

Chapter 3

AIRPORT SYSTEM OPTIMIZATION

This chapter presents the numerous factors that affect aviation and surface capacity and the wide range of Airport System optimization options that were considered in consultation with the RASP Subcommittee and other stakeholders during the completion of the RASP.

3.1 FACTORS AFFECTING AVIATION AND SURFACE CAPACITY

The following summarizes the various factors that affect aviation and surface capacity, and influence the evaluation and selection of optimization options considered.

3.1.1 Funding, Policy, and Political Factors

The following summarizes relevant funding, policy, and political factors that affect aviation and surface capacity. Because of a dynamic political and economic environment, there is a great deal of uncertainty about long-term federal policies and funding programs for transportation.

- **FAA Authorization (Aviation Programs).** Since the previous multi-year authorization expired on September 30, 2007, Congress has passed a series of short-term authorization extensions. However, there is no estimate as to when a multi-year bill will be enacted. When a new multi-year authorization is passed, airports are likely to continue to receive approximately the same amount of formula-based Airport Improvement Program (AIP) funding. It is unclear whether or not airports will receive a Passenger Facility Charge (PFC) increase from the current ceiling of \$4.50 (if they do, the ceiling is likely to be between \$5.50 and \$6.00). A marginal increase in discretionary AIP funds is also possible for significant capacity-enhancing projects.
- **Surface Transportation Authorization (Highways and Transit).** Since the previous multi-year authorization expired on September 30, 2009, Congress has passed a series of short-term authorization extensions (continuing existing authorities). However, there is no estimate as to when a new multi-year bill will be enacted. Due to limitations on the Highway Trust Fund, highway and public transportation programs are unlikely to see significant increases. It is also unclear whether or not the Obama Administration's initiatives to increase funding for multimodal discretionary projects will be incorporated in a future multi-year authorization.
- **FAA Regulatory Policy.** The FAA's Policy on Airport Rates and Charges, governing aeronautical charges to airport users, was recently modified to provide greater rate-setting flexibility to airports deemed by the FAA as congested. This could provide the Authority with an enhanced ability to

promote more efficient use of its capacity-constrained airside infrastructure, including incentivizing some existing and future users to take advantage of alternative system airports.

- **U.S. Department of Transportation/FAA Congestion Management.** The U.S. Department of Transportation (USDOT), working with the FAA, has aggressively regulated airports that have become congested and cause delays that impact the National Airspace System. As San Diego International nears capacity within the RASP forecast period, the risk of delays and federal action increase significantly. Actions by USDOT and the FAA could potentially include federal slot controls, which could effectively address delays, but would result in some loss of the Authority's control over the airport. Measures identified in the RASP to accommodate demand offer the potential to delay federal congestion management policies.
- **USDOT/Federal Railroad Administration/Amtrak Rail Policies.** The USDOT and the Federal Railroad Administration (FRA) have sought to aggressively expand the nation's passenger rail system over the last two years. Incremental improvements to the nation's public railroad (Amtrak) and new investments in high speed rail (with tracks dedicated to passenger trains) and higher speed rail (running on shared freight-passenger tracks) have been made as part of the Economic Recovery And Reinvestment Act stimulus program and as part of the rail authorization. Dedicated, multi-year funding for rail improvements, however, has not been identified.
- **Community and Political Views.** Notwithstanding forecasts that highlight a mismatch between future aviation demand and available capacity at San Diego International, there is no public or political consensus in the Study Area that San Diego International in fact will reach its capacity. Many political entities solidified their "capacity" positions regarding the accommodation of long-term aviation demand during the Airport site selection process which concluded in 2006. Their views appear to be driven by strong local concerns about the environmental effects associated with increases in aviation activity and the impacts of infrastructure improvements that would increase capacity to accommodate future demand. Accordingly, measures to address the issue in the Airport System must take into account community views as well as any local political commitments.

3.1.2 Surface, Rail, and Cross Border Initiatives

The following summarizes relevant surface and rail initiatives that will affect aviation and surface transportation capacity and services in the RASP.

- **SANDAG Regional Transportation Plan.** The 2030 Regional Transportation Plan (RTP) provides a regional and integrated surface transportation plan for freeways, roads, and transit. It is the product of collaboration between

SANDAG, the County of San Diego, the County's 18 cities, and a number of regional transportation partners. It serves as the basis for investing in infrastructure from regional, state, and federal sources and prioritizes projects so the plan may be implemented according to the level of funding and changes in transportation needs over the period. Specific projects, such as improved access to San Diego International from I-5 and upgrades to roadways serving San Diego International's air cargo areas, are integral elements of the RTP.

- **California High Speed Rail (HSR).** The state's largest infrastructure project offers the potential for a new intrastate, intercity mode of transportation. Current planning has the Los Angeles to San Francisco segment (Phase 1) opening in approximately 2019 and the Los Angeles to San Diego segment (Phase 2) opening around 2027. For capacity constrained airports across California, HSR offers the possibility of diverting a significant portion of intrastate point-to-point air traffic to rail, thereby freeing up capacity for long-haul, premium traffic at the larger metropolitan airports and alleviating capacity pressures at congested airports for an additional period of time. For Phase 2, the HSR alignments in Southern California, including Ontario International Airport and a still to be determined location in San Diego (the exact alignment will be identified in 2011), offer the potential to help accommodate intrastate, intercity demand beginning late in the 2020s. The California HSR Authority still faces the significant challenge of developing a funding plan for the full build-out of HSR.
- **Los Angeles to San Diego Rail Improvements.** The LOSSAN Corridor (Los Angeles to San Diego, also running north to San Luis Obispo) is a heavily traveled passenger rail corridor operated by Amtrak, offering a convenient link to San Diego from north San Diego County and south Orange County. The State of California, the federal government, Amtrak, and local agencies have contributed to upgrades in the corridor which will continue to improve the level of service in the coming years. Existing planning would connect the LOSSAN Corridor to a future San Diego International Intermodal Transportation Center.
- **Cross-Border (Tijuana) Initiatives.** Tijuana Rodriguez International may have substantial impacts on the RASP and may provide potential system solutions, but will be highly dependent on U.S.-Mexican economic conditions, especially in the Southern California region; convenience of the border-crossing process; and fare differentials between U.S. and Mexican airlines.

3.2 SYSTEM OPTIMIZATION STRATEGIES

The following summarizes the range of Airport System optimization options considered in consultation with the RASP Subcommittee and other stakeholders.

3.2.1 Change in Airport Capability and/or Capacity

The following summarizes potential changes in airport capability or capacity that were considered in the RASP. Considering the County's multiple airports, such actions offer the potential to optimize the Airport System by shifting traffic among the various facilities.

- **Runway Upgrade or Extension.** Increase runway lengths to accommodate larger aircraft types or serve more distant markets; or enhance runway capabilities (FAA design criteria, pavement strength, etc.) to accommodate larger/heavier aircraft types.
- **Passenger Terminal or Cargo Facility Development.** Enhance existing or construct new passenger terminal or air cargo facilities to accommodate higher levels of demand or accommodate new commercial activity.
- **General Aviation Facility Development.** Construct general aviation facilities to accommodate additional based aircraft and/or itinerant demand; upgrade facilities (enhance apron pavement strengths, high-end fixed base operator, etc.) to attract and accommodate additional user types.
- **On-Airport Access Improvements.** Enhance access roadways and parking facilities to accommodate higher levels of passenger, employee, and cargo demand; construct new roadways and parking facilities to accommodate intended users and development programs.

3.2.2 Change in Airport User or Market Served

Since all system airports can accommodate at least a portion of the general aviation fleet, and the majority are capable of accommodating corporate aviation, measures considered in this category focus on constructing facilities and implementing operating procedures to accommodate new or additional commercial passenger or air cargo activity (policies under FAR Part 139).

For candidate airports, changes required to change an airport's user base/market include: (1) facility construction to meet FAA design standards, (2) policy and operational requirements (e.g., security) to meet FAR Part 139 requirements, and (3) increases in operations and maintenance (O&M) costs. Community and political opinions were also considered.

With regard to the Airport System, Montgomery Field and Gillespie Field would require substantial airfield improvements to accommodate commercial passenger aircraft, such as regional jets. Montgomery has appropriate runway and taxiway

separations, but may require relocation of other facilities. Brown Field has the necessary design standards in place, but the runway would need to be reconstructed and strengthened to accommodate all commercial service. In addition, there is considerable community opposition to initiating commercial service at Brown Field.

In most cases, however, this option was deemed infeasible due to cost considerations. Based on rough order of magnitude cost estimates for Brown Field and Montgomery Field, the cost to receive an FAR Part 139 operating certificate from FAA ranges between \$20-30 million, primarily for upgrades to airport layout and design standards and facility construction (i.e., security equipment, aircraft rescue, fire fighting, etc.). In addition, approximately \$1.0 million would be required annually for increased staffing and O&M costs.

3.2.3 Change in Airport Fleet Mix

Potential changes to the types of aircraft that may operate from San Diego International were suggested as a potential optimization option. Such measures hypothetically would be implemented by a specific policy call to shift to larger capacity aircraft to maximize the efficiency of the airfield and better accommodate long-term passenger demand. However, there are numerous restrictions and complications associated with such a policy, as summarized below:

First, when providing airport funding grants, FAA requires assurances from airport sponsors that limit the sponsor's ability to discriminate against any aircraft, whether they are small commercial service or general aviation aircraft. Therefore, a sponsor cannot dictate the type of aircraft its users operate from the facility. If an airport accepts federal grants, it must accept all and any type of aircraft that wants to operate from the facility (the only exceptions are governed by a federal slot regime).

Second, San Diego International's existing fleet mix is already favorable as the airport has a relatively low proportion of regional jets and turboprops. The airport's largest carrier is Southwest Airlines which flies narrow-body aircraft (i.e., B737). While air carriers can and do fly aircraft with greater capacities from San Diego International (e.g., B757, B767, and B777), the likelihood is that given the size of the markets served, air carriers are unlikely to shift a large proportion of their fleets to wide-body aircraft, especially Southwest, which does not fly larger aircraft. In addition, while average seat capacity has increased in some markets as air carriers have shifted from small 30- and 50-seat regional jets to 70- and 90- seat aircraft, that is unlikely to be widespread at San Diego International due to the fact that a large number of 30- and 50- seat aircraft are used to connect to Los Angeles International Airport (LAX). Frequent service from San Diego, which is necessary to support connecting traffic at LAX, serves to keep the average aircraft size down.

3.2.4 Federal, State, and/or Local Aviation Initiatives

The following summarizes potential Federal, state, and/or local aviation-based initiatives considered in the RASP.

- **Congestion Management (Locally Initiated).** This strategy is intended to promote more efficient use of existing aviation facilities (airfield or landside) through changes in aeronautical and non-aeronautical rate setting. Such strategies are heavily circumscribed by federal law, FAA regulations, and policy.
- **Airport Rates/Charges by User Type.** In 2008, the FAA clarified its airport rates and charges policy in several areas, including explicitly permitting airport operators to enact a two-part landing fee structure consisting of both an operation charge and a weight-based charge. Such a policy would proportionally reduce the charges on higher-capacity aircraft and raise the charges on smaller-capacity aircraft. Implementation of a two-part landing fee could potentially encourage more flights in larger aircraft and greater passenger throughput. Airports seeking to implement a two-part landing fee would have to conduct an airfield cost allocation study and consult with users prior to its implementation.
- **Traffic to Other Airports.** A strategy of inducing traffic (primarily general aviation traffic) from San Diego International to other system airports could be implemented through a “push” strategy – raising fees (landing fees, leasing costs, etc.) at San Diego International and/or a “pull” strategy – lowering fees at San Diego International’s reliever airports and improving facilities at alternative airports. These measures, in combination with facility improvements to meet FAR Part 139 requirements, could also result in a shifting of commuter operations (using smaller aircraft) to alternative airports. Options available under FAA rules to multi-airport systems, such as that of the Metropolitan Airport Commission in Minneapolis-St. Paul (which operates six reliever airports in addition to a large-hub commercial service airport), to explicitly subsidize reliever airports are unavailable in San Diego where governance authority over airports is divided.
- **Slot Control (Federal Management).** Federal slot controls are imposed by USDOT and the FAA where airport delays become severe and impact an airport, regional air traffic, and/or the National Airspace System. Typically, limits or “caps” are placed on the airport’s airside operations, providing preference to current commercial aviation users and reserving a very small allotment for general aviation and new users. Federal controls represent in effect a federal takeover of the airport, severely constraining an airport’s ability to attract new air service. Generally, communities prefer to avoid losing control of the airport either through new infrastructure development or through measures to prioritize commercial service traffic while offering alternatives for other users.
- **Enhancement of Tijuana Airport for U.S.-Based Travelers.** Public-private partnerships for enhanced border crossings offer possibilities for better access

to Tijuana Rodriguez International Airport. Customs, security, and ease of landside access/connections are important criteria for success.

3.2.5 Changes to Surface Infrastructure

The following summarizes potential changes to surface infrastructure considered in the RASP.

- **Improve Access (links) Between Airports and Regional Surface System.** This strategy would enhance surface capacity and access into or out of system airports through new roadways and better operation of existing infrastructure. Costs vary considerably based on the nature and extent of improvement.
- **Enhance the Regional Transportation System.** This strategy would enhance surface capacity and connections to system airports through multimodal regional infrastructure improvements (e.g., LOSSAN Rail, Transit First, San Diego Bus Rapid Transit, and Corridor System Management Plans).
- **Improve Local Transit Services.** This strategy would enhance surface capacity and access into or out of system airports by improving existing transit systems, including expanded route coverage, frequencies, and connections (e.g., connections from downtown San Diego to San Diego International).
- **Remote Terminals/"HOV" Lanes.** Remote terminals provide aviation passenger express bus service between airport and remotely located passenger terminal/station or parking facilities (e.g., Los Angeles' Van Nuys FlyAway, Boston's Logan Express, or San Francisco's Marin Airporter). In the San Diego Study Area, there is the potential for remote terminals at McClellan-Palomar or Brown Field with bus service to San Diego or Tijuana Rodriguez International Airports.