

## Chapter 5

### ALTERNATIVE SCENARIOS

This chapter presents a summary of the alternative scenarios that were identified in consultation with the RASP Subcommittee and other stakeholders during the conduct of the RASP.

#### 5.1 OVERVIEW OF ALTERNATIVE SCENARIOS

After an extensive process of considering all reasonable measures that could be taken to optimize the San Diego County Airport System (see Chapter 3), the following five families of scenarios were identified for further consideration. Each family is oriented toward optimizing a certain market or user type associated with the Airport System. Each family includes individual alternative scenarios, resulting in a total of 15 scenarios that were developed in detail for further evaluation.

##### 1. Commercial Passenger Optimization

- A. Full build-out of the ITC and north side terminal at San Diego International
- B. Preserve San Diego International airfield capacity for commercial passenger service
- C. Enhance commercial passenger service at McClellan-Palomar Airport
- D. Introduce commercial passenger service at Brown Field Municipal Airport
- E. Up-gauge San Diego International's Aircraft Fleet Mix – Narrow-body Fleet
- F. Up-gauge San Diego International's Aircraft Fleet Mix – Increased Wide-body Fleet

##### 2. Enhanced Utilization of Tijuana

- A. Facilitate border crossings
- B. Aviation passenger cross border facility
- C. Cross border airport terminal

##### 3. California High Speed Rail

- A. Station at downtown San Diego
- B. Station at San Diego International

##### 4. General Aviation Optimization

- A. Enhance McClellan-Palomar Airport for high-end/corporate general aviation
- B. Enhance Brown Field Municipal Airport for high-end/corporate general aviation
- C. Enhance Gillespie Field for mixed-use general aviation

##### 5. Air Cargo Optimization

- A. Introduce cargo service at Brown Field Municipal Airport

The RASP scenarios include hypothetical measures that could be taken to optimize markets and user types (e.g., preserve San Diego International’s airfield for commercial passenger service) and planned measures (e.g., aviation passenger cross border facility at Tijuana Rodriguez International and California High Speed Rail) which, if implemented, would serve to optimize the Airport System. Several of the 15 scenarios are designed to measure the maximum possible effect of a particular theoretical action. For example, given current FAA regulations and requirements, scenarios intended to preserve San Diego International’s airfield for commercial passenger service and eliminate all non-commercial services are practically impossible and inadvisable to implement in full. Nevertheless, the RASP Subcommittee and stakeholders believed there was value to estimate the impact of these measures so as to better understand the range of available options as well as the benefits and costs of attempting to address projected suppressed demand. Hence, scenarios should be viewed as providing useful information and evidence for policymakers, airport operators, and other stakeholders who will make decisions as to how best to meet the travel needs of San Diego County into the future.

For modeling purposes, all alternative scenarios assume the implementation of facilities and improvements identified in the Baseline Scenario (see Chapter 4), and that the baseline capacity of San Diego International is approximately 14.2 million annual enplanements.

The following sections present a detailed description and the evaluation factors associated with each alternative scenario.

## **5.2 COMMERCIAL PASSENGER OPTIMIZATION**

The following describes the six scenarios intended to optimize commercial passenger (or airline) activity within the San Diego County Airport System.

### **5.2.1 Scenario 1A: Full Build-out of the ITC and North Side Terminal at San Diego International**

This scenario maximizes the use of San Diego International for commercial passenger activity by expanding the Intermodal Transit Center (ITC) to accommodate between 1.2 and 1.8 million passengers. The full build-out of the ITC would include passenger processing facilities (e.g., ticketing, baggage claim, security screening), and an automated people mover (APM) connecting the ITC to concourses on the south side of the Airport.

Additional facility improvements associated with this scenario include the following:

- Property acquisitions
- Expansion of automobile parking facilities
- Expansion of the consolidated rental car facility (CONRAC)
- Modifications to the I-5 ramps

The total cost for Scenario 1A is estimated to be \$1.2 billion and could be funded from a variety of sources, including bonds, private sources, Passenger Facility Charges (PFC), and rental car Customer Facility Charges (CFC). Funding of the non-aviation elements of the ITC requires careful consideration because airline funding support is unlikely given the costs and minimal effects on airfield capacity. A breakdown of the cost estimates, funding sources, and an implementation timeline is provided in Appendix C.

Key assumptions for Scenario 1A include:

- Ground access costs to San Diego International are assumed to decrease over the planning period due to higher transit ridership and improved access
- Ground access time to San Diego International is assumed to remain unchanged (the decrease in average ground access time due to roadway access improvements is offset by the increase in average ground access time due to higher transit ridership)

### **5.2.2 Scenario 1B: Preserve San Diego International’s Airfield Capacity for Commercial Passenger Service**

This scenario maximizes the use of San Diego International for commercial passenger activity by encouraging non-commercial and general aviation activity to use alternative facilities. This scenario would be implemented via leasing and pricing strategies and would require a “coordinated” FBO/general aviation policy between the Authority and the other airport sponsors in San Diego County.

To be implementable, Scenario 1B requires facilities at surrounding airports to be similar or with a higher level of service to facilities at San Diego International. The following specific facility improvements were assumed for modeling and cost estimating purposes:

- **Gillespie Field** – Construction of additional FBO/corporate hangars (El Cajon Development); resolve deviations from FAA design standards
- **Montgomery Field** – Construction of new FBO, corporate hangars
- **Brown Field** – Construction of a new FBO, corporate hangars, T-hangars, and helicopter FBO (phase 1 of proposed development)

The total cost for Scenario 1B is estimated to be \$188 million and would be funded primarily from private sources. A breakdown of the cost estimates, funding sources, and an implementation timeline is provided in Appendix C.

Additional factors associated with Scenario 1B include potential legal scrutiny based on perceived access restrictions and the fact that there is no legal mechanism to require general aviation users to vacate San Diego International in lieu of reliever

airports. In addition, the runway lengths at Montgomery and Gillespie fields are not capable of handling the full range of many high-end corporate general aviation aircraft given range requirements.

Key assumptions for Scenario 1B include:

- All forecast general aviation operations at San Diego International are replaced with commercial aircraft operations
- San Diego International's capacity limit would increase from 14.2 to 15.9 million annual enplaned passengers\*

### **5.2.3 Scenario 1C: Enhance Commercial Passenger Service at McClellan-Palomar**

This scenario is intended to optimize regional commercial activity by providing facilities for multi-carrier passenger service at McClellan-Palomar. This scenario would be implemented through leasing and pricing strategies (e.g., strategies making McClellan-Palomar a more attractive option for commercial air service than San Diego International).

To be implementable, Scenario 1C requires the following new or enhanced facilities at McClellan-Palomar:

- 1,000-foot runway extension for a total length of 6,000 feet; requires a bridge foundation due to landfill location
- 8,000 sq ft passenger terminal expansion for a total of 27,000 sq ft
- 2,800 space automobile parking deck

The total cost for Scenario 1C is estimated to be \$160 million and would be funded primarily from AIP, PFC, bonds, and/or private sources. A breakdown of the cost estimates, funding sources, and implementation timeline is provided in Appendix C.

Additional factors associated with Scenario 1C include the fact that no mainline jets could use the facility due to irresolvable FAA-required runway-taxiway separation criteria, and therefore, the fleet would remain restricted to regional jet (C-II) type aircraft. Extensive environmental review and approvals would also be required for the runway extension. Finally, most existing airlines at San Diego International are unlikely to split operations between San Diego International and McClellan-Palomar. Therefore, air service would likely be limited to new entrant airlines.

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\* Based on average seat capacity and load factors provided in the *Destination Lindbergh* report.

Key assumptions for Scenario 1C are as follows:

- Airport capacity would be increased from approximately 500 to 750 thousand annual passenger enplanements
- Non-stop/direct services would be offered to markets within a 1,500 mile radius
- Two subsets of air service “drivers” are considered: (1) McClellan-Palomar infrastructure enhancements where facility expansion attracts more activity; and (2) San Diego International capacity limits where the lack of capacity causes aviation activity to go elsewhere

#### **5.2.4 Scenario 1D: Introduce Commercial Passenger Service at Brown Field Municipal Airport**

This scenario maximizes regional commercial passenger activity by providing facilities for multi-carrier commercial service at Brown Field. Such a scenario would be implemented via leasing and pricing strategies (e.g., strategies making Brown Field a more attractive option for commercial air service than San Diego International).

To be implementable, Scenario 1D requires the following new or enhanced facilities at Brown Field:

- New passenger terminal building
- Access/entrance roadway improvements
- 2,800 automobile parking spaces
- Facilities for FAR Part 139 certification (e.g., security fencing, firefighting facilities)
- Various utility upgrades

The total cost for Scenario 1D is estimated to be \$100 million and would be funded primarily from AIP and bonds. A breakdown of the cost estimates, funding sources, and an implementation timeline is provided in Appendix C.

Additional factors associated with Scenario 1D include the following:

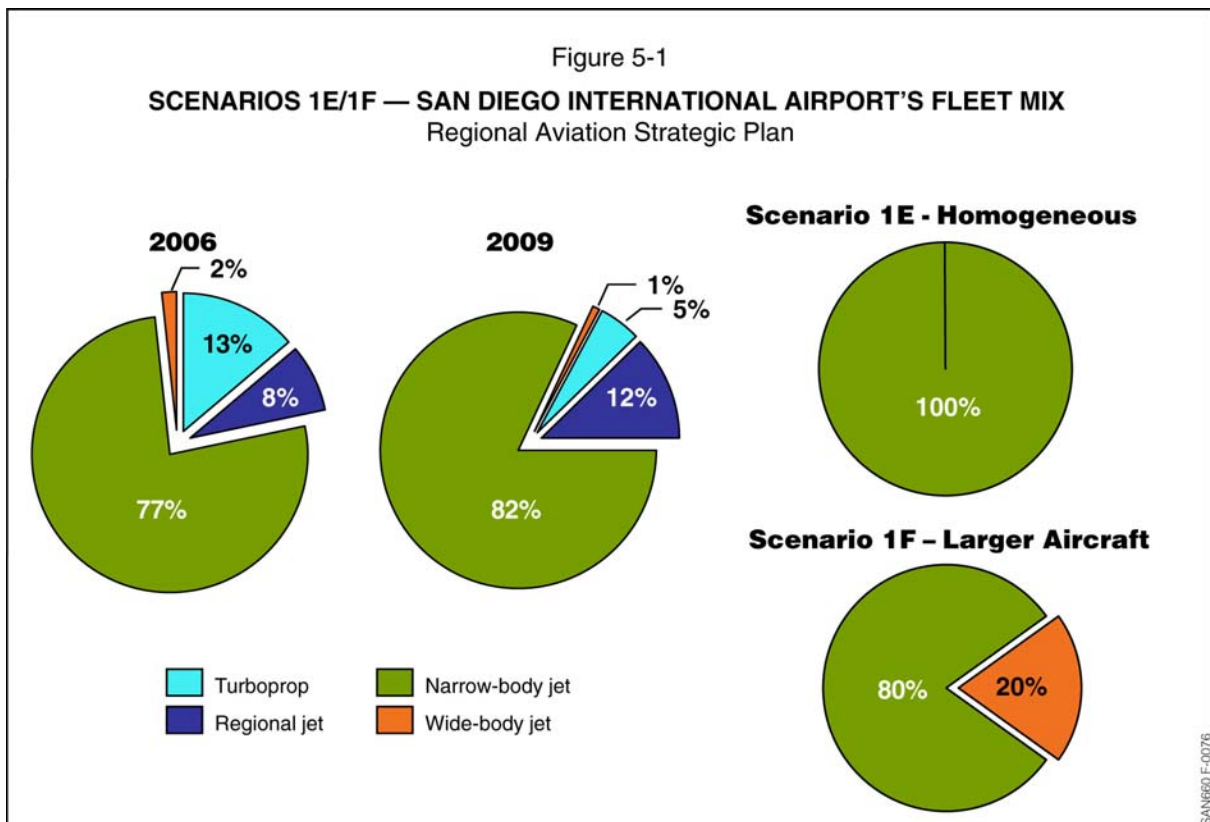
- The airfield would not restrict the type of aircraft operating at the facility, but service would most likely be provided by regional jets (e.g., ≤70 seat aircraft)
- The proximity of Brown Field to two existing commercial service airports (San Diego and Tijuana Rodriguez International Airports) negatively impacts the viability of this scenario

- The remote location in the southern portion of San Diego County is not desirable for commercial passenger operators
- Terrain and airspace complications hinder the implementation of precision approaches – necessary facilities for the initiation of commercial service
- There has been significant historic public and political opposition to the introduction of commercial service to Brown Field

**5.2.5 Scenarios 1E/F: Up-gauge San Diego International’s Aircraft Fleet Mix**

These scenarios maximize the use of San Diego International for commercial passenger activity as follows:

- **Scenario 1E: Homogeneous Narrow-body Fleet** – Encourage air carriers to reduce the use of regional jet or smaller aircraft at San Diego International; aircraft operations would be replaced by narrow-body type aircraft with an average seat capacity of 140 seats
- **Scenario 1F: Increased Wide-body Fleet** – Encourage air carriers to deploy large capacity aircraft at San Diego International; assumes the future fleet mix would comprised of 737 aircraft (50%), 757 aircraft (30%), and 767 aircraft (20%), having an average seat capacity of 180 seats



Under either scenario, general aviation and air cargo operators would be encouraged to use alternative airports through modified airport rates and charges (see Scenario 1B). To be implementable, Scenarios 1E/F require improvements at the outlying airports, and therefore costs estimates are similar to Scenario 1B (\$188 million).

The following summarizes the various constraints associated with implementing either Scenarios 1E/F:

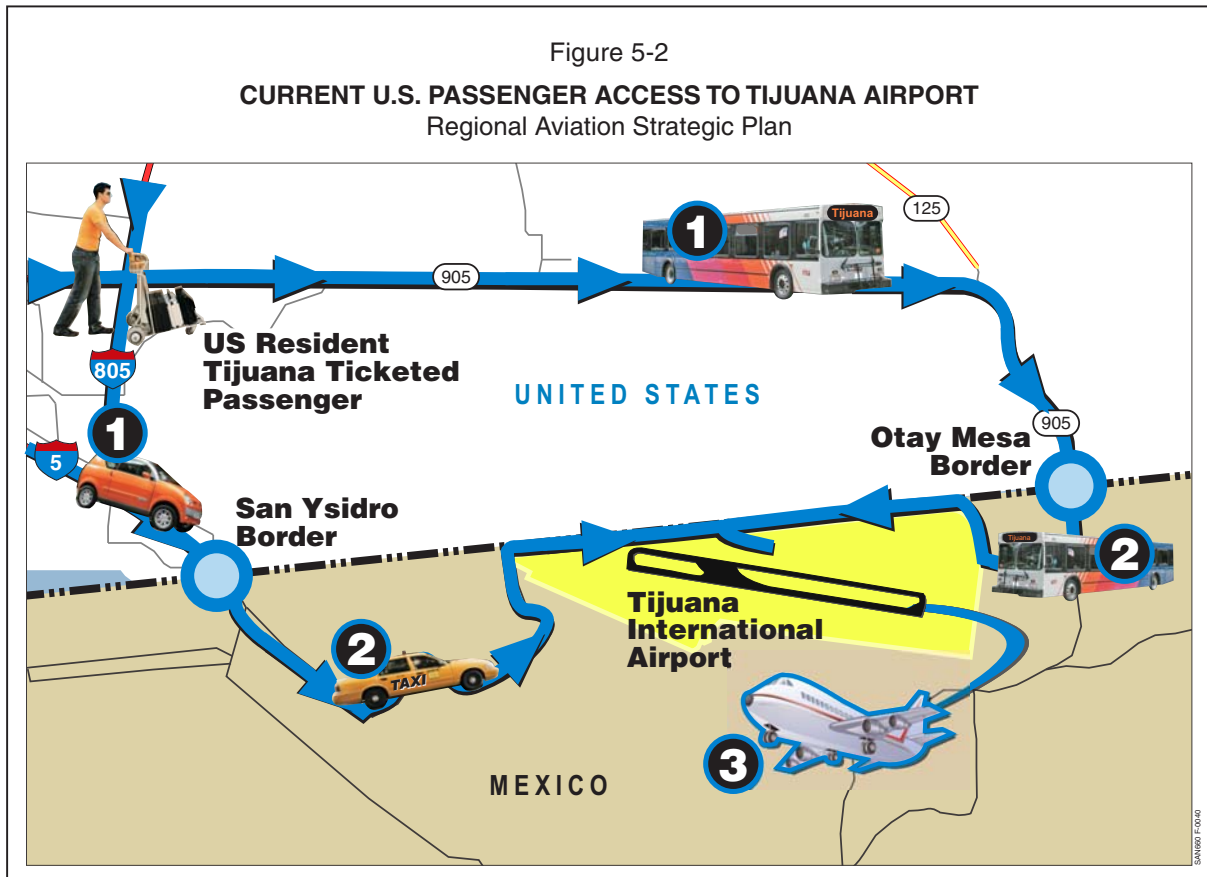
- The Authority has no legal authority to dictate the type of aircraft operated by its users; in the absence of an explicit federal grant authority or federal management, access restrictions for a federally funded transportation facility are not allowed
- San Diego International’s fleet mix is already favorable (nearly optimized) as the Airport has a relatively low proportion of regional jets and turboprops
- Market forces normally prevail; air carriers “right size” seat capacity based on the characteristics of their overall network, including destinations served, services, and demand

### **5.3 ENHANCED UTILIZATION OF TIJUANA**

The following three scenarios optimize the utilization of Tijuana Rodriguez International Airport. For modeling purposes, the Baseline Scenario assumes the capacity of Tijuana Rodriguez International would increase from approximately 2.5 to 7.0 million annual passenger enplanements in response to market demands. Costs associated with these improvements are assumed to be incurred by GAP and are not included in the individual scenario costs estimates provided below.

#### **5.3.1 Scenario 2A: Facilitate Border Crossings**

This scenario is intended to increase the use of Tijuana Rodriguez International for commercial passenger activity by improving the existing Otay Mesa and San Ysidro international border crossings. Scenario 2A is on Figure 5-2. Scenario 2A assumes the implementation of *Project Smart Border 2010*, which is a San Diego Regional Chamber of Commerce initiative to improve border crossing and access times, but does not propose any new border crossings.



Key assumptions for Scenario 2A are as follows:

- Border crossing times would be reduced by 40% from approximately 45 minutes\*; border crossing costs would remain unchanged from the Baseline Scenario
- Increased shuttle and bus service to Tijuana from the greater Los Angeles metropolitan and San Diego regions
- Increases in air service to Mexican/international markets and limited increases in air service to U.S. markets
- Facility improvements at Tijuana Rodriguez International including upgraded terminal and concourses (i.e., improved and refurbished concessions, holdrooms, ticket counters, etc.); and a new airport bus terminal to accommodate additional passenger activity originating from a U.S. shuttle bus activity

\* Border crossing time is a weighted average wait time computed based on total border crossings reported in 2008, and CBP Border Wait Time reported on U.S. Customs and Border Protection website on 11/24/2009 between 9 a.m. and 4 p.m.

The total cost for Scenario 2A is estimated to be \$30 million and could be funded from a variety of sources, including airline fees, federal CBP, and private developers. A breakdown of the cost estimates and funding sources as well as an implementation timeline is provided in Appendix C.

Additional factors associated with Scenario 2B include the distance and time required to travel to Tijuana from downtown San Diego and northern San Diego County, and the myriad cultural factors associated with U.S. passengers entering Mexico (e.g., language barriers, security issues). Cooperation with GAP would be essential for scenario implementation.

### **5.3.2 Scenario 2B: Aviation Passenger Cross Border Facility**

This scenario increases the use of Tijuana Rodriguez International for commercial passenger activity by offering a cross border facility (CBF), allowing U.S. ticketed passengers exclusive and convenient access into the airport. Scenario 2B is depicted in Figure 5-3. The CBF would operate similar to a new pedestrian port of entry and would include vehicle parking, customs/border control, and a landside “connection” or bridge into the airport. Ticketing, security screening, and baggage handling would remain on the Mexican side in the existing terminal building. A user fee to access the CBF would be applied to all users.

Scenario 2B assumes increases in air service to Mexican, international, and U.S. markets; all U.S. origin passengers will access Tijuana Rodriguez International via the CBF, and no U.S. passengers would continue to use existing border crossings to access the airport.

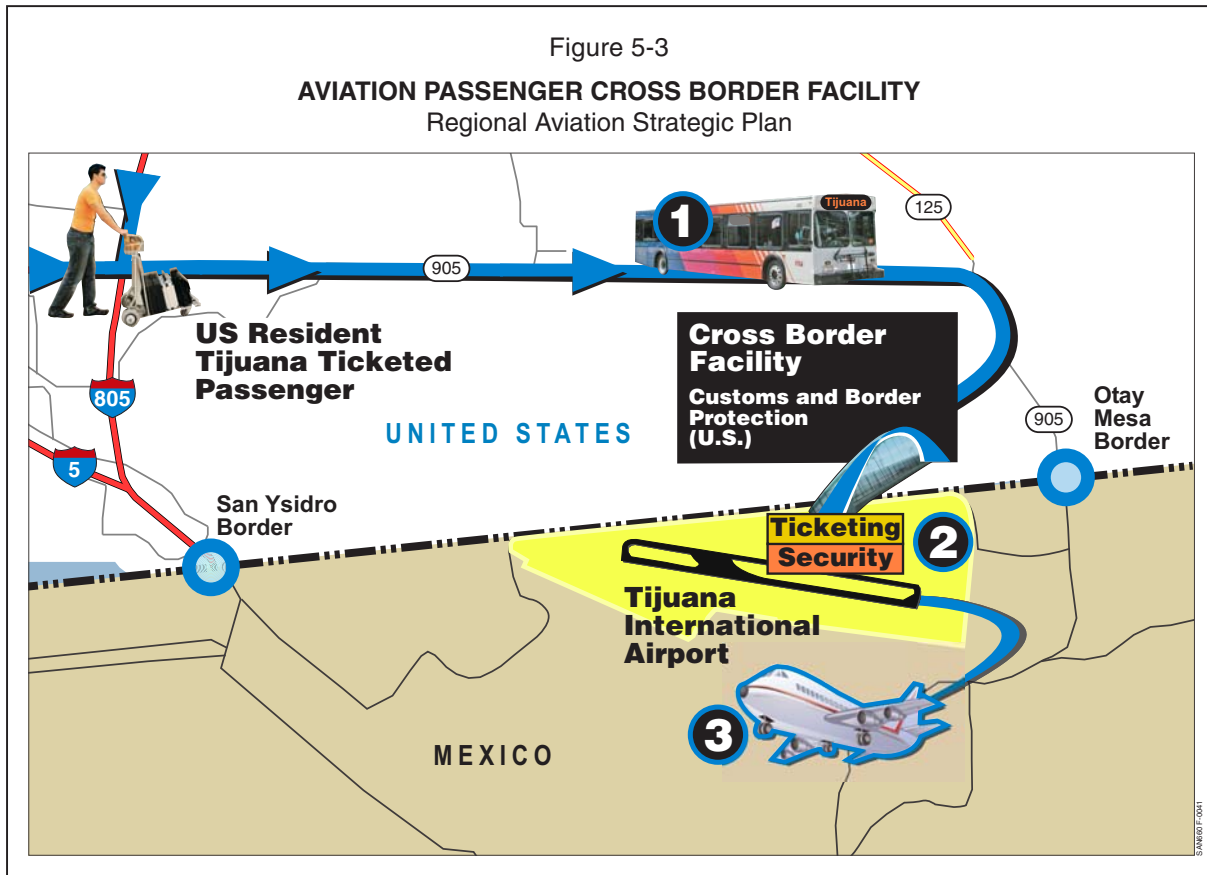
Specific facility improvements associated with this scenario include:

- Tijuana Rodriguez International – Upgraded terminal and concourses (e.g., improved and refurbished concessions, holdrooms, ticket counters)
- CBF – A 50,000 sq ft facility with a connecting bridge to Tijuana Rodriguez International; multimodal curbside for private vehicles, buses, and taxis; and short- and long-term automobile parking
- Surface Access – Roadway improvements to Highway 905 (Otay Mesa Road) to maintain the level of service assumed in the Baseline Scenario

The total cost for Scenario 2B is estimated to be \$165 million and would be funded from private sources. Implementation is assumed in 2012. A breakdown of the cost estimates, funding sources, and implementation timeline is provided in Appendix C.

Additional factors associated with Scenario 2B include the distance and time required to travel to Tijuana from downtown San Diego and northern San Diego County, and the myriad cultural factors associated with U.S. passengers entering

Mexico (e.g., language barriers, security issues). Cooperation with GAP would be essential for scenario implementation.



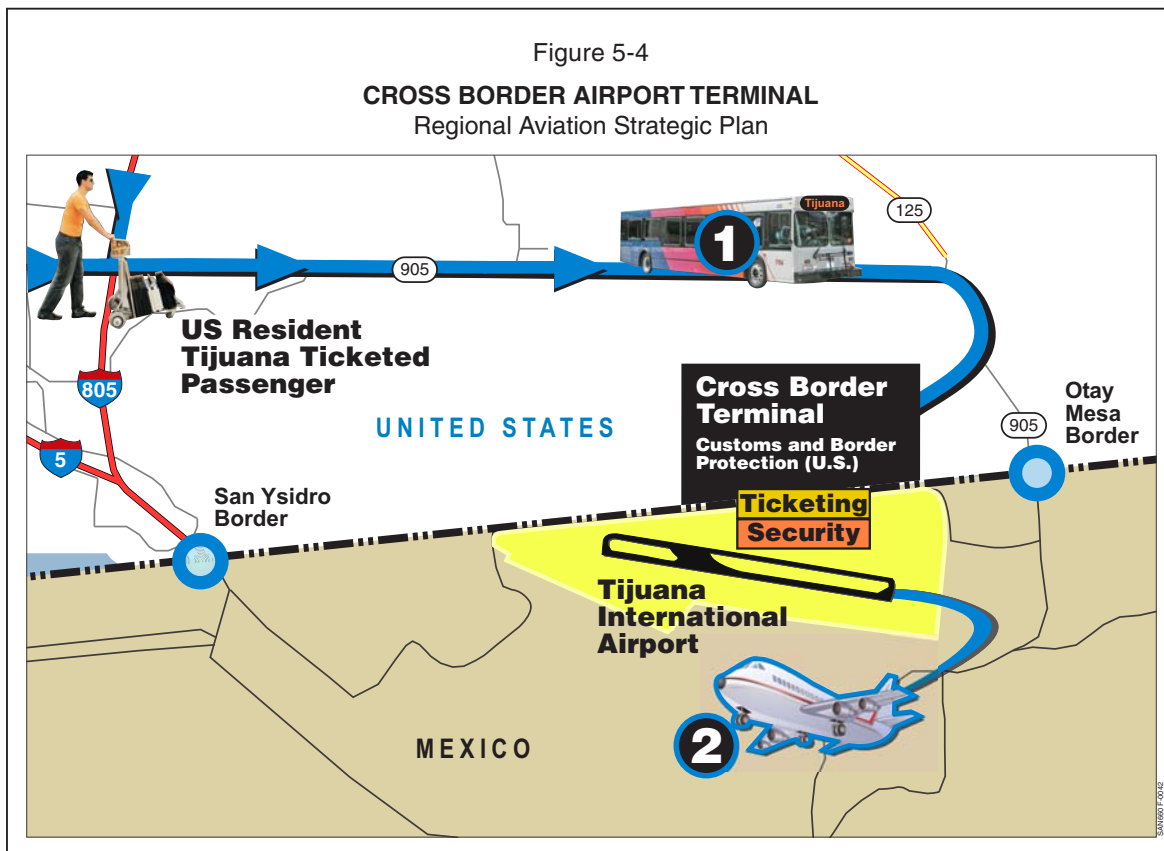
### 5.3.3 Scenario 2C: Cross Border Airport Terminal

This scenario increases the use of Tijuana Rodriguez International for commercial passenger activity by offering a new passenger cross border terminal (CBT) on the U.S. side of the border to facilitate processing of U.S. passengers utilizing Tijuana Rodriguez International. Scenario 2C is depicted in Figure 5-4. Specifically, the CBT would include parking facilities and redundant Mexican/U.S. passenger processing facilities, such as ticketing, security screening, baggage handling, and customs border control. However, all flights to the U.S. would be considered “international” even if passengers are checked-in on the U.S. side in the CBT. A user fee to access the CBT would be applied to all users.

Similar to Scenario 2B, Scenario 2C also assumes increases in air service to Mexican, international, and U.S. markets; all U.S. origin passengers will access Tijuana Rodriguez International via the CBT and no U.S. passengers would continue to use existing border crossings to access the airport.

Specific facility improvements associated with this scenario include:

- Tijuana Rodriguez International – Upgraded terminal and concourses (i.e., improved and refurbished concessions, holdrooms, ticket counters, etc.); and the capacity of the airport is increased from 7.0 to 10.0 million annual enplanements
- CBT – A 125,000 sq ft terminal facility with a capacity of 3.0 million annual enplanements; multimodal curbside for private vehicles, buses, and taxis; and short- and long-term automobile parking
- Surface Access – Roadway improvements to Highway 905 (Otay Mesa Road) to maintain the level of service assumed in the Baseline Scenario

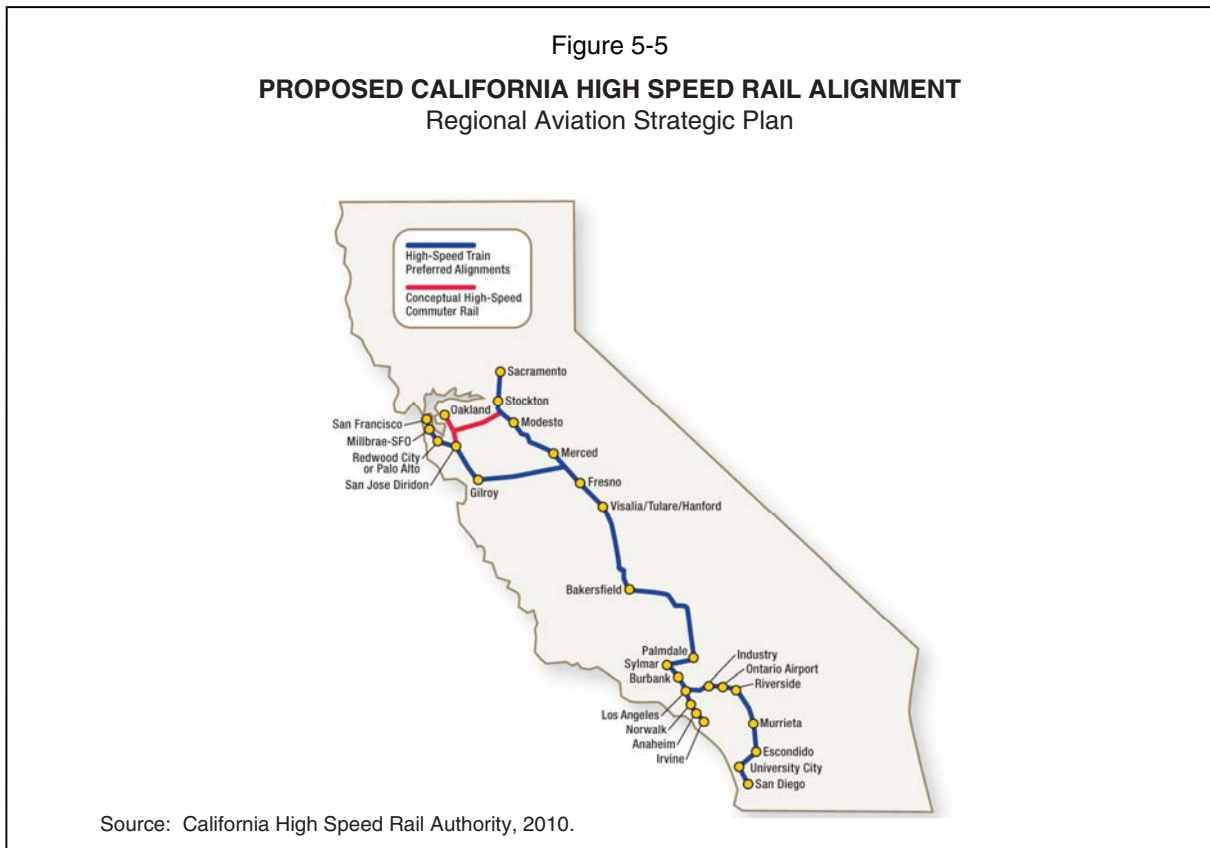


The total cost for Scenario 2C is estimated to be \$235 million and would be funded from private sources. Implementation is assumed in 2020. A breakdown of the cost estimates, funding sources, and implementation timeline is provided in Appendix C.

Additional factors for consideration include political and regulatory factors and the time required to travel to the border from downtown San Diego and northern San Diego County. Cooperation with GAP and between the U.S. and Mexican governments would be imperative.

## 5.4 CALIFORNIA HIGH SPEED RAIL

The proposed California HSR alignment is presented on Figure 5-5. Under current plans, the southern end of the HSR corridor will terminate in San Diego County, at either the downtown Santa Fe depot /train station or San Diego International Airport, and include stations at downtown Los Angeles Union Station and Ontario International Airport.



HSR can be used as an alternative or replacement for intra-California air travel (see Figure 5-6) or to access an airport within California (see Figure 5-7). Both “mode choices” are assessed in the RASP. Time and cost assumptions for the two mode choices are presented on Figure 5-8.

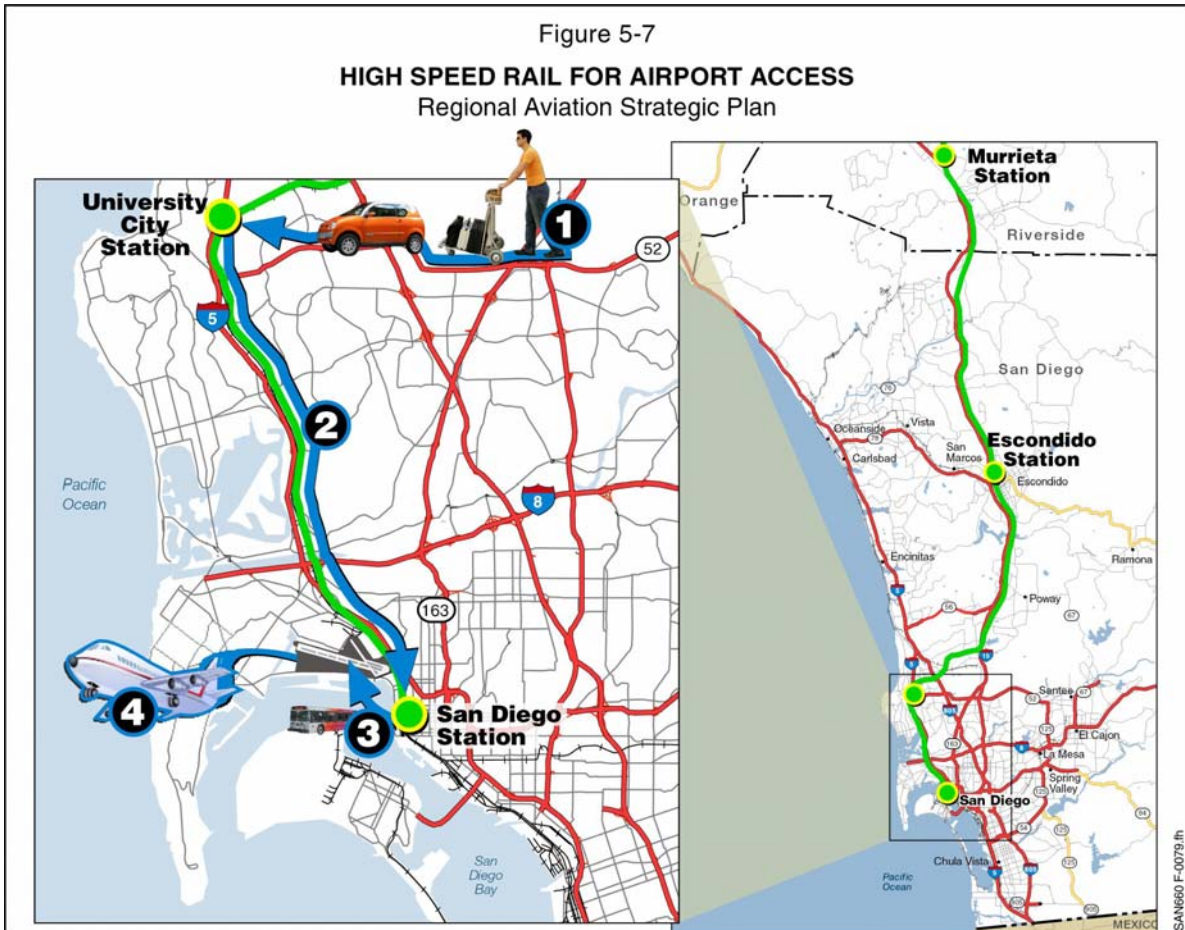
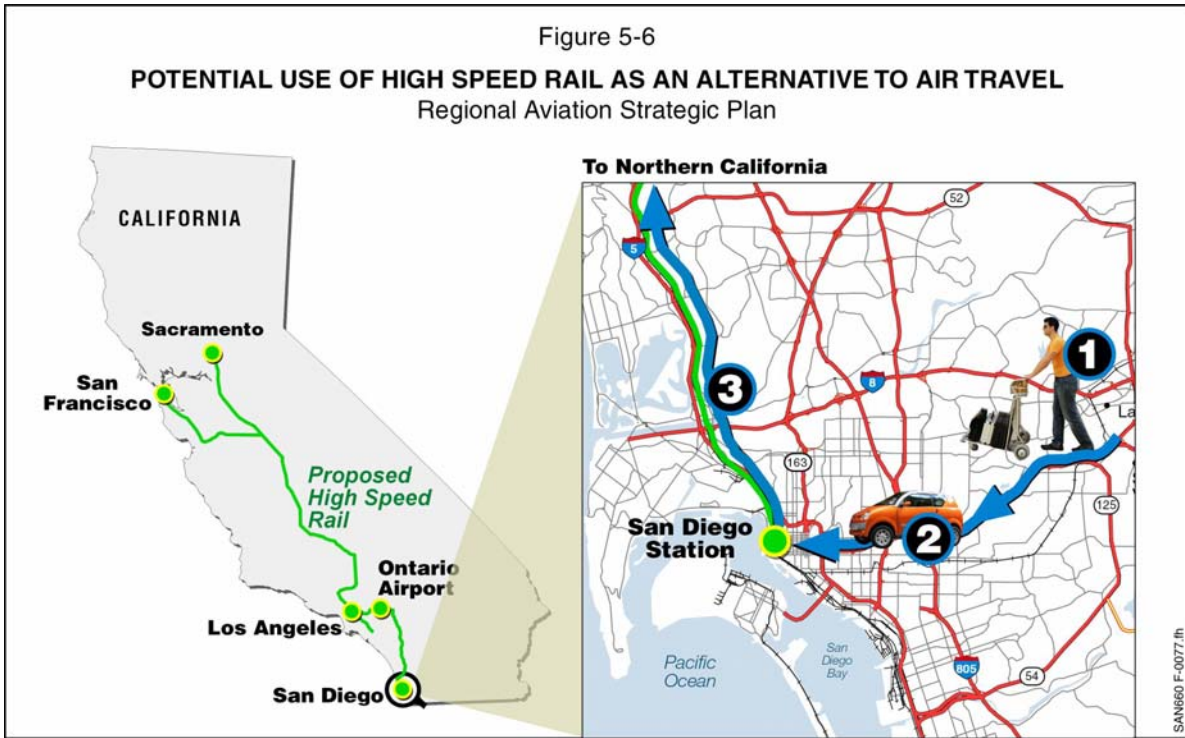


Figure 5-8  
**TIME AND COST ASSUMPTIONS FOR VARIOUS MODE CHOICES**  
Regional Aviation Strategic Plan

	Total Time	Total Cost
<b>Air Only Trip (Baseline)</b>	Time to get to airport + Air boarding time (75 min) + Flight time	Cost of driving to airport + Flight ticket cost <small>model-driven</small>
<b>HSR Only Trip</b>	Time to get to HSR station + HSR boarding time (15 min) + HSR travel time	Cost of driving to HSR station + HSR ticket cost
<b>Mixed Mode Trip</b>	Time to get to HSR station + HSR boarding time (15 min) + HSR travel time + Connection time (if any) + Air boarding time (75 min) + Flight time	Cost of driving to HSR station + HSR ticket cost + Connection cost (if any) + Flight ticket cost <small>model-driven</small>

Red text source = SANDAG/SCAG      Blue text = Official Airline Guide  
Green text source = California High Speed Rail Authority      Black text = RASP Model

The following describes the two scenarios assessed in the RASP. For modeling purposes, Phase 1 is estimated to commence service in 2019 (includes Los Angeles Union Station but not Ontario International) and Phase 2 (including Ontario International south to San Diego County) is estimated to start in 2027. The cost estimates and allocation of costs among funding sources is unknown, but is anticipated to be greater than \$1.0 billion.

#### 5.4.1 Scenario 3A: HSR Station at Downtown San Diego

This scenario assumes a downtown San Diego HSR terminus at the existing Santa Fe train Station, with ground access connections to the ITC at San Diego International. Options for connectivity between downtown and San Diego International include trolley service (existing trolley lines with new/additional trolleys during peak) and new bus routes (with new/additional buses).

Additionally, this scenario provides San Diego residents and visitors an alternative access to Ontario International Airport via HSR which is proposed to connect the San Diego region via the Inland Empire to the greater Los Angeles metropolitan area. A HSR station at Ontario Airport is assumed to be located within, or the vicinity of, the Airport terminal for optimal connection. Options for connectivity include direct pedestrian access, moving walk and/or airport shuttle.

The California HSR Authority's estimates and assumptions for the "83% Scenario" were adopted for the RASP and used to calibrate the Model. Key assumptions include:

- HSR fares assumed to be 83% of airfare costs
- HSR travel time between San Diego and San Francisco approximately four hours
- Passengers arrive at the HSR station 15 minutes prior to departure (as compared to 75 minutes for air travel)

Assumptions regarding connection times and fares are as follows:

- Downtown HSR station to San Diego International Airport terminal = 30 min connection time / \$4
- Ontario International HSR station to the Ontario International Airport terminal = 10 min connection time / \$0

#### **5.4.2 Scenario 3B: HSR Station at San Diego International Airport**

This scenario assumes a HSR station on the north side of San Diego International, adjacent or connected to the ITC. The HSR station would offer direct pedestrian access to the ITC, and include auto parking, CONRAC, and some passenger processing (see Scenario 1A).

The key assumptions as related to HSR fare, HSR travel times, opening years, pre-boarding times, and Ontario International connection times are the same as Scenario 3A. The assumption regarding connection times at San Diego is the following: ITC HSR station to the San Diego International Airport terminal = 10 min connection time / \$0.

### **5.5 GENERAL AVIATION OPTIMIZATION**

The following sections describe the general aviation scenarios intended to optimize the San Diego County Airport System by redistributing general aviation activity and based aircraft away from airports that are dedicated to commercial passenger service. Each scenario is based on the premise that facility improvements (e.g., implementation of an ILS, high-end FBO, new storage facilities) at certain airports may incentivize aircraft owners to relocate to or increase their utilization of the airport being improved.

A separate general aviation demand model (GA Model) was developed independently to evaluate the General Aviation Optimization scenarios. In general, the GA Model evaluates potential changes in general aviation aircraft operations at airports subject to improvements associated with the various scenarios. The Model was developed separately from the econometric demand model because general aviation operations are driven less by airline competitive forces and more principally

by factors such as the local economy, number of active pilots, aircraft hours flown, and airport facilities. Also, as opposed to commercial passenger activity, the region has sufficient capacity to accommodate future general aviation demand, and therefore, general aviation activity is not impacted by capacity constraints in San Diego County.

Operations in the GA Model were allocated among two “demand” types – corporate and non-corporate/recreational. Corporate operations are defined as operations associated with FAR Part 91 for “Business” and “Corporate” uses, and FAR Part 135 on-demand “Air Taxi” use. Remaining operations were classified as non-corporate. The number of aircraft operations for each “demand” type in San Diego County was determined based on the number of active aircraft in their relevant categories documented in materials published by General Aviation Manufacturers Association (GAMA). The total number of active aircraft is summarized in Table 5-1.

Table 5-1  
**NUMBER OF ACTIVE GENERAL AVIATION AIRCRAFT  
BY AIRCRAFT TYPE IN THE U.S. (2008)**  
Regional Aviation Strategic Plan

Aircraft Type	Corporate (a)	Non-corporate (b)	Total active
Jet	9,629	1,410	11,042
Turboprop	5,113	3,794	8,907
Multi-Engine Piston	7,106	10,409	17,515
Single-Engine Piston	15,882	129,617	145,499
Helicopter	2,189	7,689	9,878
Others			
Gliders	9	1,905	1,914
Lighter-Than-Air	44	3,694	3,738
Experimental	988	22,376	23,364
Light-Sport	<u>58</u>	<u>6,753</u>	<u>6,811</u>
Subtotal	<u>1,099</u>	<u>34,728</u>	<u>35,827</u>
Total	41,020	187,642	228,663

Note: Totals may not add due to rounding.

(a) Corporate aircraft include: FAR Part 91 Business, Corporate use, and FAR Part 135 Air Taxi use.

(b) Non-corporate aircraft include: FAR Part 91 Personal, Instructional, Aerial Apps, Aerial Obs, Aerial Other, External Load, Other Work, Sightsee, Air Med, Other; and FAR Part 135 Air Tours.

Source: General Aviation Manufacturers Association, 2009 *General Aviation Statistical Databook & Industry Outlook*, Table 2.1.

The breakdown of corporate and non-corporate operations by aircraft type is summarized in Table 5-2.

**5.5.1 Scenario 4A: Enhance McClellan-Palomar Airport for High-end / Corporate General Aviation**

This scenario increases the use of McClellan-Palomar for high-end/corporate general aviation by providing the necessary airfield, aircraft basing, and other amenities in order to shift aviation activity from San Diego International to McClellan-Palomar. The scenario assumes that McClellan-Palomar would no longer accommodate commercial passenger activity and the existing terminal building would be converted into a high-end FBO facility. The scenario requires a 1,000-foot runway extension to the airport’s existing single runway to accommodate a near full range of high-end general aviation aircraft.

Table 5-2  
**BREAKDOWN OF CORPORATE AND NON-CORPORATE OPERATIONS  
BY AIRCRAFT TYPE**

Regional Aviation Strategic Plan

Aircraft type	Corporate	Non-corporate
Jet	93%	7%
Turboprop	73	27
Multi-Engine Piston	58	42
Single-Engine Piston	20	80
Helicopter	36	64
Other	6	94

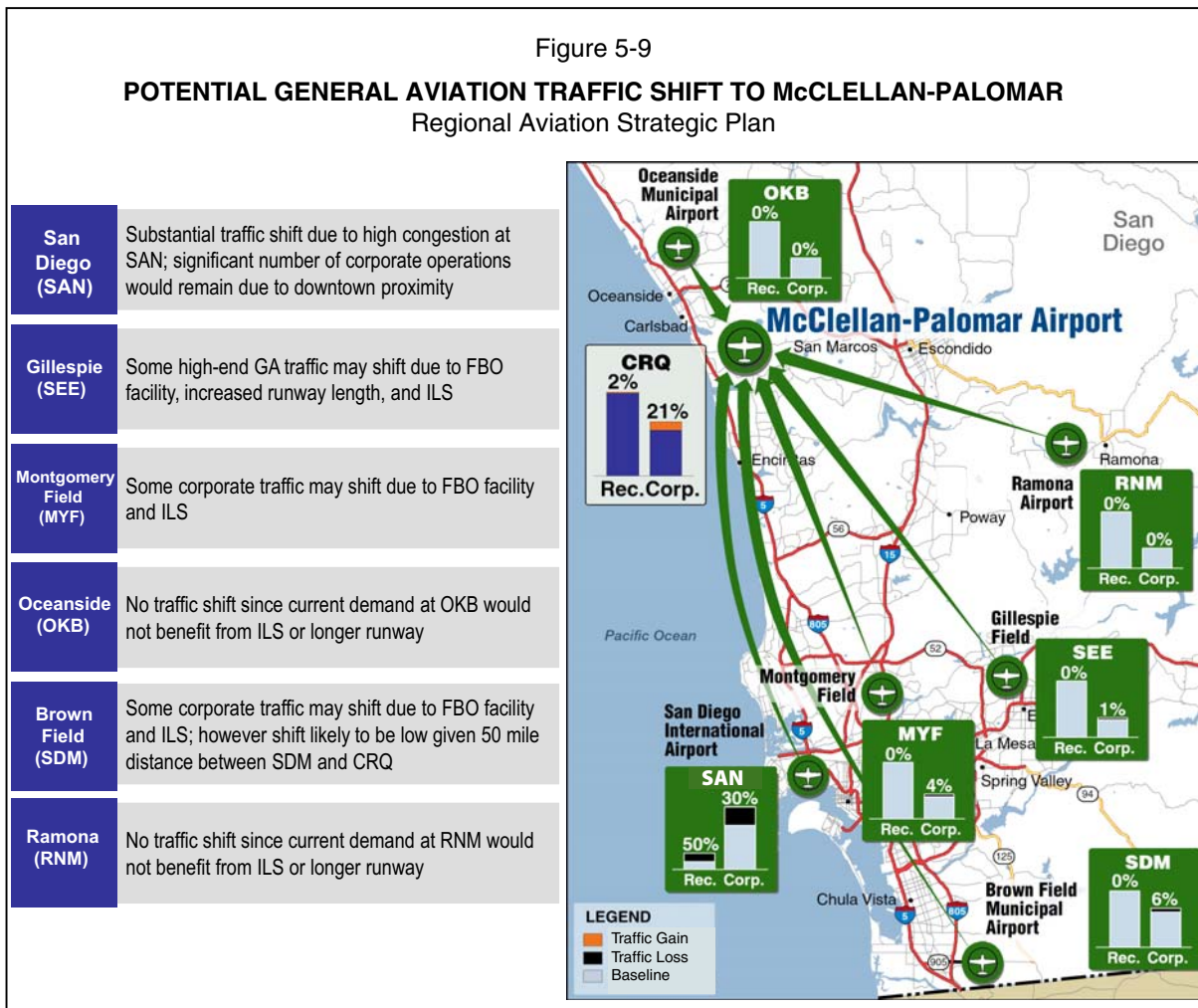
Source: Jacobs Consultancy, based on *San Diego County Regional Aviation Strategic Plan, Aviation Demand Forecasts*, Landrum & Brown, Inc., December 2008.

This scenario would be implemented via leasing and pricing strategies; but would also require a “coordinated” FBO/general aviation policy between the Authority and the other airport sponsors in San Diego County.

Figure 5-9 summarizes the key assumptions for Scenario 4A associated with the potential shift in general aviation traffic from existing system airports to McClellan-Palomar based on the improvements and assumed policy and pricing strategies. As presented, McClellan-Palomar would experience a 2% and 21% increase in recreational and corporate general aviation activity, respectively. The assumptions were derived from stakeholder input and information gathered during the Strategic Assessment.

The total cost for Scenario 4A is estimated to be approximately \$85 million and would be funded from a combination of federal grants, private sources, and user fees. A breakdown of the cost estimates, funding sources, and an implementation timeline is provided in Appendix C.

Additional factors associated with Scenario 4A include the implications and cost savings for San Diego County if the airport were to cease its FAR Part 139 certification. In addition, extensive environmental review and FAA and state approvals would be required for the runway extension.



### 5.5.2 Scenario 4B: Enhance Brown Field Municipal Airport for High-end / Corporate General Aviation

This scenario maximizes the use of Brown Field for high-end/corporate general aviation by providing the necessary facilities and amenities in order to shift aviation activity from San Diego International to Brown Field. This scenario is consistent with

a private developer's current plan and FAA approved ALP, and requires the construction of an additional FBO, corporate hangars, and T-hangars.

This scenario would be implemented via leasing and pricing strategies, but would also require a "coordinated" FBO/general aviation policy between the Authority and the other airport sponsors in San Diego County. It should be noted that the airport's existing runway length is adequate, but may require reconstruction for additional strength in the future.

Figure 5-10 summarizes the key assumptions for Scenario 4B associated with the potential shift in general aviation traffic from existing system airports to Brown Field based on the improvements and assumed policy and pricing strategies. As presented, Brown Field would experience a 2% increase in both recreational and corporate general aviation activity. The assumptions were derived from stakeholder input and information gathered during the Strategic Assessment.

The total cost for Scenario 4B is estimated to be approximately \$65 million and would be funded from a combination of federal grants, private sources, and user fees. A breakdown of the cost estimates, funding sources, and an implementation timeline is provided in Appendix C.

Additional factors associated with Scenario 4B include the fact that planning for certain facilities is already underway and community and political support would be anticipated.

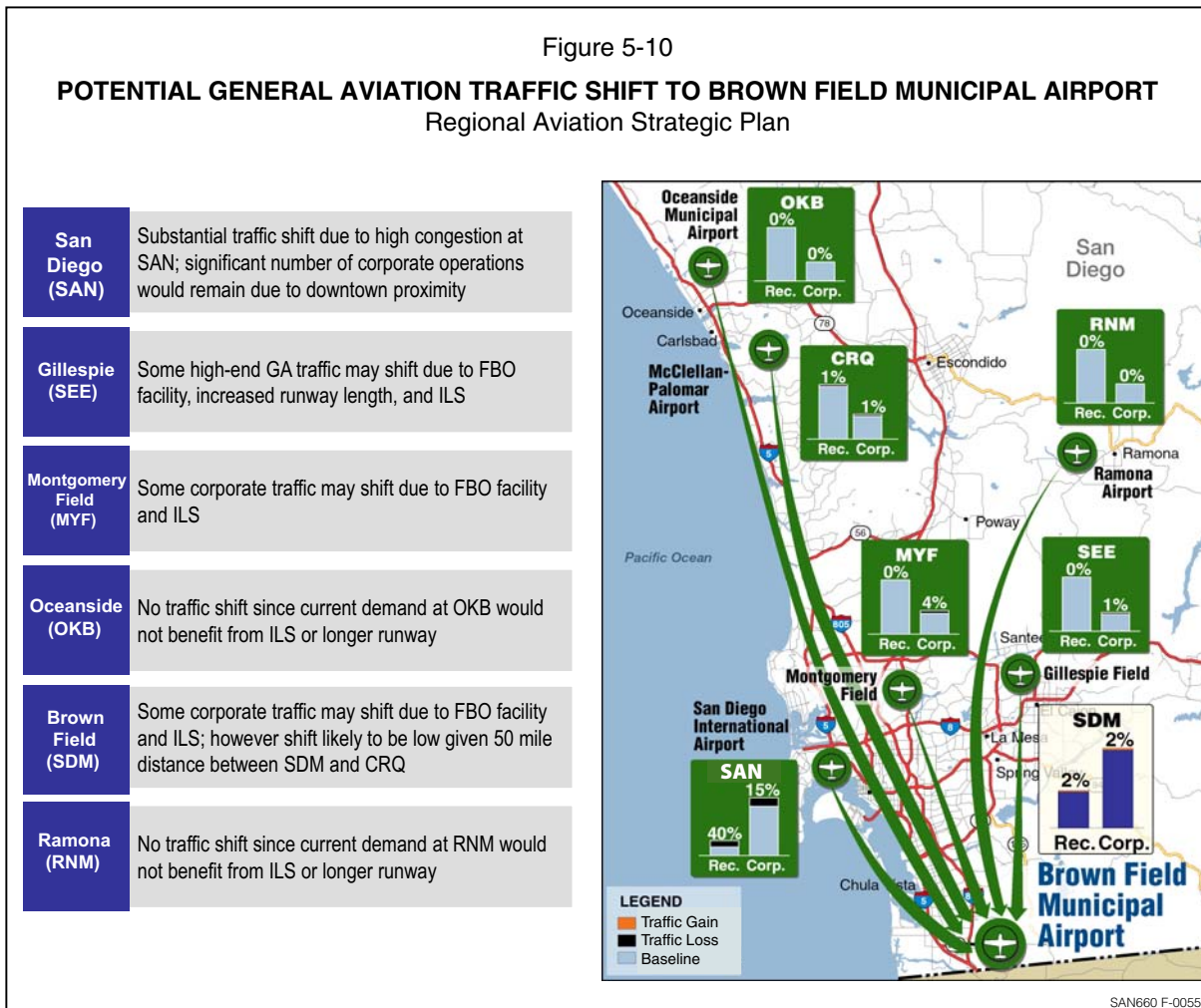
### **5.5.3 Scenario 4C: Enhance Gillespie Field for Mixed-use General Aviation**

This scenario maximizes the use of Gillespie Field for both high-end/corporate and recreational general aviation by providing the necessary facilities and amenities in order to shift aviation activity from San Diego International to Gillespie Field. This scenario requires (1) implementation of "El Cajon Plaza", a planned 70-acre development including FBO site, indoor storage hangars, and tie-down space; (2) correction of existing airfield design standard deficiencies; and (3) utility upgrades and drainage improvements.

Such a scenario would be implemented by leasing and pricing strategies; it would also require a "coordinated" FBO/general aviation policy between the Authority and the other airport sponsors in San Diego County. It should be noted that the airport's longest runway could not reasonably be extended to a length sufficient for the full range of corporate jet operations.

Figure 5-11 summarizes the key assumptions for Scenario 4C associated with the potential shift in general aviation traffic from existing system airports to Gillespie Field based on the improvements and assumed policy and pricing strategies. As presented, Gillespie Field would experience 2% and 37% increases in recreational and corporate general aviation activity, respectively. The assumptions were derived

from key inventory data, stakeholder input, and information gathered during the Strategic Assessment.

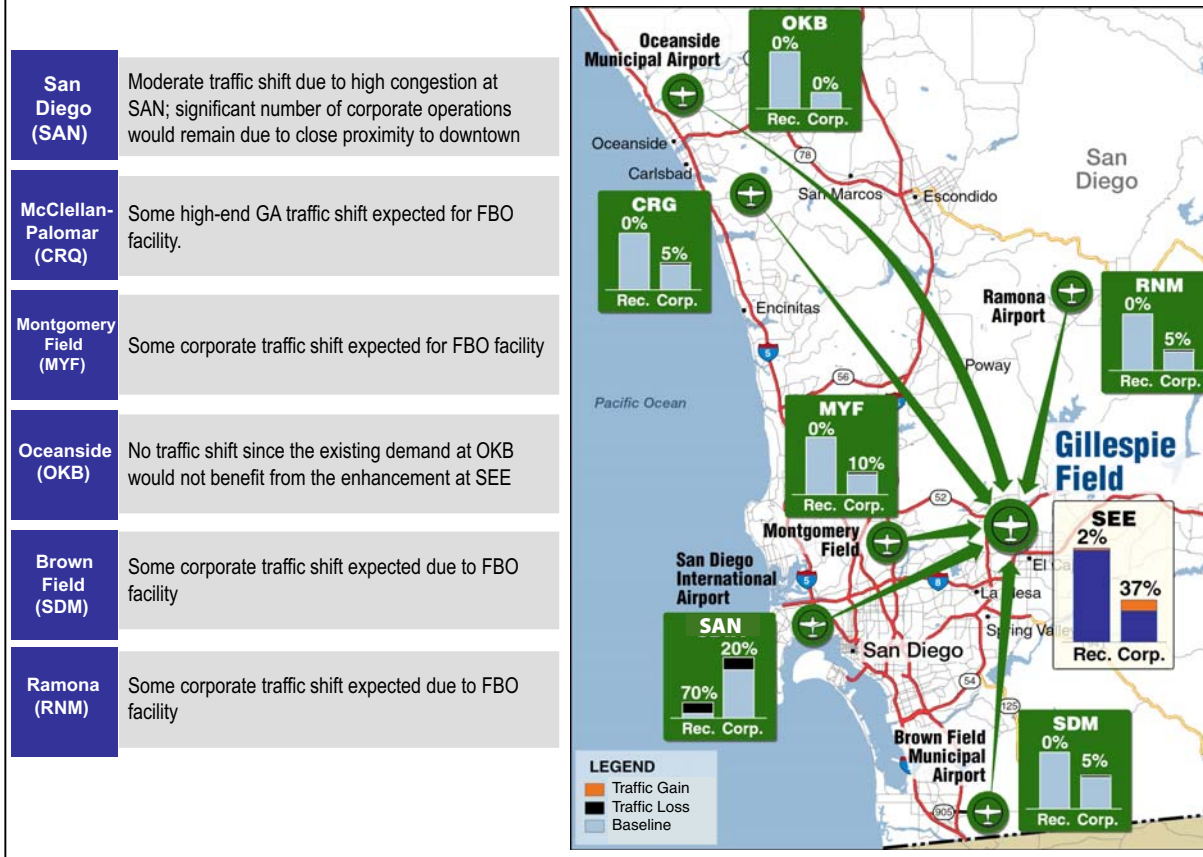


The total cost for Scenario 4C is estimated to be approximately \$90 million and would be funded from a combination of federal grants, private sources, and user fees. A breakdown of the cost estimates and funding sources as well as an implementation timeline is provided in Appendix C.

Additional factors associated with Scenario 4C include the fact that planning for certain facilities is already underway and various federal and state environmental approvals would be required for a number of projects.

Figure 5-11

**POTENTIAL GENERAL AVIATION TRAFFIC SHIFT TO GILLESPIE FIELD**  
Regional Aviation Strategic Plan



**5.6 AIR CARGO OPTIMIZATION**

The following describes the single air cargo scenario intended to optimize the capacity of the Airport System by distributing air cargo activity away from airports dedicated to commercial passenger service. Note that this scenario applies only to all-cargo aircraft, since passenger aircraft carry air cargo in their more limited cargo holds.

**5.6.1 Scenario 5A: Introduce Air Cargo Service at Brown Field Municipal Airport**

This scenario is intended to maximize the use of Brown Field for air cargo activity by providing the necessary facilities and amenities in order to shift this type of user from San Diego International to Brown Field. This scenario requires the following:

- New cargo buildings and apron
- Upgrade airfield pavements for air cargo operations

- Improve access roads around the airport (a number of these improvements are already scheduled through SANDAG)
- Utility upgrades and drainage improvements

Such a scenario would be implemented by leasing and pricing strategies. It should be noted that the airport's existing runway length is adequate, but it may require reconstruction for additional strength in the future. The total cost for Scenario 5A is estimated to be approximately \$235 million and would be funded from a combination of federal grants, private sources, and user fees. A breakdown of the cost estimates, funding sources, and implementation timeline is provided in Appendix C.

Based on conversations with the community and stakeholders, the following summarizes the various constraints associated with implementing Scenario 5A:

- Air cargo operators are unwilling to operate from facilities south of San Diego International due to increased distance from air cargo sorting infrastructure
- The majority of San Diego International air cargo is accommodated on integrated/express air cargo carriers (90%) and originates in or is destined for downtown San Diego
- There is a significant lack of cargo infrastructure (e.g., freight forwarders) located nearby Brown Field whereas this type of supporting infrastructure is already in place near San Diego International
- Significant public and political opposition would be anticipated; prior initiatives to upgrade Brown Field for air cargo activity were abandoned based on such opposition