UCDAVIS
URBAN LAND USE AND TRANSPORTATION CENTER
of the Institute of Transportation Studies

# Air Networks in the California Statewide Travel Demand Modeling Framework

CSTDM 09 Tier 2 Training Workshop

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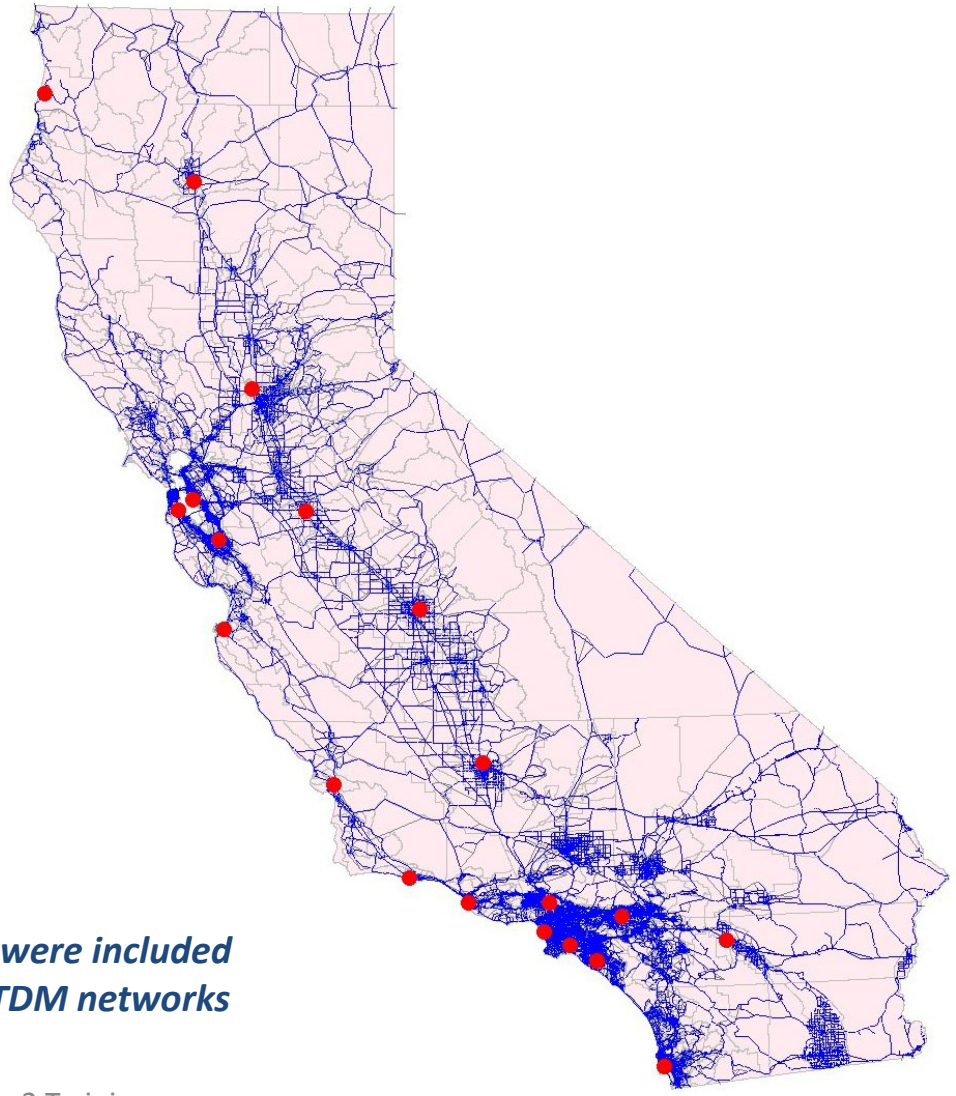
# Air networks in the CSTDM

- The CSTDM air networks include the intra-state air passenger services operated in the State of California.
- The air networks include:
  - regular scheduled commercial passengers services among airports in California (***direct flights***)
  - ***connecting flights*** with passenger volumes > 400 (per year).
- Data development was based on the analysis of the airline passenger data from the US D.O.T. RITA /Federal Aviation Administration and the 10% ticket sample from RITA/FAA.

# Air networks in the CSTDM (2)

All airports offering ***intra-state air services*** with traffic volumes of at least ***4000 passengers per months**** are included in the networks.

| Year | 2000 | 2008 |
|---|---|---|
| **Airports** | 18 | 20 |
| **Routes** | 57 | 81 |



***Airports that do not satisfy this requirement but were included in the HSR networks, were also included in the CSTDM networks***

# Air networks in the CSTDM (3)

- Air networks are coded in a similar way to ***rail services***.

- The air networks are represented through the following inputs:
  - **Line file** "*Air_{year}_CSTDM2009.lin*"
  - **Fare Matrix** "*Airfares_{year}.mat*"
  - **Control file** "*AirLOS_2008.dbf*"
  - **Airport list "***Airports_{year}.dbf*"

Airports_2008

| AIRPORT | NUMBER | NODE | TAZ |
|---|---|---|---|
| SAN | 1 | 18501 | 6403 |
| SNA | 2 | 18502 | 5903 |
| LGB | 3 | 18503 | 4740 |
| LAX | 4 | 18504 | 4540 |
| ONT | 5 | 18505 | 5246 |
| BUR | 6 | 18506 | 3939 |
| SJC | 7 | 18507 | 1811 |
| SFO | 8 | 18508 | 1286 |
| OAK | 9 | 18509 | 1481 |
| SMF | 10 | 18510 | 602 |
| MRY | 11 | 18511 | 3257 |
| OXR | 12 | 18512 | 3416 |
| PSP | 13 | 18513 | 5672 |
| SBA | 14 | 18514 | 3370 |
| ACV | 15 | 18515 | 109 |
| BFL | 16 | 18516 | 2853 |
| FAT | 17 | 18517 | 2406 |
| MOD | 18 | 18518 | 2259 |
| RDD | 19 | 18519 | 148 |
| SBP | 20 | 18520 | 3313 |

# The control file for air network LOS

AirLOS_2008

| I | J | FARE | IVTIME | HWAY | REL |
|---|---|---|---|---|---|
| 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 2 | 0 | 0 | 0 | 0 |
| 1 | 3 | 0 | 0 | 0 | 0 |
| 1 | 4 | 144 | 52 | 32 | 97 |
| 1 | 5 | 0 | 0 | 0 | 0 |
| 1 | 6 | 0 | 0 | 0 | 0 |
| 1 | 7 | 86 | 82 | 34 | 96 |
| 1 | 8 | 77 | 92 | 27 | 91 |
| 1 | 9 | 82 | 87 | 32 | 96 |
| 1 | 10 | 85 | 88 | 74 | 99 |
| 1 | 11 | 120 | 159 | 137 | 97 |
| 1 | 12 | 0 | 0 | 0 | 0 |
| 1 | 13 | 0 | 0 | 0 | 0 |
| 1 | 14 | 127 | 155 | 80 | 97 |
| 1 | 15 | 113 | 216 | 80 | 97 |
| 1 | 16 | 130 | 252 | 320 | 86 |
| 1 | 17 | 112 | 150 | 87 | 97 |
| 1 | 18 | 87 | 228 | 192 | 90 |
| 1 | 19 | 140 | 240 | 240 | 79 |
| 1 | 20 | 144 | 195 | 120 | 73 |
| 2 | 1 | 0 | 0 | 0 | 0 |
| 2 | 2 | 0 | 0 | 0 | 0 |
| 2 | 3 | 0 | 0 | 0 | 0 |
| 2 | 4 | 0 | 0 | 0 | 0 |
| 2 | 5 | 0 | 0 | 0 | 0 |
| 2 | 6 | 0 | 0 | 0 | 0 |
| 2 | 7 | 76 | 78 | 30 | 98 |
| 2 | 8 | 82 | 89 | 40 | 88 |

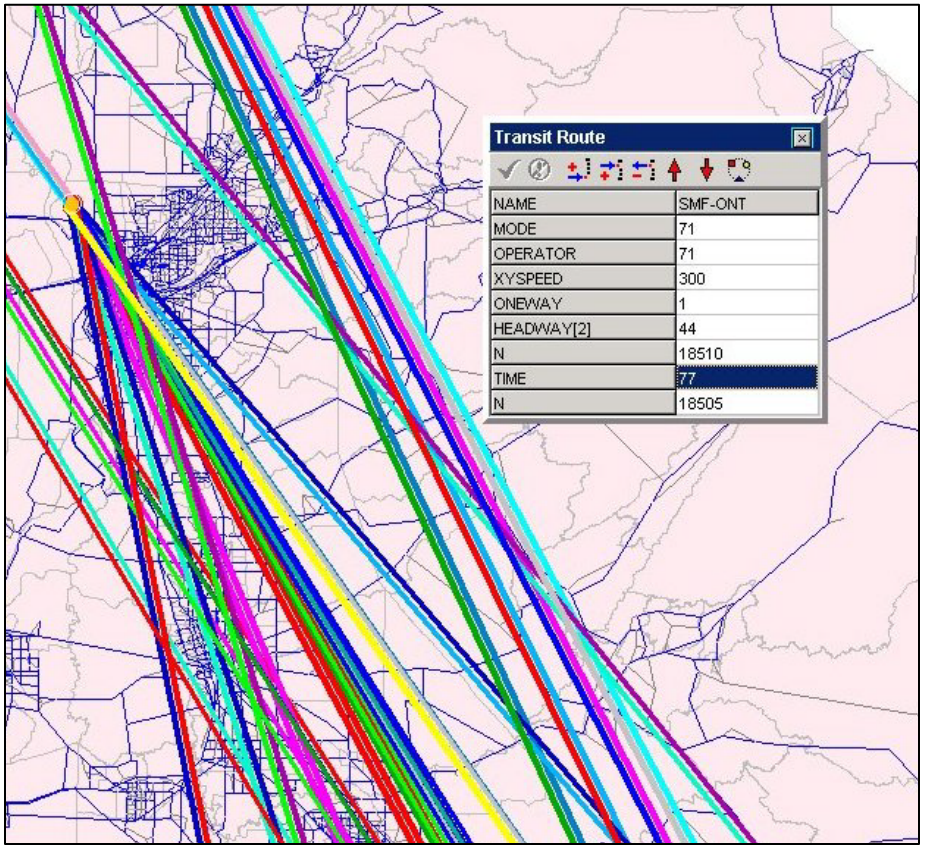
***Contains all information for air network links:***

- ***Gate-to-gate time (IVT)***
- ***Headway (HWAY)***
- ***Fare (FARE)***
- ***Reliability (REL)***

# Implementation of air networks in CUBE

Two aspects of ***air service coding*** differ from the approach used for ***rail coding:***

- **Links are not coded in the underlying base highway network: TIME is specified as an input.**
- **Unique value for headway (differently from the time periods used for rail).**



# Documentation available on //ultrans.its.ucdavis.edu/resource/179



## For any question, please contact: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