



Embrace What's Next



Master Plan 2050 Stakeholder Meeting

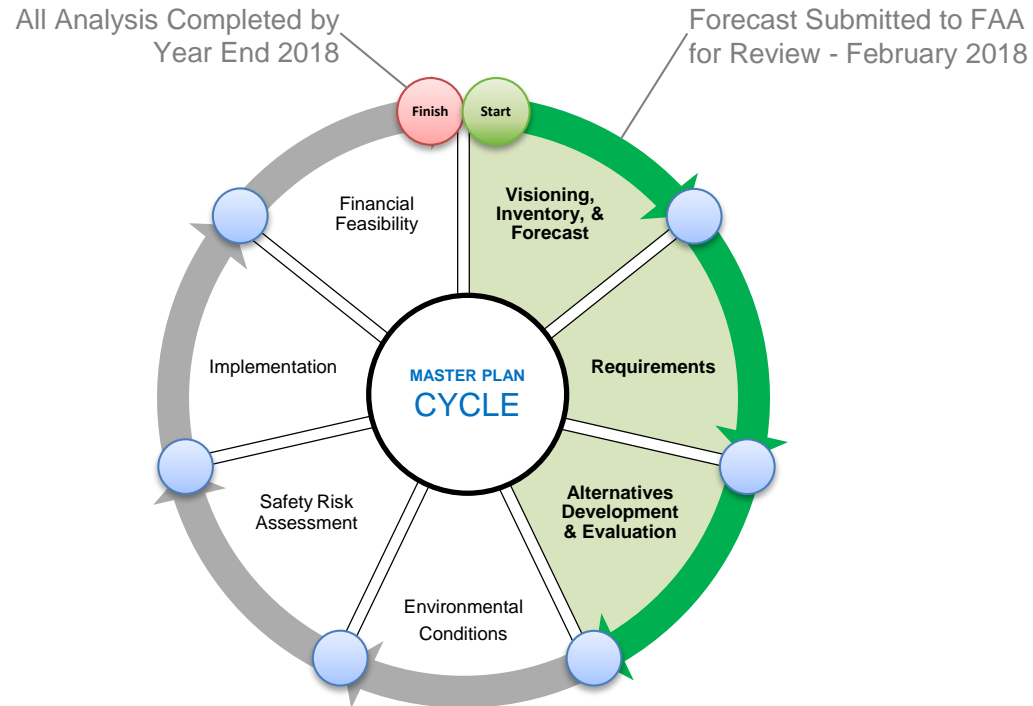
May 22, 2018

Draft for Internal Discussion Only



- Master Plan Progress To Date
- Aviation Activity Forecast Summary
- Passenger Concourse Concepts & Level 1 Evaluation

Master Plan Schedule



Progress To Date

| Completed | Underway | Upcoming |
|---|--|--|
| <ul style="list-style-type: none">• Master Plan Website• Master Plan Goals & Objectives• Draft Inventory of Existing Conditions• Draft Aviation Forecast | <ul style="list-style-type: none">• Edits to Inventory of Existing Conditions• FAA Review of Forecast• Demand/Capacity Facility Requirements• Alternatives Analysis & Level 1 Evaluation• Financial Feasibility Model/Plan | <ul style="list-style-type: none">• Airline Engagement• Public Meeting #1 (Early Summer)• Alternatives Analysis & Level 2/3 Evaluation• Implementation Plan• Financial Feasibility |





Embrace What's Next



Aviation Activity Forecast Summary
Draft Results



Purpose of The Forecast

The forecasts were developed as part of the Master Plan Update as a basis for determining future facility requirements at the Airport. The forecasts represent market-driven demand for air services. The forecasts are unconstrained, and as such, do not take facility constraints or other limiting factors into consideration. In other words, for the purposes of estimated future demand, the forecasts assume facilities can be provided to meet demand.

If the Airport's forecast is used for FAA decision-making, such as approval of the master plan, the FAA requires that the Airport's forecast be consistent with the most recent TAF (Terminal Area Forecast) or be separately approved for use in the master planning process.



Historical Activity Trends



Historical Connecting Passengers

32.1%

originating passengers
in 2006

93%

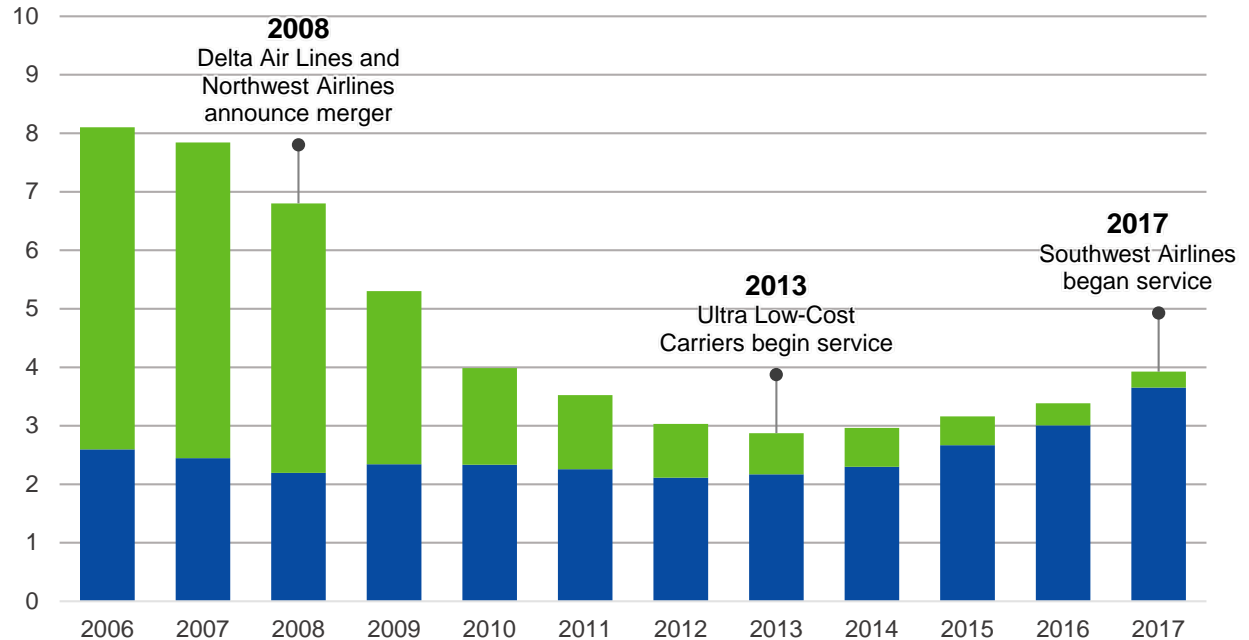
originating passengers
in 2017

+1,480,900

originating passengers
since 2013

Enplaned Passengers (in millions)

■ Connecting ■ Originating



Source: Kenton County Airport Board.

Historical Cargo Trends

+14.0%

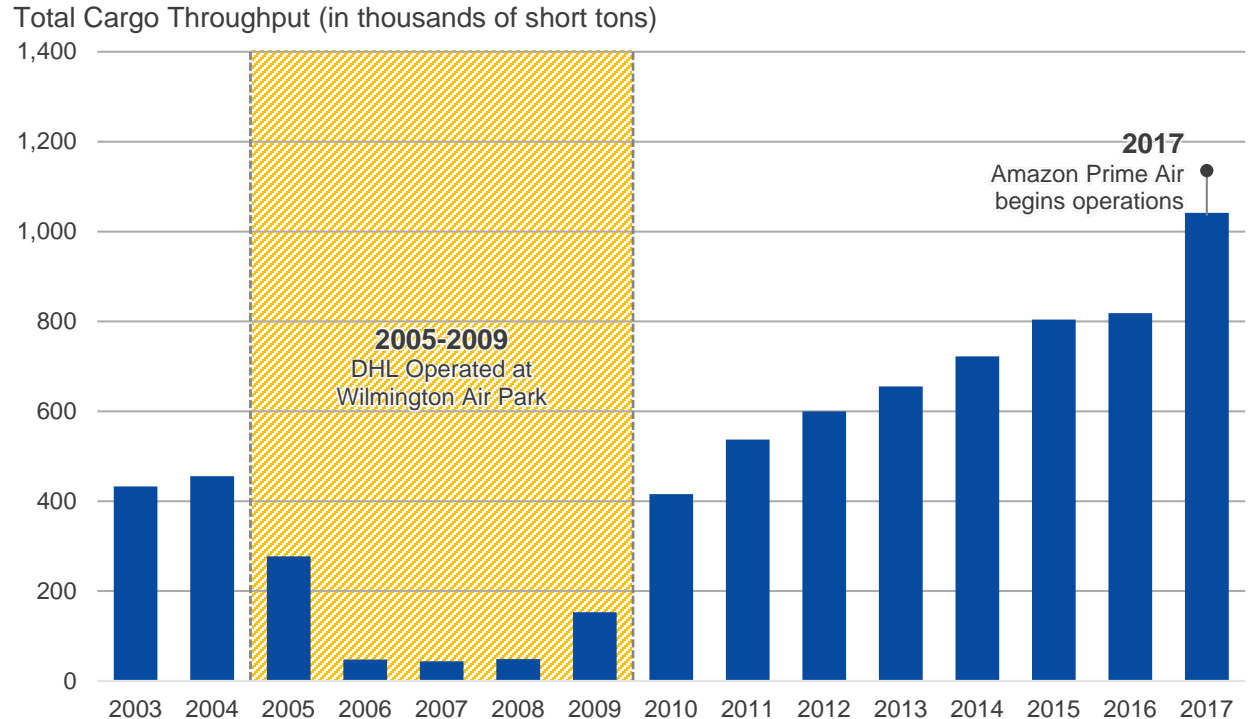
average annual growth
since 2010¹

DHL has accounted for

90.8%

of cargo throughput
since 2010

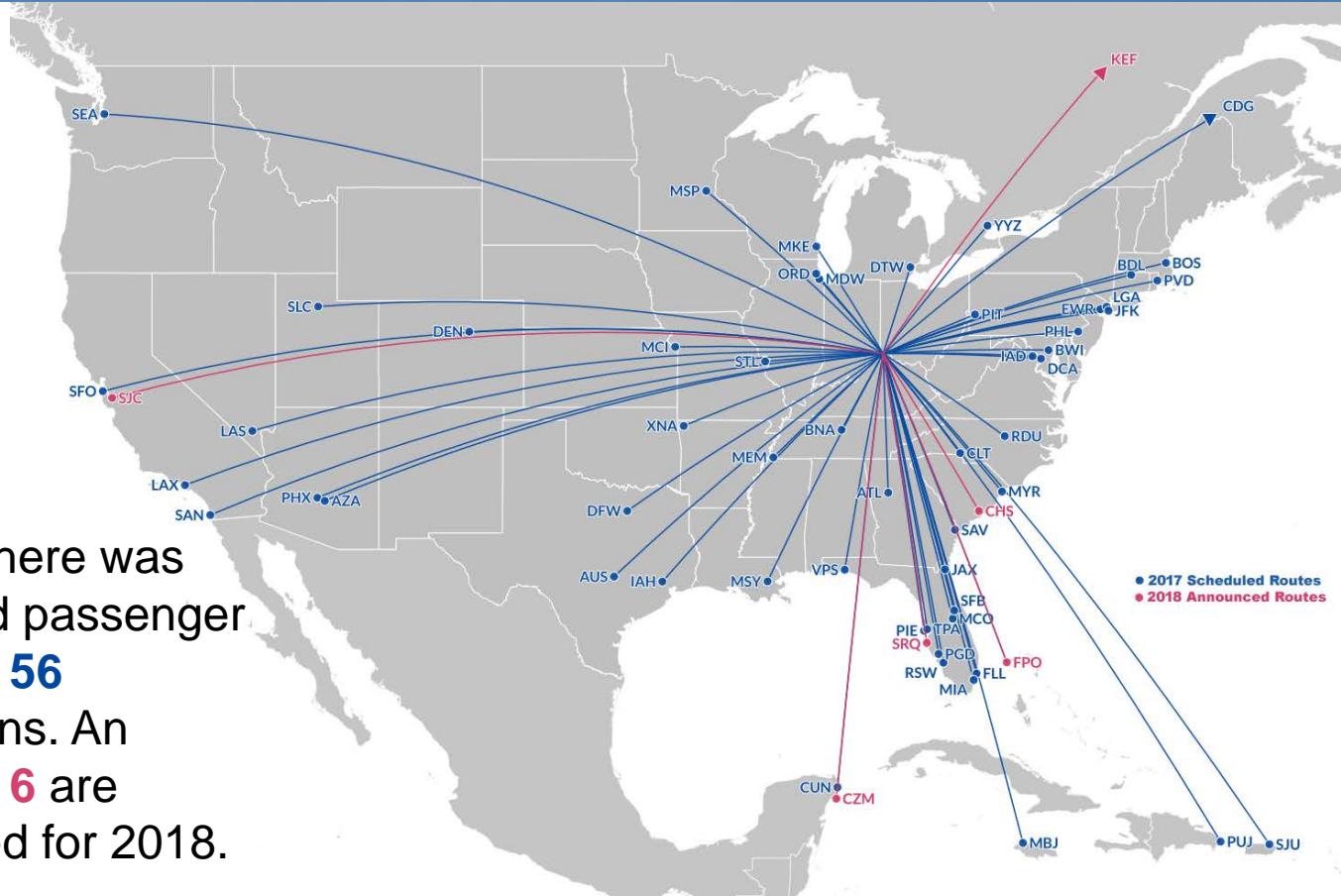
¹ 2010 was first full year for DHL at CVG since
returning from Wilmington Air Park.



Source: Kenton County Airport Board.

Non-Stop Passenger Destinations

In 2017, there was scheduled passenger service to **56** destinations. An additional **6** are announced for 2018.



Historical Total Aircraft Operations Trend

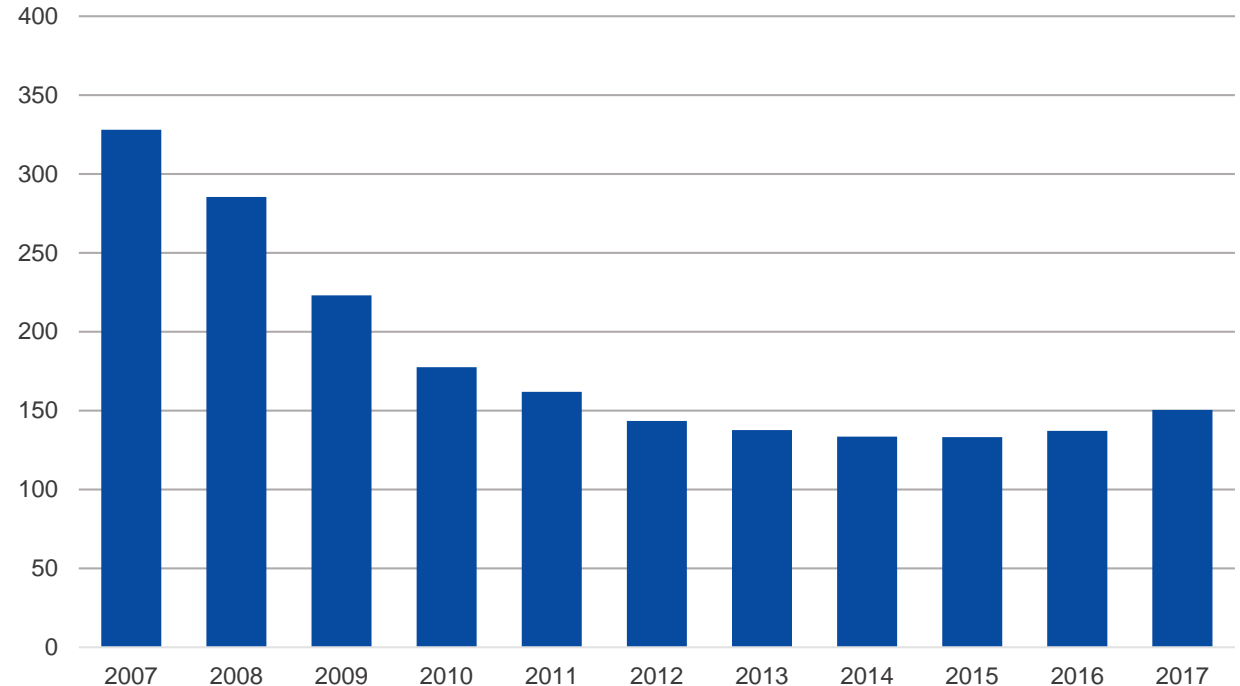
328,056

aircraft operations
in 2007

150,463

aircraft operations
in 2017

Total Aircraft Operations (in thousands)



Sources: Kenton County Airport Board.

Forecasts



Short-Term Forecast 2018-23 Methodology

- Based on a supply side, or bottom-up, approach.
- Assumptions per airline group are provided below:

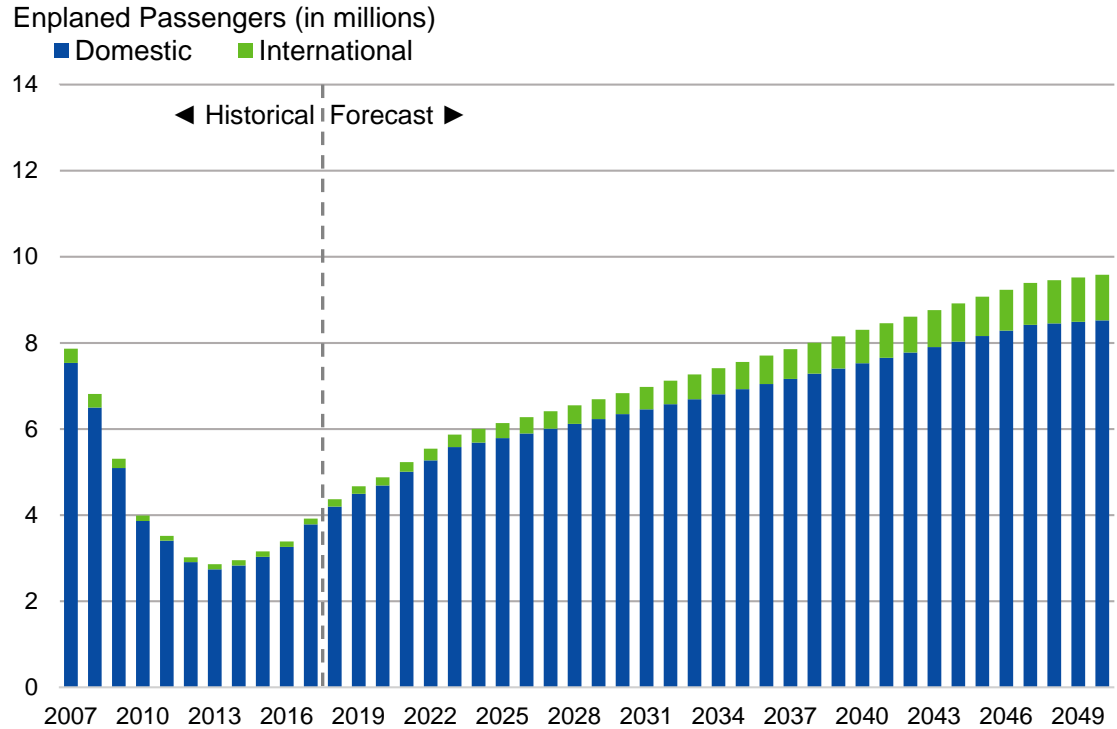
| Legacy Network Carriers | Low-Cost Carriers | Ultra Low-Cost Carriers | International Carriers |
|---|--|---|--|
| <ul style="list-style-type: none">• Modest increases to existing markets with growth focused on hub flying• New entrant to begin service within short-term timeframe | <ul style="list-style-type: none">• Consistent growth to markets within existing networks• New entrant to begin service within short-term timeframe | <ul style="list-style-type: none">• Significant growth in short-term with additional service to markets within existing ULCC networks and addition of new markets | <ul style="list-style-type: none">• WOW Air will begin service in 2018.• LCC and ULCC growth into Caribbean markets within short-term timeframe• New entrants to begin service within short-term timeframe |

Long-Term Forecast 2024-50 Summary

Domestic Enplaned
Passengers
8.5 million
in 2050

International Enplaned
Passengers
1.1 million
in 2050

Total Enplaned
Passengers
9.6 million
in 2050



Cargo Throughput Forecast Summary

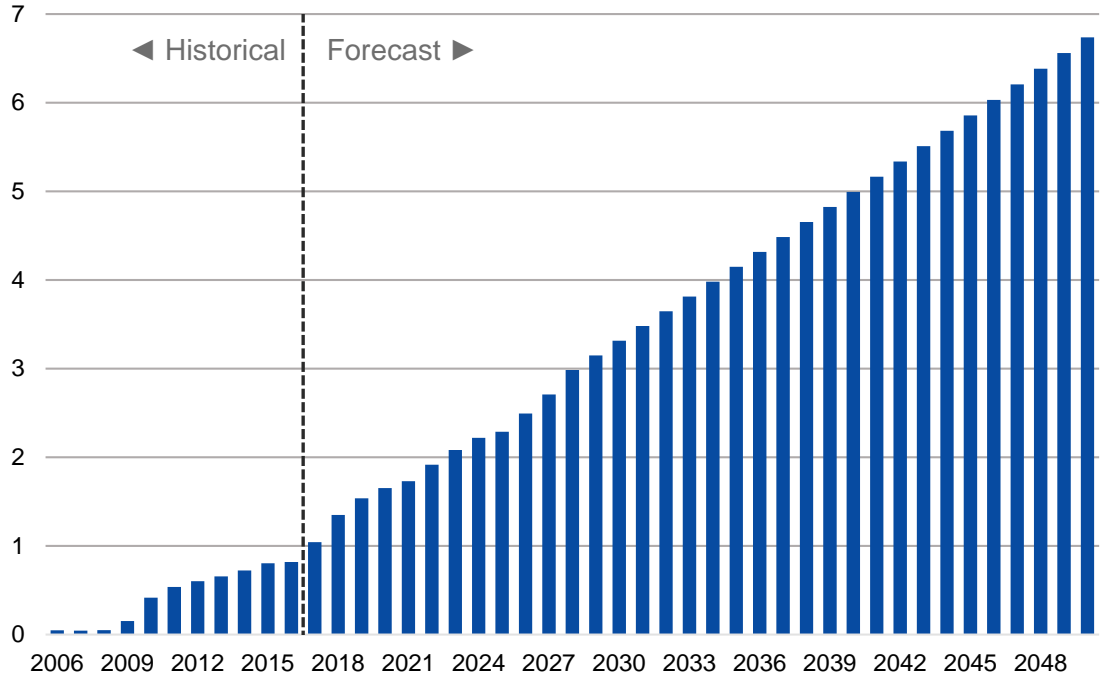
1.1 Million

tons in 2017

6.7 Million

tons in 2050

Cargo Throughput (in millions of tons)



Passenger Aircraft Operations Forecast

Domestic Passenger Aircraft
Operations

182,520

in 2050

International Passenger Aircraft
Operations

17,860

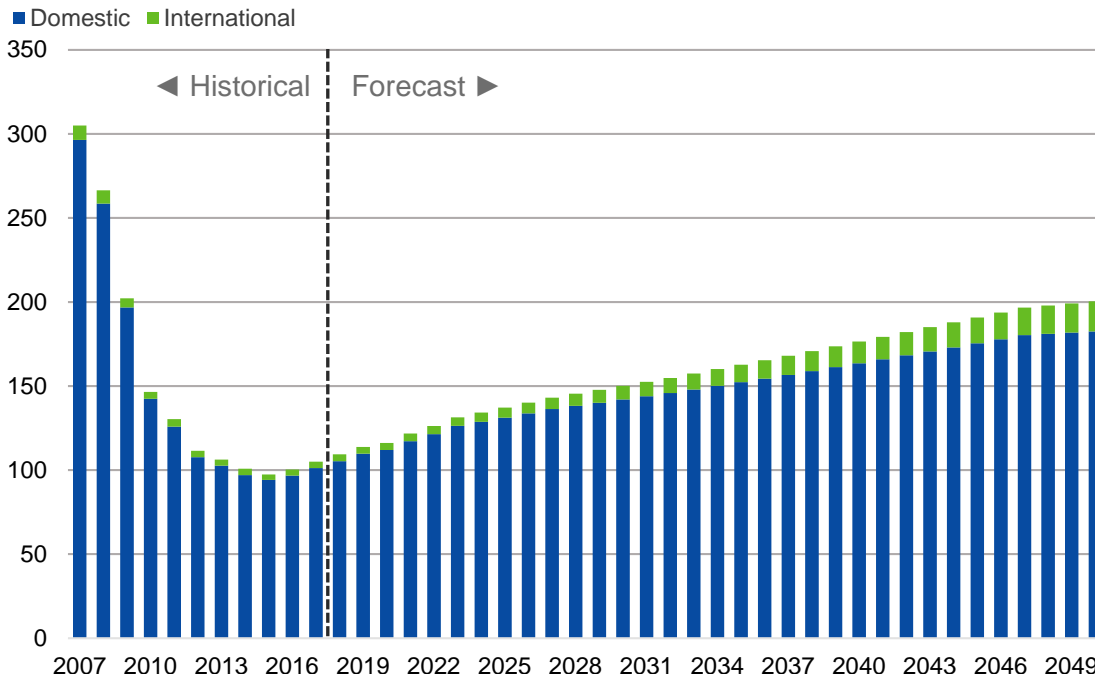
in 2050

Total Passenger Aircraft
Operations

200,380

in 2050

Aircraft Operations (in thousands)



Passenger Aircraft Fleet Mix

| | Departures | | | | | | |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | 2016 | 2017 | 2022 | 2027 | 2032 | 2037 | 2050 |
| Domestic Passenger | | | | | | | |
| Air Carrier | 11,233 | 16,875 | 29,510 | 34,330 | 36,180 | 38,390 | 43,930 |
| Widebody | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Narrowbody | 11,233 | 16,875 | 29,510 | 34,330 | 36,180 | 38,390 | 43,930 |
| Commuter | 37,140 | 33,702 | 31,160 | 33,820 | 36,730 | 39,920 | 47,330 |
| Large Regional | 20,069 | 21,966 | 28,459 | 31,846 | 35,305 | 38,589 | 46,082 |
| Small Regional | 17,071 | 11,736 | 2,701 | 1,974 | 1,425 | 1,331 | 1,248 |
| Total Domestic Passenger | 48,373 | 50,577 | 60,670 | 68,150 | 72,910 | 78,310 | 91,260 |

| | | | | | | | |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| International Passenger | | | | | | | |
| Air Carrier | 442 | 471 | 1,076 | 1,610 | 2,130 | 2,790 | 4,550 |
| Widebody | 337 | 329 | 667 | 953 | 1,214 | 1,320 | 1,474 |
| Narrowbody | 105 | 142 | 409 | 657 | 916 | 1,470 | 3,076 |
| Commuter | 1,351 | 1,441 | 1,387 | 1,800 | 2,370 | 2,920 | 4,380 |
| Large Regional | 0 | 5 | 1,387 | 1,800 | 2,370 | 2,920 | 4,380 |
| Small Regional | 1,351 | 1,436 | 0 | 0 | 0 | 0 | 0 |
| Total International Passenger | 1,793 | 1,912 | 2,463 | 3,410 | 4,500 | 5,710 | 8,930 |

| | | | | | | | |
|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| Total Passenger | 50,166 | 52,489 | 63,133 | 71,560 | 77,410 | 84,020 | 100,190 |
|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|

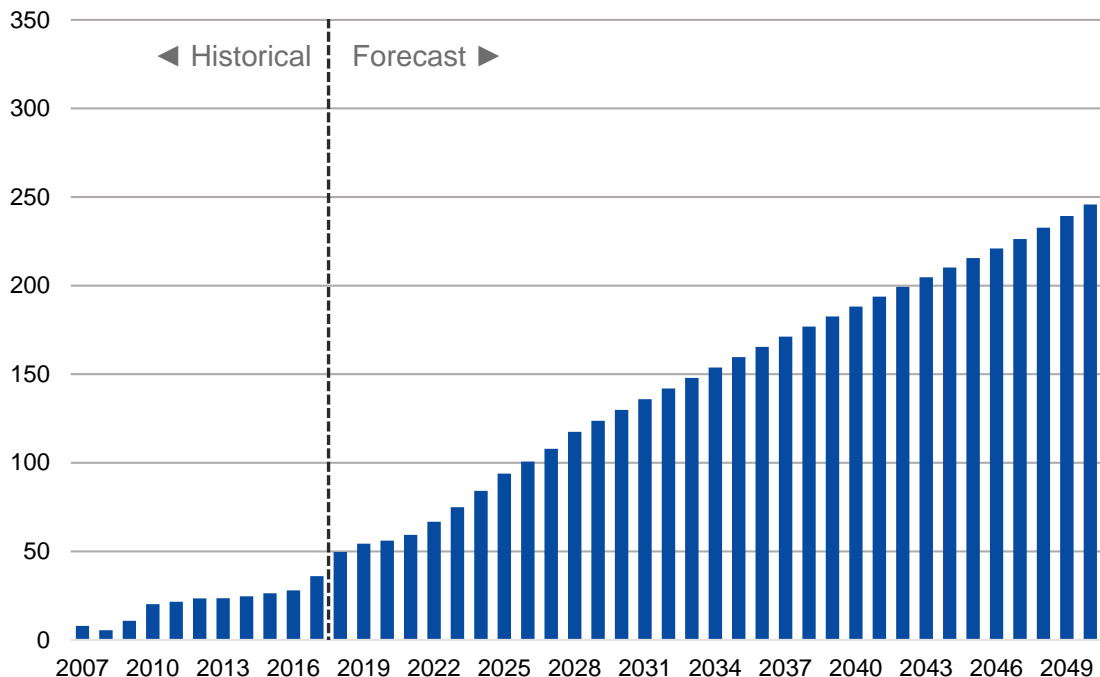
Freighter Aircraft Operations Forecast

Freighter Aircraft Operations

245,840

in 2050

Aircraft Operations (in thousands)



Freighter Aircraft Fleet Mix

| | Departures | | | | | | |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| | 2016 | 2017 | 2022 | 2027 | 2032 | 2037 | 2050 |
| Cargo Freighter | | | | | | | |
| Air Carrier | 12,482 | 16,253 | 31,250 | 51,435 | 68,035 | 82,260 | 118,380 |
| Widebody | 9,734 | 13,055 | 27,200 | 37,275 | 49,345 | 59,950 | 85,770 |
| Narrowbody | 2,748 | 3,198 | 4,050 | 14,160 | 18,690 | 22,310 | 32,610 |
| Commuter | 1,503 | 1,749 | 2,120 | 2,500 | 2,920 | 3,340 | 4,540 |
| Large Regional | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Small Regional | 1,503 | 1,749 | 2,120 | 2,500 | 2,920 | 3,340 | 4,540 |
| Total Freighters | 13,985 | 18,002 | 33,370 | 53,935 | 70,955 | 85,600 | 122,920 |

Aircraft Operations Forecast Summary Chart

Passenger Aircraft Operations

200,380

in 2050

Cargo Aircraft Operations

245,840

in 2050

Other Aircraft Operations

12,850

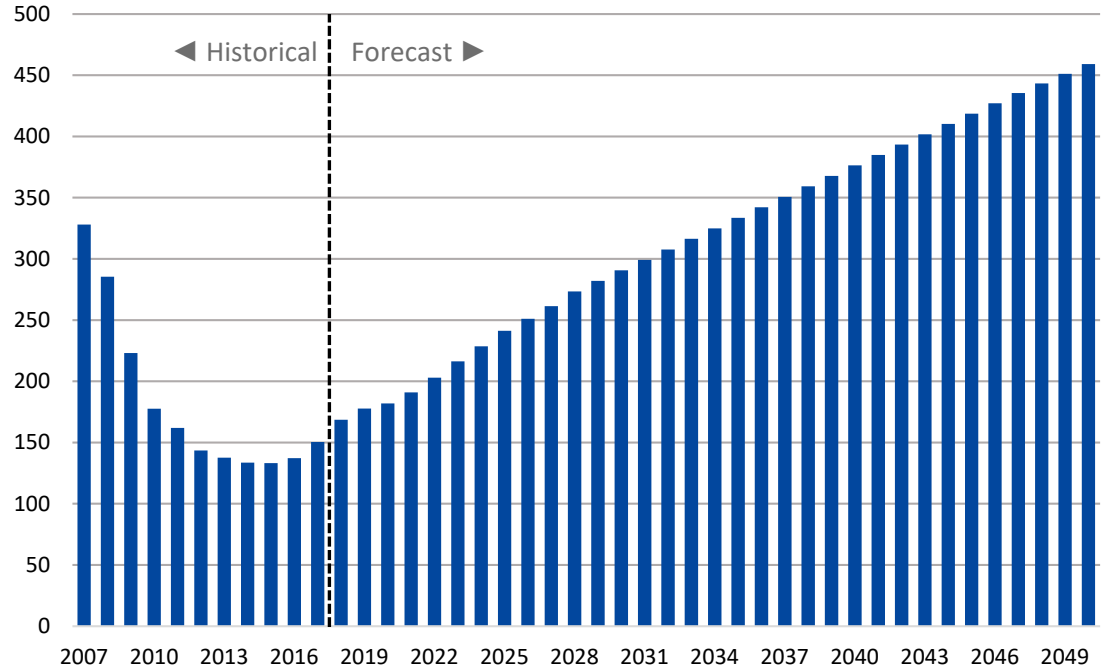
in 2050

Total Aircraft Operations

459,070

in 2050

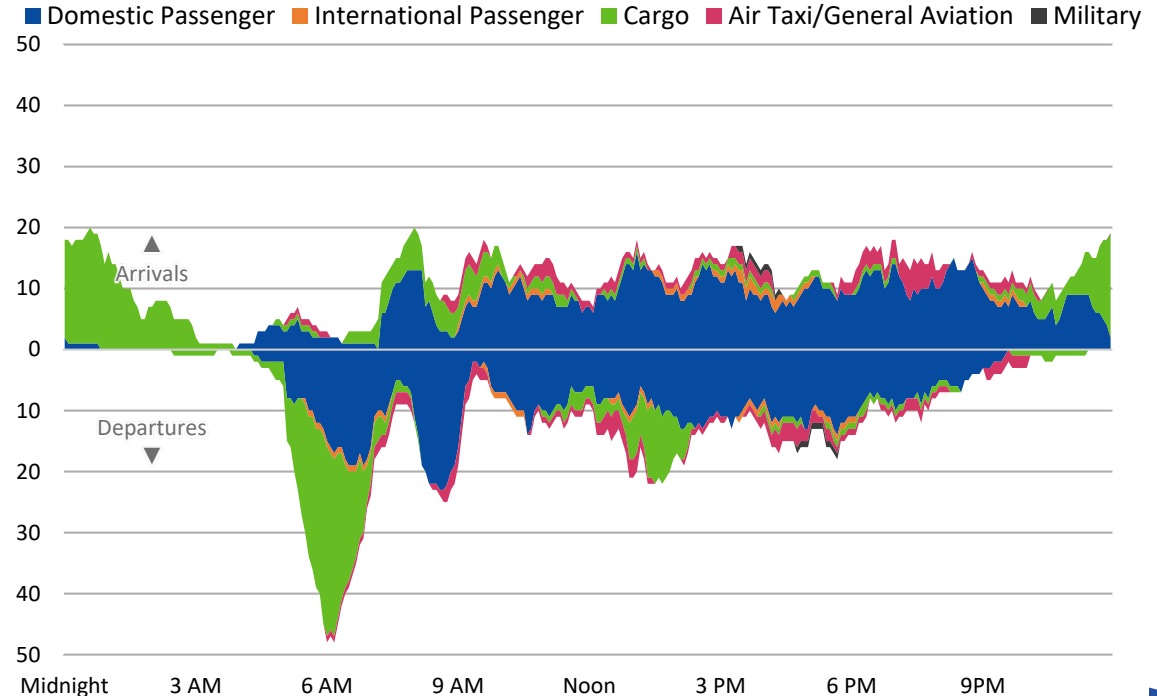
Aircraft Operations (in thousands)



Peak Hour Aircraft Operations – 2017 Design Day

- The overall peak for aircraft operations are dependent on freighter operations as the arrival peak occurs just past midnight and the departure peak is during the first morning departure peak.

Hourly Aircraft Operations Throughput



Note: Rolling 60-minute hour.

Peak Hour Operations Forecast

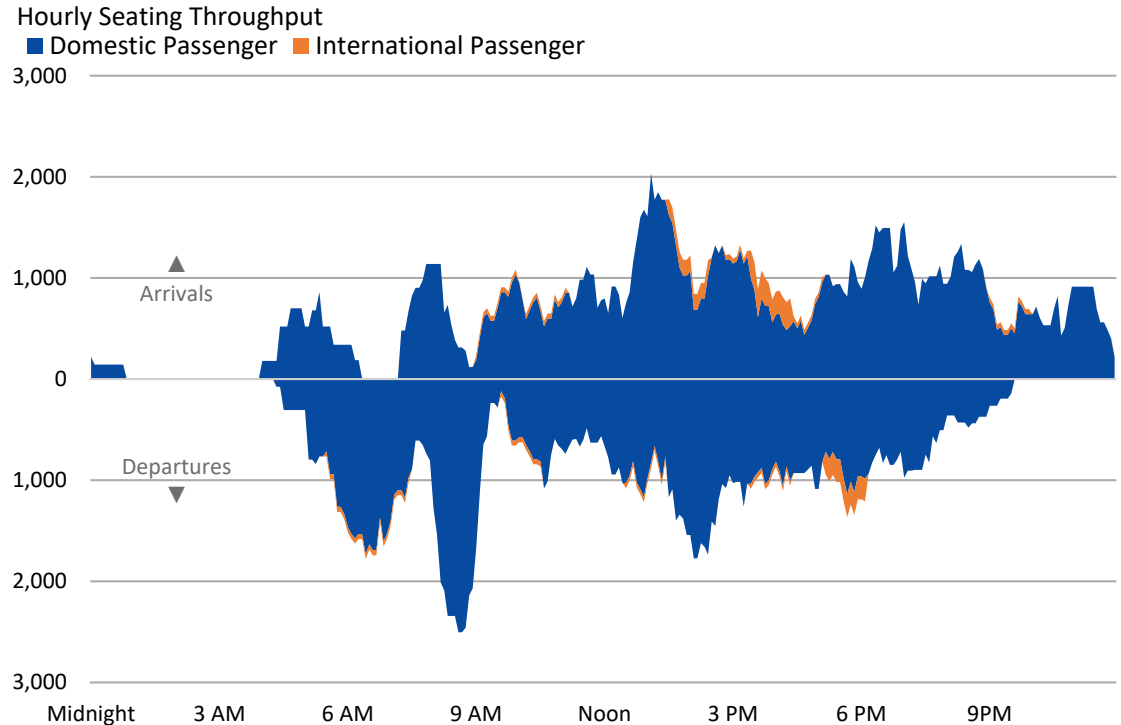
| Segment | Level | 2017 | 2022 | 2027 | 2032 | 2037 | 2050 |
|-------------------------|-----------------------|---------|---------|---------|---------|---------|---------|
| Domestic Passenger | Annual Operations | 101,154 | 121,340 | 136,300 | 145,820 | 156,620 | 182,520 |
| | Peak Month Operations | 9,154 | 10,980 | 12,330 | 13,200 | 14,170 | 16,520 |
| | Design Day Operations | 330 | 390 | 438 | 469 | 503 | 587 |
| | Peak Hour Arrivals | 16 | 16 | 19 | 21 | 23 | 27 |
| | Peak Hour Departures | 23 | 23 | 26 | 28 | 30 | 35 |
| | Peak Hour Operations | 32 | 35 | 39 | 42 | 45 | 53 |
| International Passenger | Annual Operations | 3,824 | 4,930 | 6,820 | 9,000 | 11,420 | 17,860 |
| | Peak Month Operations | 386 | 500 | 690 | 910 | 1,150 | 1,800 |
| | Design Day Operations | 13 | 18 | 26 | 34 | 43 | 68 |
| | Peak Hour Arrivals | 2 | 3 | 3 | 3 | 3 | 5 |
| | Peak Hour Departures | 1 | 2 | 2 | 3 | 4 | 6 |
| | Peak Hour Operations | 3 | 4 | 5 | 6 | 7 | 11 |
| Total Passenger | Annual Operations | 104,978 | 126,270 | 143,120 | 154,820 | 168,040 | 200,380 |
| | Peak Month Operations | 9,540 | 11,480 | 13,020 | 14,110 | 15,320 | 18,320 |
| | Design Day Operations | 343 | 408 | 464 | 503 | 546 | 655 |
| | Peak Hour Arrivals | 16 | 16 | 20 | 22 | 24 | 29 |
| | Peak Hour Departures | 23 | 23 | 27 | 29 | 31 | 37 |
| | Peak Hour Operations | 32 | 35 | 40 | 43 | 47 | 56 |

Peak Hour Operations Forecast

| Segment | Level | 2017 | 2022 | 2027 | 2032 | 2037 | 2050 |
|-------------------------------|-----------------------|---------|---------|---------|---------|---------|---------|
| Cargo | Annual Operations | 36,004 | 66,740 | 107,870 | 141,910 | 171,200 | 245,840 |
| | Peak Month Operations | 3,924 | 6,967 | 10,570 | 13,651 | 16,410 | 23,484 |
| | Design Day Operations | 154 | 235 | 352 | 454 | 546 | 778 |
| | Peak Hour Arrivals | 21 | 36 | 50 | 65 | 77 | 111 |
| | Peak Hour Departures | 25 | 35 | 49 | 63 | 76 | 109 |
| | Peak Hour Operations | 28 | 37 | 51 | 66 | 79 | 113 |
| Air Taxi/ General Aviation | Annual Operations | 9,349 | 9,800 | 10,260 | 10,760 | 11,260 | 12,720 |
| | Peak Month Operations | 825 | 860 | 910 | 950 | 990 | 1,120 |
| | Design Day Operations | 43 | 45 | 47 | 50 | 52 | 58 |
| | Peak Hour Arrivals | 5 | 5 | 5 | 5 | 5 | 6 |
| | Peak Hour Departures | 4 | 4 | 4 | 4 | 5 | 6 |
| | Peak Hour Operations | 7 | 8 | 8 | 8 | 8 | 9 |
| Military | Annual Operations | 132 | 130 | 130 | 130 | 130 | 130 |
| | Peak Month Operations | 10 | 10 | 10 | 10 | 10 | 10 |
| | Design Day Operations | 2 | 2 | 2 | 2 | 2 | 2 |
| | Peak Hour Arrivals | 1 | 1 | 1 | 1 | 1 | 1 |
| | Peak Hour Departures | 1 | 1 | 1 | 1 | 1 | 1 |
| | Peak Hour Operations | 1 | 1 | 1 | 1 | 1 | 1 |
| Total | Annual Operations | 150,463 | 202,940 | 261,380 | 307,620 | 350,630 | 459,070 |
| | Peak Month Operations | 14,299 | 19,317 | 24,510 | 28,721 | 32,730 | 42,934 |
| | Design Day Operations | 542 | 690 | 861 | 1,508 | 1,145 | 2,143 |
| | Peak Hour Arrivals | 22 | 39 | 52 | 67 | 80 | 110 |
| | Peak Hour Departures | 41 | 52 | 66 | 81 | 97 | 131 |
| | Peak Hour Operations | 46 | 56 | 71 | 87 | 102 | 136 |

Peak Hour Seats – 2017 Design Day

- In 2017, the peak for departing seats occurs during second morning departure push while the arrival peak occurs during the midday.



Note: Rolling 60-minute hour.

Peak Hour Passenger Forecast

| Segment | Level | 2017 | 2022 | 2027 | 2032 | 2037 | 2050 |
|-------------------------|-----------------------|-----------|------------|------------|------------|------------|------------|
| Domestic Passenger | Annual Passengers | 7,570,313 | 10,543,200 | 12,014,580 | 13,150,280 | 14,329,360 | 17,047,280 |
| | Peak Month Passengers | 749,808 | 1,044,260 | 1,189,800 | 1,302,790 | 1,419,580 | 1,688,320 |
| | Design Day Passengers | 26,560 | 36,560 | 41,600 | 45,620 | 49,690 | 59,110 |
| | Peak Hour Arriving | 1,680 | 1,802 | 2,114 | 2,297 | 2,473 | 2,961 |
| | Peak Hour Departing | 2,070 | 2,222 | 2,503 | 2,630 | 2,749 | 3,273 |
| | Peak Hour Passengers | 2,600 | 3,121 | 3,635 | 3,996 | 4,484 | 5,301 |
| International Passenger | Annual Passengers | 271,836 | 541,200 | 809,200 | 1,094,200 | 1,379,200 | 2,120,200 |
| | Peak Month Passengers | 31,585 | 53,880 | 80,370 | 108,600 | 136,340 | 209,960 |
| | Design Day Passengers | 1,150 | 2,074 | 3,240 | 4,340 | 5,450 | 8,480 |
| | Peak Hour Arriving | 290 | 465 | 482 | 504 | 528 | 866 |
| | Peak Hour Departing | 240 | 397 | 411 | 530 | 607 | 896 |
| | Peak Hour Passengers | 340 | 530 | 725 | 807 | 874 | 1,352 |
| Total Passenger | Annual Passengers | 7,842,149 | 11,084,400 | 12,823,780 | 14,244,480 | 15,708,560 | 19,167,480 |
| | Peak Month Passengers | 781,393 | 1,098,140 | 1,270,170 | 1,411,390 | 1,555,920 | 1,898,280 |
| | Design Day Passengers | 27,710 | 38,634 | 44,840 | 49,960 | 55,140 | 67,590 |
| | Peak Hour Arriving | 1,690 | 1,802 | 2,434 | 2,432 | 2,796 | 3,207 |
| | Peak Hour Departing | 2,080 | 2,222 | 2,503 | 2,899 | 2,947 | 3,519 |
| | Peak Hour Passengers | 2,620 | 3,211 | 4,104 | 4,400 | 5,335 | 5,793 |



Embrace What's Next



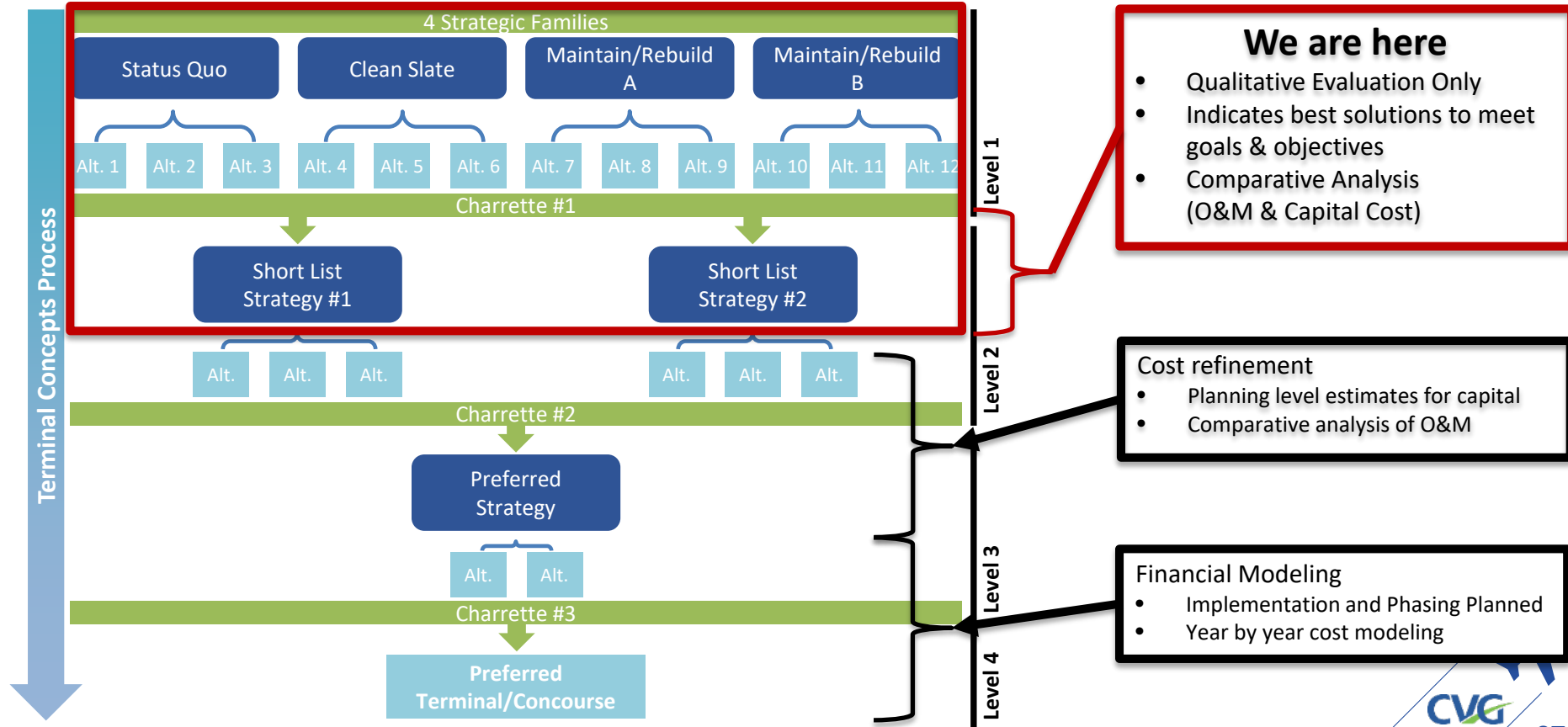
Passenger Concourse Concepts and
Level 1 Evaluation



Draft for Internal Discussion Only

Concourse Development Process

Draft for Internal Discussion Only



Gate Requirements



2013 Master Plan - Requirements

Draft for Internal Discussion Only

- 2013 Master Plan showed a need for 36-42 gate positions in 2035

| Multi-Carrier Scenario Year | PAL 1 2015 | PAL 2 2020 | PAL 3 2025 | PAL 4 2030 | PAL 5 2035 |
|--------------------------------|---------------|---------------|---------------|---------------|---------------|
| Annual Enplanements | 4.25M | 5.39M | 5.75M | 6.14M | 6.56M |
| ADPM Commercial Departures | 167 | 188 | 199 | 201 | 212 |
| Low Use - Turns per Gate | 4.3 | 4.8 | 4.9 | 5 | 5.1 |
| Gates Required | 39 | 40 | 41 | 41 | 42 |
| Annual Enplanements per Gate | 108,960 | 134,690 | 140,190 | 149,660 | 156,270 |
| Moderate Use - Turns per Gate | 5 | 5.5 | 5.7 | 5.8 | 6 |
| Gates Required | 34 | 35 | 35 | 35 | 36 |
| Annual Enplanements per Gate | 124,983 | 153,935 | 164,221 | 175,314 | 182,318 |
| Projected Use - Turns Per Gate | 4.3 | 4.9 | 5.3 | 5.7 | 6 |
| Gates Required | 39 | 39 | 38 | 36 | 36 |
| Annual Enplanements per Gate | 108,960 | 138,150 | 151,260 | 170,440 | 182,320 |

MP 2050 Forecast
2037 =
48-58 gates



Gate Requirements

Draft for Internal Discussion Only

- Minimum gate requirements based on 100% common use
- Maximum gate requirements based on preferential use (min 3 turns/day)
- Exclusive and preferential gates will increase the requirement
- Gating analysis will refine requirement

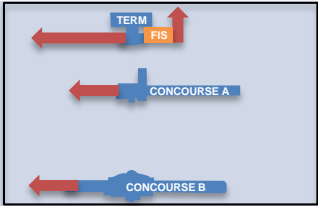
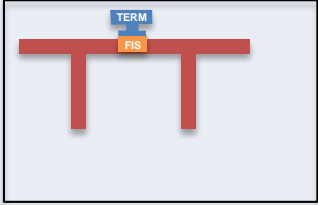
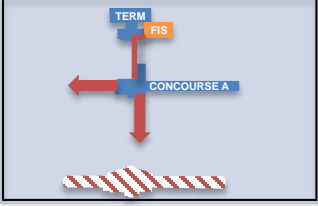
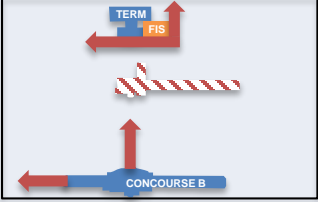
| | Existing Gates | Gate Requirements | | | | |
|---------|----------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| | | 2017 Gates | PAL 1 (2022) Gates | PAL 2 (2027) Gates | PAL 3 (2037) Gates | PAL 4 (2050) Gates |
| Minimum | 51 | 32 | 38 | 42 | 48 | 57 |
| Maximum | | 38 | 48 | 51 | 58 | 69 |

Evaluation of Concepts



Gating Concept Families

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| Families | | APM Connection | FIS Relocation |
|--|---|------------------|---|
| Family 1: Status Quo – Keep A & B |  | Requires APM | Limited Area at Main Terminal to Relocate Int'l Gates |
| Family 2: Clean Slate – Close A & B |  | APM Not Required | Enables New FIS Facility |
| Family 3: Maintain/Rebuild A – Close B |  | APM Not Required | Requires New FIS Facility |
| Family 4: Maintain/Rebuild B – Close A |  | Requires APM | Enables New FIS Facility |



Evaluation Criteria and Descriptions

| AIRSIDE | | |
|----------------|----------------------------------|--|
| A | Airside Circulation / Operations | Does the configuration of the concourse(s) maintain or improve the taxiing of aircraft from east to west without creating significant numbers of gates that have independent pushback operations? |
| TERMINAL | | |
| B | Passenger Journey | The configuration of the concourse(s) minimizes the number of level changes and the potential unassisted walking distance required for passengers to flow from the main terminal to their gate and from their gate to the main terminal. |
| C | APM Needed | Does the concourse configuration eliminate the need for an APM (train/people-mover)? |
| D | Baggage Operations | Does the concourse configuration allow for the implementation of a simplified baggage handling system with consolidated baggage screening? |
| E | International Passenger Arrivals | Does the concourse configuration allow for international arriving passengers to exit the Customs and Border Protection facility directly to the landside without having to be rescreened? |
| F | Future Flexibility | Does the concourse configuration support both future hubbing operations and flexibility O&D operations and airline gate allocations? |
| IMPLEMENTATION | | |
| G | Impact to Existing Facilities | Does the concourse configuration limit the impact to existing non-passenger related structures. |
| H | Infrastructure Re-Use | Does the concourse configuration reduce the need to construct new facilities by providing the ability to re-use existing concourse/gate infrastructure? |
| I | Phasing | Is it feasible to phase the construction of the concourse configuration in a way that limits the impacts to existing gate operations and does not require the construction of temporary gates? |
| J | Project "Off-Ramps" | Allows for incremental facility expansion that provides for flexibility in modifying the plan at project milestones. The ultimate configuration is able to be modified over time to adjust to changing conditions at the airport. |