SAN DIEGO COUNTY
REGIONAL AIRPORT AUTHORITY
STAFF REPORT

Meeting Date: **JANUARY 6, 2011**

Subject:

Progress Report and Informational Presentation on the San Diego International Airport Transit Plan

Recommendation:

Accept the Progress Report and Informational Presentation on the San Diego International Airport Transit Plan.

Background/Justification:

An Airport Transit/Roadway Committee was convened in 2005 to assist and advise the San Diego County Regional Airport Authority in the preparation of the San Diego International Airport Transit Plan. Comprised of various transportation and transit agencies, the Airport Transit/Roadway Committee has met to discuss and formulate ways to improve transit access to San Diego International Airport. The Committee has provided extensive input towards the formulation and content of the Airport Transit Plan to enhance modal choices for the public and airport passengers and employees. The invited members of the Committee include the FAA, SANDAG, MTS, NCTD, Caltrans, City of San Diego, Centre City Development Corporation, California Coastal Commission, Port of San Diego, and California State Parks - Old Town.

A goal of the Airport Transit Plan is to increase the existing Airport passenger transit ridership from 1.2 percent to 5 percent. Striving to achieve this goal would increase the regional accessibility and mobility for airport passengers as well as airport employees.

After the preparation of an initial Plan with potential programs, the second phase of this Airport Transit Plan (Phase II) continues to develop a multi-modal approach to increasing passenger and employee transit ridership at San Diego International Airport. Phase II has evaluated potential airport employee programs and monitored a demonstration program with an employee express bus to the Old Town Transit Center. Another potential program under analysis focuses on resident passengers that may use remote terminals with parking (referred to as "Park and Fly" or "Flyaway" services) along the Interstate 5 and Interstate 15 corridors. The potential Park and Fly service may consist of long and short-term vehicle parking and buses operating express service from the Airport terminals to remote terminal locations. This type of service is in operation in other regions (such as Los Angeles International Airport) with multiple remote locations that provide parking for passenger vehicles. The analysis to date indicates that remote terminal services along the I-5 and I-15 corridors may serve the highest concentrations of resident passengers as indicated by the criteria of passenger volumes and resident passenger density per square mile.

In addition, the San Diego International Airport Master Plan (which has within it the Airport Transit Plan) is referenced in the Greenhouse Gas (GHG) Memorandum of Understating (MOU) with the California Attorney General to improve air quality and advances the region's efforts to reduce greenhouse gases. Also, the Coastal Development Permit for the Green Build includes several special conditions related to the Airport Transit Plan.

Fiscal Impact:

This is an information presentation only. Costs for Airport Transit Plan programs, such as remote terminal operations, may be developed in future phases.

Environmental Review:

A. This Board action is not a project that would have a significant effect on the environment as defined by the California Environmental Quality Act ("CEQA"), as amended. 14 Cal. Code Regs. §15378. This Board action is not a "project" subject to CEQA. Pub. Res. Code §21065.

B. California Coastal Act Review: This Board action is not a "development" as defined by the California Coastal Act Pub. Res. Code Section 30106.

Equal Opportunity Program:

Not applicable.

Prepared by:

ANGELA SHAFER-PAYNE
VICE-PRESIDENT, PLANNING AND OPERATIONS

San Diego International Airport
Airport Transit Plan - Phase II

Progress Report

January 6, 2011

SDIA Airport Transit Plan – Phase II
Agenda

- ↗ Objectives and Overview

- ↗ Existing and Planned Transit Systems and Air Passenger Characteristics

- ↗ Airport Employee Transit Incentive and Trip Reduction Program

- ↗ Express Bus Service to/from Old Town Transit Center

- ↗ Remote Parking/Terminal with Express Bus Service

SDIA Airport Transit Plan – Phase II
Presentation Objectives

1. Status Update on the Airport Transit Plan Phase II

2. Next Steps on the Remote Parking/Terminal with Express Bus Service

SDIA Airport Transit Plan – Phase II
Introductions

↗ Jessica Wyatt, HNTB Corporation

  ↗ 15 years of experience in transportation planning and engineering specializing in airport ground transportation and landside access

  ↗ Conducted numerous ground access studies across the country

  ↗ Managed the traffic impact study for the Airport Master Plan FEIR and the Airport Transit Plan Phase I for SDCRAA

↗ Diane Ricard, DMR Consulting

  ↗ 25 years of experience in urban transportation specializing in airport ground access

  ↗ Co-authored ACRP's Planning Guide for Offsite Terminals and Handbook to Assess the Impacts of Constrained Airport Parking

  ↗ Assisted LAWA in the implementation of the Union Station and Westwood FlyAways and Massachusetts Port Authority with the Logan Express Program

SDIA Airport Transit Plan – Phase II
Airport Transit / Roadway Committee

↗ Airport Transit/Roadway Committee

  ↗ Meets regularly to discuss transit and roadway access to SDIA

  ↗ Provided input and review during the 2008 Master Plan and EIR process

  ↗ Provided input to Regional Transportation Plan (RTP) prepared by SANDAG and Airport Authority

  ↗ Reviewed and provided input on the Airport Transit Plan Phases I and II

↗ Committee Member Agencies

  ↗ San Diego Association of Governments (SANDAG)

  ↗ North County Transit District (NCTD)

  ↗ California Department of Transportation (Caltrans)

  ↗ Metropolitan Transit System (MTS)

  ↗ City of San Diego

  ↗ Centre City Development Corporation (CCDC)

  ↗ San Diego Unified Port District

  ↗ Federal Aviation Administration (FAA)

  ↗ California Coastal Commission

  ↗ California State Parks – Old Town

SDIA Airport Transit Plan – Phase II
Committee Input

↗ San Diego Association of Governments (SANDAG)

- ↗ GIS mapping, population and income information
- ↗ Information on regional rideshare and employee trip reduction programs

↗ California Department of Transportation (Caltrans)

- ↗ Locations of existing and proposed regional park and ride lots including usage, potential capacity and expansion opportunities
- ↗ Location, cost and ownership information on various parcels along the I-5 and I-15 corridors

↗ Metropolitan Transit System (MTS)

- ↗ Ridership statistics for MTS Routes 992, 923 and Trolley
- ↗ Cost and operational information for Premium Express Bus Service
- ↗ Trolley station parking statistics

↗ Federal Aviation Administration (FAA)

- ↗ Funding rules for off-site development and direct bus service

↗ North County Transit District (NCTD)

- ↗ Information on Escondido Transit Center including future development plans

SDIA Airport Transit Plan – Phase II
Purpose / Background

↗ Airport Transit Plan Phase I was prepared in 2008

  ↗ Identifies opportunities to improve transit access to SDIA

  ↗ Sets a goal of increasing airport transit usage to the national average of 4% to 6% of air passengers

↗ Airport Transit Plan Phase II initiated in 2009

  ↗ Evaluates the feasibility of implementing various transit improvement measures

  ↗ Supports the efforts of the 2008 SDIA Airport Master Plan and Final Environmental Impact Report

    ↗ Stated goal of improving transit access to SDIA

    ↗ Coastal Development Permit for Greenbuild requires annual reports on progress of Airport Transit Plan

  ↗ In 2009, the SDCRAA selected three improvement measures for further study and feasibility analysis

SDIA Airport Transit Plan – Phase II
Transit Improvements for Further Study

↗ Airport Employee Transit Incentive / Trip Reduction Program

↗ Express Bus Service to/from Old Town Transit Center (OTTC)

↗ Remote Parking / Terminal with Express Bus Service

Existing and Planned Regional Transit Services and Infrastructure

Existing Regional Transit System
Transit Service in the San Diego Region

Legend

———	FREEWAY
———	COASTER
———	AMTRAK
———	SPRINTER
———	TROLLEY GREEN LINE
———	TROLLEY ORANGE LINE
———	TROLLEY BLUE LINE
———	MTS ROUTES 992 / 923
10 MILE	DISTANCE FROM AIRPORT

Source: HNTB Analysis based on MTS, Coaster, Amtrak, Sprinter, SANGIS

Existing Regional Transit System
Transit Access to SDIA

Source: HNTB Analysis based on MTS, Coaster, Amtrak, Sprinter, SANGIS

Legend

— FREEWAY / ROAD

— COASTER

— AMTRAK

— TROLLEY GREEN LINE

— TROLLEY ORANGE LINE

— TROLLEY BLUE LINE

— MTS ROUTE 992

— MTS ROUTE 923 *

*MTS Route 923 accesses the terminal on Saturdays only. There is no Sunday service and on weekdays the route stops along North Harbor Drive and serves downtown.

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Existing Managed Lanes
Improvements on I-5 and I-15 corridors

Source: HNTB Analysis based on MTS, Coaster, Amtrak, Sprinter, SANGIS

Legend

— FREEWAY

— EXISTING TRANSIT (RAIL)

— EXISTING MANAGED LANES

Managed lanes provide controlled access for high occupancy vehicles (HOV) and allow directional changes during peak periods

12

Planned (2015 / 2030) Managed Lanes
Improvements on major highway corridors

Source: HNTB Analysis based on MTS, Coaster, Amtrak, Sprinter, SANGIS

Legend

▬▬▬	FREEWAY
▬▬▬	EXISTING TRANSIT (RAIL)
▬▬▬	EXISTING MANAGED LANES
▬▬▬	2015 MANAGED / HOV LANES
▬▬▬	2030 MANAGED / HOV LANES

Managed lanes provide controlled access for high occupancy vehicles (HOV) and allow directional changes during peak periods

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Planned Bus Rapid Transit Routes
Downtown Service in 2015 and 2030

Source: HNTB Analysis based on MTS, Coaster, Amtrak, Sprinter, SANGIS

Legend

— FREEWAY

— EXISTING TRANSIT (RAIL)

— BUS RAPID TRANSIT ROUTE (2015)

— BUS RAPID TRANSIT ROUTE (2030)

— SUPERLOOP

MTS currently operates several Premium Express coach routes (810, 820, 850, 860, and 880) along the I-15 corridor that will ultimately operate along the planned bus rapid transit routes.

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SDIA 2009 Air Passenger Survey

Includes air passenger ground
access characteristics

2009 SDIA Air Passenger Survey
Large Air Passenger Sample

- ↗ Originating air passenger intercept survey conducted May 18th to June 28th, 2009
- ↗ Approximately 8,000 total air passenger survey responses
- ↗ 36 "door-to-airport" questions relating to:
  - ↗ Flight number/destination
  - ↗ Arrival mode (e.g. private vehicle, transit, etc…)
  - ↗ Ground access trip origin
  - ↗ Air passenger type (e.g. resident, visitor)
  - ↗ Trip purpose (e.g. business or leisure travel)
  - ↗ Length of trip
  - ↗ Propensity to use public transit when travelling to / from SDIA

2009 SDIA Air Passenger Survey
Survey Response Analysis for Transit Plan

↗ Airport Transit Plan Phase II analysis excluded responses collected over Memorial Day weekend (Friday, May 22nd – Tuesday, May 26th, 2009)

↗ Approximately 76% of respondents had trip origins within the San Diego metropolitan area

↗ Responses were applied to a total average annual day air passengers to develop passenger profiles

2009 SDIA Air Passenger Survey
Key Air Passenger Characteristics

Passenger Type

Visitors 55%

Residents 45%

Trip Purpose

Business 36%

Non-Business 64%

Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey
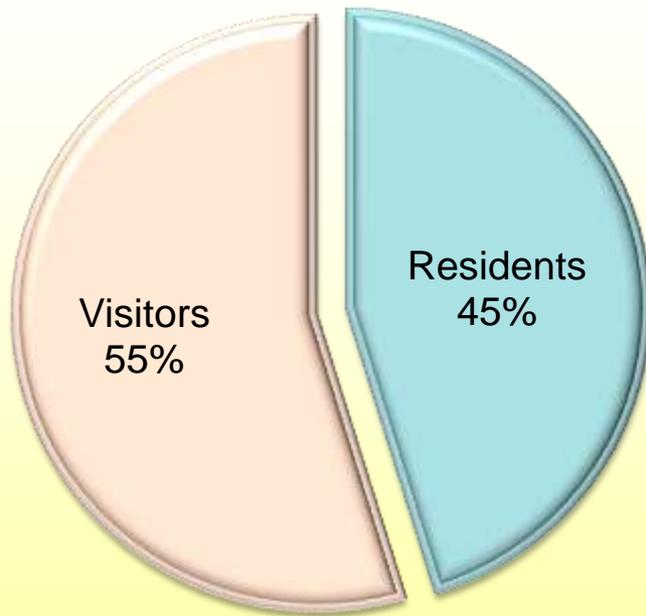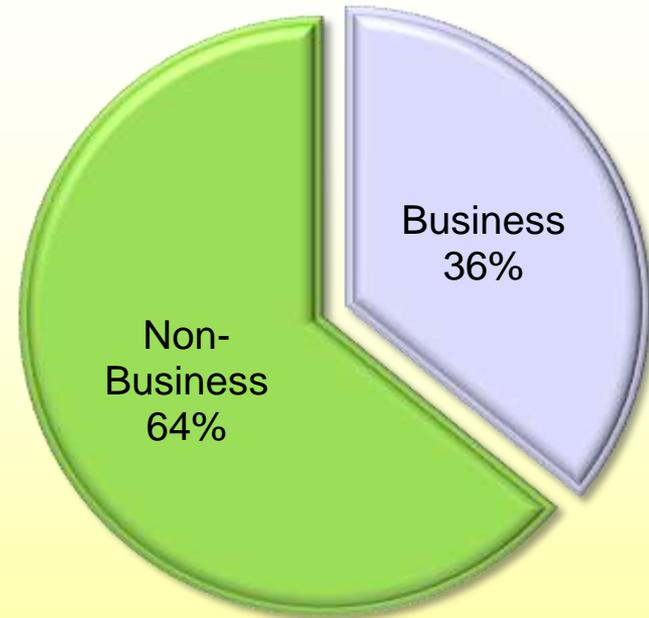
2009 SDIA Air Passenger Survey
Percent of Air Passenger Arriving by Each Mode

	Percent of Air Passengers		
	All	**Resident**	**Visitor**
Private Vehicle	56%	83%	34.8%
Pick-up / Drop-off	46%	61%	34%
Parked for Entire Trip (includes off-Airport)	10%	22%	0.8%
Rental Car	18%	0.5%	33%
Taxi	13%	8%	16%
Cloud 9 / Supershuttle / Shared-Ride Van	5%	5%	5%
Hotel / Resort Courtesy Vehicle	4%	0.3%	6%
Limousine / Town Car	1.7%	1.8%	1.6%
MTS Public Bus 992 / Bus 923	1.2%	1.2%	1.1%
Chartered / Tour Bus or Military Transport	0.6%	0.5%	0.7%
Walked	0.3%	0.2%	0.3%
Bus or Van from Cruise Ship Terminal	0.2%	0%	0.3%

Note: Totals may not add to 100% due to rounding; For percentages under 2%, exact values to the tenths are shown.
Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey

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Existing San Diego Region Population
Total Population (Census) by Zip Code

Legend

EXISTING 2000 CENSUS POPULTION (BY ZIP CODE)
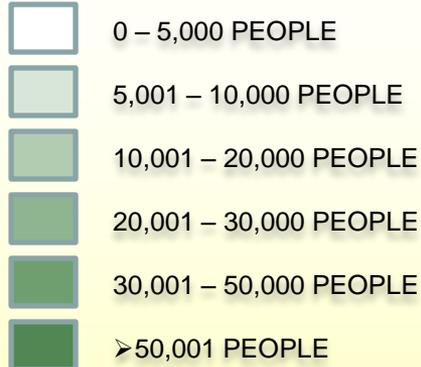
- 0 – 5,000 PEOPLE
- 5,001 – 10,000 PEOPLE
- 10,001 – 20,000 PEOPLE
- 20,001 – 30,000 PEOPLE
- 30,001 – 50,000 PEOPLE
- ➢50,001 PEOPLE

- ▲ SHOPPING CENTER
- 🅿 PARK AND RIDE LOT - EXISTING
- 🅿 CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- 🅿 PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- 10 MILE DISTANCE FROM AIRPORT

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Source: HNTB Analysis based on 2000 US Census, SANGIS, Caltrans, MTS

Total Daily Air Passenger Trip Origins
Air Passenger Origins Differ from Population

Legend

EXISTING DAILY AIR PASSENGER TRIP ORIGINS (BY ZIP CODE)
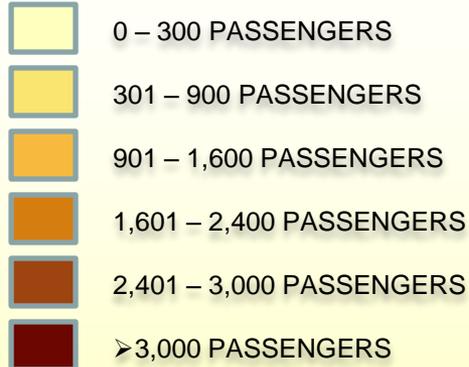
- 0 – 300 PASSENGERS
- 301 – 900 PASSENGERS
- 901 – 1,600 PASSENGERS
- 1,601 – 2,400 PASSENGERS
- 2,401 – 3,000 PASSENGERS
- >3,000 PASSENGERS

- ▲ SHOPPING CENTER
- P PARK AND RIDE LOT - EXISTING
- P CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- P PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
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- 10 MILE — DISTANCE FROM AIRPORT
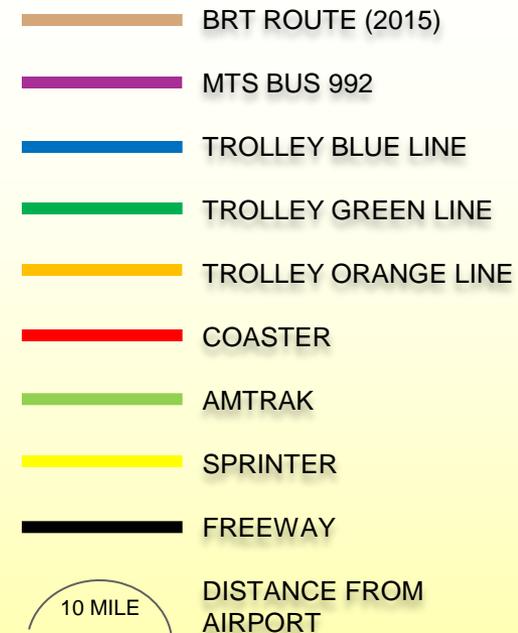
Transit serves commuters, not air passengers

21

Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS

Daily Resident Air Passenger Trip Origins
## *The Remote Terminal Focuses on Residents*

Legend

EXISTING DAILY RESIDENT AIR PASSENGER TRIP ORIGINS (BY ZIP CODE)

- 0 – 150 PASSENGERS
- 151 – 450 PASSENGERS
- 451 – 800 PASSENGERS
- 801 – 1,200 PASSENGERS
- 1,201 – 1,500 PASSENGERS
- ≻1,500 PASSENGERS
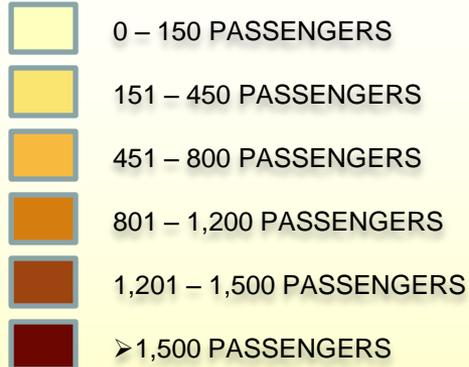
- ▲ SHOPPING CENTER
- P PARK AND RIDE LOT - EXISTING
- P CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- P PARK AND RIDE LOT - PLANNED

81% of Resident Air Passengers Arrive by Private Vehicle

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- DISTANCE FROM AIRPORT

Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS

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Existing Daily Air Passenger Trip Origins
Visitors Comprise the Secondary Market

Legend

EXISTING DAILY VISITOR AIR PASSENGER TRIP ORIGINS (BY ZIP CODE)

- 0 – 150 PASSENGERS
- 151 – 450 PASSENGERS
- 451 – 800 PASSENGERS
- 801 – 1,200 PASSENGERS
- 1,201 – 1,500 PASSENGERS
- ≥1,500 PASSENGERS

- SHOPPING CENTER
- PARK AND RIDE LOT - EXISTING
- CALTRANS PLANNED EXISTING PARK AND RIDE LOT
- PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY

10 MILE — DISTANCE FROM AIRPORT
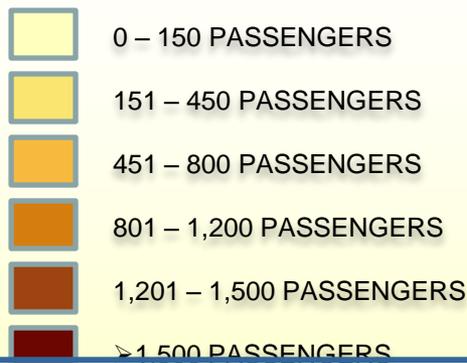
33% of Visiting Air Passengers Rent Cars and are Not Prime Target for Transit

Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS

23
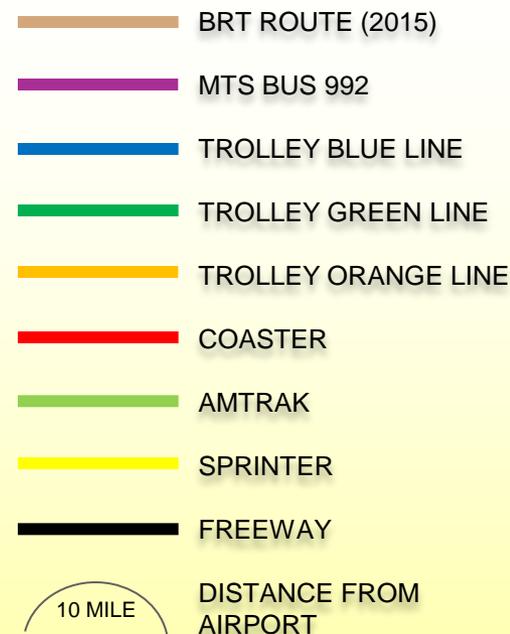
Airport Employee Transit Incentive / Trip Reduction Program

Total Existing Employee Residences
## *Many Employees Live South of the Airport*

Legend

EXISTING EMPLOYEE RESIDENCES (BY ZIP CODE)
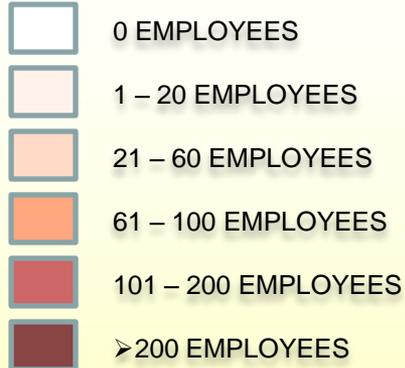
- 0 EMPLOYEES
- 1 – 20 EMPLOYEES
- 21 – 60 EMPLOYEES
- 61 – 100 EMPLOYEES
- 101 – 200 EMPLOYEES
- ➢200 EMPLOYEES

▲ SHOPPING CENTER

🅿 POTENTIAL REMOTE TERMINAL SITES SELECTED FROM EXISTING CALTRANS PARK AND RIDE LOTS

🅿 CALTRANS PARK AND RIDE LOT EXISTING

🅿 CALTRANS PARK AND RIDE LOT PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY

⌒ 10 MILE DISTANCE FROM AIRPORT

**More Employees Live Along Transit Lines but Many Work Shifts**

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Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS

Top Five Employers at SDIA
Many Employees Work Late or Early Shifts

Top 5 SDIA employers comprises approximately 36% of all SDIA employees.

Bar chart values:
- TSA: 711, 13%
- Southwest Airlines: 419, 7%
- SDCRAA: 375, 7%
- FedEx: 256, 5%
- HMS Host: 252, 4%
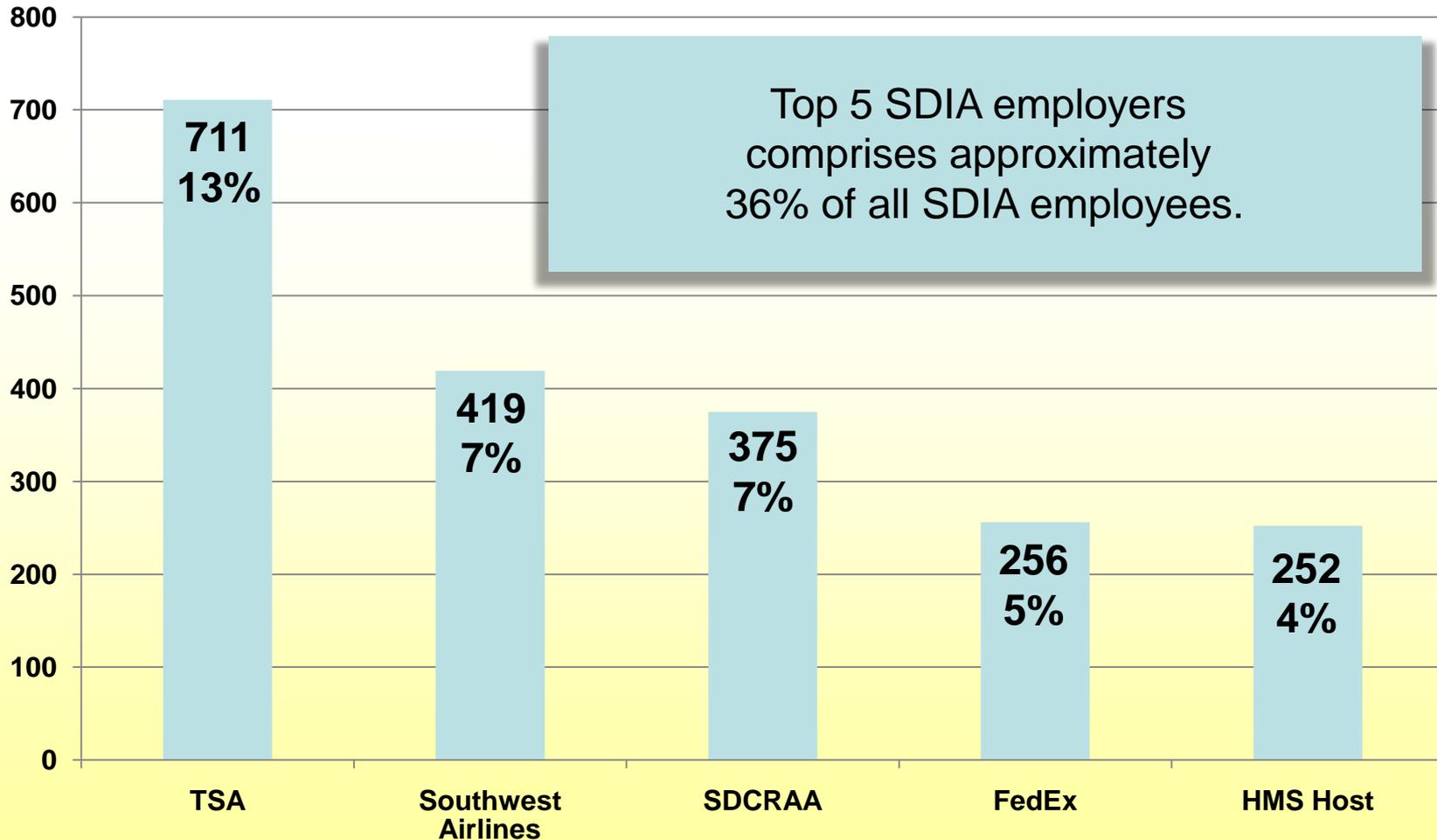
Total SDIA employees (tenants, airlines, all shifts) = 5,531
Based on SDIA May 2009 active badge count

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Employee Trip Reduction Programs
Current Programs Provided by Top Employers

↗ Pre-Tax Deductions Allowed for Transit Passes

↗ Subsidized Transit Passes for Top Employers

    ↗ TSA provides 100% subsidy

    ↗ SDCRAA provides 50% subsidy

    ↗ Southwest Airlines provides 50% subsidy

    ↗ FedEx 0% subsidy

↗ Regional Vanpool Program

    ↗ SDCRAA provides 50% subsidy

↗ iCommute Program

    ↗ SANDAG online carpool, vanpool rider matching program

    ↗ Includes Guaranteed Ride Home program

Potential Employee Parking Measures
Consider Those with no Transit Options

	SDCRAA Employees	Airport Tenants / TSA Employees
Increase parking fees for all airport employees	X	X
Charge SDCRAA employees to park	X	
Charge employees monthly vs. quarterly to make fees more visible	X	X
Allow transit/carpool users to buy daily parking passes, allowing them to drive on occasion without paying for monthly parking	X	X
Provide reduced rates for carpools/vanpools	X	X
Provide preferential parking for carpools/vanpools	X	X

Source: HNTB Analysis

Notes:
1. Parking policies must consider shift employees with little or no transit / rideshare options.
2. All measures work towards reducing air emissions per California Assembly Bill 32: Global Warming Solutions Act.

Potential Trip Reduction Incentives
Potential Trip Reduction Incentives

	SDCRAA Employees	Airport Tenants / TSA Employees
Implement car share program (e.g. zip car) to allow transit / rideshare employees use of vehicles for personal errands and/or official business	X	X
Allow telework and flextime schedules for employees whose jobs do not require them to be on site	X	
Provide on-site bicycle facilities such as bike racks, lockers and showers	X	X

Source: HNTB Analysis

Note: All measures work towards reducing air emissions per California Assembly Bill 32: Global Warming Solutions Act.

Potential Programs and Outreach
## *Encourage Employees by Providing Resources*

	SDCRAA EMPLOYEES	AIRPORT TENANTS / TSA EMPLOYEES
Develop a formal trip reduction program for SDCRAA and airport employees	X	
Require airport employers with over 100 employees to implement a trip reduction program		X
Provide a transportation resource center for employees to find transit information or incentives on transit or rideshare options	X	X
Designate a transportation coordinator to manage, coordinate and implement employee trip reduction program elements	X	X

Source: HNTB Analysis

Note: All measures work towards reducing air emissions per California Assembly Bill 32: Global Warming Solutions Act..

# Express Bus Service to/from Old Town Transit Center (OTTC)

Source: HNTB Analysis

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Airport Employee Bus Service from OTTC
Demonstration Program Parameters

↗ Initiated after conducting survey of employee transit use and propensity to use old town express bus

↗ Frequency:
  ↗ Monday through Friday - 9 runs per day timed with the Coaster
  ↗ Schedule adjusted to match Coaster's holiday schedule

↗ Annual Cost: $80,000 (labor and fuel)

↗ Ridership: Approximately 12 employees per day

↗ Service in operation from June 2009 to June 2010

↗ Two-Month Port Demonstration Program - With Port Ridership (24 total riders / day)

↗ Diamond Award (SANDAG) *- Best New Program*

Legend

CATCHMENT AREAS

- COASTER
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- TROLLEY BLUE / ORANGE LINE
- TROLLEY GREEN / ORANGE LINE
- TROLLEY STOP NEAR SDIA
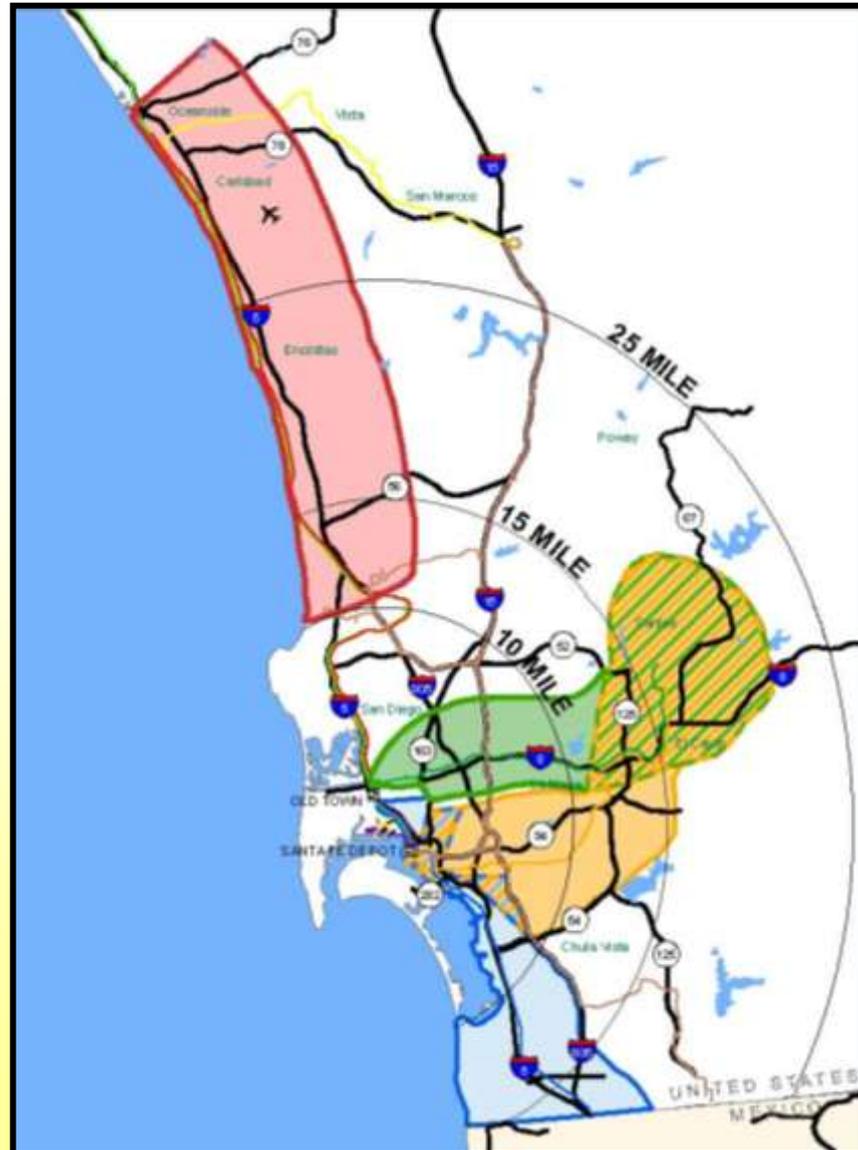
Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- 10 MILE — DISTANCE FROM AIRPORT

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Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS

MTS 992 & OTTC Bus Catchment Area
Total Pool of Air Passengers and Employees

	TOTAL DAILY AIR PASSENGERS		TOTAL EMPLOYEE RESIDENCES
TOTAL POOL OF AIR PASSENGERS AND EMPLOYEES WITHIN MTS ROUTE 992 CATCHMENT AREA	26,244		4,655
TOTAL POOL OF AIR PASSENGERS AND EMPLOYEES WITHIN OTTC EXPRESS BUS ROUTE CATCHMENT AREA	COASTER	6,864	320
	GREEN LINE TROLLEY	5,948	1,147
	Total	12,812	1,467

Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey

Note: This is a summary of passengers and employees that begin their trip within the catchment area and does not represent actual bus riders.

OTTC Employee Express Bus
Demonstration Program Considerations

↗ Small percentage of total airport employees live within the Coaster catchment area

↗ Coaster schedule restrictions limit potential employee ridership for shift employees
  - ↗ No Sunday service
  - ↗ Limited Saturday service
  - ↗ Peaked service focused on commute hours
  - ↗ No late night service

↗ Potential opportunities
  - ↗ Consider increasing service frequency to capture Green Line Trolley riders
  - ↗ Consider expanding to serve air passengers

OTTC Express Bus Service
Considerations for Expanding to Air Passengers

- ↗ Overlaps with Route 992 catchment but could provide tailored and faster service

- ↗ Must assess parking strategy at Old Town and other Trolley / Coaster stations

  - ↗ Limited overall parking at transit stations (except Qualcomm)
  - ↗ Currently no overnight parking allowed at transit stations
  - ↗ Program would need to:

    - ↗ Designate overnight parking at specific stations
    - ↗ Restrict airport parking at Old Town, including daily parking

Remote Parking / Terminal with Express Bus Service

Remote Terminal with Express Bus Service
What is it?

LAX Flyaway Ticket Kiosk

Van Nuys Flyaway Bus Station

Remote terminal / parking with express bus service targets airport passengers and employees traveling from a location(s) greater than 10 miles or 30 minutes from the Airport

Boston Logan Express Woburn Station

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# Remote Terminal Bus Service
Key Consideration for Success

↗ Service is provided 7 days a week

↗ Maximum bus headways 30-minutes

↗ Remote Terminal is located a minimum 10 miles or 30 minute travel time from the Airport

↗ Non-stop service or for longer routes a maximum of one stop with consideration to FAA funding rules

↗ Bus schedule captures a minimum of 80% of departing and arriving aircraft seats

↗ Sufficient secure parking must be available at the Remote Terminal

Daily Resident Air Passenger Trip Origins
The Remote Terminal Focuses on Residents

Legend

EXISTING DAILY RESIDENT AIR PASSENGER TRIP ORIGINS (BY ZIP CODE)

- 0 – 150 PASSENGERS
- 151 – 450 PASSENGERS
- 451 – 800 PASSENGERS
- 801 – 1,200 PASSENGERS
- 1,201 – 1,500 PASSENGERS
- > 1,500 PASSENGERS

- ▲ SHOPPING CENTER
- P PARK AND RIDE LOT - EXISTING
- P CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- P PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- 10 MILE — DISTANCE FROM AIRPORT

Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS

41
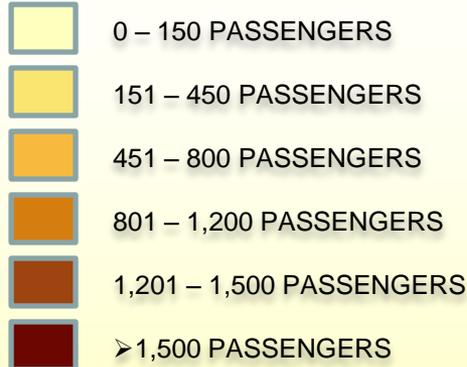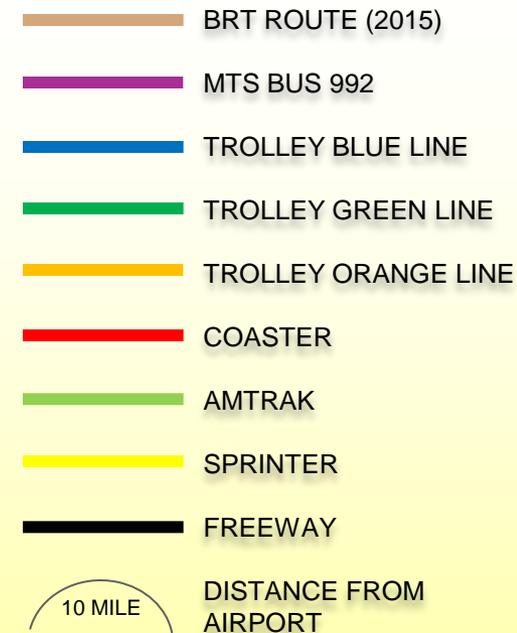
Remote Terminal Catchment Area I-5
Potential for an Intermediate Stop


Legend

- I-5 CORRIDOR CATCHMENT AREA
- POTENTIAL REMOTE TERMINAL STOP
- SHOPPING CENTER
- PARK AND RIDE LOT - EXISTING
- CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- DISTANCE FROM AIRPORT (10 MILE)

OUTER STOP

INNER STOP

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Remote Terminal Catchment Area I-15
Potential for an Intermediate Stop

Legend

- I-15 CORRIDOR CATCHMENT AREA
- POTENTIAL REMOTE TERMINAL STOP
- SHOPPING CENTER
- PARK AND RIDE LOT - EXISTING
- CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- 10 MILE — DISTANCE FROM AIRPORT

43
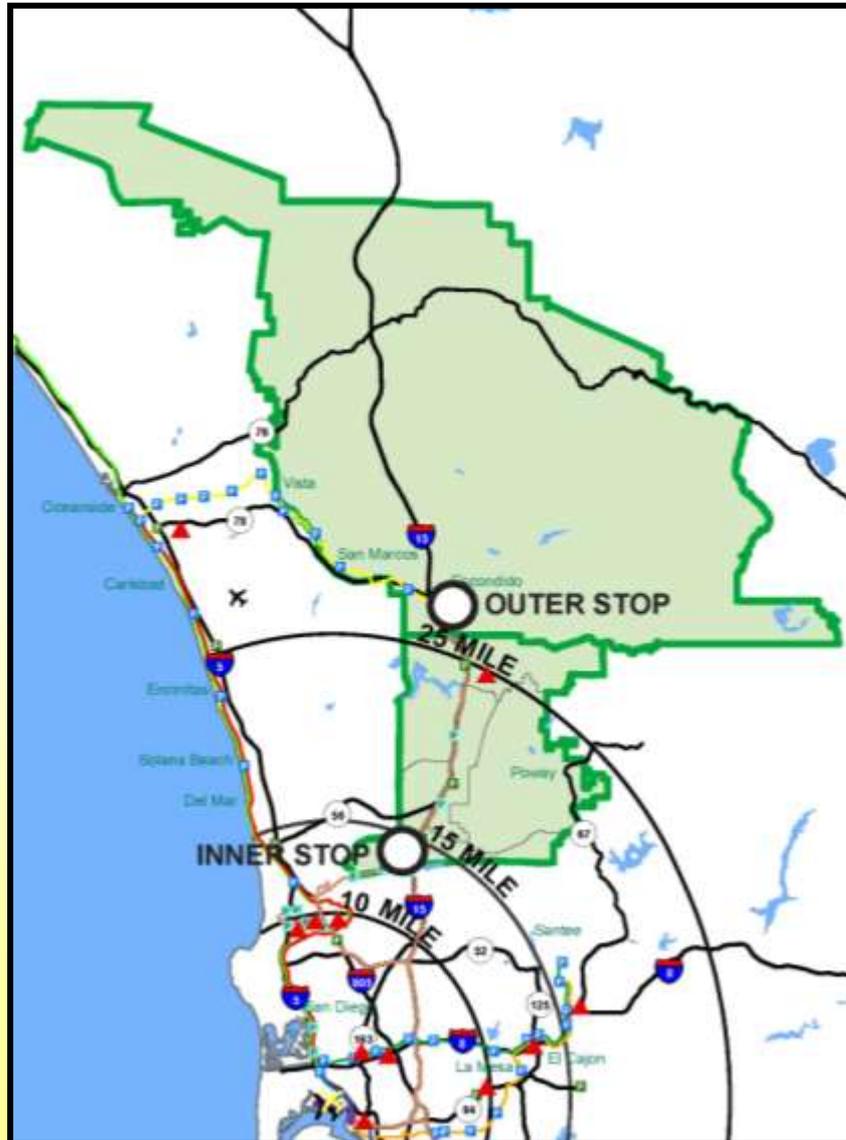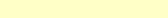
Remote Terminal Catchment Area I-8
Non-Stop Service

Legend

- ☐ I-8 CORRIDOR CATCHMENT AREA
- ◯ POTENTIAL REMOTE TERMINAL STOP
- ▲ SHOPPING CENTER
- 🅿 PARK AND RIDE LOT - EXISTING
- 🅿 CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- 🅿 PARK AND RIDE LOT - PLANNED

Legend

- ▬ BRT ROUTE (2015)
- ▬ MTS BUS 992
- ▬ TROLLEY BLUE LINE
- ▬ TROLLEY GREEN LINE
- ▬ TROLLEY ORANGE LINE
- ▬ COASTER
- ▬ AMTRAK
- ▬ SPRINTER
- ▬ FREEWAY
- DISTANCE FROM AIRPORT

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Remote Terminal Catchment Area I-805
Non-Stop Service

Legend

- ▢ I-805 CORRIDOR CATCHMENT AREA
- ◯ POTENTIAL REMOTE TERMINAL STOP
- ▲ SHOPPING CENTER
- 🅿 PARK AND RIDE LOT - EXISTING
- 🅿 CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- 🅿 PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- 10 MILE DISTANCE FROM AIRPORT

45
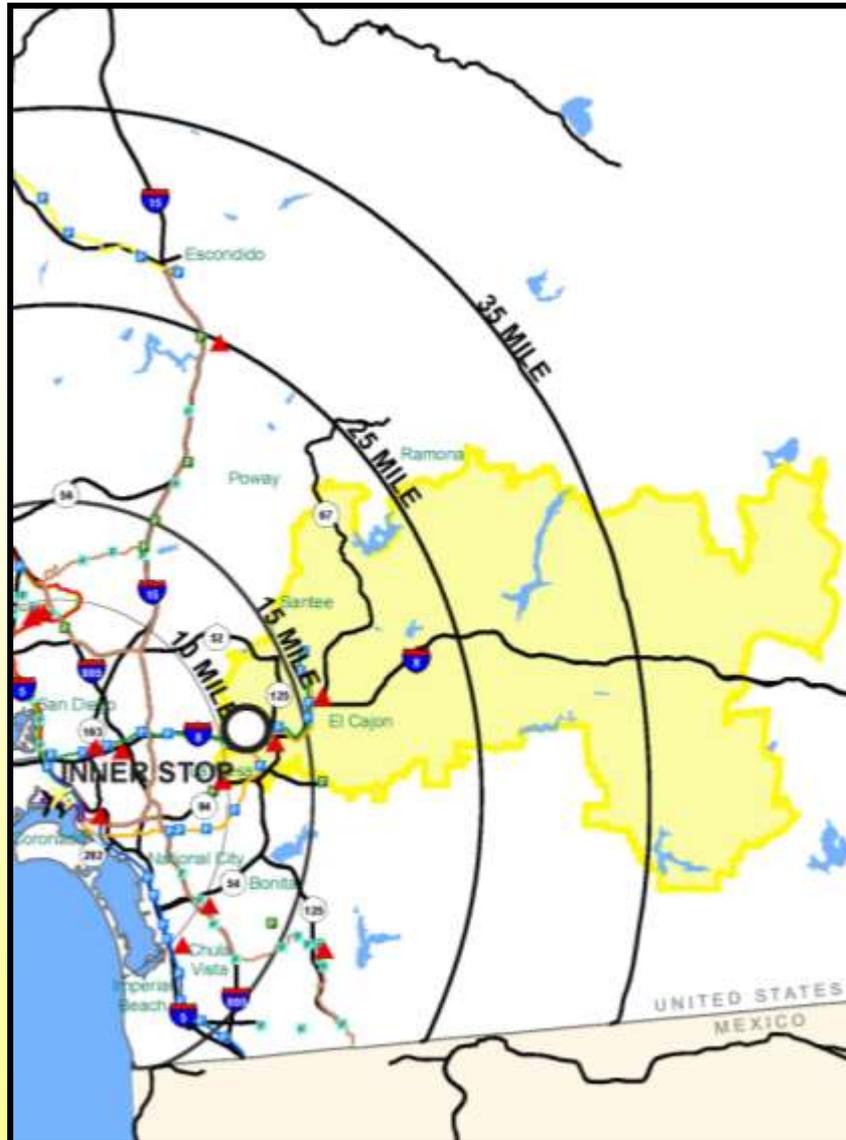
Threshold for Determining Most Viable Location
Start with the Strongest Market

AVERAGE DAILY RESIDENT AIR PASSENGER TRIPS

I-5 and I-15 Corridor Service Scenarios

NON-STOP SERVICE (inner stop only)
NON-STOP SERVICE (outer stop only)
ONE STOP SERVICE (inner and outer stops)

Threshold
2,400 Trips

Primary Indicator of a Viable Location = 2,400 Average Daily Resident Air Passengers in Primary Market

I-5 bar labels: ONE STOP SERVICE, NON-STOP SERVICE (INNER), NON-STOP SERVICE (OUTER)

I-15 bar labels: ONE STOP SERVICE, NON-STOP SERVICE, NON-STOP SERVICE (OUTER)

X-axis: I-5, I-15, I-8, I-805

Y-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000

Recommendation for Viable Corridors
I-5 and I-15 Represent Strongest Markets

↗ I-5 and I-15 Recommended for Feasibility Analysis

↗ I-8 and I-805 Evaluated but:

  ↗ Did not meet all catchment area threshold s(2,400 trips or 8 passengers per square mile)

  ↗ Existing airport connectivity along Trolley routes

  ↗ I-5 and I-15 corridors are stronger markets for demonstration programs

Remote Terminal Potential Ridership
Service Should Reach Maturity by year 4

TOTAL DAILY RIDERS (First 4 Years)
I-5 and I-15 CORRIDORS

Legend: High Growth, Low Growth

Y-axis: 0, 200, 400, 600, 800, 1000, 1200, 1400, 1600, 1800

Categories (each with Yr 1, Yr 2, Yr 3, Yr 4): I-5 (Non-Stop), I-5 (One Stop), I-15 (Non-Stop), 1-15 (One Stop)
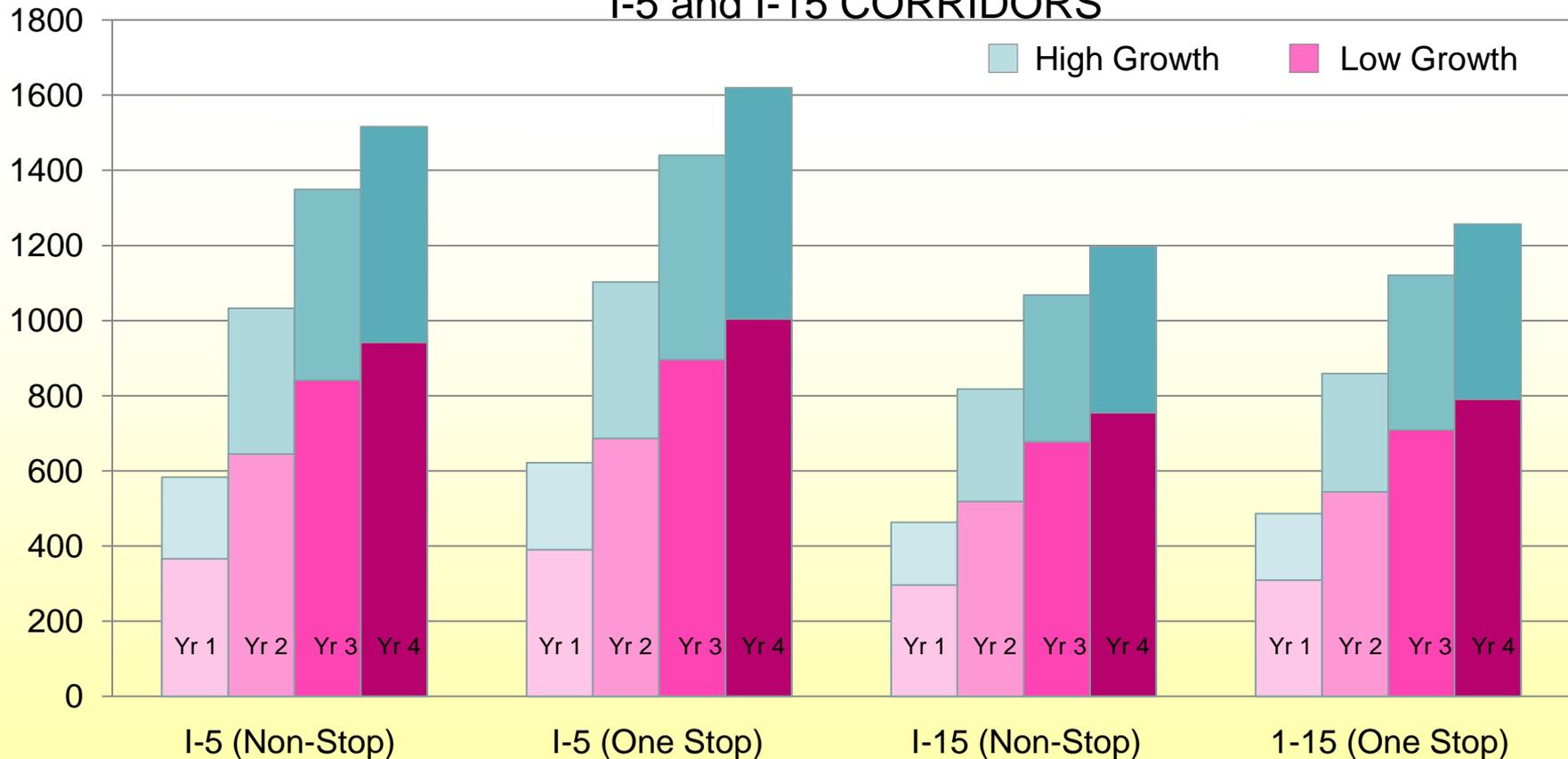
Source: HNTB analysis based on 2009 SDIA Air Passenger Survey

	Year 1	Year 2	Year 3	Year 4 (Maturity)
Percent of air passenger market penetration	40%	70%	90%	100%

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Remote Terminal Next Steps
Authority to Consider Following Options

Review ridership levels after 2 years to ensure service is tracking with growth projections

1) Authority Operate

2) Transit Agency Operate

3) Private Operator

Authority to Operate
Next Steps

↗ Determine feasibility

  ↗ Bus and Parking Rates

  ↗ Costs

    ↗ Capital

    ↗ Operating

    ↗ Impact to other airport revenues (e.g. parking)

  ↗ Operate to breakeven or profit

↗ Consider FAA guidelines on use of airport revenue

Authority to Operate
Key Decisions

↗ Purchase or lease private property or enter into agreement for use of public property

↗ Purchase or lease buses

↗ Permanent or modular terminal facility

↗ Surface or covered parking

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Transit Agency or Private Operator
Next Steps

↗ Issue Request for Information (RFI)

   ↗ Specify service parameters

   ↗ Provide airport passenger and remote terminal catchment data

   ↗ Issue Request for Proposal (RFP) for service if sufficient interest in industry or SDRAA exists

↗ Potential concessions SDIA could provide selected operator

   ↗ Provide exclusive access for operator

   ↗ Waive airport permit fees

   ↗ Provide preferential curbside areas

   ↗ Provide liaison to assist in finding remote terminal location

For more information about the
Airport Transit Plan project, visit the
Airport Transit / Roadway Committee website:

http://www.san.org/sdcraa/leadership/committees/transComm.aspx

Supplemental Information

Existing Daily Air Passenger Trip Density
Total Daily Air Passengers per Square Mile

Legend

**EXISTING DAILY AIR PASSENGER TRIP ORIGIN DENSITY (BY ZIP CODE – SQUARE MILE)**

- 0 – 30 PASSENGERS
- 31 – 100 PASSENGERS
- 101 – 200 PASSENGERS
- 201 – 300 PASSENGERS
- >300 PASSENGERS

- ▲ SHOPPING CENTER
- **P** PARK AND RIDE LOT - EXISTING
- **P** CALTRANS SELECTED EXISTING PARK AND RIDE LOT
- **P** PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- 10 MILE — DISTANCE FROM AIRPORT

Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS

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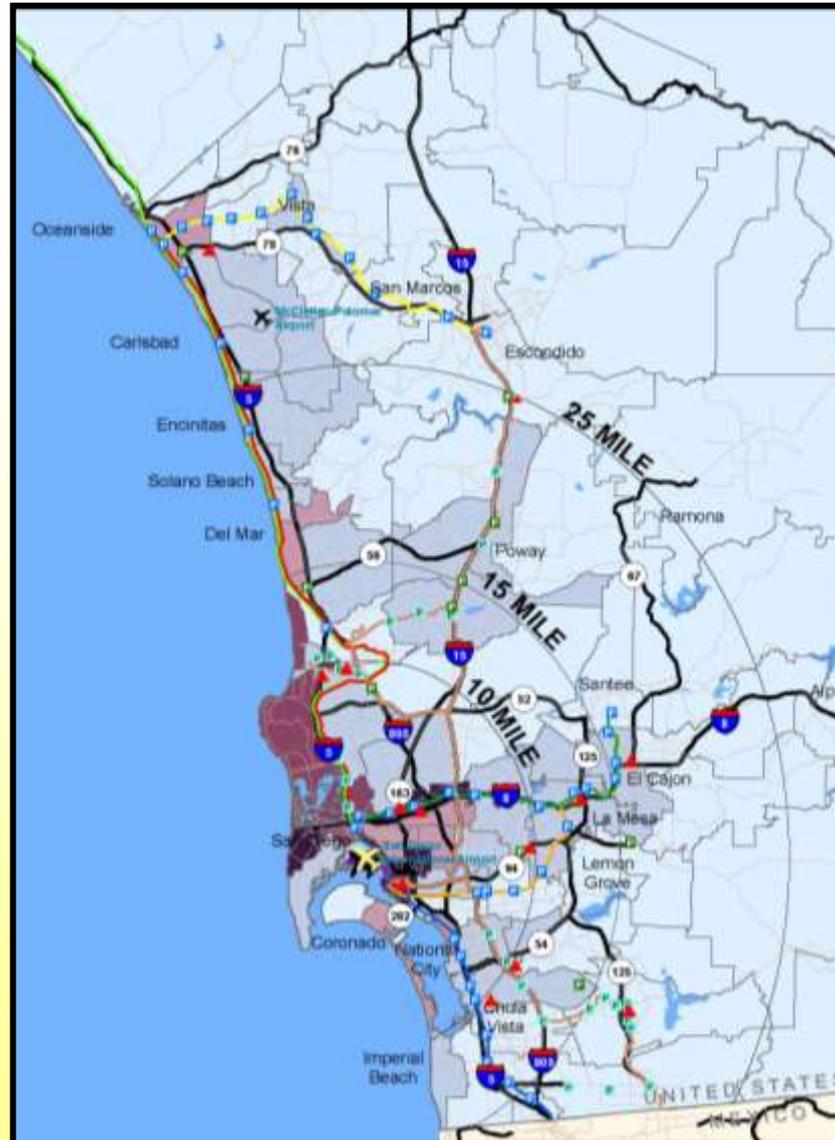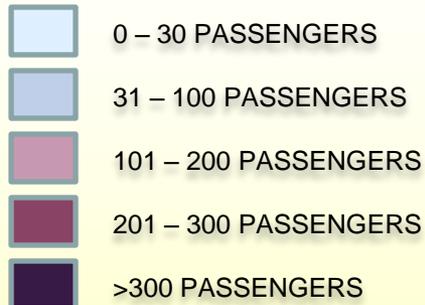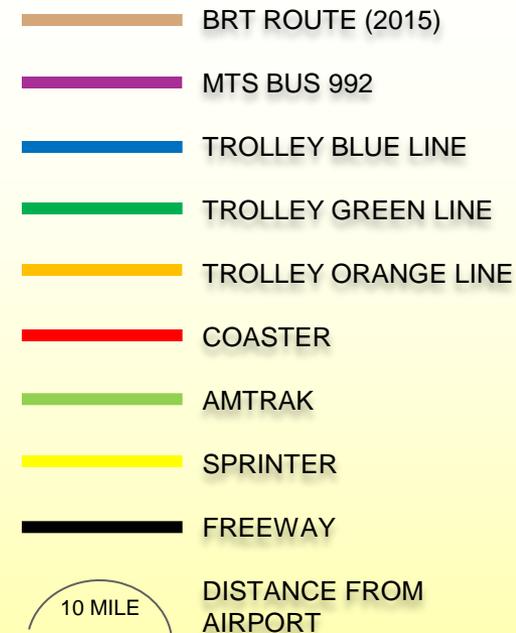
Daily Resident Air Passenger Trip Density
Existing Resident Air Passengers per Square Mile

Legend

EXISTING DAILY RESIDENT AIR PASSENGER TRIP ORIGIN DENSITY (BY ZIP CODE – SQUARE MILE)

- 0 – 15 PASSENGERS
- 16 – 50 PASSENGERS
- 51 – 100 PASSENGERS
- 101 – 150 PASSENGERS
- >150 PASSENGERS

▲ SHOPPING CENTER

P PARK AND RIDE LOT - EXISTING

P CALTRANS SELECTED EXISTING PARK AND RIDE LOT

P PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- DISTANCE FROM AIRPORT (10 MILE)

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Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS
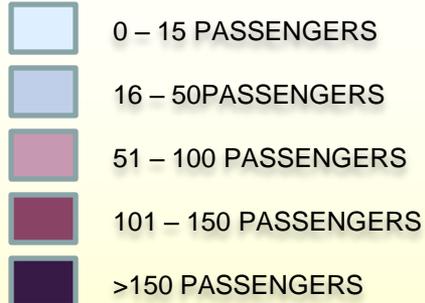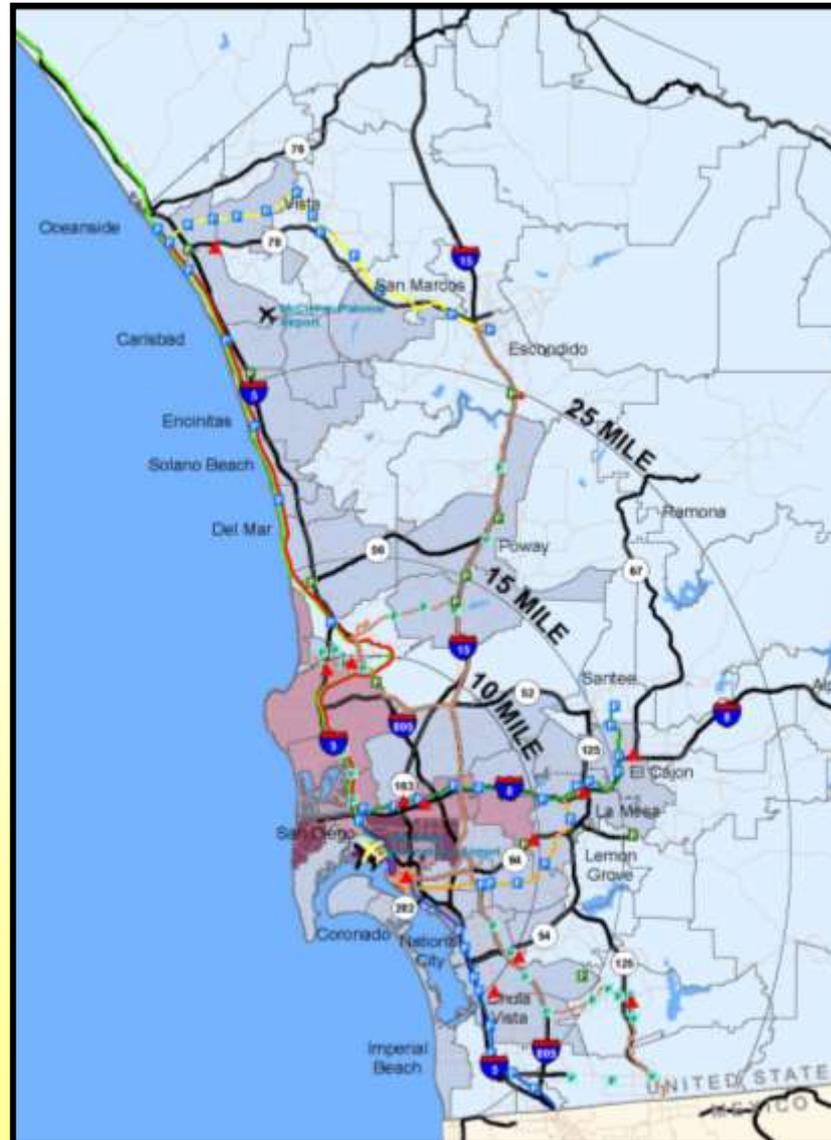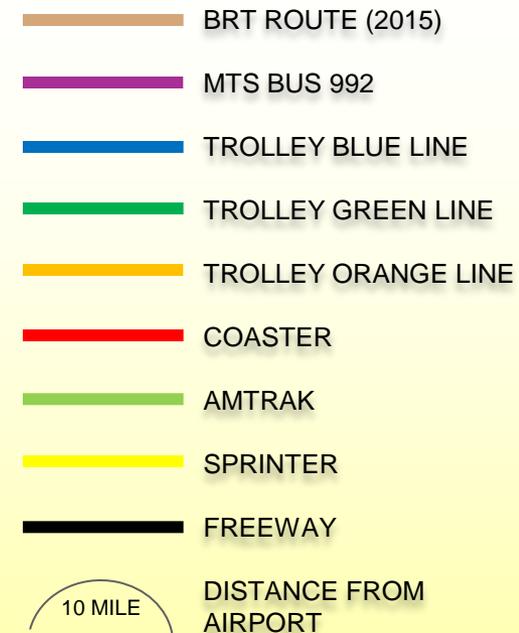
Existing Employee Residence Density
Total Employee Residences per Square Mile

Legend

**EXISTING EMPLOYEE RESIDENCE DENSITY**
(BY ZIP CODE – SQUARE MILE)
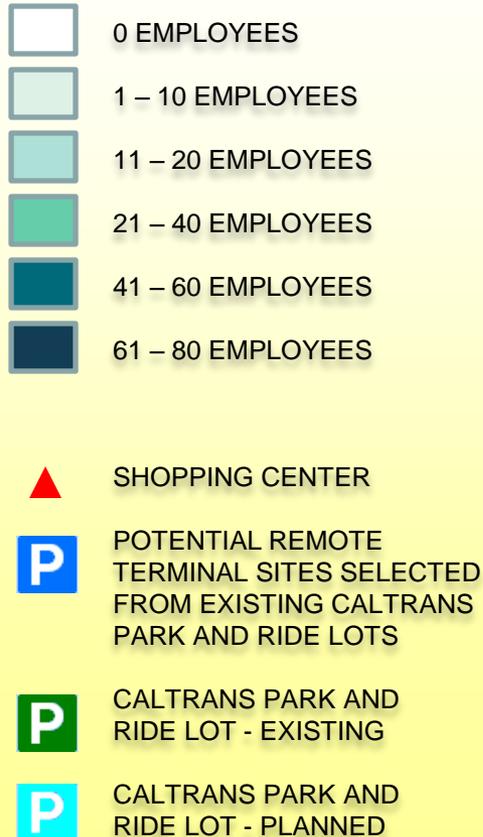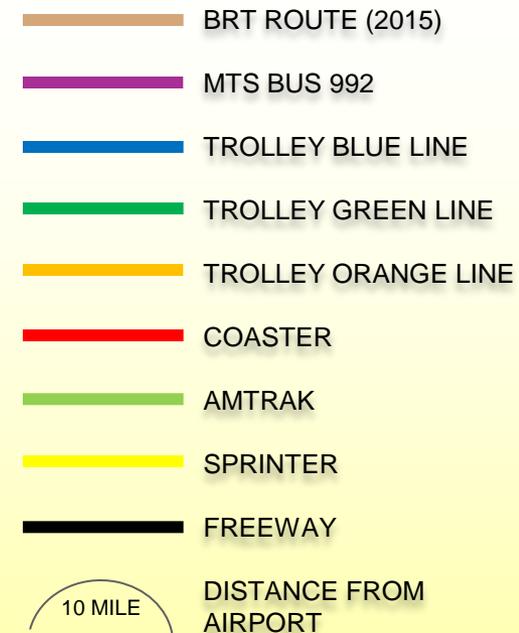
- 0 EMPLOYEES
- 1 – 10 EMPLOYEES
- 11 – 20 EMPLOYEES
- 21 – 40 EMPLOYEES
- 41 – 60 EMPLOYEES
- 61 – 80 EMPLOYEES

- ▲ SHOPPING CENTER
- **P** POTENTIAL REMOTE TERMINAL SITES SELECTED FROM EXISTING CALTRANS PARK AND RIDE LOTS
- **P** CALTRANS PARK AND RIDE LOT - EXISTING
- **P** CALTRANS PARK AND RIDE LOT - PLANNED

Legend

- BRT ROUTE (2015)
- MTS BUS 992
- TROLLEY BLUE LINE
- TROLLEY GREEN LINE
- TROLLEY ORANGE LINE
- COASTER
- AMTRAK
- SPRINTER
- FREEWAY
- DISTANCE FROM AIRPORT

Source: HNTB Analysis based on 2009 SDIA Air Passenger Survey, SDCRAA, SANGIS, Caltrans, MTS

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Remote Terminal Air Passenger Threshold
Density Threshold 8 passengers per square mile

AVERAGE DAILY AIR PASSENGERS PER SQUARE MILE
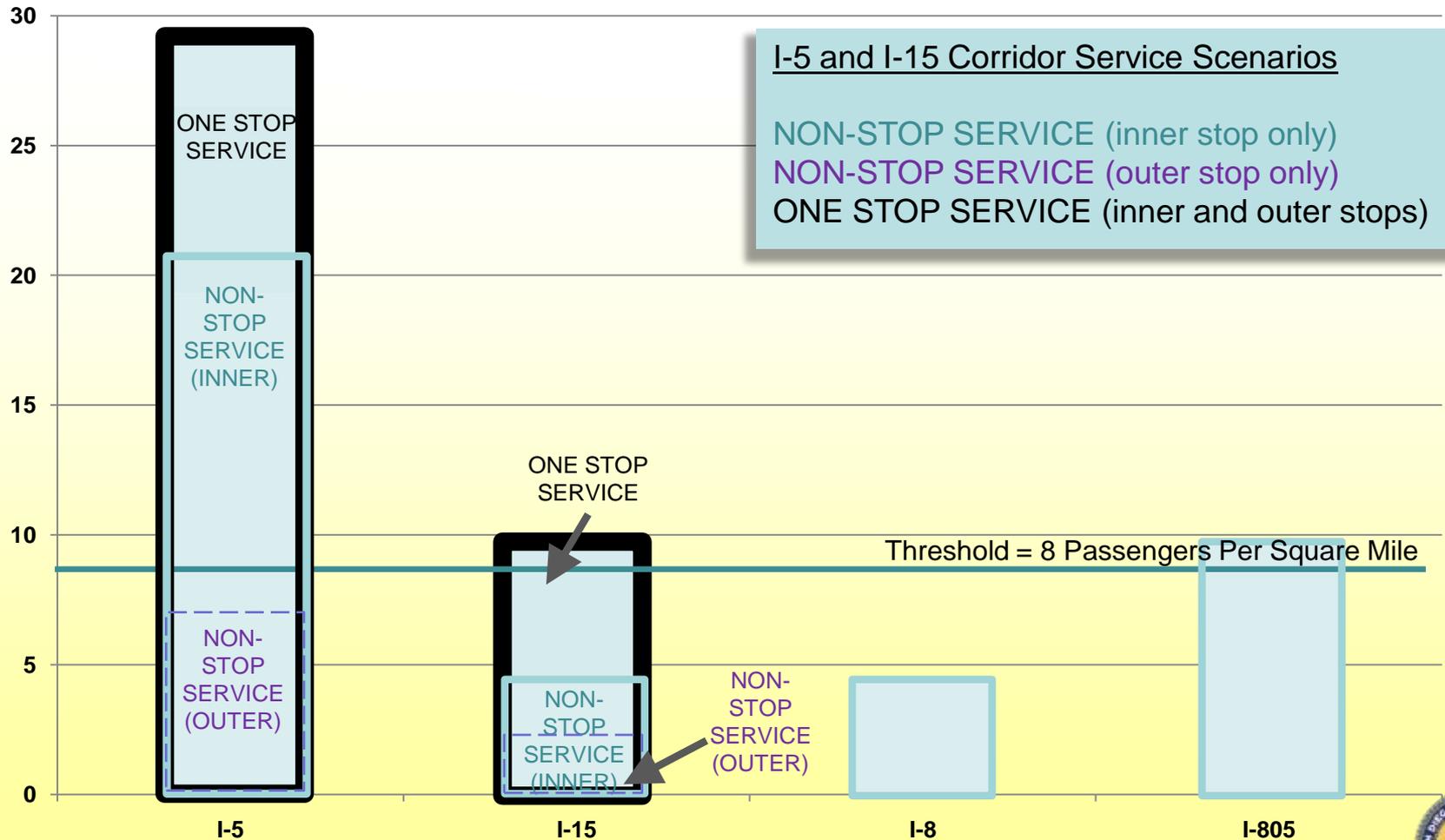
I-5 and I-15 Corridor Service Scenarios

NON-STOP SERVICE (inner stop only)
NON-STOP SERVICE (outer stop only)
ONE STOP SERVICE (inner and outer stops)

Threshold = 8 Passengers Per Square Mile

ONE STOP SERVICE
NON-STOP SERVICE (INNER)
NON-STOP SERVICE (OUTER)

ONE STOP SERVICE
NON-STOP SERVICE (INNER)
NON-STOP SERVICE (OUTER)

I-5   I-15   I-8   I-805

Source: HNTB analysis based on 2009 SDIA Air Passenger Survey

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Remote Terminal with Express Bus
Keys to Success

↗ Service / Frequency
  - ↗ 7 days a week
  - ↗ Maximum 30 minute headways
  - ↗ Non-stop service or maximum of one stop for longer distances with consideration to FAA funding rules

↗ Location:
  - ↗ Along a primary airport access route
  - ↗ Minimum 10-15 miles or 30 minute travel time from the Airport
  - ↗ Near freeway entrances and exits or with good freeway visibility
  - ↗ Near transition point between non-congested and congested routes
  - ↗ Near dense population/employment areas with a minimum of 2,400 average daily resident airline passengers

↗ Amenities:
  - ↗ Sufficient secure parking
  - ↗ Safe and clean waiting areas
  - ↗ Passenger and luggage check-in capability nice but not required (e.g. airline kiosks)

Remote Terminal Bus Service
Operating Assumptions

↗ Service is provided 7 days a week

↗ Bus serves all terminals with a stop at each curbside

↗ Maximum 30-minute headways

↗ Remote terminal bus schedule captures a minimum of 80% of departing and arriving aircraft seats

↗ First bus arrives at the airport 90 minutes prior to departure of the first flight that the bus schedule serves (lead time)

↗ Last bus leaves the airport 60 minutes after arrival of the last flight that the bus schedule serves (lag time)

Remote Terminal Bus Operating Hours
Bus Must Operate Early Morning and Late Night

**Daily Percentage Distribution of
Aircraft Seats with 90-Minute Lead and 60-Minute Lag Time Applied**

■ Bus Pick-ups up Arriving Passengers at Airport
■ Bus Drop-offs Departing Passengers at Airport

Maximum service 100% Coverage
Bus operates 4:30 AM to 1:00 AM
Minimum service 80% Coverage
Bus operates 5:00 AM to 10:00 PM
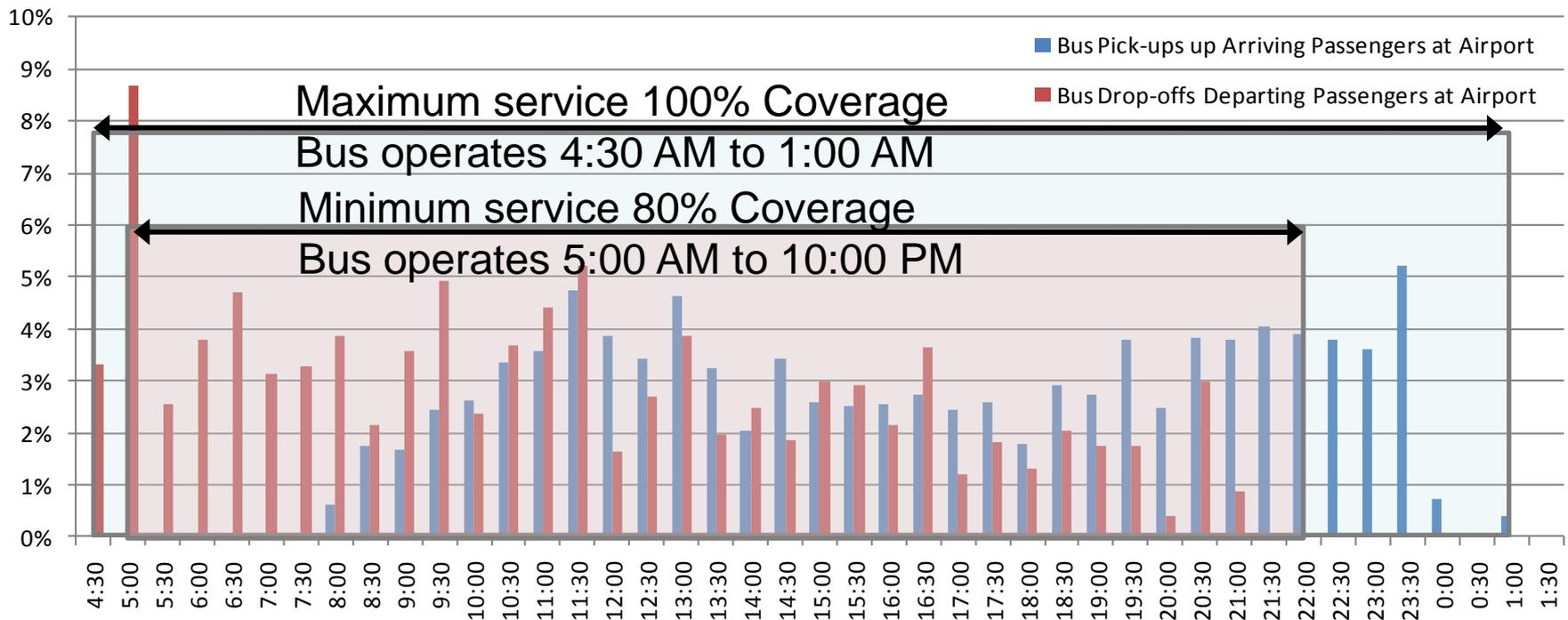
Assumptions:
Headways are every 30 minutes in both directions
90 minute lead time before flight departure
60 minute lag time after flight arrival

Source: HNTB Analysis based on San Diego International Airport Flight Schedule, June 15 – 21, 2009; 2009 Air Passenger Survey

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