

Regional Aviation Planning in Southern California

33rd Annual FAA Aviation Forecast Conference

Michael Armstrong
Aviation Program Manager
Southern California Association of Governments

March 11, 2008



Southern California
Association of Governments



Metropolitan Planning Organization



COGs and MPOs by State

Alabama

- [Alabama Tombigbee Regional Commission](#)
- [Birmingham Regional Planning Commission](#)
- [Central Alabama Regional Planning and Development](#)
- [East Alabama Regional Planning and Development](#)
- [Lee-Russell Council of Governments](#)
- [North-Central Alabama Regional Council of Governments](#)
- [South Alabama Regional Planning Commission](#)
- [South Central Alabama Development Commission](#)
- [Southeast Alabama Regional Planning and Development](#)
- [TARCOG-Top of Alabama Regional Council of Governments](#)
- [WAPDC-West Alabama Planning & Development Council](#)

Arizona

- [Flagstaff Metropolitan Planning Organization](#)
- [MAG-Maricopa Association of Governments](#)
- [NACOG-Northern Arizona Council of Governments](#)
- [PAG-Pima Association of Governments](#)
- [South-Eastern Arizona Governments Organization](#)
- [Western Arizona Council of Governments](#)
- [Yuma Metropolitan Planning Organization](#)

Arkansas

- [Metroplan - Little Rock](#)
- [WCAPDD-West Central Arkansas Planning](#)

California

- [ABAG-Association of Bay Area Governments](#)
- [BCAG-Butte County Association of Governments](#)
- [COFCG-Council of Fresno County Governments](#)
- [Council of San Benito County Governments](#)
- [Coachella Valley Association of Governments](#)
- [MCAG-Merced County Association of Governments](#)
- [MTC-Metropolitan Transportation Commission](#)
- [Kern Council of Governments](#)
- [Kings County Association of Governments](#)
- [Mendocino Council of Governments](#)
- [Association of Monterey Bay Area Governments](#)
- [Orange County Council of Governments](#)
- [SACOG-Sacramento Area Council of Governments](#)
- [San Bernardino Associated Governments](#)
- [SANDAG-San Diego Association of Governments](#)
- [SBCAG-Santa Barbara County Association of Gov](#)
- [SCAG-Southern California Association of Governments](#)
- [SCRTPA-Shasta County Regional Transportation](#)
- [SEDD & SPO-Sierra Economic Development District](#)
- [SGVCOG-San Gabriel Valley Council of Governments](#)
- [SJCOG-San Joaquin Council of Governments](#)
- [SLOCOG-San Luis Obispo Council of Governments](#)
- [StanCOG - Stanislaus Council of Governments](#)

Connecticut

- [CCRPA-Central Connecticut Regional Planning Agency](#)
- [CRCOG-Capitol Region Council of Governments](#)
- [CRERPA-The Connecticut River Estuary Regional Council of Governments of the Central Naugatuck Valley](#)
- [South Central Regional Council of Governments](#)
- [Windham Region Council of Governments](#)

Delaware

- [Dorchester County Metropolitan Planning Council](#)
- [MIDCAPCO-Mid-Delaware Area Planning Council](#)
- [Metropolitan Washington Council of Governments](#)

Florida

- [Brevard Metropolitan Planning Organization](#)
- [Central Florida Regional Planning Council](#)
- [Chambers County-Panola Metropolitan Planning Organization](#)
- [Collier County Metropolitan Planning Organization](#)
- [East Central Florida Regional Planning Council](#)
- [First Coast Metropolitan Planning Organization](#)
- [Florida MPO Advisory Council](#)
- [Hillsborough County MPO](#)
- [Hollywood Metropolitan Planning Commission](#)
- [Lee County Metropolitan Planning Organization](#)
- [Metropolitan Planning Organization for the Miami](#)
- [North Central Florida Regional Planning Council](#)
- [Northeast Florida Regional Planning Council](#)
- [Palm Beach County Metropolitan Planning Organization](#)
- [Sarasota-Manatee Metropolitan Planning Organization](#)
- [SFRPC-South Florida Regional Planning Council](#)
- [Tampa Bay Regional Planning Council](#)
- [Volusia Metropolitan Planning Organization](#)
- [West Florida Regional Planning Council](#)
- [Withlacoochee Regional Planning Council](#)

Georgia

- [Albany Planning & Development](#)
- [Atlanta Regional Commission](#)
- [CSRA-Central Savannah Region](#)
- [CVRD-Coosa Valley Regional Development](#)
- [MTRDC-McIntosh Trail Regional Development Council](#)

Hawaii

- [OMPO-Oahu Metropolitan Planning Organization](#)

Idaho

- [Ada Planning Association](#)
- [Bannock Planning Organization](#)
- [SICOG-Southeast Idaho Council of Governments](#)

Illinois

- [Bi-State Regional Council of Governments](#)
- [Chicago Area Council of Governments](#)
- [Coles County Regional Planning and Development](#)
- [Eastern Will County Regional Council](#)
- [North Central Illinois Council of Governments](#)
- [Northeastern Illinois Planning Commission](#)
- [Northwest Municipal Conference](#)
- [South Central Illinois Regional Planning](#)
- [Southeastern Illinois Regional Planning](#)
- [Tri-County Regional Planning Commission](#)

Indiana

- [Bloomington/Monroe County Metropolitan Planning](#)
- [Delaware-Muncie Metropolitan Plan Commission](#)
- [Evansville Urban Transportation Study](#)
- [Indianapolis Metropolitan Planning Organization](#)
- [Madison County Council of Governments](#)
- [Michiana Area Council of Governments](#)
- [Northwestern Indiana Regional Planning Commission](#)
- [Northern Indiana Council of Governments](#)
- [Southwest Indiana Council of Governments](#)
- [The XV Regional Planning Commission](#)
- [Bi-State Regional Commission](#)
- [Des Moines MPO](#)
- [East Central Regional Development Association](#)
- [East Central Regional Council of Governments](#)
- [Iowa Northland Regional Council of Governments](#)
- [Metropolitan Area Planning Agency](#)
- [Midas Council of Governments](#)
- [Northwest Iowa Planning and Development Commission](#)
- [Region Six Planning Commission](#)
- [Western Indiana Regional Development Commission](#)
- [Central Indiana Regional Metropolitan Planning](#)
- [Southeastern Regional Planning Commission](#)
- [Southern Iowa Council of Governments](#)
- [Upper Explorerland Regional Planning Commission](#)
- [Kentucky](#)
- [Green River Area Development District](#)
- [Kentuckian Regional Planning and Development](#)
- [Ohio-Kentucky-Indiana Regional Council](#)

Louisiana

- [Northwest Louisiana Council of Governments](#)
- [Regional Planning Commission for Jefferson, Orleans,](#)

Maine

- [Androscoggin Valley Council of Governments](#)
- [Eastern Maine Development Corporation](#)
- [Kennebec Valley Council of Governments](#)
- [Northwest Coast Regional Planning Commission](#)
- [Northern Maine Development Commission](#)
- [Portland Council of Governments](#)
- [Maine Regional Planning Commission](#)

Massachusetts

- [Metropolitan Council](#)
- [Regional Planning Commission](#)
- [Metropolitan Area Planning Council](#)
- [Regional Metropolitan Planning Organization](#)
- [Commission Information Center](#)
- [Massachusetts Regional Planning Commission](#)

Michigan

- [Franklin Regional Council of Governments](#)
- [Merrimack Valley Planning Commission](#)
- [Montachusett Regional Planning Commission](#)
- [Old Colony Planning Council](#)
- [PVPC-Pioneer Valley Planning Commission](#)
- [SRPEDD-Southeastern Regional Planning](#)
- [SEMCOG-Southeast Michigan Council of Governments](#)

Minnesota

- [Arrowhead Regional Development](#)
- [Duluth-Superior Metropolitan](#)
- [Fargo-Moorhead Metropolitan](#)
- [Metropolitan Council](#)
- [St. Cloud Area Planning Organization](#)

Missouri

- [Boonslick Regional Planning](#)
- [East-West Gateway Coordination](#)
- [Harry S. Truman Coordinating](#)
- [MARC-The Mid-America Regional](#)
- [Kaysinger Basin Regional Planning](#)
- [Mark Twain Regional Council](#)
- [Meramec Regional Planning](#)
- [Mid-America Regional Council](#)
- [Mid-Missouri Regional Planning](#)
- [Mo-Kan Regional Council](#)
- [Northeast Missouri Regional](#)
- [Northwest Missouri Regional](#)
- [South Central Ozark Council](#)
- [Southern Missouri Regional](#)
- [Southwest Missouri Council](#)

Nebraska

- [NENEDD-Northeast Nebraska](#)
- [Southern New Hampshire P](#)

New Hampshire

- [DVRPC- The Delaware Valley](#)
- [North Jersey Transportation](#)

New Mexico

- [Middle Rio Grande Council of](#)
- [New Mexico Association of I](#)

New York

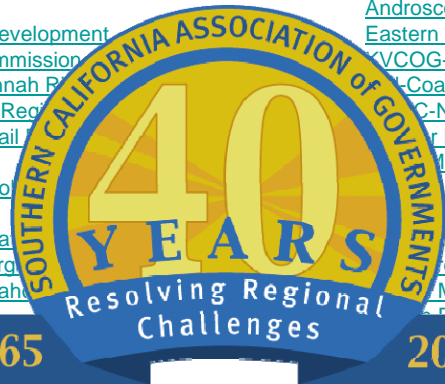
- [CDRPC-Capital District Regional](#)
- [Capital District Transportation](#)
- [Central New York Regional](#)
- [Elmira-Chemung Transportation](#)
- [Genesee/Finger Lakes Regional](#)
- [Greater Buffalo-Niagara Regional](#)
- [Council](#)
- [Ithaca-Tompkins County Transportation](#)
- [Lake Champlain-Lake George](#)
- [New York Metropolitan Transportation](#)
- [Southern Tier West Regional](#)
- [Southern Tier Central Regional](#)
- [Syracuse Metropolitan Transportation](#)

North Carolina

- [Burlington - Graham MPO](#)
- [Capital Area Metropolitan Planning](#)
- [Cape Fear Council of Governments](#)
- [Centralina Council of Governments](#)
- [Land-of-Sky Regional Council](#)
- [NWPCOG-Northwest Piedmont](#)
- [Triangle J Council of Governments](#)
- [WPCOG-Western Piedmont](#)

North Dakota

SCAG is largest of nearly 700 Councils of Governments in the U.S.



Success Based on Group Resolve to Find Workable and Fair Solutions



Membership is Voluntary





The Challenges We Face Transcend Local Boundaries



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Commercial Airports



- Commercial Airport
- Commuter Airport

SCAG Commercial Service Airports



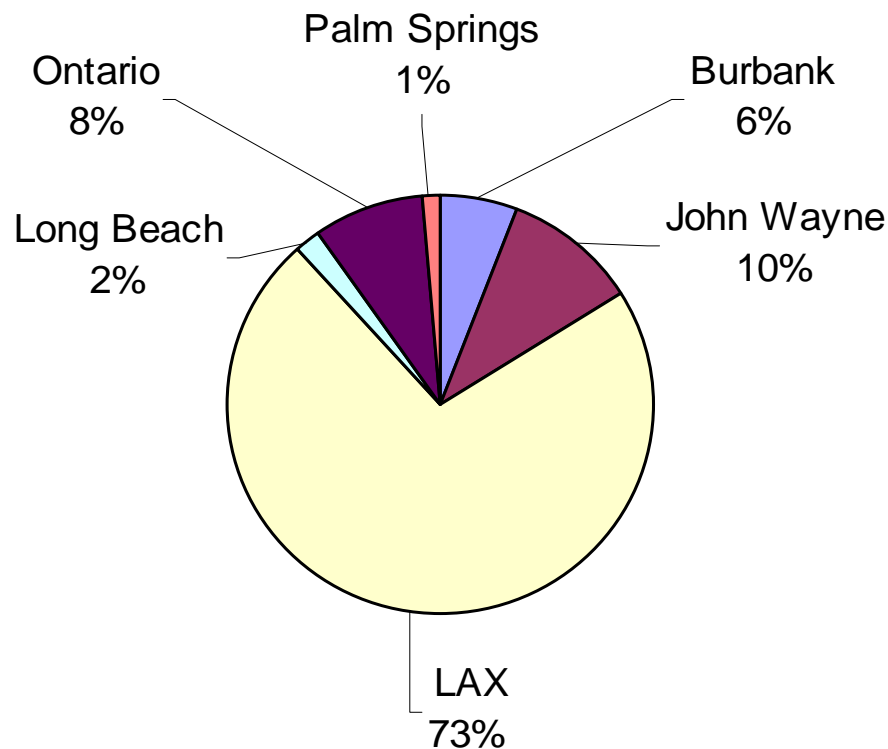
SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS

2004 EIR UPDATE

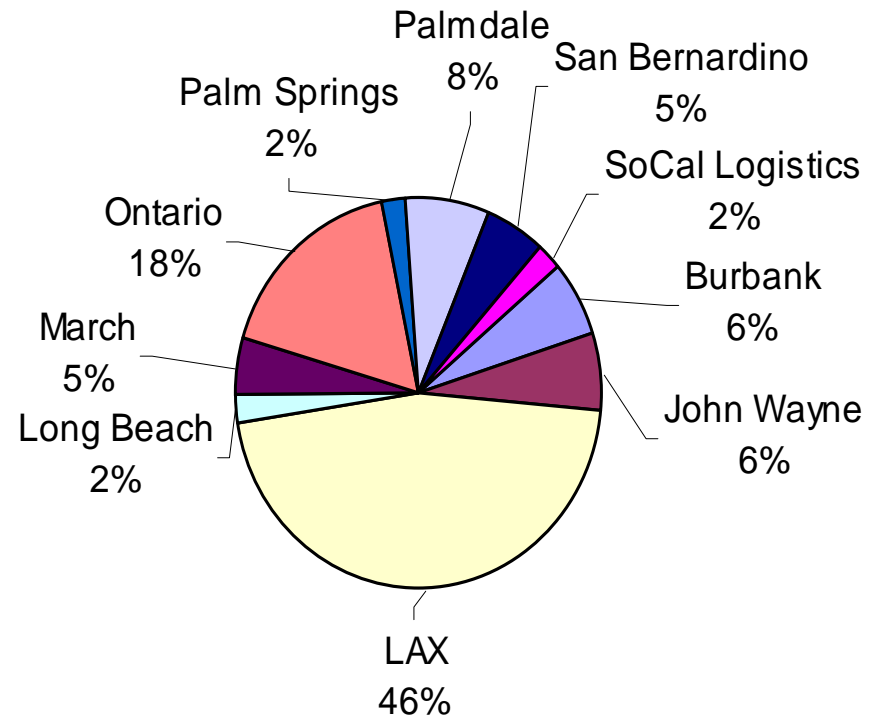
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Regional Air Passenger Demand (2002 and 2030)

2002 (Existing)

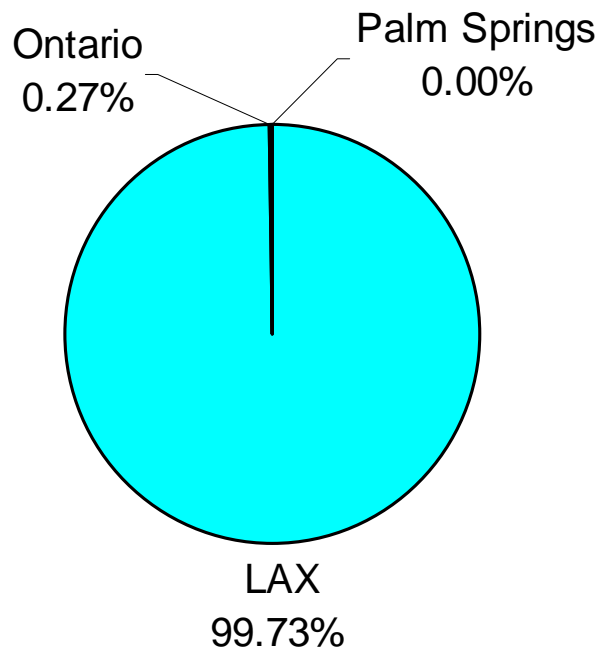


2030 (Preferred Plan)

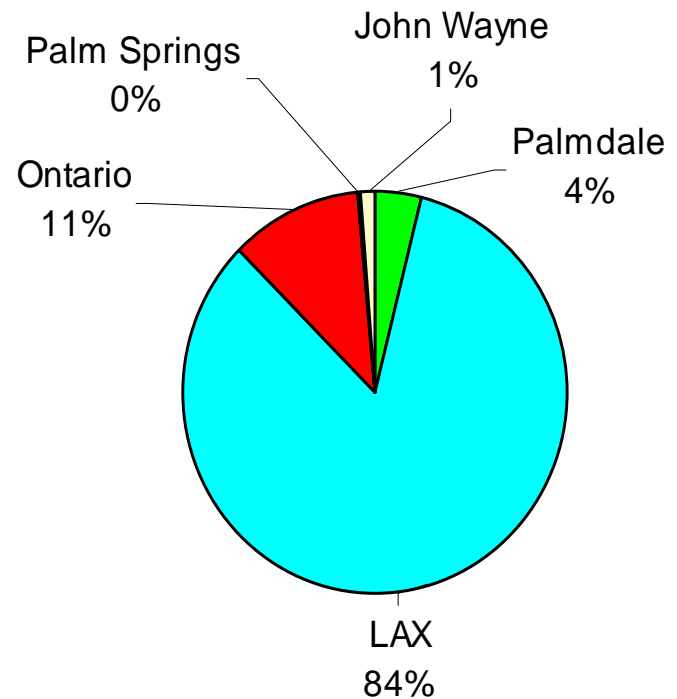


2030 International Air Passengers (Preferred Plan)

2002 International Percentages

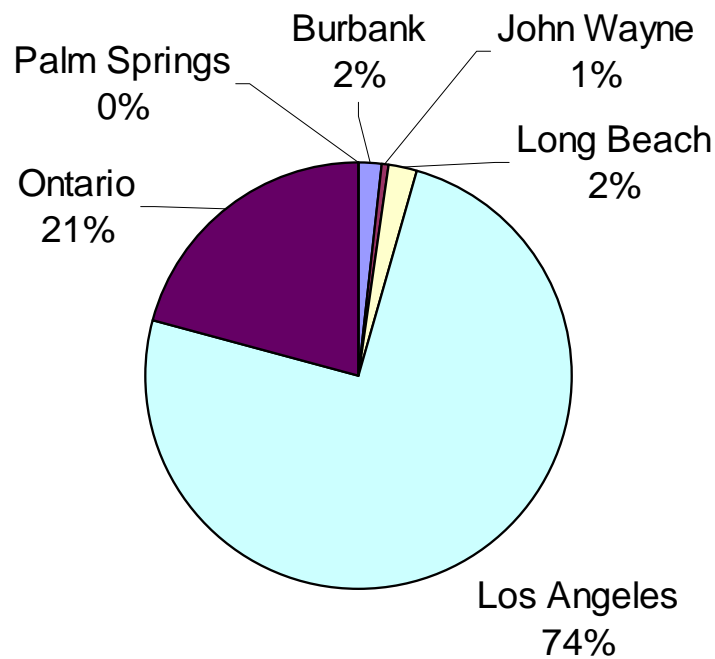


2030 International Percentages

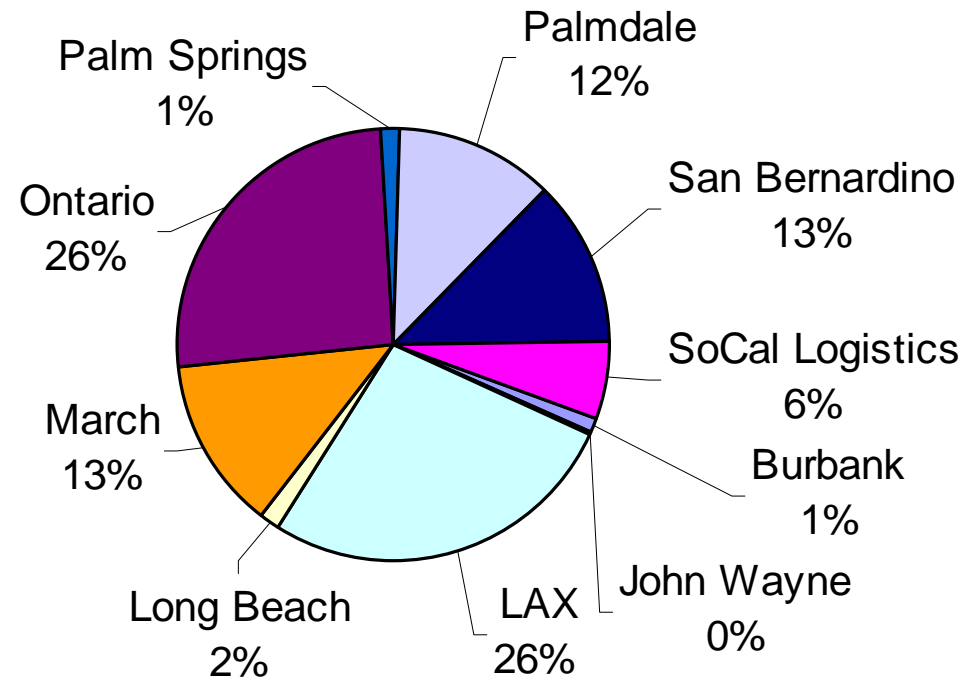


2030 Air Cargo Demand (Preferred Plan)

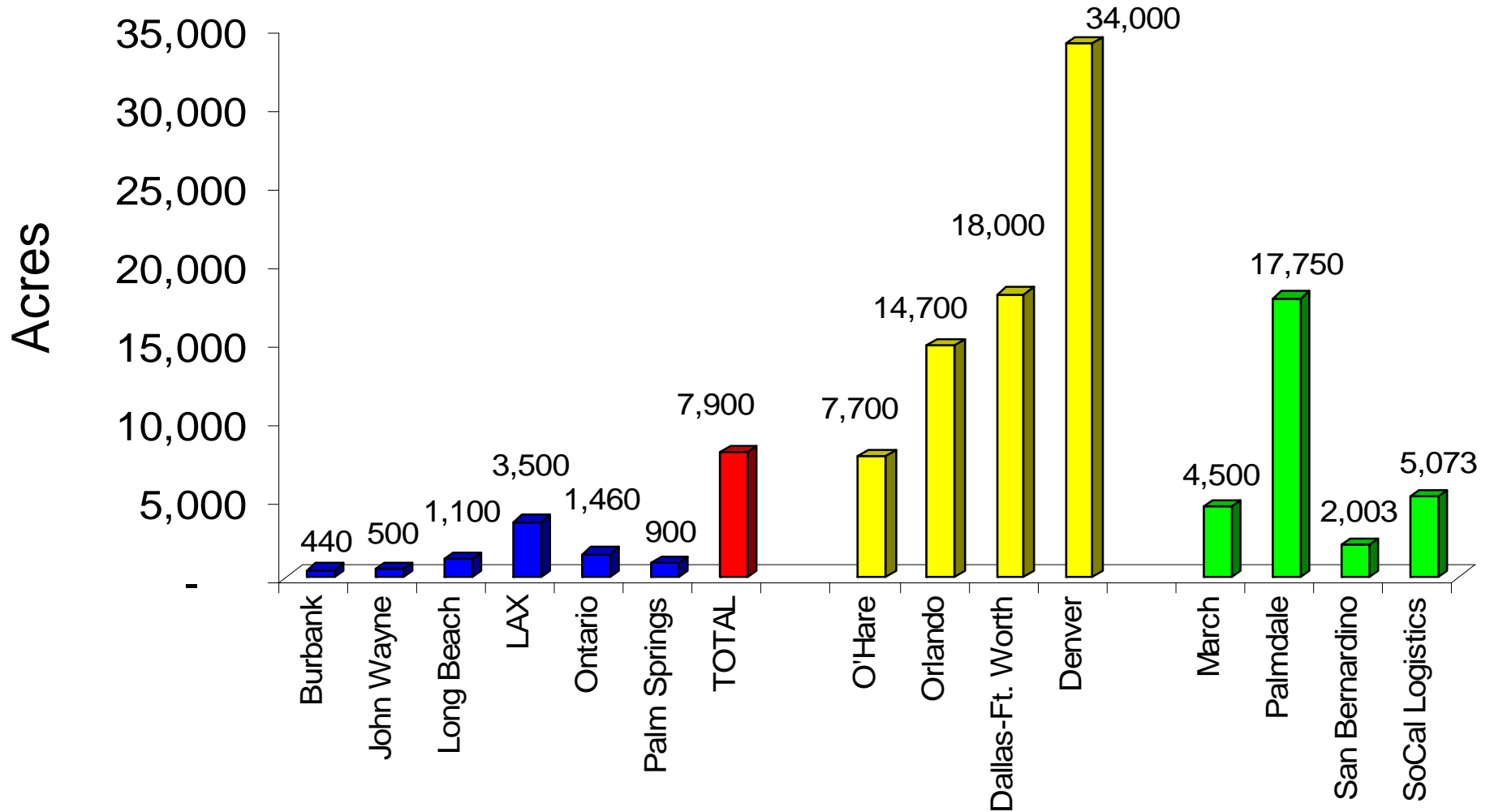
2002 Air Cargo Percentages



2030 Air Cargo Percentages



Airport Acreage



Airport Constraints

Airport

Constraint

LAX

Physical/Policy - 78 MAP

Bob Hope

Physical - 9.6-10.7 MAP

John Wayne

Legal - 10.8 MAP

Long Beach

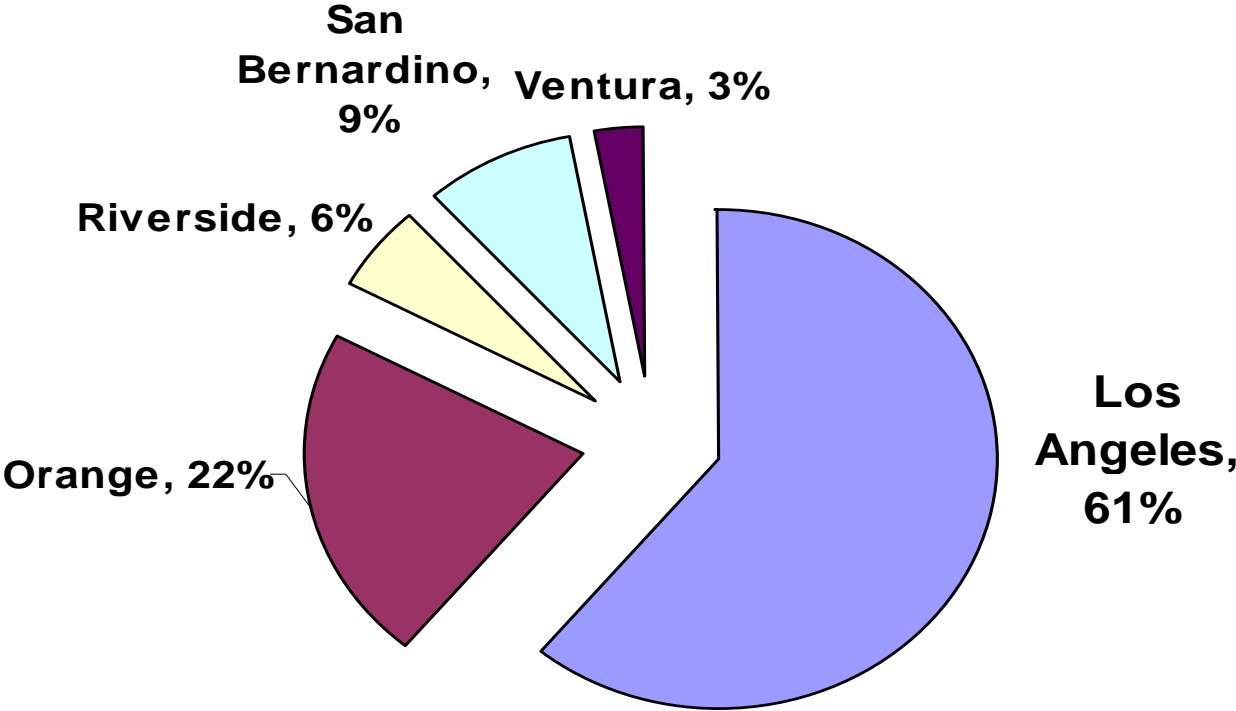
Legal - 3-3.8 MAP

Ontario

Physical - 30 MAP

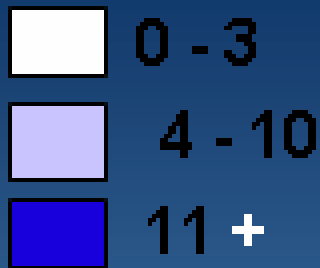
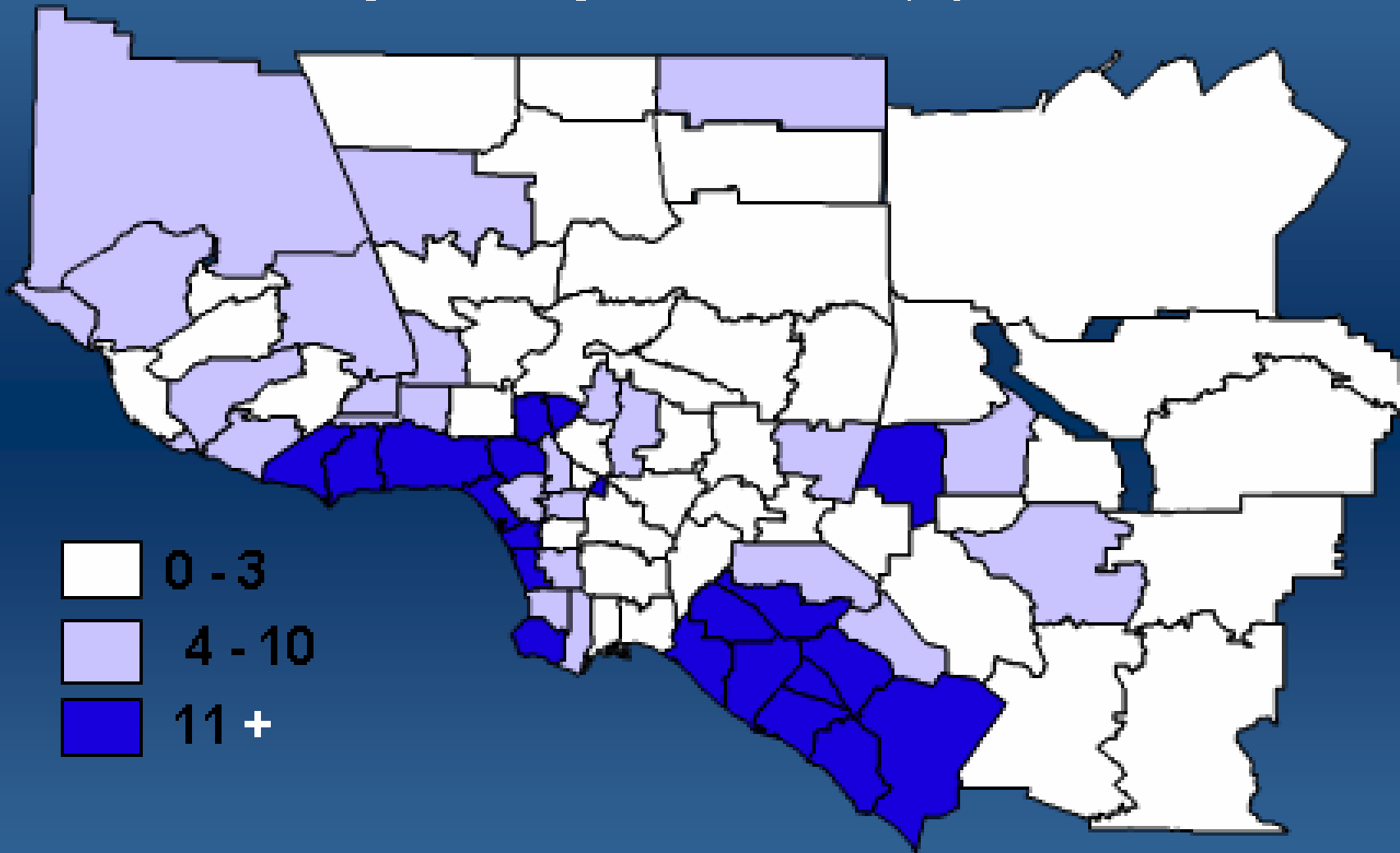


Passenger Demand by County, 2030

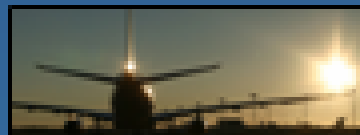


Annual Passenger Trips per Capita, 2030

Regional demand grows from 80 to 170 map by 2030



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Regional Strategy for Aviation

INTRODUCTION

- What is Airport Decentralization?
 - *Ability to meet demands of the region*
 - *Better utilization of regional airports*
- Why must we decentralize?
 - *Limited capacity at urbanized airports*
 - *Continued and growing demand from the urbanized areas in the region*
 - *LAX settlement agreement*
- SCAG's Regional Aviation Plan provides the solution
 - *Airport decentralization concept evolved from 2001 and 2004 RTP*
 - *Shift passenger demand to inland airports*
 - *Growth of outlying airports supported by reliable, very high-speed ground access*



STEPS TO DECENTRALIZATION

1. Address current bottlenecks
 - *Provides immediate relief and improves ground access*
 - *By itself, will not decentralize aviation demand*
2. Provide options to redistributing demand
 - *Flyaway concept, establish the patterns*
 - *Redirect and focus on regional airports*
 - *Integrate with roadway improvements in the near term*
3. Ultimately need a long term solution
 - *Build on the Flyaway concept*
 - *Need for high-speed, dependable and reliable service*
 - *Need for airports in the region to work together*



High Speed Rail



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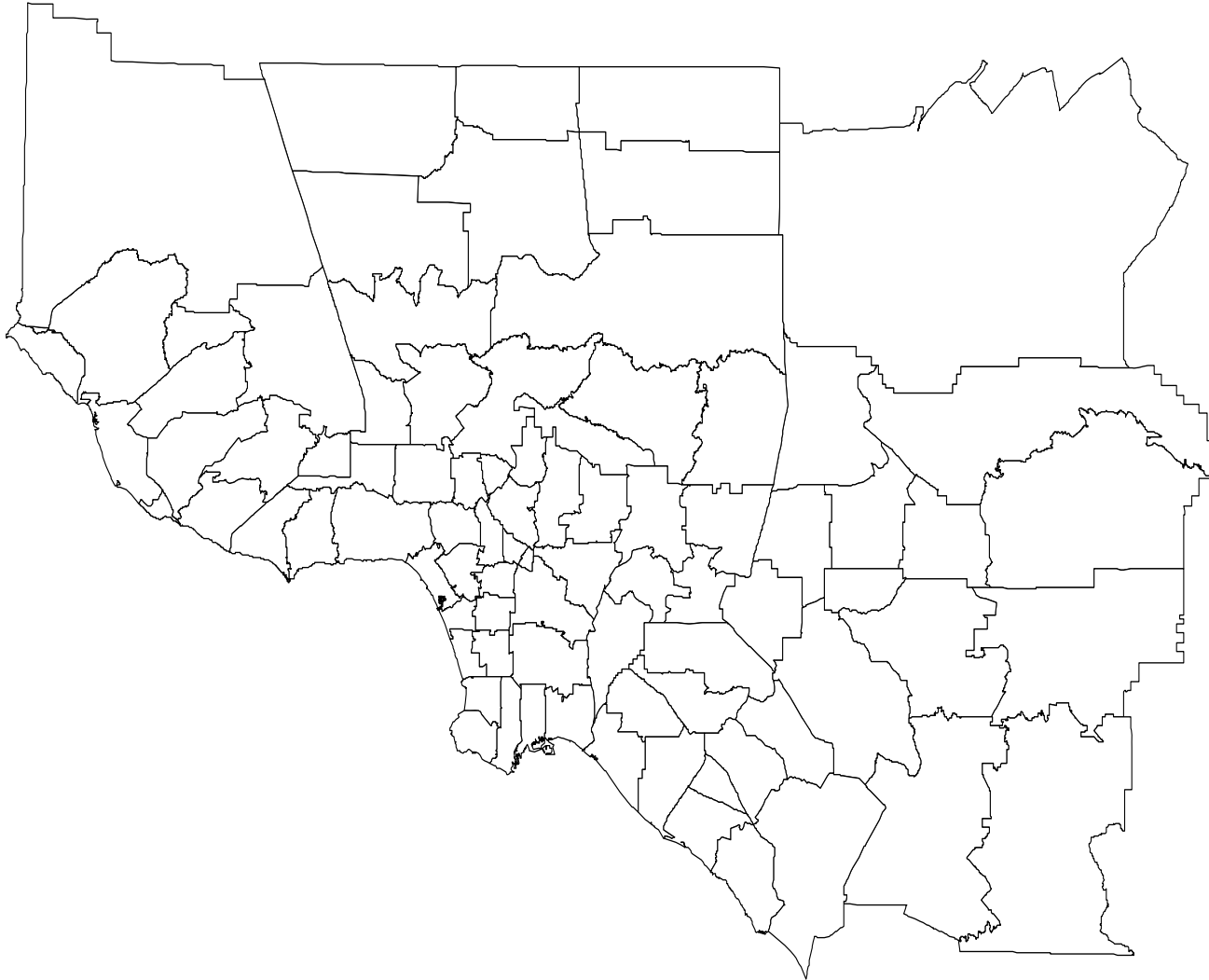
2030 Preferred Plan Economic Benefit

**Preferred Plan - \$18 Billion and
131,000 jobs over "doing nothing"**

Preferred Aviation Plan Economic Impact		
Variation	Economic Impact (1998 Dollars)	Jobs
Do Nothing	\$ 87 Billion	630,000
Preferred Aviation Plan	\$105 Billion	761,000

For every one million passengers, there is an economic benefit of \$620 Million and 4,475 Jobs

RADAM Model Zones



SCAG UNCONSTRAINED DEMAND

*LAX+ONTARIO+BURBANK+SANTA ANA+SAN
BERNARDINO+VICTORVILLE+PALMDALE +MARCH
AFB+LONG BEACH+PALM SPRINGS*

SCAG REGION:

2005 – 88.3 MAP

2035 – 192.4 MAP (fuel costs)

29% INTERNATIONAL

2004 RTP – 190 MAP in 2030

ANNUAL GROWTH RATE: 3.9%

TOTAL SCAG + SAN DIEGO: 215.39 MAP (SAN: 22.99 MAP)



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FAA TERMINAL AREA FORECAST

***WESTERN-PACIFIC REGION: California, Nevada,
Arizona***

MAJOR AIRPORTS ONLY

FAA ANNUAL GROWTH RATE 4.44%

FAA (CA, NV, AZ)

SCAG

2005 - 150.2 MAP

2005 – 88.3 MAP

2025 – 285.8 MAP

2035 – 192.4 MAP

2025 LAX – 112.9 MAP



2035 CONSTRAINED SCENARIO PARAMETERS

- ***NO MAGLEV***
- **LAX: Existing runway capacity - 78 MAP**
- **BUR: Existing terminal/gate capacity - 9.4 MAP**
- **LGB: Flight restriction of 41 flights/day**
- **SNA: Settlement Agreement - 10.8 MAP**
- **ONT: Existing runway capacity - 28.8 MAP**
- **SAN: Existing runway capacity - 22.9 MAP**
- **SBD & PMD: Charter, corp. & commuter/short haul**
- **MAR & VCV: Cargo, charter and corporate**
- **IPL & CRQ: Corporate, charter and commuter**
- **OXR: Physical facility & fleet mix constrained**
- **Planned ground access improvements**
- **No Market incentives**
- **Doubling of aircraft fuel costs**



2035 CONSTRAINED SCENARIO

PRELIMINARY

ITERATION: A/82720 C RADAM VERSION 9.12 (REGIONAL AIRPORT DEMAND ALLOCATION MODEL)

2035 SCE CON												TOTAL PASSENGERS IN MILLION ANNUAL PASSENGERS (MAP)		MAR
													(MAR Inland Port)	0.551122
SAN	BUR	LAX	ONT	OXR	SNA	LGB	PSP	PMD	SBD	CRQ	IPL	VCV		
Lindbergh Field				(Oxnard)	(John Wayne)		(Palm Springs)		(San Ber. Int)	(Palomar)	(Imperial)	(So CA Logistics)		
22.897726	9.401123	78.007283	31.601221	0.720010	10.800277	3.192923	4.102234	2.572827	2.885383	1.307248	0.874722	0.674940		

No Regional Maglev; Planned Ground Access

San Diego Runway Capacity Constrained

LAX Runway Capacity Constrained

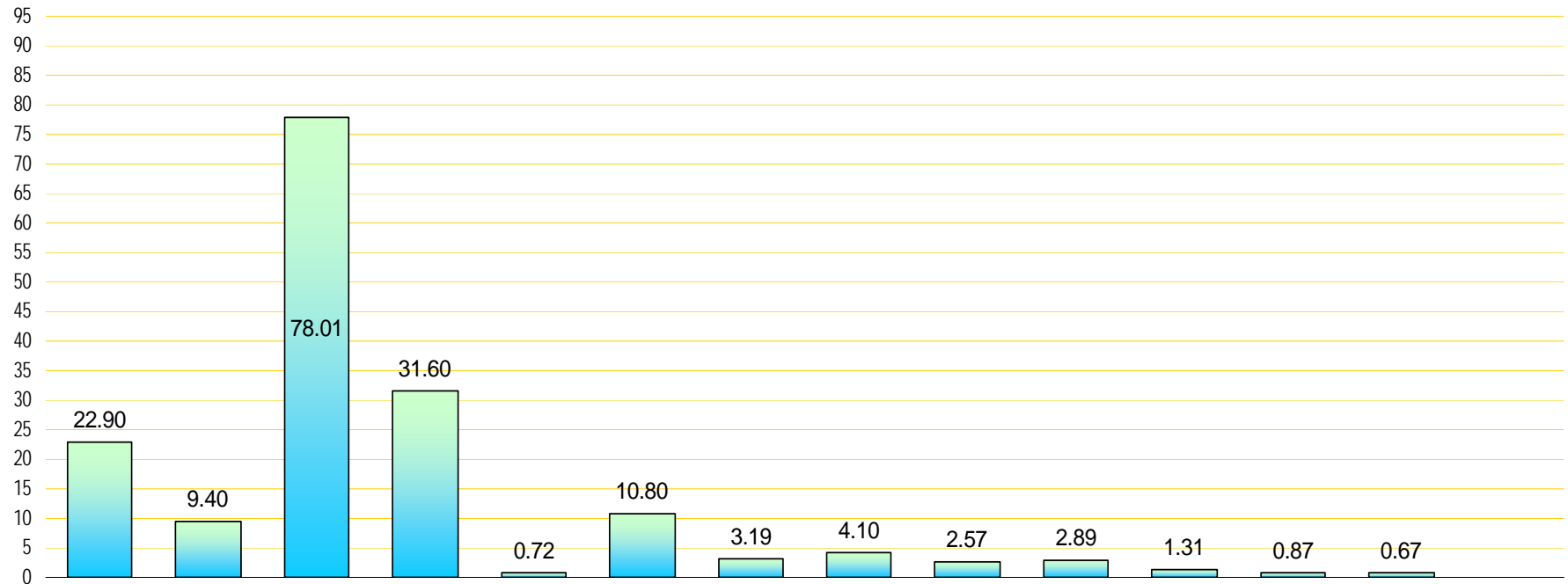
OXR, CRQ Commuters/short haul

SCAG REGION PX MARKET

144.8329

SCAG + SAN DIEGO PX MKTS

169.0379



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ALL PREFERRED SCENARIO PARAMETERS

SCENARIO 1. – NO MAGLEV

SCENARIO 2. – REGIONAL MAGLEV TO MARCH (NO PSP STATION)

SCENARIO 3. - REGIONAL MAGLEV TO PSP (NO MAR STATION)

- LGB: Larger Aircraft, higher load factors – 41 flights/day = 4.2 MAP capacity
- SNA: New Settlement Agreement Constraint – 10.8 MAP
- ONT: Runway capacity – 31.6 MAP
- SAN: Capacity of 22.9 MAP
- MAR: Joint use agreement – 2.5 MAP
- SBD: System capacity – 8.7-9.4 MAP
- PMD and VCV: Unconstrained
- OXR and CRQ: constrained by ops
- BUR: capacity – 9.4 MAP
- IPL: unconstrained
- LAX: 78 MAP

Airport ground access improvements:

Unconstrained list (recent submittals from local commissions)



Market Incentives

- **PMD: ground access reliability - same as other airports; Additional access routes**
- **Future air trip propensities in the Antelope Valley (PMD) increased by avg. 15% closer to San Fernando Valley.**
- **For outlying airports 100% of residents & 80% of non-residents aware of alternative airports choices. Requires a marketing campaign, booking system upgrades**
- **Low-cost parking at PMD, SBD, MAR, VCV, CRQ, IPL, OXR**
- **Free shuttle service from major activity centers to outlying airports**



2035 RTP PREFERRED SCENARIO 1. NO MAGLEV

ITERATION: P/00277122 RADAM VERSION 9.12 (REGIONAL AIRPORT DEMAND ALLOCATION MODEL)

2035 SCE P 1

TOTAL PASSENGERS IN MILLION ANNUAL PASSENGERS (MAP)

MAR
(MAR Inland Port)
2.503372

SAN	BUR	LAX	ONT	OXR	SNA	LGB	PSP	PMD	SBD	CRQ	IPL	VCV
Lindbergh Field				(Oxnard)	(John Wayne)		(Palm Springs)		(San Ber. Int)	(Palomar)	(Imperial)	(So CA Logistics)
22.900272	9.401265	78.006839	31.602013	1.406070	10.800245	4.200328	4.119827	6.271277	3.278352	1.501274	3.502939	2.430293

No Regional Maglev; Planned Ground Access

San Diego Runway Capacity Constrained

LAX Runway Capacity Constrained

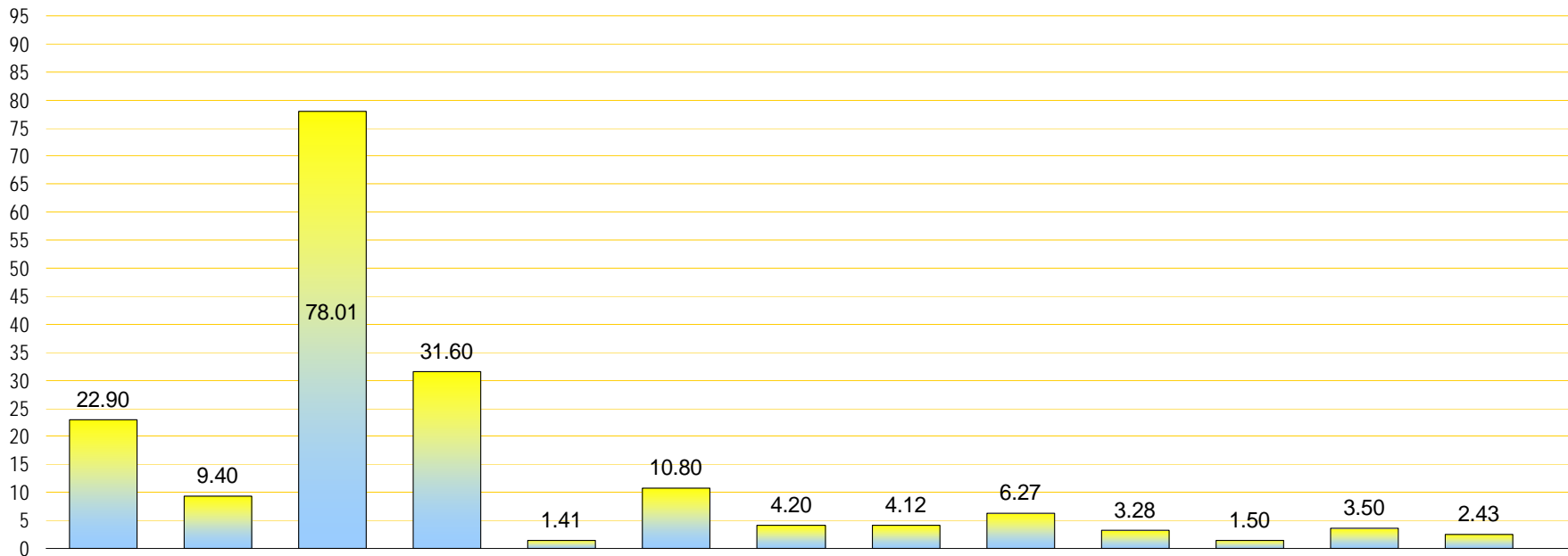
Fuel Cost Doubling

SCAG REGION PX MARKET

155.0194

SCAG + SAN DIEGO PX MARKET

179.4210



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2035 PREFERRED SCENARIO 2. MAGLEV - MAR

PRELIMINARY

ITERATION: P/032833B

RADAM VERSION 9.12 (REGIONAL AIRPORT DEMAND ALLOCATION MODEL)

2035 SCE P MAR
MAGLEV TO MAR

TOTAL PASSENGERS IN MILLION ANNUAL PASSENGERS (MAP)

MAR
(MAR Inland Port)
2.502340

SAN	BUR	LAX	ONT	OXR	SNA	LGB	PSP	PMD	SBD	CRQ	IPL	VCV
Lindbergh Field				(Oxnard)	(John Wayne)		(Palm Springs)		(San Ber. Int)	(Palomar)	(Imperial)	(So CA Logistics)
22.900148	9.401120	78.006439	31.601028	2.204785	10.800187	4.200273	4.102273	12.887205	9.415432	2.488373	3.533112	4.002864

Regional Maglev to MAR; No Maglev to PSP; Planned Ground Access

San Diego Runway Capacity Constrained

LAX Runway Capacity Constrained

Fuel Cost Doubling

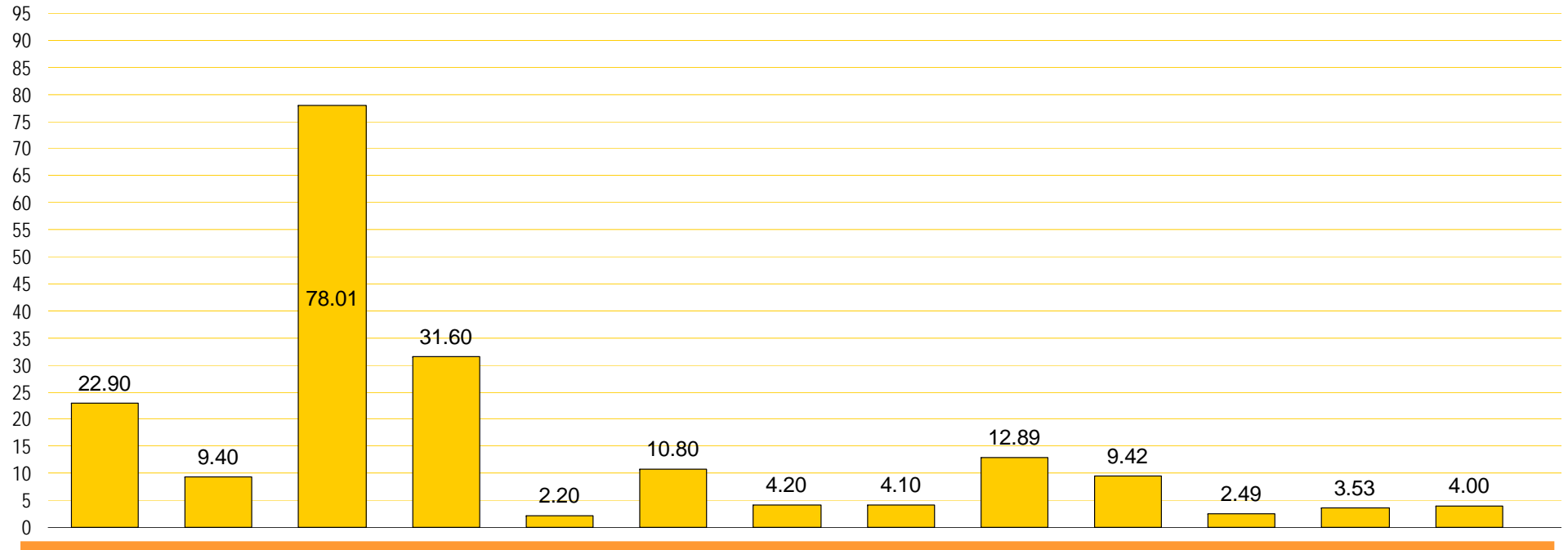
March Inland Port capped at 2.5 MAP

SCAG REGION PX MARK

170.1547

SCAG+SAN DIEGO PX MARK

195.5432



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Thank You