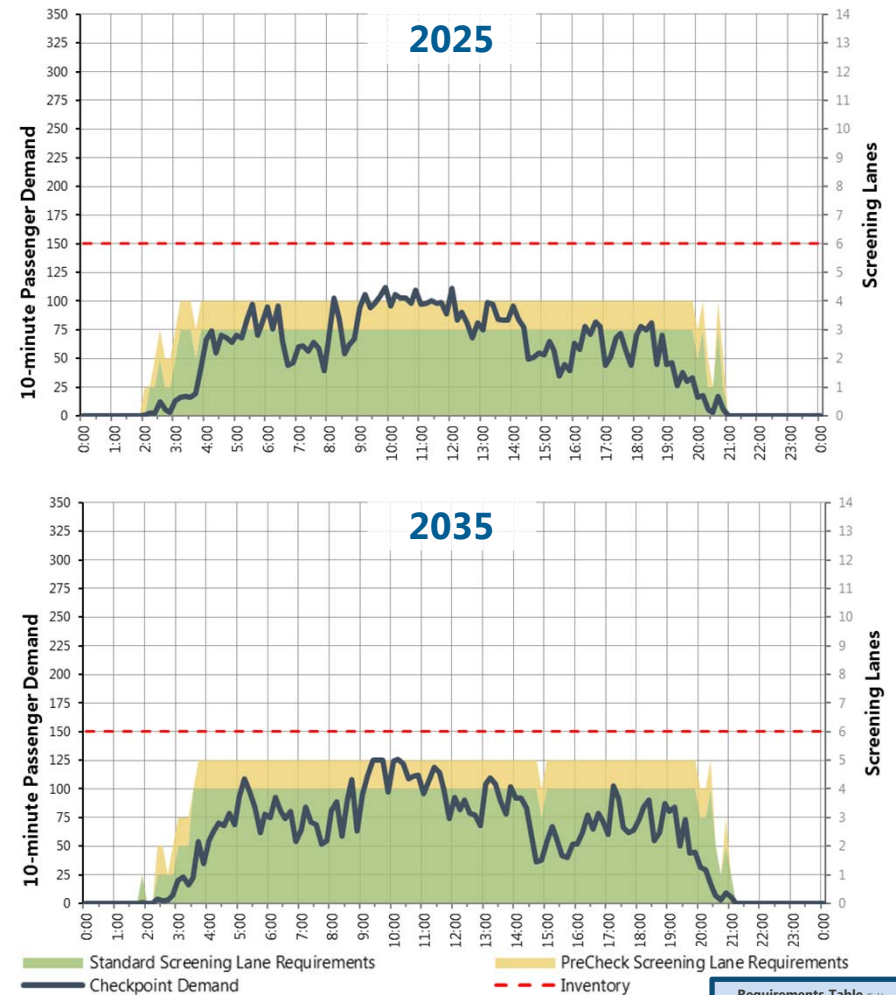
|   | UNITS      | REQUIREMENTS            |                 |                 |
|---|------------|-------------------------|-----------------|-----------------|
|   |            | BASELINE INVENTORY 2016 | 2025            | 2035            |
| <b>Peak Hour Originating Passengers</b>                 | Passengers | -                       | 1,008           | 1,031           |
| <b>Peak Hour Security Screening Demand<sup>1/</sup></b> | Passengers | -                       | 624             | 772             |
| <b>Total Screening Lanes</b>                            |            |                         |                 |                 |
| Peak 10-minute Demand                                   | Passengers | -                       | 112             | 126             |
| Screening Lanes   | Lane       | 6                       | 4 <sup>1/</sup> | 5 <sup>1/</sup> |
| <b>TSA Standard Lanes</b>                               |            |                         |                 |                 |
| Peak 10-minute Demand                                   | Passengers | -                       | 76              | 100             |
| Standard Lanes  | Lane       | -                       | 3               | 4               |
| Projected Max Wait Time <sup>2/</sup>                   | minutes    | -                       | 8               | < 1             |
| <b>TSA Pre✓ Screening Lanes</b>                         |            |                         |                 |                 |
| Peak 10-minute Demand                                   | Passengers | -                       | 37              | 38              |
| Pre✓ Lanes  | lane       | -                       | 1               | 1               |
| Projected Max Wait Time <sup>2/</sup>                   | minutes    | -                       | < 1             | < 1             |

**Notes:**

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

- 1/ Security screening requirements assumes a consolidated checkpoint
- 2/ Indicates the maximum average wait time recorded during any one 10-minute period

**Source:**  
Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

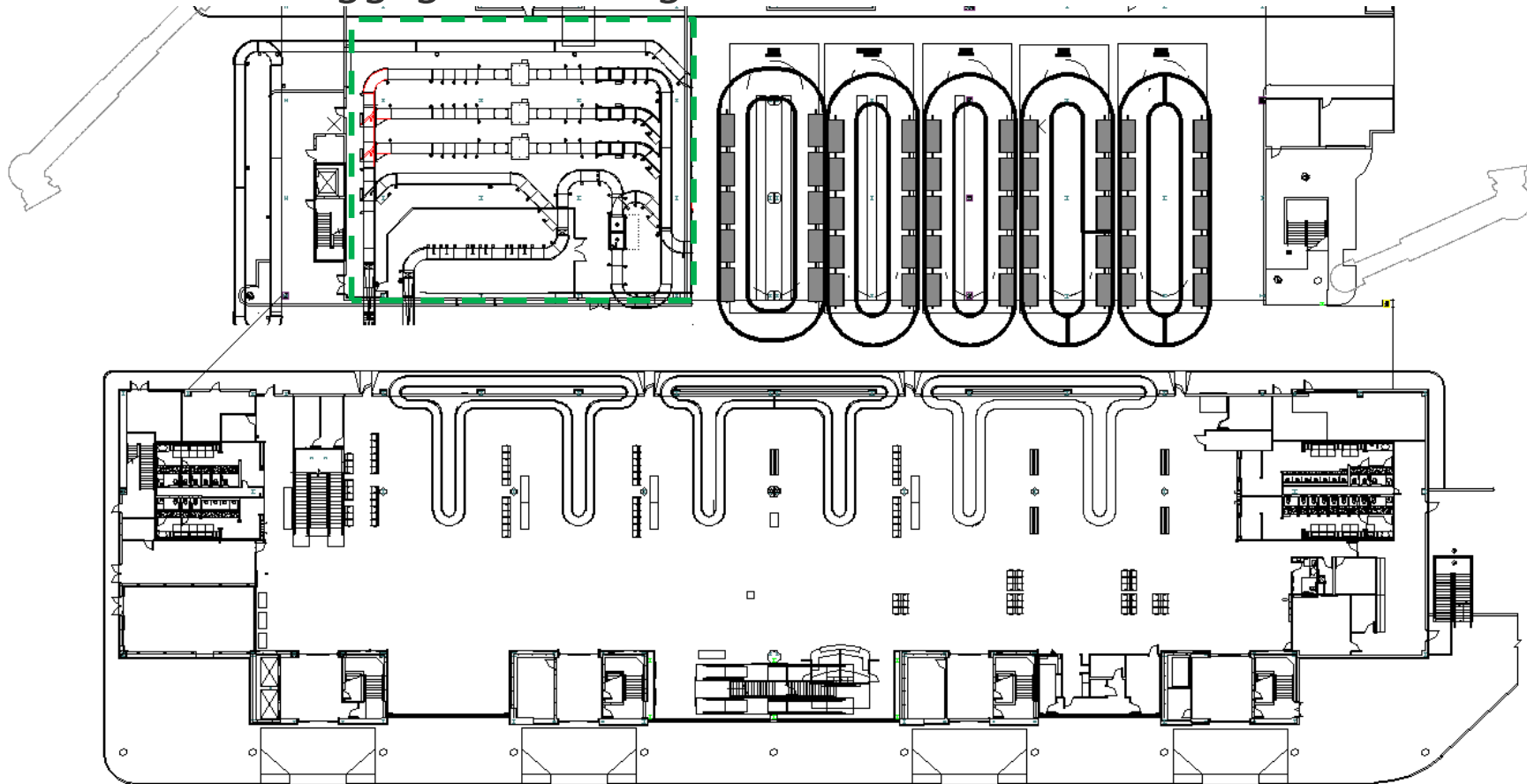


[Requirements Table \(link\)](#)



## Gap Analysis

# Terminal 2 – Baggage Screening



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

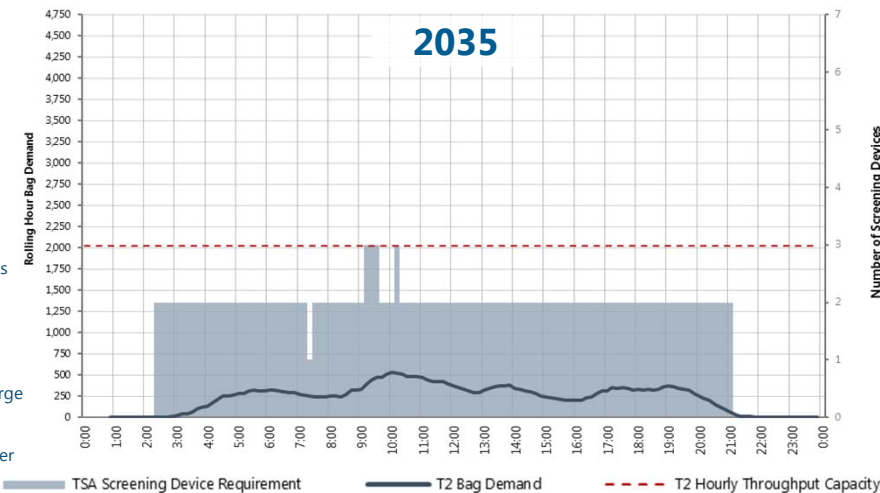
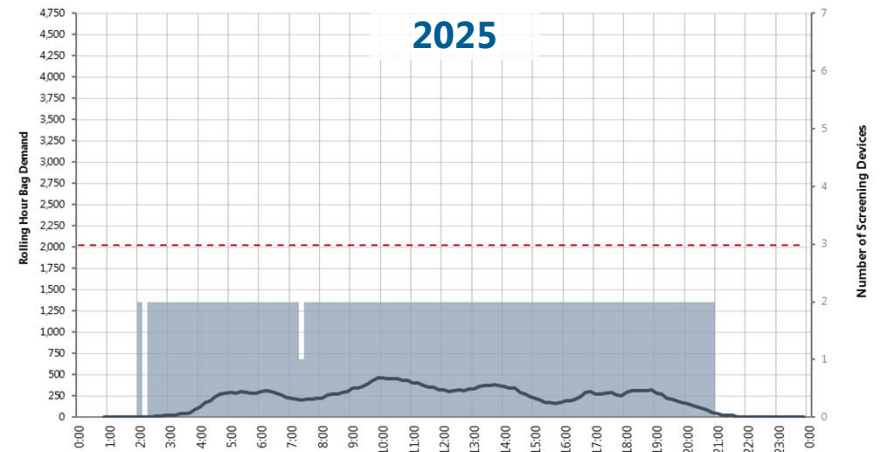
[Requirements Table](#) (link)

## Gap Analysis

# Terminal 2 Baggage Screening Requirements



|  | UNITS          | BASELINE INVENTORY 2016 | REQUIREMENTS |      |
|--|----------------|-------------------------|--------------|------|
|  |                |                         | 2025         | 2035 |
| Peak Hour Bag Induction                          | bags           | -                       | 466          | 535  |
| Bag Screening Device Throughput <sup>1/</sup>    | bags/hr/device | 674                     | -            | -    |
| Bag Screening Device Requirement <sup>1/2/</sup> | devices        | 3                       | 2            | 3    |



$$SF = \frac{x + 2\sqrt{x}}{x}$$

where:  
SF = Surge Factor, and  
x = 10-minute baggage flow.

$$N_{EDS} = \frac{\text{SurgedPeak10Minute Flow} \times 6}{\text{Throughput}_{EDS}}$$

where:  
N<sub>EDS</sub> = Number of EDS machines, and  
Throughput<sub>EDS</sub> = Number of EDS screened bags per hour (see Chapter 3).

### Notes:

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ Inventory and average hourly throughput per e-mail from Doug Notman, TSA Stakeholder Liaison Manager (8/12/2016)

2/ Requirements are based on TSA planning guidelines for checked baggage inspection systems which include surge factor and n+1. n+1 requirement does not distinguish between various types of bag screening devices.

### Source:

TSA. Planning Guidelines and Design Standards for Checked Baggage Inspection Systems. Pages 6-1-6-2. November 27, 2009. Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

# Terminal 2 – Early Bag Storage



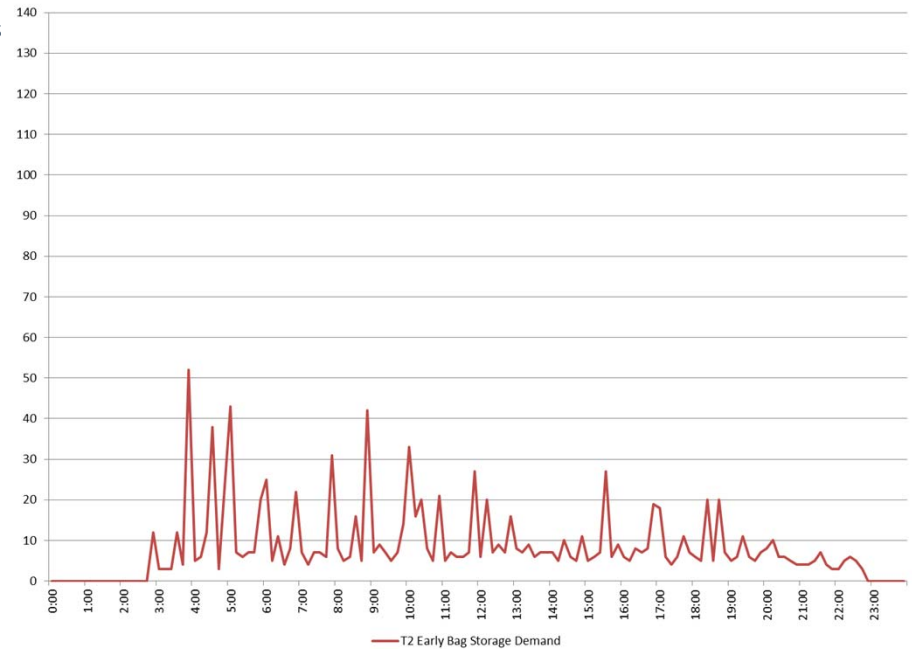
○ **Assumptions**

- Passengers can drop off checked baggage upon arriving at the Terminal and completing the ticketing process
- Passengers with checked bags assumptions shown on slide 20
- Checked bags are held in an early bag storage facility until 180 minutes prior to scheduled time of departure
- At 180 minutes bags are released to bag make-up carousels
- Requirement based on 52.4 MAP (2035) planning activity level.

○ **Requirements**

- Terminal 2 early bag storage room should be able to accommodate approximately 55 checked bags during peak periods
- Size of early bag storage room not defined solely by this requirement

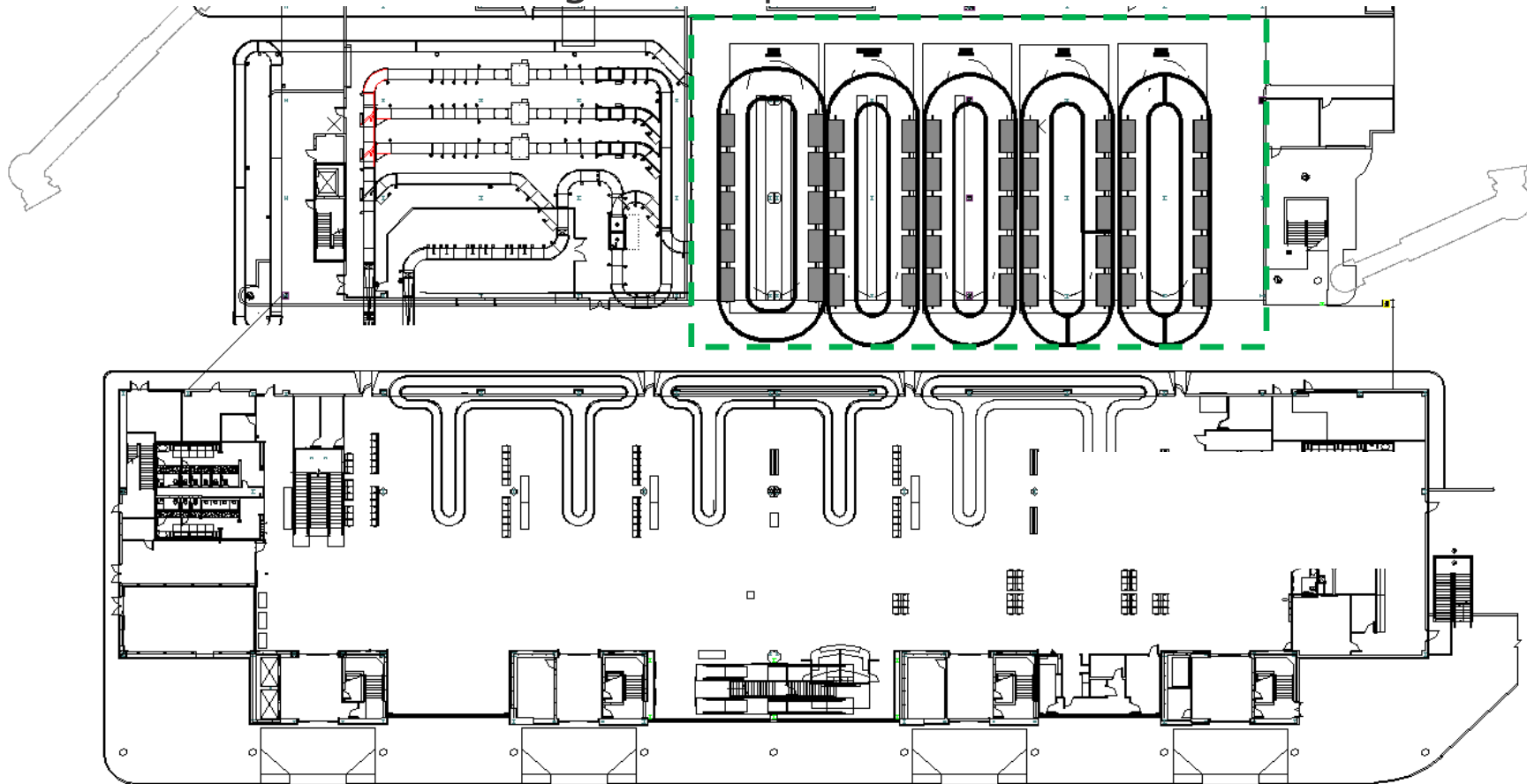
**Terminal 2**  
52.4 MAP (2035)



**Source:**  
Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

## Gap Analysis

# Terminal 2 – Outbound Bag Make-up



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

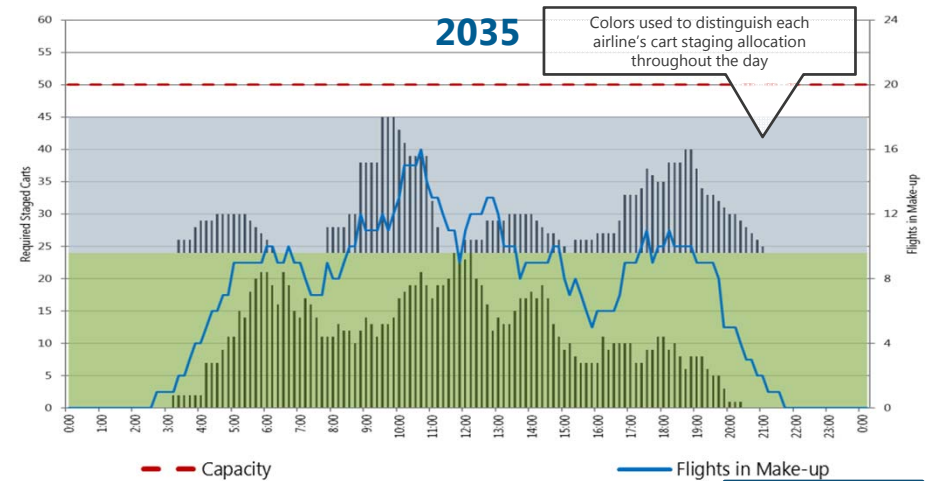
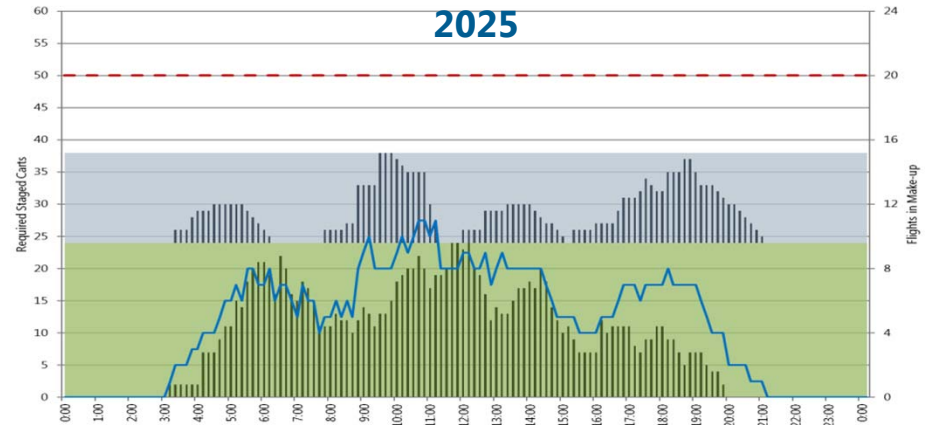
[Requirements Table](#) (link)

# Terminal 2 Outbound Bag Make-up Requirements



REQUIREMENTS<sup>1/2/3/4/</sup>

| UNITS  | BASELINE INVENTORY 2016 | 2025      |        | 2035      |        |
|--|-------------------------|-----------|--------|-----------|--------|
|  |                         | PREFERRED | SHARED | PREFERRED | SHARED |
| Peak 10-minute Flights in Make-Up operations | -                       | 11        |        | 16        |        |
| Staged Carts carts                           | 50                      | 38        | 33     | 45        | 36     |



**Notes:**

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

- 1/ Bag make-up requirements based on airline exclusive use.
- 2/ Vertical bars identify the periods during which an airline actively stages carts
- 3/ Shaded areas identify an airline's total daily cart staging allocation (assuming preferential use)
- 4/ Assumes early bag storage facility to allow for passengers to check-in at any time.

**Source:**

Ricondo & Associates, Inc., August 2016

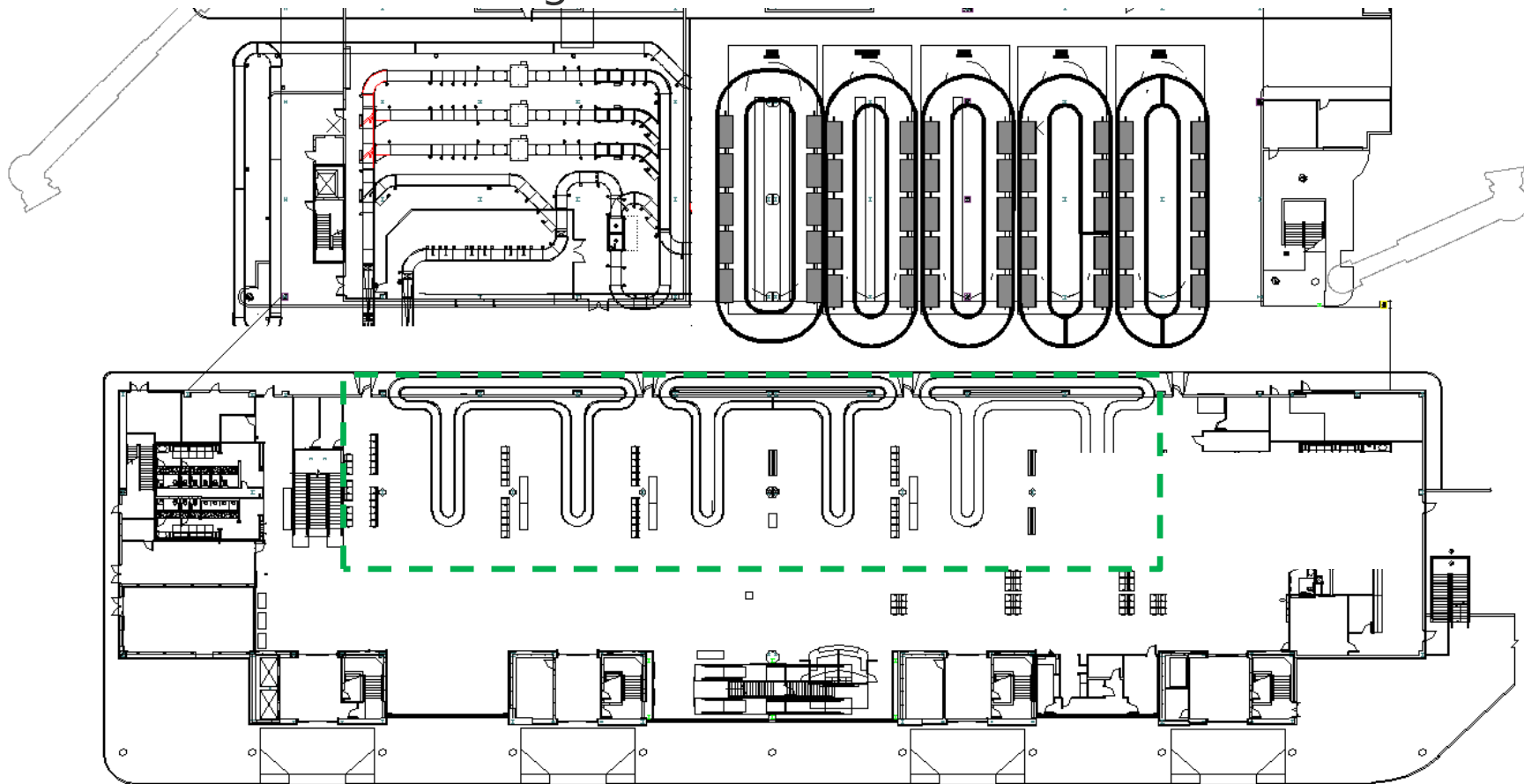
**Prepared by:**

Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 2 – Domestic Bag Claim



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 2 Domestic Bag Claim Demand Activity



|                              | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>2/3/</sup> |                     |
|------------------------------|------------|-------------------------|------------------------------|---------------------|
|                              |            |                         | 2025                         | 2035                |
| <b>Peak 20-Minute Demand</b> |            |                         |                              |                     |
| Flights at Claim             | flights    | -                       | 4                            | 4                   |
| Passengers at Claim          | passengers | -                       | 356                          | 438                 |
| <b>Carousels</b>             |            |                         |                              |                     |
| Bag Claim                    | devices    | 3                       | 3                            | 3 <sup>1/</sup>     |
| Passenger Capacity           | passengers | 558                     | 356                          | 438 <sup>1/</sup>   |
| Retrieval Area               | sq ft      | 10,065                  | 6,408                        | 7,884 <sup>1/</sup> |

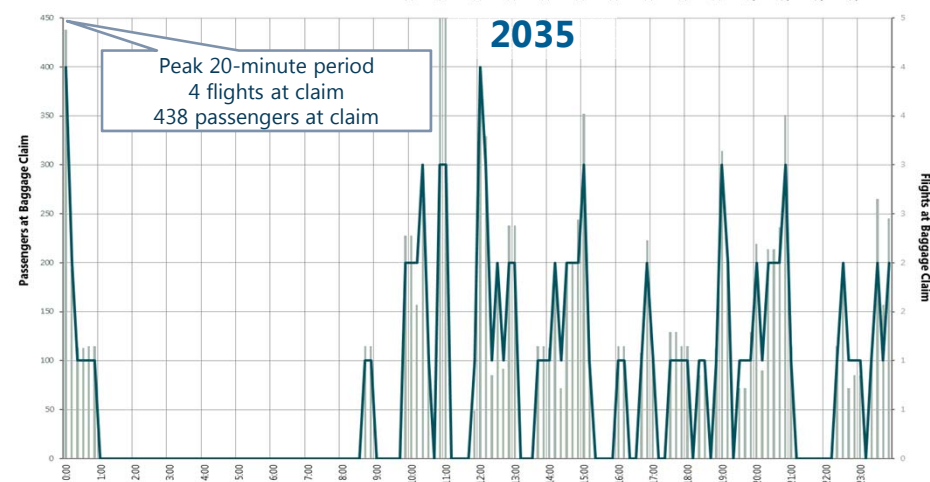
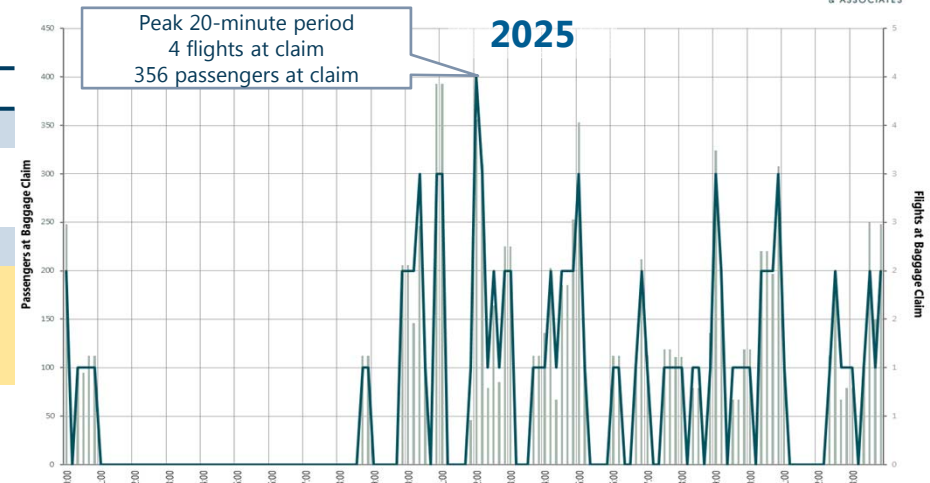
**2025 Flights at Claim:**  
2X DL A321, 1X DL CRJ-900, 1X DL MD-88

**2035 Flights at Claim:**  
1x AC A321, 1X DL A321, 2X AC A320

**Notes:**  
Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

- 1/ Claim allocation assumes short periods of LOS of 16 sq ft per passenger. This is less than the assumed 18 sq ft but remains within IATA LOS C range.
- 2/ Capacity and requirements assume 18 square feet per passenger.
- 3/ Assumes flights will not be split between two devices.

**Source:**  
Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.



Passenger Demand      Aggregate Flights at Baggage Claim      Requirements Table (link)

## Gap Analysis

# Terminal 2 Domestic Bag Claim Requirements



|                              | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>2/3/4/</sup> |                     |
|------------------------------|------------|-------------------------|--------------------------------|---------------------|
|                              |            |                         | 2025                           | 2035                |
| <b>Peak 20-Minute Demand</b> |            |                         |                                |                     |
| Flights at Claim             | flights    | -                       | 4                              | 4                   |
| Passengers at Claim          | passengers | -                       | 356                            | 438                 |
| <b>Carousels</b>             |            |                         |                                |                     |
| Bag Claim                    | devices    | 3                       | 3                              | 3 <sup>1/</sup>     |
| Passenger Capacity           | passengers | 558                     | 356                            | 438 <sup>1/</sup>   |
| Retrieval Area               | sq ft      | 10,065                  | 6,408                          | 7,884 <sup>1/</sup> |

### 2025 Flights at Claim:

2X DL A321, 1X DL CRJ-900, 1X DL MD-88

### 2035 Flights at Claim:

1x AC A321, 1X DL A321, 2X AC A320

### Notes:

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ Claim allocation assumes short periods of LOS of 16 sq ft per passenger. This is less than the assumed 18 sq ft but remains within IATA LOS C range.

2/ Capacity and requirements assume 18 square feet per passenger.

3/ Assumes flights will not be split between two devices.

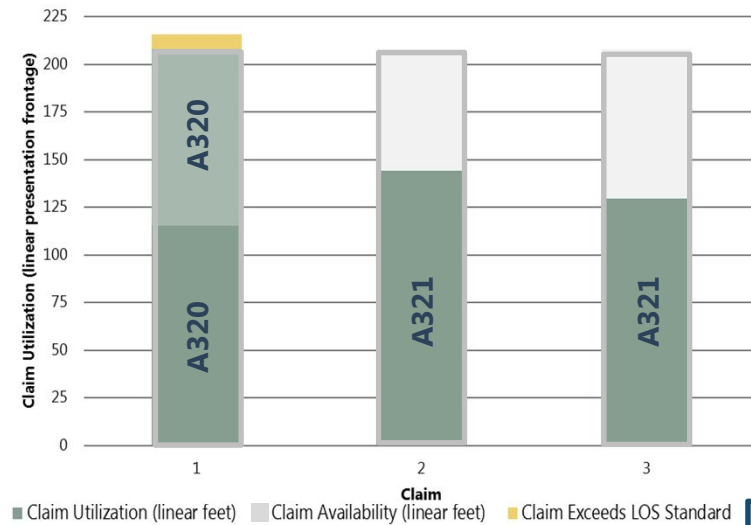
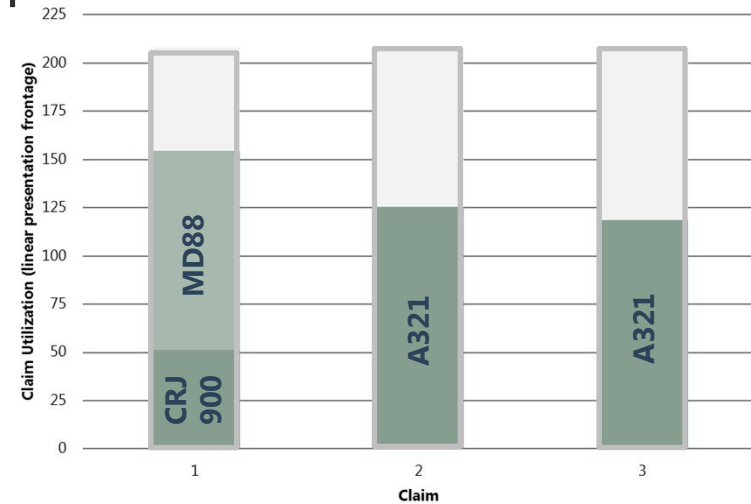
4/ Each flight represents specific load factors and O&D factors.

### Source:

Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.



[Requirements Table](#) (link)

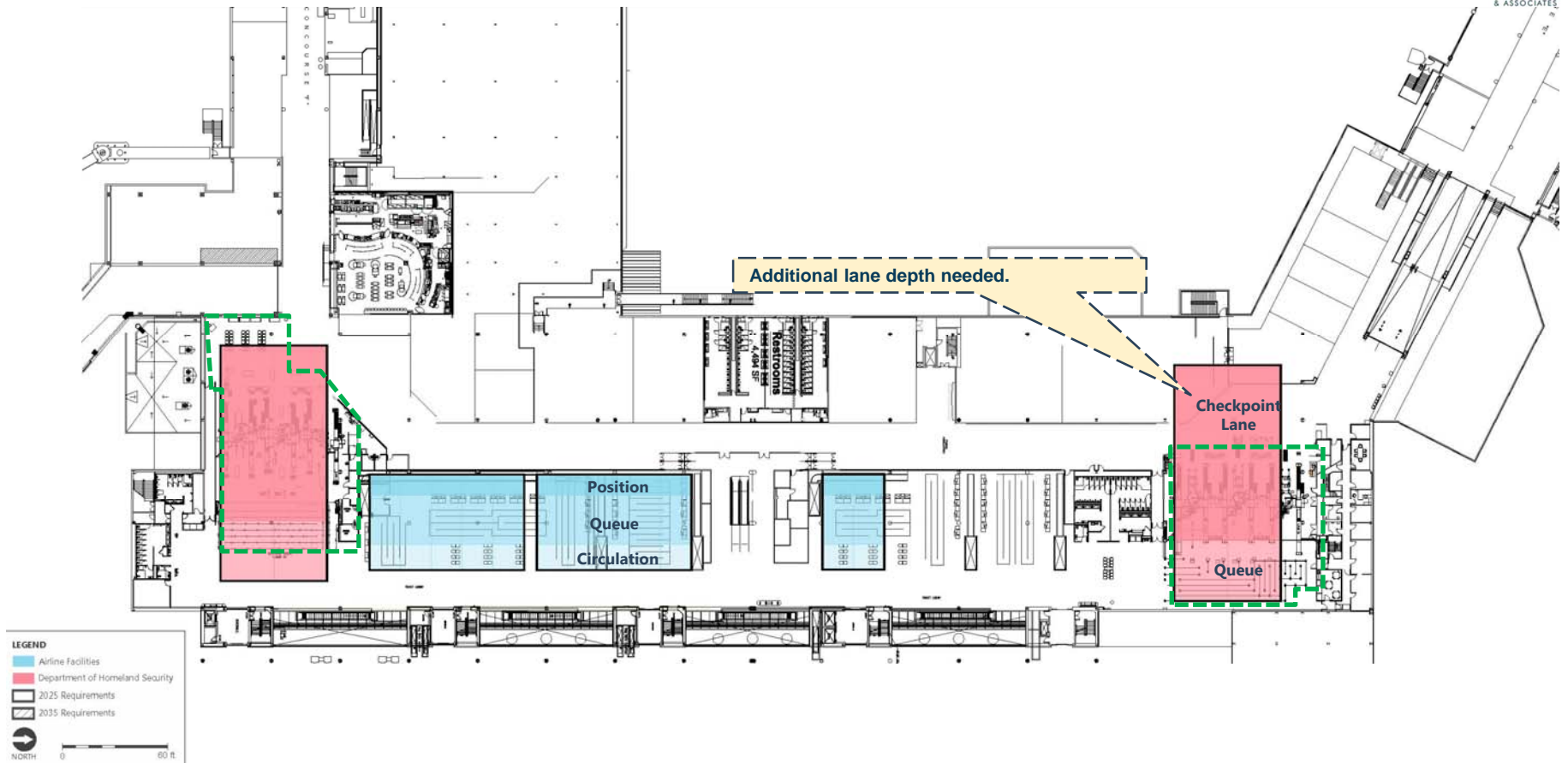


# Functional Area Requirements

## Terminal 3

## Functional Areas

# Terminal 3 Level 2 – Airline Check-in and Security Screening – 2025



### Source:

Ricondo & Associates, Inc., August 2016.

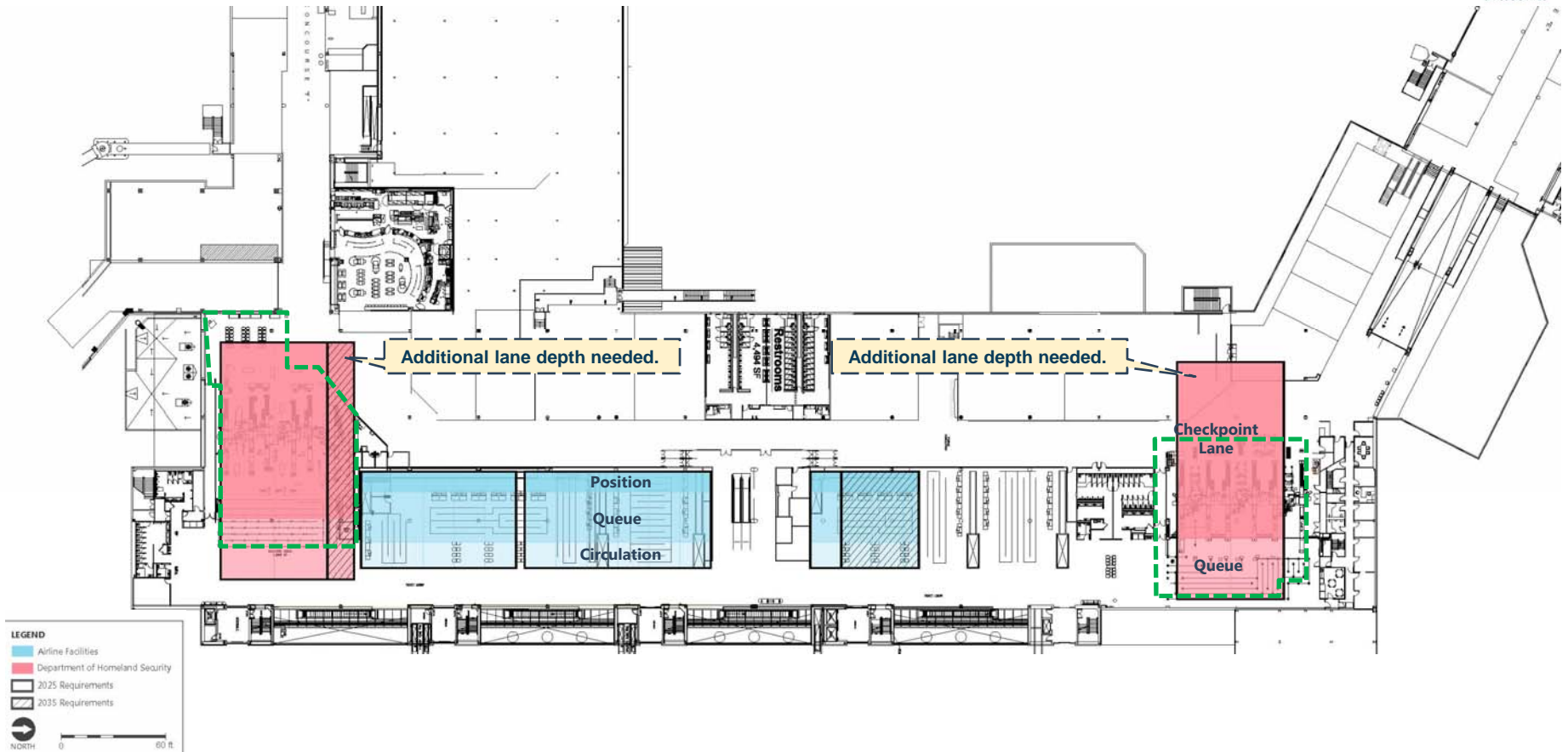
### Prepared by:

Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Functional Areas

# Terminal 3 Level 2 – Airline Check-in and Security Screening – 2035

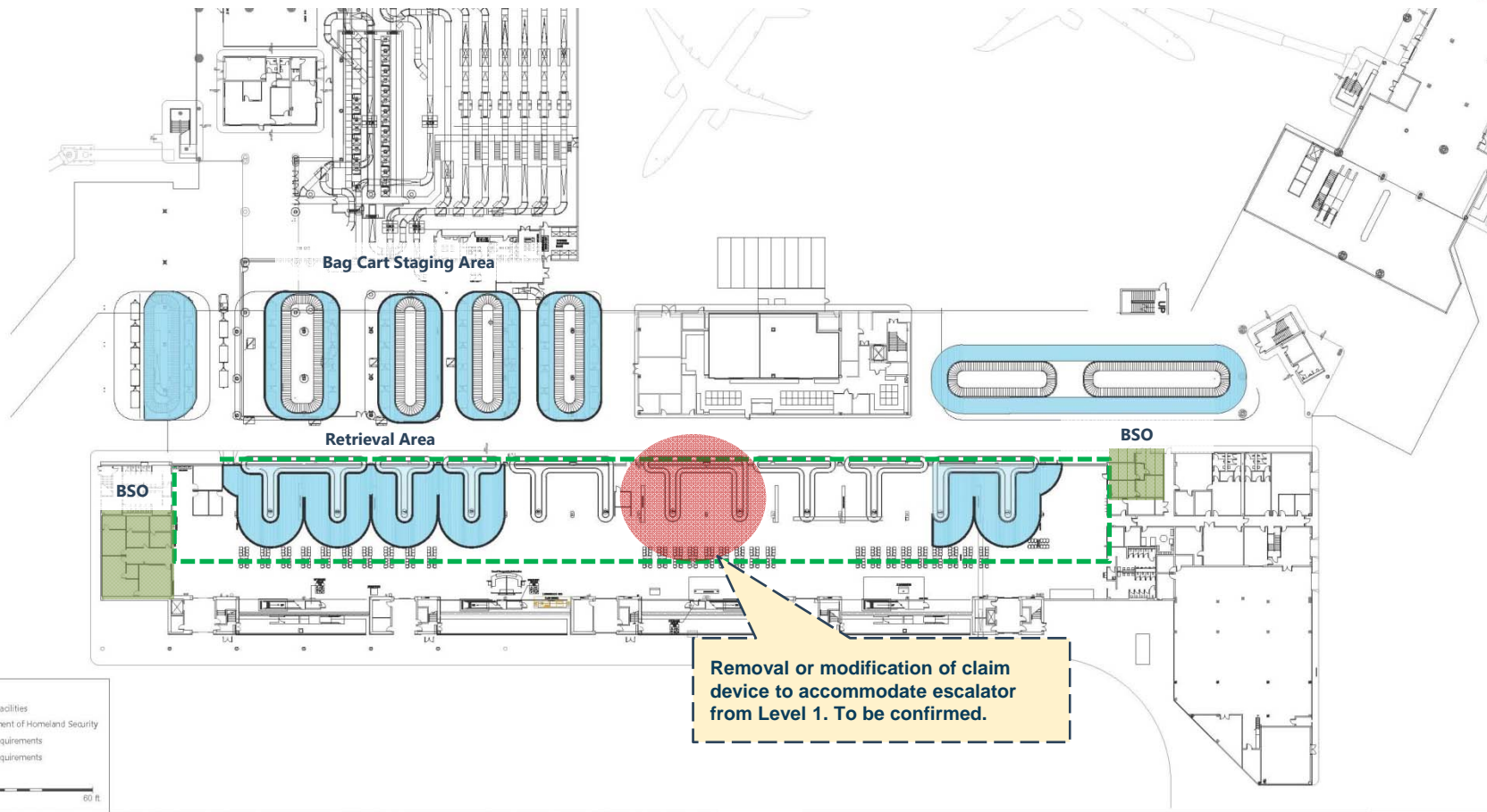


**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Functional Areas

# Terminal 3 Level 1 – Domestic Bag Claim and Cart Staging – 2025

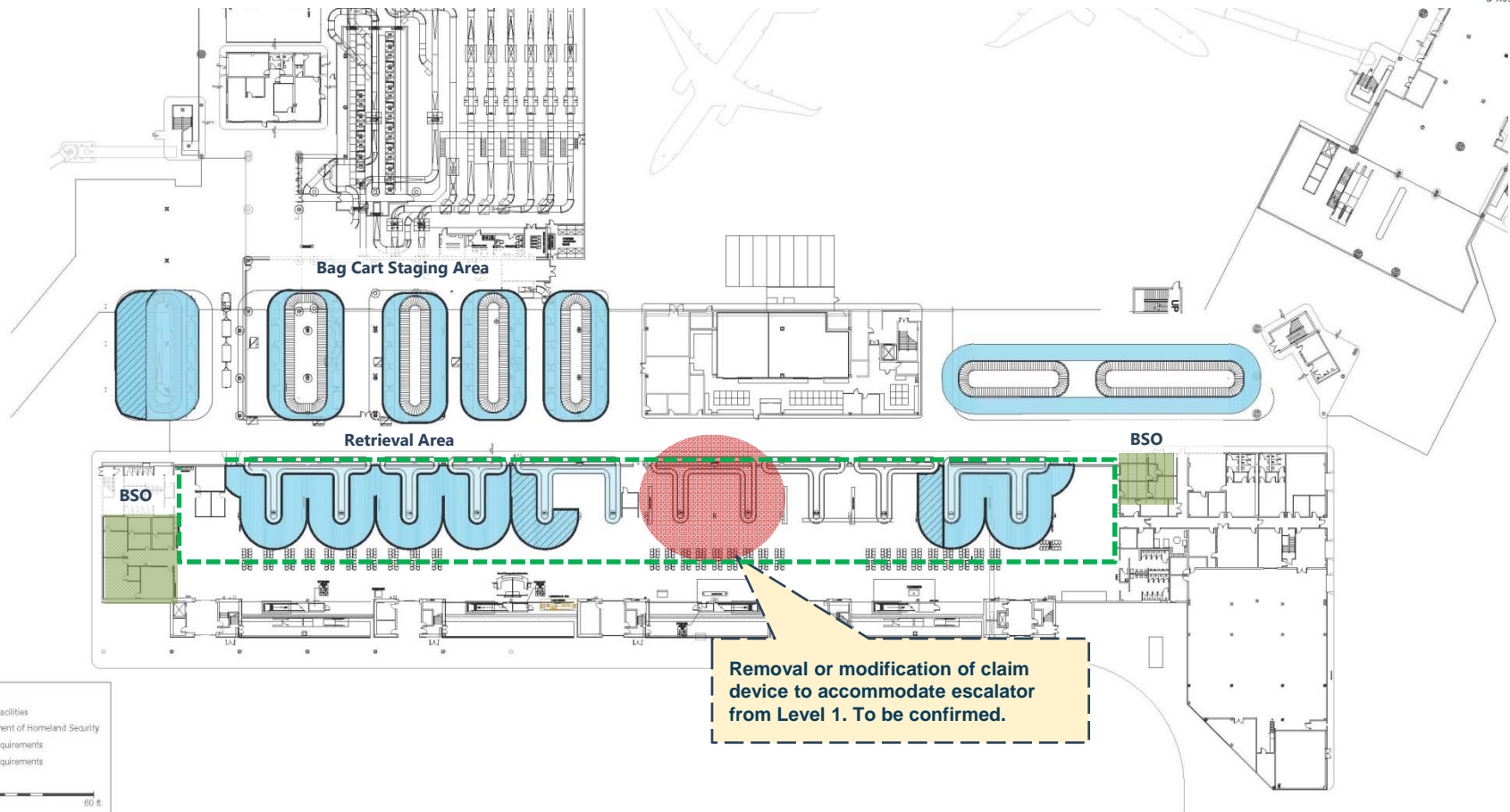


**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Functional Areas

# Terminal 3 Level 1 – Domestic Bag Claim and Cart Staging – 2035



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

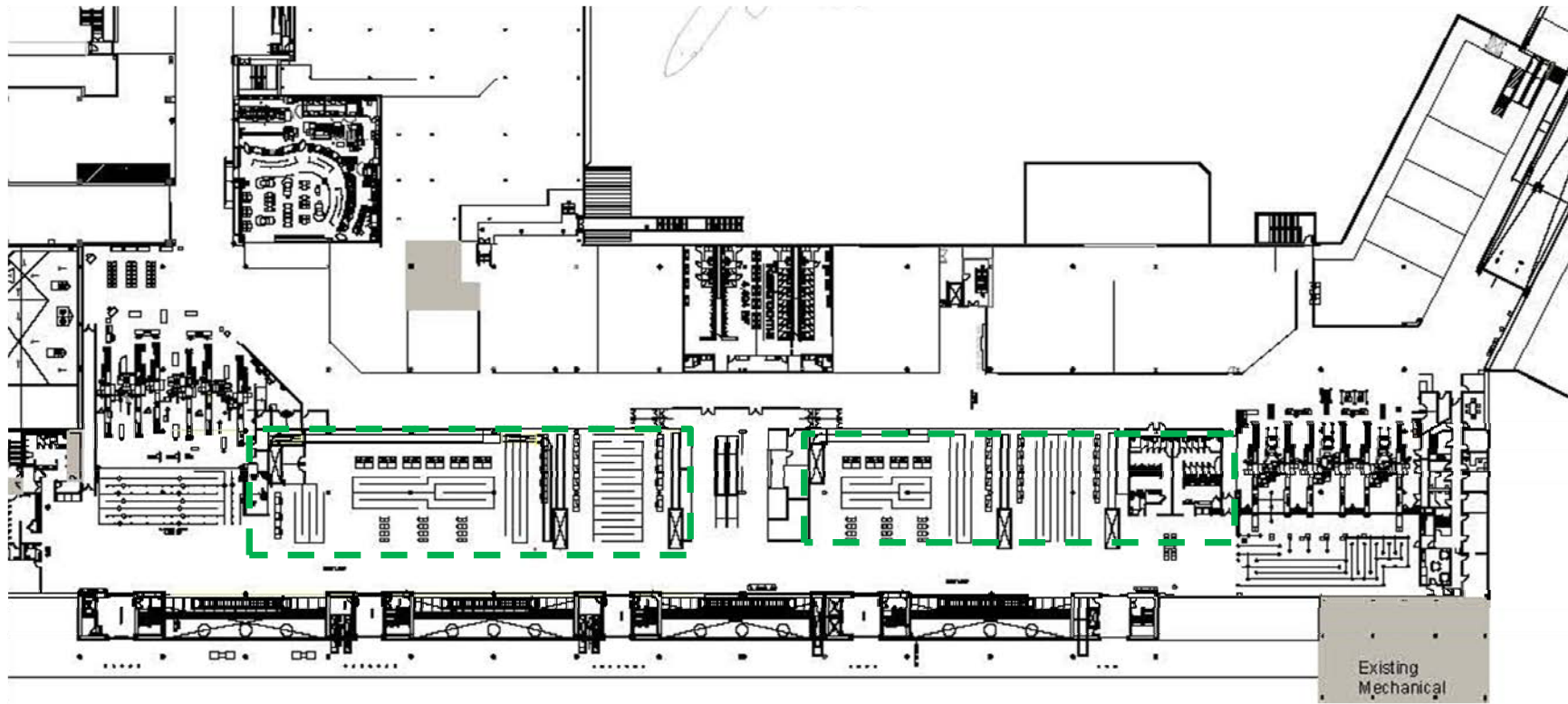
[Requirements Table](#) (link)

# Gap Analysis

## Terminal 3



# Terminal 3 – Check-in



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 3 – Check-in Counter Requirements



|   | UNITS       | REQUIREMENTS <sup>3/4/</sup> |                                      |      |      |
|---|-------------|------------------------------|--------------------------------------|------|------|
|   |             | BASILINE INVENTORY 2016      | ADJUSTED CAPACITY BASED ON TEMPLATES | 2025 | 2035 |
| <b>In Line Bag Drop Positions</b>   |             |                              |                                      |      |      |
| Includes associated queue and circulation                                 | positions   | 51                           | 38                                   | 24   | 28   |
| <b>Lobby Kiosks</b>   |             |                              |                                      |      |      |
| 2 associated kiosks per in-line bag drop position                         | positions   | 36                           | -                                    | 26   | 29   |
| <b>Lobby Depth (linear feet)</b>  |             |                              |                                      |      |      |
| 56' lobby depth required from back of ticketing wall to front of building | linear feet | 79'                          | -                                    | 56'  | 56'  |

**Notes:**

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53 (In Line bag drop positions revised based on floor plan)

2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-lane bag drop positions, associated kiosks, queue area, and circulation.

3/ Vertical bars identify the periods during which an airline staffs its counters.

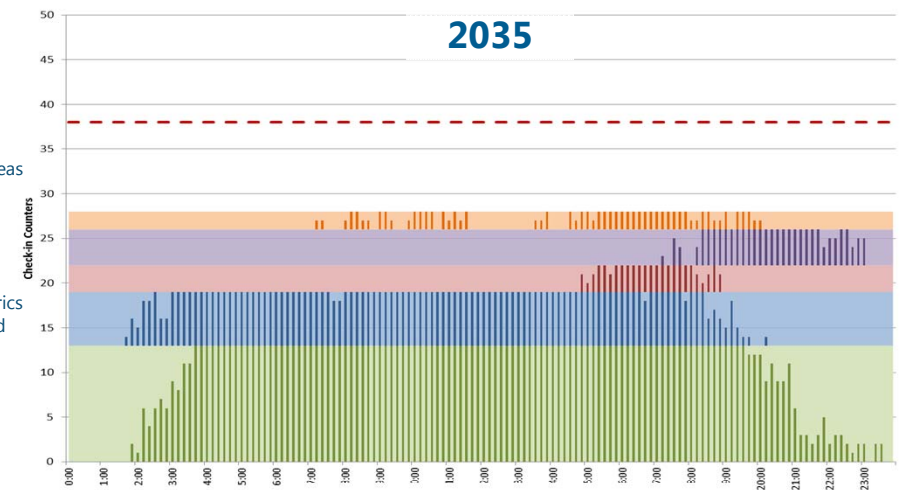
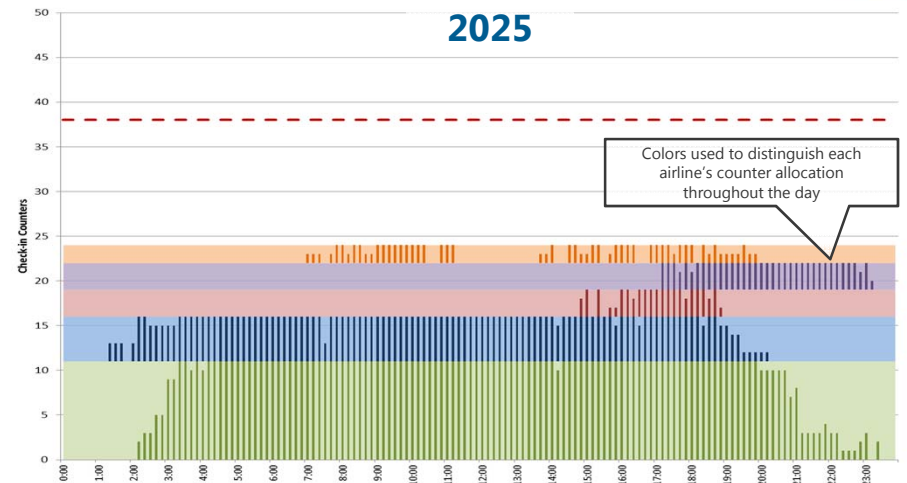
4/ Shaded areas identify an airline's total daily counter allocation (assuming preferential use)

**Source:**

Ricondo & Associates, Inc., August 2016

**Prepared by:**

Ricondo & Associates, Inc., January 2017.

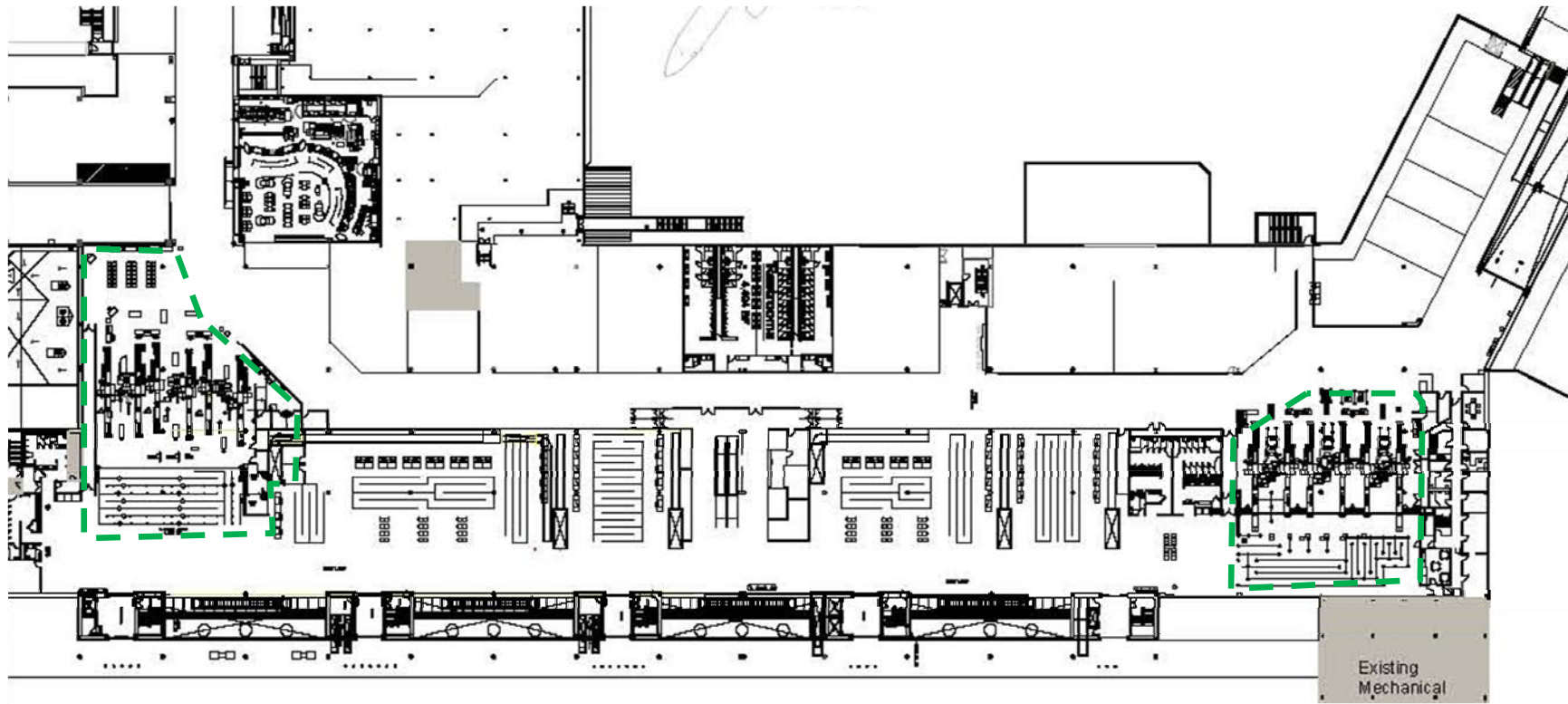


Adjusted Capacity Based on Template

Requirements Table (link)



# Terminal 3 – Security Screening



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 3 Security Screening Requirements



|   | UNITS      | BASELINE  | REQUIREMENTS    |                 |
|---|------------|-----------|-----------------|-----------------|
|   |            | INVENTORY | 2016            | 2025            |
| <b>Peak Hour Originating Passengers</b>                 | Passengers | -         | 1,614           | 1,838           |
| <b>Peak Hour Security Screening Demand<sup>1/</sup></b> | Passengers | -         | 1,349           | 1,539           |
| <b>Total Screening Lanes</b>                            |            |           |                 |                 |
| Peak 10-minute Demand                                   | Passengers | -         | 259             | 305             |
| Screening Lanes   | Lane       | 12        | 8 <sup>1/</sup> | 9 <sup>1/</sup> |
| <b>TSA Standard Lanes</b>                               |            |           |                 |                 |
| Peak 10-minute Demand                                   | Passengers | -         | 126             | 177             |
| Standard Lanes  | Lane       | -         | 6               | 7               |
| Projected Max Wait Time <sup>2/</sup>                   | minutes    | -         | 5               | 5               |
| <b>TSA Pre✓ Screening Lanes</b>                         |            |           |                 |                 |
| Peak 10-minute Demand                                   | Passengers | -         | 74              | 80              |
| Pre✓ Lanes  | lane       | -         | 2               | 2               |
| Projected Max Wait Time <sup>2/</sup>                   | minutes    | -         | < 1             | < 1             |

### Notes:

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ Security screening requirements assumes a consolidated checkpoint

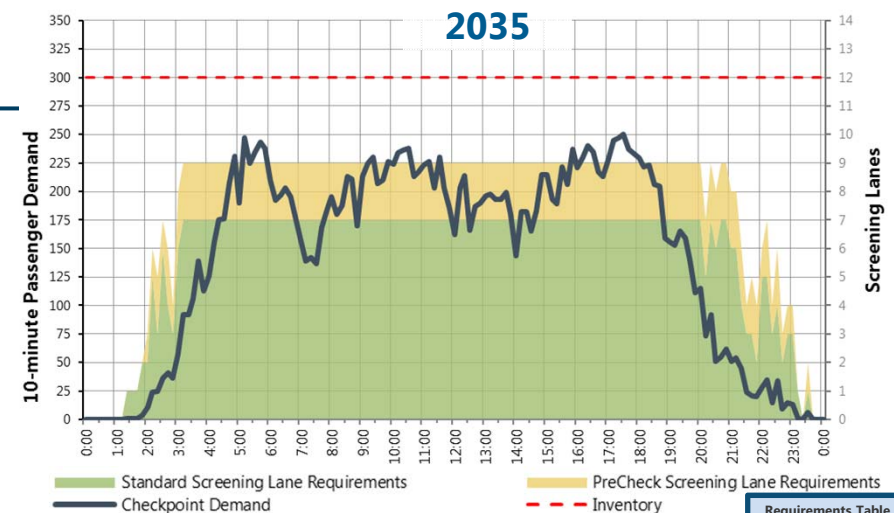
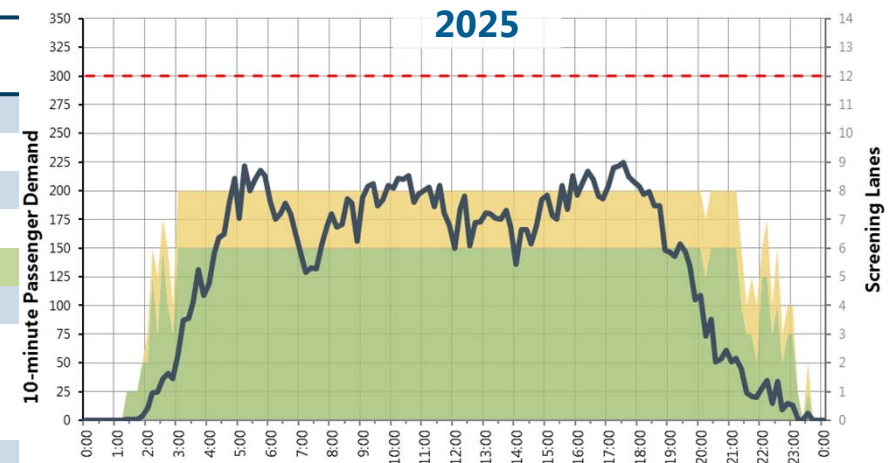
2/ Indicates the maximum average wait time recorded during any one 10-minute period

### Source:

Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.

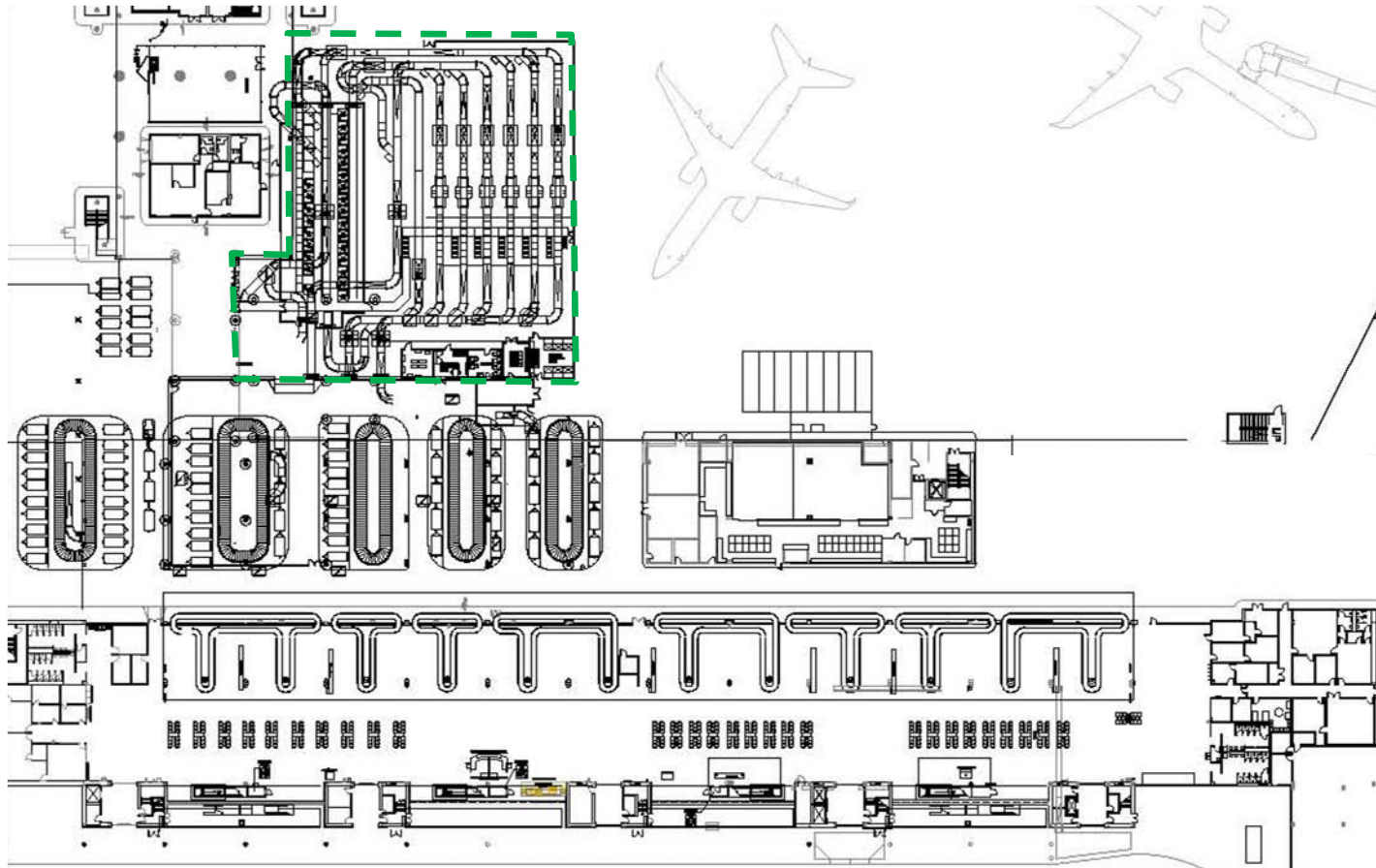


Legend:  
 - Green shading: Standard Screening Lane Requirements  
 - Yellow shading: PreCheck Screening Lane Requirements  
 - Black line: Checkpoint Demand  
 - Red dashed line: Inventory

Requirements Table (link)

## Gap Analysis

# Terminal 3 – Baggage Screening



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

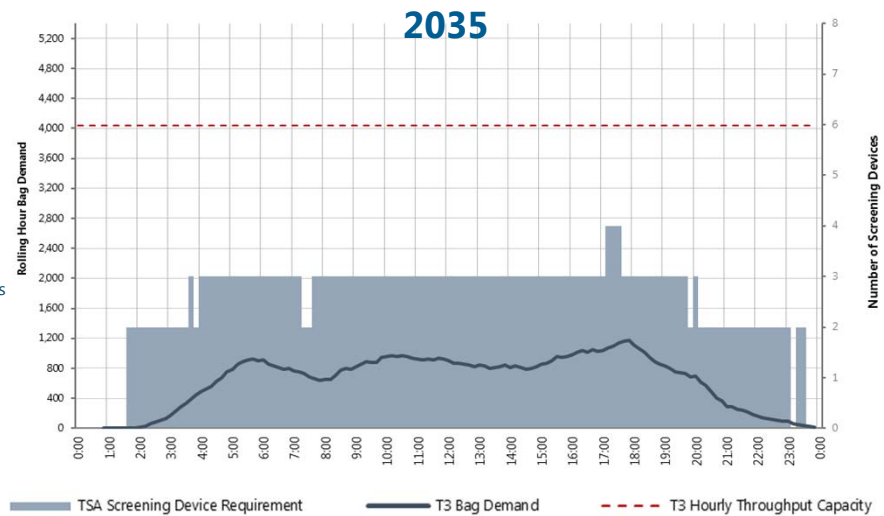
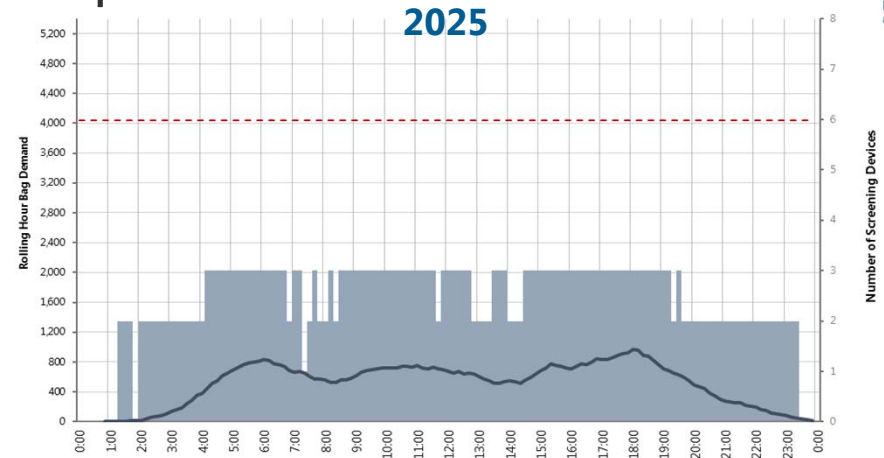
[Requirements Table](#) (link)

## Gap Analysis

# Terminal 3 Baggage Screening Requirements



|  | UNITS          | BASELINE INVENTORY 2016 | REQUIREMENTS |       |
|--|----------------|-------------------------|--------------|-------|
|  |                |                         | 2025         | 2035  |
| Peak Hour Bag Induction <sup>3/</sup>            | bags           | -                       | 970          | 1,170 |
| Bag Screening Device Throughput <sup>1/</sup>    | bags/hr/device | 674                     |              |       |
| Bag Screening Device Requirement <sup>1/2/</sup> | devices        | 6                       | 3            | 4     |



$$SF = \frac{x + 2\sqrt{x}}{x}$$

where:  
SF = Surge Factor, and  
x = 10-minute baggage flow.

$$N_{OSR} = \frac{\text{SurgedPeak10Minute Flow} \times 6}{\text{Throughput}_{EDS}}$$

where:  
N<sub>OSR</sub> = Number of EDS machines, and  
Throughput<sub>EDS</sub> = Number of EDS screened bags per hour (see Chapter 3).

### Notes:

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

- Inventory and average hourly throughput per e-mail from Doug Notman, TSA Stakeholder Liaison Manager (8/12/2016)
- Requirements are based on TSA planning guidelines for checked baggage inspection systems which include surge factor and n+1. n+1 requirement does not distinguish between various types of bag screening devices.
- Assumes induction of B6 transfer bags from T4 international arrivals.

### Source:

TSA. Planning Guidelines and Design Standards for Checked Baggage Inspection Systems. Pages 6-1-6-2. November 27, 2009. Ricondo & Associates, Inc., August 2016

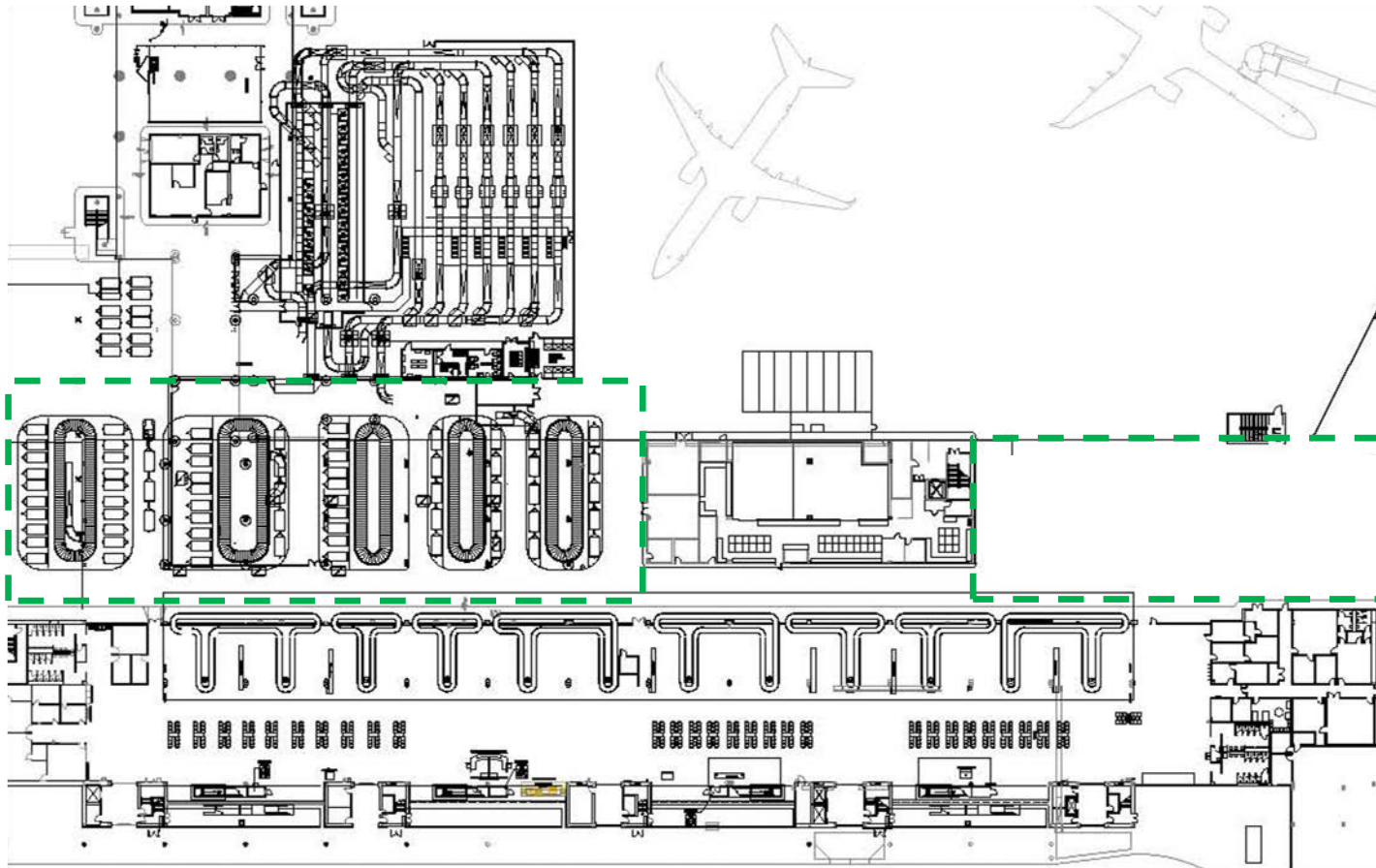
### Prepared by:

Ricondo & Associates, Inc., January 2017.

Requirements Table (link)

## Gap Analysis

# Terminal 3 – Outbound Bag Make-up



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

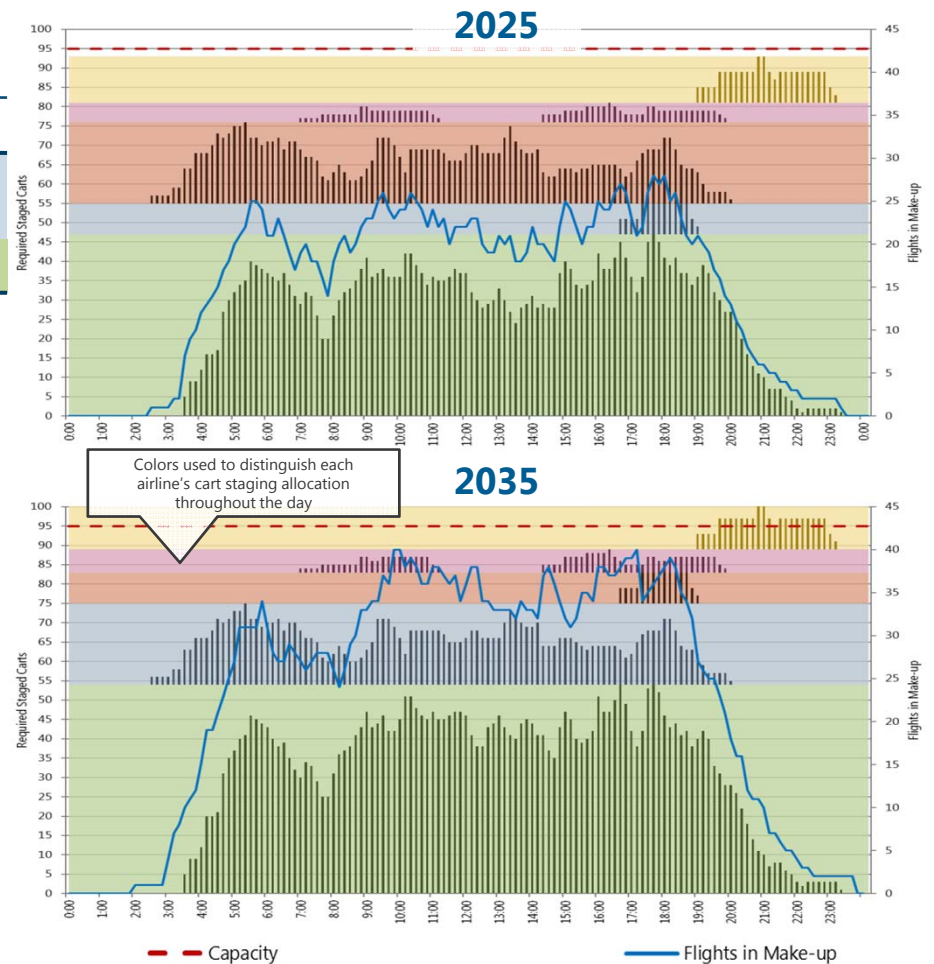
[Requirements Table](#) (link)



# Terminal 3 Outbound Bag Make-up Requirements



|                                   | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>1/2/3/</sup> |        |           |        |
|-----------------------------------|------------|-------------------------|--------------------------------|--------|-----------|--------|
|                                   |            |                         | 2025                           |        | 2035      |        |
|                                   |            |                         | PREFERRED                      | SHARED | PREFERRED | SHARED |
| Peak 10-minute Flights in Make-Up | operations | -                       | 28                             |        | 40        |        |
| Staged Carts                      | carts      | 95                      | 92                             | 73     | 100       | 80     |



**Notes:**

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

- 1/ Bag make-up requirements based on airline exclusive use.
- 2/ Vertical bars identify the periods during which an airline actively stages carts
- 3/ Shaded areas identify an airline's total daily cart staging allocation (assuming preferential use)

**Source:**

Ricondo & Associates, Inc., August 2016

**Prepared by:**

Ricondo & Associates, Inc., January 2017.

Requirements Table (link)

# Terminal 3 – Early Bag Storage



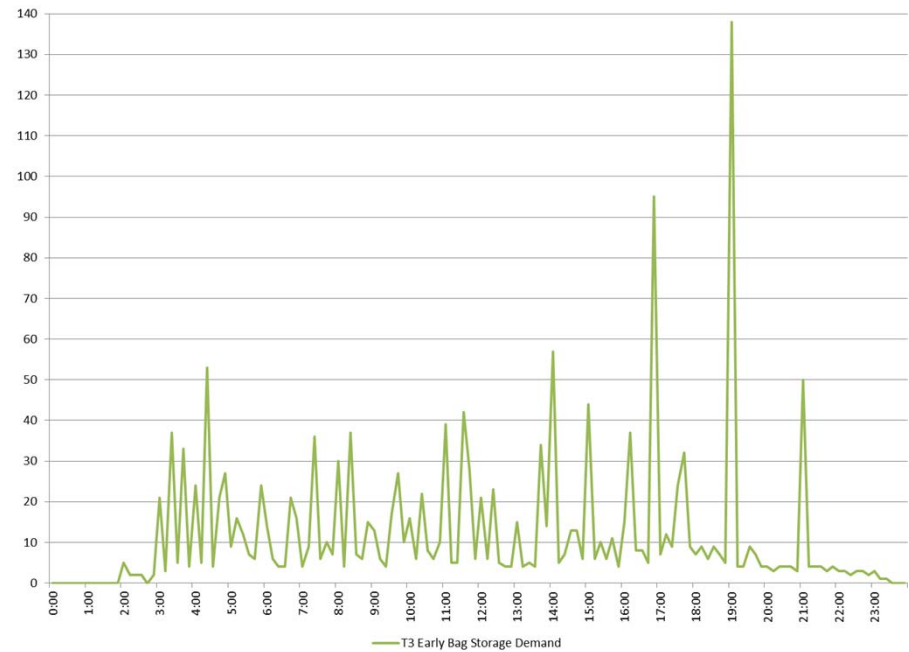
○ **Assumptions**

- Passengers can drop off checked baggage upon arriving at the Terminal and completing the ticketing process
- Passengers with checked bags assumptions shown on slide 20
- Checked bags are held in an early bag storage facility until 180 minutes prior to scheduled time of departure
- At 180 minutes bags are released to bag make-up carousels
- Requirement based on 52.4 MAP (2035) planning activity level.

○ **Requirements**

- Terminal 3 early bag storage room should be able to accommodate approximately 140 checked bags during peak periods
- Size of early bag storage room not defined solely by this requirement

**Terminal 3**  
52.4 MAP (2035)

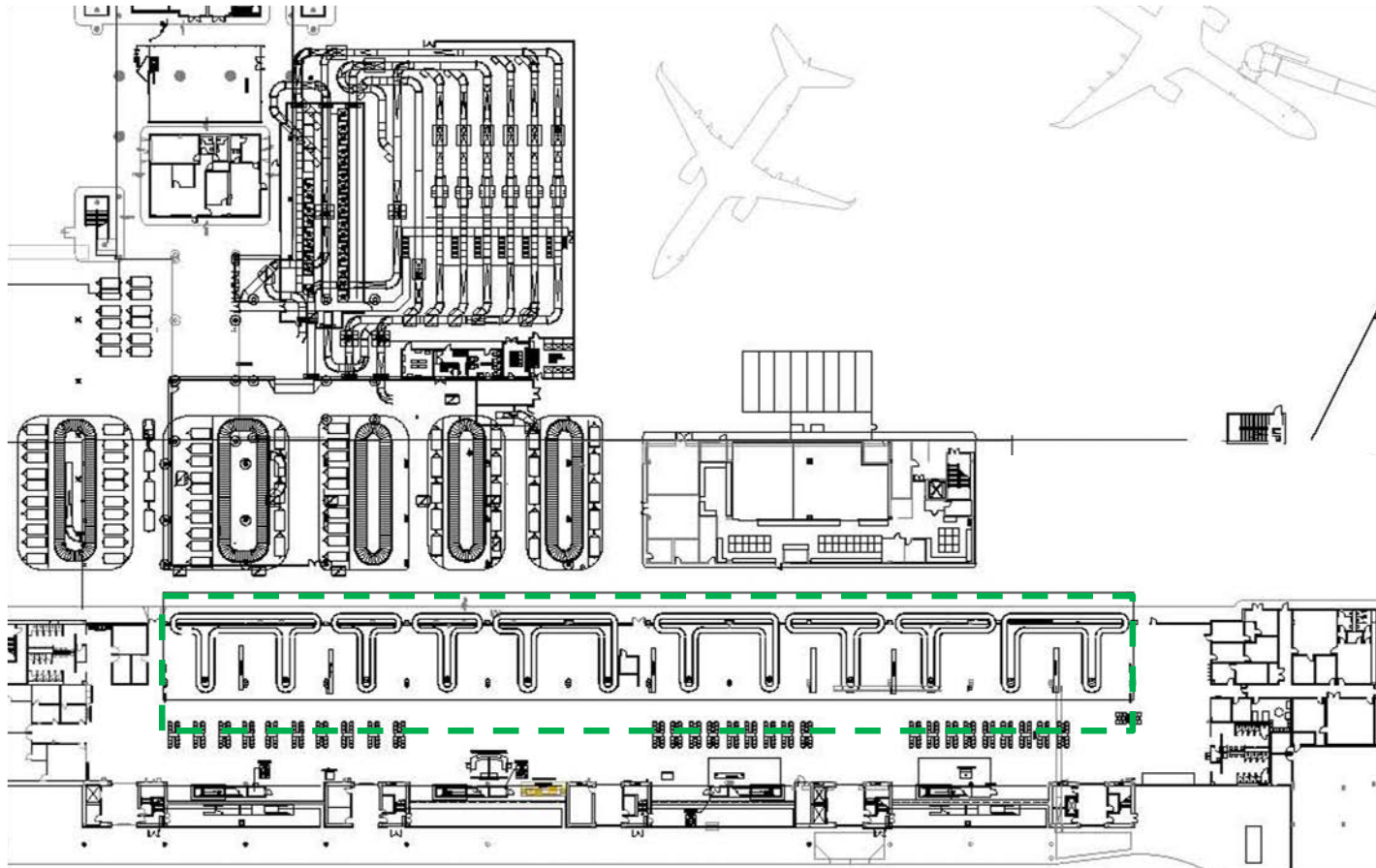


**Source:**  
Ricondo & Associates, Inc., August 2016  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

Requirements Table (link)

## Gap Analysis

# Terminal 3 – Domestic Bag Claim



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

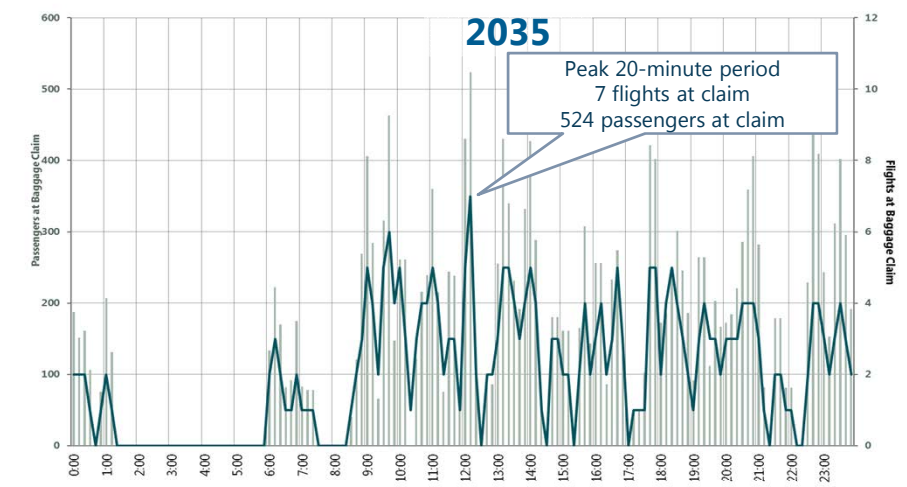
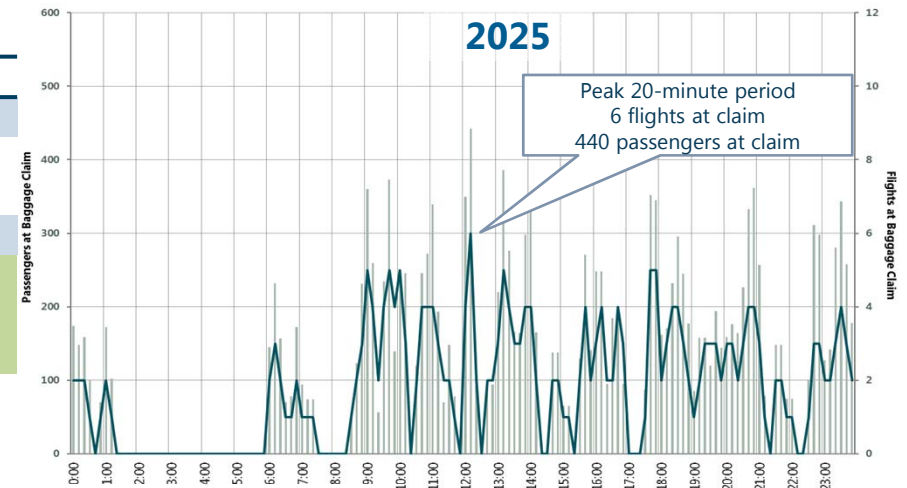


## Gap Analysis

# Terminal 3 Domestic Bag Claim Demand Activity



|                              | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>1/2/</sup> |       |
|------------------------------|------------|-------------------------|------------------------------|-------|
|                              |            |                         | 2025                         | 2035  |
| <b>Peak 20-Minute Demand</b> |            |                         |                              |       |
| Flights at Claim             | flights    | -                       | 6                            | 7     |
| Passengers at Claim          | passengers | -                       | 440                          | 524   |
| <b>Carousels</b>             |            |                         |                              |       |
| Bag Claim                    | devices    | 8                       | 4                            | 4     |
| Passenger Capacity           | passengers | 700                     | 440                          | 524   |
| Retrieval Area               | sq ft      | 12,600                  | 7,960                        | 9,432 |



Passenger Demand (grey bar) Aggregate Flights at Baggage Claim (green line) Requirements Table (link)

### 2025 Flights at Claim:

- 1x AA A321
- 1X AA B738
- 2X B6 A320
- 2X B6 E190

### 2035 Flights at Claim:

- 1x AA A321
- 1X AA B738
- 1x B6 A321
- 1x B6 A320
- 3X B6 E190

### Notes:

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ Capacity and requirements assume 18 square feet per passenger.

2/ Assumes flights will not be split between two devices.

### Source:

Ricondo & Associates, Inc., August 2016

### Prepared by:

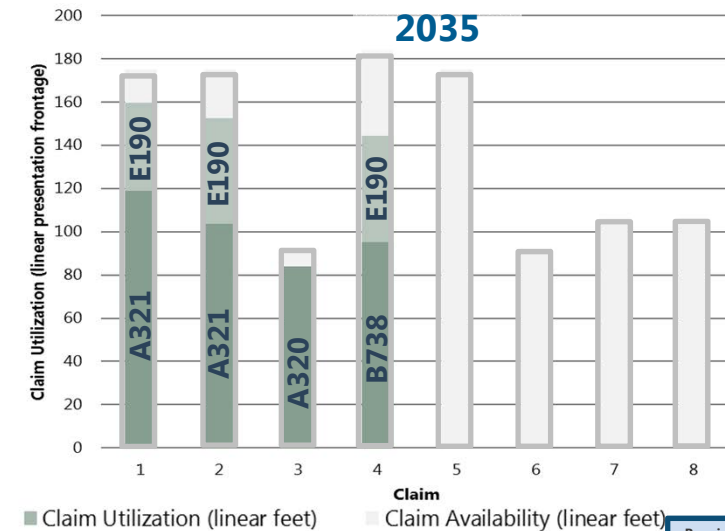
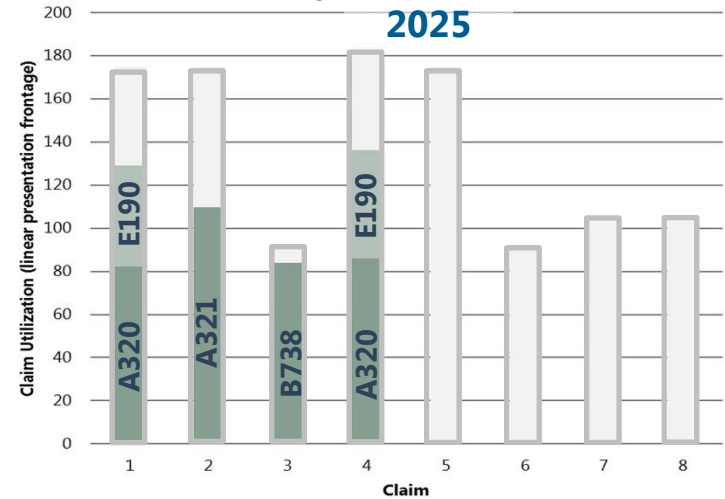
Ricondo & Associates, Inc., January 2017.

## Gap Analysis

# Terminal 3 Domestic Bag Claim Demand Activity



| UNITS                        | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>1/2/3/</sup> |       |
|------------------------------|-------------------------|--------------------------------|-------|
|                              |                         | 2025                           | 2035  |
| <b>Peak 20-Minute Demand</b> |                         |                                |       |
| Flights at Claim             | flights                 | -                              | 6     |
| Passengers at Claim          | passengers              | -                              | 440   |
| <b>Carousels</b>             |                         |                                |       |
| Bag Claim                    | devices                 | 8                              | 4     |
| Passenger Capacity           | passengers              | 700                            | 440   |
| Retrieval Area               | sq ft                   | 12,600                         | 7,960 |



### 2025 Flights at Claim:

1x AA A321  
1X AA B738  
2X B6 A320  
2X B6 E190

### 2035 Flights at Claim:

1x AA A321  
1X AA B738  
1x B6 A321  
1x B6 A320  
3X B6 E190

### Notes:

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ Capacity and requirements assume 18 square feet per passenger.

2/ Assumes flights will not be split between two devices.

3/ Each flight represents specific load factors and O&D factors.

### Source:

Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.

■ Claim Utilization (linear feet)    □ Claim Availability (linear feet)

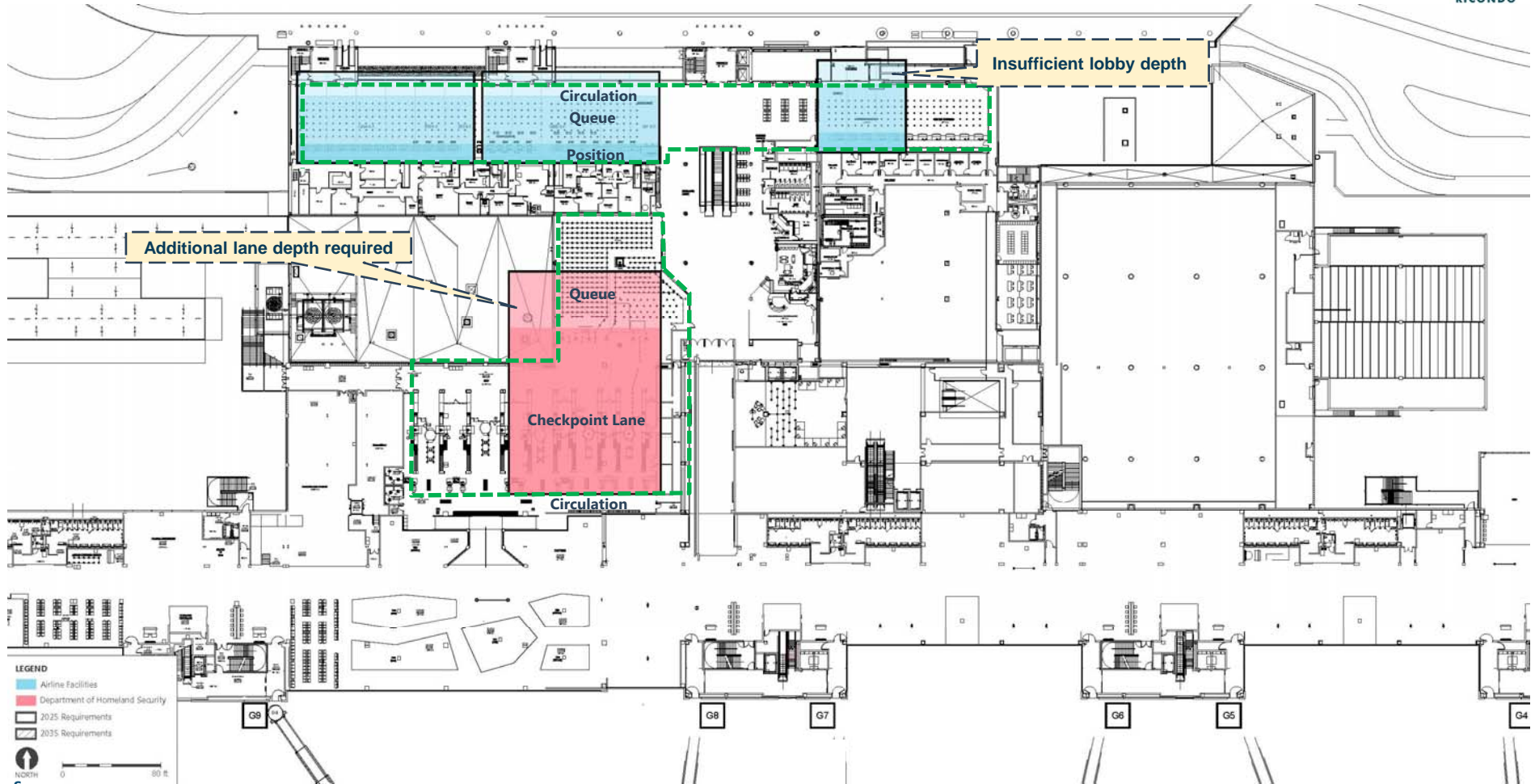
Requirements Table (link)

# Functional Area Requirements

## Terminal 4

## Functional Areas

# Terminal 4 Level 2 – Airline Check-in and Security Screening - 2025

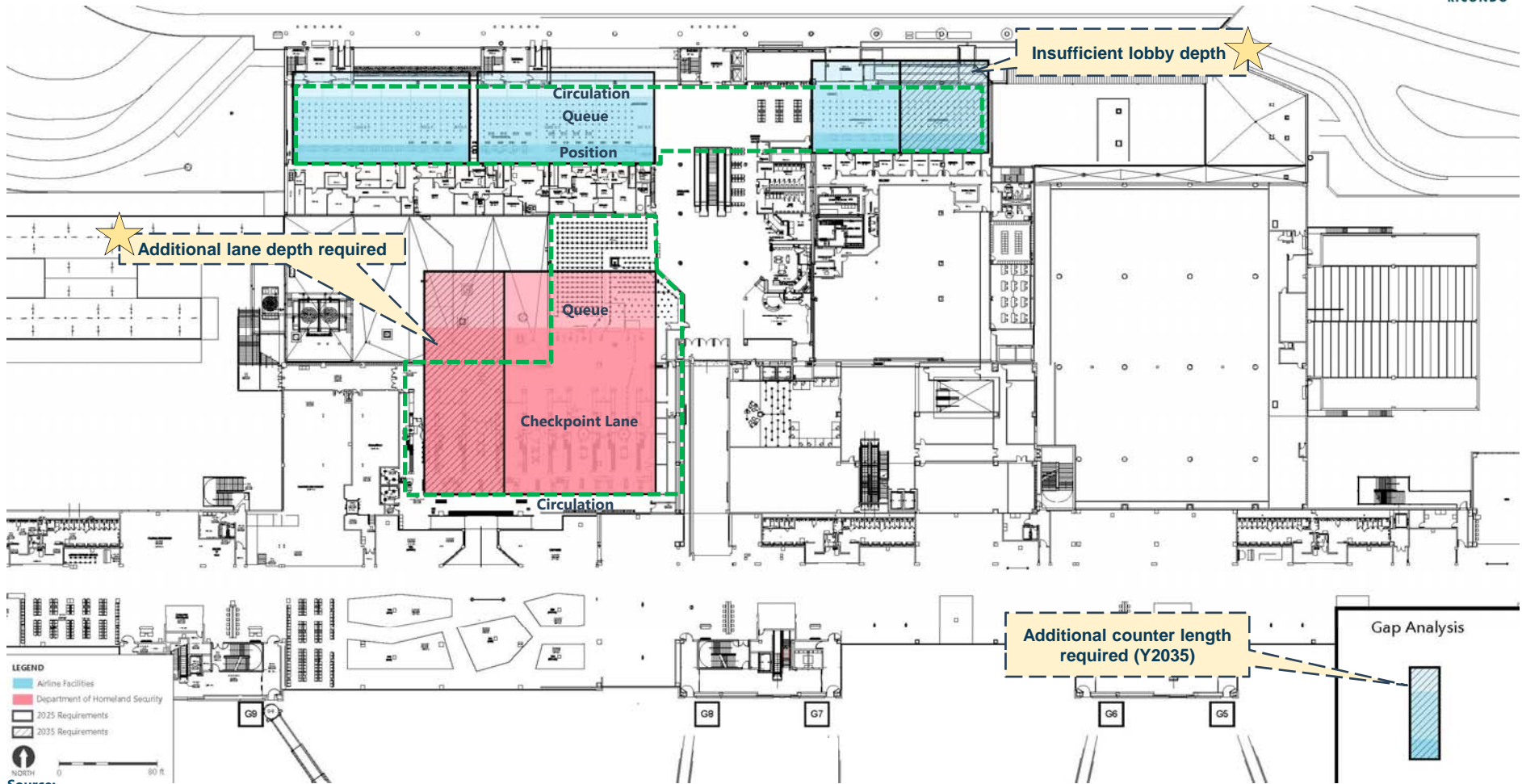


**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Functional Areas

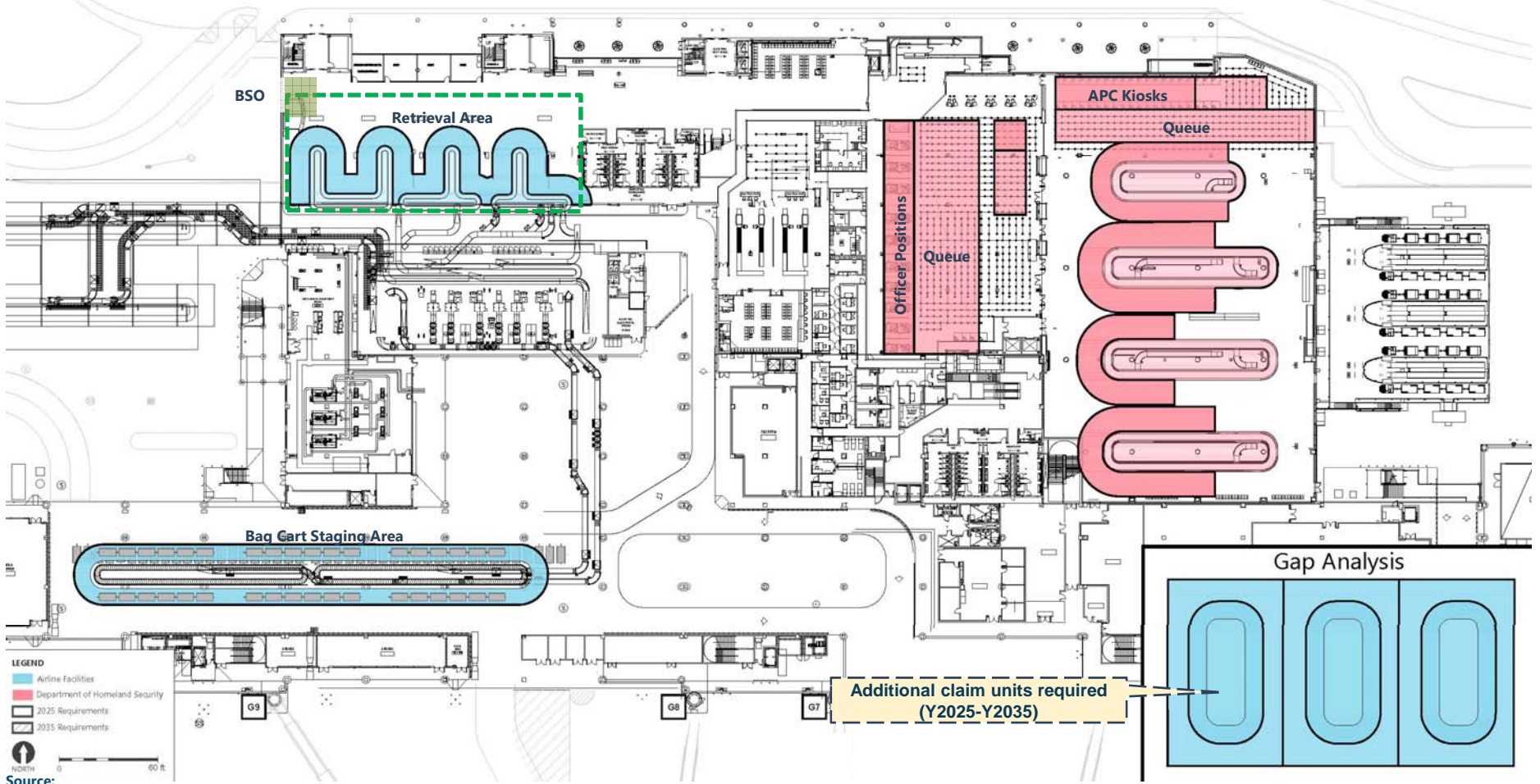
# Terminal 4 Level 2 – Airline Check-in and Security Screening - 2035





Functional Areas

# Terminal 4 Level 1 – CBP, Domestic Bag Claim, and Cart Staging – 2025

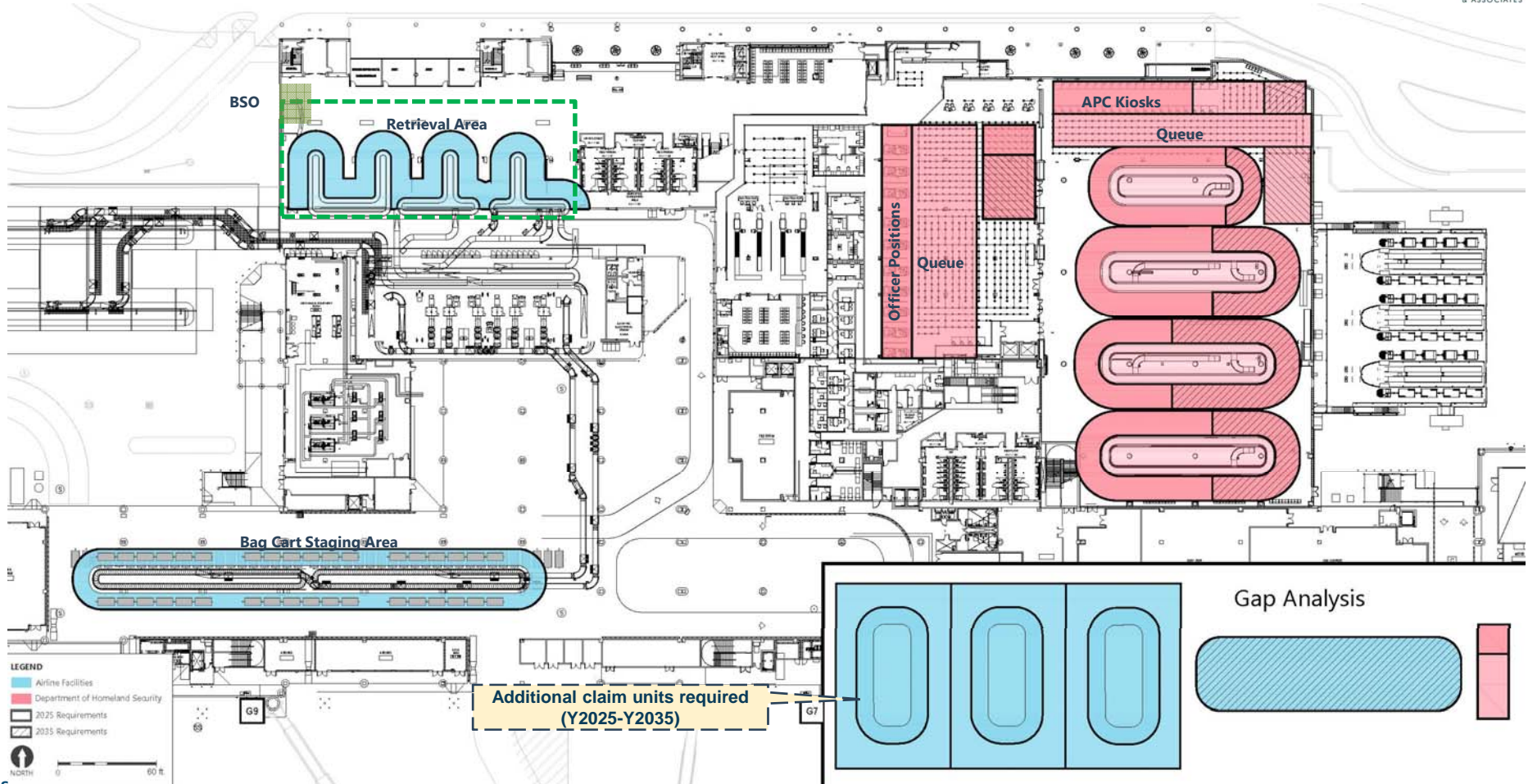


Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Functional Areas

# Terminal 4 Level 1 – CBP, Domestic Bag Claim, and Cart Staging – 2035



Source:  
Ricondo & Associates, Inc., August 2016.  
Prepared by:  
Ricondo & Associates, Inc., January 2017.

# Gap Analysis

## Terminal 4

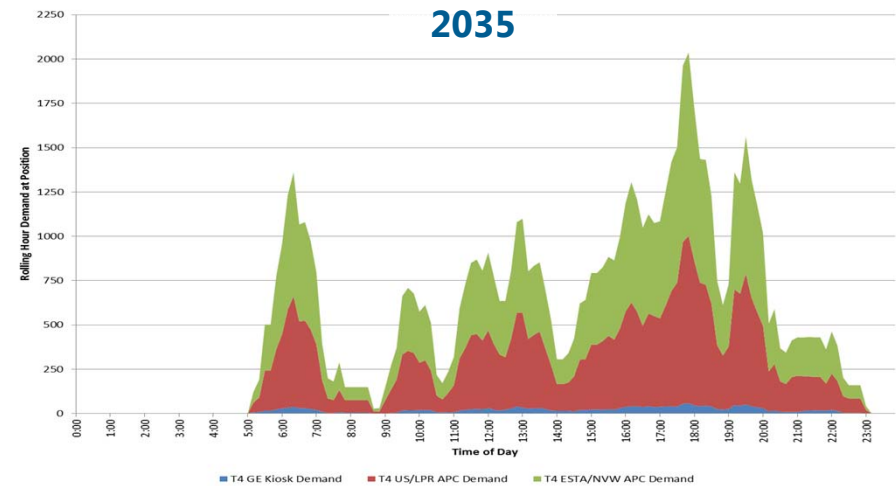
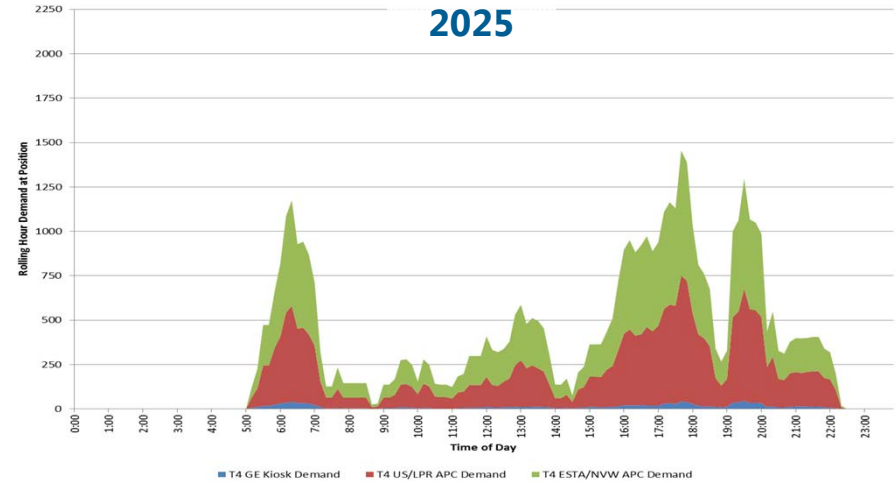


## Gap Analysis

# Terminal 4 – FIS Requirements



|                                | UNITS     | BASELINE INVENTORY 2016 <sup>1/</sup> | ADJUSTED CAPACITY BASED ON TEMPLATES | REQUIREMENTS |        |
|--------------------------------|-----------|---------------------------------------|--------------------------------------|--------------|--------|
|                                |           |                                       |                                      | 2025         | 2035   |
| <b>APC Kiosks/</b>             |           |                                       |                                      |              |        |
| Peak Hour Demand               | pax/hour  | -                                     | -                                    | 1,454        | 2,037  |
| APC Kiosks                     | positions | 40                                    | -                                    | 34           | 44     |
| <b>International Bag Claim</b> |           |                                       |                                      |              |        |
| Bag Claim Active Capacity      | sq ft     | 15,930                                | -                                    | 9,560        | 13,210 |
| <b>Inspections</b>             |           |                                       |                                      |              |        |
| Peak Hour Demand               | pax/hr    | -                                     | -                                    | 1,176        | 1,504  |
| Officer Podiums                | positions | 30                                    | -                                    | 23           | 28     |



**Notes:**

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53 (In Line bag drop positions revised based on floor plan)

**Source:**

Ricondo & Associates, Inc., August 2016

**Prepared by:**

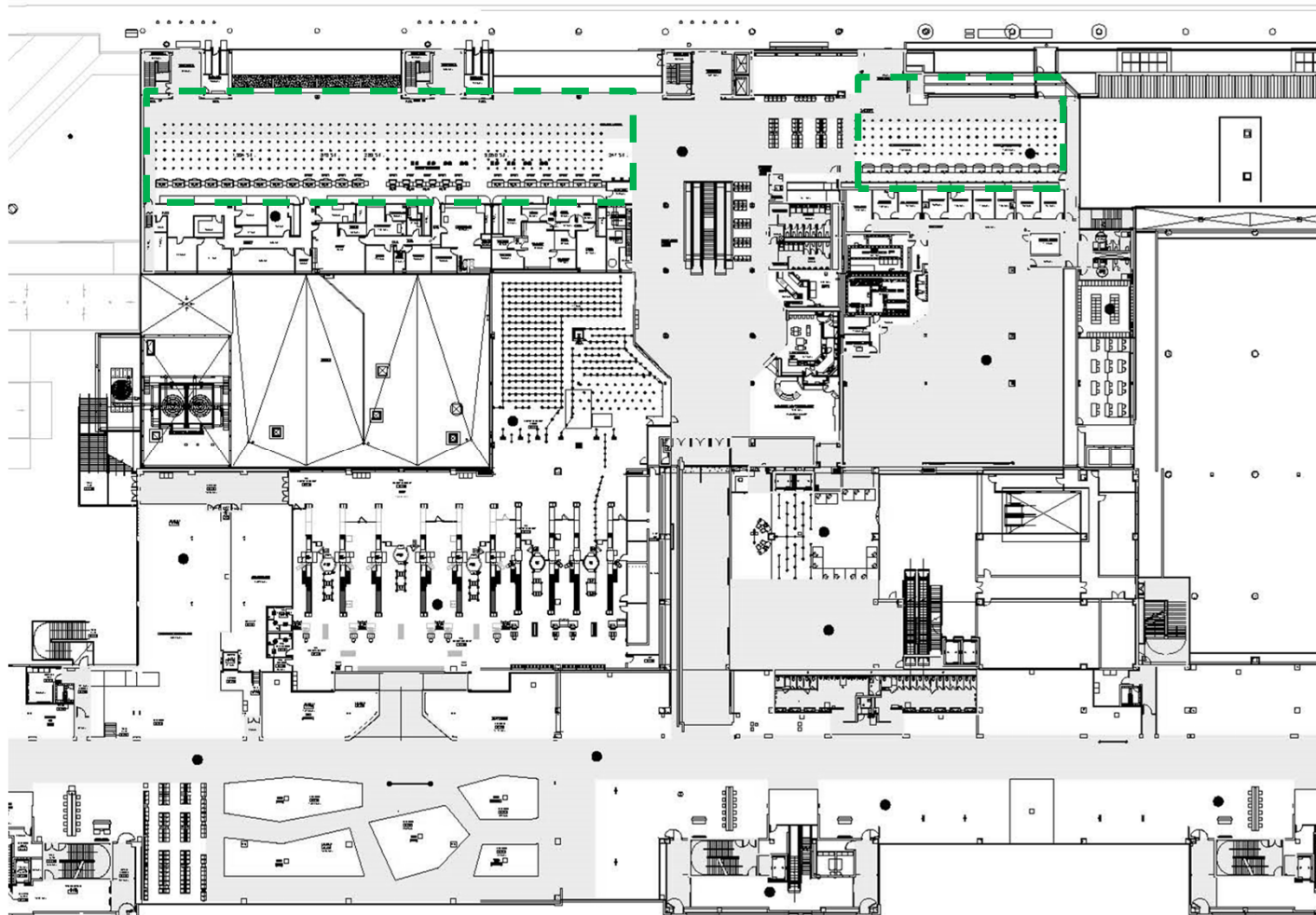
Ricondo & Associates, Inc., January 2017.

Adjusted Capacity Based on Template

Requirements Table (link)

## Gap Analysis

# Terminal 4 – Check-in



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

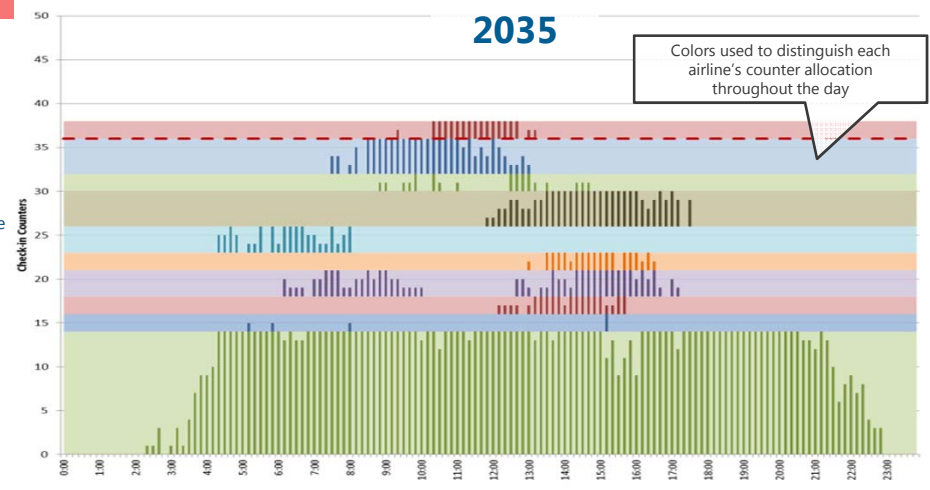
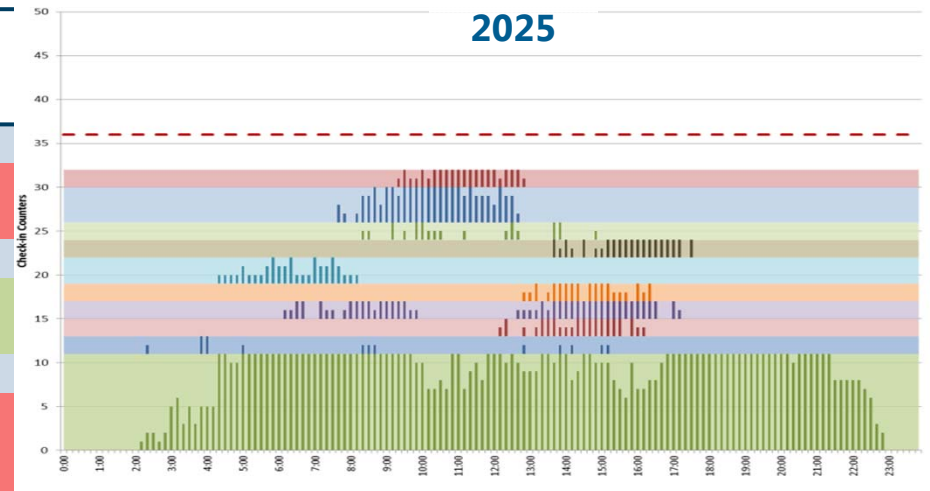
[Requirements Table](#) (link)

# Gap Analysis

## Terminal 4 – Check-in Counter Requirements



|   | UNITS       | REQUIREMENTS <sup>3/4/</sup>          |                                      |      |      |
|---|-------------|---------------------------------------|--------------------------------------|------|------|
|   |             | BASELINE INVENTORY 2016 <sup>1/</sup> | ADJUSTED CAPACITY BASED ON TEMPLATES | 2025 | 2035 |
| <b>In Line Bag Drop Positions</b>   |             |                                       |                                      |      |      |
| Includes associated queue and circulation                                 | positions   | 74                                    | 36 <sup>2/</sup>                     | 30   | 38   |
| <b>Lobby Kiosks</b>   |             |                                       |                                      |      |      |
| 2 associated kiosks per in-line bag drop position                         | positions   | 16                                    | -                                    | 34   | 36   |
| <b>Lobby Depth (linear feet)</b>  |             |                                       |                                      |      |      |
| 56' lobby depth required from back of ticketing wall to front of building | linear feet | 40' to 51'                            | -                                    | 56'  | 56'  |



**Notes:**

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

- 1/ FLL Airport Master Plan Update - Existing Conditions Inventory page 2-53 (In Line bag drop positions revised based on floor plan)
- 2/ In-Line Bag Drop Positions based on standardized bag drop template as presented in Terminal Planning Metrics PPT. The template is 18' x 60' and provides for two in-lane bag drop positions, associated kiosks, queue area, and circulation.
- 3/ Vertical bars identify the periods during which an airline staffs its counters.
- 4/ Shaded areas identify an airline's total daily counter allocation (assuming preferential use)

**Source:**

Ricondo & Associates, Inc., August 2016

**Prepared by:**

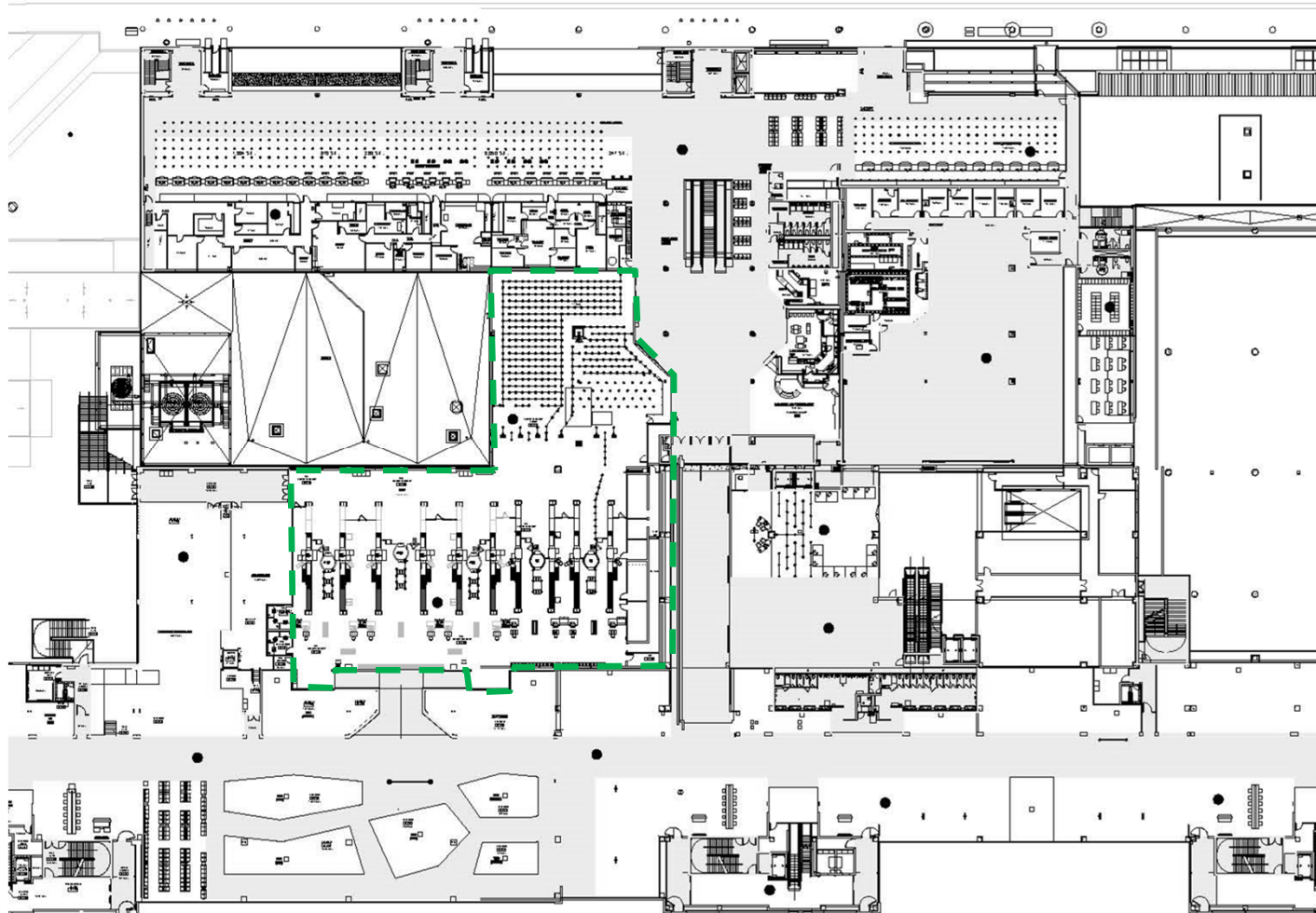
Ricondo & Associates, Inc., January 2017.

Adjusted Capacity Based on Template

Requirements Table (click)

## Gap Analysis

# Terminal 4 Level 2 – Security Screening



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 4 Security Screening Requirements



|   | UNITS      | BASELINE INVENTORY |                 |                 |
|---|------------|--------------------|-----------------|-----------------|
|   |            | 2016               | 2025            | 2035            |
| <b>Peak Hour Originating Passengers</b>                   | Passengers | -                  | 1,670           | 2,127           |
| <b>Peak Hour Security Screening Demand<sup>1/3/</sup></b> | Passengers | -                  | 1,041           | 1,444           |
| <b>Total Screening Lanes</b>                              |            |                    |                 |                 |
| Peak 10-minute Demand                                     | Passengers | -                  | 176             | 251             |
| Screening Lanes   | Lane       | 10                 | 6 <sup>3/</sup> | 9 <sup>3/</sup> |
| <b>TSA Standard Lanes</b>                                 |            |                    |                 |                 |
| Peak 10-minute Demand                                     | Passengers | -                  | 126             | 177             |
| Standard Lanes  | Lane       | -                  | 5               | 7               |
| Projected Max Wait Time <sup>2/</sup>                     | minutes    | -                  | 12              | 3               |
| <b>TSA Pre✓ Screening Lanes</b>                           |            |                    |                 |                 |
| Peak 10-minute Demand                                     | Passengers | -                  | 51              | 76              |
| Pre✓ Lanes  | lane       | -                  | 1               | 2               |
| Projected Max Wait Time <sup>2/</sup>                     | minutes    | -                  | 4               | < 1             |

**Notes:**

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ Includes all international arrivals as transfers to departing flights at T3 or T4.

2/ Indicates the maximum average wait time recorded during any one 10-minute period

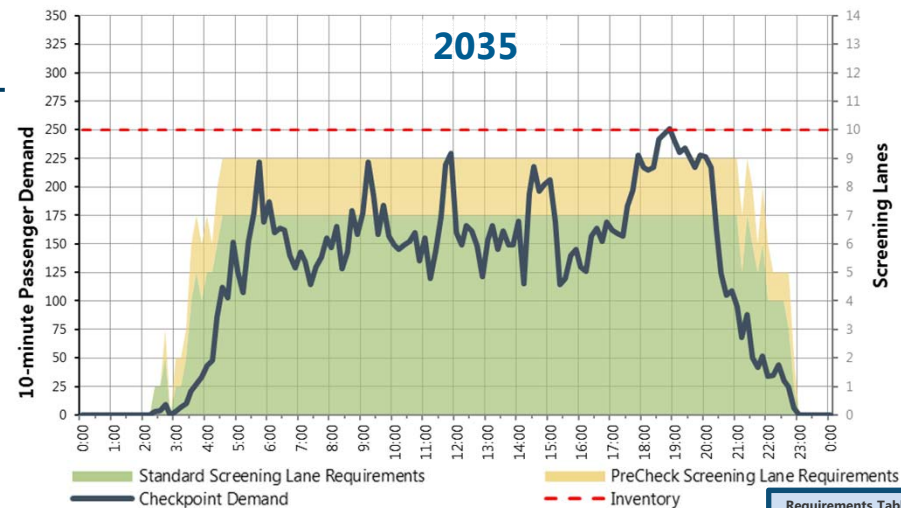
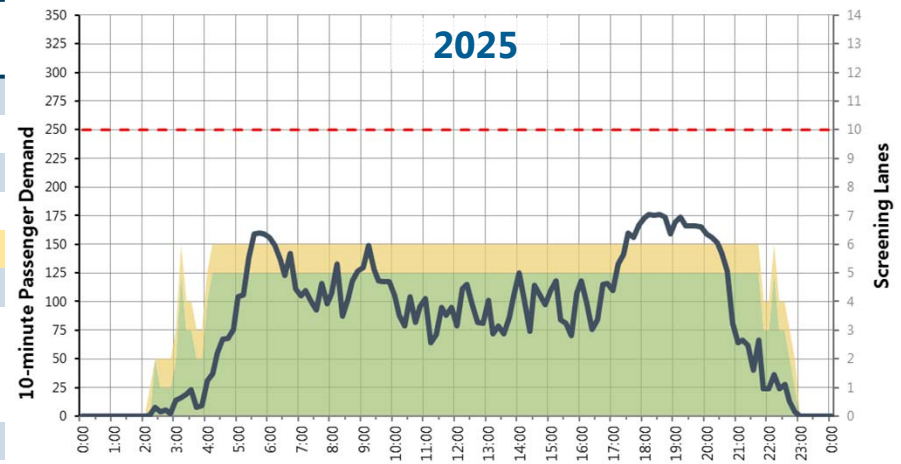
3/ Security screening requirements assumes a consolidated checkpoint

**Source:**

Ricondo & Associates, Inc., August 2016

**Prepared by:**

Ricondo & Associates, Inc., January 2017.

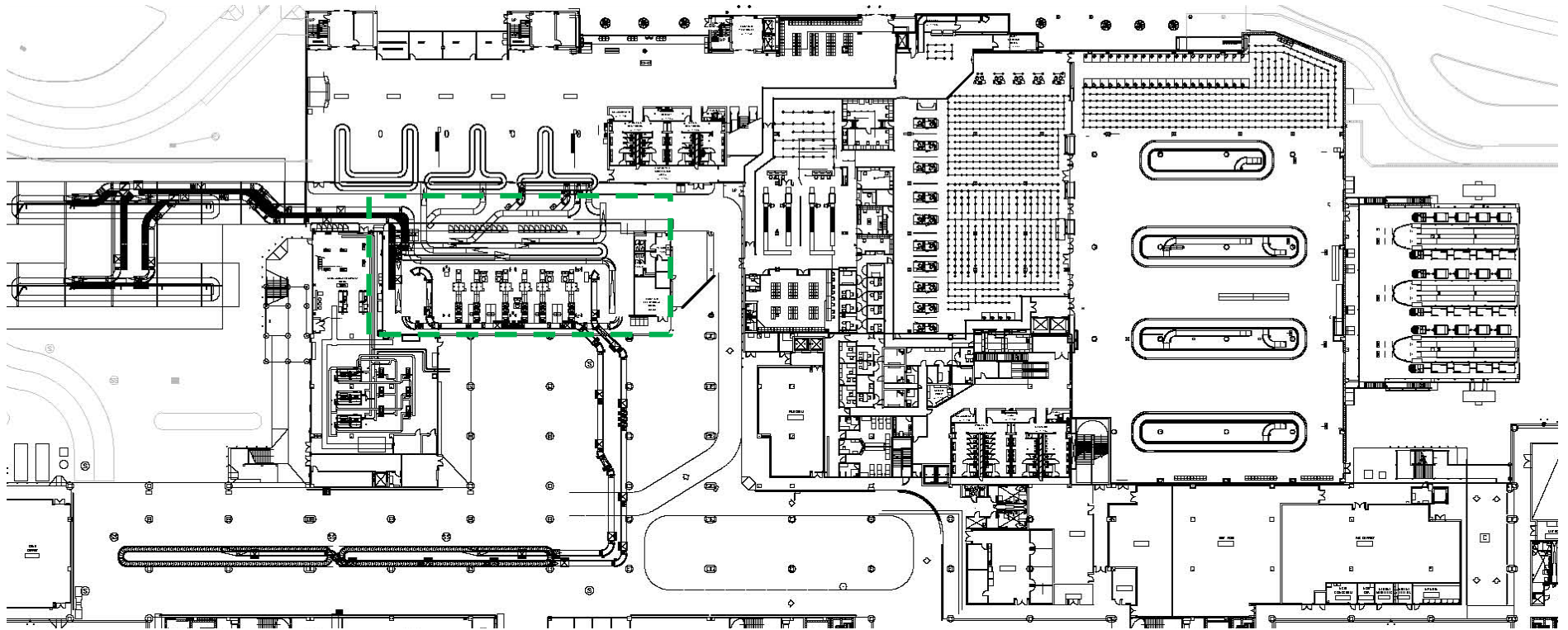


Requirements Table (link)



## Gap Analysis

# Terminal 4 Level 1 – Baggage Screening



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., August 2016

[Requirements Table](#) (link)

## Gap Analysis

# Terminal 4 Baggage Screening Requirements



|  | UNITS          | BASELINE INVENTORY 2016 | REQUIREMENTS |      |
|--|----------------|-------------------------|--------------|------|
|  |                |                         | 2025         | 2035 |
| Peak Hour Bag Induction <sup>3/</sup>            | bags           | -                       | 630          | 860  |
| Bag Screening Device Throughput <sup>1/</sup>    | bags/hr/device | 674                     | -            | -    |
| Bag Screening Device Requirement <sup>1/2/</sup> | devices        | 6                       | 3            | 3    |

$$SF = \frac{x + 2\sqrt{x}}{x}$$

where:  
SF = Surge Factor, and  
x = 10-minute baggage flow.

$$N_{OSR} = \frac{\text{Surged Peak 10 Minute Flow} \times 6}{\text{Throughput}_{EDS}}$$

where:  
 $N_{OSR}$  = Number of EDS machines, and  
 $\text{Throughput}_{EDS}$  = Number of EDS screened bags per hour (see Chapter 3).

### Notes:

**Requirements Table:** Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

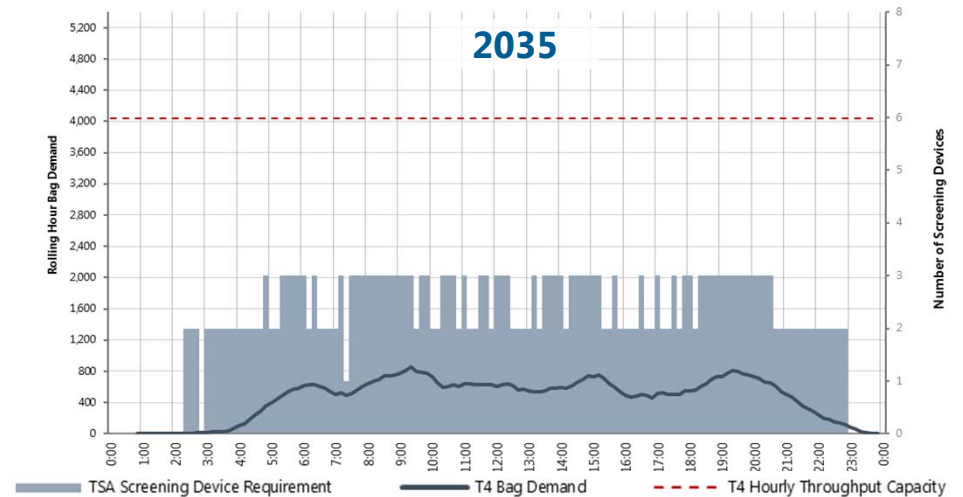
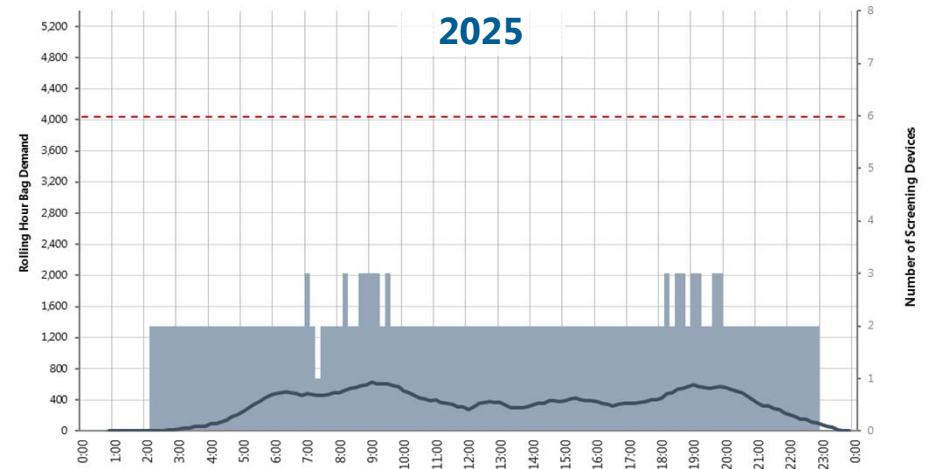
- 1/ Inventory and average hourly throughput per e-mail from Doug Notman, TSA Stakeholder Liaison Manager (8/12/2016)
- 2/ Requirements are based on TSA planning guidelines for checked baggage inspection systems which include surge factor n+1. n+1 requirement does not distinguish between various types of bag screening devices.
- 3/ Assumes induction of transfer bags from T4 international arrivals (excluding AD, B6 and DY)

### Source:

TSA. Planning Guidelines and Design Standards for Checked Baggage Inspection Systems. Pages 6-1-6-2. November 27, 2009. Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.



Assumptions Requirements Table (link)

# Terminal 4 – Early Bag Storage



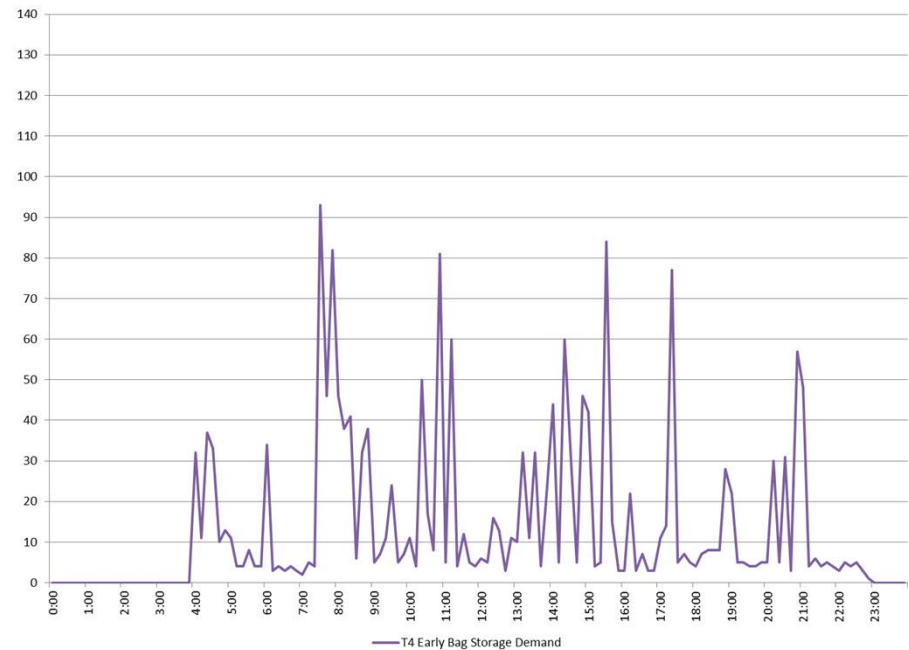
○ **Assumptions**

- Passengers can drop off checked baggage upon arriving at the Terminal and completing the ticketing process
- Passengers with checked bags assumptions shown on slide 20
- Checked bags are held in an early bag storage facility until 180 minutes prior to scheduled time of departure
- At 180 minutes bags are released to bag make-up carousels
- Requirement based on 52.4 MAP (2035) planning activity level.

○ **Requirements**

- Terminal 4 early bag storage room should be able to accommodate approximately 95 checked bags during peak periods
- Size of early bag storage room not defined solely by this requirement

**Terminal 4**  
52.4 MAP (2035)



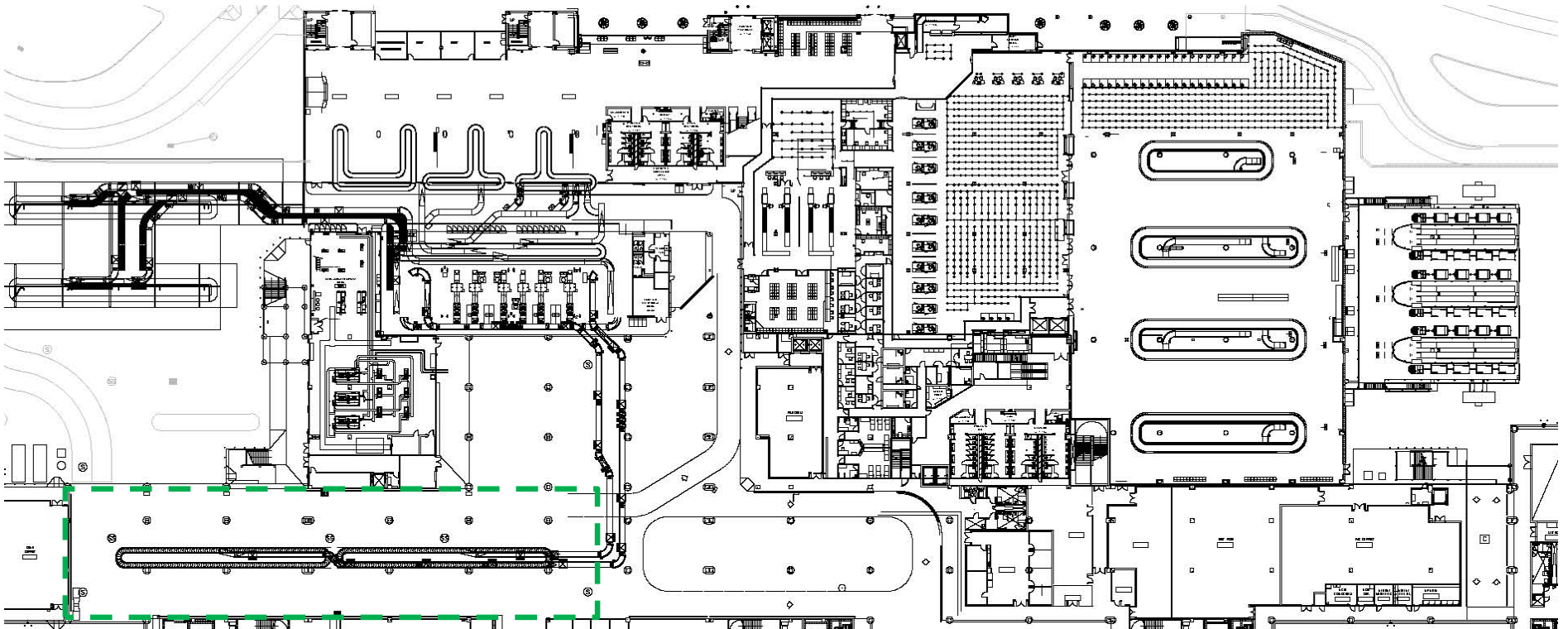
**Source:**  
Ricondo & Associates, Inc., January 2017.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

Requirements Table (link)



## Gap Analysis

# Terminal 4 Level 1 – Outbound Make-up



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

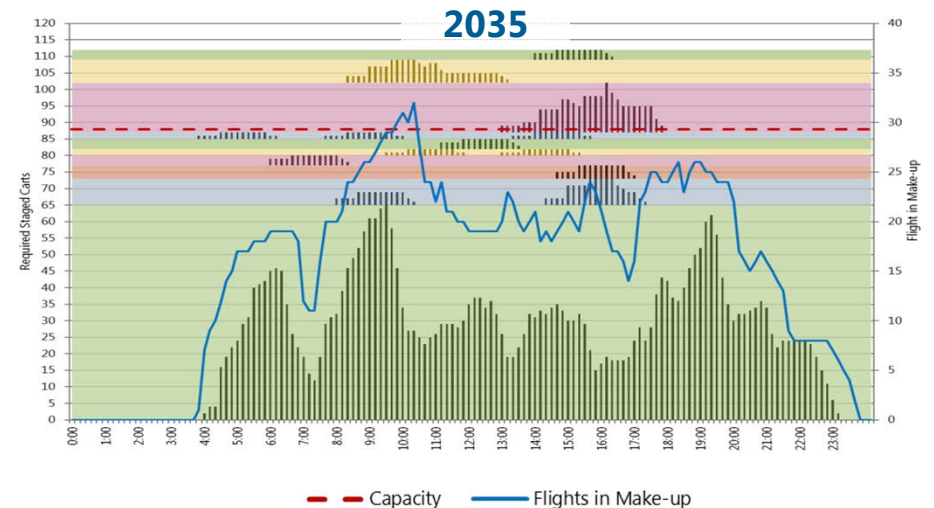
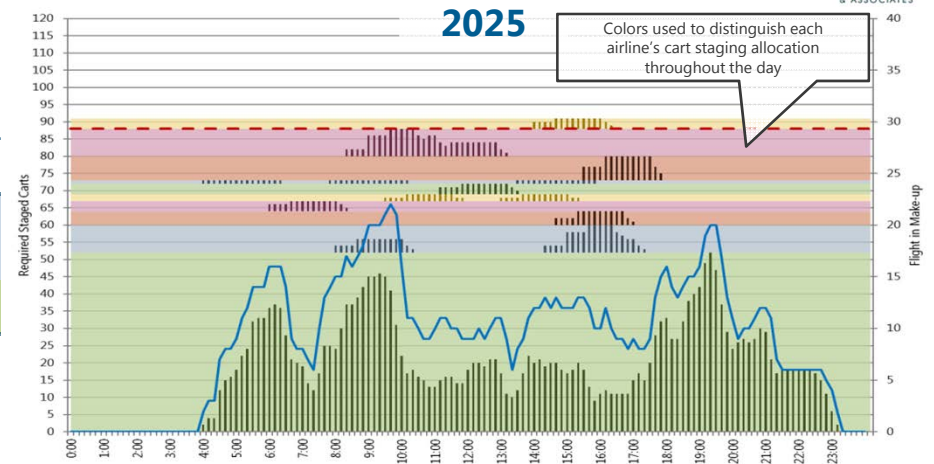
[Requirements Table](#) (link)

## Gap Analysis

# Terminal 4 Outbound Bag Make-up Requirements



|                                   |            | REQUIREMENTS <sup>1/2/3/</sup> |           |        |           |        |
|-----------------------------------|------------|--------------------------------|-----------|--------|-----------|--------|
|                                   |            | BASELINE INVENTORY             | 2025      |        | 2035      |        |
| UNITS                             |            | 2016                           | PREFERRED | SHARED | PREFERRED | SHARED |
| Peak 10-minute Flights in Make-Up | operations | -                              | 22        |        | 32        |        |
| Staged Carts                      | carts      | 88                             | 91        | 52     | 112       | 72     |



### Notes:

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

- 1/ Bag make-up requirements based on airline exclusive use.
- 2/ Vertical bars identify the periods during which an airline actively stages carts
- 3/ Shaded areas identify an airline's total daily cart staging allocation (assuming preferential use)

### Source:

Ricondo & Associates, Inc., August 2016

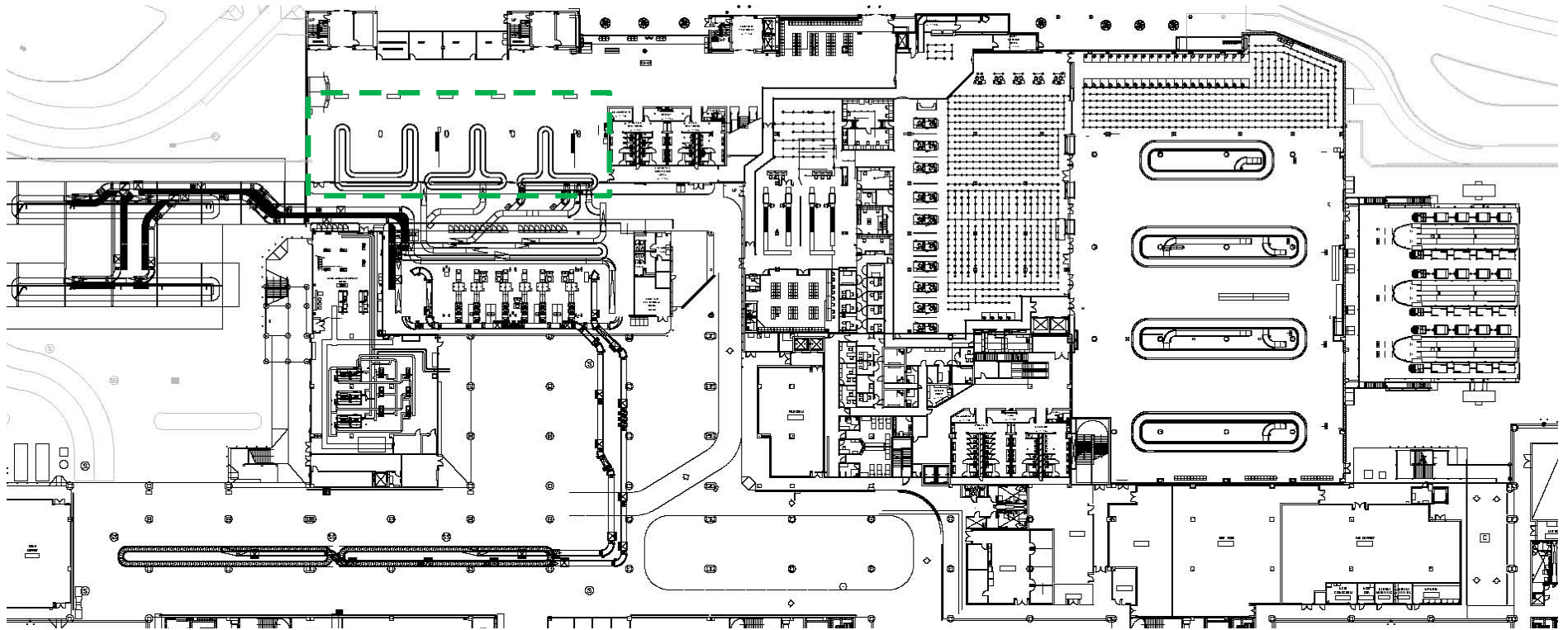
### Prepared by:

Ricondo & Associates, Inc., January 2017.

Requirements Table (link)

## Gap Analysis

# Terminal 4 Level 1 – Domestic Bag Claim



**Source:**  
Ricondo & Associates, Inc., August 2016.  
**Prepared by:**  
Ricondo & Associates, Inc., January 2017.

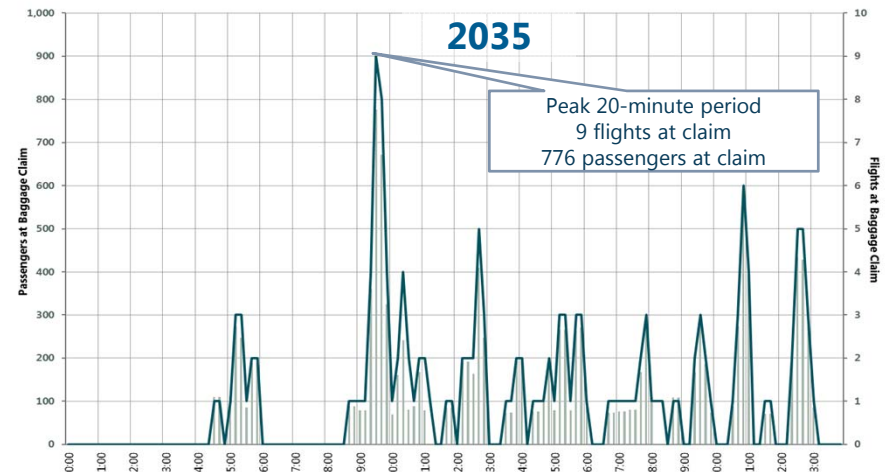
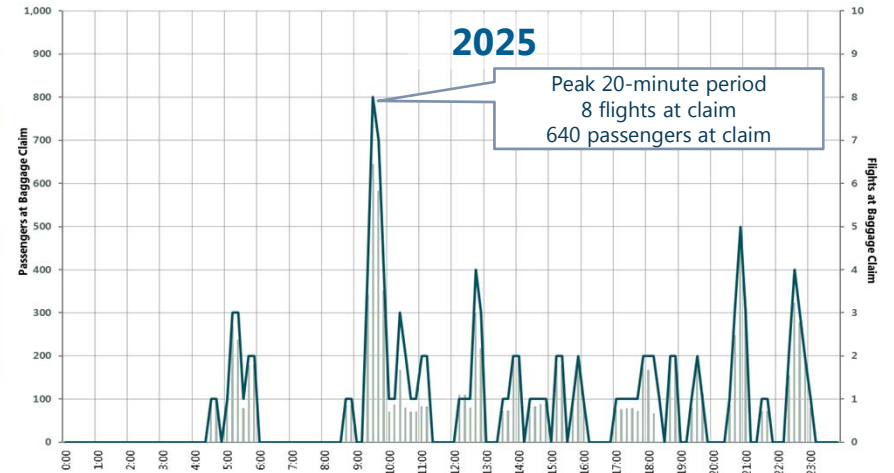
[Requirements Table](#) (link)

## Gap Analysis

# Terminal 4 Domestic Bag Claim Demand Activity



|                              | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>1/2/</sup> |        |
|------------------------------|------------|-------------------------|------------------------------|--------|
|                              |            |                         | 2025                         | 2035   |
| <b>Peak 20-Minute Demand</b> |            |                         |                              |        |
| Flights at Claim             | flights    | -                       | 8                            | 9      |
| Passengers at Claim          | passengers | -                       | 640                          | 776    |
| <b>Carousels</b>             |            |                         |                              |        |
| Bag Claim                    | devices    | 3                       | 6                            | 6      |
| Passenger Capacity           | passengers | 370                     | 640                          | 776    |
| Retrieval Area               | sq ft      | 6,700                   | 11,610                       | 13,970 |



Passenger Demand
  Aggregate Flights at Baggage Claim
 Requirements Table (click)

### 2025 Flights at Claim:

6x NK A320  
1x NK A321  
1x NK A319

### 2035 Flights at Claim

8x NK A320  
1x NK A321

### Notes:

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ Capacity and requirements assume 18 square feet per passenger.

2/ Assumes flights will not be split between two devices.

### Source:

Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.

## Gap Analysis

# Terminal 4 Domestic Bag Claim Demand Activity



|                              | UNITS      | BASELINE INVENTORY 2016 | REQUIREMENTS <sup>1/2/3/</sup> |        |
|------------------------------|------------|-------------------------|--------------------------------|--------|
|                              |            |                         | 2025                           | 2035   |
| <b>Peak 20-Minute Demand</b> |            |                         |                                |        |
| Flights at Claim             | flights    | -                       | 8                              | 9      |
| Passengers at Claim          | passengers | -                       | 640                            | 776    |
| <b>Baggage Claim Devices</b> |            |                         |                                |        |
| Carousels                    | devices    | 3                       | 6                              | 6      |
| Passenger Capacity           | passengers | 370                     | 640                            | 776    |
| Retrieval Area               | sq ft      | 6,700                   | 11,610                         | 13,970 |

### 2025 Flights at Claim:

6x NK A320  
1x NK A321  
1x NK A319

### 2035 Flights at Claim

8x NK A320  
1x NK A321

### Notes:

Requirements Table: Green shading indicates areas where capacity meets requirements, red shading indicates areas where requirements exceed capacity, yellow shading indicates areas where requirements are at capacity or requirements could be met with low investment.

1/ Capacity and requirements assume 18 square feet per passenger.

2/ Assumes flights will not be split between two devices.

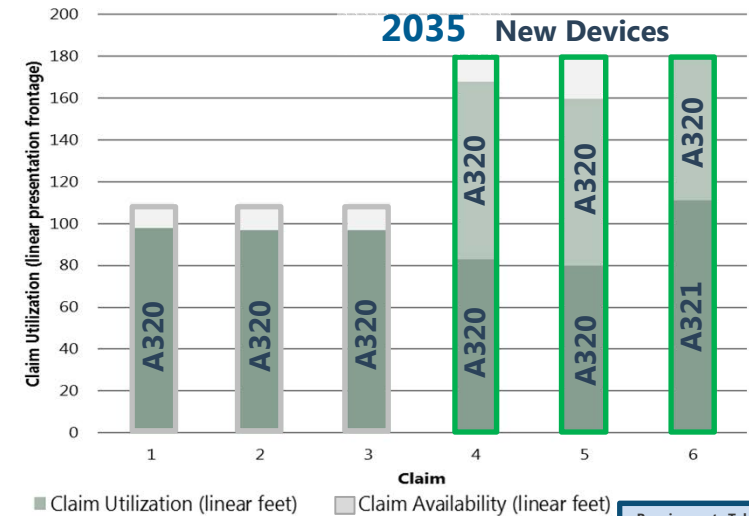
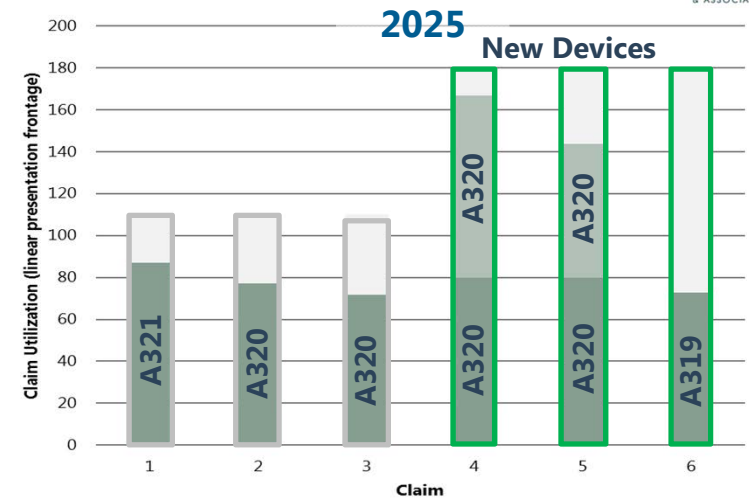
3/ Each flight represents specific load factors and O&D factors.

### Source:

Ricondo & Associates, Inc., August 2016

### Prepared by:

Ricondo & Associates, Inc., January 2017.



[Requirements Table](#) (link)

