

Multi-Airport Systems: The Challenge of Low-Cost Carriers

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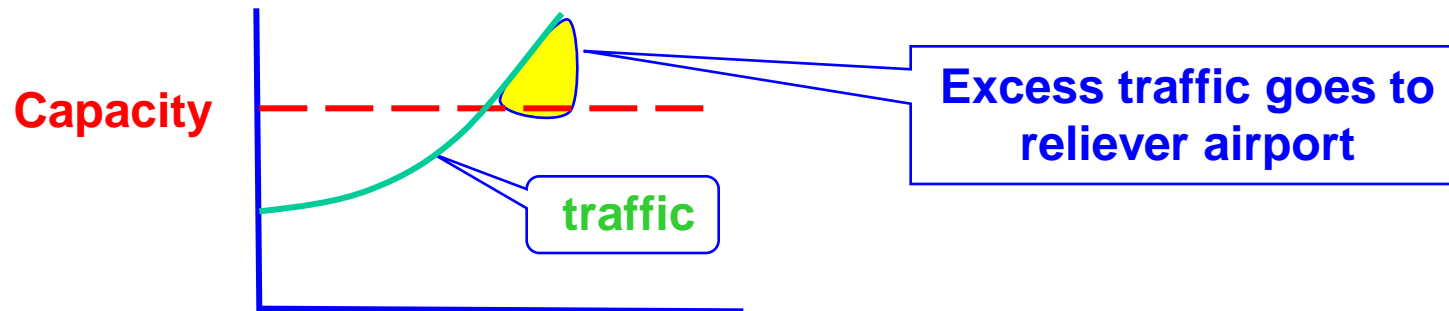
Theme

In the context of maximizing airport capacity...

- **Development of second airports, of a multi-airport system, is a “tricky business”**
- **Need to understand**
 - **Dynamics of the Competition for Traffic**
 - **Great Risks now in air transport industry**
- **Flexible development strategy necessary to:**
 - **Minimize political and economic risks**
 - **Maximize expected values of infrastructure**

Simple, “Obvious” Concept

- The idea: when main airport is “at capacity”, additional traffic must go elsewhere



- Idea compares air traffic to water...
- But:
 - passengers, airlines are not mindless entities ...
 - Airport Capacity is not a definite number !!!

What is a Multi-Airport System?

- **MAS = The significant airports serving air transport in a metropolitan region, without regard to ownership or political control**
 - Ex: London/Luton – although not part of BAA
 - Ex: Malmö/Copenhagen – not in Denmark
- **Discussion**
 - This is reality for travelers
 - Contrasts with focus on who owns airport (ACI)
- **About 40 significant MAS worldwide**

Planning Issue

- **Many ‘mistakes’ in multi-airport systems**
 - **New Bangkok as planned replacement gateway – empty for 2 years, Don Muang stays open**
 - **Washington/Dulles – built as major field, but only got ~ 3 MAP (10% of metro traffic) for 20 years**
 - **Osaka/Kansai – huge financial losses to investors as Osaka/Itami did not close**
 - **Montreal/Mirabel – never got traffic despite government rules, now “closed”**
 - **Etc, etc... => it’s a “tricky business”**

See case studies in:

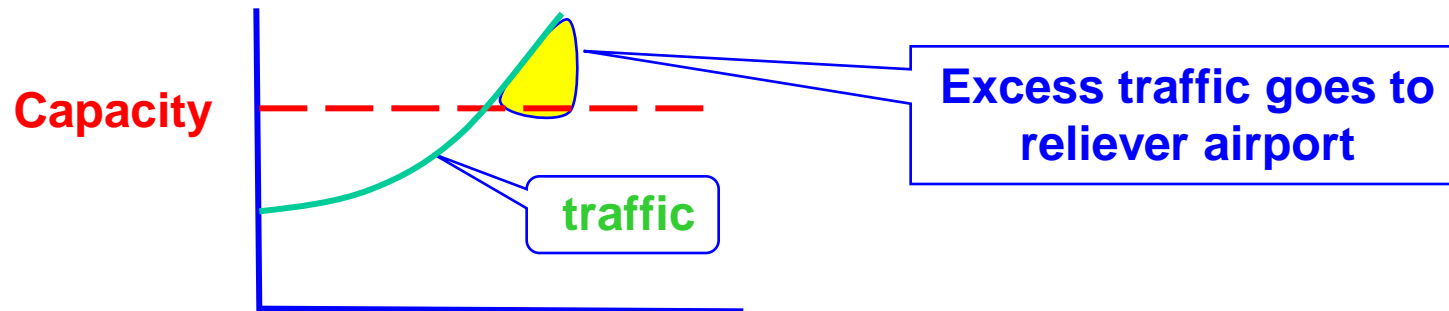
http://ardent.mit.edu/airports/ASP_papers/planning%20for%20multi-airport%20systems.PDF

Why mistakes happened

- **Reliance on deceptive ideas about MAS:**
 - “extra” primary airport traffic will flow to second
 - Governments can force reallocation of traffic
- **Failure to understand that traffic naturally concentrates in commercial markets**
- **Failure to appreciate great uncertainties in speculations about future markets**

Error 1: Second Airports get overflow

- The idea: when main airport is “at capacity”, additional traffic must go elsewhere



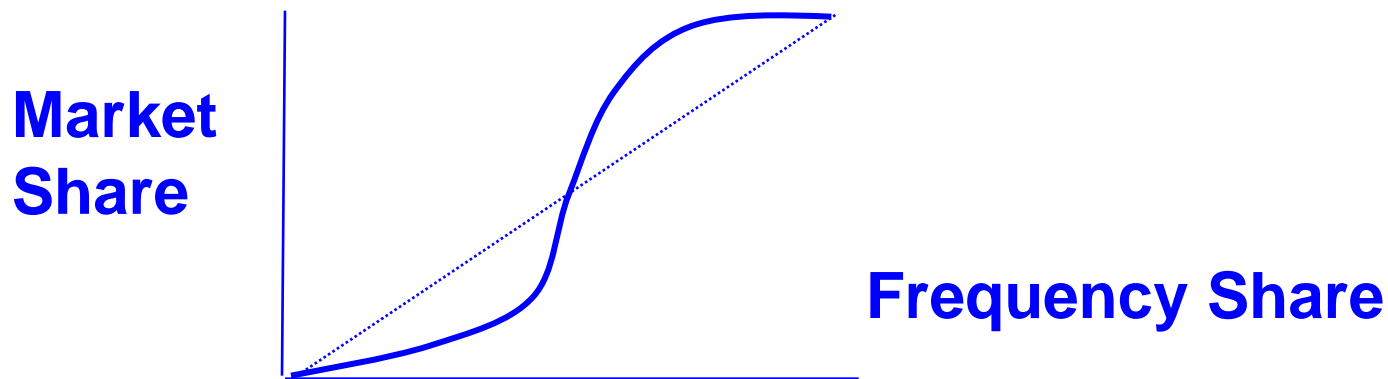
- This simply does not happen! No competitor wants exile to little used location...
- Competitors prefer to stay in busy markets
 - Examples: London/Heathrow; Frankfurt/Main

Error 2: Governments can allocate

- Evidence of little success in traffic allocation by rules or incentives (such as EC 2408/92)
- Not successful in market economies
 - Ex: London; Milan; Montreal; Osaka; Washington
 - Airlines don't have to go (Montreal)
 - Incentives not sufficient (London)
 - Public won't accept (Milan, Osaka)
 - Airlines get around rules (Washington)
 - See: http://ardent.mit.edu/airports/ASP_papers/multi-airport%20systems%20policy%20guidelines.PDF
- Possible exception: Japan... which is special

What drives traffic allocation in Multi-Airport System?

- Airline competition has been primary
- S-shaped market share/frequency share



- In any “market” drives airlines to
 - Match flights => Allocate flights to major markets
 - Concentrate Traffic at primary airports

Market Concentration is key

- **Concentration is standard market phenomenon**
 - e.g.: financial, jewelry, etc. districts in cities
- **Results from dynamic interaction between**
 - Customers – going to where best market is
 - Suppliers – going to where the customers are
- **Airlines prefer not to split traffic**
 - **Exceptions: Biggest markets (New York, London) and “home” markets (Milano for Alitalia)**

Concentration => Second Airports

- **Second airports focus on distinct “markets”**
 - **Segment: Paris/Orly – Africa, Caribbean...**
 - **Cargo – Los Angeles/Ontario; Toronto/Hamilton**
 - **“low cost” – London/Stansted, Brussels/Charleroi, Frankfurt/Hahn, Miami/Ft. Lauderdale, Dallas/Love**
- **Second airport grows if and when an airline chooses to base itself:**
 - **Washington/Dulles – United hubs in mid 90s**
 - **Southwest – Manchester (NH), Providence, etc. etc.**
 - **Ryanair, easyJet – Liverpool, Rome/Ciampino, etc. etc.**

New Reality: Low-cost airlines

- **Low-Cost Airlines are radically transforming air transport – old “truths” no longer apply**
 - **Creation of new markets, destinations**
 - **Enormous gain in market share (Southwest now largest carrier of US domestic traffic)**
 - **Driving “legacy” carriers into bankruptcy (Delta, Northwest, United, USAir, Sabena, Swiss...)**
 - **Commercial power is shifting to Low-cost airlines (and innovative integrated cargo carriers)**

Economic Power of New Airlines

Emphasized by their “market capitalization”
= (share price) x (number of shares)

Airline	Market Capitalization US \$ Billions
RyanAir	13.7
Lufthansa	12.1
Air France	11.4
British	11.3
Singapore	8
easyJet	5.5
Northwest	0.1
UPS	74
Fedex	34

Source: yahoo.com (Mar 15, 2007)

New Reality: Low-Cost Airports

- **Low-cost airlines demand “low-cost” airports**
 - A key to their market advantage
 - Ex: London: Ryanair Stansted “walk to gate” vs. €8 billion Terminal 5 at Heathrow
- **“low cost” compete with “legacy” airports**
 - Economic Pressure on Main Airports
 - => low-cost facilities on Mainports (Paris, S’pore...)
- **Risks to investments in Main Ports!**

http://ardent.mit.edu/airports/ASP_papers/no-frillstrbtext.pdf

http://ardent.mit.edu/airports/ASP_papers/JTP%20low-cost%20airports%20paper%20March.pdf

New Reality: Traffic Risks

- **Low-cost Airlines make Forecasts very risky**
- **Low-cost airlines can**
 - create new traffic – and take it away!
 - Have no regional loyalty (are not “flag” carriers)
 - May not be long-term tenants
- **“Legacy” airlines may merge, shrink, die...**
 - KLM, Swiss, Sabena ... TWA, Delta, Eastern...

**This reality motivates
low capital, short term investments**

Advice 1: Recognize Risks

- **Step 1: Recognize Reality! Carefully consider Risks, Possible Scenarios**
 - This step frequently omitted!
 - Many national proposals based on single future
 - Ex: London Terminal 5 based on BA having A380s...
 - Often requires great effort
- **Step 2: Analyze consequences of Scenarios on viability of development plan (traffic levels, possible revenues, net benefits, etc...)**

Advice 2: Flexible Development

- **Step 3: Define Flexible elements at several levels to enable easy adjustment to scenarios:**
 - National: reserve, develop airport sites
 - Airport: develop runway, preliminary terminals
 - Terminal: initial core, space for various extensions

- **Step 4: Create Phased development that can be adjusted to scenarios**
 - Should ensure ability to meet national needs
 - ... and minimize possible embarrassing losses

http://ardent.mit.edu/airports/ASP_papers/mas.atm1.PDF

Consequences of Approach

- **Flexible development plans minimize risks**
 - **By reducing initial investments,**
 - **Shortening initial construction, accelerating revenue**
 - **Avoiding “mistakes”, by deferring projects until need proven**

- **Flexible plans maximize expected value**
 - **Avoiding costs of “mistakes”**
 - **Deferring investments and accelerating revenues**
 - **Ability to provide correct facilities when needed**

Chess Analogy

- **Developing Second Airports, of Multi-Airport Systems, can be compared to playing chess:**
 - **Much uncertainty about how other participants will see their interests and participate**
 - **Best approach is to think through scenarios and commit only to immediate move**
 - **... anticipating need to adjust to circumstances**
 - **The best players will create opportunities to respond easily to new situations**

Summary

Maximizing Capacity through Second Airports...

- **Involves great uncertainty**
- **Development Dynamics are**
 - **Complex, not easily modeled as extensions of past**
 - **Largely unpredictable**
- **Flexible Strategy of Development Needed**
 - **=> “Inaugural” facilities that permit alternative futures while minimizing immediate risks**