Strategic Assessment & Demand Model Overview
Regional Aviation Strategic Plan

Airport Advisory Committee
RASP Subcommittee

June 11, 2009

Revised Draft
### Subcommittee Meeting Objectives

1. Review inventory and strategic assessment findings
2. Provide input to the project team regarding key findings
3. Confirm the strategy and approach moving forward

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RASP Project Overview

30-month Work Plan Culminating in June 2011

Phase I
Data Gathering and Model Development
March – Oct 2009

Phase 2
System Concepts and Strategies
Nov 2009 – Sept 2010

Phase 3
Regional Aviation Strategic Plan

Project management and coordination
Stakeholder outreach support
Task-specific documentation and deliverables
Phase I Schedule

Phase I Will be Completed Fall 2009; Phase II Will Be Accomplished Nov 2009 – Sept 2010

Schedule Milestones:
- RASP Subcommittee Meeting
- Task Deliverable / Working Paper

Phase I Schedule:
- January: Base Data and Inventory
- February: Forecast Review
- March: Airport System Capacity
- April: Demand Model
- May: Demand Model
- June: Airport System Baseline

Phase I Will be Completed Fall 2009; Phase II Will Be Accomplished Nov 2009 – Sept 2010
Note: Tijuana International Airport not located in San Diego County.
Study Area Attributes

San Diego County Includes Numerous “Constraints” Affecting Aviation Activity

- Second most populous county in the state; over 3 million residents accounting for 8% of the state’s population
- Only two airports certified by the FAA for commercial airline service – San Diego International and McClellan-Palomar
- San Diego International has one of the smallest footprints of any metropolitan airport; other public use airports are GA facilities with various expansion constraints
- Airports with available land are not located near the population / economic base
- Generally bound on the east by rising terrain which precludes and/or complicates airport development
- One of the busiest and complex airspace regions in the U.S.
  - Numerous competing and conflicting interests (commercial, military, corporate, recreational, etc.)
  - Multiple airports in close proximity (12 public use and 4 military bases with aviation activity)
  - Special use and international airspace
Study Challenges and Objectives

The RASP Is Driven by Complicated Objectives

- Economic objectives – Ensure continued community/county/regional growth and development
- Strategic objectives – Optimize airport system and other transportation assets
- Environmental objectives – Reduce noise and other emissions, enhance land use compatibility, etc.
- There are many stakeholders with a vested interest in the outcome
  - Agencies – FAA, SANDAG, Caltrans, MTS
  - Multiple airport sponsors – SDCRAA, San Diego County, City of San Diego, Oceanside, and potentially Mexico
  - Local communities and the public
- No single entity has sole authority to implement recommendations, although many interests are part of the process and participating via the Subcommittee
Study Challenges and Objectives

Additional Physical Factors and Planning Challenges Will Influence RASP Outcomes

- Recent increases in interregional and international commuting, more people working in San Diego live in Riverside and Imperial counties, Baja, and Mexico
- Potential for future high-speed and commuter rail to connect San Diego to other airports in southern California; possibility for high-speed passenger rail to alleviate some short-haul demand at San Diego County airports, freeing up capacity
- The highest use of all aviation infrastructure is possible only with an integration of air and ground (i.e., intermodal strategies)

- RASP objective is not to “force traffic” but to “optimize assets” across the County’s growing areas
- RASP is unique in that it intends to bring together what has typically been considered separate modal infrastructures to help ensure the region’s decisions are made in an integrated fashion
Baseline Regional Forecast Summary (2007 – 2030)

Unconstrained Commercial Passenger Activity is Forecast to Grow Approximately 1.9%

- Passenger forecast based on regression of domestic O&D passengers against personal income and airline yield; assumptions regarding fuel prices incorporated into future fares
- Assumes load factors increase; continued deployment of narrow body jets; small regional jets replaced by larger regional jets; and wide body jets increase as international activity grows

- Majority of commercial operations will be accommodated at San Diego International, where the passenger forecast is driven principally by passenger’s starting and ending their travel in San Diego (over 90% of passengers in 2007)
- By 2030 McClellan-Palomar projected to accommodate 0.4% of total commercial passengers and a quarter of commuter passengers

### Forecast Total Passengers

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Passengers (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>15</td>
</tr>
<tr>
<td>2007</td>
<td>18</td>
</tr>
<tr>
<td>2015</td>
<td>20</td>
</tr>
<tr>
<td>2020</td>
<td>23</td>
</tr>
<tr>
<td>2025</td>
<td>25</td>
</tr>
<tr>
<td>2030</td>
<td>28</td>
</tr>
</tbody>
</table>

### Forecast Passenger Aircraft Operations

<table>
<thead>
<tr>
<th>Year</th>
<th>Aircraft Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>206,000</td>
</tr>
<tr>
<td>2007</td>
<td>229,000</td>
</tr>
<tr>
<td>2015</td>
<td>230,000</td>
</tr>
<tr>
<td>2020</td>
<td>251,000</td>
</tr>
<tr>
<td>2025</td>
<td>269,000</td>
</tr>
<tr>
<td>2030</td>
<td>286,000</td>
</tr>
</tbody>
</table>
**Baseline Regional Forecast Summary (2007 – 2030)**

**Unconstrained General Aviation Operations are Forecast to Grow From 1.0M to 1.5M**

"The projections are based on unconstrained demand which assumes that there are no physical, regulatory, environmental, political or other impediments to aviation activity growth."

Notes: General aviation airports include Borrego Valley, Fallbrook, and Oceanside. Limited use general aviation airports include Agua Caliente, Ocotillo, and Jacumba airports. Airfield capacity constraints are not considered for forecast operations.

### Baseline Facilities Data

#### Regional Aviation Strategic Plan

San Diego County Regional Airport Authority

#### Airports Activity Statistics

<table>
<thead>
<tr>
<th>Airport</th>
<th>San Diego International</th>
<th>McClellan-Palomar</th>
<th>Montgomery Field</th>
<th>Brown Field Municipal</th>
<th>Gillespie Field</th>
<th>Ramona</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>San Diego International</strong></td>
<td><strong>SAN</strong></td>
<td><strong>CRQ</strong></td>
<td><strong>MYF</strong></td>
<td><strong>SDM</strong></td>
<td><strong>SEE</strong></td>
<td><strong>RNM</strong></td>
</tr>
<tr>
<td><strong>Historical 2007</strong></td>
<td><strong>2010</strong></td>
<td><strong>2010</strong></td>
<td><strong>2010</strong></td>
<td><strong>2010</strong></td>
<td><strong>2010</strong></td>
<td><strong>2010</strong></td>
</tr>
<tr>
<td>Annual Enplanements (Historical)</td>
<td>1,000,000</td>
<td>2,000,000</td>
<td>3,000,000</td>
<td>4,000,000</td>
<td>5,000,000</td>
<td>6,000,000</td>
</tr>
<tr>
<td>Annual Operations (Historical)</td>
<td>500,000</td>
<td>1,000,000</td>
<td>1,500,000</td>
<td>2,000,000</td>
<td>2,500,000</td>
<td>3,000,000</td>
</tr>
</tbody>
</table>

#### Regional Forecast Facility Improvement and Operational Assumptions

- **San Diego International (SAN)**: Construction of new gates, airfield improvements, new parking, and roadway improvements. New airport complex with increased activity growth. Projects include expansion of runway 27, new terminal, and other improvements.
- **McClellan-Palomar (CRQ)**: Expansion of the airport to accommodate new aircraft operations. New hangars and terminals are planned.
- **Montgomery Field (MYF)**: Expansion of the airport to accommodate new aircraft operations. New hangars and terminals are planned.
- **Brown Field Municipal (SDM)**: Expansion of the airport to accommodate new aircraft operations. New hangars and terminals are planned.
- **Gillespie Field (SEE)**: Expansion of the airport to accommodate new aircraft operations. New hangars and terminals are planned.
- **Ramona (RNM)**: Expansion of the airport to accommodate new aircraft operations. New hangars and terminals are planned.

#### Airports Facilities

<table>
<thead>
<tr>
<th>FAA NPIAS Designation</th>
<th>Facility Type</th>
<th>Operational Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>San Diego International (SAN)</strong></td>
<td>Large Hub Primary Commercial</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>McClellan-Palomar (CRQ)</strong></td>
<td>Non-Hub Primary Commercial</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Montgomery Field (MYF)</strong></td>
<td>Metropolitan GA</td>
<td>Regional GA</td>
</tr>
<tr>
<td><strong>Brown Field Municipal (SDM)</strong></td>
<td>Regional GA</td>
<td>Regional GA</td>
</tr>
<tr>
<td><strong>Gillespie Field (SEE)</strong></td>
<td>Regional GA</td>
<td>Regional GA</td>
</tr>
</tbody>
</table>

#### FAA Airport Reference Code

- **D-V**: D-1, D-2, D-3
- **B-I**: B-1, B-2, B-3
- **D-X**: D-1, D-2, D-3

#### Runway Data

<table>
<thead>
<tr>
<th>Runway</th>
<th>Length (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runway 27</td>
<td>12,000</td>
</tr>
<tr>
<td>Runway 6/24</td>
<td>10,000</td>
</tr>
<tr>
<td>Runway 18/36</td>
<td>10,000</td>
</tr>
</tbody>
</table>

#### Instrument Approach

- **Runway 27/Finals**: Non-precision approach.
- **Runway 6/24 Runway 27**: Non-precision approach.
- **Runway 6/24 Runway 27**: Non-precision approach.
- **Runway 18/36 Runway 27**: Non-precision approach.

### Notes

- **N/A**: Not Applicable
- **ICAO 4E**: International Civil Aviation Organization 4E
- **9/27 - 5,000 (Fared)**: Fared approach
- **Runway 9-15 LS**: Non-precision approach
- **Runway 24 LS**: Non-precision approach
- **Runway 28R LS**: Non-precision approach

### Sources

- Forecast data—San Diego County Regional Airport Strategic Plan, Aviation Demand Forecasts, Landrum & Brown, Inc.
The primary objective of the Strategic Assessment is to identify those airports that should be considered for additional uses/opportunities to optimize the region’s aviation system.

Additional objectives include:
- Develop an understanding of the airport system dynamics
- Collect key inventory and baseline data for ensuing tasks
- Gather information that will be utilized in the development and evaluation of alternative scenarios
- Offer opportunities to understand stakeholder needs and issues
- Provide a forum to initiate discussions with committees and other stakeholders on RASP issues and opportunities

The strategic assessment prepared for each airport is organized along on the following:
- **Existing** airport facility Strengths (S) and Weaknesses (W) with regard to accommodating its current market
- **Future** airport Opportunities (O) and Threats (T) with respect to accommodating future regional aviation demand

The Strategic Assessment ties together the modeling and system scenarios.
<table>
<thead>
<tr>
<th>Commercial Service</th>
<th>FAA Designated Reliever</th>
<th>General Aviation</th>
<th>Not in FAA NPIAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego International</td>
<td>McClellan-Palomar</td>
<td>Oceanside Municipal</td>
<td>Octillo</td>
</tr>
<tr>
<td>San Diego Regional Airport Authority</td>
<td>Montgomery Field</td>
<td>Fallbrook Community</td>
<td>Agua Caliente</td>
</tr>
<tr>
<td>San Diego County</td>
<td>Brown Field Municipal</td>
<td>Borrego Valley</td>
<td>Jacumba</td>
</tr>
<tr>
<td>City of San Diego</td>
<td>Gillespie Field</td>
<td></td>
<td>L70</td>
</tr>
<tr>
<td>San Diego County</td>
<td>Ramona</td>
<td></td>
<td>TJ1</td>
</tr>
</tbody>
</table>

### Current Market/Role

<table>
<thead>
<tr>
<th>Ownership/Control</th>
<th>San Diego Regional Airport Authority</th>
<th>San Diego County</th>
<th>City of San Diego</th>
<th>San Diego County</th>
<th>San Diego County</th>
<th>San Diego County</th>
<th>San Diego County</th>
<th>San Diego County</th>
<th>San Diego County</th>
<th>San Diego County</th>
<th>San Diego County</th>
<th>San Diego County</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA - Small/Recreational and Training</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>GA - Large/Corporate Jet and Air Taxi</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Air Carrier - Commuter</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Air Carrier - Mainline</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Air Cargo</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Facility Assessment/Accommodation of Current Users

<table>
<thead>
<tr>
<th>Primary Regional Access</th>
<th>1.5 mi from I-5</th>
<th>2 mi from I-5</th>
<th>2 mi from CA-163</th>
<th>3 mi from I-805</th>
<th>1 mi from CA-67</th>
<th>20 mi from I-15</th>
<th>2 mi from I-15</th>
<th>10 mi from I-15</th>
<th>14 mi from CA-78</th>
<th>&lt; 1 mi from CA-78</th>
<th>13 mi from I-8</th>
<th>2 mi from I-8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airfield - Runway Length</td>
<td>5,931' Paved</td>
<td>4,957' Paved</td>
<td>4,172' Paved</td>
<td>3,944' Paved</td>
<td>2,972' Paved</td>
<td>5,342' Paved</td>
<td>5,000' Paved</td>
<td>2,722' Paved</td>
<td>2,160' Paved</td>
<td>5,011' Paved</td>
<td>5,413' Dry</td>
<td>2,500' Paved</td>
</tr>
</tbody>
</table>

### Development Potential

<table>
<thead>
<tr>
<th>Proximity to Users/Market Base (a)</th>
<th>On-Airport Land Available for Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 mi from downtown San Diego</td>
<td>40 acres</td>
</tr>
<tr>
<td>12 mi from downtown San Diego</td>
<td>17 acres</td>
</tr>
<tr>
<td>8 mi from downtown San Diego</td>
<td>257 acres</td>
</tr>
<tr>
<td>15 mi from downtown San Diego</td>
<td>195 acres</td>
</tr>
<tr>
<td>20 mi from downtown San Diego</td>
<td>17 acres</td>
</tr>
<tr>
<td>30 mi from downtown San Diego</td>
<td>45 acres</td>
</tr>
<tr>
<td>16 mi from downtown San Diego</td>
<td>70 acres</td>
</tr>
<tr>
<td>40 mi from downtown San Diego</td>
<td>100 acres</td>
</tr>
<tr>
<td>On-Airport Land available</td>
<td>120 acres</td>
</tr>
</tbody>
</table>

### Summary

#### Should the airport be considered for additional uses/opportunities to region's aviation system?

- **Consideration for additional uses/opportunities not expected**: Communities established that SAN sold much capacity before 2030

- **Consideration for additional uses/opportunities may be considered in the RASP because of existing FAA NPIAS advisory**: Limited land for general aviation, potential for future extension

- **Consideration for additional uses/opportunities may be considered in the RASP because of proximity to population base and availability of land for general aviation usage**: Limited land for general aviation, potential for future extension

<table>
<thead>
<tr>
<th>Capacity</th>
<th>San Diego International</th>
<th>McEllellan-Palomar</th>
<th>Montgomery Field</th>
<th>Brown Field Municipal</th>
<th>Gillespie Field</th>
<th>Ramona</th>
<th>Oceanside Municipal</th>
<th>Fallbrook Community</th>
<th>Borrego Valley</th>
<th>Octillo</th>
<th>Agua Caliente</th>
<th>Jacumba</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Development Potential

<table>
<thead>
<tr>
<th>Proximity to Highway/Mass Transit</th>
<th>25 mi from downtown San Diego Land available</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 mi from downtown San Diego</td>
<td>166 acres</td>
</tr>
<tr>
<td>40 mi from downtown San Diego</td>
<td>72 acres</td>
</tr>
</tbody>
</table>

### Consideration in the RASP

- **Consideration for additional uses/opportunities not expected**: Communities established that SAN sold much capacity before 2030

- **Consideration for additional uses/opportunities may be considered in the RASP because of existing FAA NPIAS advisory**: Limited land for general aviation, potential for future extension

- **Consideration for additional uses/opportunities may be considered in the RASP because of proximity to population base and availability of land for general aviation usage**: Limited land for general aviation, potential for future extension

- **Consideration for additional uses/opportunities may be considered in the RASP because of proximity to existing airports, potential for growth, and limited land for general aviation development land for new user groups**: Limited land for general aviation, potential for future extension

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### Summary

- **Consideration for additional uses/opportunities not expected**: Communities established that SAN sold much capacity before 2030

- **Consideration for additional uses/opportunities may be considered in the RASP because of existing FAA NPIAS advisory**: Limited land for general aviation, potential for future extension

- **Consideration for additional uses/opportunities may be considered in the RASP because of proximity to population base and existing FAA NPIAS advisory**: Limited land for general aviation, potential for future extension

### Regional Aviation Strategic Plan • RASP Subcommittee

- **Regional Airport System Plan**: San Diego County Airport System

- **Regional Airport System Master Plan**: San Diego Regional Airport Authority

- **Regional Airport System Vision**: Ensure the San Diego Regional Airport Authority meets the needs of the region

- **Regional Airport System Mission**: Provide safe, efficient, accessible, and sustainable air transportation services to support the region’s economy and quality of life
San Diego International Airport (SAN)

**FAA-designated Large-hub Primary Commercial Service Airport**

- Non-stop service to over 35 domestic and 3 international markets (Canada and Mexico); passenger service provided by 14 domestic carriers, including 6 low-cost carriers and 2 seasonal carriers
- Approximately 237,600 operations and 18.3M total passengers in 2007
- Accommodates majority of regional cargo demand via passenger airlines (belly cargo) and 4 dedicated all-cargo carriers
- Single Runway 9-27 (9,401 feet) – considered the “busiest single runway” in the U.S.
- Located 3 miles west of downtown business district
- Vehicle access via Harbor Drive 1.5 miles south of Interstate 5
- Destination Lindbergh strategic planning project established a plan for the ultimate buildout of the airport while improving transit ridership and reducing surface traffic impacts
- Operated by the San Diego County Regional Airport Authority

Not to Scale
San Diego International Airport (SAN)

Facility Constraints will “Cap” Activity Sometime Between 2020 and 2030

- **Strengths**
  - Convenient location 3 miles west of the downtown business district provides a strong origination and destination base
  - Historically strong and consistent local economic drivers (e.g., military, tourism) result in a steady business and leisure passenger base
  - Virtually the sole commercial air service provider in the County
  - Efficient and customer-friendly facilities; high passenger satisfaction ratings

- **Weaknesses**
  - Site constrained by neighboring land uses and environmental and natural obstacles making expansion difficult and expensive
  - Terrain and obstacles in the approach and departure paths limit aircraft payloads in certain domestic and international markets
  - Some outdated infrastructure will require costly upgrades and redevelopment in next 10 years
  - Prohibition on takeoffs between 11:30 pm and 6:30 am limits potential service in certain international and domestic markets

- **Opportunities**
  - Potential to serve additional long-haul domestic and international cities markets
  - Leverage proximity to intercity and existing and planned public transportation (Amtrak, COASTER, light rail, HSR) to facilitate momentum for regional intermodal hub (Key component of Destination Lindbergh plan)
  - On-airport land available for reconfiguration / optimization of infrastructure, including Teledyne-Ryan site available after remediation
  - Construction of new gates, airfield improvements, roadway and parking improvements beginning in 2009 will improve efficiency and flexibility

- **Threats**
  - Airfield constraints (single runway and inadequate airfield/taxiway infrastructure) will hinder growth sometime between 2020 and 2030
  - Airport and demand base (passenger and cargo) located within the LAX catchment area
  - Active and vocal community opposition, largely from noise exposure and vehicle traffic congestion, may challenge or delay planned improvements
McClellan-Palomar Airport (CRQ)

**FAA-designated Non-hub Primary Commercial Service Airport**

- Non-stop commuter service to Los Angeles (LAX); currently 7 flights per day; service provided by single carrier (Skywest / United Express)
- Primary market is high-end corporate GA activity with some recreational GA activity
- Approximately 94,000 passengers and 212,000 total (GA and commercial) aircraft operations in 2007
- Single Runway 6-24 (4,897 feet)
- Located approximately 32 miles north of downtown San Diego and 30 miles south of the center of Orange County
- Access via Palomar Airport Road, approximately 2 miles east of Interstate 5
- Operated by San Diego County
McClellan-Palomar Airport (CRQ)

Facility Suitable for Corporate GA, But Limited Expansion Potential

- **Strengths**
  - FAR Part 139 certification and existing commuter service already established
  - Located near north county population centers
  - New 18,000 sq ft terminal and support facilities constructed in 2009 include international customs building
  - Strong on-airport tenant base – 4 FBO’s (3 recently constructed or remodeled) and over 15 aviation-related on-airport businesses
  - Relatively small area affected by cumulative noise exposure
  - Commercial air service supported by mass transit (bus service only) providing access to north county locations and the COASTER

- **Weaknesses**
  - Runway length prohibits regional jet and some GA aircraft from operating at maximum operational capabilities and limits service to markets < 500 miles
  - Low levels of commercial activity; single airline (United Airlines) service to a single market (LAX)
  - Cost to maintain FAR Part 139 status is not adequately offset by revenues generated by commercial operations

- **Opportunities**
  - Potential 1,000-foot runway extension would provide reasonable departure capability for typical regional jet aircraft (CRJ200, EMB145) and larger corporate GA aircraft
  - Proximity of COASTER provide opportunities to attract additional activity
  - New terminal facility could be expanded to accommodate up to 240,000 annual passengers
  - Potential for San Diego Metropolitan Transit System (MTS) to utilize excess parking facilities for a Park & Ride service

- **Threats**
  - Significant and costly impediments to runway extensions; eastern extension would require landfill remediation; western extension not practical due to grade change
  - On-Airport environmental obstacles and sensitive areas (landfills) would increase development costs
  - Some opposition to airport expansion
Montgomery Field (MYF)

One of 4 FAA-designated Relievers to San Diego International

- Primarily accommodates recreational GA activity
- Approximately 222,000 aircraft operations in 2007
- Runways
  - Runway 10L-28R (4,577 ft)
  - Runway 10R-28L (3,400 ft)
  - Runway 5-23 (3,400 ft)
- Airspace shared with MCAS Miramar; interaction is coordinated resulting in minimal impacts to current operations
- Located approximately 8.5 miles north of downtown San Diego
- Access provided via Aero Drive 2 miles from CA 163; nearby Interstates 805 and 15
- Operated by the City of San Diego
Montgomery Field (MYF)

Activity GA Facility with Development Restrictions That Limit Future Role

- **Strengths**
  - Close proximity to downtown San Diego and large segments of the population base
  - Parallel runways allow segregation of flight training (touch-and-go) operations from other operations
  - Runway 10L-28R extended to 4,577 feet to reduce noise exposure for neighborhoods to the west (added length allows aircraft to reach higher altitudes before overflying residential areas)
  - Convenient ground access provided via major state roads (CA 163) and interstates (I-15 and I-805)

- **Weaknesses**
  - Operations limited to small GA aircraft due to the relatively short runway length (4,577 feet for departures and 3,400 feet for arrivals); and City Ordinance prohibiting operations by aircraft weighing more than 20,000 lbs.
  - Noise abatement restrictions further restrict activity: daytime noise limit 88 dB CNEL 6:30 am to 11:30 pm; nighttime noise limit 70 dB CNEL 11:30 pm to 6:30 am

- **Opportunities** – Available on-Airport land for redevelopment

- **Threats**
  - Significant impediments to extending primary Runway 10L-28R, including location of CA 163 and environmentally sensitive areas
  - On-Airport environmental obstacles (vernal pools and protected plant species) may limit facility expansion and increase development costs
  - Opposition from nearby residential areas based on aircraft noise, flight patterns, crash hazard areas, and potential expansion
  - Miramar airspace may preclude future instrument operations or changes in airport operational patterns
Brown Field (SDM)

One of 4 FAA-designated Relievers to San Diego International

- Serves a mix of corporate and recreational GA activity
- Approximately 145,000 aircraft operations in 2007
- Parallel runways
  - Runway 8L-26R (7,972 ft)
  - Runway 8R-26L (3,180 ft) primarily used for training activity
- Located approximately 20 miles southeast of downtown San Diego; 1.5 miles north of the Mexican border
- Near Otay Mesa Port of Entry (POE), one of the busiest commercial land border POEs in the U.S.
- Primary access via Otay Mesa Rd (CA 905) 3 miles from Interstate 805
- Operated by the City of San Diego
Brown Field (SDM)

Well-Equipped GA Facility With Land Available for Development

- **Strengths**
  - Runway length sufficient to accommodate a wide-range of aircraft types, including most passenger air carrier and cargo aircraft
  - Proximity to Otay Mesa Port of Entry, designation as a Foreign Trade Zone, and inclusion in the California Enterprise Zone Program attracts both aviation and non-aviation service providers
  - Serves as a “first port of entry” for GA aircraft traveling from the Baja region of Mexican to California airspace, driving demand for U.S. Customs and FBO services
  - Proximity to Interstate 805 and 125 provides access to the San Diego surface transportation network

- **Weaknesses**
  - Limited GA/FBO facilities does not adequately support the primary GA market
  - Efficient airport operations are complicated by Otay Mountain located directly east of the Airport; only effective instrument approach to runway 8L from the west
  - Primary runway load bearing capacity limited to 175K lbs; hence operations currently limited to narrow-body aircraft (e.g. B-737, MD-80 etc.). Airfield dimensional critical, however, can accommodate larger aircraft

- **Opportunities**
  - Both on- and off-airport land potentially available for future development
  - Agreement with Distinctive Projects Company (private developer) to develop approximately 365 acres of available airport property; proposal includes:
    - New GA facilities – FBO/GA center, hangars
    - Helicopter FBO and City/County Fire Fighting services
    - San Diego Airspace Museum (part of Smithsonian)
  - Location, airport facilities, and FTZ role could be leveraged to attract cargo, corporate, light industrial and other non-aviation development
  - Planned roadway improvements will increase surface transportation access to the airport and nearby development

- **Threats**
  - Residential areas to the west oppose airport expansion and have resisted prior airport development plans
  - Airspace conflicts, including rising terrain and mountains to the east, San Diego International arrival path, and Mexican airspace could limit growth in activity
Gillespie Field (SEE)

One of 4 FAA-designated Relievers to San Diego International

- Primarily accommodates recreational GA activity; limited corporate activity
- Approximately 295,000 aircraft operations in 2007
- Significant flight school training activity; approximately 60% of total operations
- Runways
  - Runway 9L-27R (5,341 ft)
  - Runway 9R-27L (2,737 ft) – 9R planned 423-foot extension
  - Runway 17-35 (4,147 ft)
- Located between El Cajon and Santee, approximately 23 miles northeast of downtown San Diego
- Access via Cuyamaca St. 3.5 mi. from CA 52 and Bradley Ave; 1 mi. from CA 67
- Operated by San Diego County
Gillespie Field (SEE)

Active and Well-Equipped GA Facility with Near-term Aviation-related Development Plans

- **Strengths**
  - Substantial on-airport land available for development
  - Orange and Green Trolley lines stop at Gillespie Field providing convenient public transportation between the Airport and downtown San Diego and many other locations
  - Parallel runways allow segregation of training operations from itinerant operations

- **Weaknesses** – Instrument approach capabilities complicated by surrounding military airspace and terrain

- **Opportunities**
  - El Cajon Plaza, a planned near-term 70-acre development, will provide opportunity to expand the tenant base; proposal includes additional indoor storage hangars and tie-down leaseholds; substantial interest expressed in leasing space
  - Potential intermodal public transit link on the west side (connecting with the existing MTS trolley stop) could improve regional access
  - Completion of CA 52 extension and interchange with CA 67 in 2010 will provide improved accessibility to the north side and ease congestion on surrounding roadways

- **Threats**
  - Primary runway bordered by roads on both ends increasing the cost of a potential runway extension
  - Historical opposition from nearby residential areas primarily due to flight training activity; airport expansion and increases in based aircraft/operations may conflict with community redevelopment initiatives
Ramona Airport (RNM)

- Primarily serves recreational GA activity
- Approximately 165,000 aircraft operations in 2007 (activity is 75% local flight training)
- Single Runway 9-27 (5,000 feet)
- Located approximately 36 miles northeast of downtown San Diego
- Primary access via Montecito Road and CA 67, 20 miles from Interstate-15
- Operated by San Diego County

Strengths
- Strong on-Airport GA tenant base
- California Department of Forestry (CDF) is a major anchor tenant
- Available on-airport land for development

Weaknesses
- Terrain to the east precludes installation of an ILS to Runway 27
- Potential for airspace conflicts between turbo-jet departures from Runway 27 and operations at MCAS Miramar
- Not well connected to the San Diego surface transportation network

Opportunities
- Development of additional GA facilities (Ramona Air Center) currently under County review; other smaller airport development opportunities exist
- Adjacent undeveloped land may be available for development

Threats
- Land immediately east of the Runway 27 is committed to low density residential uses, which could result in a physical barrier or community opposition (noise) to growth
- Potential development restricted by largest vernal pools in northern San Diego County located in the grasslands surrounding the Airport
Oceanside Municipal Airport (OKB)

FAA-designated Public Use GA Airport

- Primarily serves recreational GA activity
- Approximately 14,000 aircraft operations in 2007
- Single Runway 6-24 (2,712 feet)
- Access via Airport Road from CA 76; 2 miles east of Interstate 5
- Located in the eastern section of the City of Oceanside, approximately 40 miles north of downtown San Diego
- Operated by the City of Oceanside

**Strengths**
- Located in close proximity to North County and Orange County market base
- Proximity to Interstate 5 and COASTER

**Weaknesses**
- Runway length and pavement strength limit use to small GA aircraft weighting less than 12,000 pounds; non compliance with FAA design standards
- Airfield expansion constrained by a road and river to the west and commercial development to the east
- 2003 settlement with Citizens for a Better Oceanside (CBO) limit potential to expand tenant base

**Opportunities**
- Proposal for Airport Property Ventures (APV) to lease the airport site and develop FBO and additional aircraft parking, as well as provide FAA-required design criteria
- Leverage proximity of COASTER to provide viable alternative to access airport

**Threats**
- Camp Pendleton airspace may preclude future instrument operations or changes in airport operational patterns
- Community opposition to airport operations
Fallbrook Community Airpark (L18)

**FAA-designated Public Use GA Airport**

- Primarily serves recreational GA aircraft
- Approximately 33,000 aircraft operations in 2007
- Single Runway 18-36 (2,160 feet)
- Located approximately 56 miles east-northeast of downtown San Diego
- Access via Mission Road, approximately 10 miles east of Interstate 15
- Operated by San Diego County

**Strengths** – Located in close proximity to North county and Orange County market base

**Weaknesses**
- Runway length and pavement strength limit use to small GA aircraft weighting less than 12,500 pounds
- Borders MCB Camp Pendleton which prohibits unrestricted operations
- Poor access infrastructure

**Opportunities**
- Open space for potential expansion of airfield and aviation facilities is available on existing airport property
- Airport Master Plan has been completed and approved by the County Board of Supervisors. Airport projects include complete redevelopment of runway, taxiway and related pavement areas.

**Threats**
- Camp Pendleton airspace may preclude future instrument operations or changes in airport operational patterns
**Borrego Valley Airport (L08)**

*Limited-use General Aviation Airport*

- Primarily serves recreational GA aircraft; gateway for tourists visiting Anza-Borrego Desert State Park
- Approximately 26,000 aircraft operations in 2007
- Single Runway 8-26 (5,011 feet)
- Located approximately 90 miles northeast of downtown San Diego
- Operated by San Diego County

### Strengths
- Surrounded by vacant / airport-compatible land uses
- Location near the Anza-Borrego State park attracts recreational GA activity to the airport

### Weaknesses
- Lack of suitable on- and off-Airport infrastructure
- Located within 100-year floodplain

### Opportunities
- Undeveloped desert land to the north, south and east for potential expansion

### Threats
- Remote location 90 miles (2 hour-plus drive) from downtown San Diego
Ocotillo Airport (L90)

Limited-use General Aviation Airport

- Approximately 800 aircraft operations in 2007
- Two unpaved runways
  - Runway 13-31 (4,210 ft)
  - Runway 9-27 (2,475 ft)
- Located approximately 95 miles east-northeast of downtown San Diego
- Operated by San Diego County

Strengths – Surrounded by vacant/airport-compatible land

Weaknesses
- Runway length and lack of paved surface restrict operations to small single-engine aircraft and helicopters
- Lack of suitable infrastructure; runways are not paved and airport is unlighted

Opportunities – Undeveloped adjacent desert lands could facilitate expansion

Threats – Remote location 95 miles (2 hour-plus drive) from downtown San Diego
Agua Caliente Airport (L54)

**Limited-use General Aviation Airport**

- Approximately 4,400 aircraft operations in 2007
- Single Runway 11-29 (2,500 feet)
- Located approximately 75 miles east-northeast of downtown San Diego
- Operated by San Diego County

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- **Strengths** – Surrounded by vacant / airport-compatible land uses
- **Weaknesses**
  - Runway length and pavement strength limit use to small GA aircraft
  - Lack of suitable infrastructure; airport is unlighted and has no aircraft hangar or tie-down facilities, and no FBO
  - Completely surrounded by state-owned parkland with high terrain on three sides
- **Opportunities** – Adjacent undeveloped desert land for potential expansion
- **Threats**
  - Remote location 75 miles (1.5 hour drive) from downtown San Diego
  - Lease agreement stipulates airport property may not be subleased or developed for more than what is needed for operation of the landing strip
Jacumba Airport (L78)

Limited-use General Aviation Airport

- Primarily used as a glider/sailplane facility
- Approximately 325 operations in 2007
- Single Runway 7-25 (2,510 feet)
- Located approximately 74 miles east-southeast of downtown San Diego
- Operated by San Diego County

- Strengths – Surrounded by vacant/compatible land
- Weaknesses
  - Runway length and gravel surface restrict operations to small single-engine aircraft and helicopters
  - Lack of suitable infrastructure; airport is unlighted, does not have an aircraft hangar facilities, and does not have an FBO
- Opportunities – Undeveloped adjacent desert lands could facilitate expansion
- Threats – Remote location 74 miles (1.5 hour-plus drive) from downtown San Diego
Tijuana-Rodriguez International Airport (TIJ)

Located in Tijuana, Mexico Immediately South and Adjacent to the U.S. Border

- Non-stop service to over 26 destinations in Mexico; gateway to many Mexican tourism destinations; international service to Asia and Cuba
- Service provided by 10 carriers including 4 low cost carriers (no U.S. carrier service; Delta ceased LAX service in 2007)
- Approximately 52,000 operations and 3.7M total passengers in 2006
- Runways
  - Runway 9-27 (9,711 feet)
  - Runway 10-28 (8,200 feet) currently closed
- Located 20 miles southeast of downtown San Diego
- Operated by Grupo Aeroportuario del Pacifico
Tijuana-Rodriguez International Airport (TIJ)

Alternative Commercial Facilities to SAN, but Challenging Regulatory Issues

- **Strengths**
  - Close proximity to large passenger base, including the city of Tijuana, which is Mexico’s 3rd largest city, and the San Diego Central Business District; boarder access via the Blue Line Trolley which connects to downtown San Diego
  - Direct service to multiple Mexican destinations at fares lower than that offered at SAN or LAX attract Mexican and U.S. passengers
  - Airfield delays and congestion are low; demand less than 60% of the estimated airfield capacity
  - Sufficient on-airport land for construction of additional facilities; only 30% of available land is already developed

- **Weaknesses**
  - Congested and outdated passenger terminal facilities; international facilities inadequate and require major upgrades to satisfy international requirements; automobile parking exceeds 80% of capacity
  - Language and cultural barriers deter some U.S. travelers

- **Opportunities**
  - U.S. passengers utilizing the Airport is forecast to grow significantly over the next 20 years; potential cross border terminal concept could provide a more attractive alternative and further increasing activity
  - Additional commercial service opportunities as San Diego International reaches capacity
  - Located in the rapidly developing Otay Mesa which offers manufacturing, storage, and inexpensive labor; “border economy” projected to continue to flourish
  - Improvements to CA 125 and CA 905 will increase regional surface transportation access to the airport

- **Threats**
  - International border processing hinders efficient passenger operations and level of service; U.S. passengers sometimes wait up to 2 hours to cross the border
  - Perceptions of Mexico among U.S. citizens, and vice versa; specifically according to the latest survey, many U.S. citizens considered the use of Mexican terminal unsafe
A Regional Aviation Travel Demand Model will Be Built to Meet RASP Objectives

- A decision support tool to assess the impact of various “What If” scenarios regarding future aviation infrastructure development and policy decisions
- Potential scenarios may include:
  - Shifting GA traffic from San Diego International to outlying County airports
  - Implementation of a high speed passenger rail line between San Diego and the Bay Area
  - The development of an integrated cargo airport at Brown Field or other regional airport
- Model compares the results of these scenarios across a set of common metrics
  - Enplanements and operations at the various airports
  - Costs to airport users, including airfares and value of time
  - Estimated costs of required facility improvements
- Based on proven, uncomplicated methodology

- Benefits of using a demand model
  - Use of available information that relates to people’s propensity to travel and their choice of aviation infrastructure
  - Leverage existing SANDAG Regional Travel Demand Model
  - Translate and synchronize RASP results into ongoing regional transportation planning efforts

- Approach makes good use of the Strategic Assessment
  - Existing strengths and weaknesses
  - Future opportunities and threats
The Demand Model will estimate demand at each airport from population and commercial areas in the region.

Aviation travel demand is split into commercial air service, GA activity and cargo operations to account for different “drivers of activity.”

Broad categories are further differentiated to capture the nuances of different markets.

Commercial air service demand differentiates
- Resident vs. Visitor – differing preferences in accommodation type and location while in the San Diego region
- Business vs. Leisure – business travelers are typically less cost sensitive than leisure travelers

GA activity divided between corporate travel and recreational flying
- Different types of operations
- Different cost considerations

Cargo operations divided between mail service and non-mail service
Regional Aviation Travel Demand Model Framework

Each of the 8 Air Transit Categories Would Have the Same Model Framework

- **Potential Trip Generator** – Generates potential trips from each defined population/commercial area within San Diego region
- **Airport Ground Access** – Identifies the mode, travel time, and cost to get from a defined population/commercial area to an airport
- **Airport Choice Model** – Determines the regional airport to which each generated trip is assigned
- **Airline Service Response** – Predicts airlines’ response to air fare and service due to changing demand
- **Realized Trips** – Trips realized once equilibrium is reached between demand and supply

**Diagram:**
- A: Potential Trip Generator
- B: Airport Ground Access
- C: Airport Choice Model
- D: Airline Service Response
- E: Realized Trips

**Legend:**
- Jacobs Consultancy
- Cambridge Systematics
Potential Trip Generator

Generates Potential Trips from Defined Population/Commercial Areas Within San Diego Region

- Potential demand for commercial air service, GA flights, and cargo is calculated for each defined population/commercial area using socio-economic data.
- Potential demand is represented by person trips/cargo tonnage between a defined population/commercial area and destination airport.
- Not all potential demand would be realized and could be lost due to factors such as high airfares, insufficient service, etc.
- Latent demand is unrealized potential travel demand.

Example of Potential Demand in San Diego Region for San Diego International Airport

(millions)

Potential Demand

Realized Demand

Air Trips

Latent Demand

2.4
2.5
4.3
2.8
3.7
2.2
.1

Potential Trip Generator

Airport Choice Model

Airport Ground Access

Airline Service Response

Iterative Process

Realized Trips
Airport Ground Access

Identifies the Mode, Travel Time, and Cost to Travel From a Population Center to An Airport

- Realized trip demand is affected by the availability and performance of ground access infrastructure
  - Mode choice (MTS, taxicab, personal vehicle, etc.)
  - Travel time
  - Travel cost (parking fees, fuel, etc.)

- Existing and planned ground access infrastructure and performance would be considered

- Appropriate data and tools would be used
  - SANDAG Regional Travel Demand Model
  - ITMS and FAF commodity flow and freight network flows

- The model would leverage SANDAG Regional Travel Demand Model to determine
  - Key ground access routes to/from airports
  - Travel times between population centers and regional airports
  - Level of service on ground access facilities
Airport Choice Model

Assigns Each Generated Trip to a Regional Airport

- Every trip would be assigned to a regional airport based on the following:
  - Type of service available
  - Associated cost of travel
  - Historical airport choice trends

- Realized demand at each regional airport is affected by ground access and airline service (frequency of service, fares, etc.)

- Likewise, future ground access options and airline service is affected by realized demand at each airport

Potential Trip Generator

Airport Choice Model

Airport Ground Access

Airline Service Response

Iterative Process

Realized Trips

Airport Choice in San Diego Region

Regional Aviation Strategic Plan • RASP Subcommittee

Revised Draft June 11, 2009
Airline Service Response

Predicts Airline Response to Air Fare and Service Due to Changing Demand

- Airlines would adjust service and airfare to maximize profit when demand changes
- The model would include a component that tracks realized demand against airport capacity
- Air service would be increased at an airport with high demand until capacity is reached
Realized Trips

Trips are Realized Once Equilibrium Is Reached Between Demand / Supply

- **Commercial Service** – realized trips would translate to annual enplanements and operations at a given airport
- **General Aviation** – realized trips would translate to annual GA flight operations at a given airport
- **Air Cargo** – realized trips would translate to total cargo flight operations and tonnage at a given airport

Potential Trip Generator

Airport Choice Model

- Airport Ground Access
- Airline Service Response

Realized Trips

Iterative Process

Annual Total Passengers
San Diego International Airport

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Hypothetical Scenario
Graphical Representation of Realized Trips

Geographic Information Systems (GIS) will be Used for Communication with Stakeholders

- Communicates the results and allows comparisons of various “What If” scenarios
- Provides a map-based interface to explore changes to the system
- Graphically demonstrates the results of infrastructure development and policy decisions
- Allows for quick visualization of the evolution of the aviation system within San Diego Region

![Conceptual Model Framework Diagram](image)
Appendix A
Airport Facility and Existing Land Use Graphics
Appendix B
Strategic Assessment Sources
Strategic Assessment Sources

Regional, Commercial Service, and Reliever Airports

- **Regional Source Documents**
  - Airport Site Selection program, Decision Document, Ricondo, 2006
- **San Diego International (SAN)**
- **McClellan-Palomar (CRQ)**
  - McClellan-Palomar Airport Site Plan, Wadell Engineering Corporation, 2007
- **Montgomery Field (MYF)**
- **Brown Field (SDM)**
  - Brown Field Municipal Airport Layout Plan, Mead & Hunt, February 2005.
- **Gillespie Field (SEE)**
  - Gillespie Field Airport Land Use Compatibility Plan, SANDAG, 2004
  - Airport Layout Plan (CAD and PDF Files), P&D Aviation, 2005.
  - Fixed Based Operators List, San Diego County, Department of Public Works, 2005.
  - Revised El Cajon Air Center Plan Development Schedule, 2009.
- **Ramona (RNM)**
  - Ramona Air Center Site Plan, RJC Architects, May 2008.
  - Ramona Air Center Rendering, RJC Architects 2008.
Strategic Assessment Sources

**General Aviation and Non-FAA NPIAS Airports**

- **Oceanside (OKB)**
  - Master Record Information, FAA/City of Oceanside, 2005.
  - Hangar, Tie-down, and revenue data, City of Oceanside, 2009.
  - Lease Agreement between City and APV, City of Oceanside, 2009.
- **Fallbrook (L18)**
  - Fallbrook Airport Land Use Compatibility Plan, Mead & Hunt, 2006.
  - Fallbrook Airport Capital Improvement Plan, San Diego County Department of Public Works, 2008.
- **Borrego Valley (L08)**
- **Ocotillo (L90)**
- **Agua Caliente (L54)**
- **Jacumba (L78)**
- **Tijuana-Rodriguez International (TIJ)**
Appendix C
Demand Model Background Research
Aviation Demand Forecasts

Source: ACRP Synthesis “Airport Aviation Activity Forecasting”, TRB 2007

- The Airport Cooperative Research Program (ACRP) study provides a review of aviation activity forecasting in the U.S.
- The primary statistical models used in airport aviation activity forecasting include
  - Econometric modeling
    - Model predicts future aviation demand based on economic forecasts
    - Economic factors chosen will have highly correlated relationship to aviation demand (e.g. income levels, population, etc.)
    - Used in multiple-airport regional forecasts
    - Relies on extensive economic data
  - Market share analysis modeling
    - Model predicts future aviation demand at an airport as a proportion of future macro aviation demand (i.e. national or global)
    - The proportion of the macro aviation demand can vary based on forecasted events (e.g. terminal expansion projects, population, policies and regulations, etc.)
    - Used when generic high-level demand forecasts are required (e.g. FAA policies)
  - Time series modeling
    - Model predicts future aviation demand based on past demand (i.e. past enplanements and operations)
    - Accurate for short-term forecasts when long series of historical data is available and no large changes in airport use or activity are expected

- Econometric model is most suitable for the San Diego Region’s Regional Aviation Travel Demand Model
The report summarizes all previous airfare elasticity research conducted over the last 25 years.

Air fare elasticity is a measure of the sensitivity of demand for air travel to changes in air fare.

The report measured sensitivity of demand for the following factors:
- Business vs. leisure passengers
- Short-haul vs. long-haul travel
- Carrier vs. market vs. national
- Income

Econometric modeling was used to remove the impacts of non-air fare related external economic factors on travel demand.

Air fare elasticity will be used in the regional aviation travel demand model when assigning trips to available air service.

### Table: Air Fare Elasticities

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<td>2.2</td>
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</table>

Source: “Air Travel Demand” IATA 2008
Demand Allocation

Source: Various Studies

- Logit models are the industry standard for determining mode choice or demand allocation in travel demand models.
- Logit models predict the probability of choosing an airport based on multiple travel variables.
- Travel variables may include travel distance to an airport, available service at an airport, and available access to each airport.
- Each variable contributes a different weight to the outcome.
- A logit model was used to predict ground mode choices to Hartsfield Atlanta International Airport (Travel forecasting model set for the Atlanta region, Atlanta regional commission, 2008).
Previous Forecasting Studies for Multiple-Airport Regions

Source: Transportation Research E-Circular “Aviation Demand Forecasting”, TRB 2002

- **Port Authority of New York and New Jersey**
  - Regional demand forecasts based on three models and results reconciled
    - *Time series model*: Decompose into trend, seasonal and irregular components
    - *Regional Econometric model*: Passenger levels are dependent on variables including real GDP and real yields
    - *Market share model*: Based on region’s share of national income
  - Distribute demand to airports based on terminal and carrier specific information at the airports

- **Southern California Association of Governments (SCAG)**
  - Designed a new airport demand model to replace legacy Regional Airport Demand Allocation Model (RADAM)
  - Realized demand per terminal area zone was calculated based on extensive survey data
  - Model allocated demand among all the airports within the greater Los Angeles Region (LAX, BUR, SNA, ONT, PSP, LGB)
  - Flight schedules were modified to accommodate changes in demand
  - Model structure shown on the next page
SCAG Demand Allocation Model


Air Passenger Demand
- Intercity Trip Generation Model
- Air Market Demand Model

Airport Allocation and Access
- Airport/Air Service Choice Model
- Access Model Choice Model

Air Service Supply
- Air Service Forecasting Model
- Airline Decision Making Model

Regional Airport Demand Forecasts

Demand/Supply Equilibrium

YES

NO