

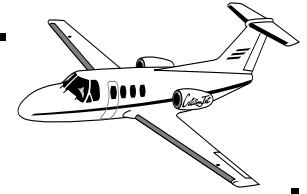
Airport Finance

Dr. A. A. Trani

**Professor of Civil Engineering Virginia
Tech**

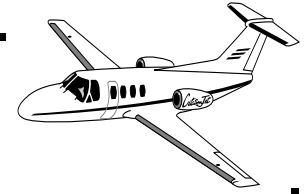
Blacksburg, VA

Outline of this Presentation



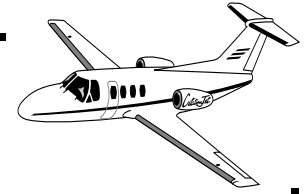
- Financing Issues
- Financing Process
- Airport Revenues
- Airport Expenses
- Bonds and Underwriting

Financing Issues



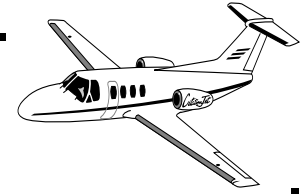
- Airports are some of the most expensive pieces of infrastructure created by mankind
 - 14.4 billion for Kansai International Airport (KIA)
 - 5.3 billion for Denver International Airport (DIA)
 - 8.7 billion for the new Hong Kong International Airport (HIA)
 - 740 million for an 80 gate terminal at Pittsburgh Intl. Airport
 - 22 million for a 10-gate terminal in Roanoke
- The cost for ancillary equipment can be large as well
 - 13 billion for transportation access, port development, and cargo facilities at HIA

Interesting Issues



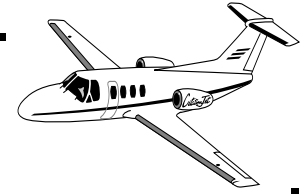
- Few airports are ever built on budget
 - Perhaps is difficult to predict the future
 - Perhaps the cost prediction models in airport master planning are erroneous
- Many airports take several years to develop
 - Munich's new airport took 23 years to build (due to environmental opposition)
 - Narita's Airport took 20 years to start a new runway (another case of environmental concerns)

The Financing Process



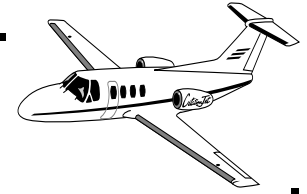
- United States Model
 - Most of the costs are borne by airlines and concessionaries
 - Financed through long-term debt
 - Large number of public airports (4,500)
- Elsewhere Model
 - Large burden of cost is typically borne by federal and local governments
 - Debt in many instances is subsidized by general taxes
- A global trend towards privatization of airports is evident (look at UK and New Zealand)

Airport Financing Issues (Bonds)



- Two types of bonds can be issued to support airport development
 - General obligation bonds (secured through property, sales, and use taxes)
 - Revenue bonds (unsecured bonds)
- This financial arrangement has been used extensively in Transportation and Utilities industries
- The issue of unsecured bonds for large projects continues to be a debatable subject in the securities exchange industry and politics
- Municipal bonds are multibillion dollar businesses

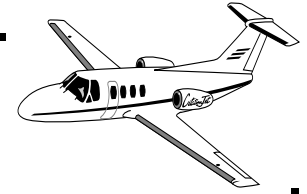
Some Airport Financing Examples



Munich Airport

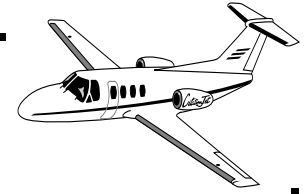
- Built by Munich Airport Authority
- 5.0 billion dollar project (\$590 M for land and 4.4 billion for construction costs)
- 51% paid by the State of Bavaria
- 26% by German Government
- 23% by the City of Munich

Osaka Kansai Airport



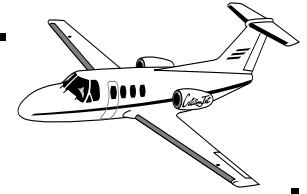
- Administered by Kansai Intl. Airport Company
- 14.4 billion dollar project
- 66% paid by the Government of Japan
- 16% by locals governments
- 16% by 1000 businesses in the region
- Lost more than 200M in the first six months of operation
- \$10,000 landing fee for a Boeing 747-400
- \$10 for a cup of coffee at the airport

Hong Kong Intl. Airport



- Planned by the Provisional Airport Authority (PAA)
- 8.7 billion dollar project
- 4.5 billion in cash paid by the Government of Hong Kong
- 2.9 billion paid by the government for rail line
- 30% cost to be paid by tenants, franchises, and ATC charges
- 2.8 billion borrowed from banks (1.4 for airport and 1.4 for railway system)

Denver Intl. Airport



- Planned by the Denver Airport Authority
- Originally 1.5 billion project (5.3 billion final price tag)
- Federal funds contributed \$500 million (from Airport and Airway Trust Fund)
- Disposition of Stapleton would bring \$100 million
- City of Denver capital fund (\$175 million from various sources).
- 3.5 billion in DIA bonds (to be redeemed by 2025)
- This translates into \$345 million per year in debt for the next 30 years