Briefing for:

Ad Hoc Airport Regional Policy Committee – Meeting 5

July 17, 2008

San Diego County Regional Airport Authority
City of San Diego
San Diego Association of Governments
Port of San Diego
County of San Diego
Metropolitan Transit System
North County Transit District
United States Department of Defense
This presentation has been prepared in advance of a meeting of the Ad Hoc Airport Regional Policy Committee. Minor changes to the information contained herein may be made prior to the meeting. This document contains concepts and analyses for consideration and discussion which will be used as context during the meeting. No decision regarding the implementation of these concepts has been made.
Agenda

1. Briefing on High Speed Rail plans
2. August 2 Ad Hoc Committee Workshop preparation
3. Briefing on California Independent Voter Project
4. Draft activity forecast results
5. Conclusions and next steps
Briefing on High Speed Rail plans

- Presentation video
- Verbal update
August 2 Ad Hoc Committee Workshop preparation

- Potential Scenarios
- Draft workshop agenda & committee expectations
Three families of scenarios have been identified

- North centric
- Hybrid
- South centric

Under each family, a range of alternatives can be developed

Ad Hoc Committee is requested to consider these scenarios prior to the August 2 workshop
### North Centric Scenario

**August 2 Workshop Preparation**

#### Scenario Configuration

**North:**
- Intermodal Transit Center
- Passenger terminal
- Airline gates
- Parking, rental car, I-5 access

**South:**
- Support facilities

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### Considerations, Constraints and Issues

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<thead>
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<th>Considerations, Constraints and Issues</th>
<th>Analysis</th>
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<td>Additional property</td>
<td>Property ownership and valuations</td>
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<td>People mover analysis</td>
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<td>Strategic implementation plan</td>
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<td>Support facilities location</td>
<td>Facility requirements analysis</td>
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<tr>
<td>NEPA, CEQA requirements</td>
<td>Environmental screening</td>
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</tbody>
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### Legend

- Coaster
- Trolley
- Bus
- HS rail
- Rail corridor
- I-5
- Arterial streets
- Auto access
- Relocate support facilities
**Considerations, Constraints and Issues**

<table>
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</table>

**Scenario Configuration**

**North:**
- Intermodal Transit Center
- Passenger terminal
- Parking, rental car, I-5 access
- Support facilities

**South:**
- Airline gates

**Legend**
- Coaster
- Trolley
- Bus
- HS rail
- Rail corridor
- I-5
- Arterial streets
- Auto access
Scenario Configuration

North:
- Support facilities

South:
- Terminal, airline gates
- Parking, access
- People movers
- Intermodal station

Considerations, Constraints and Issues

<table>
<thead>
<tr>
<th>Considerations, Constraints and Issues</th>
<th>Analysis</th>
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<tbody>
<tr>
<td>Regional transportation system connectivity</td>
<td>Systems analysis</td>
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<tr>
<td>Development site depth</td>
<td>Site planning constraint</td>
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<tr>
<td>Traffic congestion</td>
<td>Traffic analysis</td>
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<td>Development phasing</td>
<td>Strategic implementation plan</td>
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<td>NEPA, CEQA requirements</td>
<td>Environmental screening</td>
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Preliminary Workshop Agenda

- Define scenario elements
  - North centric scenario
  - Hybrid scenario
  - South centric scenario
- Review concepts relative to goals and objectives
- Determine concepts for further study

Planning Considerations

- Intermodal Facilities
  - Connections to transportation infrastructure
  - Functional elements to be included
  - Facility sizes, locations, orientations
- Passenger Terminal
  - Interface with Intermodal facility
  - Airfield interface
  - Facility sizes locations, orientations
- Conceptual Plan Development
  - Intermodal facility
  - Passenger terminal
  - Airfield
  - Support Facilities
Briefing on California Independent Voter Project
Draft activity forecast results

- Introduction
- Airport history and market profile
- Factors that affect demand
- Forecast of future aviation demand at SDIA
- Next steps
Importance of the Forecast

- Allows appropriate facility sizing (within Airport capacity limits)
- Facilitates development phasing plans
- Allows Airport funding capability analysis
Industry Considerations

- Current aviation industry volatility is a challenge when forecasting airport demand.
- Shock after shock the industry has rebounded – Underlying fundamentals should support long term growth in aviation demand.
- The difficulty in predicting the future price of oil and the airlines’ response adds a new challenge in today’s environment –

  *Today’s situation appears to be unprecedented*

- Recent airlines air fares increases and service cuts indicate an adjustment in the airlines’ business model.
The aviation industry has historically recovered after economic downturns.

SDIA has followed the national trend and weathered downturns better than others.

Graph showing U.S. Enplanements and SDIA Enplanements over time with key events such as fuel shocks, recessions, PATCO Strike, and 9-11.
17 carriers provide service at SDIA
LCCs account for 51% of scheduled domestic capacity (seats)
SDIA offers nonstop service to 52 airports (46 markets)
281 daily flight departures (August 2008)
SDIA offers non-stop international service to Mexico, Canada, and England

Zoom Airlines began service to London-Gatwick June 20, 2008

Air Canada ends Toronto service in September of 2008
Factors That Affect Demand

Analysis of historical traffic show that yield (airfare) and personal income are excellent predictors of demand at SDIA.

- **Yield is affected by:**
  - Price of oil / carbon cost
  - Domestic capacity / airline mergers / alliances / bankruptcies

- **Personal Income is a function of:**
  - Local Socioeconomic and National Economic Factors
  - Tourism / Conventions / Cruise Port

SANDAG’s latest population and per capita personal income projections were used for the SDIA forecast.
## Domestic Econometric Assumptions

- **Historical data set:** 1990-2007
- **Carbon / Emissions tax assumed in all scenarios from 2012**

### Scenario

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Baseline</th>
<th>Optimistic</th>
<th>Pessimistic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Income</strong> (San Diego County Population x PCPI)</td>
<td>SANDAG growth rate: 2.4$ per annum</td>
<td>Higher growth rate: 3.0% per annum</td>
<td>No growth in 2009 and 2010 1.2% growth rate 2011-2013 2.4% growth rate thereafter</td>
</tr>
</tbody>
</table>
Enplanement Forecast Summary

- Limited growth is expected for 4-5 years
- Long term growth rates vary from 1.1% to 2.3% annually

AAGR: Average annual growth rate
SDIA Cargo Tonnage Forecast

- All SDIA cargo is domestic
- All-cargo tonnage is forecast to grow at 2/3 the rate predicted by the FAA Aerospace Forecasts, in line with historical relationship
- Belly cargo is forecast to continue to decline
Commercial operations are forecast to grow at 1.3% annually.

Source: Landrum & Brown analysis
Note: AAGR=Average Annual Growth Rate
Observations and Conclusions

- Information available to date suggests that the airlines are changing their business models to eliminate unprofitable flights, reduce capacity, and increase fares.
- Southwest and Alaska fuel hedging will moderate price increases at SDIA.
- SDIA has weathered previous economic shocks better than most airports.
- Fare increases will likely dampen demand, potentially resulting in no growth in passengers in the short term.
- Increased aircraft gauge will likely cause short term decline in aircraft operations.
Planning Activity Levels (PAL)

- Accommodates uncertainty in demand forecast

- Strategic planning approach
  - Provides “triggers” for development based on actual activity
  - Allows plans to be developed independently of time scale

- Links planned capital improvements to “realized” activity levels rather than a specific year
  - Allows projects to be accelerated or delayed due to meet actual needs
Planning Activity Levels

<table>
<thead>
<tr>
<th>Activity Level</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>High Growth Forecast</td>
<td>Baseline Forecast</td>
</tr>
<tr>
<td>Draft Activity Forecast Results</td>
<td></td>
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</tbody>
</table>

![Graph showing planning activity levels]
## Draft Planning Activity Levels

### Draft Activity Forecast Results

<table>
<thead>
<tr>
<th></th>
<th>2007 (actual)</th>
<th>PAL₁ (2020)</th>
<th>PAL₂ (2030)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enplaned passengers</strong></td>
<td>9,172,966</td>
<td>10,848,000</td>
<td>13,680,000</td>
</tr>
<tr>
<td><strong>Commercial aircraft operations</strong></td>
<td>200,446</td>
<td>219,000</td>
<td>269,000</td>
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</tbody>
</table>

Note: Years in parenthesis correspond to baseline forecast and are presented for informational purposes.

Source: Historical, SDIA activity records; Forecast, Landrum and Brown, Inc.
Conclusions and Next Steps

- Project schedule
- Next steps
## Schedule

<table>
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<tr>
<th>Task</th>
<th>2008 April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>2009 Jan</th>
<th>Feb</th>
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<td>1. Vision Structure</td>
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<td>2. Goal Setting/Community Input A</td>
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<td>3. Forecasting</td>
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<td>4. Context and Opportunities</td>
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<td>5. Community Input B</td>
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<td>6. Intermodal Concept Development</td>
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<td>7. Preliminary Vision</td>
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<td>8. Community Input C</td>
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<td>9. Final Vision and Concept</td>
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**Legend**

- Project Task
- Meeting
- Report

**Time now**

August 2 Workshop
Next Steps

- Act on Committee decision regarding August 2 Workshop
- Complete activity forecast
- Develop measurement criteria for concept evaluation

Please review the preliminary Goals and Objectives in the Appendix and provide any additional input as appropriate!
Thank You!

- Questions
- Comments
- Discussion
Vision, Goals and Objectives
Appendix
The vision statement will be developed based agreed-upon goals and objectives

Preliminary goals and objectives are presented on the following slides for Policy Committee consideration

Vision:
concise focus of the airport, typically defining the role of the airport in the regional air network and development pattern

Goals:
 specific statements expanding upon the vision statement to guide future airport development

Objectives:
under each goal, identify the specific items that would be important to achieve; objectives are measurable under either objective or subjective criteria
Ground Transportation

- **Goal**
  - Improve direct access by auto and transit to San Diego International Airport and accommodate parking demand

- **Objectives**
  - Provide direct access from I-5 to the Airport by auto
  - Reduce traffic on city streets in the Airport vicinity
  - Accommodate appropriate levels of airport and regional demand for long-term and short-term parking spaces to ensure sufficient user satisfaction
Intermodal Facility

**Goal**
- Develop an intermodal facility to provide access for passengers and employees to San Diego International Airport and strengthen regional connectivity

**Objectives**
- Increase transit ridership by providing a single location for currently available and future transit modes to access the Airport terminals and by non-airport users transferring between modes
- Provide a facility to accommodate the parking requirements of passengers and employees of the Airport, non-airport transit users, and other local demand centers
- Provide a land envelope necessary to accommodate the intermodal facility
Goal

• Develop passenger terminal to efficiently accommodate passenger planning activity levels to enhance user satisfaction

Objectives

• Ensure a positive passenger experience from access point to the curbside through security and to the gate
• Maintain appropriate level of service on the curbfront, security checkpoints, and passenger holdrooms
• Minimize walking distance from curbside to aircraft gate

Notes
Planning Activity Levels:
Strategic levels of future passengers, aircraft movements, etc, used to plan future facilities

Level of Service:
Amount of free-flow or congested traffic conditions
Airfield/Airspace

Goal

- Develop an airfield configuration sufficient to accommodate the horizon planning activity level

Objectives

- Provide the necessary flexibility to respond to future aircraft, technology and industry changes
- Minimize airfield and airspace congestion
- Develop airfield in accordance with FAA safety regulations
Goal

- Incorporate best practices of environmental stewardship in all components of the Airport physical environment and operations

Objectives

- Mitigate noise on surrounding communities
- Reduce emissions through improved access
- Utilize sustainability solutions in all parts of the Airport
Financial

- **Goal**
  - Develop a financially feasible plan

- **Objectives**
  - Balance short-term, long-term and legacy benefits for new investments
  - Maximize existing funding resources through appropriate facility planning
  - Seek innovative funding methods and expand pool of potential funding sources
Regional Development

Greater San Diego County/ Southern California

Goal

• Leverage Lindbergh to provide major direct and indirect social and economic benefits to local and regional communities

Objectives

• Provide necessary air service to support and grow the regional economy

• Provide surface transportation access (transit and auto) to Southern California destinations and transportation facilities (e.g. other airports) to support the economy and quality of life of the San Diego region

• Provide services to improve the regional quality of life for visitors and residents

• Work with regional entities to provide opportunities for satellite development such as hotels, retail, office and other commercial development that will strengthen economic development in the region
Regional Development

Downtown, Convention Center, Adjacent Communities, and Cruise Terminal

- **Goal**
  - Integrate the airport, through context sensitive urban design, into the fabric of the central San Diego area, including the downtown, waterfront, convention center, embarcadero and harbor areas

- **Objectives**
  - Ensure that all airport facilities fit within the context of existing and future plans for central San Diego
  - Recognize the importance of the scale relationships between airport facilities and surrounding communities
  - Integrate architectural building design and landscaping to soften the effects of airport facilities on surrounding communities
Aviation Demand Forecast
Appendix

Additional information is provided in the following slides concerning the methodology and assumptions for the forecast.
Task objective:

*To forecast aviation demand at SDIA and other San Diego County airports through 2030*

- Forecasts are necessary to determine the facility requirements for the ultimate build out of SDIA
- We need to understand the components of demand for airside, terminal, and landside facilities
- Forecasts will be developed for passengers, air cargo tonnage, fleet mix, and aircraft operations
Destination Lindbergh Forecast Steps

**Current Effort**
- Forecast of future aviation demand at **SDIA**
- Capacity of **SDIA** facilities
- Forecast of future demand served at **SDIA**
- Draft forecast of future aviation demand – **Other San Diego County Airports**
- **Other San Diego County Airports** Final Forecast
- Demand potentially served at other airports
San Diego follows the national trend and SDIA has historically weathered economic downturns better than other U.S. airports.
Current Airline Health and Business Plan Changes

- Seven U.S. airlines ceased operations since December 2007
- Frontier is currently operating under Chapter 11
- Continental joining Star Alliance and code sharing with United pending regulatory approval
- Recent merger
  - US Airways/America West
- Mergers pending regulatory approval
  - Delta/Northwest
- Airlines are cutting markets and frequency
  - American to BOS
  - Continental to CLE
  - Express Jet
**Impact of Rapid Rise in Fuel Costs**

- Airline fuel cost are projected to increase 53% per ASM in 2008
- Fares need to increase at least 15% to offset increased operating costs
- Less near term pressure on airfares at airports where Southwest has a significant presence (e.g. SDIA)

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**Crude Oil ($ per Barrel):**

- Price of Oil increased from $34.31 in January 2004 to $112.58 in April 2008 +228%
- $20-30 Dollar per Barrel Range

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**Source:** Energy Information Administration.

**Notes:** Prices shown are spot prices for West Texas Intermediate (WTI) crude oil.
SDIA passengers have historically paid significantly less to fly than U.S. passengers in general.

Lower fares (yields) have been driven by growth in LCCs, in particular Southwest.

SDIA fares will increase but will likely remain lower than the U.S. average.

Source: USDOT, Air Passenger Origin-Destination Survey.
LCCs account for 45% of SDIA O&D traffic in 2007 up from 29% in 1990
Southwest has accounted for 70% of the net gain in O&D traffic at SDIA since 1990
- 9.2 million enplaned passengers at SDIA in 2007
- 1.0 million passengers used airports other than SDIA; incomplete sample and no history
- Almost 300,000 enplanements at SDIA drove north from Baja California; one sample point
- Number of SDIA passengers from LA, Orange, and Riverside Counties is unknown
- Passengers that drove to LAX did not increase between 2001 and 2007

**Passenger base for Destination Lindbergh forecast is 9.2 million enplanements (18.3 million passengers) at SDIA**
Passenger Segments

- 18.3 million passengers reported at SDIA in 2007
- About 95% are domestic passengers
- 6% of SDIA passengers depart on domestic flights in order to use other U.S. gateways for international trips
- Passenger connections represent 4% of the total

SDIA Passenger Base (CY2007):

- 89% Domestic O&D
- 6% Bound for International Destinations
- 4% Purely International
- 1% Connections

Sources: San Diego County Regional Airport Authority; DOT, Air Passenger Origin-Destination Survey.
Fuel Efficiency Gains Alone Cannot Offset Rapid Rise in Fuel Costs

- Airline fuel cost projected to increase 53% per ASM in 2008
- Fares need to increase 15% to offset increased operating costs
- Less near term pressure on airfares at airports where Southwest has a significant presence (e.g. SDIA)

<table>
<thead>
<tr>
<th>AIRLINE FUEL HEDGES:</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td>AirTran as of 4/23/08</td>
<td>49%</td>
<td>20%</td>
<td></td>
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<tr>
<td>as of 4/23/08</td>
<td>$92</td>
<td>$90</td>
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<tr>
<td>Alaska as of 5/7/08</td>
<td>50%</td>
<td>13%</td>
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<td>as of 5/7/08</td>
<td>$76</td>
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<td>Frontier as of 1/29/08</td>
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<td>as of 1/29/08</td>
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<td>$102</td>
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<td>Jet Blue as of 4/25/08</td>
<td>32%</td>
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<td>$95</td>
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<td>Southwest as of 4/21/08</td>
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<td>Continental as of 4/29/08</td>
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<td>Delta as of 4/25/08</td>
<td>29%</td>
<td>10%</td>
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<td>as of 4/25/08</td>
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<td>as of 4/30/08</td>
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<td>United as of 5/9/08</td>
<td>25%</td>
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<td>as of 5/9/08</td>
<td>$100</td>
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<tr>
<td>US Airways as of 4/24/08</td>
<td>31%</td>
<td>2%</td>
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<td>as of 4/24/08</td>
<td>$84</td>
<td>$95</td>
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Source: Airline SEC Filings.
SDIA Aviation Forecast Approach

- **SDIA Passenger Forecast:**
  - Econometric forecast of originating passenger demand
    - Domestic
    - International
  - Trend analysis of connecting passengers
  - Base, Optimistic and Pessimistic Scenarios

- **General Approach to Passenger Forecast:**
  - Method 1 – Aggregate Econometric Model
  - Method 2 – Regional Segmented Econometric Model
    - Regional model reflects yield and socioeconomic factors unique to travel between San Diego County and each region
■ Yield is a key variable in the SDIA forecast model

■ The SDIA forecast relies upon a forecast of yield that takes into account:
  • Crude oil prices
  • Existing fuel hedges by airline
  • Carrier concentration by regional segment (Southwest, other LCC, legacy carriers)
  • Form of aircraft cost curve
  • Carbon/Emissions tax

■ Three crude oil price scenarios were used as inputs to the yield projections

Sources: EIA; Air Transport Association; Landrum & Brown analysis
The aggregate econometric model uses total domestic passengers as a base.

The regional segmented model forecasts passengers between San Diego and each major region taking into account regional socioeconomic projections.

The regional segmented model takes into account the unique short-haul and long-haul nature of service at SDIA.
- Baseline forecast of 12.0 million enplanements by 2030.
- Scenarios provide range of 9.7 million to 13.3 million enplanements

Note: AAGR=Average Annual Growth Rate
Regression used World GDP by Region as independent variable

Total SDIA international traffic forecast to grow to 1.6 million from 661,000 enplanements today

20% of passengers traveling on international itineraries projected to be accommodated on international flights at SDIA.