

Presentation #2

Preliminary Findings – Remaining Scenarios

- Enhanced Utilization of Tijuana Airport
- California High Speed Rail

Regional Aviation Strategic Plan

San Diego County Regional Airport Authority
RASP Subcommittee

December 9, 2010



Presentation Content

Objectives

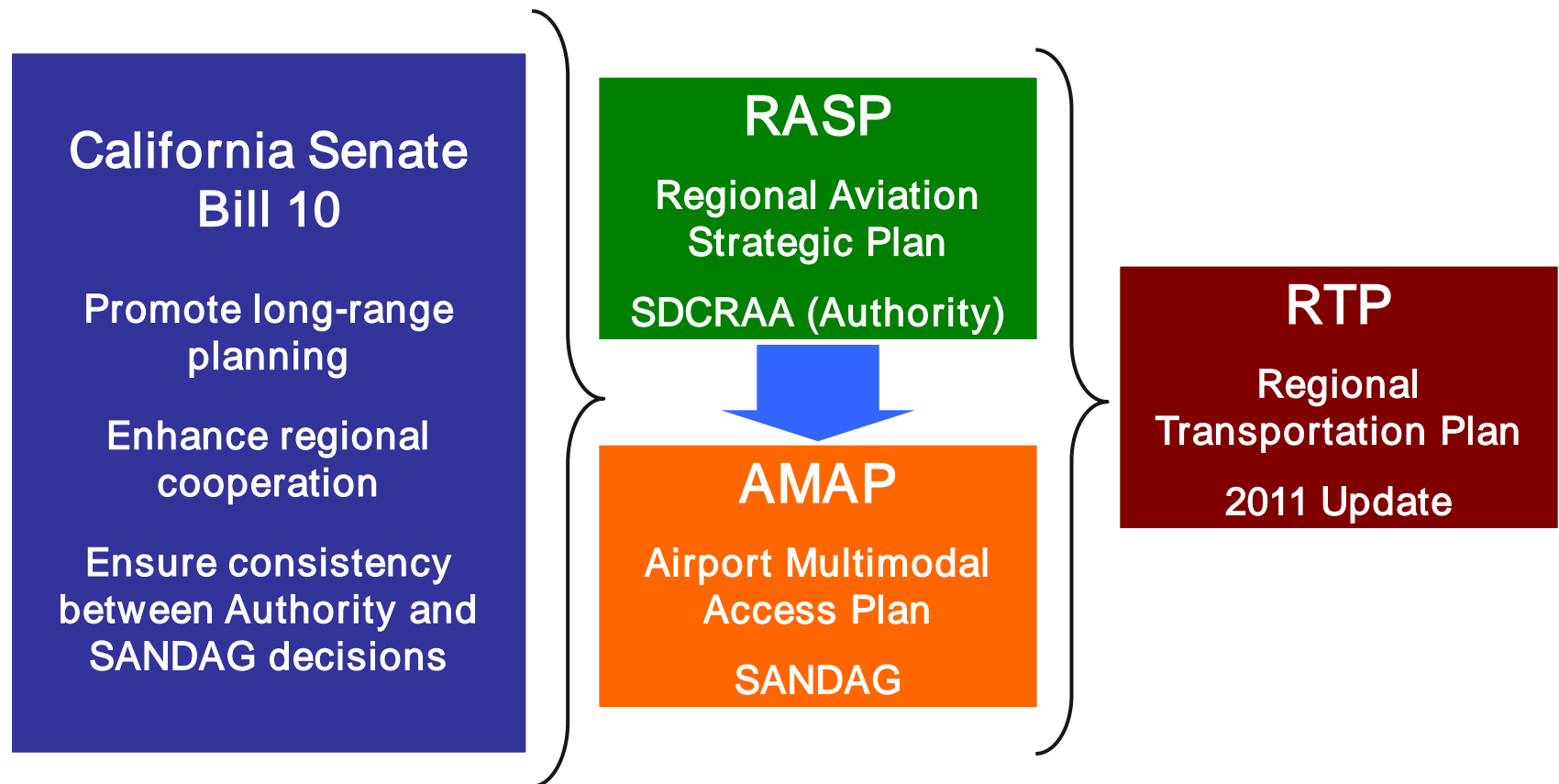
1. Review project progress
2. Review scenario details (cost estimates, implementation schedules, timelines, and decision points, etc.)
3. Review preliminary findings on select scenarios
 1. Commercial Optimization (September 2010)
 2. Enhanced Utilization of Tijuana Airport
 3. California High Speed Rail
 4. General Aviation Optimization (Sept 2010)
 5. Air Cargo Optimization (September 2010)
4. Discuss next steps and project completion

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| Enhanced Utilization of Tijuana Airport | |
| California High Speed Rail | |
| New Commercial Scenarios | |
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| 4. Next steps / outreach | 55 |

Regional Aviation Strategic Plan (RASP)

Senate Bill 10 – Multimodal Planning to be Coordinated by SDCRAA and SANDAG



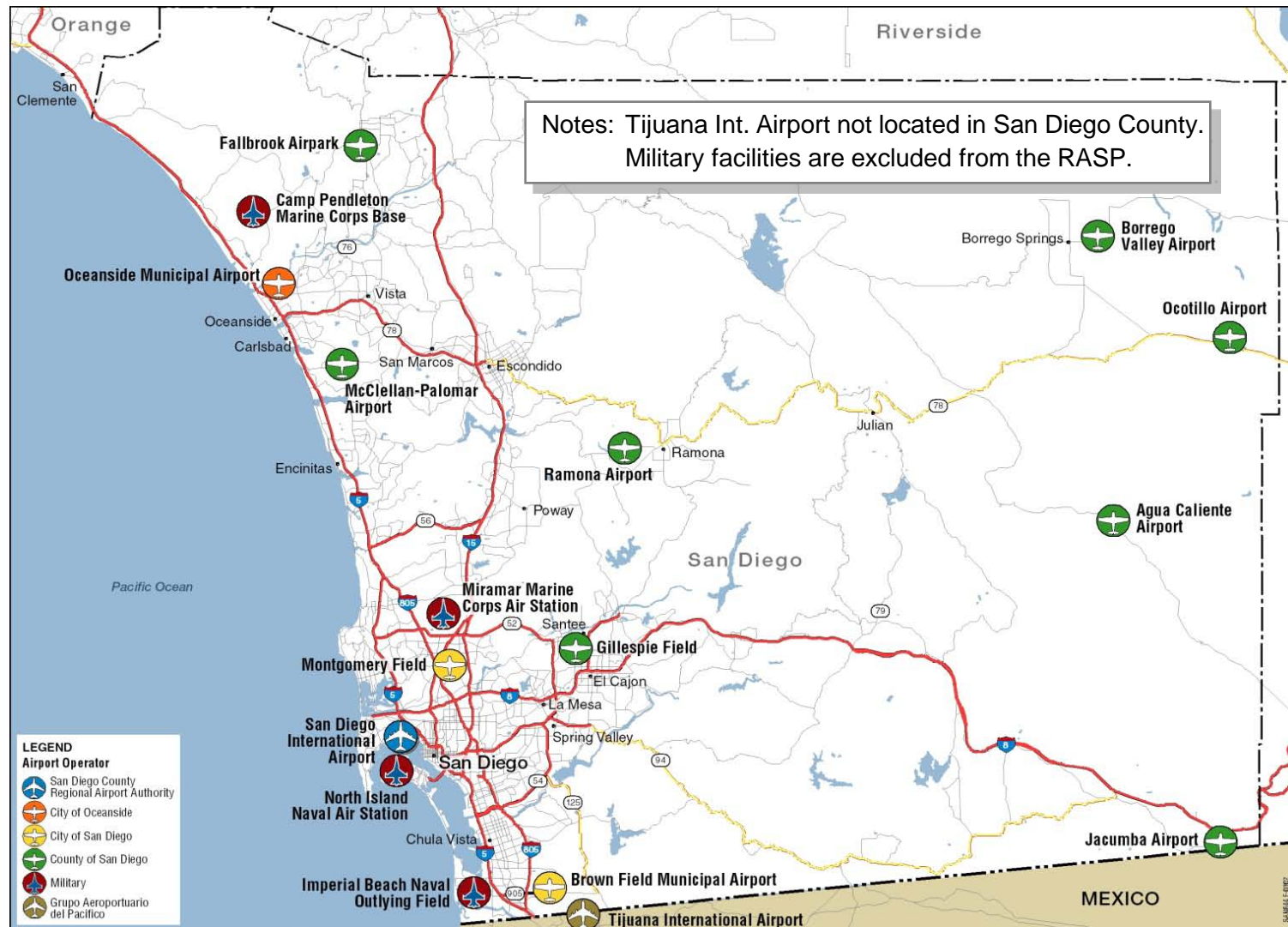
Project Overview

3-Phase Work Plan

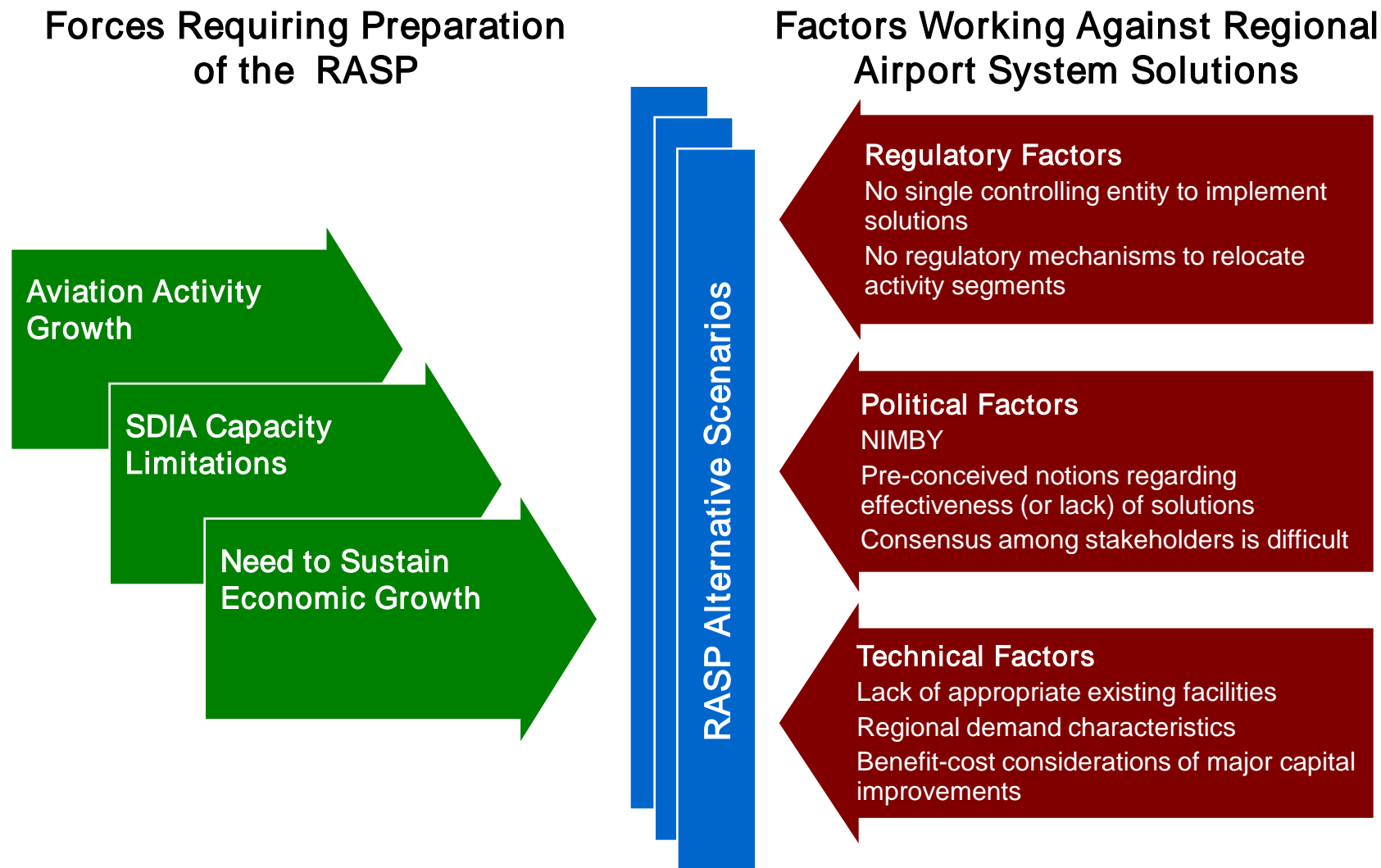


RASP Study Area

12 Public Use Airports Located in a Densely Populated and Developed Region



Complicated Factors Constrain Implementation of Alternatives



Review of Previous Findings

Baseline Scenario

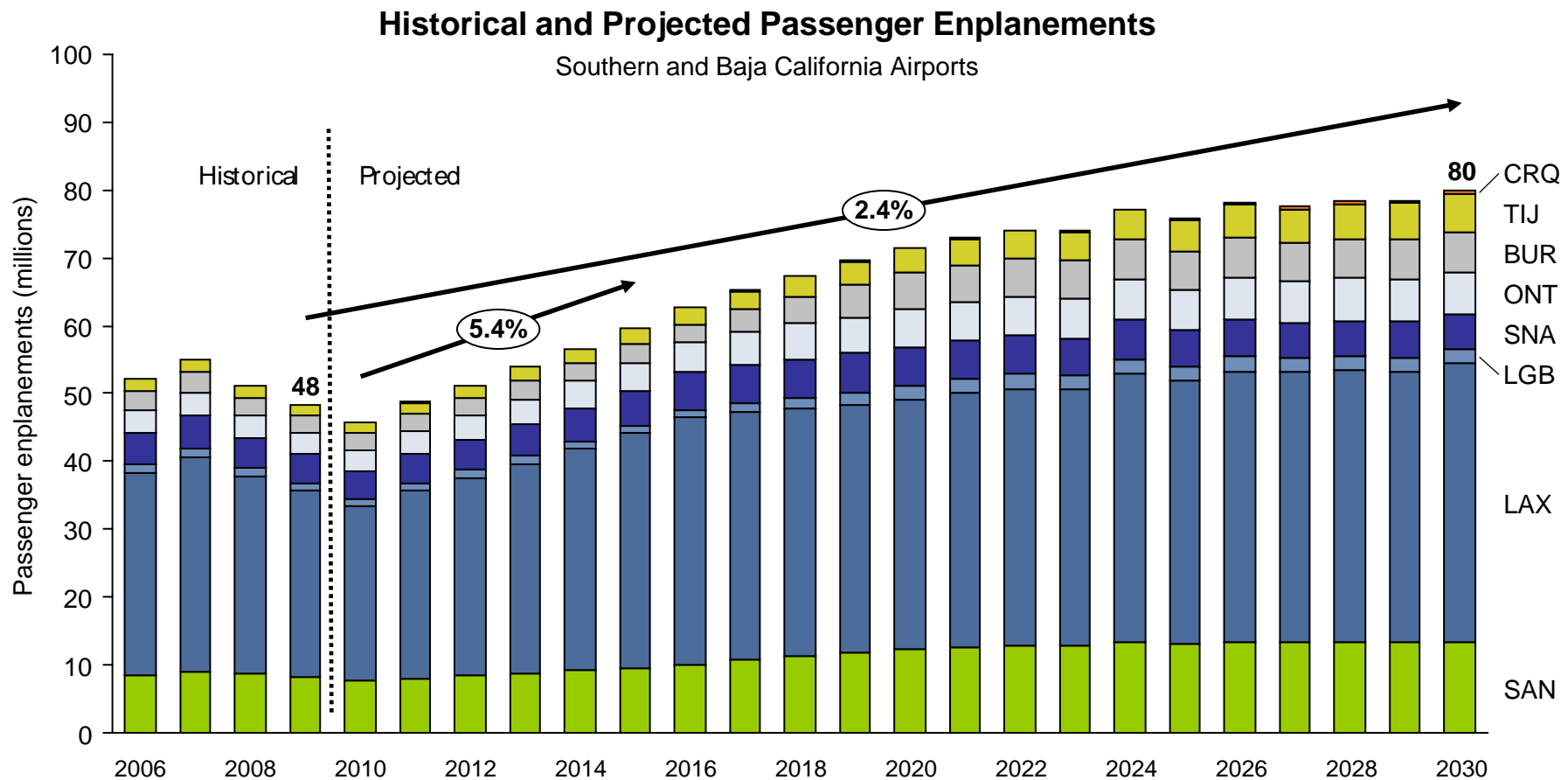
The “Do–Nothing” Scenario Against Which Other Scenarios Will Be Evaluated

- A** Airfield facility constraints “cap” activity at SDIA at around 28M annual passengers (14M enplanements)
- B** Airfield capacity constraint results in higher fares and lower levels of service
- C** Accommodation of some San Diego demand at LA region airports
- D** Accommodation of some regional demand at Tijuana International Airport; assumption that GAP (the airport operator) will increase airport capacity
- E** Increased commercial service at McClellan-Palomar



Projected Passenger Enplanements – Baseline Scenario

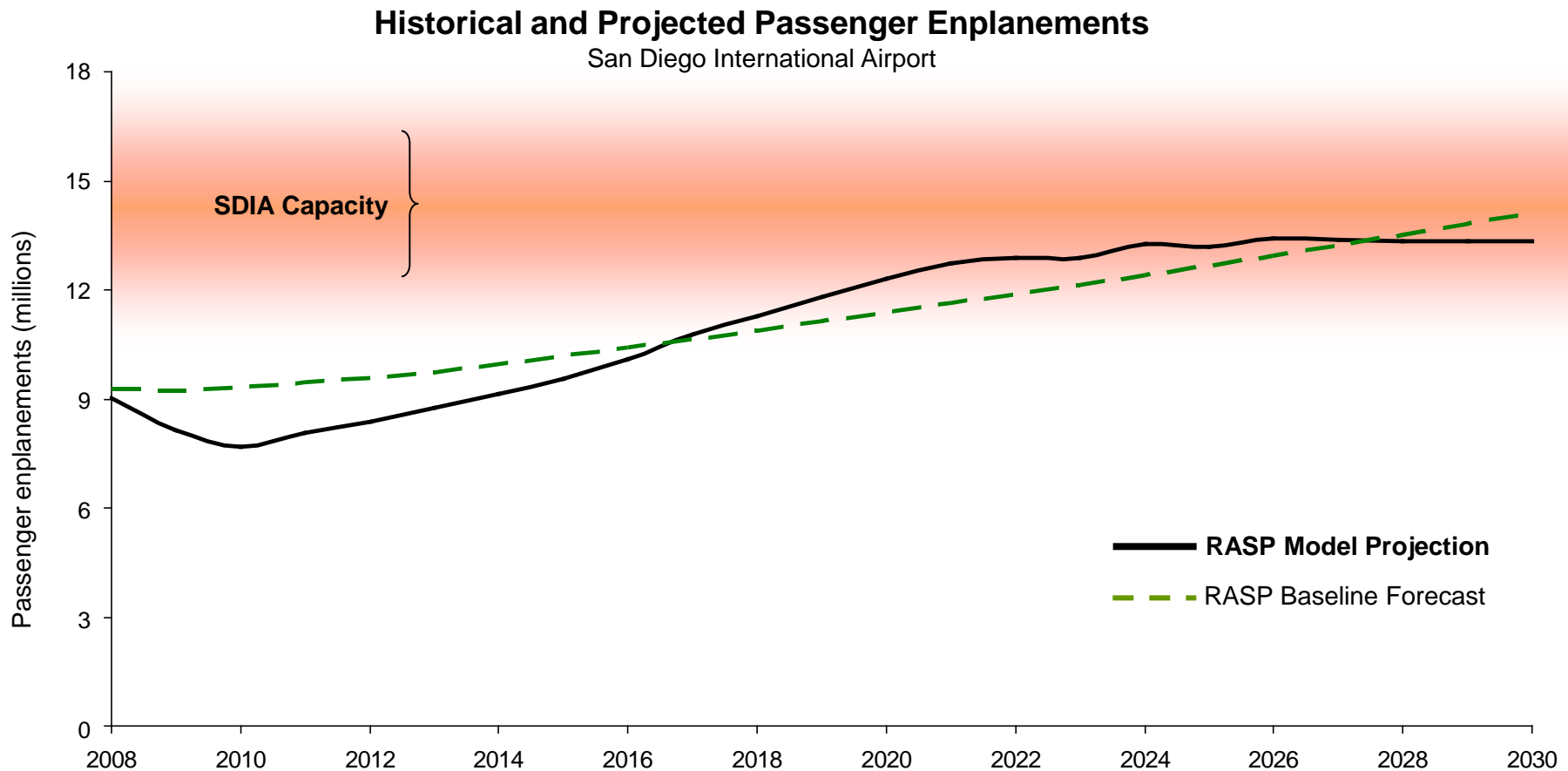
Enplaned Passengers in the Region are Projected to Increase 50% Between 2009 and 2030



Notes: Passenger enplanements based on forecast demographic data from International Monetary Fund (IMF), LA Economic Development Corporation (LAEDC), and SANDAG Model calibrated to actual enplanements from 2006 to 2009; projections may be different from actual. Results generally correspond to FAA TAF data for 2025. SAN Compound Annual Growth Rate (CAGR) = 4.7% in the "recovery"; 2.5% for the forecast period.

SDIA Enplanement Projections

Demand Model Indicates Capacity Constraint at SDIA Begins in Early 2020s



Sources: RASP Forecasts and Financial Forecast Update, Landrum & Brown, Inc. December 2008 and June 2009, respectively.

Note: Model calibrated to actual enplanements from 2006 to 2009; projections may be different from actual.

Suppressed Passenger Demand – Baseline Scenario

As Capacity is Reached, the Number of Suppressed Passengers in the County Increases

Suppressed Aviation Passenger Demand

San Diego Residents and Visitors



Note: Suppressed demand presented above relative to 2006; some suppressed demand already exists.

Alternative Scenarios

Highlighted Families Presented August 2010; Brown Field Scenarios Eliminated from Consideration



1. Commercial Passenger Optimization

- A. Full build-out of the ITC and north side terminal at SDIA
- B. Preserve SDIA airfield capacity for commercial passenger service
- C. Enhance commercial passenger service at McClellan-Palomar Airport
- ~~D. Introduce commercial passenger service at Brown Field~~

2. Enhanced Utilization of Tijuana

- A. Tijuana Rodriguez International Airport focus on commercial service
- B. Aviation passenger cross border facility (currently proposed)
- C. Cross border airport terminal

3. California High Speed Rail

Stations at downtown LA, ONT Airport and:

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



4. General Aviation Optimization

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

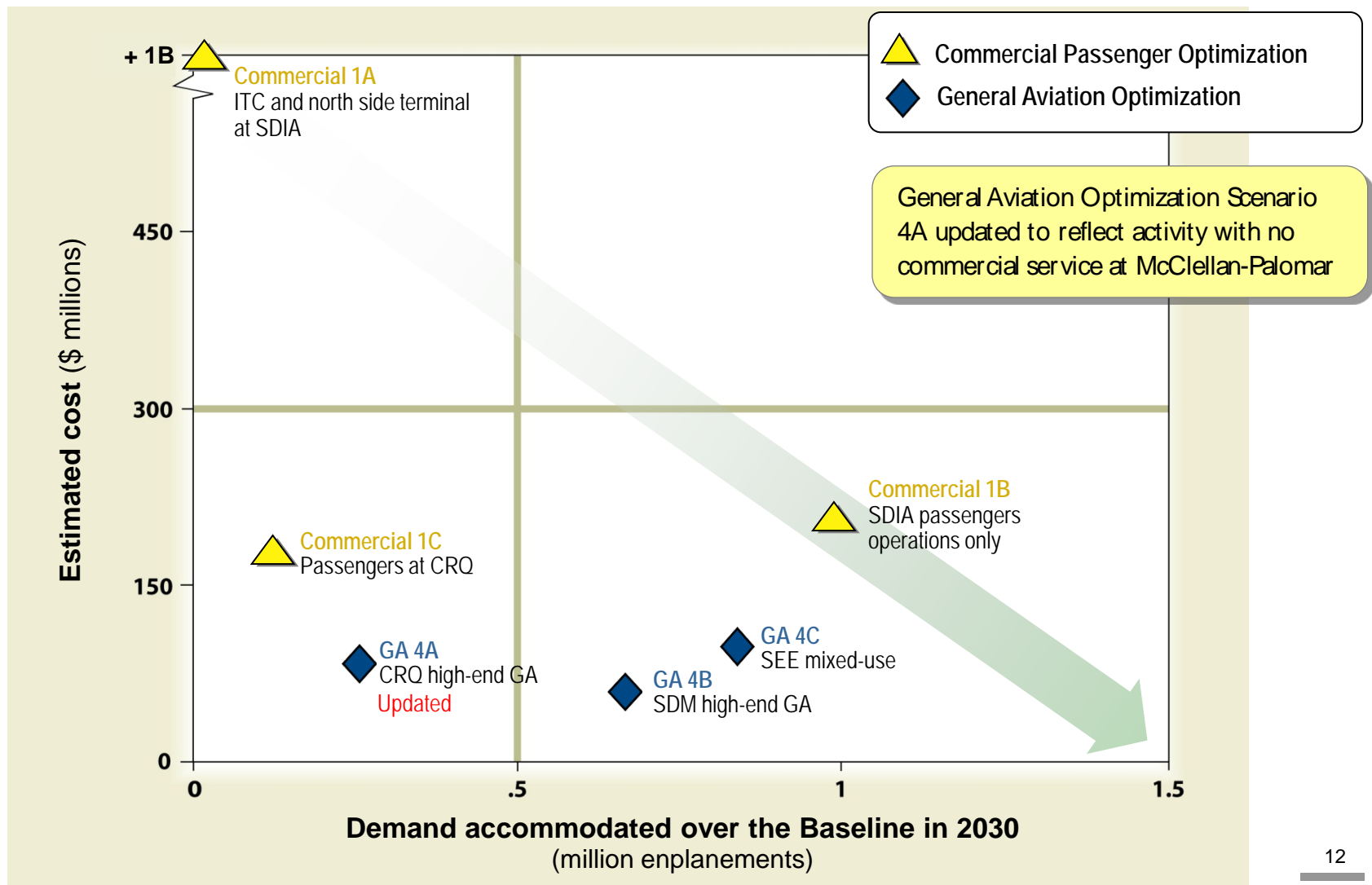


5. Air Cargo Optimization

- ~~A. Introduce cargo service at Brown Field~~

Summary of Findings – Alternative Scenario Families 1 and 4

Scenarios 1 and 4 Have Minimal Impact on Regional Demand and Varying Costs



Remaining Alternative Scenario Findings

- Enhanced Utilization of Tijuana Airport
- California High Speed Rail

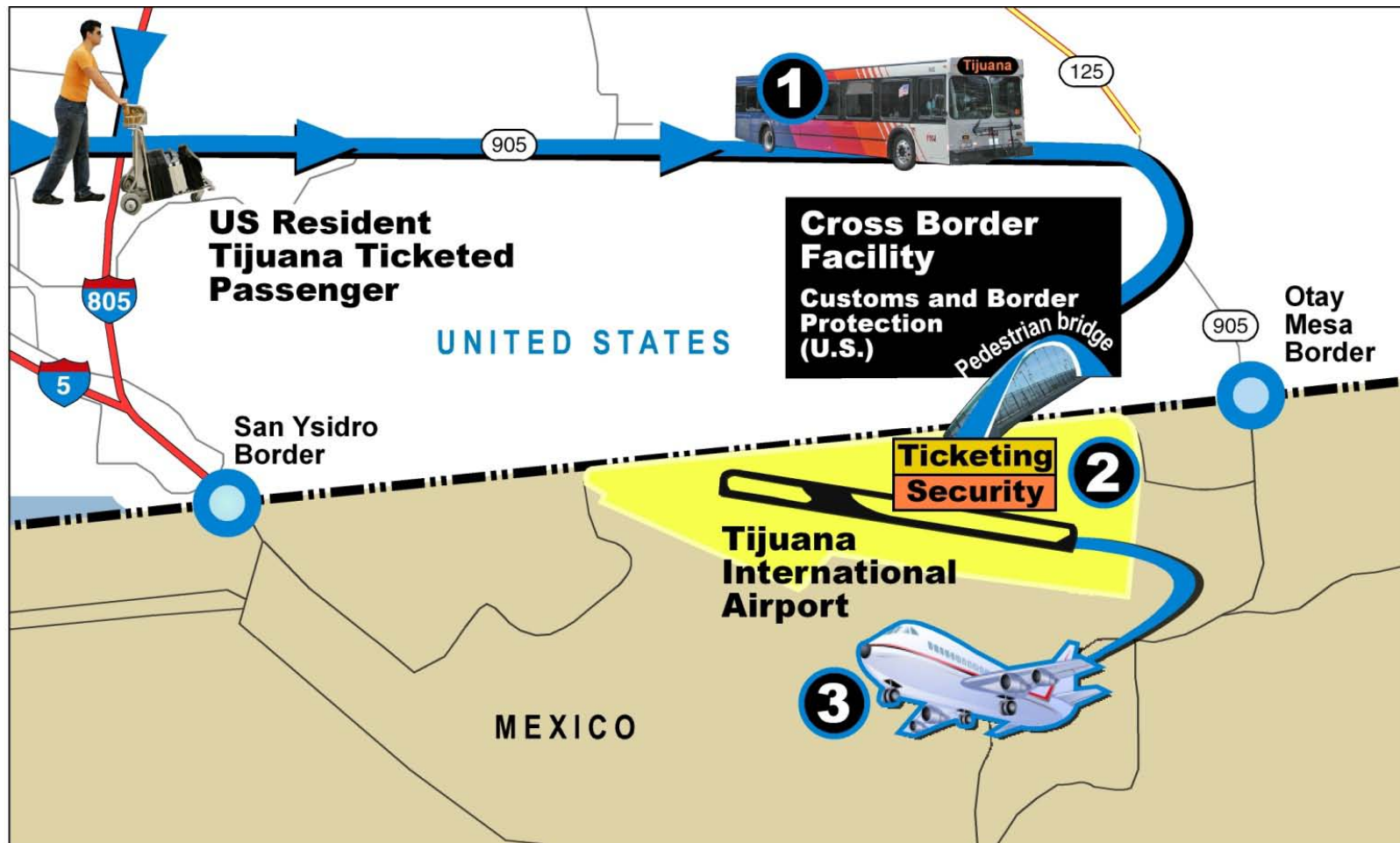
Current Access to Tijuana Airport / Scenario 2A

Ground Transportation is Used to Cross the Border and Access Tijuana Airport



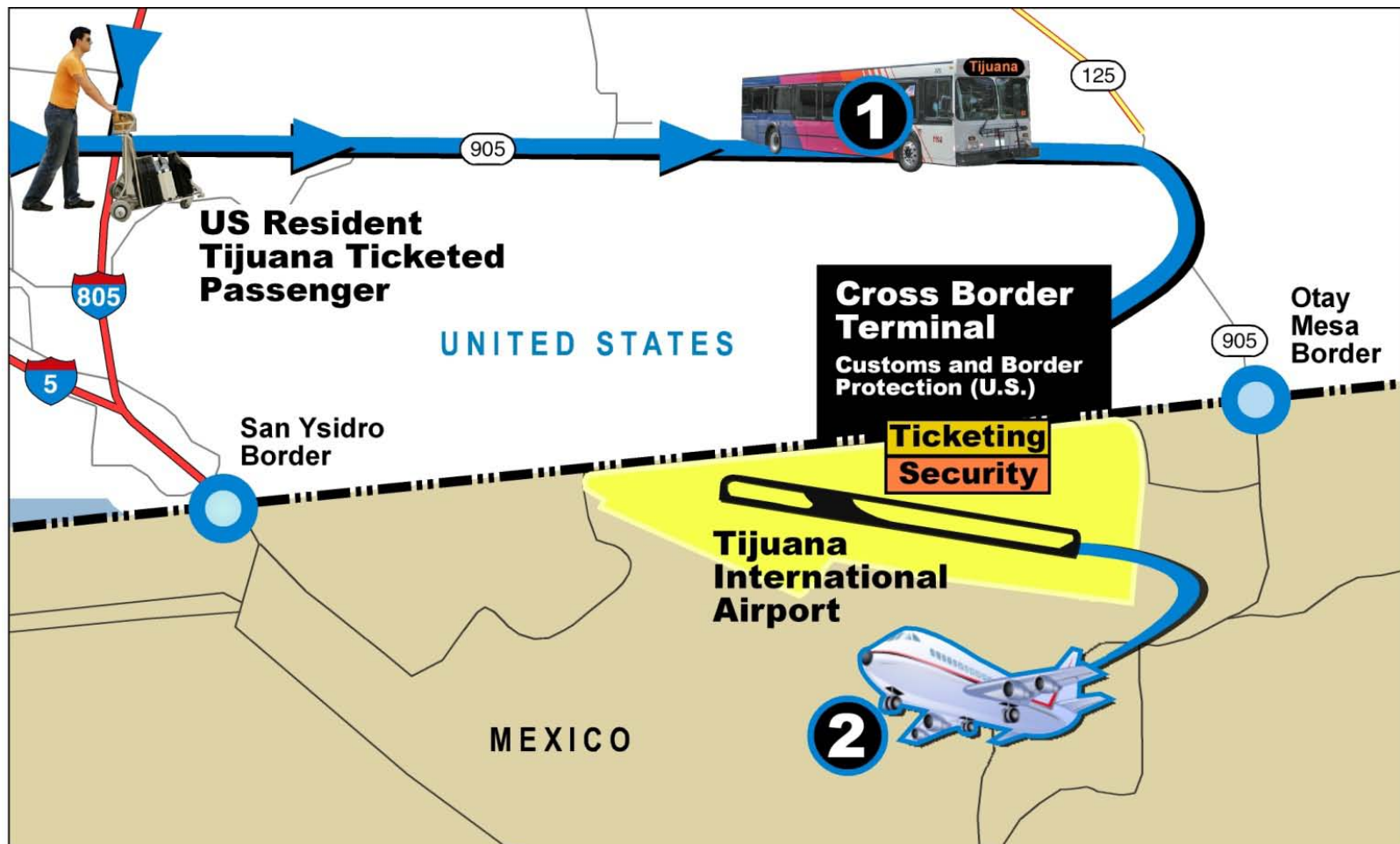
Scenario 2B: Aviation Passenger Cross Border Facility

Tijuana Ticketed Passengers Use New Border Crossing Facility on the U.S. Side



Scenario 2C: Cross Border Airport Terminal

U.S. Passengers Use New Cross Border Airport Terminal on the U.S. Side



Scenario 2A: Tijuana Airport Focus on Commercial Service

Details and Facility Requirements

Scenario Description

- Improved border access and crossings (Project Smart Border 2010); does not include new border crossings
- Increased shuttle and bus service from LA region and San Diego
- Some increases in air service to Mexican and international markets; limited increases in service to U.S. markets
- Key model assumptions
 - TIJ capacity increased in Baseline Scenario from approximately 2.5M to 7M enplanements; costs assumed to be incurred by GAP and not included in the costs estimate
 - Weighted average wait time for existing crossings (San Ysidro, Otay Mesa and Tecate) is approximately 45 minutes (CBP's website); border crossing time reduced by 40% over the Baseline Scenario
 - No change to border crossing costs

Evaluation Factors

Facility requirements

- Upgrade terminal and concourses – improve concessions, refurbish holdrooms, expand ticket counters, paint/carpet/lighting
- Bus terminal at TIJ to accommodate additional U.S. shuttle bus activity

Cost and implementation timeline

Cost estimate: \$30M
Implementation timeline: 2010
Source: San Diego Regional Chamber of Commerce website

Other considerations

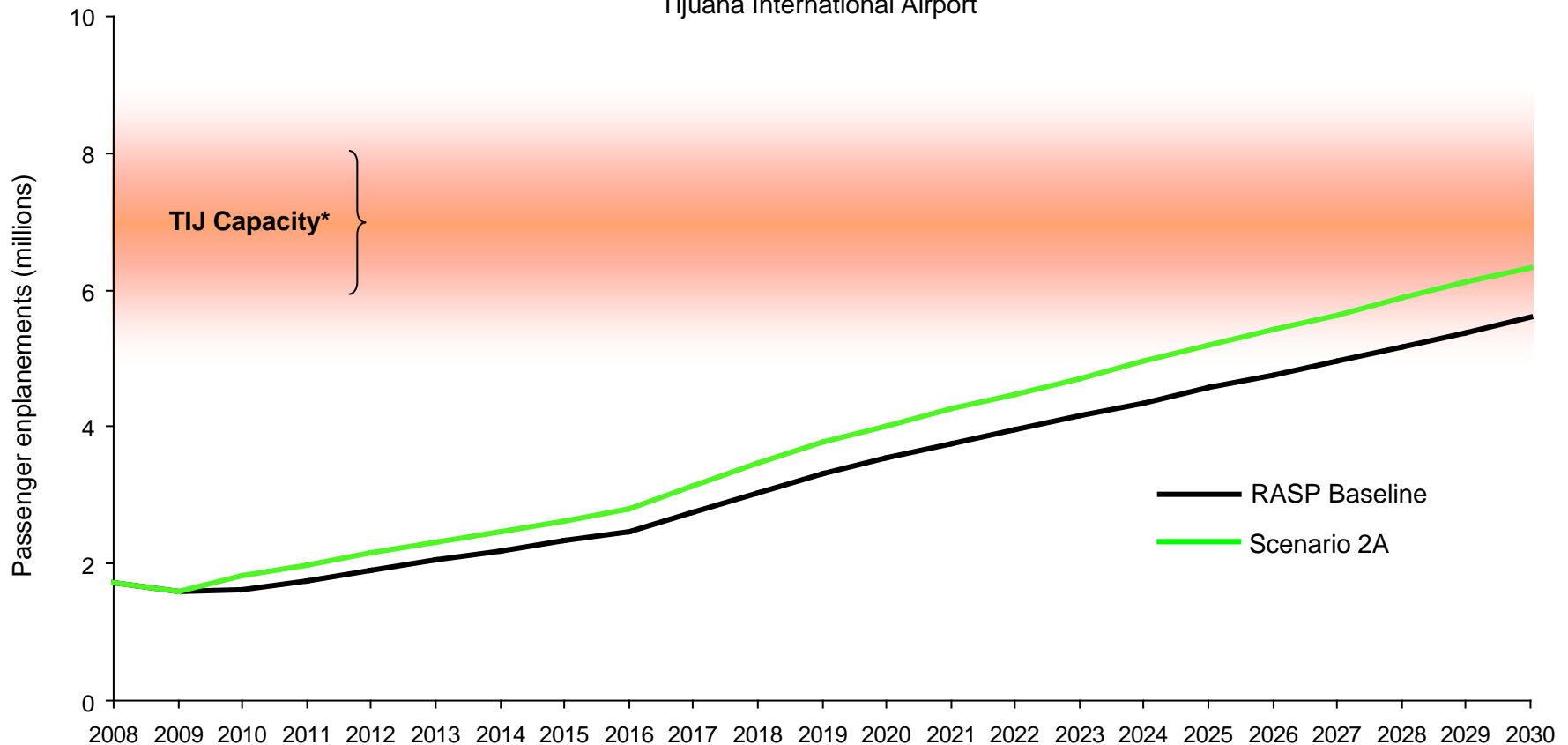
- Cultural factors
- Travel time from downtown San Diego
- Cooperation with Grupo Aeroportuario del Pacifico

Scenario 2A – Effect on Tijuana Airport

Border Improvements Are Projected to Result in More Passengers Using Tijuana Airport

Historical and Projected Enplaned Passengers

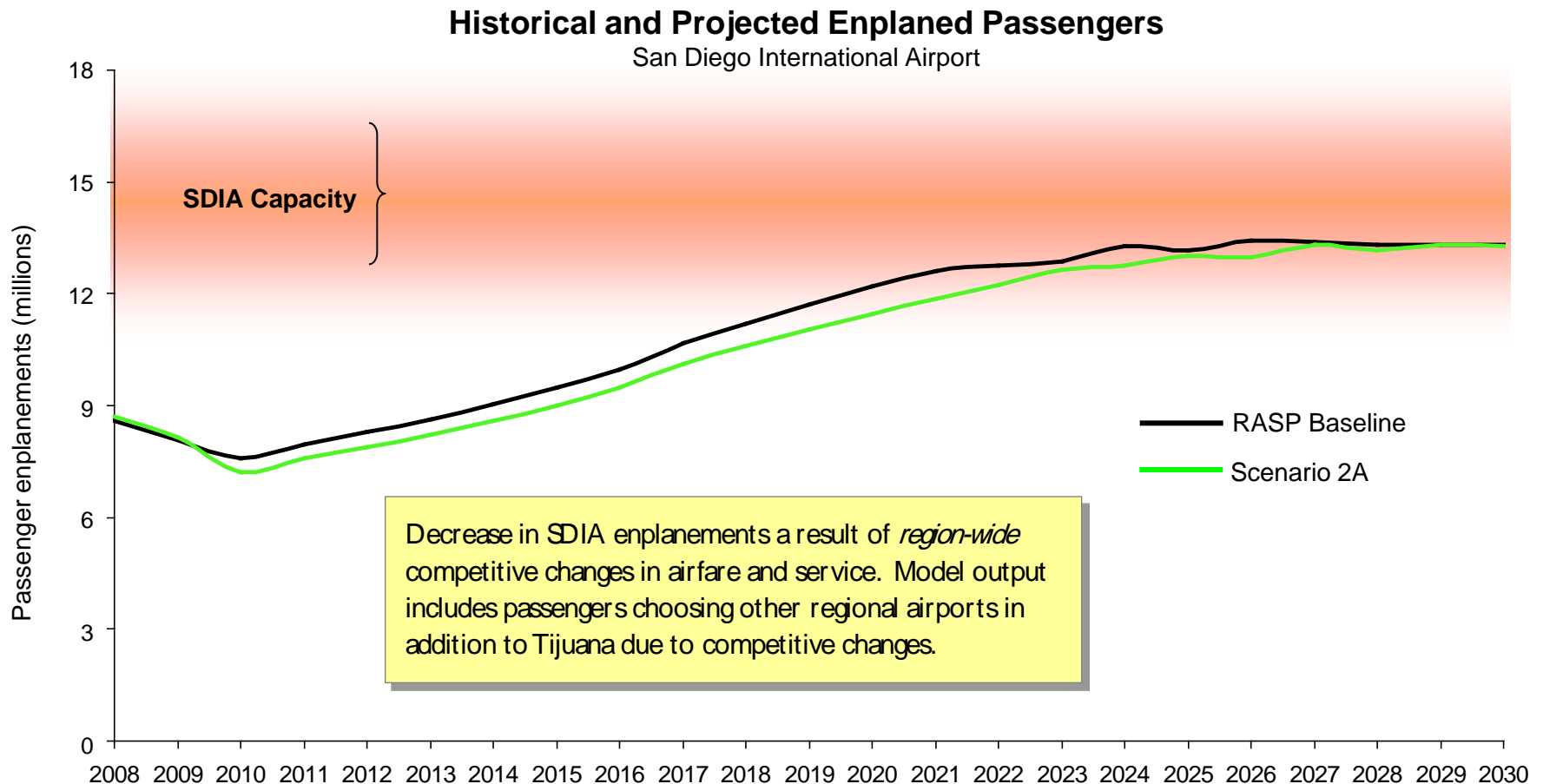
Tijuana International Airport



Note: The capacity of TIJ is assumed to increase as part of the Baseline Scenario from approximately 2.5M annual enplanements to approximately 7M annual enplanements. The costs to increase capacity are assumed will be incurred by GAP, and are not included in the RASP costs estimates.

Scenario 2A – Effect on SDIA

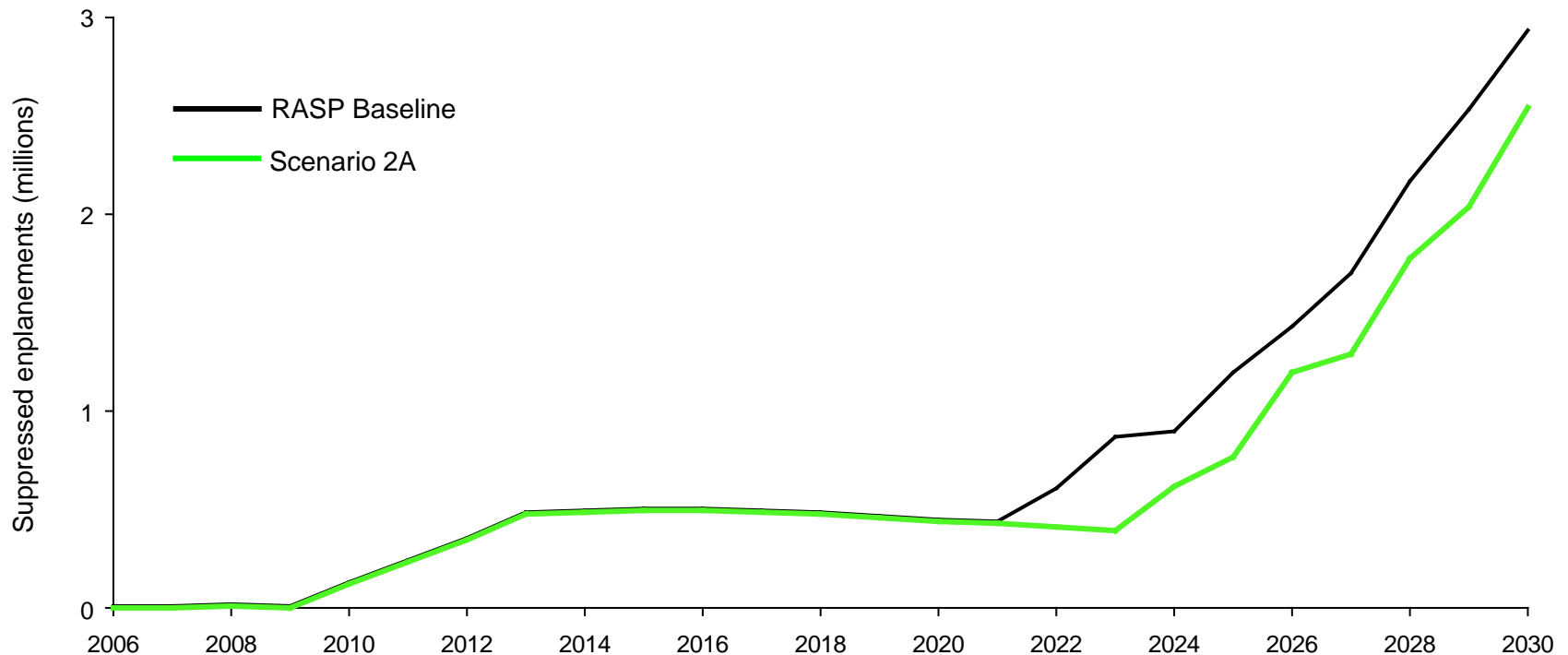
Increased Usage of Tijuana Marginally Alleviates Mid-term Capacity Constraint at SDIA



Scenario 2A – Effect on Suppressed Demand

Increased Usage of Tijuana Alleviates Suppressed Demand by Approximately 2 Years

Suppressed Aviation Passenger Demand
San Diego County Residents and Visitors



Scenario 2B: Aviation Passenger Cross Border Facility

Details and Facility Requirements

Scenario Description

- **Cross-border facility offering U.S. passengers exclusive and convenient access to Tijuana Airport; similar to a new pedestrian port of entry**
- **Facility includes vehicle parking; customs/border control; and landside “connection” or bridge to Tijuana Airport**
- **Exclusive use for ticketed passengers traveling in or out of Tijuana Airport; ticketing, security screening and baggage handling on Mexican side in the existing terminal**
- **Key model assumptions**
 - Necessary roadway improvements to Highway 905 and Otay Mesa Rd. to maintain roadway level of service assumed in the Baseline Scenario
 - Assumes application of a user fee to access the facility

Evaluation Factors

Facility requirements

TIJ Terminal and Concourses

- Improve concessions, refurbish holdrooms, expand ticket counters

Cross Border Facility

- 50,000 SF facility w/ bridge to TIJ
- Multimodal curbside
- Automobile parking

Cost and implementation timeline

Cost estimate \$165M

Implementation timeline 2012

Source: Presidential Permit Application, San Diego-Tijuana Cross-Border Facility, Sept. 2009

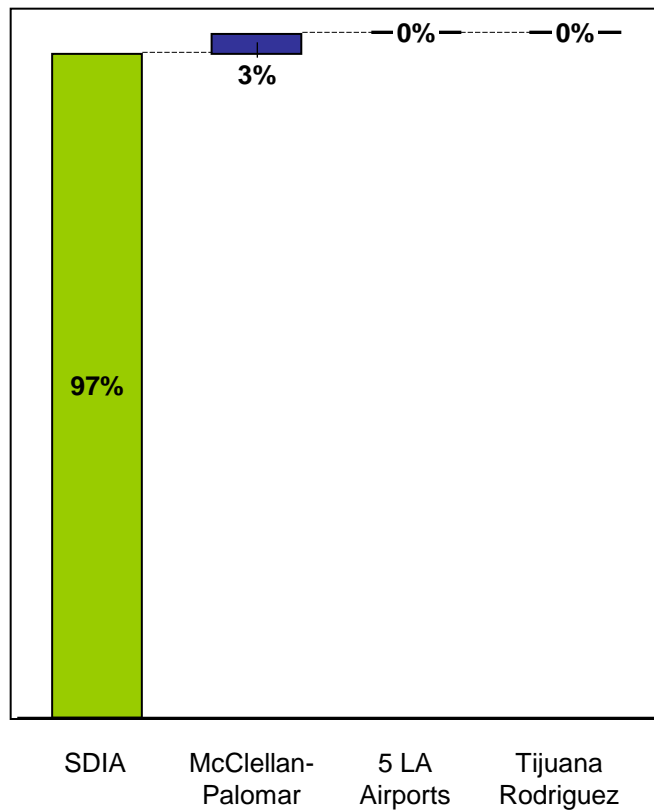
Other considerations

- Cultural factors
- Travel time from downtown San Diego and northern San Diego County
- Cooperation with Grupo Aeroportuario del Pacifico (GAP) is imperative

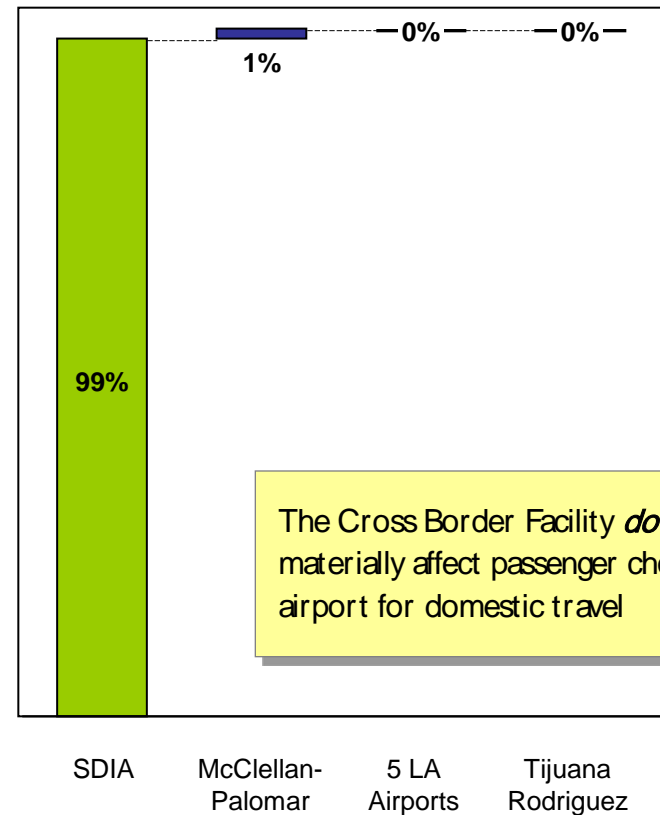
Scenario 2B – Effect on Domestic Airport Choice

Airport Choice for Domestic Trips by San Diego Residents and Visitors in 2030

Baseline Scenario



Scenario 2B

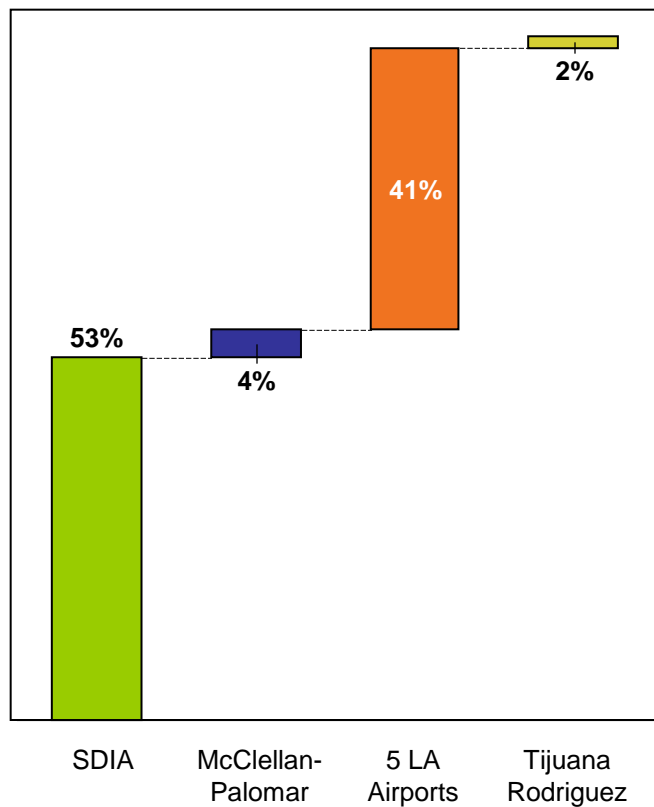


The Cross Border Facility *does not* materially affect passenger choice of airport for domestic travel

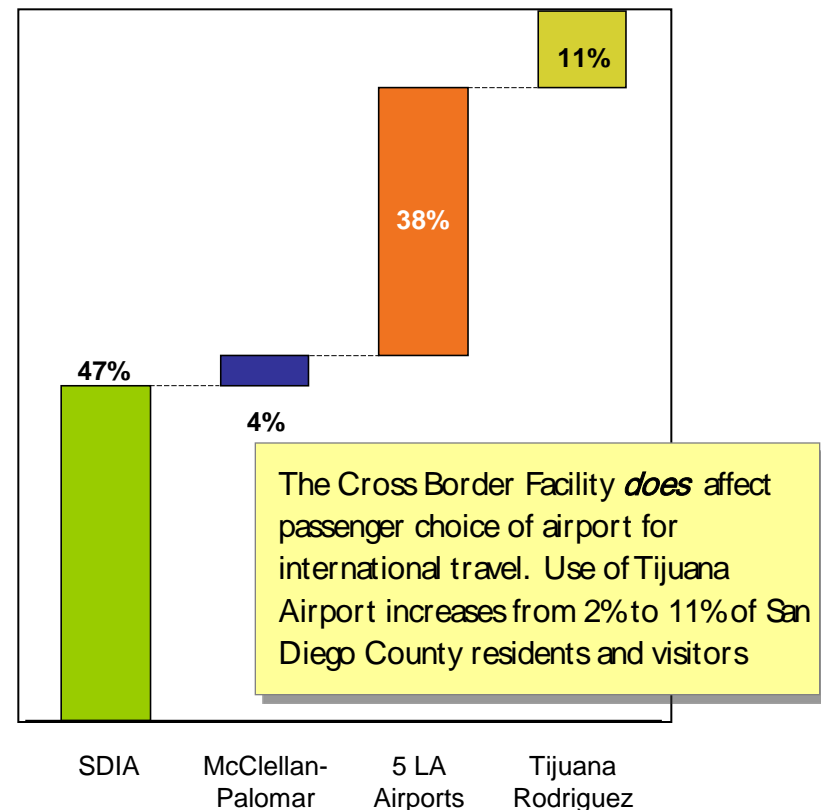
Scenario 2B – Effect on International Airport Choice

Airport Choice for International Trips by San Diego Residents and Visitors in 2030

Baseline Scenario



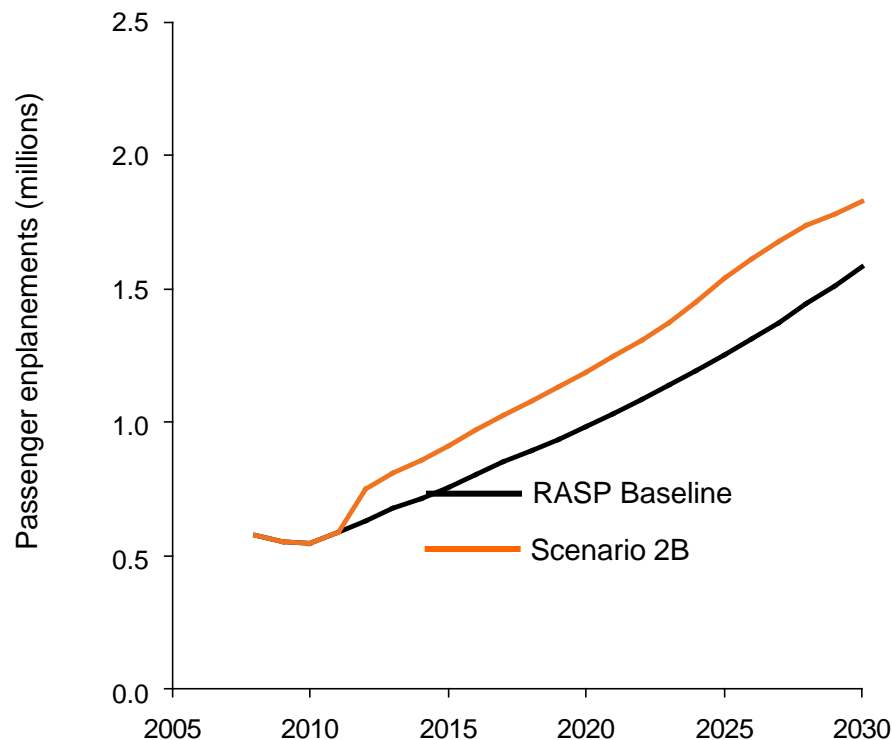
Scenario 2B



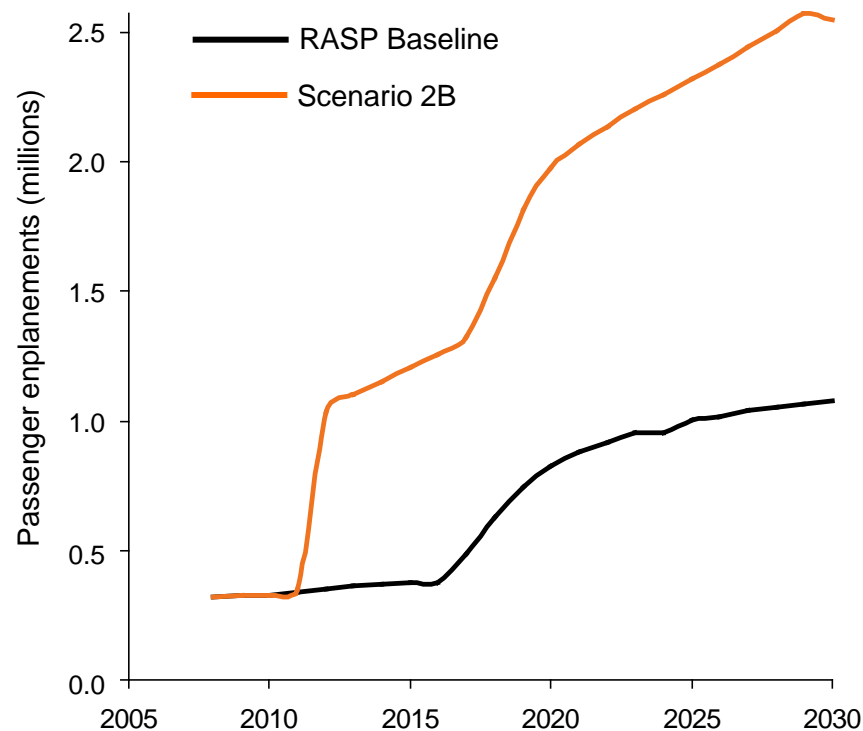
Scenario 2B – Attractiveness to Potential Passengers

Cross Border Facility Attracts More Passengers From the LA Region than San Diego County

**Enplaned San Diego County
Residents and Visitors
Using Tijuana International Airport**

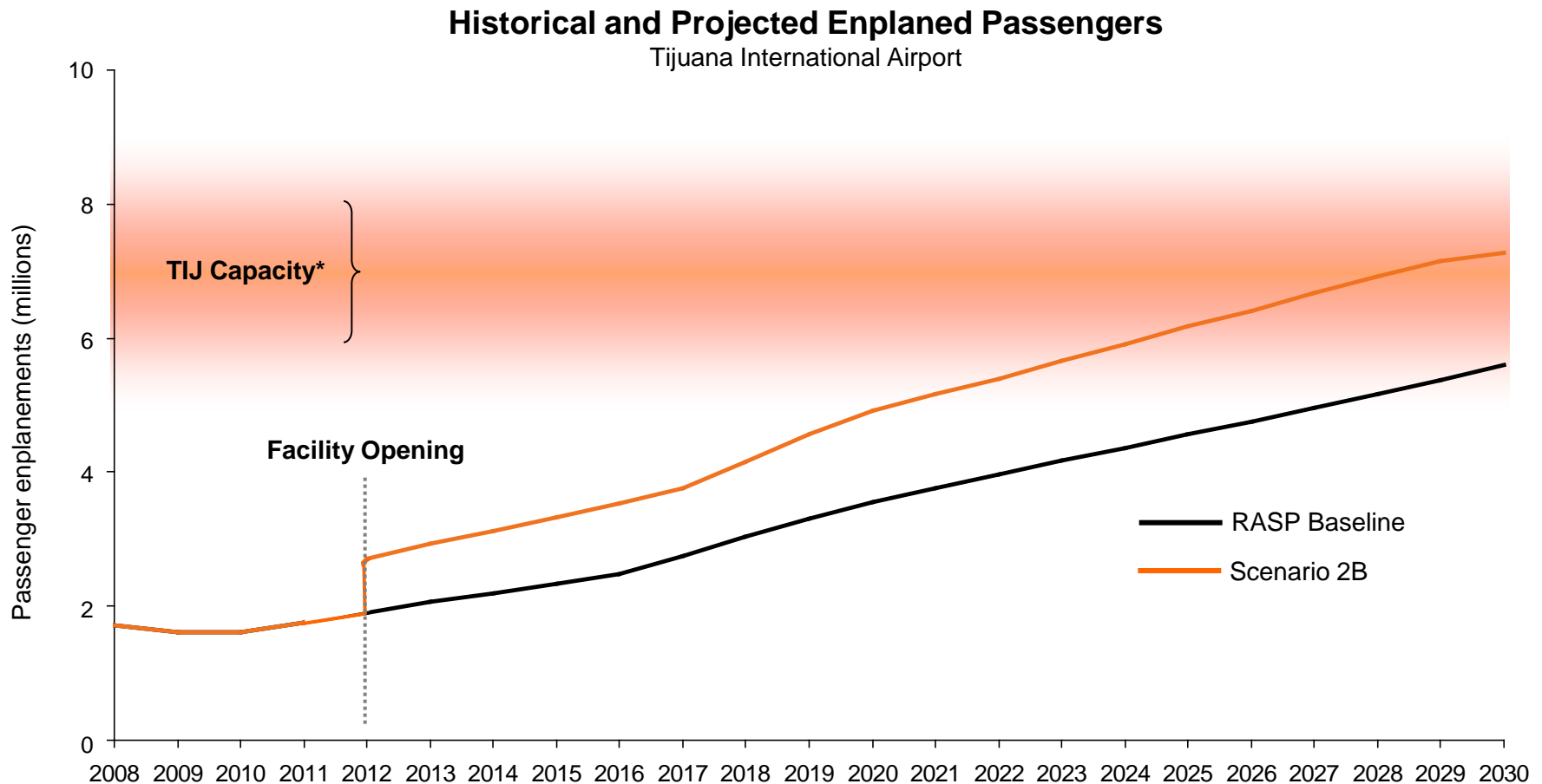


**Enplaned LA Basin
Residents and Visitors
Using Tijuana International Airport**



Scenario 2B – Effect on Tijuana Airport

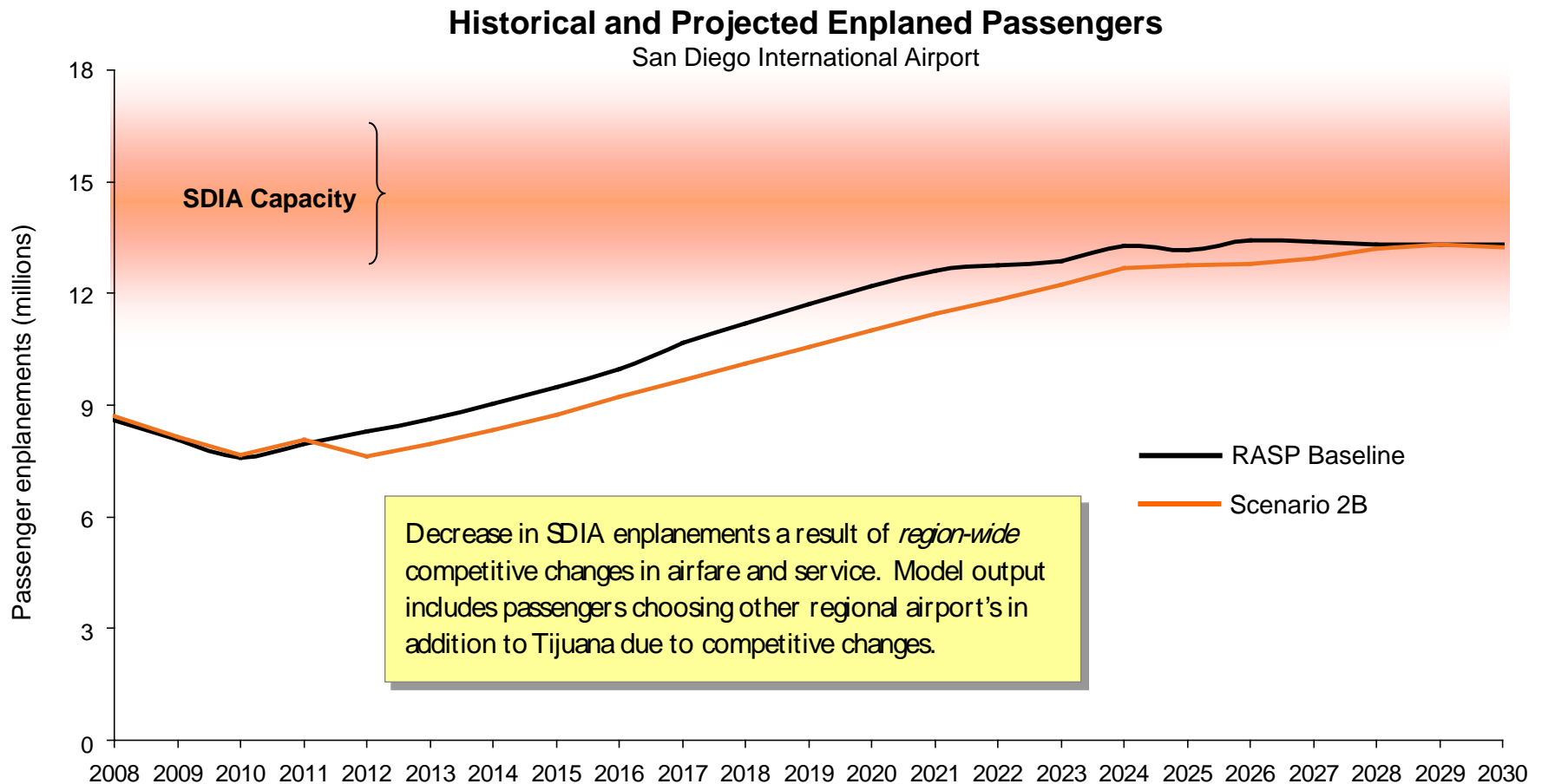
Improved Accessibility Attracts Approx. 30% Additional Passengers to that Airport



Note: The capacity of TIJ is assumed to increase as part of the Baseline Scenario from approximately 2.5M annual enplanements to approximately 7M annual enplanements. The costs to increase capacity are assumed will be incurred by GAP, and are not included in the RASP costs estimates.

Scenario 2B – Effect on SDIA

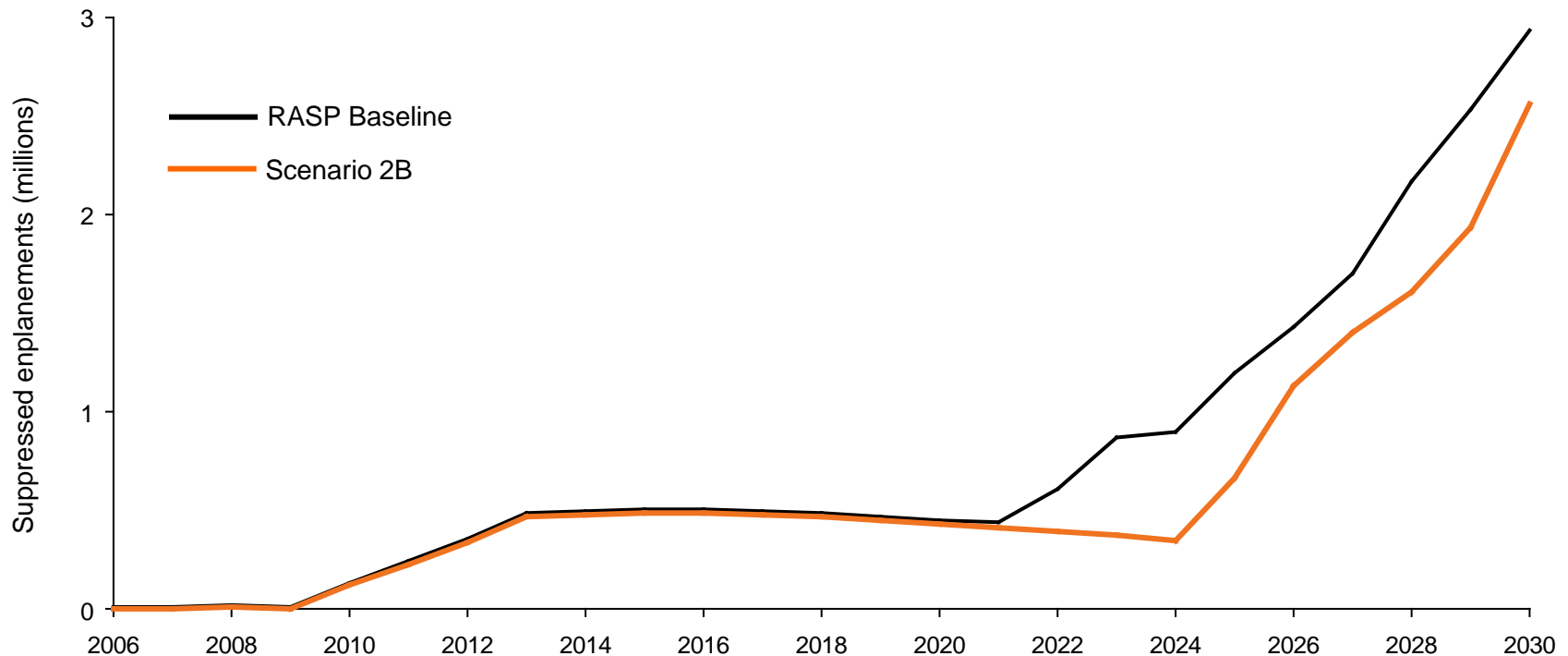
... But Only Marginally Alleviates Mid-term Capacity Constraint at SDIA



Scenario 2B – Effect on Suppressed Demand

Cross Border Facility Alleviates Suppressed Demand by Approximately 2 Years

Suppressed Aviation Passenger Demand
San Diego County Residents and Visitors



Scenario 2C: Cross Border Airport Terminal

Details and Facility Requirements

Scenario Description

- New passenger terminal linked to Tijuana Airport constructed on the U.S. side of the border to facilitate processing of U.S. passengers utilizing Tijuana Airport
- All flights to the U.S. considered “international” even if passengers are checked-in on the U.S. side
- Includes parking and redundant Mexican/U.S. passenger processing facilities (ticketing, security screening, baggage handling, and customs border control, etc.)
- U.S. airport level of service standards
- Key model assumptions
 - Application of a user fee
 - TIJ airport capacity increased from 7M to 10M enplanements

Evaluation Factors

Facility requirements

TIJ Terminal and Concourses

- Improve concessions, refurbish holdrooms, expand ticket counters

Cross Border Terminal

- 125,000 SF facility w/ bridge to TIJ
- Multimodal curbside
- Automobile parking

Cost and implementation timeline

Cost estimate: \$235M

Implementation timeline: 2020

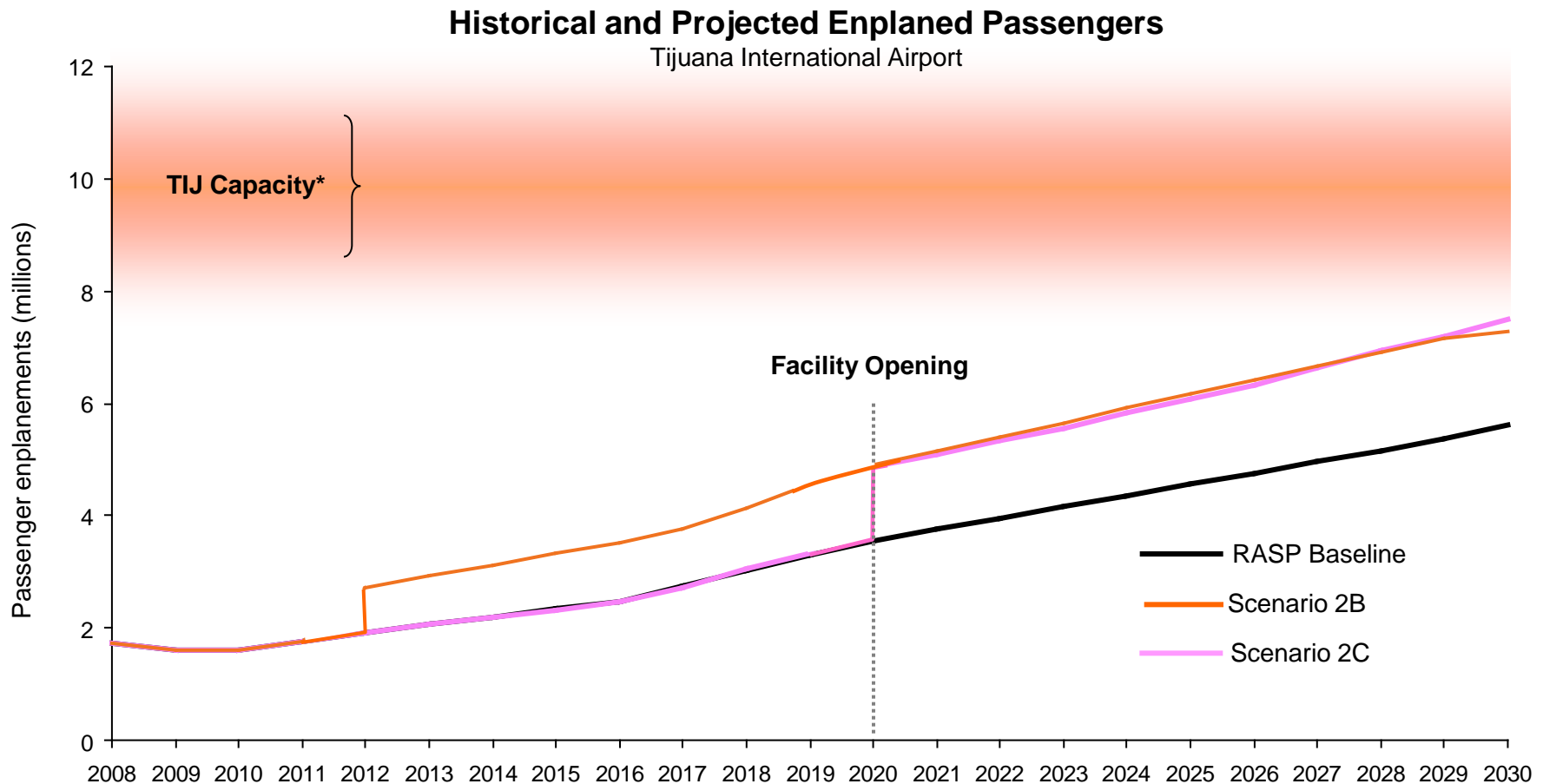
Source: Jacobs Consultancy team based on average terminal expansion unit costs`

Other considerations

- Political and regulatory factors
- Travel time from downtown San Diego and northern San Diego County
- Cooperation with Grupo Aeroportuario del Pacifico (GAP) and between U.S. and Mexican governments imperative

Scenario 2C – Effect on Tijuana Airport

Cross Border Terminal Attracts Same Number of Passengers as the Cross Border Facility

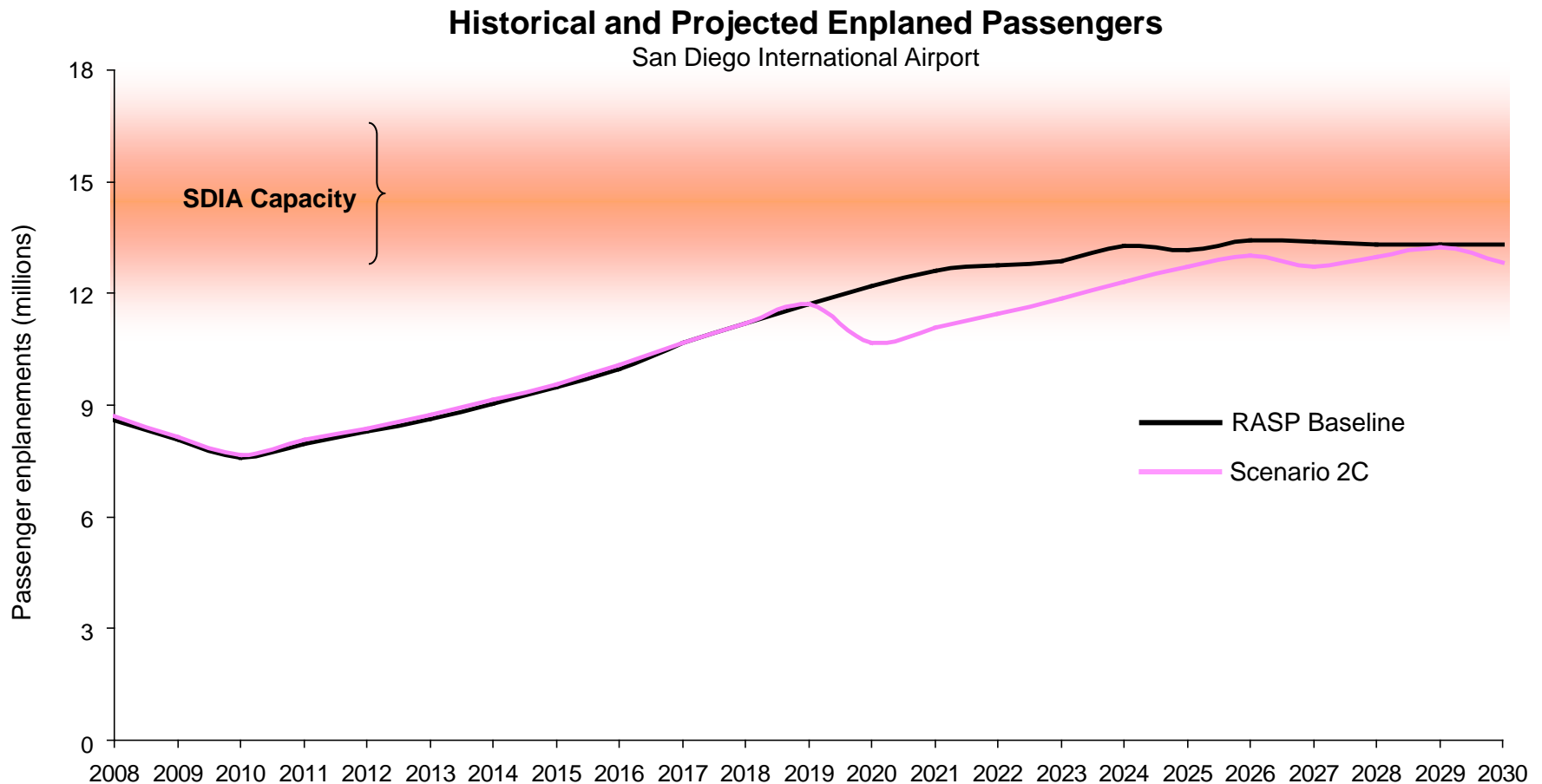


Note: The capacity of TIJ is assumed to increase to 10M annual enplanements as a result of the additional terminal facilities (Scenario 2C only).

Scenario 2B shown for comparison purposes only and modeled assuming the capacity of TIJ is 7M annual enplanements.

Scenario 2C – Effect on SDIA

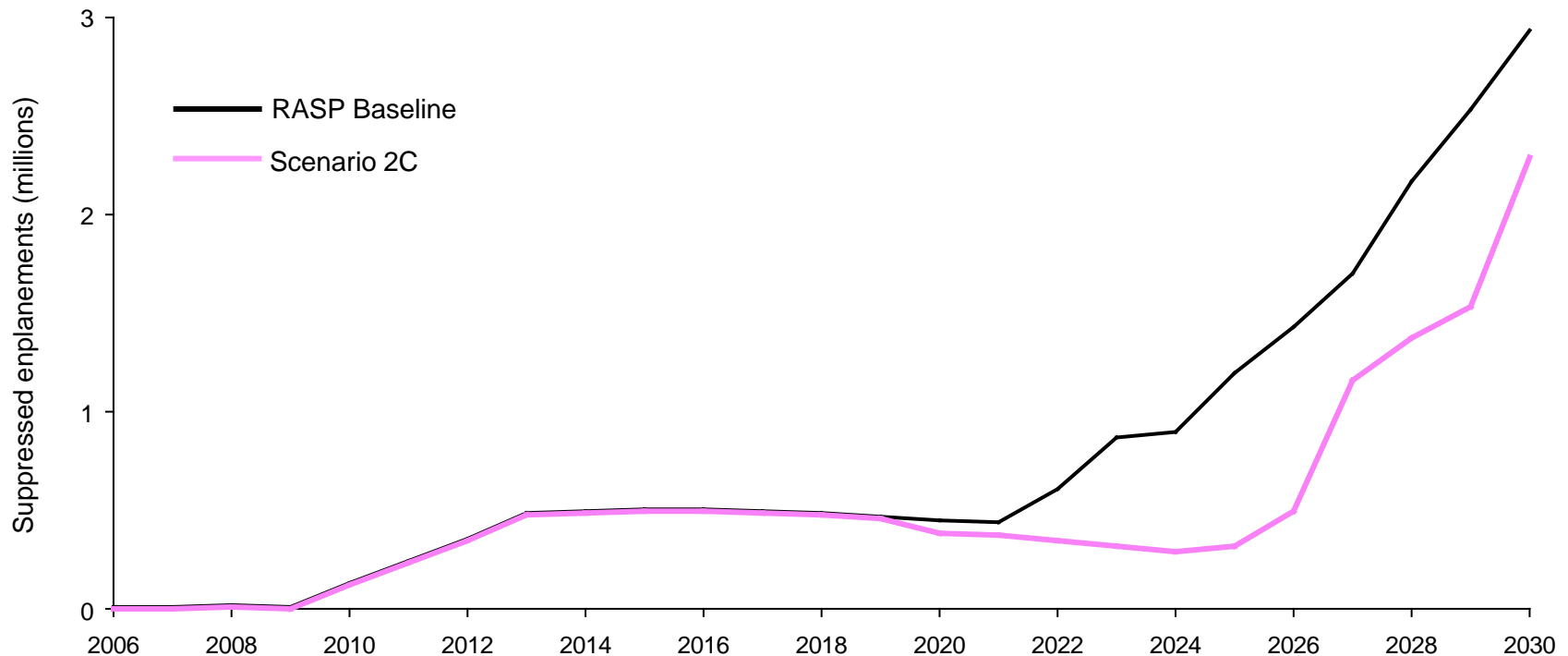
Increased Usage of Tijuana Marginally Alleviates Capacity Constraint at SDIA



Scenario 2C – Effect on Suppressed Demand

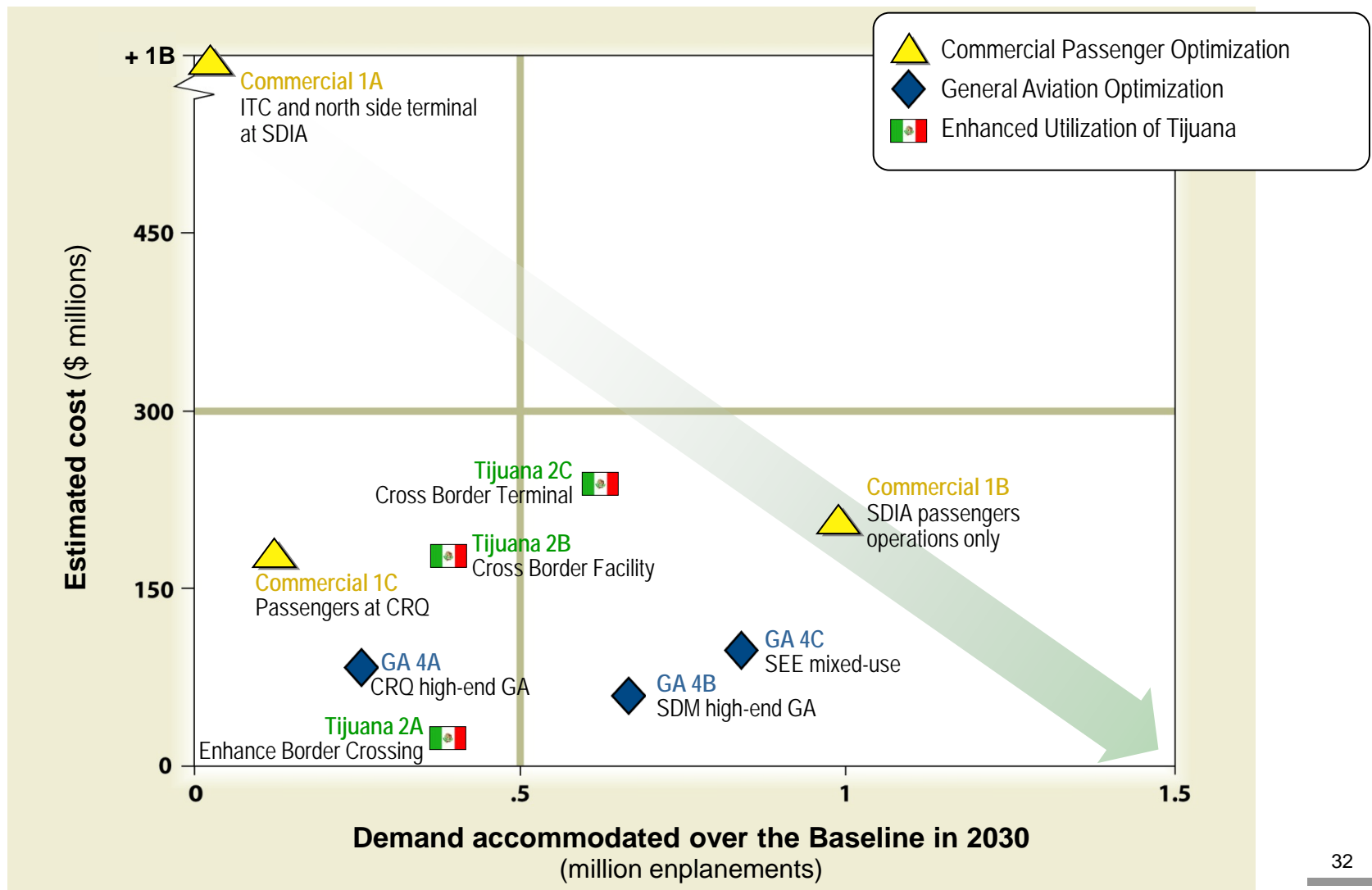
Cross Border Terminal Alleviates Suppressed Demand by Approximately 2 Years

Suppressed Aviation Passenger Demand
San Diego County Residents and Visitors



Summary of Findings

Evaluation Matrix Compares Relative Costs and Benefits (Based on Model Findings)



HSR Stations Included in the Model

■ San Diego County (All Proposed Stations)

- Major Station: Downtown or SDIA
- Minor Stations:
 - University City
 - Escondido

■ LA region (Major Stations Only)

- LA Union Station
- Ontario Airport (ONT)

■ Operational assumptions

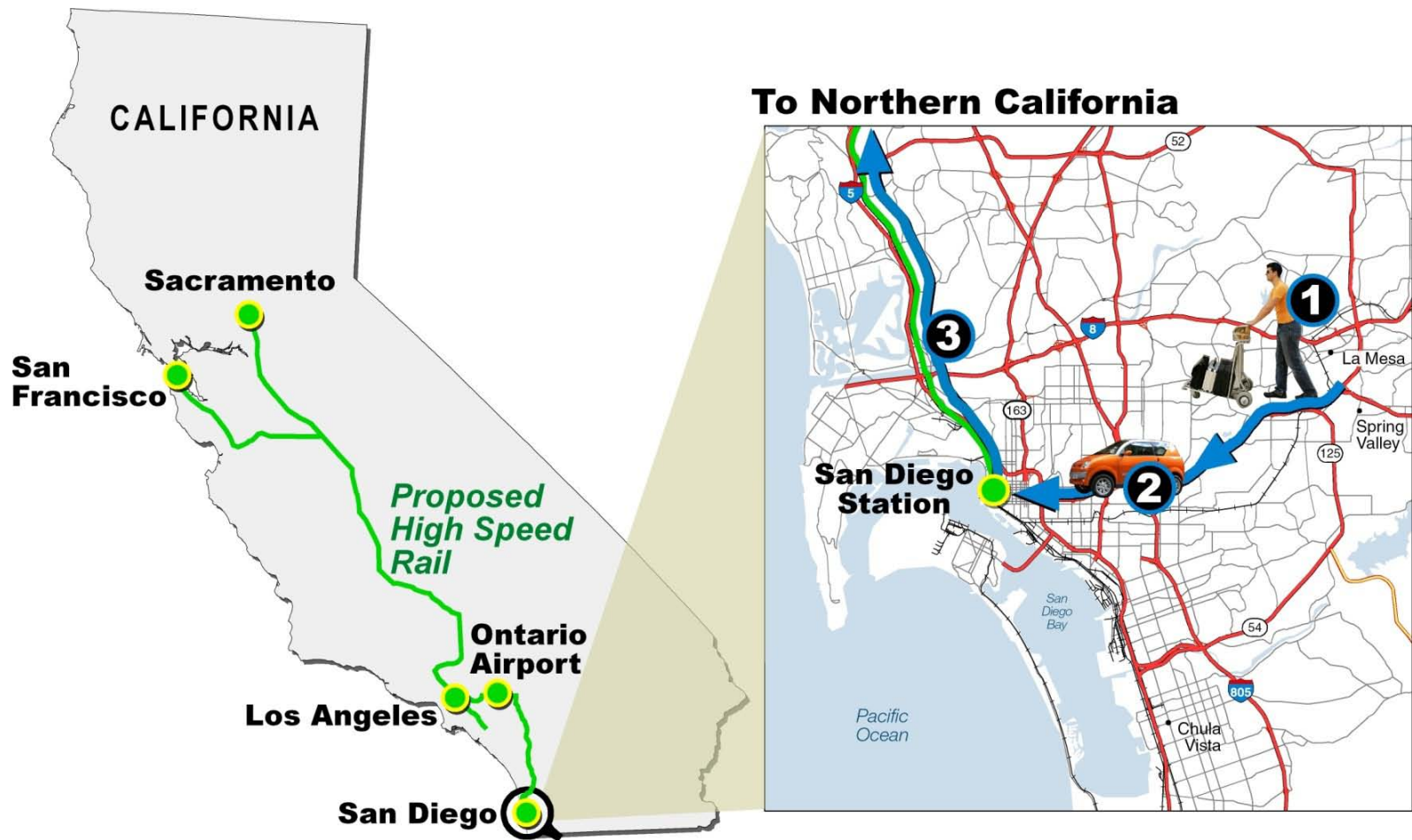
- Express/Semi-Express – stops at major stations only
- Local/Regional – stops at all stations

HSR can be used (1) as a replacement for intra-California air travel; or (2) to access a California Airport



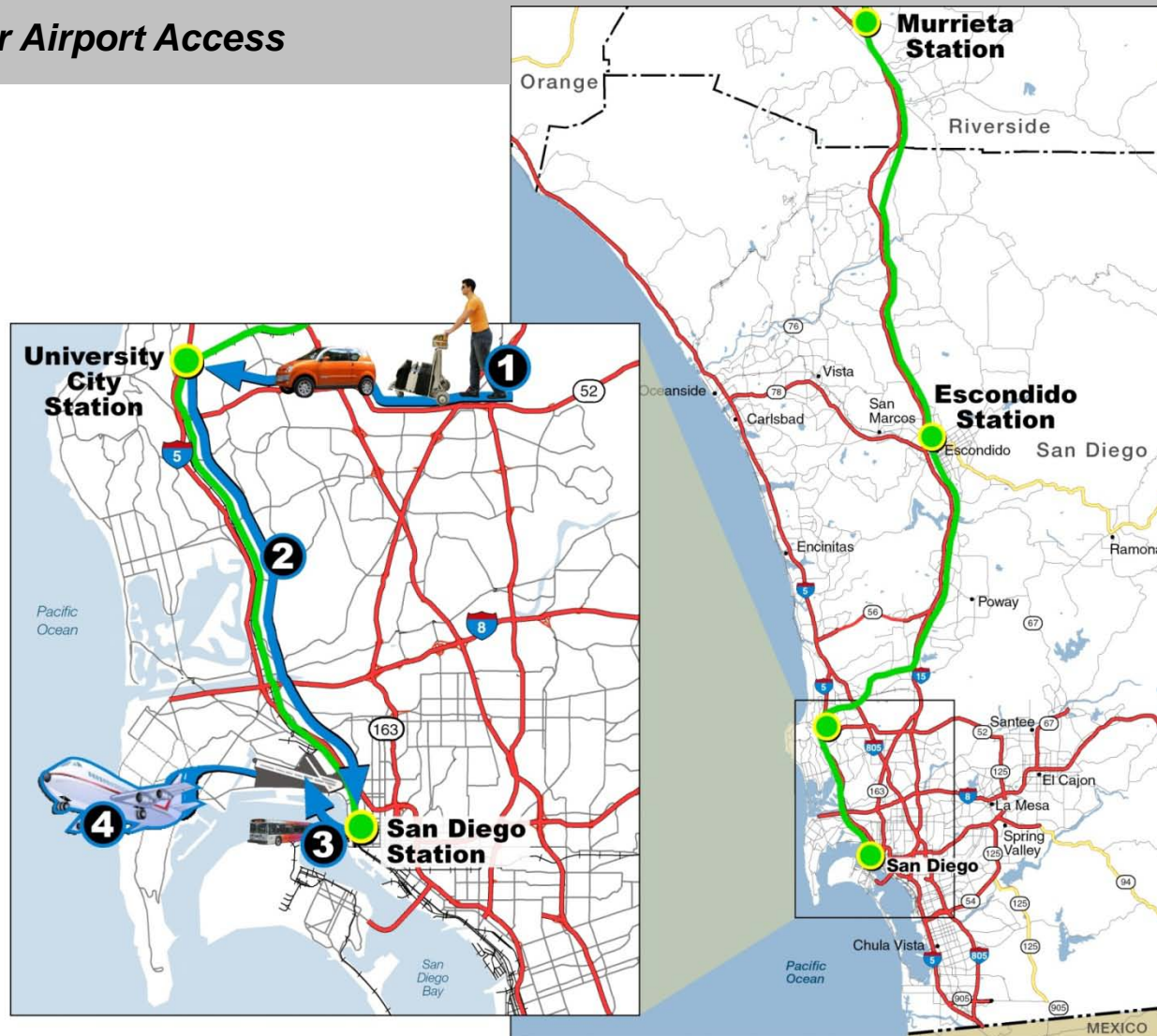
High Speed Rail Defined

Potential Use of HSR as an Alternate to Air Travel (Intra-California Travel Only)



Mixed-Mode Defined

Use of HSR for Airport Access



Mode Comparison

Different Time and Cost Assumptions for Various Mode Choices

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

Red text source = SANDAG/SCAG

Blue text = Official Airline Guide

Green text source = California High Speed Rail Authority

Black text = RASP Model

Scenario 3A: HSR Station Downtown San Diego

Details and Facility Requirements

Scenario Description

- Downtown HSR station connected to SDIA via trolley or bus
- SDIA trolley/bus station adjacent to/integrated with ITC
- Options for connectivity between downtown and SDIA include trolley service (existing trolley lines with new/additional trolleys during peak) and new bus route (with new/additional busses)
- Matched California HSR Authority's estimates and assumptions for **"83% Scenario"**

Evaluation Factors

Facility requirements

Bus Option:

- 5 additional busses
- Curbside pick-up and drop-off can be accommodated at the ITC

Trolley Option:

- 2 trolleys for dedicated service
- New trolley station with pedestrian bridge adjacent to/integrated with ITC (use existing trolley alignment between downtown and SDIA)

Cost and implementation timeline

- Cost estimate and allocation of costs among funding sources unknown
- Implementation timeline: 2025 to 2030 to coincide with California HSR implementation

Other considerations

- Interface with other transit modes
- Parking availability is constrained

Scenario 3B: HSR Station at SDIA

Details and Facility Requirements

Scenario Description

- HSR alignment/station would be developed on the north side of SDIA, adjacent/connected to the ITC (Baseline project)
- HSR station would offer direct pedestrian access to the ITC, including auto parking, CONRAC, and passenger processing (Scenario 1A)
- Key modeling assumptions regarding connection times
 - SDIA HSR station to SDIA 10 min / \$0
 - ONT HSR Station to ONT 10 min / \$0

Evaluation Factors

Facility requirements

- HSR alignment and station at SDIA
- Expand (Baseline ITC) auto parking facilities for non-aviation use

Cost and implementation timeline

- Cost estimate and allocation of costs among funding sources unknown
- Implementation timeline: 2025 to 2030 to coincide with California HSR implementation

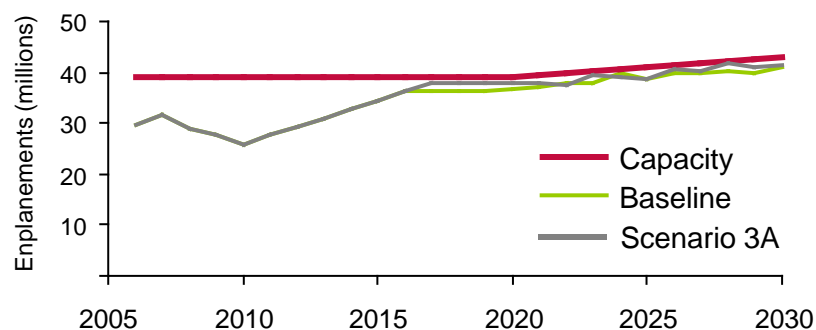
Other considerations

- Air - rail Interface enhanced
- Regional benefits offered by a comprehensive intermodal transit center

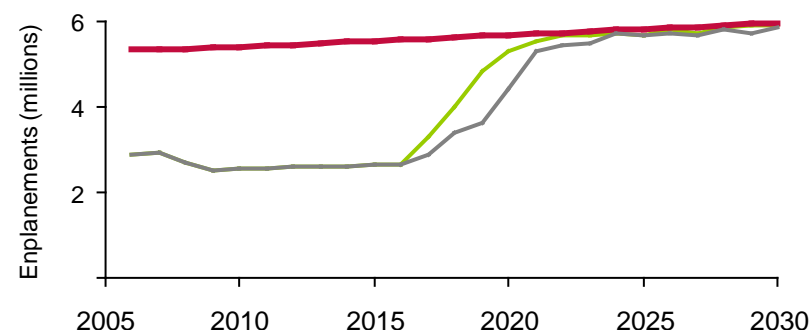
Regional Demand / Capacity Findings

More LA Region Passengers on HSR May Allow for Enhanced Air Service

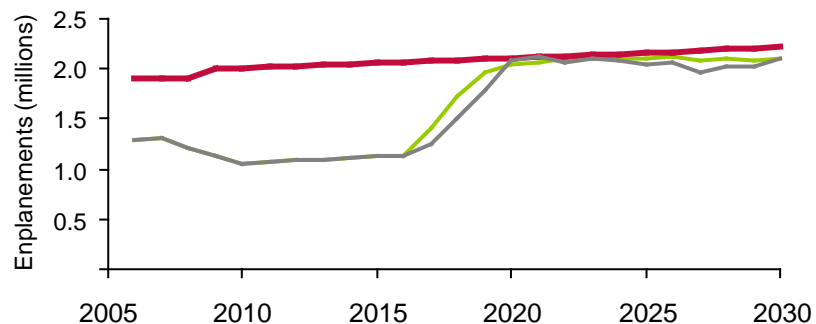
Los Angeles International (LAX)



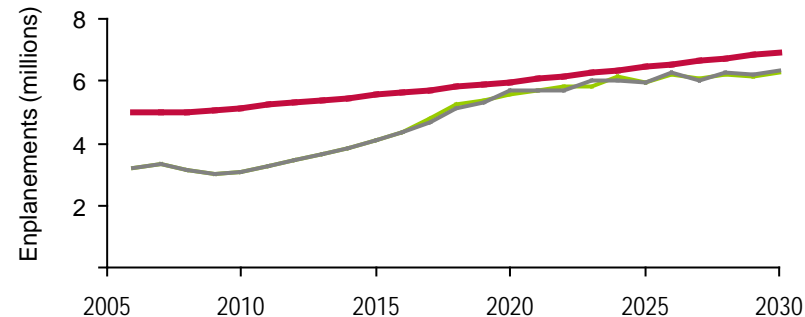
Burbank Airport (BUR)



Long Beach Airport (LGB)



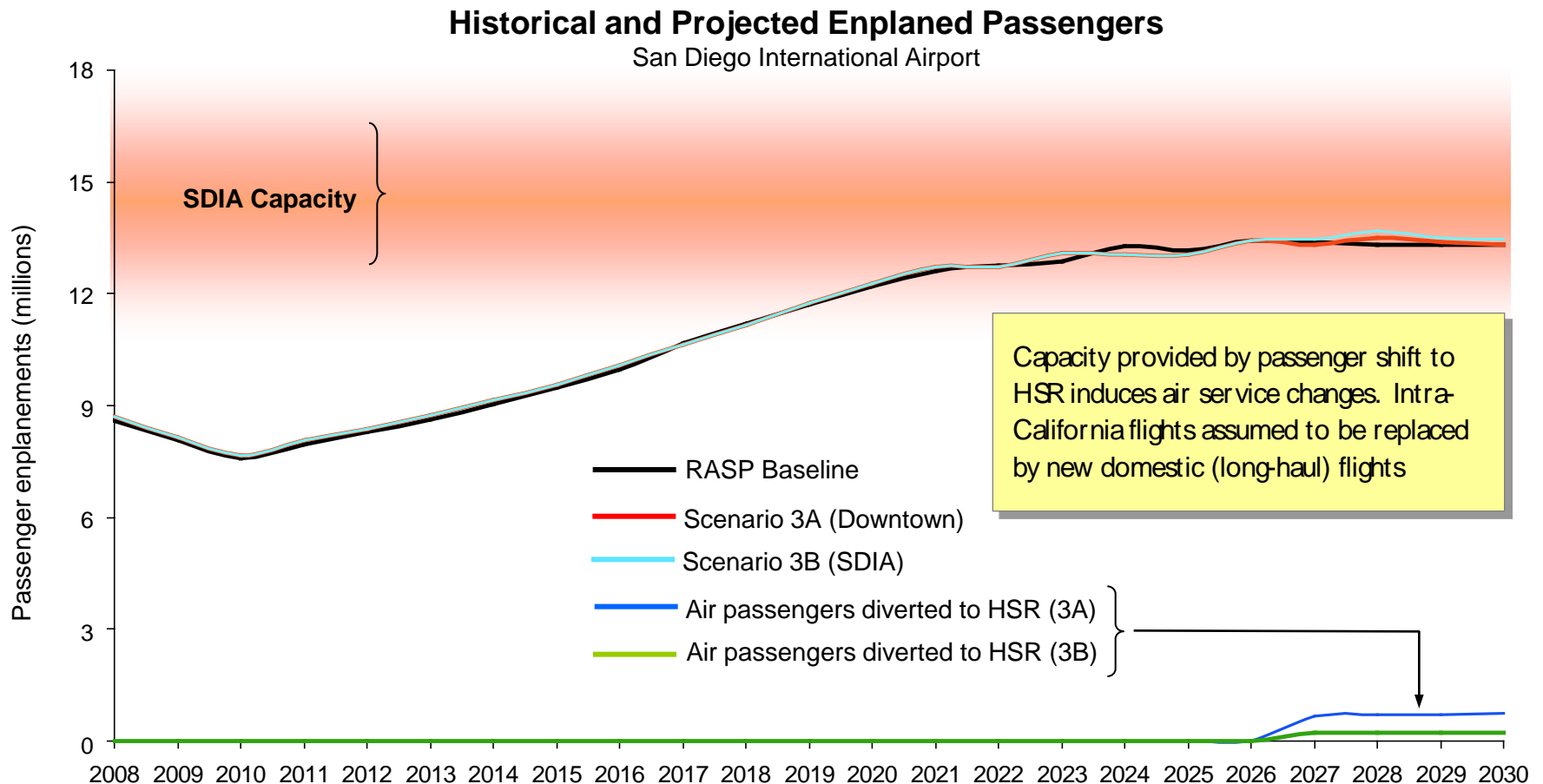
Ontario Airport (ONT)



Note: Results shown for Scenario 3A; differences between scenarios are immaterial.

Scenarios 3A and 3B: California HSR

Less Air Passengers to N. California From SDIA May Allow for Enhanced / Long-Haul Air Service



Impact of HSR Connection at Ontario Airport

HSR Connection to ONT is Not an Attractive Option for San Diego County Residents

Average time and cost from North/South an Diego County to . . .		SDIA		ONT	
		North County	South County	North County	South County
Via High Speed Rail	Access Cost	\$28	\$17	\$52	\$54
	Access Time	155 min	123 min	151 min	168 min
Via Other GT Modes (e.g. car, trolley)	Access Cost	\$15	\$17	\$73	\$77
	Access Time	123 min	99 min	178 min	189 min

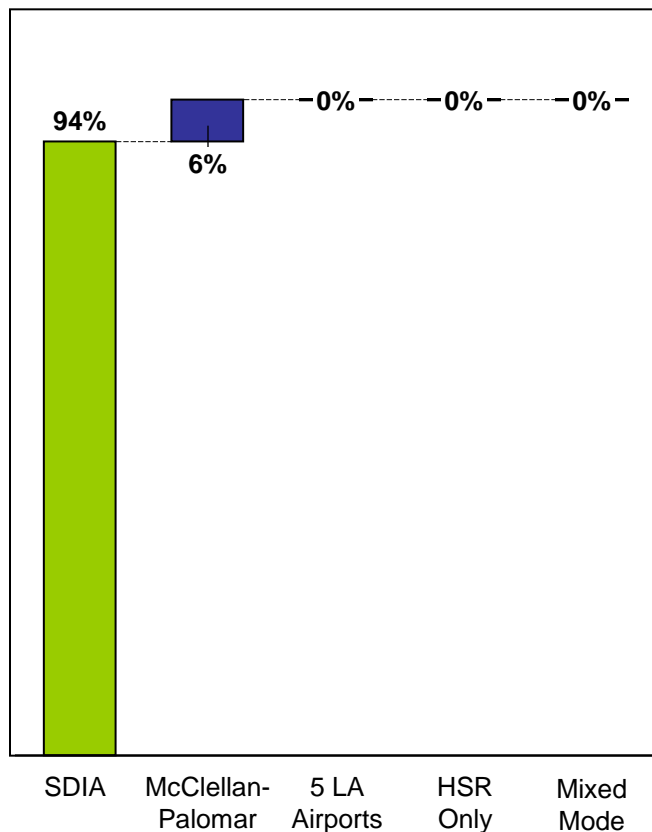
HSR connection to Ontario Airport is not an attractive alternate for San Diego County residents and visitors because both access *costs* and *time* are substantially higher compared to direct access to SDIA. Moreover, Ontario Airport would not provide alternate capacity for San Diego because the airport is projected to be as congested as SDIA when mixed-mode via HSR is introduced in 2027.

Note: Access time and cost estimates include all steps of a travel, discussed on slide 35, excluding air fare and flight time. (i.e. SDIA access time via other GT modes includes, 1)ground access to the airport and 2) 75 minute boarding time.

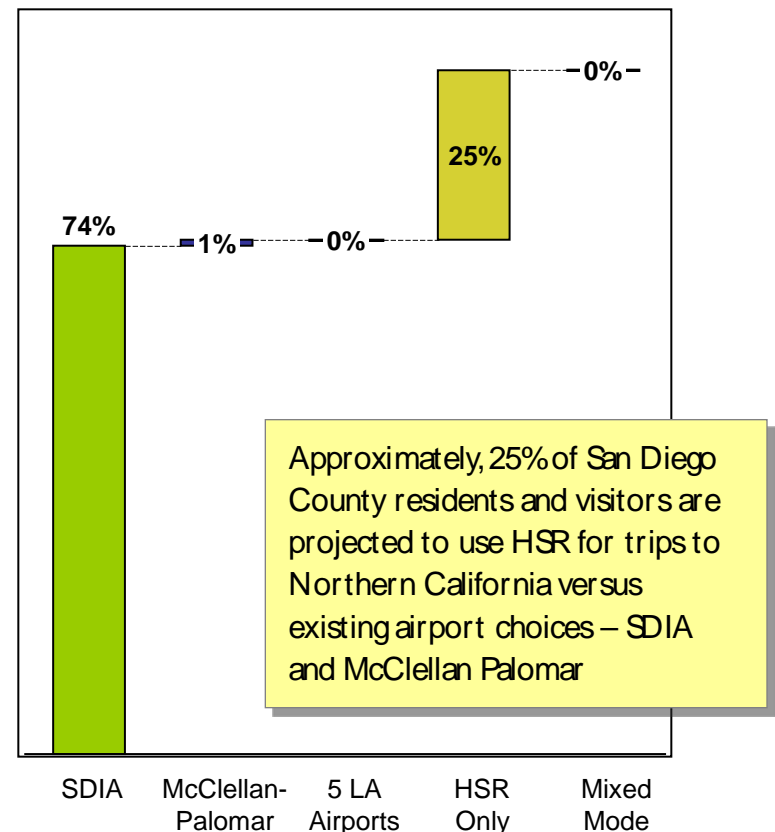
Scenario 3A: California HSR – Station Downtown San Diego

Airport Choice for Northern California Trips by San Diego Residents and Visitors in 2030

Baseline Scenario



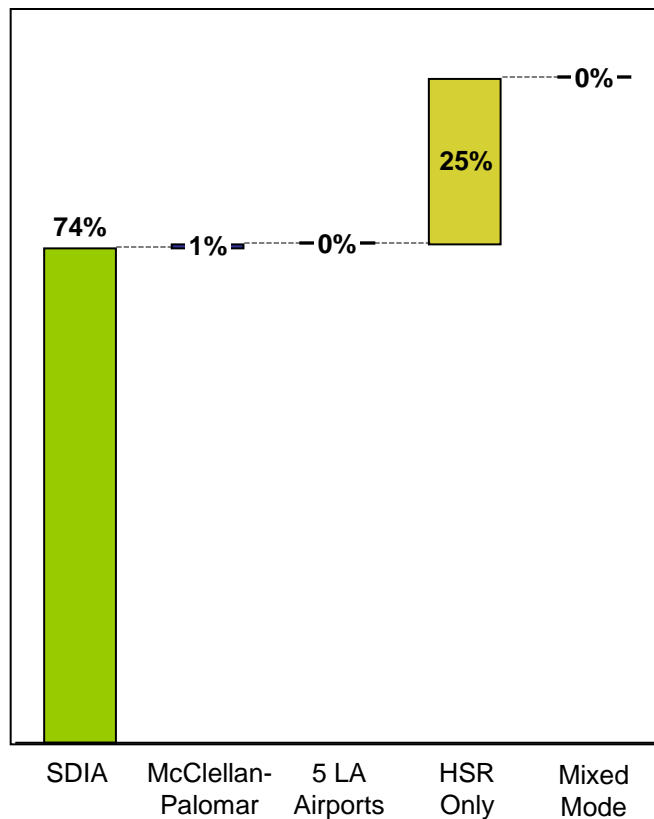
Scenario 3A



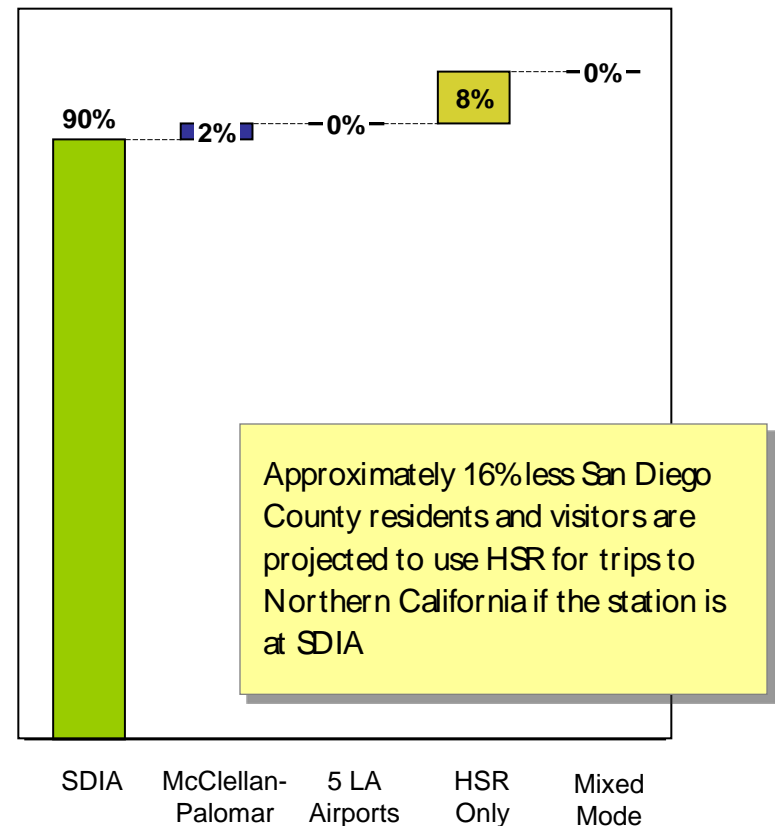
Comparison of HSR Station Locations (Downtown vs. SDIA)

Airport Choice for Northern California Trips by San Diego Residents and Visitors in 2030

Scenario 3A (Downtown Station)



Scenario 3B (SDIA Station)

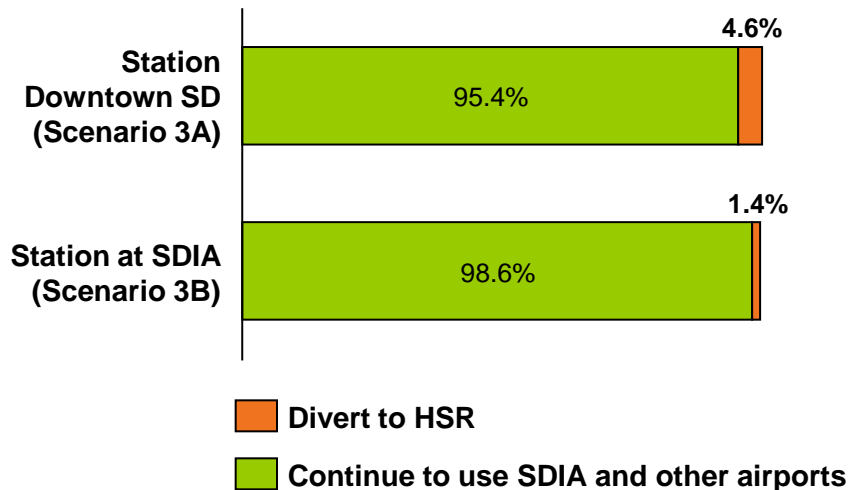


California HSR Analysis Findings

A Station Downtown San Diego is Projected to Attract More HSR Riders

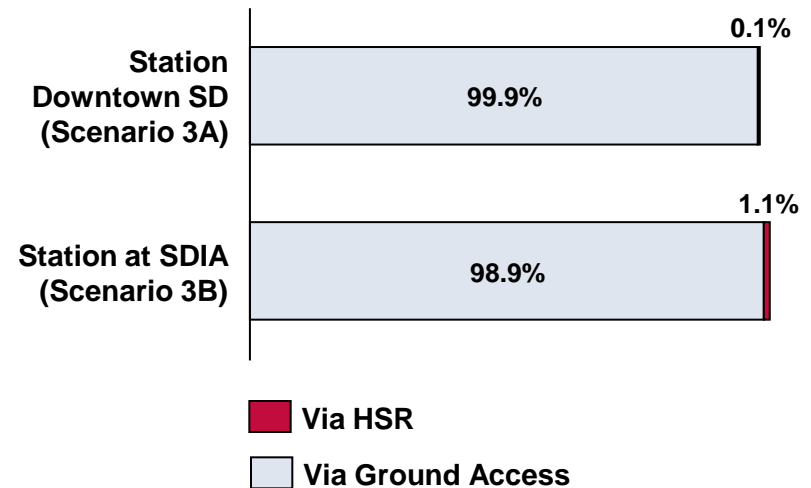
Air to Rail Diversion in 2030

San Diego County Residents and Visitors



Access to SDIA by Mode Choice in 2030

San Diego County Residents and Visitors

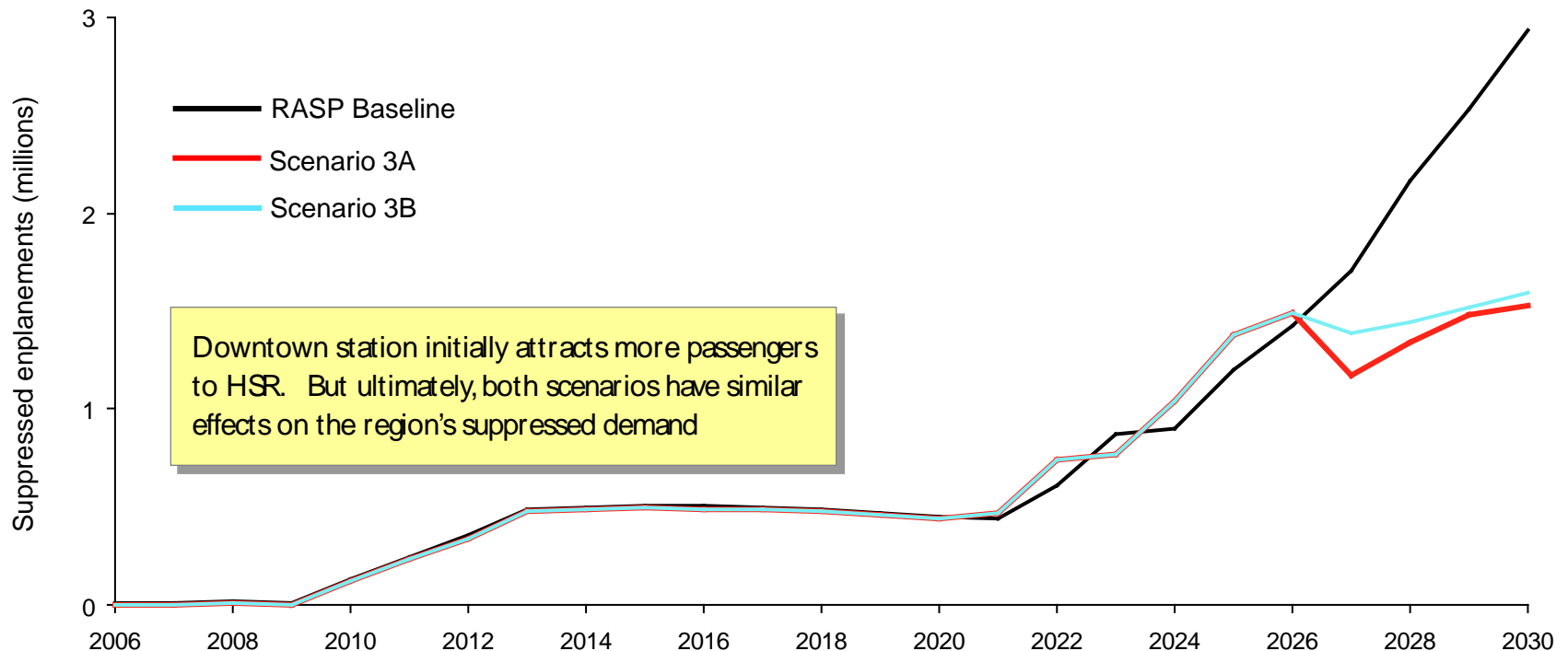


Visitors to San Diego prefer a downtown HSR station location; County residents see marginal benefit. HSR station at SDIA attracts slightly more mixed-mode travelers

Scenarios 3A and 3B – Effect on Suppressed Demand

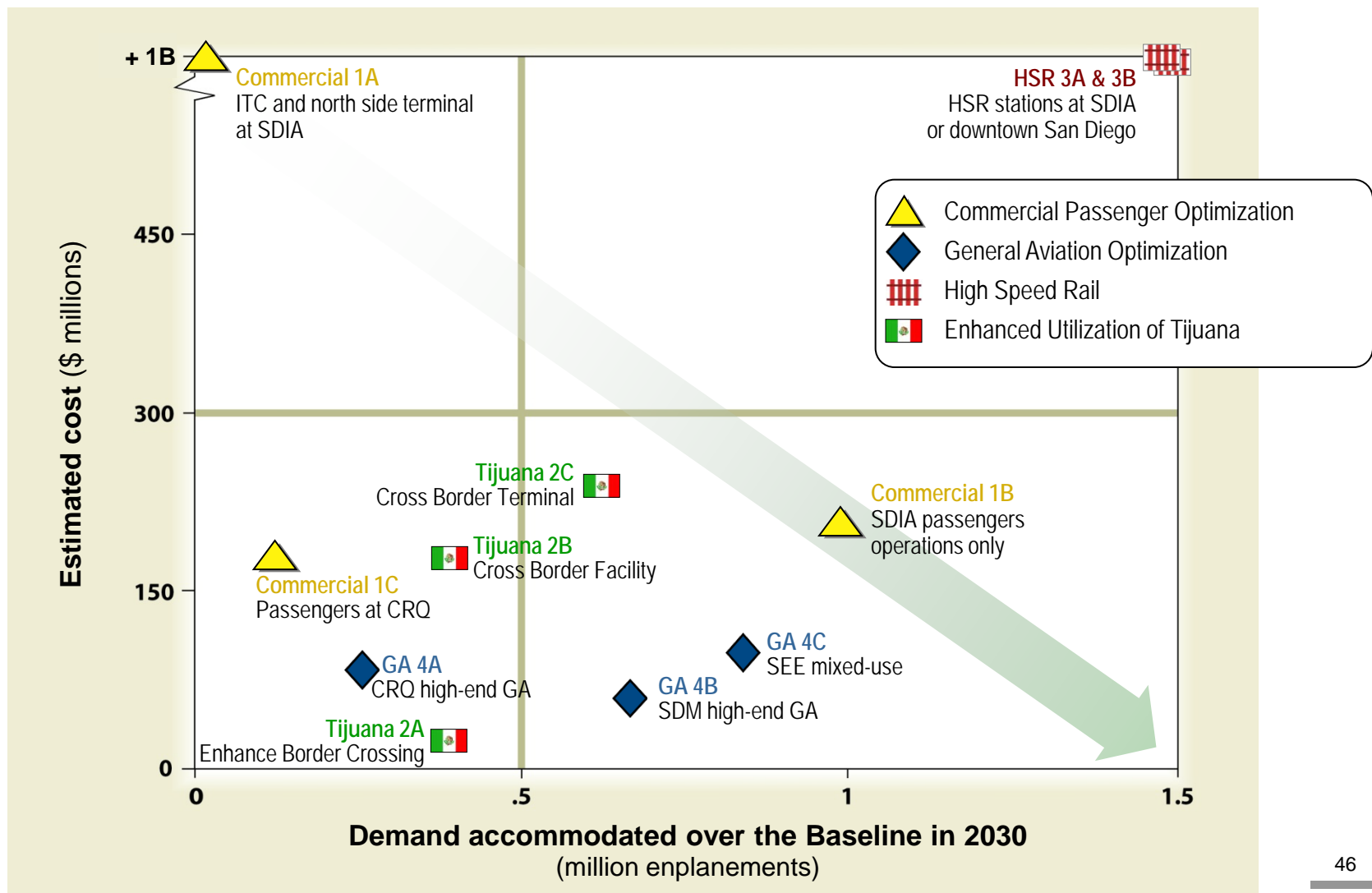
Both HSR Scenarios Have Similar Effects on the Region's Suppressed Demand

Suppressed Aviation Passenger Demand San Diego County Residents and Visitors



Summary of Findings

Evaluation Matrix Compares Relative Costs and Benefits



Summary of Key High Speed Rail Findings

- **Approximately, 25% of San Diego County residents and visitors are projected to switch to HSR for trips to northern California versus existing airport choices – SDIA and McClellan Palomar**
- **Mixed mode (utilizing HSR to access an airport) does not attract significant passengers:**
 - It is quicker and more cost effective to drive directly to the closest airport (SDIA)
 - At the end of the planning period, both Ontario and SDIA are projected to be near their capacities, and therefore, neither becomes an alternate to the other
- **Given the proximity to the city center, a downtown HSR station attracts more passengers from air travel modes to HSR**
- **Two travel modes (air and rail) compete if the HSR station is located at SDIA versus downtown**
- **Approximately 16% of San Diego County residents and visitors switch to HSR for trips to northern California if the station is at SDIA because 83% of air fare is not enough difference to make up for the almost 2.5 hours time difference**
- **A HSR station at SDIA attracts slightly more mixed-mode travelers because the time to connect between modes (rail to air) is reduced**

Scenarios 1E / F: Up-gauge SDIA Aircraft Fleet Mix

Hypothetical Scenarios Assuming all Narrow-body or Increased Wide-body Fleet Mix

Scenario Description

■ Authority policy:

- Encourage air carriers to use larger capacity aircraft at SDIA
- GA and air cargo encouraged via price controls to use alternative airports

■ Key model assumptions

(Operations x Average Seat x Load Factor)/2
 = (285,900 x 140.2 x 80.1%) / 2
 = 16 million annual enplanements

Implementation Constraints

1. Access restrictions for a federally funded transportation facility are highly limited
2. SDIA's fleet mix is already favorable (nearly optimized) as the Airport has a relatively low proportion of regional jets and turboprops
3. Market forces normally prevail; air carriers "right size" seat capacity based on destination, service, and demand

Evaluation Factors

Facility requirements

Commercial Service – None

GA/Cargo – SDIA-similar and/or higher level of service facilities at surrounding airports

Cost and implementation timeline

Cost estimate: \$188M (same as Scenario 1B)

Implementation timeline: unknown

Other considerations

- Likely legal concerns based on access restrictions
- No legal mechanism to require GA or cargo users to vacate SDIA

Scenarios 1E / F: Up-gauge SDIA Aircraft Fleet Mix

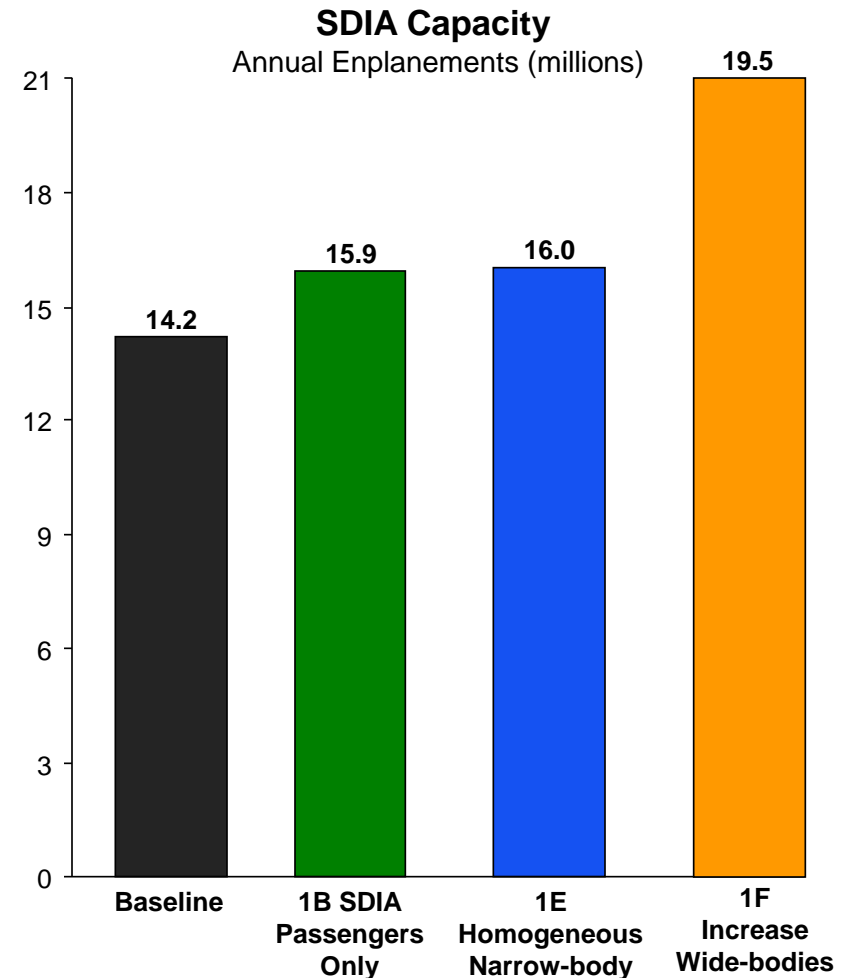
The Capacity of SDIA Is Projected to Increase if the Fleet Mix Were “Artificially” Up-gauged

Narrow Body – B737 (Typical Southwest Fleet)



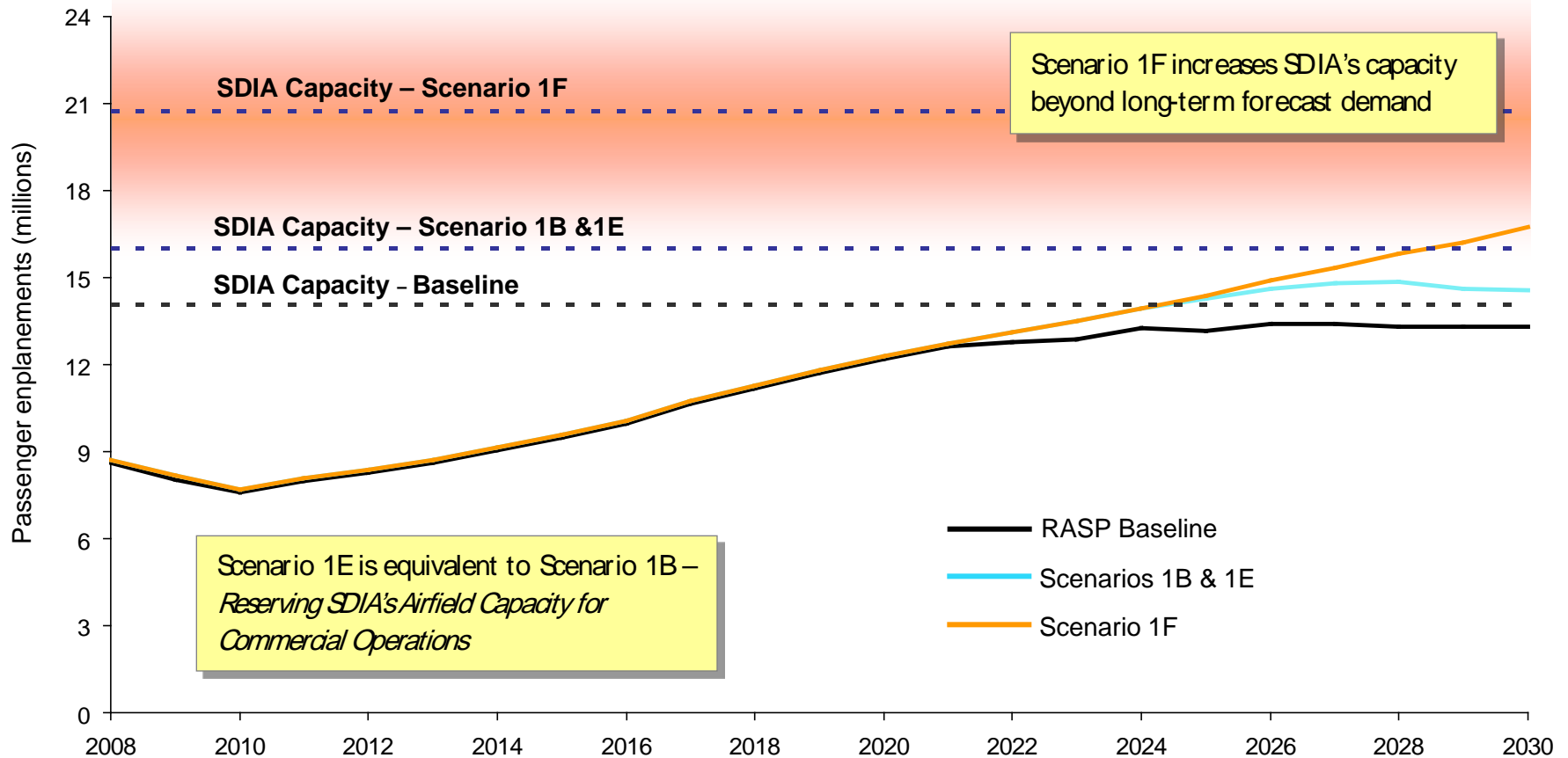
Source: Baseline Capacity of SDIA - Destination Lindbergh Technical Report, Jacobs Consultancy, March 2009.

Note: Baseline capacity assumes 139.5 seats/aircraft with 80.1% Load Factor



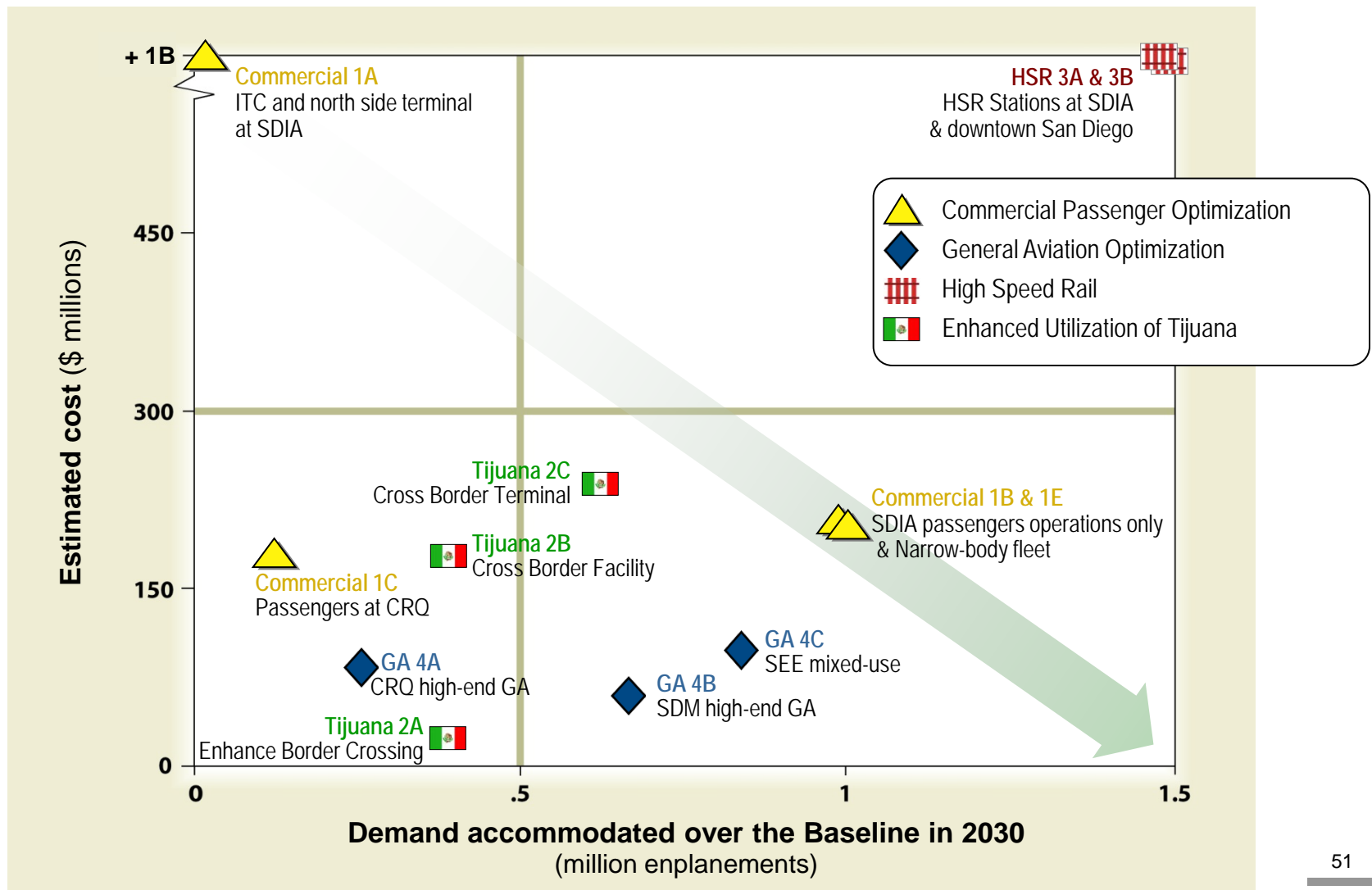
Scenarios 1E / F: Up-gauge SDIA Aircraft Fleet Mix

Historical and Projected Enplaned Passengers
San Diego International Airport



Summary of Findings (Updated)

Evaluation Matrix Compares Relative Costs and Benefits



Summary of Current Model Findings

There is No ONE “Silver Bullet”

Enhanced Tijuana

- Tijuana scenarios have a less than expected effect on suppressed demand relative to the Baseline:
 - Significant portions of demand accommodated at Tijuana Airport prior to 2030 generated in LA Region
 - By 2030, many San Diego residents are projected to use Tijuana Airport for Mexico trips with or without the Cross Border Facility/Terminal
- Access to Tijuana Airport via the proposed CB Facility offers an additional international gateway for San Diego residents and visitors; use of the airport for international travel increases from 2% to 11%
- Improved accessibility to Tijuana Airport attracts approximately 30% additional passengers to that airport, but this only marginally alleviates the mid-term capacity constraint at SDIA
- There does not appear to be any benefit to expanding a Tijuana Cross Border Facility into a Cross Border Terminal

California High Speed Rail

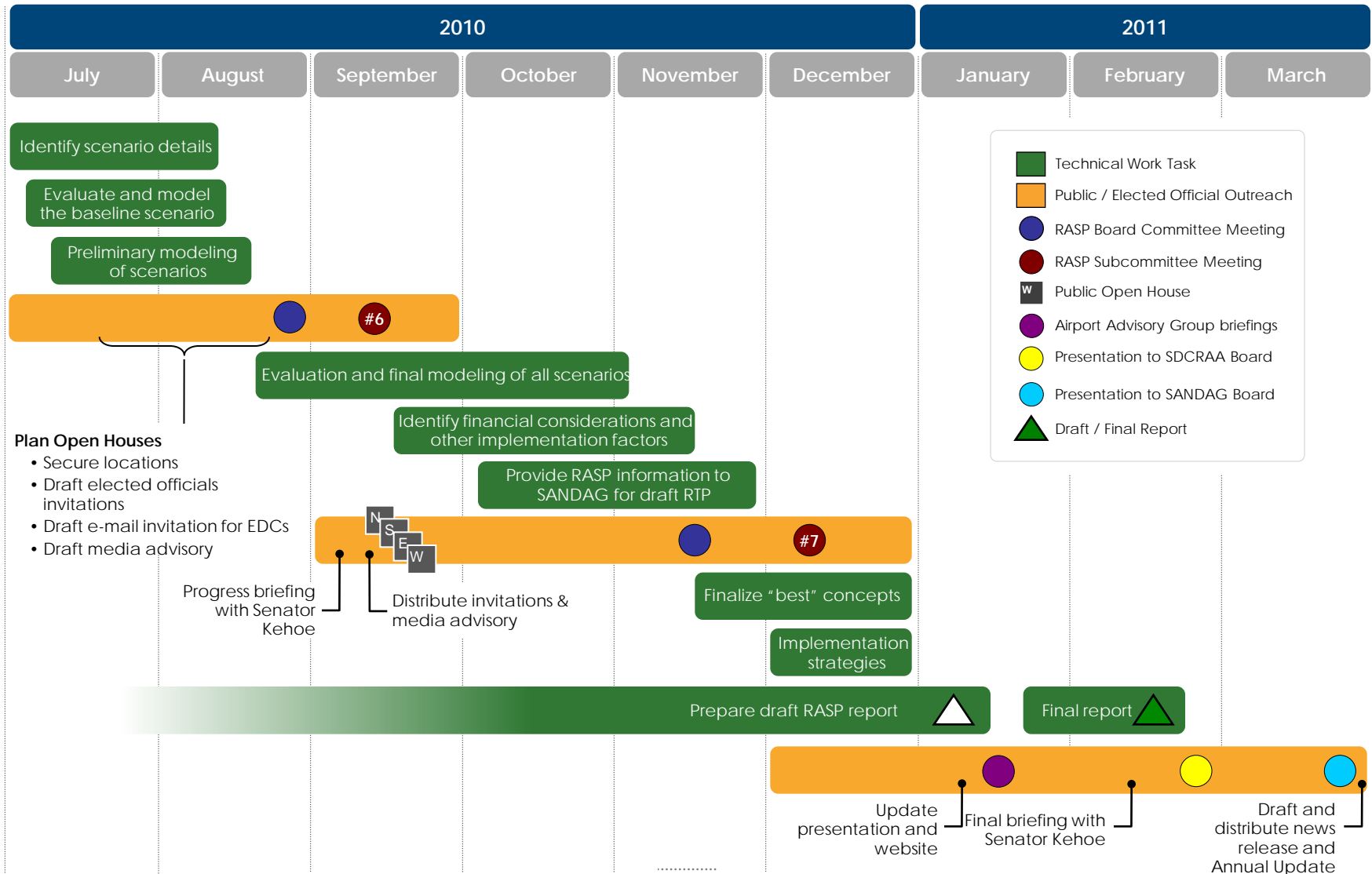
- California HSR could play a role to alleviate the region’s aviation capacity problems by accommodating suppressed demand relative to the Baseline; these benefits may increase beyond 2030
- While downtown San Diego HSR station shows higher air-rail diversion than a station at SDIA, their overall benefits to the region are similar

Larger Aircraft Policy

- A narrow-body fleet mix at SDIA provides the same relative benefits to the region as Commercial Scenario 1B: Reserving SDIA Capacity for Commercial Operations; SDIA’s fleet mix is already favorable (nearly optimized) as the Airport is projected to have a relatively low proportion of regional jets and turboprops

Next Steps / Outreach

Detailed Schedule and Work Plan – Project is On Schedule



Next Steps

- **Technical work efforts**
 - Complete technical analysis of scenarios
 - Prepare Draft Report
- **Documentation**
 - Coordinate Draft Report with RASP Subcommittee and Study Area airport sponsors
 - Address input and prepare final report
- **Airport Authority Board considers final RASP report in early 2011**
- **Report and findings provided to SANDAG for inclusion in AMAP / 2011 RTP update**



Public
Input

RASP Public Outreach

Completed and Pending Outreach Summarized Below

Completed

- **Speakers bureau (x20 presentations)**
 - Chambers of Commerce
 - Economic Development Corporations
 - Community organizations
 - Airport advisory groups
- **2009 Annual Update newsletter**
 - Distributed at all RASP presentations
 - E-mailed to list of more than 400 stakeholders and keep-informed contacts
- **Open houses (September 2010)**
 - 4 regional open houses held September 2010
- **Media relations**
 - 1 media briefing
 - 10 media placements

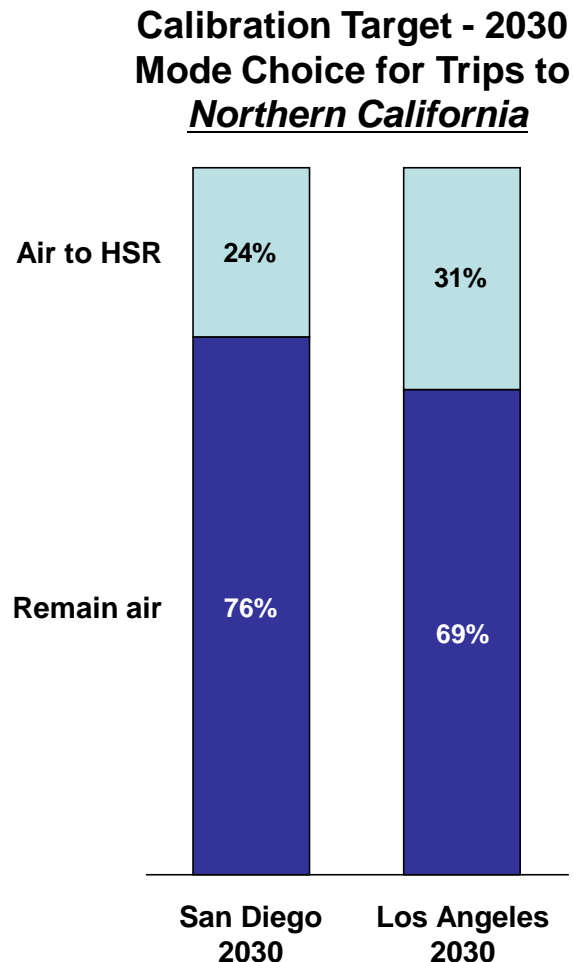
Planned

- **Open house (January/Tentative)**
 - Present complete draft findings
- **2010 Annual Update (January)**
 - E-mail to list of more than 500 elected officials, stakeholders and keep-informed list
- **Presentations (December-February)**
 - SANDAG
 - County Board of Supervisors
 - Airport Advisory groups
 - San Diego City Council Rules Committee
- **Letter to San Diego County mayors with executive summary and offer presentation on findings (March)**
- **Media relations (Ongoing)**

Supplemental Information

HSR Model Calibration

Matched California HSR Authority's Estimates and Assumptions for "83% Scenario"



- Calibration based on inputs from SANDAG, SCAG, and California High Speed Rail Authority
- HSR fare = 83% of average airfares
- HSR travel time between San Diego and San Francisco approximately 4 hours
- Culminating station in San Diego is downtown Santa Fe Station
- Passengers arrive at the HSR station 15 minutes prior to departure; compared to 75 minutes for air
- Phase 1 HSR (San Francisco to LA) assumed to be open 2019; Phase 2 (LA to San Diego) assumed open in 2027
- For trips to northern California, passengers would travel only on express and semi-express trains; and board at the closest major HSR station [RASP assumption]