How does aviation promote (local) social and economic development?



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Main ideas

- Symbiotic and changing relationship between aviation and society
- Understand the context: socioeconomic, geographic, technological
- Investments today and options for growth tomorrow

Context of air transportation



What are the right conditions for aviation to be effective?



Costa Rica



Aviation development in Costa Rica



Sources: Alvarez, Castro, Fonseca, DGAC, Jiménez, RDSA

Costa Rica, 1963-64



Costa Rica, 1967-1968



Examples of domestic air cargo 1950's-1960's



Costa Rica, 1973



Costa Rica, 1982-85



Costa Rica, 1991



Aviation in CR before the mid-1970s

- Context:
 - 1. Geographic: many communities far from economic center(s)
 - 2. Socioeconomic: aviation main transportation link to move people and goods
 - 3. Technological: DC-3, C-46, "time-and-heading" navigation
- Attributes:
 - 1. Travel time: much faster by air
 - 2. Frequency: medium-high
 - 3. Fares: low (but not subsidized)
 - 4. Routes: many
 - 5. Safety: high
 - 6. Security high

Aviation development in Costa Rica



Sources: Alvarez, Castro, Fonseca, DGAC, Jiménez, RDSA

Expansion of the road network



Sources: Alvarez, DGAC, DGEC, Fernández, Jiménez, MIDEPLAN

Aviation in CR after the mid-1970s: paradigm shift

• Context:

- 1. Geographic: few communities far from economic center(s)
- 2. Socioeconomic: aviation main fast transportation link, especially for tourism
- 3. Technological: Twin Otter, Grand Caravan, GPS

• Attributes:

- 1. Travel time: much faster by air
- 2. Frequency: low
- 3. Fares: high
- 4. Routes: few
- 5. Safety: high
- 6. Security high

Local aviation today



Source: Nature Air

Tourism and domestic air transportation

- Symbiotic relationship:
 - Aviation mostly used by foreign tourists
 - Aviation provides fast transportation for tourists on a time budget
 - Air transportation helped establish high-end hotels in remote regions (Osa Peninsula, N. Caribbean)

 \rightarrow Income source for locals

 \rightarrow Protection of natural resources (?)

Reduction in travel time



Sources: DGAC, INCAE

Tourism potential



Sources: DGAC, INCAE

What are the right conditions for aviation to be effective?



How to develop the aviation system?

- Ideally, would have enough understanding of benefits of aviation to compare them against its costs
- However, many uncertainties exist and the operating context changes continuously

The good news

• Initial infrastructure need not be exorbitantly costly





Gravel runway, 800x18m •Initial cost: ~ \$250k •Maintenance: ~ \$3k/year

Twin Otter DHC-6 •Purchase cost: ~ \$500k •Equilibrium point: 6 pax

The good news (2)

- Consider initial investment an option on future growth:
 - Build a small landing field
 - If successful, develop it further
 - If not successful, abandon it and loose (relatively) small investment

Summarizing . . .

- Air transportation can be a strong engine of social and economic growth
- Better understanding and quantification of benefits and costs essential for effective aviation development
- Air transportation must be able to react to a changing context

Thank you



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