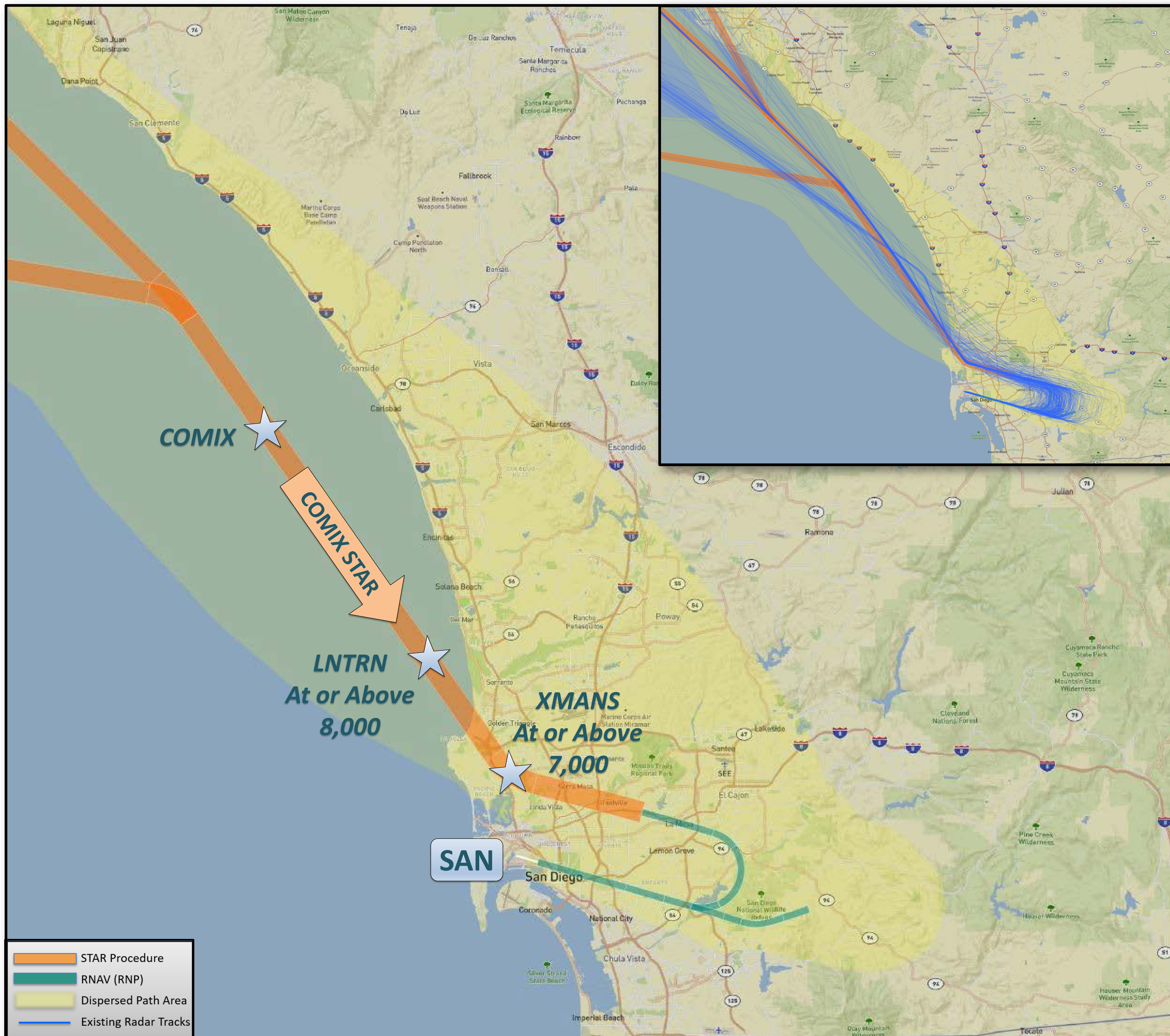# SAN San Diego International Airport

STAR (Arrival)
SAN COMIX ONE RNAV STAR

COMIX ONE

- Connects to the SAN Runway 27 RNP Approach
- Serves arrivals from the northwest
- RNAV procedure with OPD benefits
- Deconflicted from the LAX PNDAH and TUSTI SIDs
- Deconflicted from the LAX OLAAA STAR
- The HUULK transition eliminates head on conflictions between SAN arrivals and SAN/LAX Basin departures

COMIX

COMIX STAR

LNTRN
At or Above
8,000

XMANS
At or Above
7,000

SAN

Legend:
- STAR Procedure
- RNAV (RNP)
- Dispersed Path Area
- Existing Radar Tracks

PLYYA STAR

PLYYA

SARGS
At or Above
2,100

SAN

STAR Procedure
Dispersed Path Area
Existing Radar Tracks

SAN San Diego International Airport

STAR (Arrival)
SAN PLYYA ONE RNAV STAR

PLYYA ONE

- Current SHAMU arrival is an inefficient conventional STAR dependent on ground based navigation

- Current arrival procedure results in steep descents for aircraft

- Serves Runway 09 arrivals from the northwest

- Allows aircraft to be as much as 3,000 feet lower over the ocean, reducing the excessive rates of descent and the vectoring currently required

- Allows holding of Runway 09 arrivals while Runway 27 aircraft depart during opposite direction operations

SAN San Diego International Airport

STAR (Arrival)
SAN TOPGN ONE RNAV STAR
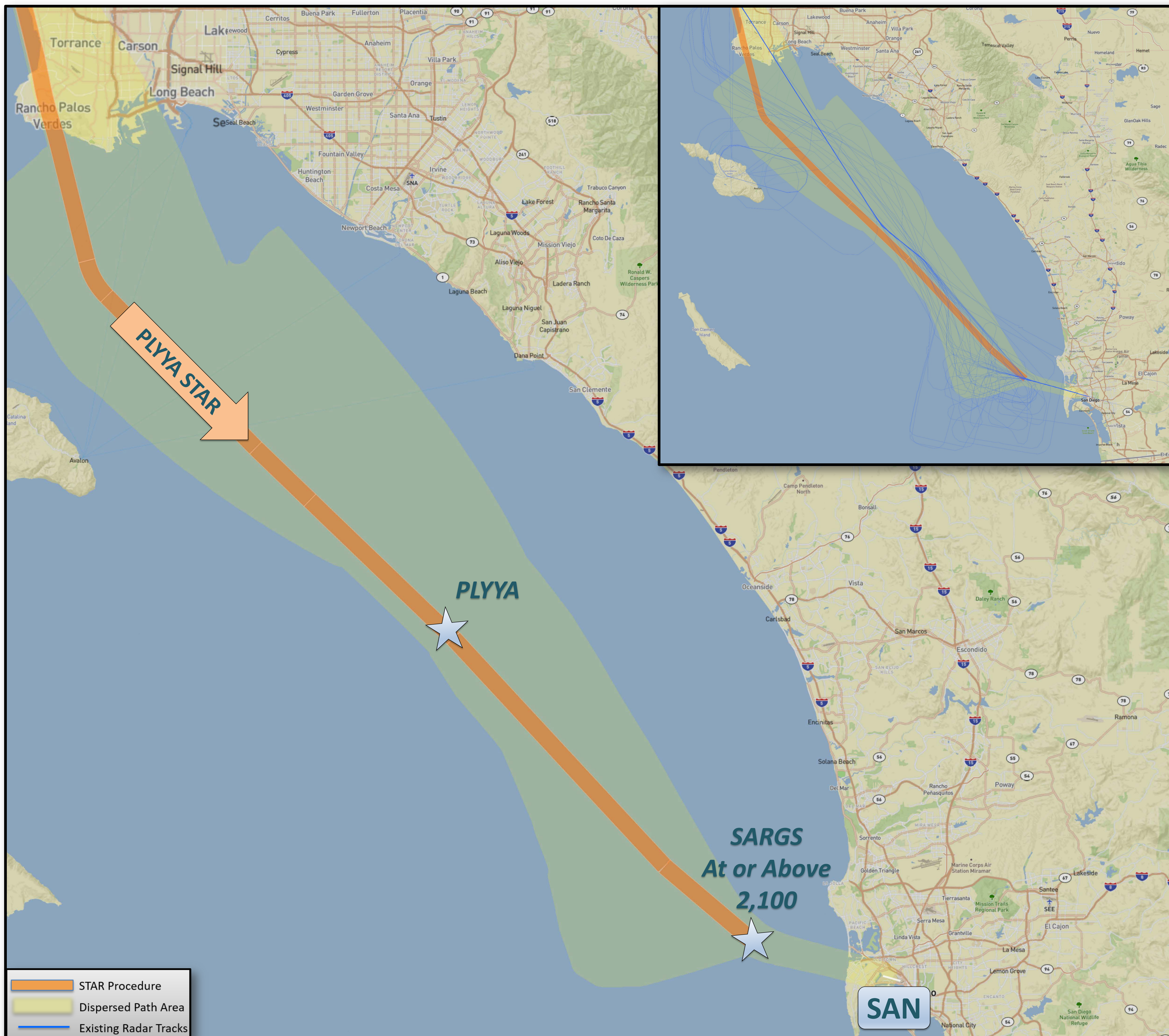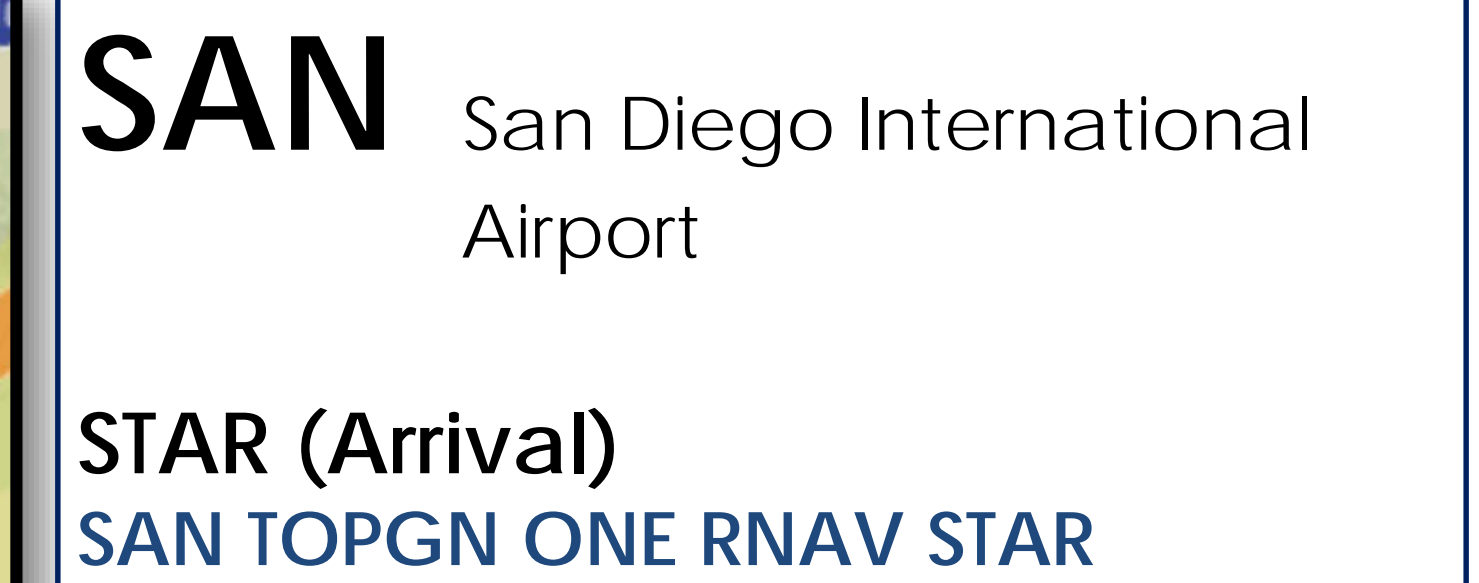
TOPGN ONE

- Serves arrivals from the east and northeast landing on Runway 09

- Design deconflicts SAN arrivals and departures inside SCT TRACON airspace

- Design of SAN TOPGN STAR and SAN SAYOW SID was constrained by Mexican airspace and military airspace, Restricted Area 2510 (R-2510)

- Provides a more consistent downwind leg prior to approach to Runway 09

R-2510

TOPGN STAR

SAN

TMCAT
At 6,000

ZIPPP
6,000-8,000

TOPGN
9,000-10,000

STAR Procedure
Dispersed Path Area
Existing Radar Tracks
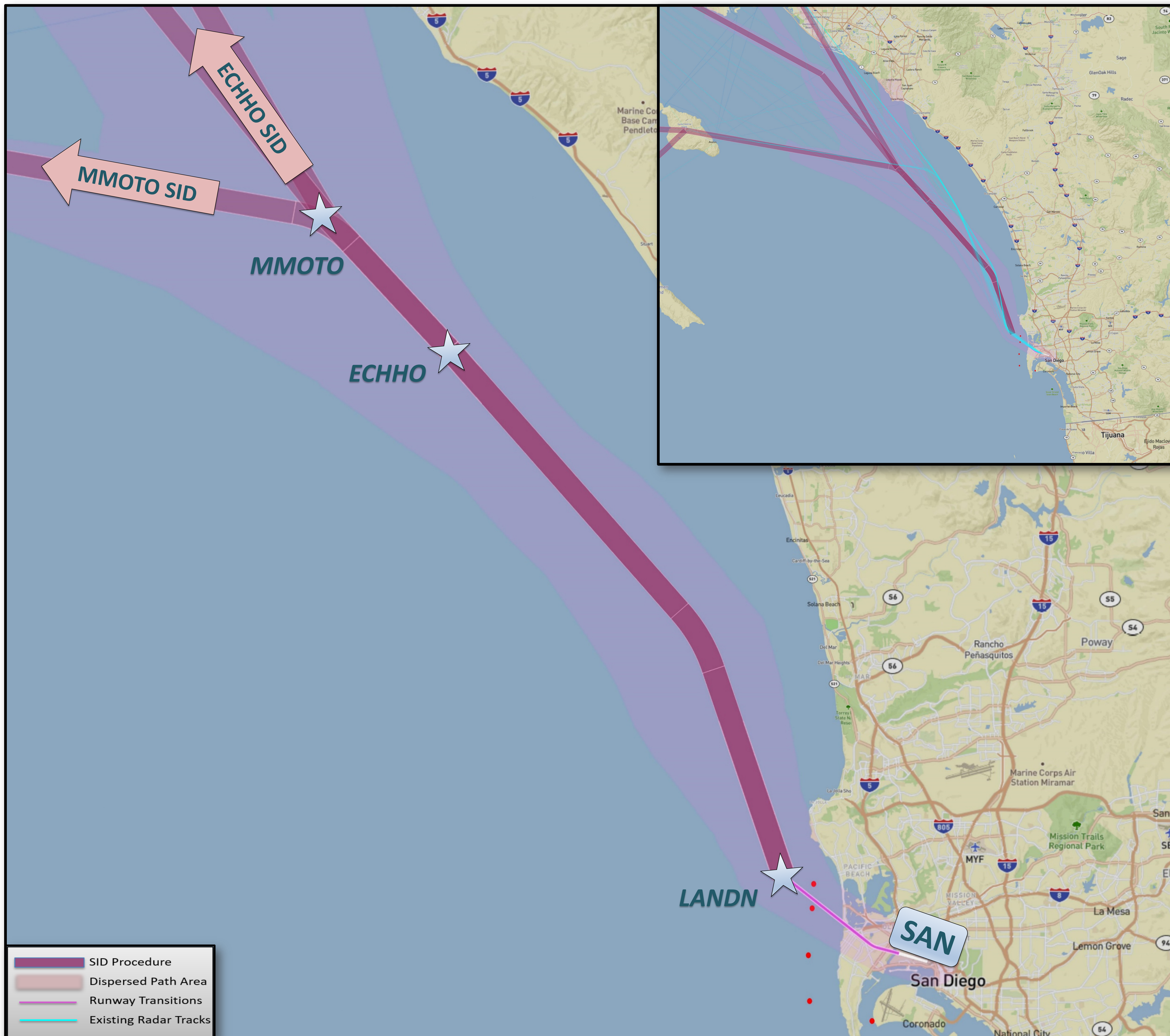
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SAN San Diego International Airport

SID (Departure)
SAN ECHHO ONE RNAV SID RWY 27
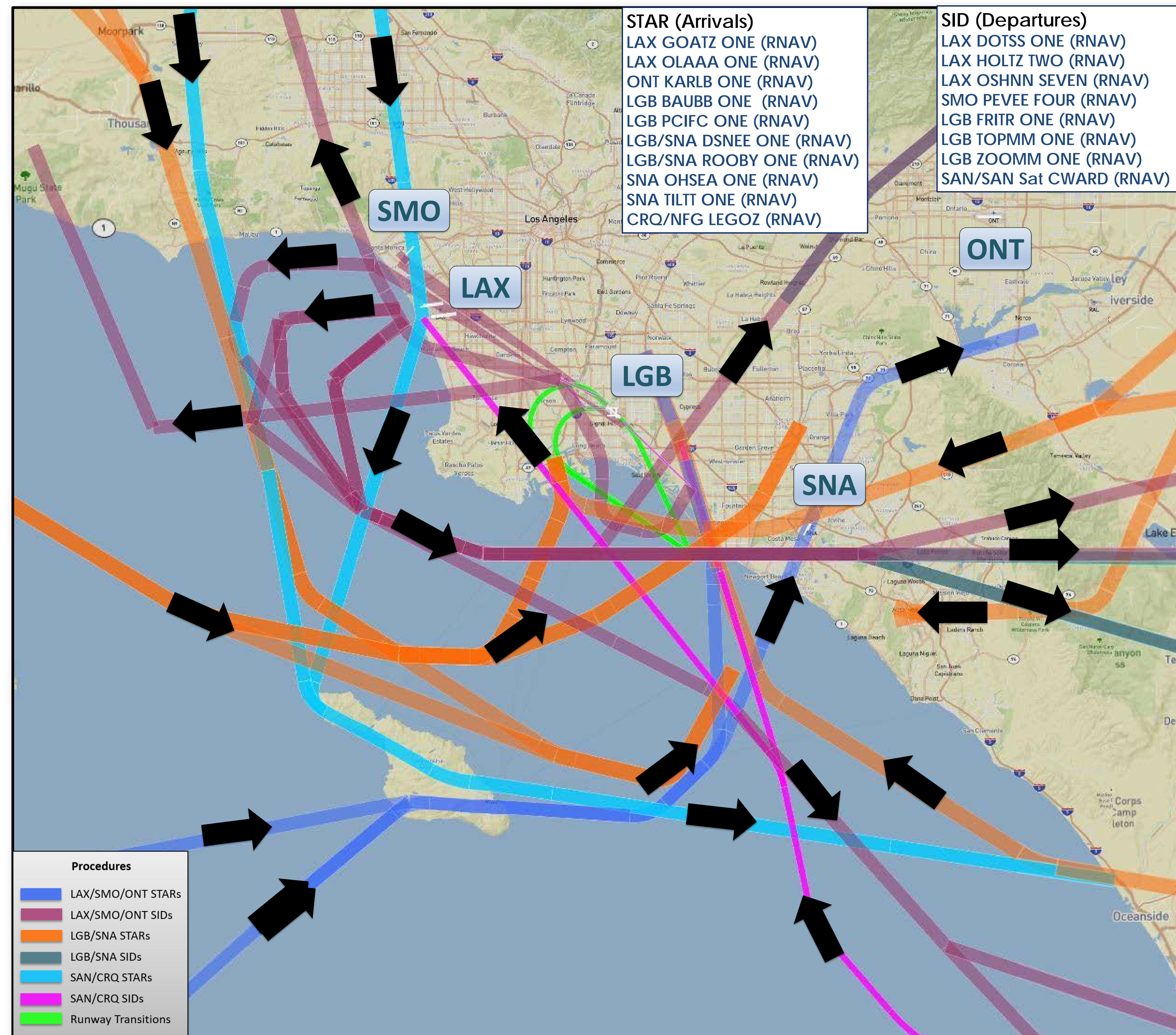SAN MMOTO ONE RNAV SID RWY 27

ECHHO ONE
- Serves Runway 27
- Deconflicted from the LAX PLYYA STAR
- Reduces interactions between SAN departures to the northwest and SAN arrivals from the northwest
- Complies with SCT directives on red dots

MMOTO ONE
- Serves Runway 27
- An RNAV departure procedure
- The lateral path was established to maximize efficiency for SAN ECHHO departures and surrounding traffic flow
- This procedure was developed for traffic routed over the Pacific Ocean and initially follows the same path as the SAN ECHHO SID
- Complies with SCT directives on red dots

Legend:
- SID Procedure
- Dispersed Path Area
- Runway Transitions
- Existing Radar Tracks

ECHHO SID
MMOTO SID
MMOTO
ECHHO
LANDN
SAN

STAR (Arrivals)
LAX GOATZ ONE (RNAV)
LAX OLAAA ONE (RNAV)
ONT KARLB ONE (RNAV)
LGB BAUBB ONE (RNAV)
LGB PCIFC ONE (RNAV)
LGB/SNA DSNEE ONE (RNAV)
LGB/SNA ROOBY ONE (RNAV)
SNA OHSEA ONE (RNAV)
SNA TILTT ONE (RNAV)
CRQ/NFG LEGOZ (RNAV)

SID (Departures)
LAX DOTSS ONE (RNAV)
LAX HOLTZ TWO (RNAV)
LAX OSHNN SEVEN (RNAV)
SMO PEVEE FOUR (RNAV)
LGB FRITR ONE (RNAV)
LGB TOPMM ONE (RNAV)
LGB ZOOMM ONE (RNAV)
SAN/SAN Sat CWARD (RNAV)

LAX Los Angeles International Airport
ONT Ontario International Airport
SMO Santa Monica Municipal Airport
LGB Long Beach Airport (Daugherty Field)
SNA John Wayne – Orange County Airport
SAN San Diego International
CRQ Mc Clellan-Palomar Airport

The Design of all procedures into and out of Southern California airports was affected by many factors including:
- Traffic flows into and out of other airports
- Military and special use airspace restrictions
- Aircraft performance
- Terrain
- Class B airspace
- Existing noise procedures

Procedures
- LAX/SMO/ONT STARs
- LAX/SMO/ONT SIDs
- LGB/SNA STARs
- LGB/SNA SIDs
- SAN/CRQ STARs
- SAN/CRQ SIDs
- Runway Transitions

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