

Runways 16L/16R Vital to LGB for General Aviation and Aviation in General

OVERVIEW

RSAP

March 14, 2007, FAA Office of Runway Safety & Operational Services, Western-Pacific Region, working with airport and air traffic management, updated the LGB RSAP (Runway Safety Action Plan). Excerpts of the Status report: Exhibit A. Unknown if updated since that date, the report is significant due to the detail and organization. In addition to the information provided in the excerpt, within opened or updated items, the report provides: status of funding, remarks, observations, responsible local entity and contact, and responsible FAA regional entity contact

CALL TO ACTION

On August 15, 2007, FAA Administrator Marion C. Blakey asked that action be taken to reduce the risk of runway incursions and wrong runway departures, considering solutions in four areas: cockpit procedures, airport signage and markings, air traffic procedures, and technology.

COMMERCIAL AVIATION SAFETY TEAM (CAST) REPORT

August 2007 (several versions exist, see Exhibit B). CAST Wrong Runway Departures report suggests eight circumstances where runway geometry could contribute to a wrong runway departure.

LONG BEACH RUNWAY SAFETY ACTION TEAM FOCUS GROUP

Formed December 2007, met two to three times monthly until April 2008, tasked with taking "a look at our Airport's geometry, and use our collective creativity to see if we can develop some significant ideas for improvements." Synopsis of recommendations Exhibit C.

LGB RESPONSE

Refer to the LGB 3-Runway Proposal drawing, Exhibit D.

QUESTIONS

What would be a strong argument against closing runways that have been temporarily closed long term due to construction? Why won't the proposed runway configuration drawing alleviate the problems that the RSAT identified. Why doesn't a 99.5% wind coverage on the remaining runways according to the updated wind study give the GA users what they feel they need?

LONG TERM CLOSURE OF 16L/16R

Runways 16L/16R have only been available intermittently the last several years. Construction projects need alternate routes and the 16s have often been used as taxiways. Procedurally it is much different for GA to adjust transportation demands for the short term; but to close those runways permanently would be devastating.

The main reason that General Aviation at LGB has not been more adversely impacted without the Rwy 16L/R is due to recent weather patterns (El Niño Effect discussed later). However, with each passing year that the runways are not maintained, the deterioration of the asphalt accelerates. What could be a slurry seal today will be total reconstruction next year. Many of the projects that involve air carrier traffic taxiing on the Rwy 16L/R have included funds to repair the runways after project completion. But the runways have suffered and it is becoming more and more evident.

WINDROSE

The updated LGB windrose study apparently shows that 99.5% of LGB light general aviation operations can be accommodated using Runways 25/7 and Runway 30/12 with a crosswind component of 10.5 knots or less. (I have a Bachelor of Science degree in mathematics and cannot fathom the methodology).

When establishing a new airport planning to receive Federal funding, the FAA requires additional runways to be constructed if coverage is less than 95% with the proposed runway layout. There is not a requirement that a runway be closed at an airport if the 95% figure is attained without that runway.

Another source for wind-related data is the Douglas Park Final Environmental Impact Report, State Clearing House No. 2001051648 Sept. 2004 Vol V. Page 360 cites 350,603 total airport operations in 2002 for LGB. Factoring in the windrose data, 99.5% of the flights will be accommodated with the 3-Runway Proposal, leaving .5%, or 1,753 flights, that would be affected by a crosswind component over 10.5 knots. Any of those flights diverted to local airports to wait out a change in wind conditions puts an undue burden on other LA basin airports. Transferring the incursion potential to another airport is not contributing to the solution and should be negatively factored into the overall analysis accordingly.

The Environmental Impact Report (EIR) provides the following table to describe runway usage at LGB:

Orientation	Runway Number	Aircraft Runway Usage (%)	Length (feet)	Width (feet)	Use
East-West	7R/25L	7R (2.5%) 25L (25.0%)	5,420	150	General Aviation
East-West	7L/25R	7L (2.5%) 25R (25.0%)	6,192	150	General Aviation and airline alternate for Runway 12/30
North-South	16R/34L	16R (7.0%) 34L (0.5%)	4,470	75	General Aviation
North-South	16L/34R	16L (7.0%) 34R (0.5%)	4,267	75	General Aviation
Northwest-Southeast	12/30	12 (6.0%) 30 (24.0%)	10,000	200	General Aviation and Commercial

Source: www.aimav.com/airport/KLGB, 2003 and US Department of Transportation, FAA, personal correspondence, November 24, 2003.

The EIR table attributes Rwy 16L/R with accommodating 15% of all LGB traffic, or 52,590 flights in 2002. Tower rarely, if ever, has used the north/south airport configuration unless there is at least 10 knots of wind. While not as scientific as the windrose analysis, whether 1,753 or 52,590 flights would be affected by losing Rwy 16L/R, a wind analysis for LGB warrants a closer look.

One reason for the conflicting wind statistics may be the scope of the windrose study. The windrose data is over a 24-hour day, 10-year period of time. Primarily, LGB is affected by local topography, Signal Hill to the south and Palos Verdes Peninsula to the Southwest. While the prevailing wind for LGB is out of the west, late afternoons the cooling LA basin creates a low-pressure area in relation to the ocean, causing offshore breezes to be generated from the south. The topography further enhances the flow by directing more surface wind south of Palos Verdes, increasing the volume (velocity) of the air movement. This daytime influence on day VFR runways (Rwys 16L/R have no lighting nor instrument landing systems) is a phenomena that the windrose study does not take into account.

A second influence contributes to the wind patterns at LGB, the El Niño Effect.

El Niño (geology.fullerton.edu)

- A countercurrent that flows southward along the coasts of Ecuador and Peru
- Warm
- Blocks upwelling of colder water
- Strongest El Niño events on record occurred between 1982-83 and 1997-98

Knowledge weather patterns such as El Niño, has historically “influenced the way we schedule events and activities such as construction projects” (<http://www.atmos.washington.edu>). According the National Oceanic and Atmospheric Administration (NOAA), 23 El Niño Events took place in the twentieth century. Out of those, the four strongest occurred after 1980. Scientists are unsure if this is an indication that human activity is adversely affecting the weather or if it is simply a meaningless random clustering. El Niño events can stretch from a few months to six months or more and recur at irregular intervals ranging from two years to a decade. In southern California, the El Niño Effect causes wind shifts from a more southerly direction, favoring Rwy 16L/R.

The cyclical nature of local weather patterns should be studied before a 10-year wind study is accepted for LGB. The last two El Niño events were not included in the report, occurring a year to five years prior to the windrose study timeframe. Incorporating the concept of climate predictions into the equation could show the prudent action for LGB would be NOT to surrender asphalt.

LGB 3-RUNWAY PROPOSAL IS NOT THE SOLUTION

Former FAA Administrator Marion C. Blakey asked the industry to “reduce the risk of runway incursions and wrong runway departures, considering solutions in four areas: cockpit procedures, airport signage and markings, air traffic procedures, and technology.” Less than one month later, September 2007, she retired and the industry has not had an Administrator since. In fact, there have been four Acting Administrators since that time. As Exhibit A shows, runway analysis is technical, documented and methodical. Without agency guidance, the direction that has taken to implement the Call to Action has been rudderless. There should be no action taken until the FAA has a permanent Administrator in place to deal with the tough questions.

As the attempt to comply with the Call to Action has evolved, reliance on the Wrong Runway Report has developed. However, there are many versions of the report in circulation and the premise, recommendations and conclusions of the report are weak. The premise that there are eight factors that predispose an airport for a wrong runway incident is incomplete, taking into account only the physical aspect of runway configuration. In fact, in his 2008 Runway Safety Report, former Acting FAA Administrator, Robert A. Sturgell states:

“A number of components have an impact on runway safety including:

- Confusing runway and taxiway patterns
- Airport layouts
- Pilot awareness and attention
- Controllers losing situational awareness or forgetting previous instruction
- Ambiguous pilot-controller communication
- Vehicle operators and pedestrians

... that is why the FAA adopted the Safety Management System (SMS), which uses a systems approach to manage risk and helps the Agency to better track efforts for safety improvement, and their effectiveness once implemented.”

There has not been a SMS systems approach taken in the development of the LGB 3-Runway proposal. Reaction to several different reports, changing leadership and unrelated goals has strayed from the goal of runway incursion prevention. The CAST analysis that places LGB in the top three airports in the United States for the potential of runway incursions is misleading and has already been detrimental to the safe and full utilization of LGB. Controllers have expressed concern at their liability if they were to switch the airport to Rwy 16L/R and at the April 22, 2008 Focus Group meeting, the FAA elicited a promise that the Rwy 16L/R will not be utilized until the FAA developed internal consensus on their position regarding those runways.

Apparently, the design concept for the LGB 3-Runway proposal is attempting to incorporate 90 degree intersections, reducing the number of entry and exit points for each runway and taxiway, and reducing the number of high energy runway/taxiway crossings. This standard doesn't seem to be in the CAST report, nor the Call to Action. If these are concepts for the design of a new airport, it should not be deemed as a guideline for an established airport.

I had originally suspected that closing Rwy 16L/R was to save money on the upkeep of the runways. But with the proposed configuration, unless there is a huge cost saving between runway and taxiway maintenance, there doesn't seem to be that much less asphalt. AND THEREIN LIES THE PROBLEM. It is no less confusing! Exhibit E shows that the number of runway exit/entry points is not reduced; it has in fact increased. And Exhibit F shows that the number of high-energy intersections is the same. It bears reminding that if Rwy 16L/R are in use, Rwy 25L/R are not in use. Except in the rare case of an emergency operation, there are at most 3 runways in use at LGB at any one time.

GENERAL AVIATION REQUIREMENTS

The LGB 3-Runway proposal does not consider local ordinance which prohibits touch-and-gos on Runway 30/12, nor letters of agreement between SoCal Tracon and LGB tower to sequence air carrier traffic for Runway 30. Aircraft do not get handled by LGB tower for Runway 30/12 without a handoff from Approach Control. General

Aviation representatives were shocked when recently told that if wind conditions were prohibitive for the remaining three runways (but would have been possible with Rwy 16L/16R) then they would just be grounded.

Also, closure of the runways is not just painting an X on the approach ends. Construction would be required to reconfigure intersections to simplify geometry, costing millions of dollars as well as injecting a risk factor due to the demolition needs to be considered. Presence of workers and equipment in proximity to the runway is an exposure, in terms of incursions and liability.

Removal of the runways is not only a safety hazard during crosswind conditions, it also removes landing options in case of an emergency; "Cleared to land any runway" has fewer options under the LGB 3-Runway proposal.

Obstruction control around any general aviation airport, indeed airports in general, should be high on the list for safety considerations. Exhibit G shows the Rwy 16L/R RPZ superimposed on an airport diagram, protection that airport users would no longer have to control obstructions to the north and south of the airport. Many developers have been denied projects in those areas that would no longer be prohibited under the new proposal.

CONCLUSION

Herein I have reported many of the arguments against the closure of Rwy 16L/R at LGB. It would be interesting to be privy to how Western Pacific FAA resolved the conflict between their internal Airports Division and Runway Safety Division; general aviation sides with Airports. How can giving up asphalt be justified in an industry that is losing so many airports for so many other reasons. Runway incursion prevention is not just a bulldozer, it is several disciplines, most of which are being ignored while the concentration has been only on geometry.

The recommendations by the Focus Group should be continued, as well as the RSAP. Perhaps progress in those areas is transparent to the users.

Having been a member of the Southern California Airspace Users Working Group for over two decades, I have seen that airspace (re)design is a methodical, organized approach with documented and coordinated steps toward the implementation of change(s), the effects of which are far-reaching, to minimize any unintended consequences. Like airspace, is there an NPRM process for review of a runway closure? The conclusion after the input of various groups to close runways is not systems-based and needs to be reviewed prior to moving forward.

More questions have been raised than answered: Is there a standard procedure for determining whether a runway can be decommissioned? LGB administration seems to be planning on a negative declaration (no negative impact on the national airspace system) from the Runway Safety Assessment Team. But, (a) Is that adequate to make the decision to close a runway? (2) Who actually makes the decision to close the runways, local entities or, FAA Western Pacific Region? (3) Would a municipally owned airport, with a city council oversight such as LGB, have to go before the public for a vote?

Where is the runway incursion study for LGB? It has been summarized that it is primarily more experienced, LGB-based pilots that know the geometry of the airport. That could not be a geometry problem. What has been learned from LGB runway incursion studies and how does it relate to the LGB 3-Runway Proposal?

To reiterate, there should be no action taken until the FAA has a permanent Administrator in place to provide adequate oversight into this important decision.

LGB is a national resource that must be managed with the care of near-extinct wildlife. Once the decision is made to close the runways, we will never get them back.

EXHIBIT A

Exerpts
Runway Safety Action Plan Update March 14, 2007

Item Number	Status	Action Item
LGB-02-006	open and/or updated item	<p>Item: Install in-pavement runway guard lights at the hold bars on taxiways B west of Runway 12-30 and K east of Runway 12-30 north of taxiway D. (This is a large, complex intersection with a high rate of incursions.) Project is currently not funded.</p> <p>Updates: 2/25/03: Installation may be included in the Runway 12-30 rehabilitation; however, it is currently unfunded. Funding is needed for both design and construction. 4/20/04: AWP-1R to investigate funding options. 8/04/04: AWP-1R will approach AND-520 for funding. 2/07/05: AWP-600 (FAA Airports Division) e-mail indicates the runway guard lights are AIP eligible and are in fact included as one of the funding items for LGB in their FY-05 AIP Program (in the amount of \$237,500) and states "We are awaiting the sponsor's request for funding which we should receive shortly. Once we receive the funding request we'll begin programming for an allocation of funds." 3/15/05: The in-pavement runway guard lights are now funded. 12/14/05: The lighting design is complete. Bids to go out in January or February of 2006. 12/18/06: The project is out for bid in January 2007. Estimated Completion Date: 8/30/2007</p>
LGB-02-011	open and/or updated item	<p>Action Item: Need to relocate the white painted city designator from taxiways to non-movement apron areas and remove old markings per AC 5340-1H.</p> <p>Updates: 2/25/03: City designators on Taxiways C, K and J will be removed. They will be repainted in a non-movement area. 7/23/03: City designators will be removed as respective taxiways are resurfaced. They will NOT be repainted in non-movement areas. 8/04/03: This action will be taken during the course of the Taxiway Project. 11/17/03: This particular action item is NOT related to the Taxiway F Project. The city designators are located on Taxiways C, K and J. The Estimated Completion Date for these is unchanged (and non-specific). The designators will be removed during repair or rehabilitation of each respective taxiway. 4/20/04: AWP-1R was informed at a meeting with LGB on this date that the three white city designators on the taxiways will be completed by September 2005. 12/14/05: The revised ECD reflects the date when status update is expected. 12/18/06: The city designator has been removed from Taxiways J and K. Estimated Completion Date: 8/30/2007</p>
LGB-06-001	open and/or updated item	<p>Action Item: Recommend the airport replace the blue on white signs with standard black on yellow information signs. (Ref. AC 150/4350-18D)</p> <p>Observation: There are non-standard signs that contain blue letters on white background posted throughout the movement area on the airport. These signs are used to provide pilots with noise abatement information/reminders and a direction to face the aircraft when performing engine run-up.</p> <p>Remarks: The Estimated Completion Date (ECD) of 10/30/07 is the deadline by which a status update should be received by AWP-1R. Estimated Completion Date: 10/30/2007</p>
LGB-06-002	open and/or updated item	<p>Action Item: Recommend the airport paint a white surface painted stop bar across the paved access road at the north side of the approach end of Runway 25R that leads directly onto the runway at a point outside the RSA/ROFZ, as appropriate, to ensure vehicles and pedestrians are certain they are clear of the runway environment. In addition, the airport should consider placing an information sign at this point warning drivers that entry is prohibited unless they are in contact with the tower (or wording to that effect). (Ref. AC 150/5340-18D)</p> <p>Observation: There is a service road that connects the paved perimeter road on the north side of Runway 25R to the approach end of this same runway. This road leads directly onto the runway without any signs or surface markings that warn drivers or pedestrians that they are approaching a runway. During our airfield tour and while waiting for a clearance onto the runway, our vehicle was holding at what appeared to be a safe distance from the runway, but there were no visual cues to indicate <u>we were outside the Runway Safety Area (RSA)/Runway Obstacle Free Zone (ROFZ)</u>.</p> <p>Update: 3/14/2007 follow-up visit: The airport may also consider utilizing zipper-style markings for the service road, per AC 150/5340-18D.</p>

		Estimated Completion Date: 12/30/2007
LGB-06-003	Open and/or updated item	<p>Action Item: Recommend the airport take action to sign and mark the abandoned taxiway located 1,300 feet from the approach end north side of Runway 25R to prevent inadvertent use by vehicles, pedestrians, or aircraft. Considerations for addressing this issue should include but not necessarily be limited to:</p> <ol style="list-style-type: none"> 1) Refresh the runway edge marking to provide a visual barrier between the runway and former taxiway which is now a runway vehicle access road. 2) Consider installing “No Entry” sign on the west side of the abandoned taxiway, facing south, preventing aircraft from exiting the runway on this surface. 3) Consider painting a white surface painted stop bar across the paved access road at the north side of the approach end of Runway 25R that leads directly onto the runway at a point outside the RSA/ROFZ, as appropriate, to ensure vehicles and pedestrians are sure they are clear of the runway environment. In addition, the airport should consider placing an information sign at this point warning drivers that entry is prohibited unless in contact with the tower (or wording to that effect). (Ref. AC 150/4350-18D) <p>The airport should revisit this location at night to evaluate the runway edge lights. If there is a gap in the lights caused by the presence of the former taxiway, the airport should consider placing white surface reflector(s) (a.k.a. Bott’s Dots) in line with the runway edge lights. In addition, the airport should evaluate the appropriateness of a permanent runway edge light to meet standards.</p> <p>Observation: There is a former taxiway leading from an abandoned gate to the landing right side of Runway 25R (north side of the runway), approximately 1,300 feet from the approach end of the runway. There are no signs, markings, or lighting that would prevent a vehicle, pedestrian, or aircraft from using this paved surface. Sources indicate that there have been no incidents at this location to date.</p> <p>Estimated Completion Date: 12/30/2007</p>
LGB-07-001	new action item developed in cooperation with air traffic and airport management	<p>Action Item: Recommend LGB Airport, in cooperation with LGB Air Traffic and FAA Airports Division, address the issue of the proper marking, signage, and procedures for Runway 16L/34R being used as a taxiway for the next two years.</p> <p>Observation: Runway 16L/34R is projected to be closed for the next two years due to airport improvement projects. During this two-year period, the runway will be used as a taxiway. Currently, the runway is marked closed by a yellow “X” painted over the runway identifier on each end of the runway. Advisory Circulars 150/5340-1 and 150/5340-18 prescribe the acceptable standards for marking and signage for these circumstances.</p> <p>Estimated Completion Date: 10/30/2007</p>
LGB-07-002	new action item developed in cooperation with air traffic and airport management	<p>Action Item: Recommend LGB Airport review the taxiway safety areas in the vicinity of Taxiway D and the approach end of Runway 30 and the intersection of Taxiway D and D3 to ensure the safety areas meet the standards contained in Advisory Circular 150/5300-13 with respect to the safety area’s condition.</p> <p>Observation: It was noted during the tour of the airfield that there are open culverts in the vicinity of Taxiway D and the approach end of Runway 30 and the intersection of Taxiway D and D3. The open culverts pose a safety hazard to aircraft and are not in compliance with Advisory Circular 150/5300-13.</p> <p>Remarks: The Estimated Completion Date (ECD) of 10/30/07 is the deadline by which a determination should be made and a status update received by AWP-1R.</p> <p>Estimated Completion Date: 10/30/2007</p>
LGB-07-003	new action item developed in cooperation with air traffic and airport management	<p>Action Item: Recommend LGB airport add a 110 remark to the 5010, warning aircraft operators about the fence and describing its location, height, and distance from the taxiway centerline.</p> <p>Observation: Taxiway D crosses over Lakewood Boulevard. At this point, there is a fence that is approximately 75 feet from the centerline of the taxiway. LGB Airport Reference Code is D-IV (wingspan of 171 feet), and the critical aircraft in this situation is the B767. A B-767’s wing- span is 157 feet 1 inch. If the B-767 nose wheel is on the centerline of Taxiway D, the wing tip overhangs the fence by approximately 3 feet. The following is a partial list of commercial carrier aircraft that routinely use this taxiway, en route to Runway 30: A320 (wingspan 111 feet, 10 inches), B-733 (wingspan 94 feet, 9 inches), B-757 (wingspan 124 feet, 10 inches), B-767 (wingspan 157 feet, 1 inch).</p>

		<p>Advisory Circular 150/5300-13, <i>Airport Design, Chapter 7, Runway and Taxiway Bridges, paragraph 702, Dimensions, subparagraph b. Width</i>, states in part that minimum width requires: positive edge protection, under-wing engine clearance, sufficient width for maneuvering rescue and firefighting equipment, and sufficient width to accommodate aircraft evacuation slides.</p> <p>Estimated Completion Date: 6/30/2007</p>
<p>LGB-07-004</p>	<p>new action item developed in cooperation with air traffic and airport management</p>	<p>Action Item: Recommend that a comprehensive study and analysis of LGB surface incidents be conducted for the purpose of determining causes for local pilot errors, including whether or not distraction was a significant causative factor in the surface incidents. In addition, LGB airport and air traffic, in cooperation with the Runway Safety Team and the FAAS Team, should develop a safety outreach program to be delivered to flight schools and user groups most likely to need this education, the objective being to prepare pilots, operating different category aircraft, to safely operate at the airport. The team should meet to discuss options that may include but not be limited to self-paced or interactive training CDs, videos, animation, and lectures or seminars.</p> <p>Observation: It was noted by the Runway Safety Action Team that LGB airport geometry presents a complex operating environment for pilots, taxing their abilities to maintain situational awareness. In order to address this situation, educational programs should be developed to prepare pilots for operating at this airport, dealing with such distractions as complex airport geometry and surface operations, and simultaneous fixed-wing and rotor-wing operations.</p> <p>Remarks: The ECD is the deadline by which an initial meeting of the LRSAT should be completed in order to decide what outreach strategies will be employed.</p> <p>Estimated Completion Date: 7/30/2007</p>

EXHIBIT B

CAST REPORT

Link / Link Description	Title Page	Page 2	Total pages
<p>http://www.asias.faa.gov/pls/portal/docs/page/asias_page_s/asias_studies/pdfs/asiaswrongrunwayreport.pdf</p> <p>This report focuses on the analysis of wrong runway departure events for part 121 operators that have occurred in the United States and proposes mitigations to reduce the risk of airplanes departing on the wrong runway.</p>	<p>Federal Aviation Administration, Wrong Runway Departures</p>	<p>Aviation Safety Information Analysis and Sharing Wrong Runway Departures July 2007</p>	<p>68</p>
<p>Received via email from AWP Office of Runway Safety & Operational Services, 4/11/08</p>	<p>Commercial Aviation Safety Team, Analytical Review of Wrong Runway Events, Interim Report”</p>	<p>Analytical Review of Wrong Runway Events <i>Interim Report</i>, April 3, 2007</p>	<p>65</p>
<p>http://www.cast-safety.org/pdf/cast_wrongrunway_0807.pdf</p>	<p>Commercial Aviation Safety Team, Wrong Runway Departures August 2007</p>	<p>Wrong Runway Departures, Commercial Aviation Safety Team</p>	<p>68</p>
<p>www.asias.faa.gov “studies” tab links to the same wrong runway report, but an additional sentence in the description (italicizing mine): “This report focuses on the analysis of wrong runway departure events for part 121 operators that have occurred in the United States and proposes mitigation’s to reduce the risk of airplanes departing on the wrong runway. <i>The preliminary review of wrong runway events related to operators operating under the following regulations also are summarized in this report and a more detailed study is currently underway.</i>”</p>			

EXHIBIT C

**Runway Safety Focus Group
Mitigation of LGB Complex Pavement Geometry**

		STATUS	NOTE
Additional Equipment	Elevated guard lights should be installed at the following intersections: <ul style="list-style-type: none"> · Taxiway L, north and south of Runway 25L · Taxiway D, north and south of Runway 25L · Taxiway D, north and south of Runway 25R · Taxiway K, east and west of Runway 30 · Taxiway J, east and west of Runway 30 	These guard lights will be added to the RSAP and ACIP.	3
	FAROS Equipment - Possible Long-Term Links to Other Equipment, especially runway status lights.		4
	MALSR repair – non-operational for 3 years. Higher minimums may lead to missed approaches to other airports where potential for an incursion may be greater.		2
	Install second RVR – lower minimums may show that less flights have to divert to other airports with ensuing collateral effect of relocating the incursion potential.		2
	Reestablish U.S. Customs facilities at LGB - diversion of flights to LAX to clear customs is a runway hazard.		2
Education	Put Expected Taxi Routes on www.LGB.gov for pilot access - Expected taxi routes were developed and distributed several years ago, but were never posted on pilot accessible websites. (Or if published, are not widely linked to sites that pilots use.)	The Expected Taxi Routes have been found! Runway Safety and the Airport will work to see that they are published on the appropriate web sites; and links established, where needed. The Airport is in the process of revamping their website, so there may be some delay in getting the Routes posted quickly on the Airport's site.	4
	Put Airport Diagram Hot-Spot Chart on www.LGB.gov for pilot access. Hot spot chart is also not widely linked to pilot-used sites.	A hot-spot chart is available in a Long Beach Tower Letter to Airmen.	4
	Focus group discussed the possibility of presentations by LGB Tower on pertinent runway incursions at each quarterly Long Beach Airport Association General Membership meetings.	To be most effective, each incursion should be discussed on a regular basis to get the word out & to continue the education. However, it is not practical on a regular basis to depend on controllers to donate their off time	4
	Establish a tower controller ride-along. Encourage tower controllers to taxi across the airport in a volunteered aircraft to help them better understand the pilot's environment.		4

Education (cont)	<p>LGB.ORG Pilot/Airfield Portal</p> <ol style="list-style-type: none"> 1. Purpose <ol style="list-style-type: none"> a. To disseminate safety & regulatory information unique to LGB b. To gather email addresses of airport tenants/users by way of registration & password protection to portal to notify when updates are available to website files 2. Current information available on portal <ol style="list-style-type: none"> a. Helicopter Information Packet b. LGB CFI Observation Locations c. LGB Chart d. Noise Ordinance e. Noise Abatement Lesson Plan 3. Runway Safety Information to Add to Portal <ol style="list-style-type: none"> a. Expected Taxi Routes b. Hot Spot Airport Diagram c. Tower Complaint Form d. RSAT Report/Analysis e. Tenants/Pilots Schedule/Signup/Contact Information to do Tower Ride Along f. LGB Tower Letter to Airmen 3. Other Information to Add to Portal [] currently avail to tenants and not pilots <ol style="list-style-type: none"> a. Links <ul style="list-style-type: none"> ★ FAA.gov Safety Meetings ★ AOPA Safety Meetings ★ User Forums/Safety Meetings 		4
Pave- ment Reconfig- uration	<p>Twy B between Twy D and Runway 12-30: Close, paint green and reconfigure the holdbar and taxiway centerlines.</p>	<p>Design of the reconfigured intersection is nearly complete. Work will be accomplished by a Change Order to an existing contract. Expected completion date July 31, 2008.</p>	3
	<p>Reconfigure 25R Exits: K1, K2, K3 Taxiway K3: Move location of new K3 closer to location of existing K3.</p>	<p>This change has been incorporated in the Taxiway K design. The project is currently out for bid. Pending grant funding, construction is scheduled to begin in fall 2008.</p>	3
	<p>Reconfigure 25L Exits: Taxiways F1 and F2: Reconfigure to make 90 degrees to runway 7R-25L. there was consensus that both connectors are needed. Configure pavement following the same standards as the new connectors for Twy Kilo-Rwy 7L-25R. (Note: the standards will be similar, but not exactly the same as Twy Foxtrot is closer to Runway 25L than Twy Kilo is to Runway 25R.)</p>	<p>This item, and others requiring capital expenditures will be prioritized and added to the Airport's Runway Safety Action Plan (RSAP) and Airport Capital Improvement Program (ACIP)</p>	3
	<p>Add Runup Area for 25L at Twy J and D</p>	<p>The Focus Group has identified 3 locations where dedicated run up areas could be constructed. The Airport will add these projects to the RSAP and ACIP.</p>	5

Pave- ment Reconfig- uration (cont)	Add Runup Area for 30 south of Twy F.		5
	Taxiway B north of Runway 12-30: <u>Close</u> , paint green islands and Xs at both ends to preclude aircraft from inadvertently using. (Closing Taxiway B north of Runway 30 may be problematic. Last week we parked an Antonov 124 on Taxiway A. Since we have no way to tow or 'pushback' that aircraft, he needed to be able to taxi in/taxi out of the parking space on Taxiway A.)	Since Taxiway A is used for parking oversized aircraft, taxi in, taxi out access is required. The Airport is studying changing the configuration of Taxiway B north of Runway 30 to make Taxiway B intersect the Runway at a 90 degree angle. This configuration will be presented to the Focus Group for evaluation.	3
	Runway 16L between Taxiway K and Runway 25R: Keep this pavement so that it can be used as an exit/entrance to Runway 7L-25R. Configure pavement following the same standards as the two new connectors. (We've already agreed that the pavement north of 25R between 25R and the perimeter road will be removed.)	In a meeting with FAA Airports Division on April 9, 2008, the Airport agreed to mark the section of pavement between Runway 25R and Taxiway K with chevrons (thereby marking it as unusable. Airports Division is opposed to it's used as a taxiway when 16L is inactive.	3
Straighten Twy G; remove diagonal portion of Twy G Taxiway G between Runway 16R and Taxiway G: Reconfigure to make 90 degrees to Runway 16R-34L. Close existing angled taxiway, paint green and X. Configure pavement following the same standards as the new connectors for Twy Kilo.	This item would not be required if the 16s were closed. If the runways stay in use, it will be added to the RSAP and ACIP.	3	
Proce- dural Changes	Currently, there is no VOT south of Runway 25L. Since the majority of flight schools and general aviation parking is south of 25L, this results in a significant number of unnecessary runway crossings. There should be at least one VOT site south of Runway 25L: Possible sites: (1) Run-up area at Twy F and Rwy 7R, (2) near run-up area on Runway 34R at Twy D-	Airport Bureau will coordinate flight check to correspond with a visit for LGB MALSR	1
		Update: Airport staff has worked with FAA and identified 3 new VOT locations. The Airport will work with Ruben Meza to schedule a flight check of the locations, and see that they are added to the Airport/Facility Directory.	3
	Establish written guidelines for switching to Rwys 16L/16R. Currently is up to controller's discretion. Often is avoided as long as possible because of inexperience of pilots and controllers. More regular utilization will keep users and controllers proficient on north/south procedures.	Denied, too many variables.	4

Proce- dural Changes (cont)	<p>Controversial: With acute and obtuse turns on airports with diagonals (turns other than 90 degrees), there needs to be flexibility with progressive instructions. Currently pilots are given clearances that include "hard right turns" or "take the easy right". It is not implicit that "hard right" means greater than 90 degrees. Investigate the possibility of revising the pilot/controller glossary to include the ability for controllers to give progressive clearances with turns to headings in lieu of words such as "hard right turn". Also, progressive instructions should not require that a clearance be copied but be one instruction at a time, with the aircraft proceeding segment by segment. It seems that requests for progressive taxi are to be instituted by the pilot; tower could be encouraged to ask if progressives are desired if a pilot's inflection is perceived as uncertain.</p> <p>Note: "Chunking" of taxi clearances initiated 12/2007.</p>	Changes to pilot/controller glossary outside the scope of this focus group.	4
	<p>Shorten ATIS – including closed taxiways could be omitted because a tower clearance is required and would not include operation on a closed surface; would reduce/simplify pilot workload. Long ATIS decreases the chances of pilots getting more pertinent information. Often LGB ATIS is over 1 minute in length.</p> <p><i>Note: April 9, 2008 focus group was informed that closed runways have to be included on the ATIS broadcast. LGB tower agrees in theory, but can't get approval to omit closed runways. There is movement toward notam-L availability on ACRS for the air carriers but it won't solve our ATIS problem.</i></p>	Changes to ATIS content is outside the scope of this focus group.	4
	Consider moving tower controller training from LGB to a less complex airport.		4
SIGNAGE	"Terminal" Sign #_____: When viewed from Runway 30, appears to direct aircraft to turn right on Taxiway B. Sign should be re-positioned.	Airport Operations has made several efforts to identify this sign, and have not found it.	3
	At runup area 34R – it was suggested that non-standard signage could indicate informational items such as: Hold South of this sign, contact Ground Control on 133.0 when ready to taxi"	Being discussed in Focus Group.	4

Runway Safety Focus Group
April 25, 2008
Runways 16L-34R and 16R-34L (the 16s)—a synopsis

The Focus Group has been discussing the 16s since December. The Group has looked at a variety of scenarios including maintaining the runways as they are; shortening one or both runways to get them out of the two intersections where three runways cross; closing one of the runways; closing both of the 16s.

The Airport has presented detailed recent wind data showing that the remaining runways, 12-30 and the 7-25s provide 99.5% wind coverage.

The Tower is opposed to closing only one of the 16s, stating that there is too much traffic to safely handle it all on the remaining runway. The Tower strongly supports closing both of the 16s.

FAA Runway Safety strongly supports closure of both the 16s, citing the recent Commercial Airline Safety Committee (CAST) Report indicating that LGB has six of the eight factors that predispose an airport for a wrong runway incident.

The general aviation community, as well as the Focus Group member representing them, have expressed concern that their operations will be unsafe or severely curtailed during periods when the Airport experiences strong southerly winds.

The Airport is seriously considering closure of the 16s to reduce the complexity of the Airport's geometry, and to reduce the potential for runway incursions. Currently the runways are closed due to taxiway construction in the immediate vicinity of 16L. This closure is anticipated to continue for another 9 – 12 months.

While there is not consensus in the Focus Group on this issue, Focus Group members agree that just closing the runways will not completely address the Airport's runway safety issues. Significant reconfiguration of taxiways and intersections would be required, as well as on-going pilot education and other safety signage and lighting improvements.

At the Focus Group meeting on April 22, the FAA indicated that they were working to develop internal consensus on their position regarding the 16s. A tentative Focus Group meeting has been scheduled for May 20, pending the FAA's decision on their position.

Notes:

1. Runway Safety Focus Group Synopsis of Recommendations December 19,2007
2. Any action that transfers the incursion potential to another airport should not be considered. Lack of action that is transferring that potential must be remedied as soon as possible.
3. Runway Safety Focus Group Synopsis of Recommendations April 2008.
4. Discussed, No Action Taken
5. Appears to be included on the LGB Proposed 3-Runway Configuration diagram

EXHIBIT D

LGB Proposed 3-Runway Configuration

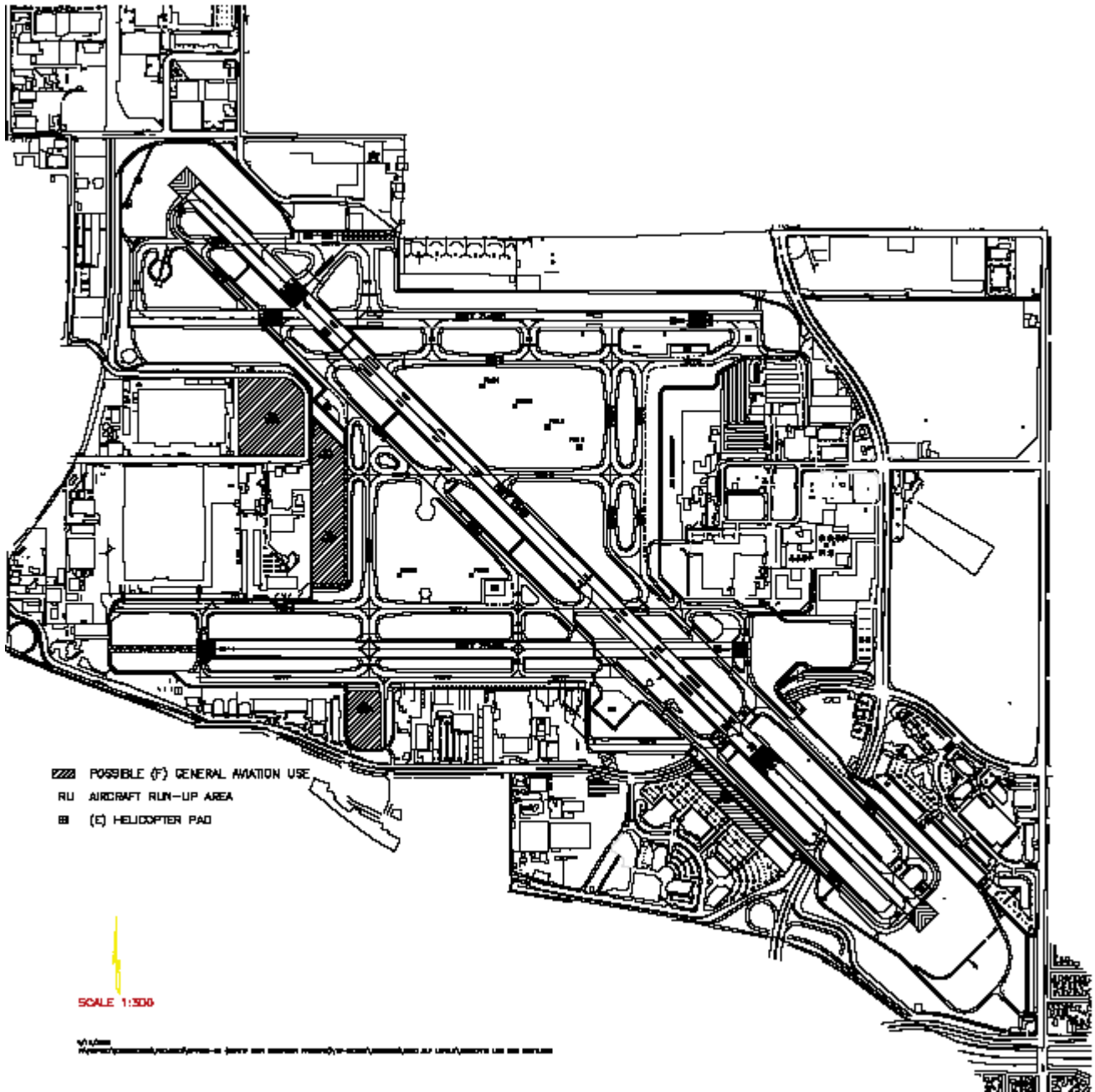


EXHIBIT E

LGB 3-Runway Proposal

Analysis of Runway Entry/Exit Points

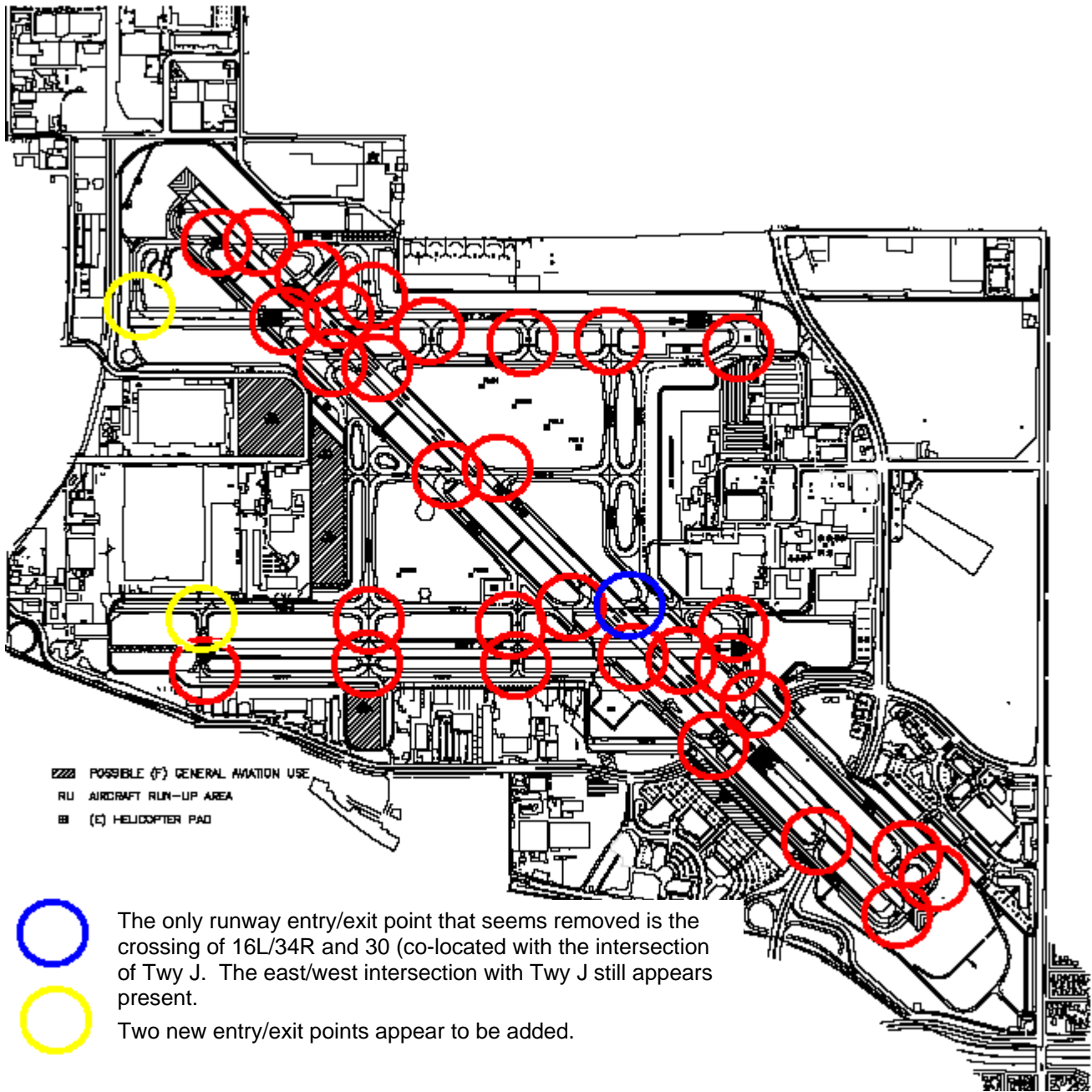


EXHIBIT F

