

Runway Environmental Impact Assessment



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Tower Cartoon



**"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





Project Justification

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**



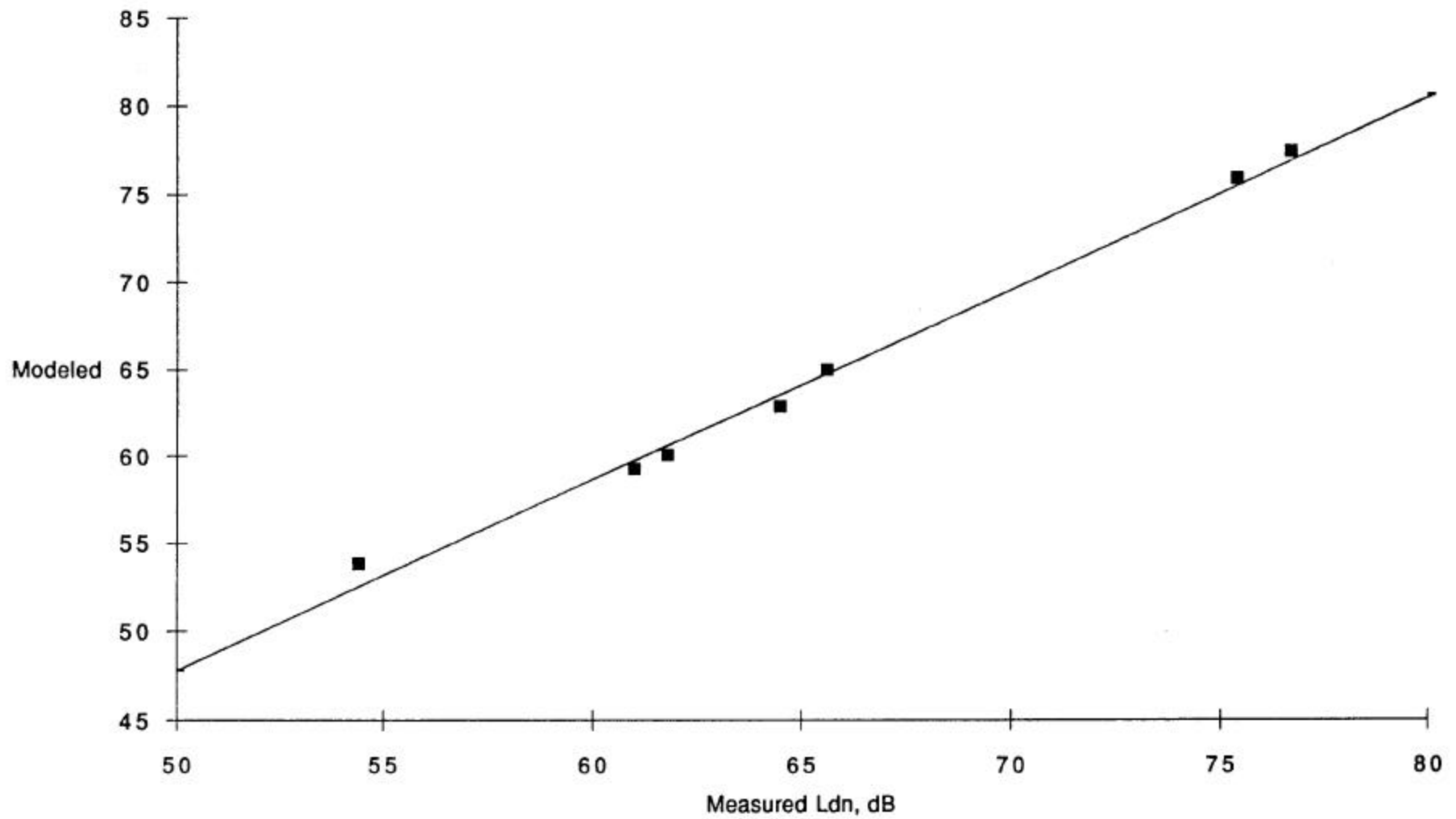


Noise Impact Analysis

- **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***

Runway 08L-26R Opened 4 November, 1996

