Coastal Transportation Infrastructure in the Caribbean – An Economic Context

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COASTAL TRANSPORTATION INFRASTRUCTURE IN THE CARIBBEAN – AN ECONOMIC CONTEXT

UNCTAD National Workshop Saint Lucia

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ECLAC

INTRODUCTION

- Airport Infrastructure
- Sea transport Infrastructure
- Economics: Contribution, Costs and Markets
- Regional Context – Integration of systems and markets
- Risk and Resilience
- ECLAC’s Efforts
CARIBBEAN AIRPORT INFRASTRUCTURE
ECONOMIC CONTEXT – GENERAL CHARACTERISTICS (LAC)

- In global terms, LAC airports are smaller
- Have fewer aircraft movements
- Handle smaller cargo volumes
- Have greater reliance on international passengers for financial viability
- Great heterogeneity among regional airports
- Situation is even more limiting in the Caribbean

Source: Serebrisky, 2012
ECONOMIC CONTEXT

LAC Airports: Cargo Movements - 2008

Source: Serebrisky, 2012

ECONOMIC CONTEXT

LAC Airports: Aircraft Movements - 2008

Source: Serebrisky, 2012
ECONOMIC CONTEXT

- Airports are critical to tourism business in the Caribbean
- Tourism contributes between 10% and 75% of GDP for most destinations
- Tourism employment - 8% - 80%
CARIBBEAN SEAPORTS

Typically three types –
- Cargo – commercial/industrial
- Cruise
- Marinas
ECONOMIC CONTEXT – SEA PORTS

- Seaports are critical to trade
- Also tourism business in the case of Cruise tourism
- Capital Investments include Commercial Ports, Cruise Terminals, and Marinas

Graph: Container Port Traffic TEU - Selected LAC, 2014

Source: ECLAC, 2015
REGIONAL CONTEXT

- Large number of very small markets imply high fixed cost per capita for transportation infrastructure
- Limited scope for economies of scale
- Limited opportunities for PPP in infrastructure developments
- Results in inefficient intra regional transportation systems in terms of costs and time

RISK AND RESILIENCE

- Increased frequency and intensity of natural events means greater risks of infrastructure loss
- Higher risk coverage costs, and costs to invest
- Greater need for infrastructure redundancy investment
- Implications for integrating air and maritime transportation
ECLAC’S EFFORTS

- Assessment of Economic Impact of Climate Change on the transportation sector
- Demand Model for Maritime Passenger Transportation
- Recreational Demand for Yachting Services

ECLAC’S EFFORTS
IMPACT OF CLIMATE CHANGE ON TRANSPORTATION SECTOR

Projections - Impact of Temperature and Precipitation on Transport Expenditure in Barbados - B2 - US$ Millions

Source: ECLAC, 2011
Barbados' Projected Expenditure Loss as % of 2008 GDP - B2: 2050

Source: ECLAC, 2011

Barbados' Projected SLR Impact as % of 2008 GDP - B2: 2050

Source: ECLAC, 2011
ECLAC’S EFFORTS
DEMAND MODEL FOR MARITIME PASSENGER TRANSPORTATION IN THE CARIBBEAN

- Demand Model estimated using unbalanced panel data set for 15 destinations for period 2000 - 2014
- Significant Variables:
  - Real fare of service (Elasticity: -1.17% to -0.91%)
  - International economic activity (Elasticity: 1.5%)
  - Number of Passengers arriving by Air (Elasticity 0.27% - 0.30%)

Source: ECLAC, 2013

ECLAC’S EFFORTS
DEMAND MODEL FOR YACHTING AND MARINA SERVICES IN THE CARIBBEAN

- Recreational Demand Model estimated for OECS countries
- Significant Variables:
  - Corporate Profits in source markets (Elasticity: -0.83)
  - Airline jet fuel price (Elasticity: -0.58)
  - Frequency of hurricanes (Elasticity -0.07)

Source: ECLAC, 2012
THANK YOU