Runway Environmental Impact Assessment

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"TOWER TO PILOT: MAINTAIN HOLDING PATTERN... THE CEMENT'S ALMOST DRY!!!"
Aircraft Lineup
Environmental Assessment

Typical Process

• Initial Assessment
  • Screening
  • Scoping

• Impact Statement
  • Comprehensive assessment provided by the project sponsor of the anticipated effects on the environment. Includes
    • Project need
    • Alternatives
    • Impacts

• Review
  • Public hearings
  • Responsible agency
Vancouver International Airport Runway Project

Characteristics

- Controversial
  - Strong, well organized opposition to project dating back to the Sixties
  - Located adjacent to residential areas
- Environmentally Sensitive Area
  - Salmon
  - Waterfowl wintering and staging area
  - Raptor, passerine, heron habitat
Vancouver International Airport Runway Project

The Project
Environmental Impact Statement

Approach:

• Justify Technical Solution
  • Capacity Requirement
  • Alternative solutions

• Demonstrate Economic Viability
  • Benefit/Cost
  • Economic impact

• Manage Environmental Impacts
  • Mitigate all impacts to acceptable levels
  • Proactive solutions with agency advice
Objective: To present a technically correct solution supported by comprehensive data.

- Demonstrate practical capacity has been reached
  - Operations analysis
  - Delay data
  - Cost of delays
  - Forecast aircraft operations

- Test alternative solutions
  - Demand management/diversion to other airports
  - Runway locations and lengths
Project Justification

Aircraft delay data applications

• Confirms capacity analysis results
• Provides base for cost calculations
• Motivates carrier support
• Supports air quality studies
Economic Analysis

Compared benefits and costs of alternate strategies.

- No runway (Base case)
- Runway lengths of 5000’, 7500’, 10,000’
- Alternate airport development
- Peak period fees tested in each case
Economic Analysis

Net Present Value of 10,000’ runway:

$C 4 Billion
Environmental Impact Issues

- Noise
- Fish, birds and wildlife habitat
- Air Quality
- Water Quality
- Archaeological
- Construction
Noise Impact Analysis

- Used NEF, Ldn and Single Event metrics
- Pre-Stage 3 impact required mitigation
  - 49% increase in residences in NEF 30-35
- Mitigation Plan
  - Runway to be used primarily for arrivals
  - No night operations
  - Reverse thrust limitations
  - 12% reduction in residences in NEF 30-35 zone.
Measured v. Modeled Ldn
Wildlife Habitat Impact

- Baseline data on bird/animal populations essential to analysis
- Mitigation agreement with agencies
- Land acquisition offsets.
- Designed-in mitigation
  - Approach lighting pier
  - Construction methods
Air Quality Assessment

- One year baseline data collection
- Future operations impact assessed with Emissions and Dispersion Modeling System
- Demonstrated that YVR was not a major contributor to air quality problem
Water Quality Assessment

- Data gap
  - Minimal information available on surface and ground water
  - Complicated by tidal waters surrounding airport

- EIS Proposed
  - Enhanced runoff water monitoring by automatic stations
  - Improvements in handling of fuels and glycol
Public Information and Stakeholder Consultation

• Be ready!
  • Consultation starts on Project Day One

• Provide clear messages
  • Runway analysis inherently complex
    • Make it understandable
  • Establish communications with opponents early in the program.

• Mobilize support
  • Local government
  • Business community
Public Information and Stakeholder Consultation

Video: (Approximately 8 minutes duration)

“YVR - A New Runway, The Environment, and You”
Runway 08L-26R Opened 4 November, 1996