

Midfield Satellite Concourse Draft EIR

Appendix G

Aircraft Gate Closures at LAX



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This report provides an overview of the types of projects that have occurred at Los Angeles International Airport (LAX) within the last 4 years that necessitated the temporary closure of passenger boarding gates and the planned activities over the next several years what will necessitate the temporary closure of passenger boarding gates at LAX.

1.1 Recent Gate Closures

Aircraft gate parking positions are used for parking aircraft to enplane and deplane passengers.¹ Passenger boarding bridges (PBBs) are the primary access systems for passengers embarking and disembarking aircraft at LAX. They are the interface between the aircraft and the terminal areas (for gates located within the Central Terminal Area or CTA) or between the aircraft and buses that transport passengers to and from the CTA (for gates located at the West Remote Gates/Pads). While Los Angeles World Airports (LAWA) strives to ensure that all 136 gates are operational, there are certain events that force LAWA and airline tenants to close gates at LAX.² These events may include emergency and unplanned events, routine maintenance, and construction activities.

EMERGENCY/UNPLANNED EVENTS

Due to the busy and diverse operational environment at LAX, there are various events that occur without any type of warning or planning from LAWA or airline staff. For example, aircraft incidents (such as engine malfunctions or collision with other objects), could occur on the apron or taxilane alleyways preventing access to gates. The duration of these incidents could vary depending on the accessibility of maintenance personnel and equipment.

In addition to unplanned airside events involving aircraft, LAWA could experience a safety or security issue with passenger or cargo activity. In instances where LAWA or the Transportation Security Administration (TSA) could suspect a threat to the safety and security of Airport staff and passengers, gates could close until the appropriate personnel clear the area of any remaining threat or danger.

Various infrastructure failures, such as power outages could also affect the operation of gates. Power outages could be caused from blown transformers, electrical surges, weather, and vehicular accidents.

¹ U.S. Department of Transportation, Federal Aviation Administration, Advisory Circular 150/5360-13, *Planning and Design Guidelines for Airport Terminal Facilities*, April 22, 1988.

² As of January 31, 2012, there were 136 aircraft gates at LAX. After completion of the Bradley West project in 2015, there will be 142 aircraft gates at LAX.



LAWA recorded 11 power outages in 2011 that affected the operation of gates at LAX. Three of the events were airport-wide (affecting all gates), two of them affected a majority of the terminals, and the remaining events affected partial terminals.

ROUTINE MAINTENANCE

LAWA performs routine maintenance on the 108 gates located in the Central Terminal Area (CTA) every year. Routine or preventative maintenance to the PBBs may include tire changes, safety upgrades, sub-floor repairs, drive column and wheel assembly repair, corrosion abatement, and painting. Closures from routine maintenance are temporary and can be planned accordingly by LAWA and airline staff. The average age of PBBs at LAX is about 15 years, with a useful life of approximately 30 years if the gate is properly maintained and serviced. During a typical year, LAWA replaces 4-5 PBBs to replace obsolete PBBs or PBBs that have reached the end of their useful life.

For example, during the period from June 2011 through December 2013, maintenance activities caused gate closures 270 times. Each of the affected gates was closed an average of 8 hours; the duration of each gate closure ranged from 3 hours to just over 4 days.³

CONSTRUCTION ACTIVITIES

Construction activities associated with terminal renovations are the leading cause of planned gate closures at LAX. Recent construction projects that resulted in gate closures include:

- 2010-2013, LAWA closed 12 gates in phases during the replacement of the Tom Bradley International Terminal (TBIT);
- 2010-2012, Alaska Airlines closed nine gates (two at a time) for major renovation at Terminal 6;
- 2011-2012, American Airlines closed 13 gates (two at a time) for the installation of a new Jet-Fuel Distribution System at Terminal 4; and
- 2012-2013, Delta Airlines closed 13 gates (three at a time) for the replacement of PBBs at Terminal 5 as part of their Terminal Renovation Project.

³ Los Angeles World Airports, Airport Operations Maintenance Records, 2014.



1.2 Planned Gate Closures

PBB REPLACEMENT PROJECT / GATE RELOCATION AT TOM BRADLEY INTERNATIONAL TERMINAL

As a part of the terminal renovations occurring at Tom Bradley International Terminal (TBIT), 15 existing PBBs located at TBIT will be relocated to gates at Terminals 2, 3, and 6. These PBBs will replace existing PBBs that are in poor condition, including upgrades to ancillary gate equipment. Certain ancillary gate equipment affixed to the TBIT PBBs (ground power units (GPU), pre-conditioned air (PCA) units, and potable water cabinets) will be relocated or replaced as well, but not necessarily to the same gate as the TBIT PBB from which the equipment will be removed. When completed, each relocated TBIT PBB will be fully equipped with upgraded and serviceable ancillary gate equipment as appropriate. In addition, three unused fixed telescopic PBBs at Terminal 6 will be removed. In total, service at 21 PBBs at Terminals 2, 3, and 6 will be improved.

The relocation of these PBBs will require temporary gate closures. The electrical improvements needed at each gate vary based on the equipment and proposed usage at each terminal (based on aircraft types supported). In some cases, a gate may need additional power for the PCA, while another may require provisions for PCA and GPU. These infrastructure needs will have an impact on the electrical distribution system at each terminal through duration of construction.

While LAWA will minimize gate closures by constructing a new gate pedestal foundation sufficiently offset from the existing foundation to allow the gate to remain in service, gate closures will still be required. Once the new foundation is ready to accept the installation of the relocated PBB, the gate would close, the existing PBB removed, the relocated TBIT PBB would be installed, and the increased span between the building face and the new foundation would be bridged with a fixed walkway section. The duration to replace an existing gate and test operational functions of the PBB requires that each gate be closed for approximately 2-3 months. Due to the demand for aircraft gates at LAX to accommodate passenger service, only one gate can be closed at a time during the relocation project.

TERMINAL 1 RENOVATION PROGRAM

LAWA, in coordination with Southwest Airlines, is planning a large-scale renovation of Terminal 1. As part of this project, the passenger security checkpoints, gates, holdrooms, concessions, and terminal area would be completely renovated. This project would potentially close 15 gates in various phases as part of



this project. Preliminary information indicates that an average of three gates will be closed beginning in September 2014 over the 3-year renovation program.⁴

TERMINAL 2 CONCESSIONS PROGRAM

Six gates will be closed at separate times for 2 to 2-1/2 months each to improve concessions at Terminal 2 over the next 2 years.

TERMINAL 3 EAST APRON

Rehabilitation of the east apron associated with Taxilane D10 will require the simultaneous closure of 4 gates for approximately 3 months.

TERMINAL 4 CONNECTOR

Construction of the T4 Connector connecting Terminal 4 with the TBIT will close one gate for a period of 3 months.

TERMINAL 7/8 RENOVATION PROGRAM

LAWA, in coordination with United Airlines, is planning a large-scale renovation of Terminals 7 and 8. As part of this project, passenger security checkpoints, gates, holdrooms, concessions, and terminal area would be completely renovated. LAWA would potentially close 24 gates in various phases as part of this project. The duration and phasing of these gate closures are not known at this time, but reconfiguration of the security screening checkpoint is anticipated to require closure of 2 gates over an 8-month period.

TAXILANE/ALLEYWAY REHABILITATION PROJECT

Due to the deteriorating condition of pavement surfaces of terminal area taxilanes or "alleyways" at LAX, LAWA needs to rehabilitate the taxilanes providing access to the aircraft gates located within the CTA. The taxilanes needing rehabilitation are:

- Taxilane D7 provides access to the gates on the east side of Terminal 1;
- Taxilane D8 provides access to the gates on the west side of Terminal 1 and the east side of Terminal 2;
- Taxilane D9 provides access to the gates on the west side of Terminal 2 and the east side of Terminal 3;
- Taxilane C9 provides access to the gates on the east side of Terminal 4 and the west side of Terminal 5;
- Taxilane C8 provides access to the gates on the east side of Terminal 5 and the west side of Terminal 6;

⁴ Los Angeles World Airports, Coordination and Airport Logistics Management Team, January 2014.



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- Taxilane C7 provides access to the gates on the east side of Terminal 6 and the west side of Terminal 7;
- Taxilane C8 provides access to the gates on the east side of Terminal 7 and to Terminal 8.

The rehabilitation of the taxilanes will pose a substantial impact to airline operations at the terminals and require closure of the gates as the taxilanes are rehabilitated. The quickest and most efficient construction method is to rehabilitate each taxilane at once; however, this would require the simultaneous closure of from 6 gates (Taxilane D7) to 14 gates (Taxilane C6) as each taxilane is rehabilitated for several months at a time (exact duration has not been determined). Other methods include rehabilitating half the taxilane (east or west half) at once, which would require the simultaneous closure of from 5 to 7 gates, also for several months at a time. Other more complicated, longer, and more expensive methods would be to close one gate at a time, which would require extensive construction phasing and airline coordination through the duration of the taxilane rehabilitation project. The impacts to airline operations would be severe given that there are currently no temporary gates at which boarding operations can be temporarily relocated.

1.3 Summary

Los Angeles International Airport experiences a number of aircraft gate closures on a yearly basis due to routine maintenance and repair projects, unforeseen events, and construction projects. The gate closures identified in this report are those known to have occurred within the last 4 years and those planned over the next 2-3 years. While routine maintenance and repair projects typically only affect gate operations for hours or a few days, pavement rehabilitation and terminal renovations projects require gate closures measured in months. LAWA is continuing its plans to modernize LAX, which will require additional future gate closures as other existing terminals are modernized. The duration and number of gate closures will vary, and will be highly dependent on the extent of renovation plans and the availability of aircraft gates to accommodate displaced operations.



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