

# Airline Route Optimizer Report

*Auto-generated using scripts/report.py.*

**Airlines showcased:** Delta Air Lines, American Airlines

## Network Snapshots

### Delta Air Lines

- Routes analyzed: 1146
- Airports served: 230
- Total routes: 1146
- Top hubs: [(‘ATL’, 337), (‘JFK’, 153), (‘DTW’, 153), (‘MSP’, 120), (‘SLC’, 86)]

### American Airlines

- Routes analyzed: 1265
- Airports served: 259
- Total routes: 1265
- Top hubs: [(‘DFW’, 224), (‘CLT’, 219), (‘MIA’, 190), (‘PHL’, 185), (‘PHX’, 112)]

## ASM Accuracy Snapshot

### Delta Air Lines

Seat Source	Routes	Valid ASM Routes	Total Seats	Total ASM	ASM Share
airline_config	732	732	120663	226436066	81.6%
equipment_estimate	307	307	41472	51095635	18.4%
unknown	107	0	0	0	0.0%

*ASM data quality looks healthy.*

### American Airlines

Seat Source	Routes	Valid ASM Routes	Total Seats	Total ASM	ASM Share
airline_config	1180	1180	198094	394852642	91.1%
equipment_estimate	65	65	9900	38787007	8.9%
unknown	20	0	0	0	0.0%

*ASM data quality looks healthy.*

## Competing Route Overlap

Source	Dest
ATL	DFW
ATL	MIA
AUS	JFK
BCN	JFK
BDA	JFK
BKK	NRT
BNA	LAX
BOS	CUN
BOS	JFK
BOS	LAX

## CBSA Opportunity Highlights

### Delta Air Lines

- Top corridor **HNL-ATL** links — (ASM 1.27M, score 0.71).
- 5 total CBSA corridors met the performance filter.
- No CBSA-similar opportunities surfaced.

**Top CBSA corridors** | Rank | Route | CBSA Pair | ASM | Total Seats |  
Performance Score | | — | — | — | — | — | — | 1 | HNL-ATL | — | 1.27M |  
281 | 0.71 | | 2 | ATL-HNL | — | 1.27M | 281 | 0.71 | | 3 | HNL-SLC | — | 677K  
| 226 | 0.39 | | 4 | SLC-HNL | — | 677K | 226 | 0.39 | | 5 | SEA-HNL | — | 626K  
| 234 | 0.37 |

**Suggested CBSA opportunities** *No CBSA-similar opportunities surfaced.*

## American Airlines

- Top corridor **DFW-HNL** links — (ASM 904K, score 0.71).
- 5 total CBSA corridors met the performance filter.
- Best opportunity **FLL-LAX** mirrors Miami-Fort Lauderdale-West Palm Beach, FL <-> Los Angeles-Long Beach-Anaheim, CA (100% distance match vs MIA-LAX, score 0.62).

Top CBSA corridors	Rank	Route	CBSA Pair	ASM	Total Seats	Performance Score
1	1	DFW-HNL	—	904K	239	0.71
2	2	HNL-DFW	—	904K	239	0.71
3	3	OGG-DFW	—	887K	239	0.70
4	4	DFW-OGG	—	887K	239	0.70
5	5	MIA-LAX	—	770K	329	0.62

Suggested CBSA opportunities	Rank	Proposed Route	CBSA Pair	Reference Route	Distance Match	Opportunity Score
1	1	FLL-LAX	Miami-Fort Lauderdale-West Palm Beach, FL <-> Los Angeles-Long Beach-Anaheim, CA	MIA-LAX	100%	0.62
2	2	FLL-LGB	Miami-Fort Lauderdale-West Palm Beach, FL <-> Los Angeles-Long Beach-Anaheim, CA	MIA-LAX	99%	0.62
3	3	FLL-SNA	Miami-Fort Lauderdale-West Palm Beach, FL <-> Los Angeles-Long Beach-Anaheim, CA	MIA-LAX	99%	0.62

## Next Steps

- Run `python3 main.py --airline AIRLINE1 --airline AIRLINE2` for interactive comparisons.
- Seed CBSA data via `python3 main.py --build-cbsa-cache`.
- Use `scripts/showcase.py` for a quick CLI preview.