Master Plan Update
Sacramento International Airport
May 2016
The focus of today’s discussion

- Background
- Review of forecast demand and planning activity levels
- Review of key requirements
- Key functional area approach / alternatives
  - Airfield: attainable range analysis
  - Terminal: long-term terminal configurations and facility connections
  - Parking and rental cars: optimal siting / new garage
  - Ground transportation: curbside and roadway improvements
- Summary and preliminary conclusions
The Master Plan:
- Follows FAA Advisory Circular No. 150/5070-6A
- Identifies near-term projects and provides long-term on-Airport general land-use guidance
- Provides a vehicle for community participation in airport planning (through a Stakeholder Advisory Committee)
- The goal is to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts

The Master Plan does not:
- Focus on detailed plans for individual projects
- Include every project the Airport might propose in the 20-year planning horizon
- Approve specific projects
- Consider flight paths
Planning Activity Levels

Demand forecasts are in sync with actual activity...

- Three planning activity levels (PALs) were identified to represent future levels of activity at which key Airport improvements will be necessary.

- PALs allow facilities planning to be realistically tied to milestone activity levels as they occur, rather than to arbitrary years.

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Enplaned passengers</td>
<td>4,816,440</td>
<td>4,917,900</td>
<td>5,768,800</td>
<td>8,585,100</td>
</tr>
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</table>
**Summary of Key Requirements***

*The airport is well positioned to accommodate forecast demand*

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Terminal A gates</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Terminal B gates</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Parking spaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public (high/low)</td>
<td>-</td>
<td>-</td>
<td>1,300-2,000</td>
<td>8,000-9,500</td>
</tr>
<tr>
<td>Holiday / overflow (high / low)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3,800-7,700</td>
</tr>
<tr>
<td>Employee</td>
<td>-</td>
<td>-</td>
<td>65</td>
<td>700</td>
</tr>
<tr>
<td>Rental car areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ready return facility</td>
<td>-</td>
<td>-</td>
<td>13,000</td>
<td>167,000</td>
</tr>
<tr>
<td>Quick turnaround area</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>8</td>
</tr>
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</table>

*Minor improvements to baggage claim, make-up, curbsides, and roadway lanes will be needed throughout the planning period.*
Summary of Alternatives

**Areas of focus are terminal, ground transportation / parking, and airfield**

- **Terminal**
  - Terminal Path 1: Existing terminal configuration
  - Terminal Path 2: Close Landside A
  - Terminal Path 3: Close Landside A and Airside A

- **Airfield**
  - Assessment of runway lengths needed for non-stop service to select European destinations

- **Parking**
  - Parking and rental cars 1: Economy lot stays, rental cars move to Garage B
  - Parking and rental cars 2: Economy lot stays, rental cars stay
  - Parking and rental cars 3: Economy lot moves, rental cars move
  - Parking and rental cars 4: Economy lot moves, rental cars stay
  - Parking and rental cars 5: Economy lot stays, rental cars move to Surface A

- **Ground Transportation**
  - Curbside 1: Curbside improvements assuming continued landside operations at both terminals
  - Curbside 2: Curbside improvements for Terminal B only
  - Inbound access 1: Widen entrance ramp
  - Outbound access 1: Widen ramp
  - Outbound access 2: Construct flyover
  - Outbound access 3: Relocate entrance, construct ramp, relocate frontage road

- **Air Cargo**
  - No additional space required

- **General Aviation**
  - Preserve first right of refusal area

- **Support Facilities and Commercial Development**
  - Most support facilities are suitably located
Airfield Analysis
Key Conclusions and Recommendations

Airfield is well equipped to handle forecast fleet mix, no capacity enhancement required...

- Runway system can accommodate the current forecast fleet mix throughout the planning period
Terminal Alternatives
Terminal Alternatives*

The analysis considers nine terminal development alternatives, which are derivatives of the three development paths.

- **Terminal Path 1: Existing terminal configuration**
  - 1a: Make incremental improvements to both facilities as required by demand
  - 1b: Path 1a with a pedestrian walkway that connects Terminal A to Terminal B
  - 1c: Path 1a with a pedestrian and moving walkway that connects Terminal A to Terminal B
  - 1d: Path 1b with conveyance carts operated by Airport staff

- **Terminal Path 2: Close Landside A**
  - 2a: Connect Concourse A to Terminal B via an APM and pedestrian walkway
  - 2b: Connect Concourse A to Terminal B via a pedestrian walkway and moving walkway, which includes a small fleet of conveyance carts operated by Airport staff
  - 2c: Connect Concourse A to Terminal B via a pedestrian walkway and conveyance carts operated by Airport staff.

- **Terminal Path 3: Close Landside A and Airside A**
  - 3a: Demolish Terminal A and Concourse A, and solely operate within Terminal B
  - 3b: Decommission and place into caretaker status Terminal A and Concourse A, and solely operate within Terminal B

*All terminal development alternatives are compatible with the light rail alignment identified during the last master plan.
Terminal Alternative 1a

Make incremental improvements to both facilities as required by demand (BAU alternative)
Terminal Alternative 1b

BAU with a pedestrian walkway that connects Terminal A to Terminal B
Terminal Alternative 1c

BAU with a pedestrian and moving walkway that connects Terminal A to Terminal B
Terminal Alternative 1d

Path 1b with conveyance carts operated by Airport staff
Terminal Alternative 2a

Connect Concourse A to Terminal B via an APM and pedestrian walkway
Terminal Alternative 2b

Connect Concourse A to Terminal B via a pedestrian walkway and moving walkway, which includes a small fleet of conveyance carts operated by Airport staff.
Terminal Alternative 2c

Connect Concourse A to Terminal B via a pedestrian walkway and conveyance carts operated by Airport staff
Terminal Alternative 3a

Demolish Terminal A and Concourse A, and solely operate within Terminal B
Terminal Alternative 3b

Decommission and place into caretaker status Terminal A and Concourse A, and solely operate within Terminal B.
Ground Transportation and Parking Alternatives

The following pages identify the ground transportation and parking alternatives, approach, and evaluation criteria.
Alternatives focus on answering two main questions:

1. Does the economy parking lot remain open on its existing site?
2. Do the rental cars stay on their existing site?

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Economy lot remains on existing site</th>
<th>Rental cars remain on existing site</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>3</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>4</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>✗</td>
</tr>
</tbody>
</table>
Alternative 1: Move Rental Cars to a New Garage, Maintain Economy Lot

- Quick turn around (QTA) site assumes vehicle storage is provided on a second level above the fuel/wash area (this area can typically be developed for a modest incremental cost).

6-Level Garage
- Rental Car Ready/Return (Level 1)
- Close-in (Levels 2-6)

- Employee
- QTA*
- Holiday Overflow
- Remote
- Close-in
- QTA
- Remote
- Employee

* Quick turn around (QTA) site assumes vehicle storage is provided on a second level above the fuel/wash area (this area can typically be developed for a modest incremental cost).
Alternative 2: Maintain Rental Car Site, Maintain Economy Lot

* Quick turn around (QTA) site assumes vehicle storage is provided on a second level above the fuel/wash area (this area can typically be developed for a modest incremental cost).
Alternative 3: Move Rental Cars into Garage, Redevelop Economy Lot

* Quick turn around (QTA) site assumes vehicle storage is provided on a second level above the fuel/wash area (this area can typically be developed for a modest incremental cost).

6-Level Garage
- Rental Car Ready/Return (Level 1)
- Close-in (Levels 2-6) – 7,500 spaces

6-Level Garage – Close-in – 4,500 spaces

Holiday Overflow

Remote

Employee

QTA*

* Employee

6-Level Garage

Rental Car Ready/Return (Level 1)

Close-in (Levels 2-6) – 7,500 spaces

Remote

Employee

QTA*

* Employee

6-Level Garage

Rental Car Ready/Return (Level 1)

Close-in (Levels 2-6) – 7,500 spaces
Alternative 4: Maintain Rental Car Site, Redevelop Economy Lot

* Quick turn around (QTA) site assumes vehicle storage is provided on a second level above the fuel/wash area (this area can typically be developed for a modest incremental cost).
Alternative 1: Move Rental Cars to a New Garage, Maintain Economy Lot

* Quick turn around (QTA) site assumes vehicle storage is provided on a second level above the fuel/wash area (this area can typically be developed for a modest incremental cost).
## Curbside Requirements

**Summary of curbside requirements for the existing terminal configuration (Terminal Path Alternative 1)**

<table>
<thead>
<tr>
<th></th>
<th>Existing capacity (LF)</th>
<th>PAL 3 requirement (LF)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TERMINAL A</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Inner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Departures</td>
<td>472</td>
<td>327</td>
</tr>
<tr>
<td>Arrivals</td>
<td>236</td>
<td>287</td>
</tr>
<tr>
<td>Central Island</td>
<td>740</td>
<td>420</td>
</tr>
<tr>
<td>West Curb</td>
<td>1,090</td>
<td>180</td>
</tr>
<tr>
<td><strong>TERMINAL B</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Departures</td>
<td>400</td>
<td>409</td>
</tr>
<tr>
<td>Arrivals – Inner</td>
<td>360</td>
<td>536</td>
</tr>
<tr>
<td>Arrivals – Commercial</td>
<td>470</td>
<td>330</td>
</tr>
<tr>
<td>East</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Departures</td>
<td>400</td>
<td>291</td>
</tr>
<tr>
<td>Arrivals – Inner</td>
<td>360</td>
<td>497</td>
</tr>
<tr>
<td>Arrivals – Commercial</td>
<td>470</td>
<td>420</td>
</tr>
</tbody>
</table>

Assumes double parking allowed for Terminal A inner, Terminal B departures, and Terminal B Arrivals inner

Source: LeighFisher, based on data provided by Airport staff, June 2013
## Curbside Requirements – Consolidate into Terminal B

*Summary of curbside requirements for Terminal Path Alternatives 2 and 3*

<table>
<thead>
<tr>
<th>TERMINAL B</th>
<th>Existing capacity (LF)</th>
<th>PAL 3 requirement (LF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Departures</td>
<td>400</td>
<td>409</td>
</tr>
<tr>
<td>Arrivals – Inner</td>
<td>360</td>
<td>536</td>
</tr>
<tr>
<td>Arrivals – Commercial</td>
<td>470</td>
<td>480</td>
</tr>
<tr>
<td>East</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Departures</td>
<td>400</td>
<td>618</td>
</tr>
<tr>
<td>Arrivals – Inner</td>
<td>360</td>
<td>784</td>
</tr>
<tr>
<td>Arrivals – Commercial</td>
<td>470</td>
<td>360</td>
</tr>
</tbody>
</table>

*Note:* Assumes existing Terminal A airlines will use the East curbside
Departures Curbside Alternatives

- If Terminal A landside functions remain, no action is necessary for Departures curbsides

- If landside functions consolidate to Terminal B
  - Alternative 1: encourage drivers to drop off passengers on lower level during morning peaks
  - Alternative 2: construct parallel departures curbsides
Terminal B Arrivals Curbside Existing Conditions

- Hotel/Motel
- Taxis
- Door-to-door van
- Limousines

Southwest Airlines arrivals

Other Terminal B airline arrivals

- Special events
- Parking shuttles
- Inter-terminal shuttle
- Rental car shuttle
- Public transit
Arrivals Curbside Alternative – Terminal A Continues Operation

- Reserve for light-rail station
- Widen outer curbside to 4-lanes; convert to public curbside
- Convert to public curbside
- Move commercial vehicles (except shuttle buses and public transit) to courtyard

Construct curbside area for:
- Parking shuttles
- Inter-terminal shuttle
- Rental car shuttle
- Public transit
Arrivals Curbside Alternative – Consolidate into Terminal B

- Reserve for light-rail station
- Move all commercial vehicles to courtyard
- Widen outer curbside to 4-lanes; convert to public curbside
- Convert to public curbside
Airport Access Improvements – Inbound (entrance *from* northbound I-5)

Near-term: Widen to 2 lanes
PAL 3: Widen to 3 lanes
Airport Access Improvements – Outbound (exit to southbound I-5)

PAL 2

- Widen ramp to 2 lanes (LOS D at PAL 2)

PAL 3

- Construct 2-lane flyover
- Relocate entrance from SB I-5
- Construct 3-lane on-ramp to SB I-5
- Relocate frontage road

Connections to/from frontage road may need to be replaced at another nearby interchange.
Long-term Terminal-area Roadway Plan

Long-term roadway plan
Summary
Summary of Alternatives

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  - Outbound access 1: Widen ramp
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