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# Canadian Aviation: By the Numbers

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InterVISTAS Consulting  
Chief Economist & Chief Strategy Officer

*26 March 2015*

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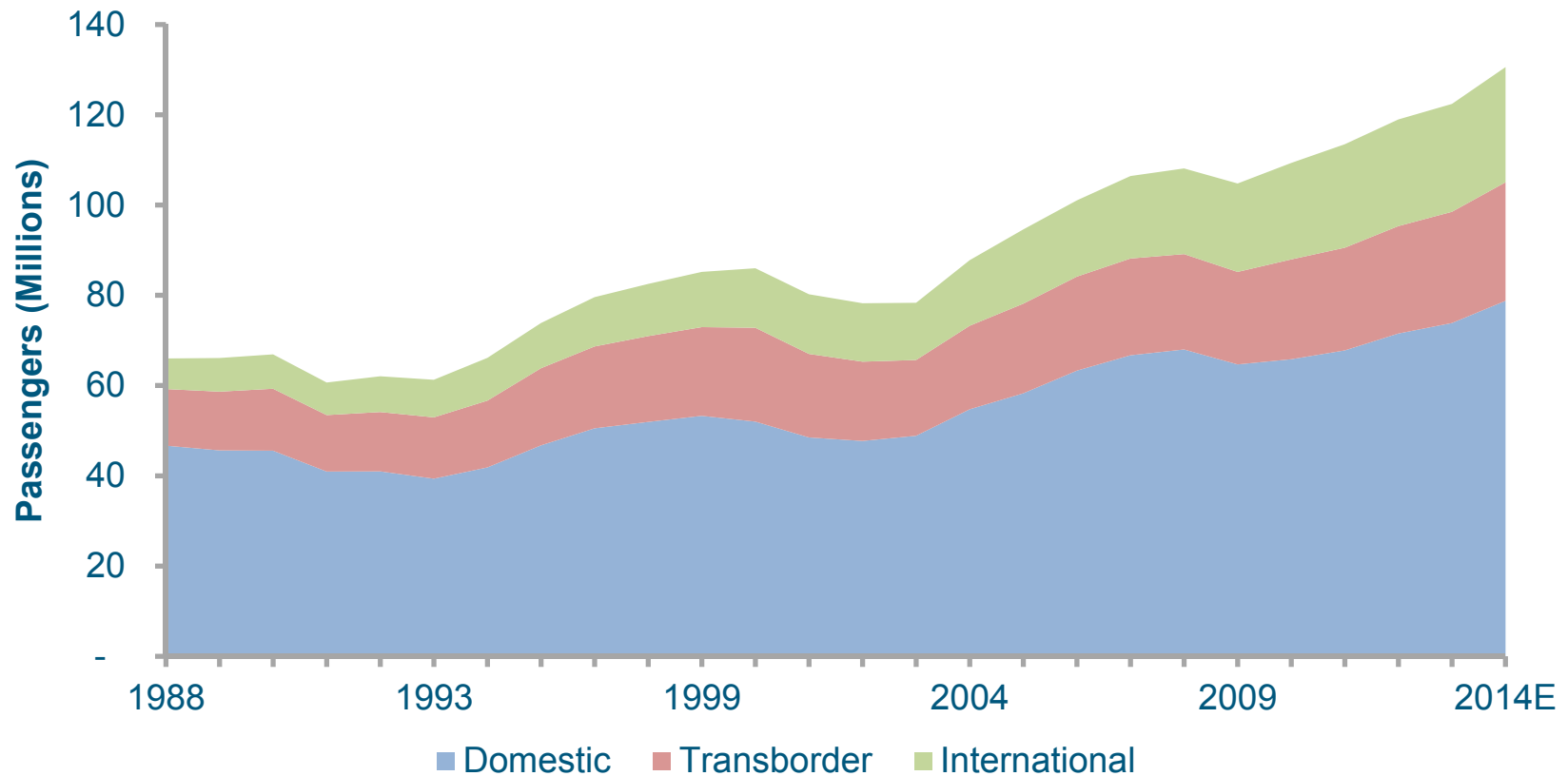
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# Commercial Pax



# Canada Air Passenger Traffic 1988 – 2014E

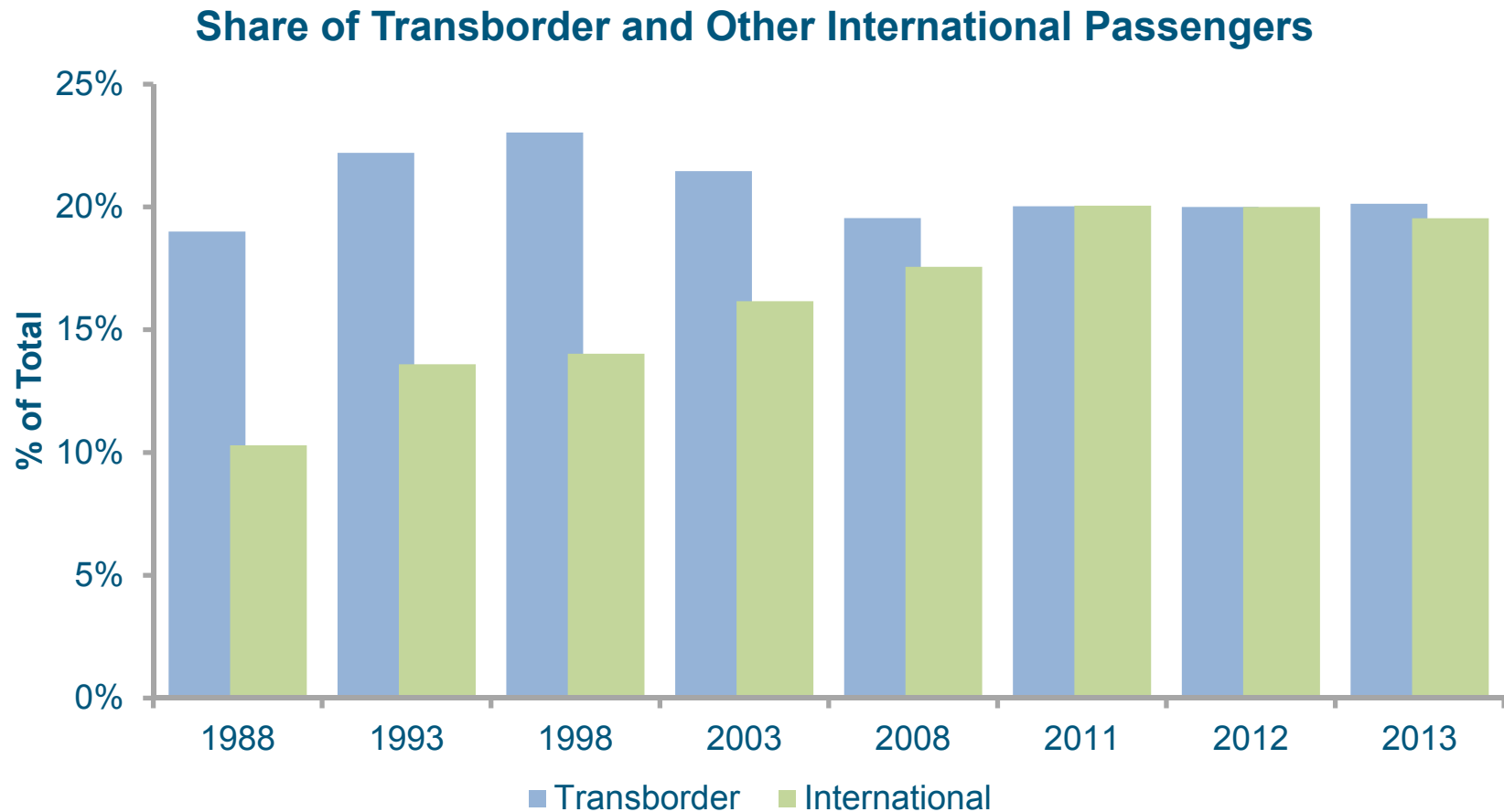
Canada Air Passenger Traffic  
Enplaned/Deplaned



Source: Air Carrier Traffic at Canadian Airports. Statistics Canada

# Canada Air Passenger Traffic

## 1988 - 2013

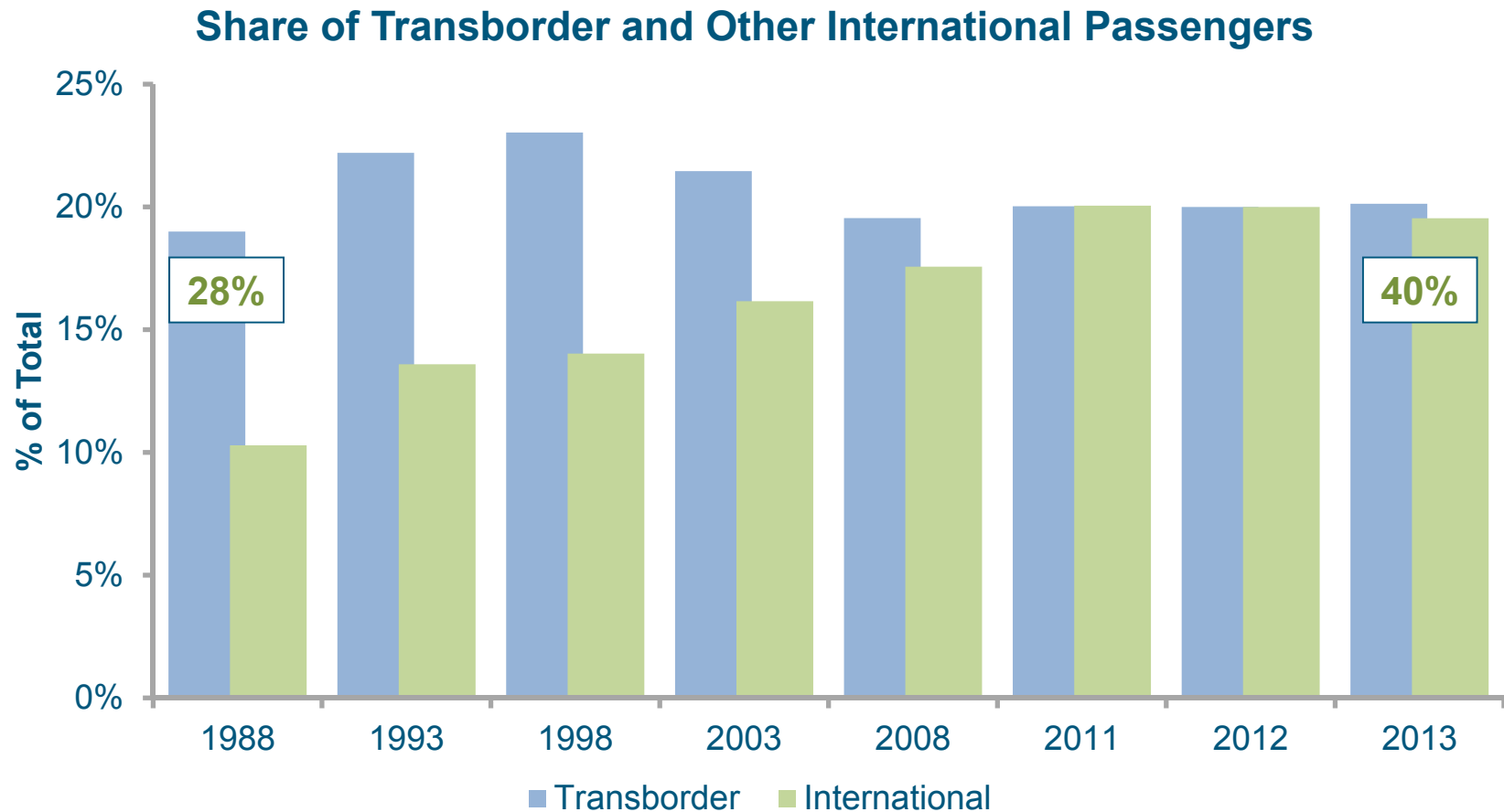


Source: Air Carrier Traffic at Canadian Airports. Statistics Canada  
Note: Most recent data available is 2013

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# Canada Air Passenger Traffic

## 1988 - 2013



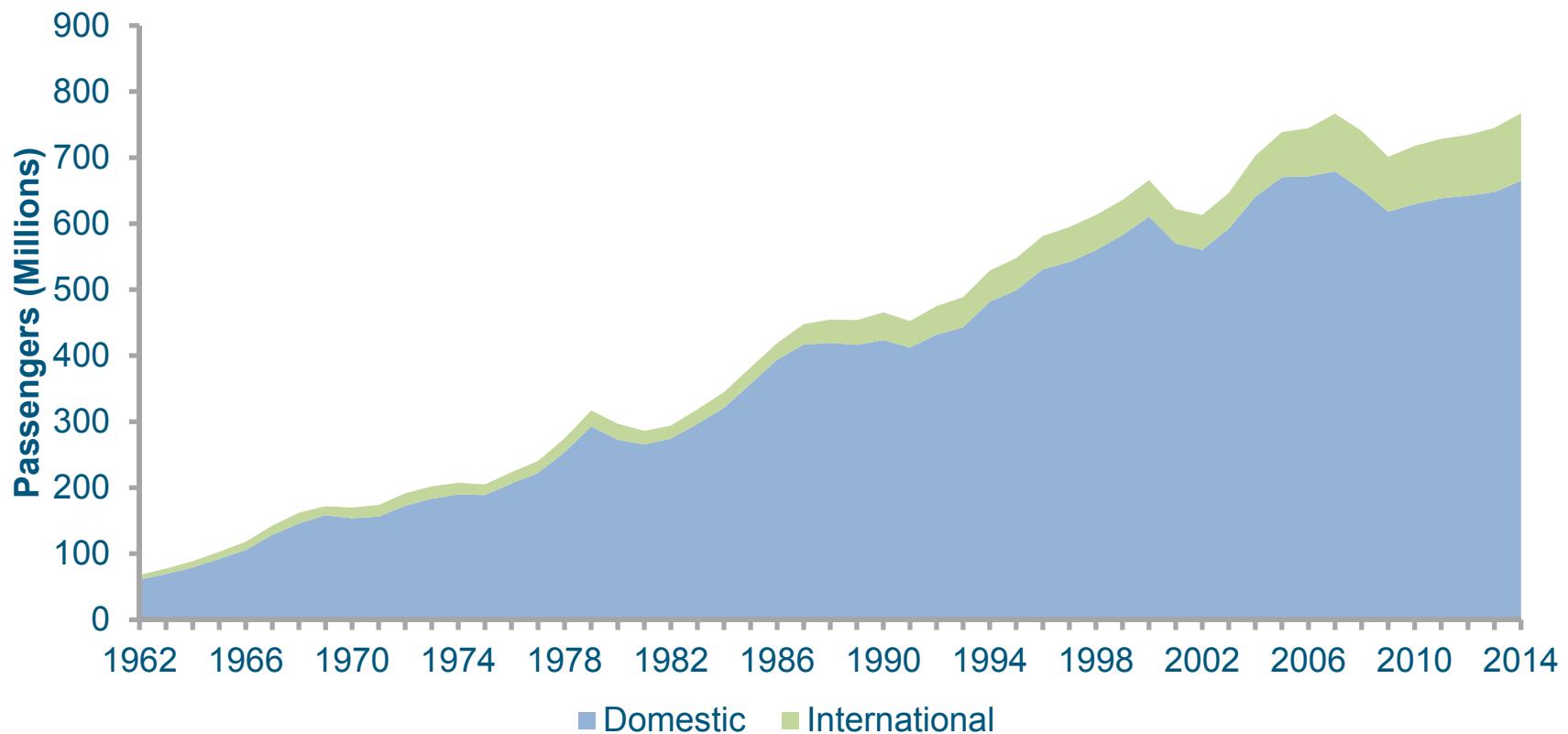
Source: Air Carrier Traffic at Canadian Airports. Statistics Canada  
Note: Most recent data available is 2013

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# US Air Passenger Traffic

## 1962 – 2014

### US Air Passenger Traffic Enplaned Passengers



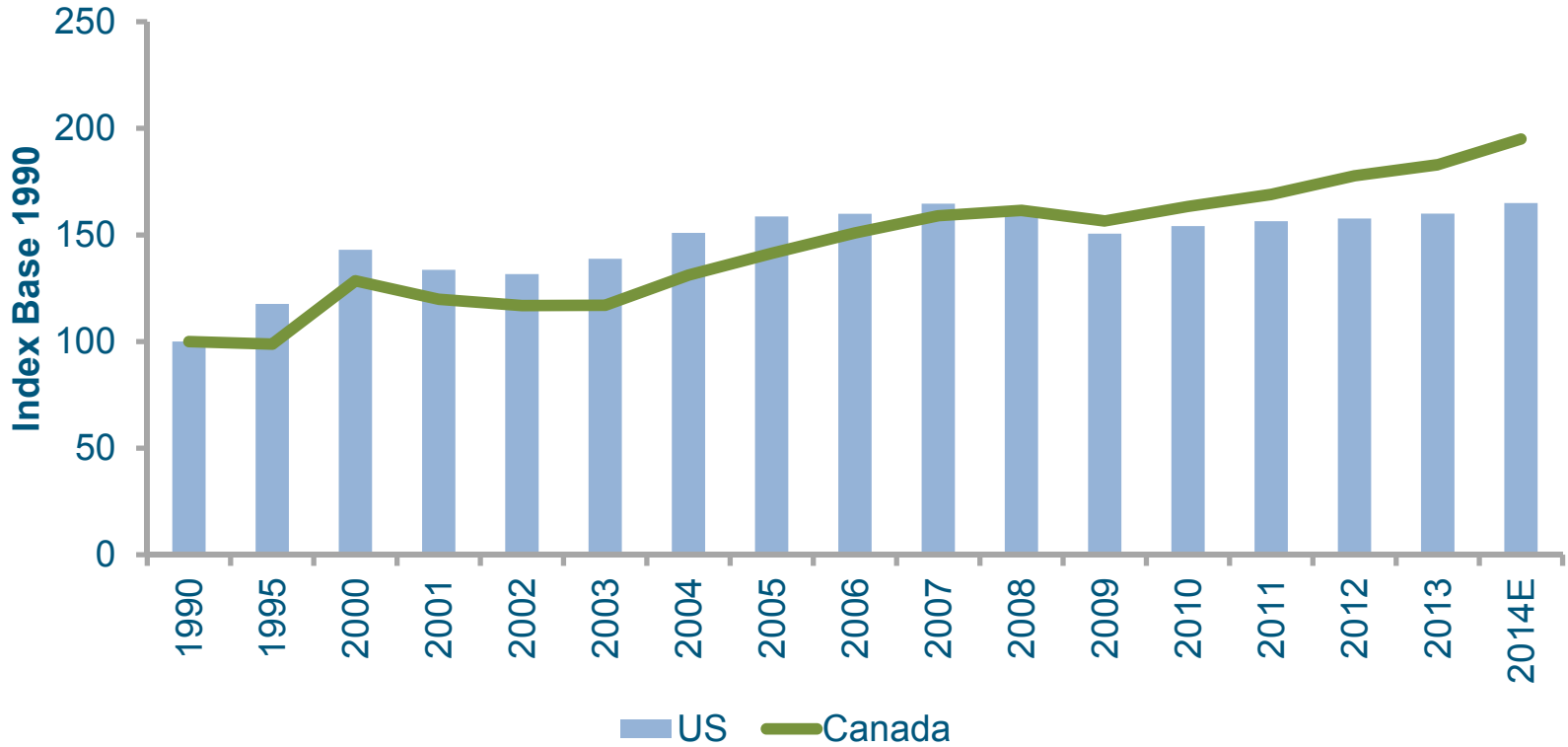
Source: 1960-2006 ATA, 2007-2014 BTS

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# US vs. Canada Passenger Traffic

1990 - 2014E

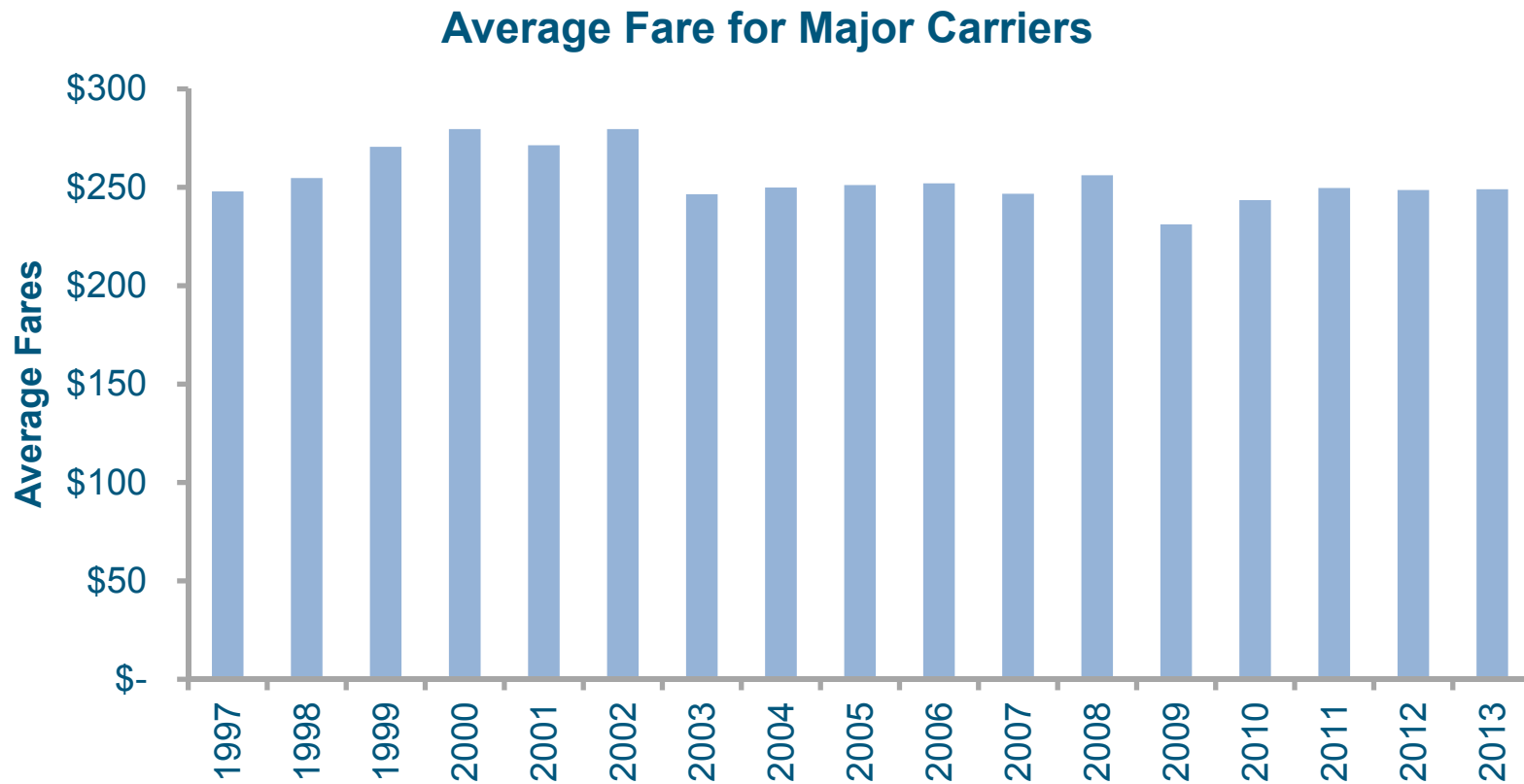
Passenger Growth in United States and Canada



Source: InterVISTAS Calculations with data from:  
 Canada: Air Carrier Traffic at Canadian Airports,  
 Statistics Canada. US: 1960-2006 ATA, 2007-2014 BTS.

# Nominal Average Fares

## Canada - not adjusted for inflation



Source: Statistics Canada Average Fare data, Cat. 51 -004-X

*p = preliminary*

Major Air Carriers include Air Canada (mainline & AC Jazz), WestJet, Air Transat and Canada 3000

Note: Most recent data available is 2013

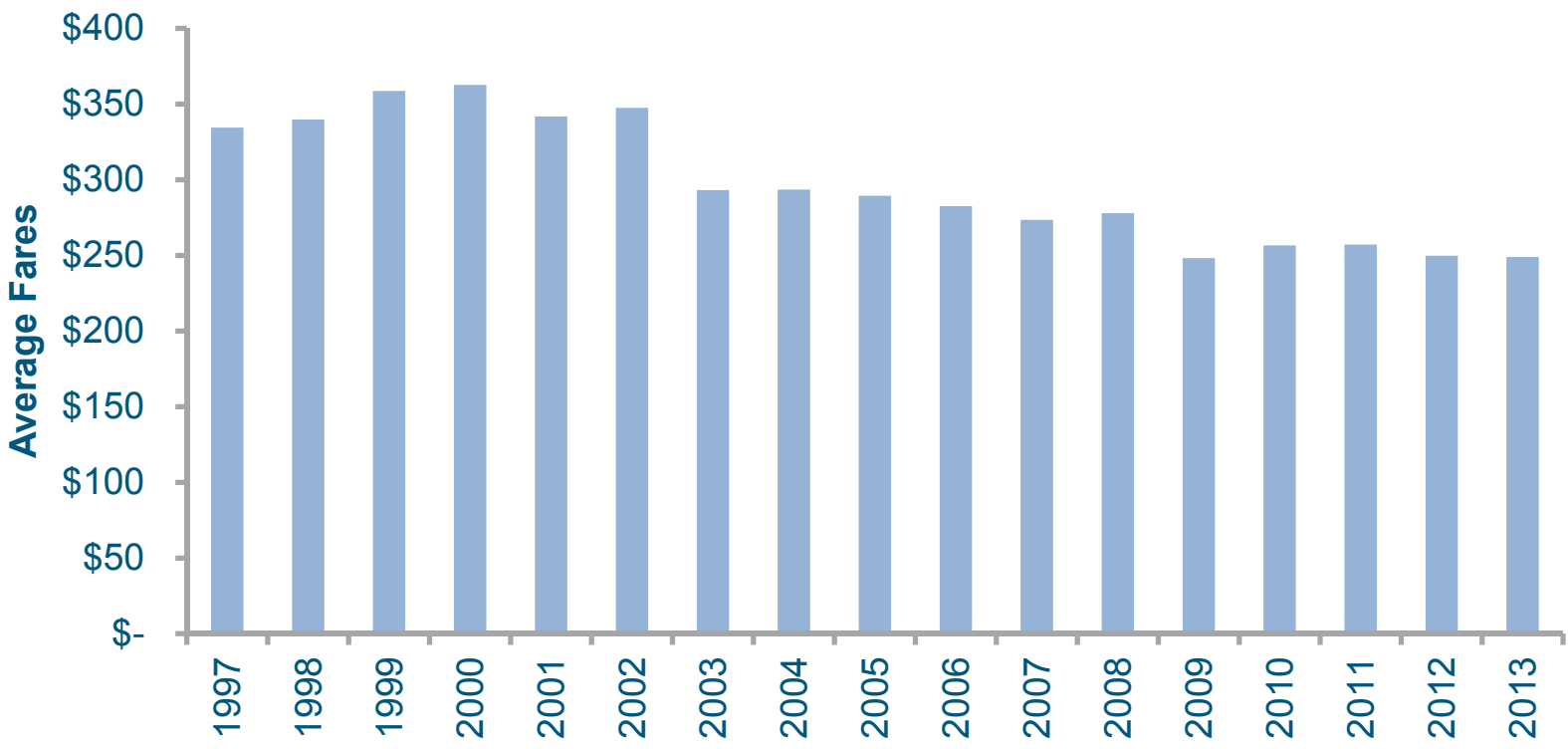
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# Real Average Fares

## Canada – indexed to 2013

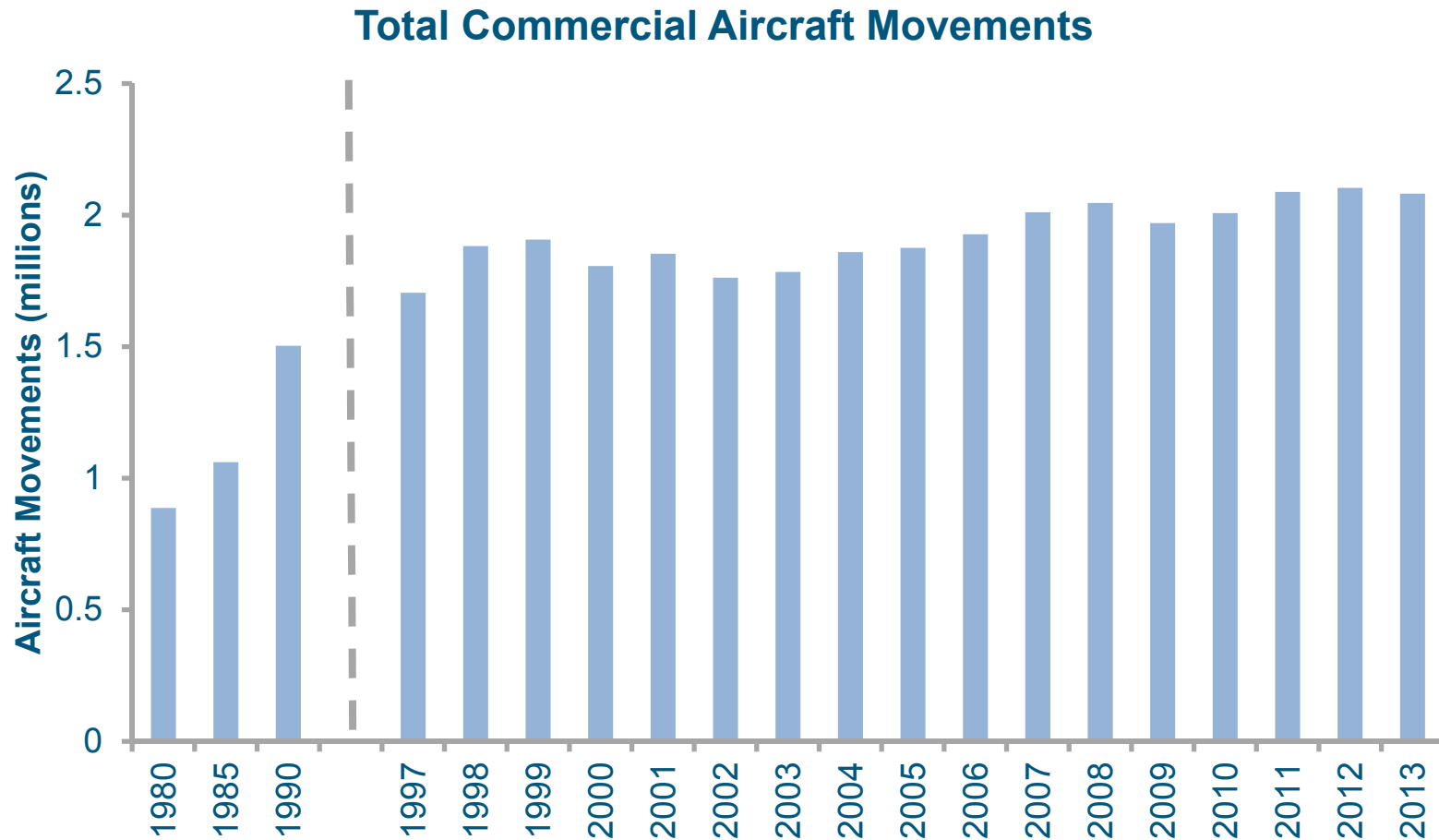
Average Fare for Major Carriers



Source: Statistics Canada Average Fare data, Cat. 51 -004-X  
 p = preliminary  
 Major Air Carriers include Air Canada (mainline & AC Jazz),  
 WestJet, Air Transat and Canada 3000  
 Note: Most recent data available is 2013

# Commercial Aircraft Movements

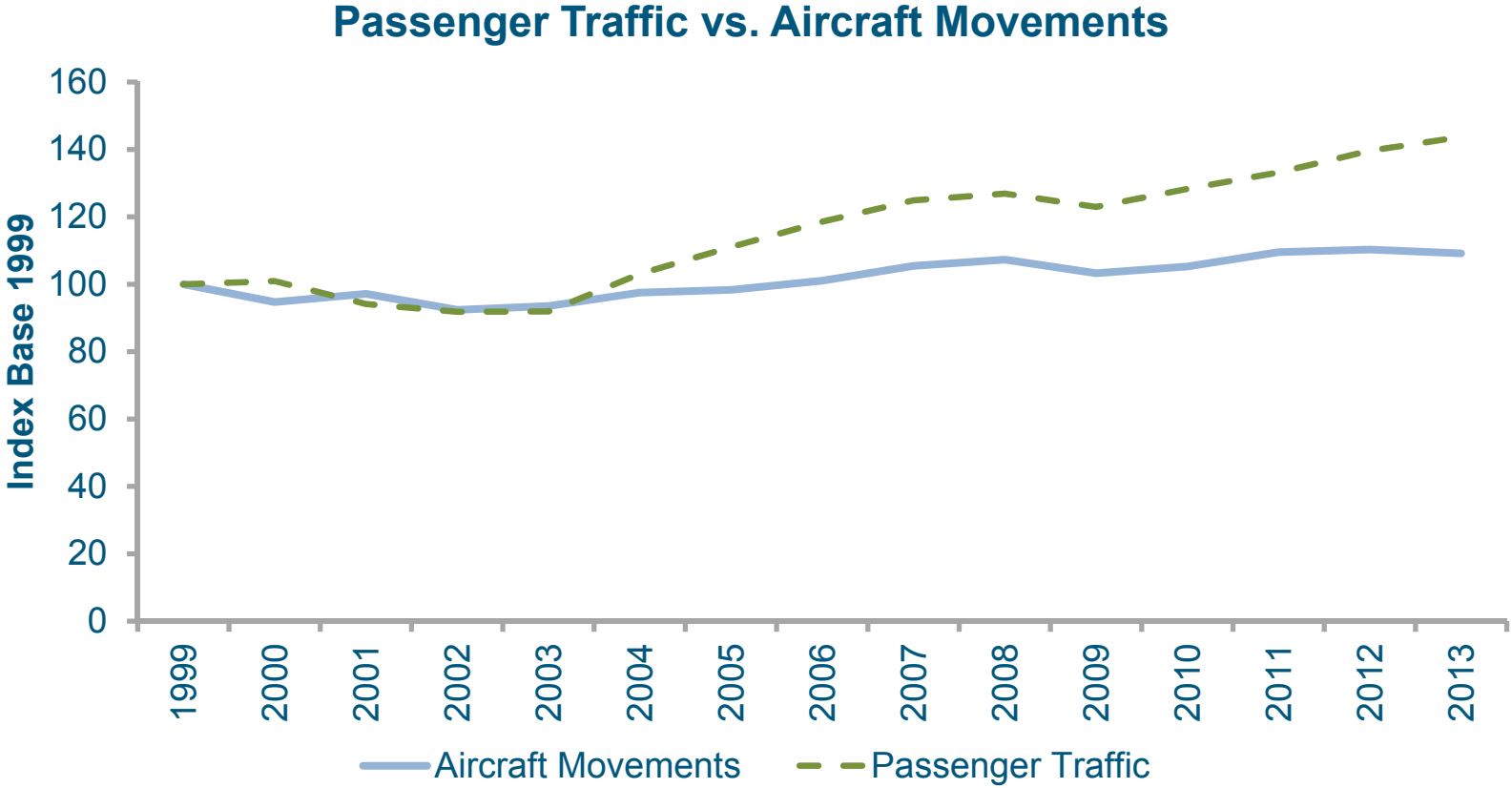
## Canada: 1980 - 2013



Source: Aviation in Canada (1980-1990) and Table 401-0009, Statistics Canada.  
 Note: Most recent data available is 2013

# Passenger Traffic vs. Aircraft Movements

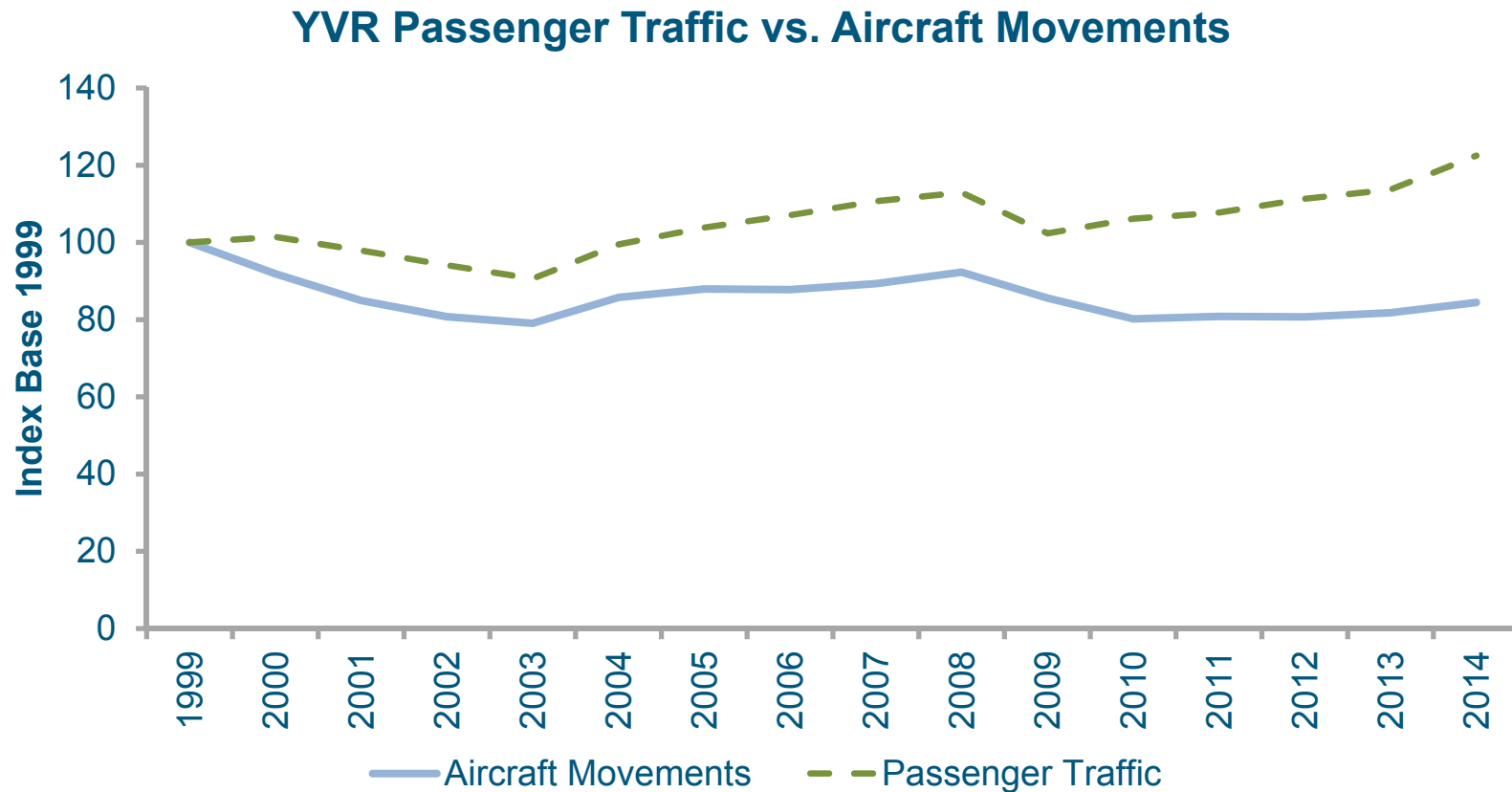
## Canada: 1999 - 2013



Source: Air Carrier Traffic at Canadian Airports. Statistics Canada  
 Note: Most recent data available is 2013

# Passenger Traffic vs. Aircraft Movements

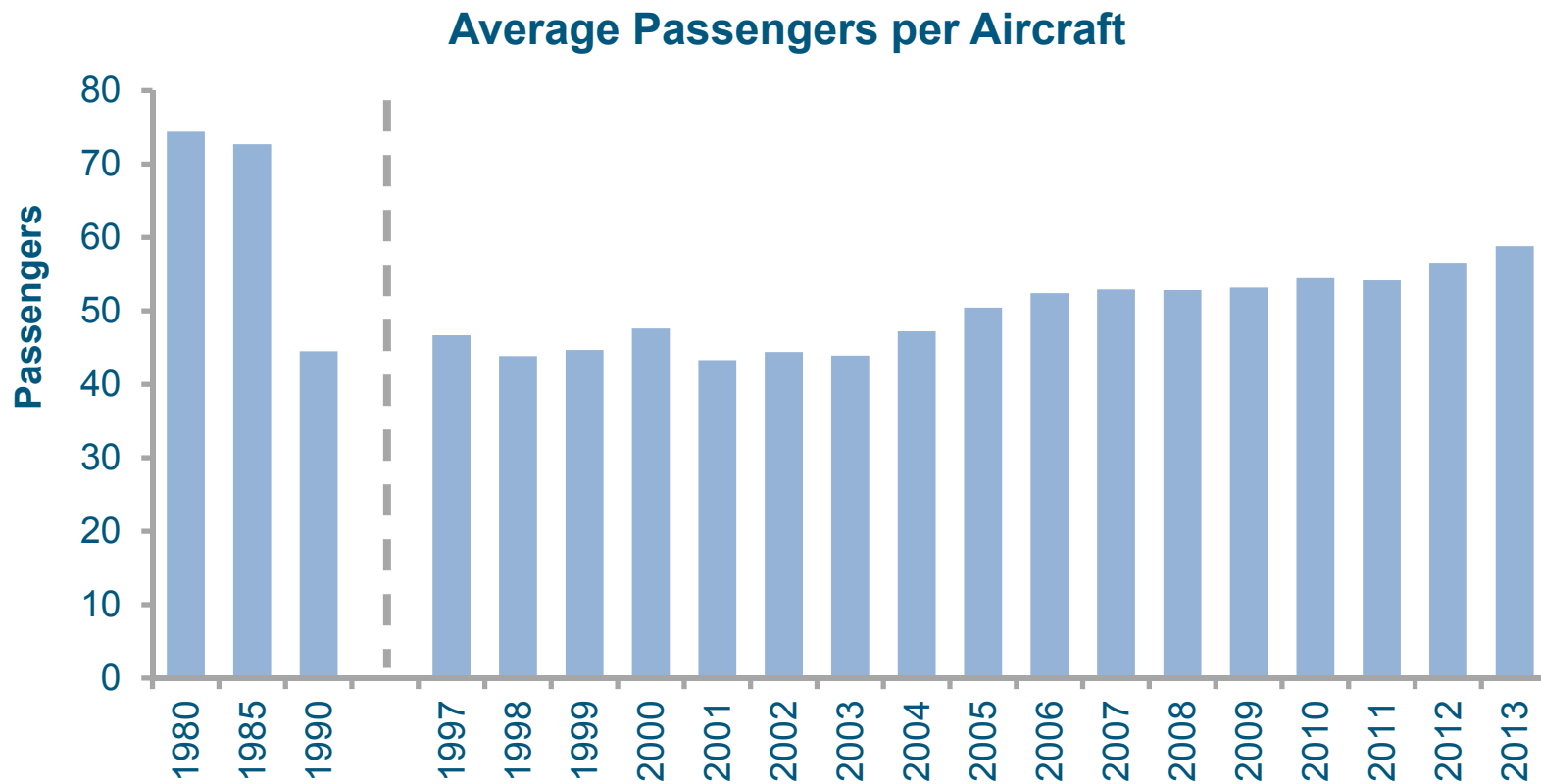
YVR: 1999 - 2013



Source: YVR Site Statistics

# Passengers per Aircraft

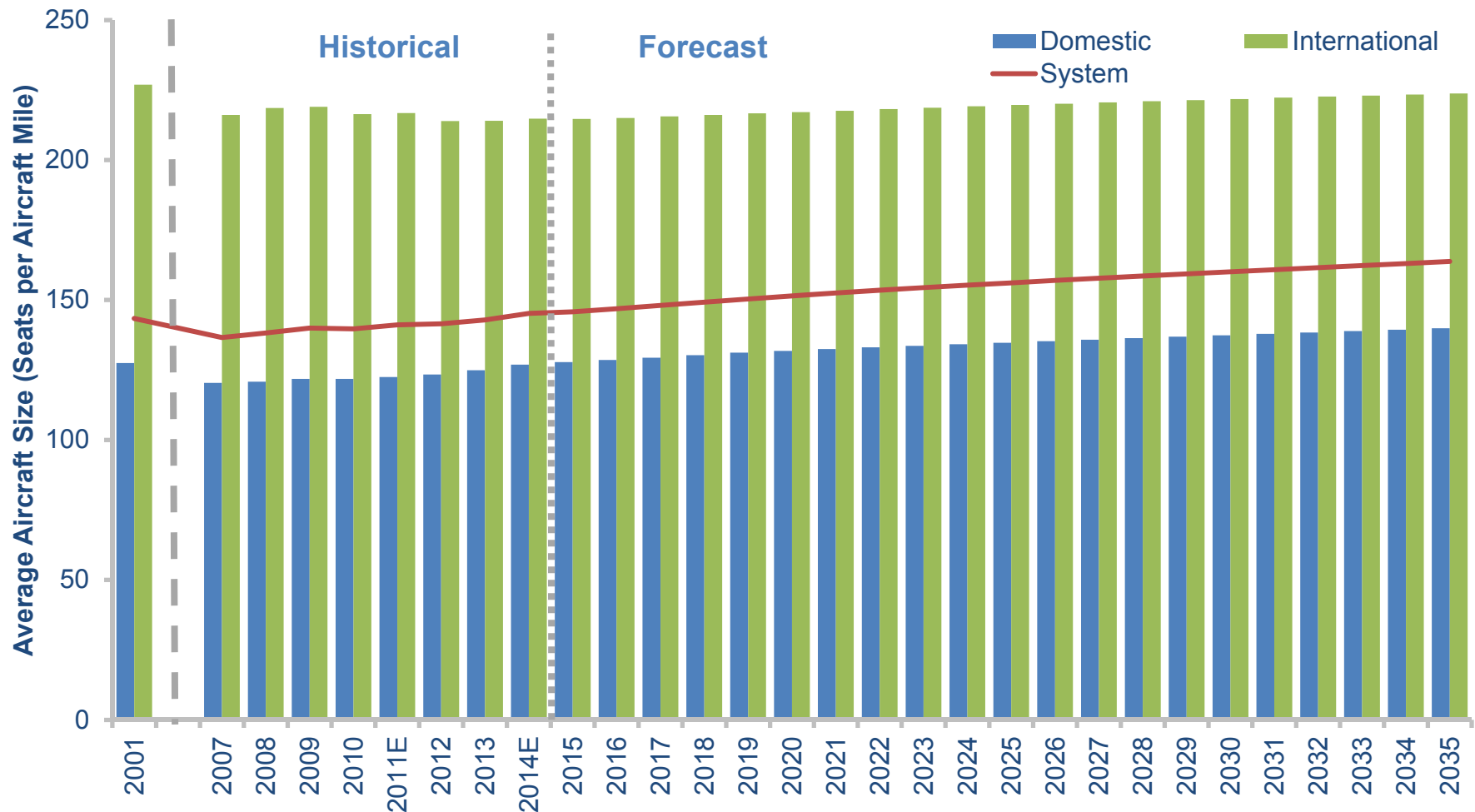
## Canada: 1980-2013



Source: InterVISTAS Calculations with data from:  
 Aviation in Canada (1980-1990) and Table 401-0009,  
 Statistics Canada and Air Carrier Traffic at Canadian Airports, Statistics Canada.  
 Note: Most recent data available is 2013

# Average Aircraft Size

## United States: 2001 – 2014 & 2015-2035 Forecast

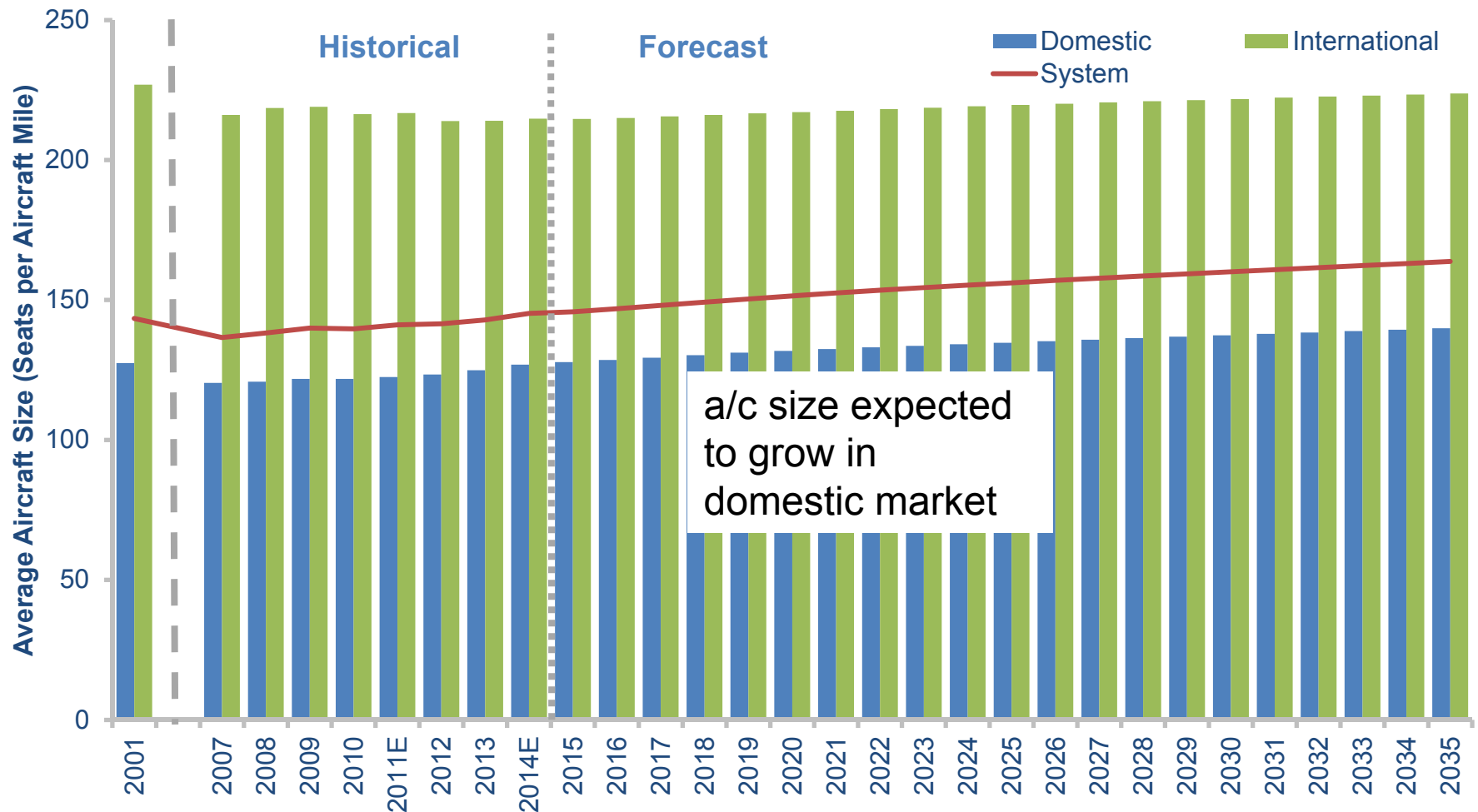


Source: FAA Aerospace Forecast FY 2015-2035

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# Average Aircraft Size

## United States: 2001 – 2014 & 2015-2035 Forecast



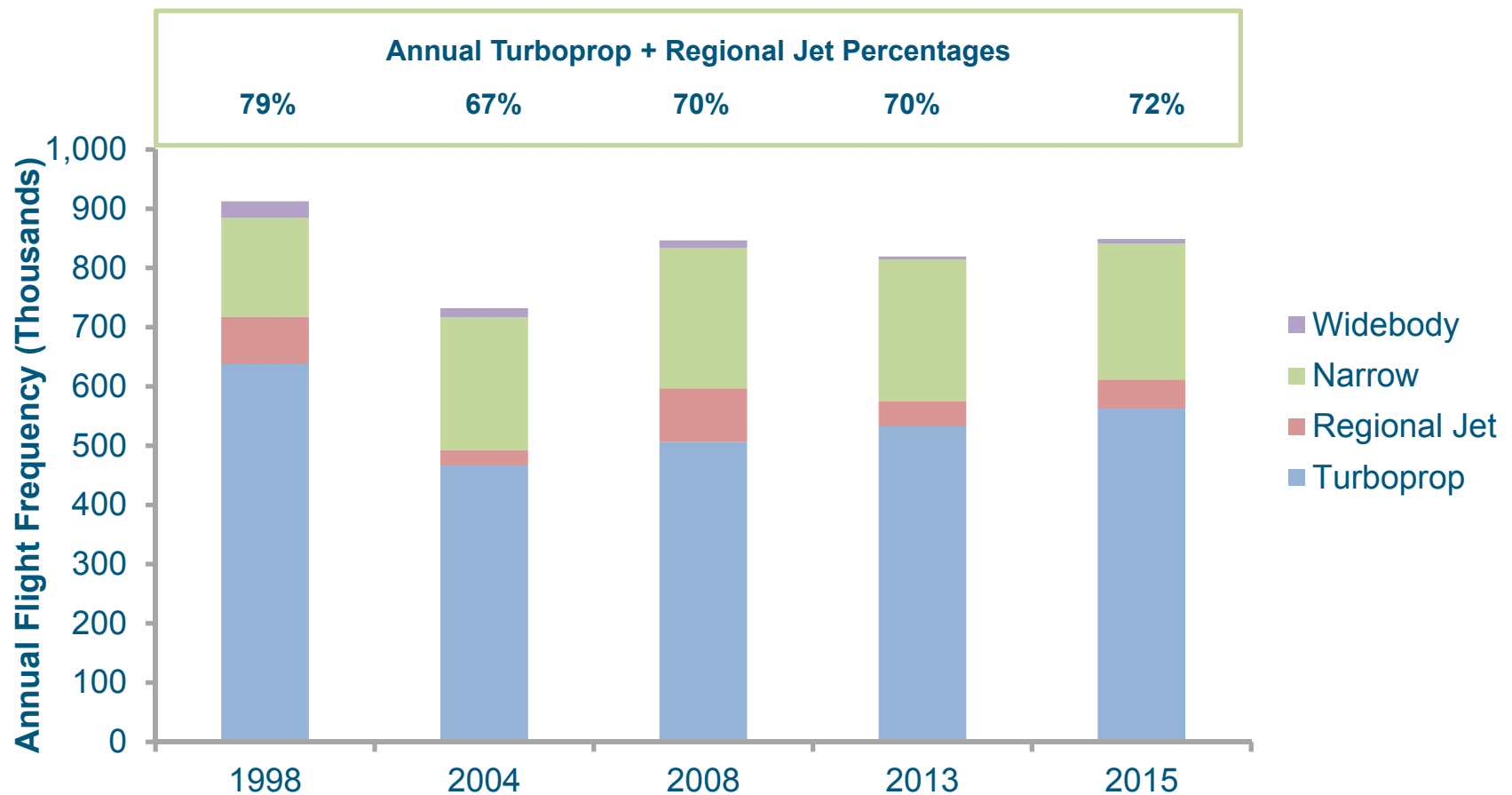
Source: FAA Aerospace Forecast FY 2015-2035

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# Scheduled Flight Frequency

## Domestic Canada

### Domestic Canada Scheduled Non-Stop Frequency



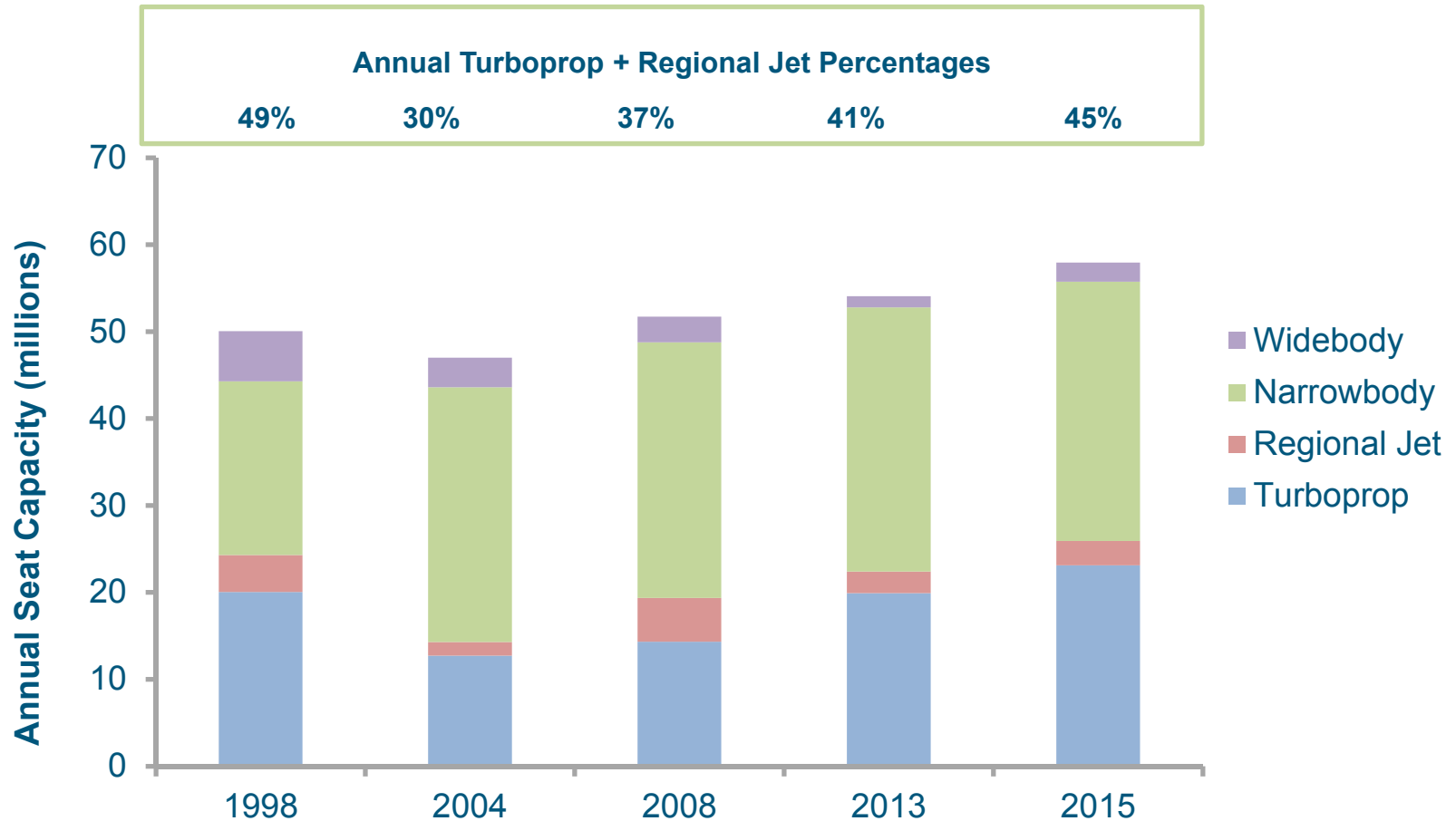
Source: Official Airline Guide Schedule Data, full year data for 1998;  
 Diio Mi Schedule Data, full year data for 2004, 2008, 2013, 2015.



# Scheduled Seat Capacity

## Domestic Canada

### Domestic Canada Scheduled Non-Stop Seats

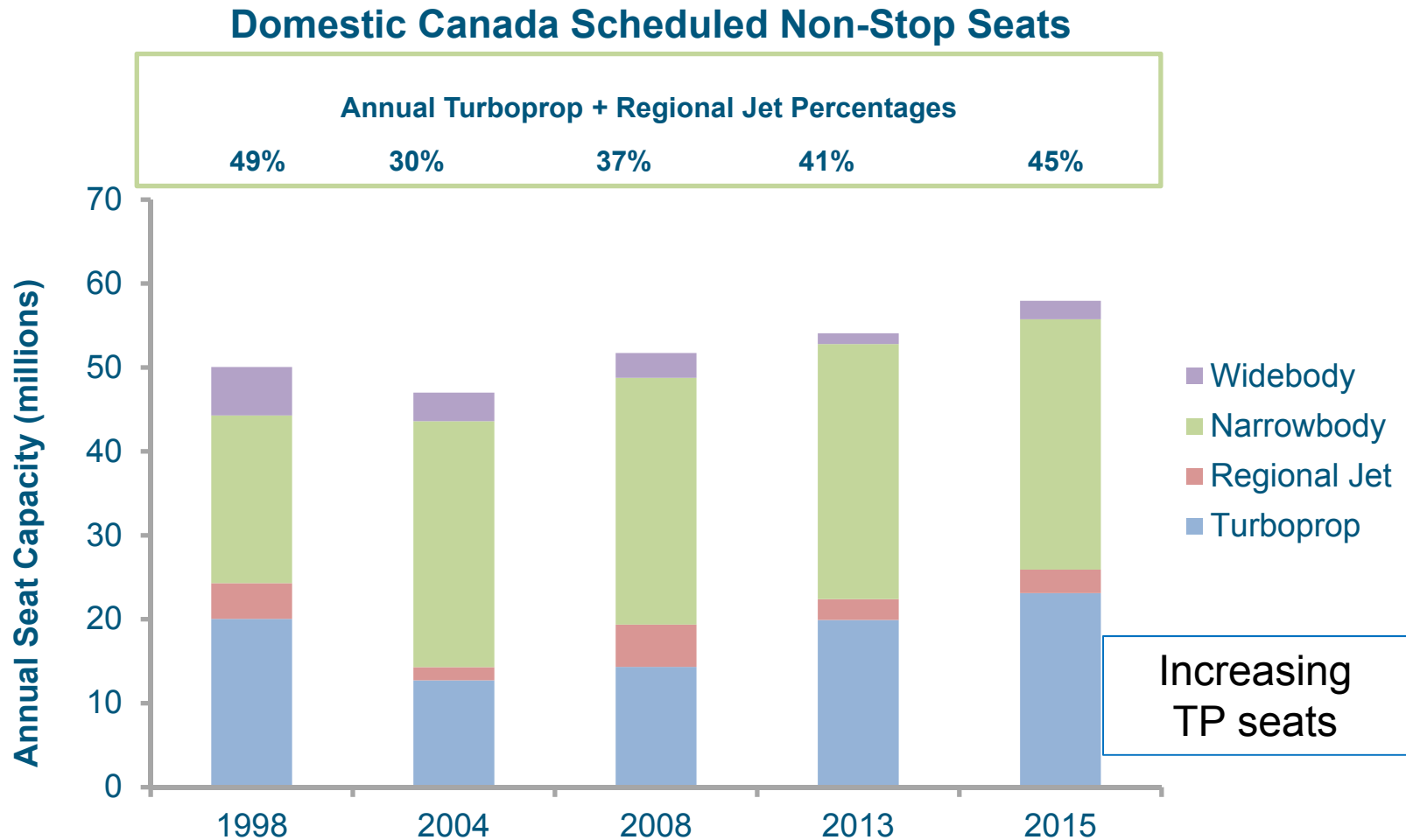


Source: Official Airline Guide Schedule Data, full year data for 1998;  
 Diio Mi Schedule Data, full year data for 2004, 2008, 2013, 2015.

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# Scheduled Seat Capacity

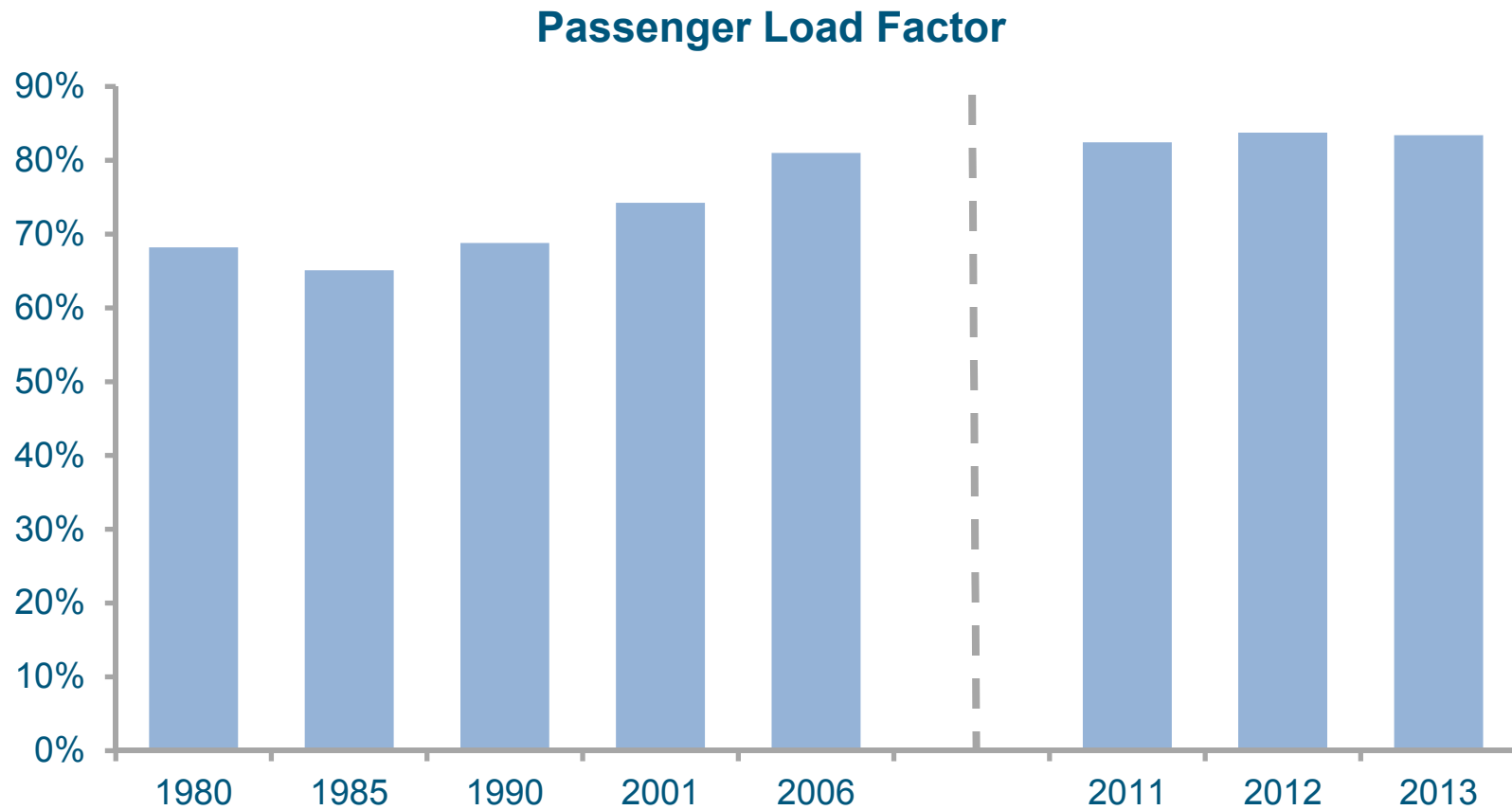
## Domestic Canada



Source: Official Airline Guide Schedule Data, full year data for 1998;  
 Diio Mi Schedule Data, full year data for 2004, 2008, 2013, 2015.

# Load Factors

Canada: 1980 - 2013

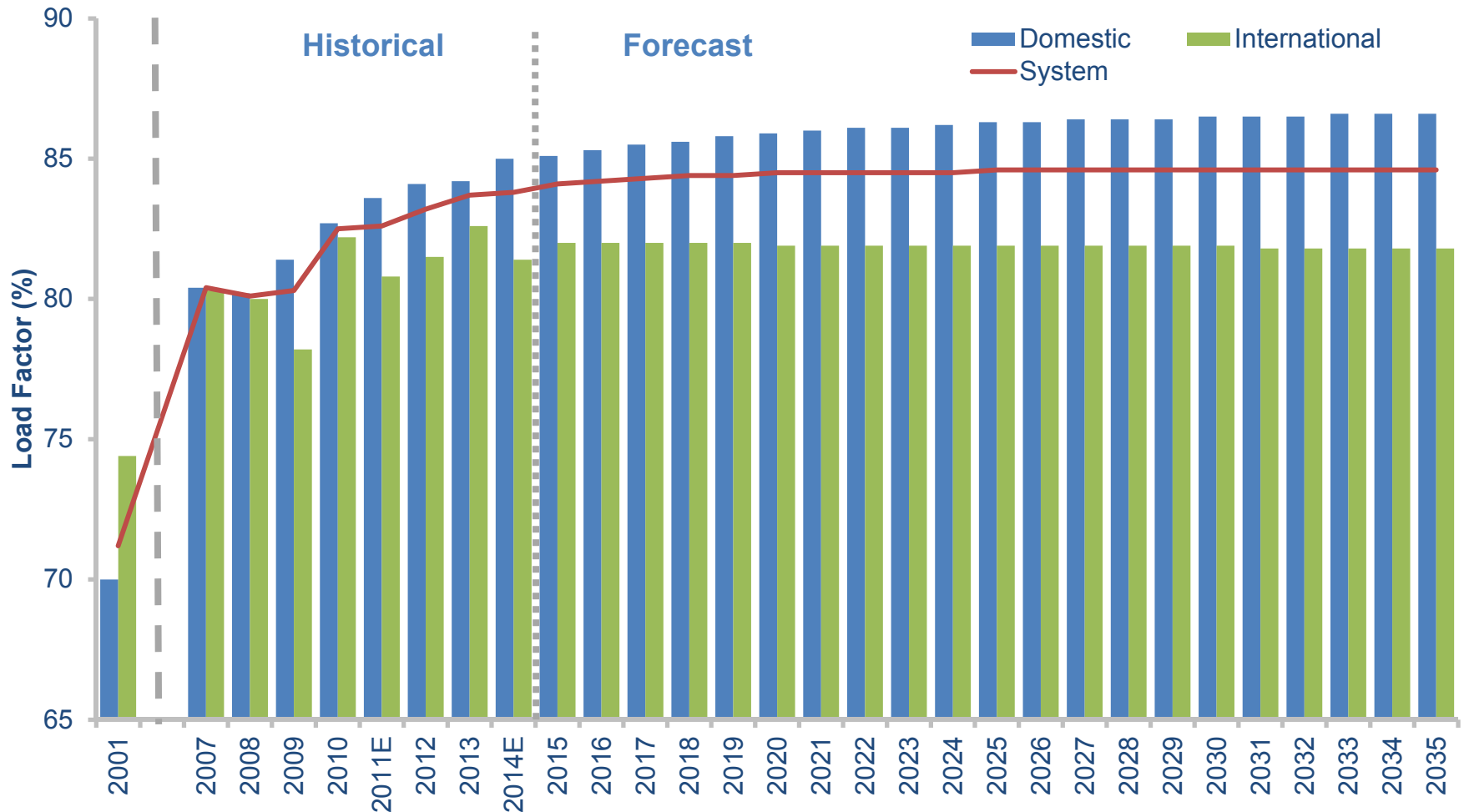


Source: Aviation in Canada, Statistics Canada. Transport Canada  
Note: Most recent data available is 2013

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# Mainline Carrier Load Factors

## United States: 2001 – 2014 & 2015-2035 Forecast

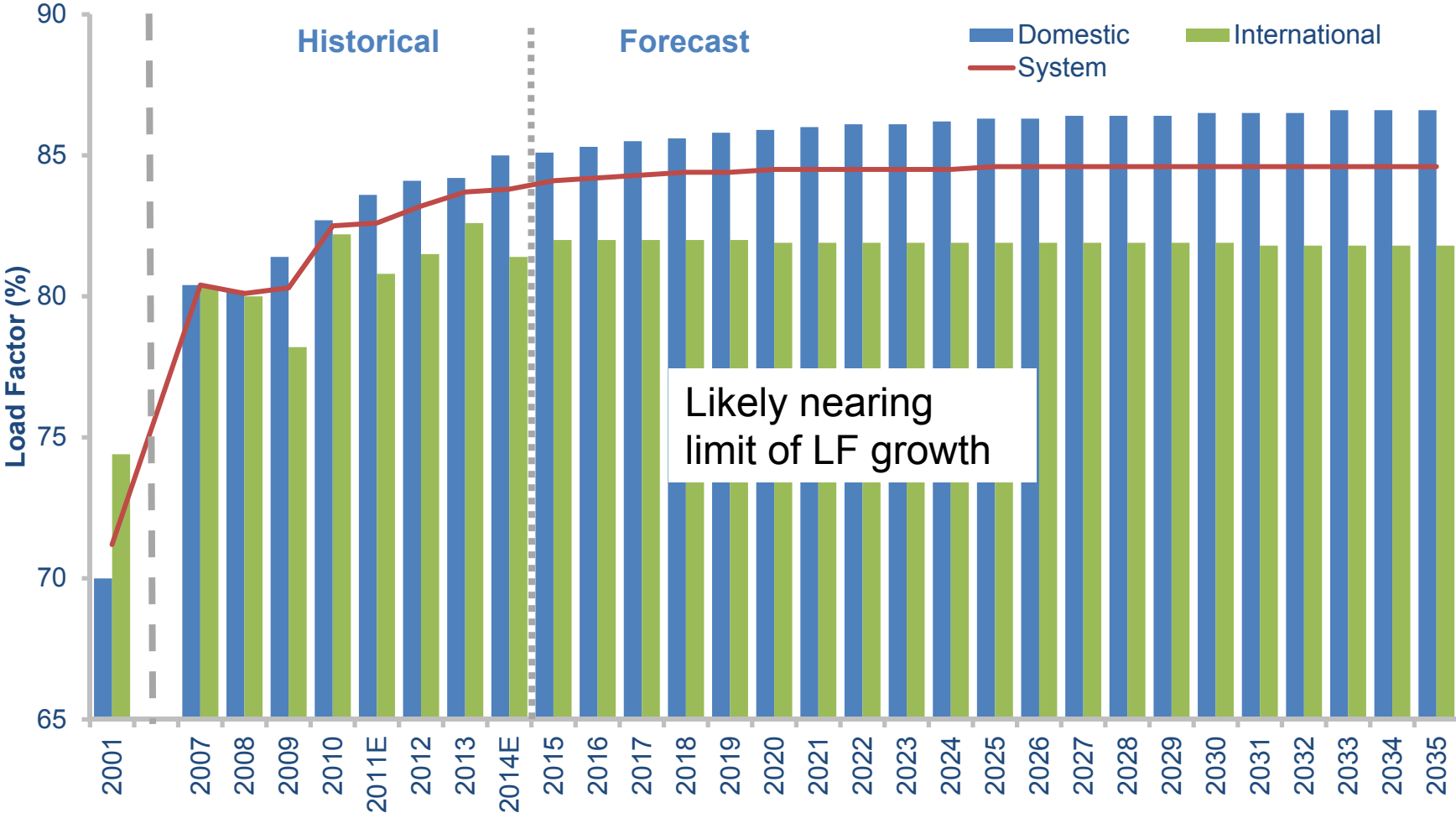


Source: FAA Aerospace Forecast FY 2015-2035

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# Mainline Carrier Load Factors

## United States: 2001 – 2014 & 2015-2035 Forecast



Source: FAA Aerospace Forecast FY 2015-2035

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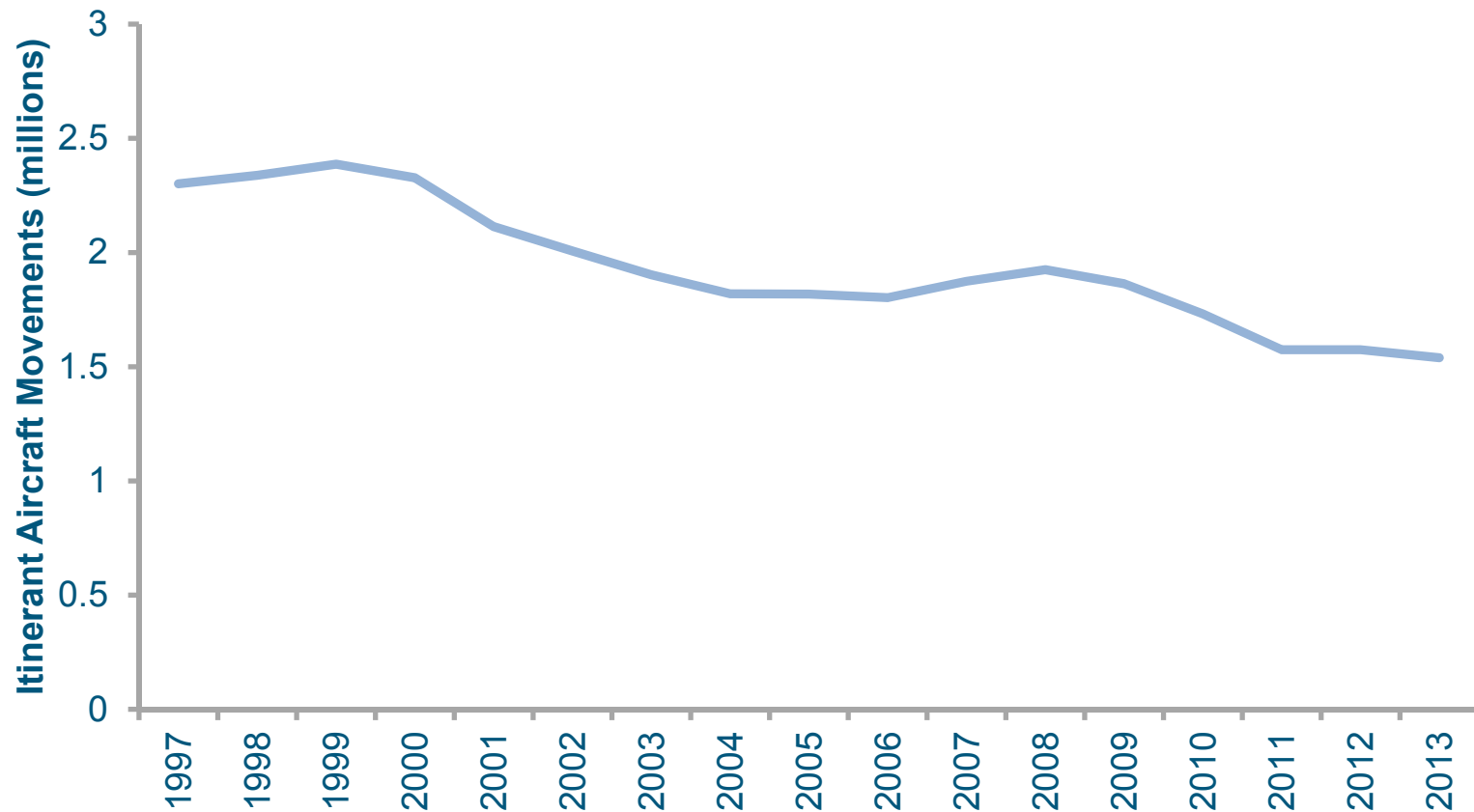
GA



# Total GA Movements

## Canada: 1997 - 2013

### Total GA and Non-Commercial Aircraft Movements

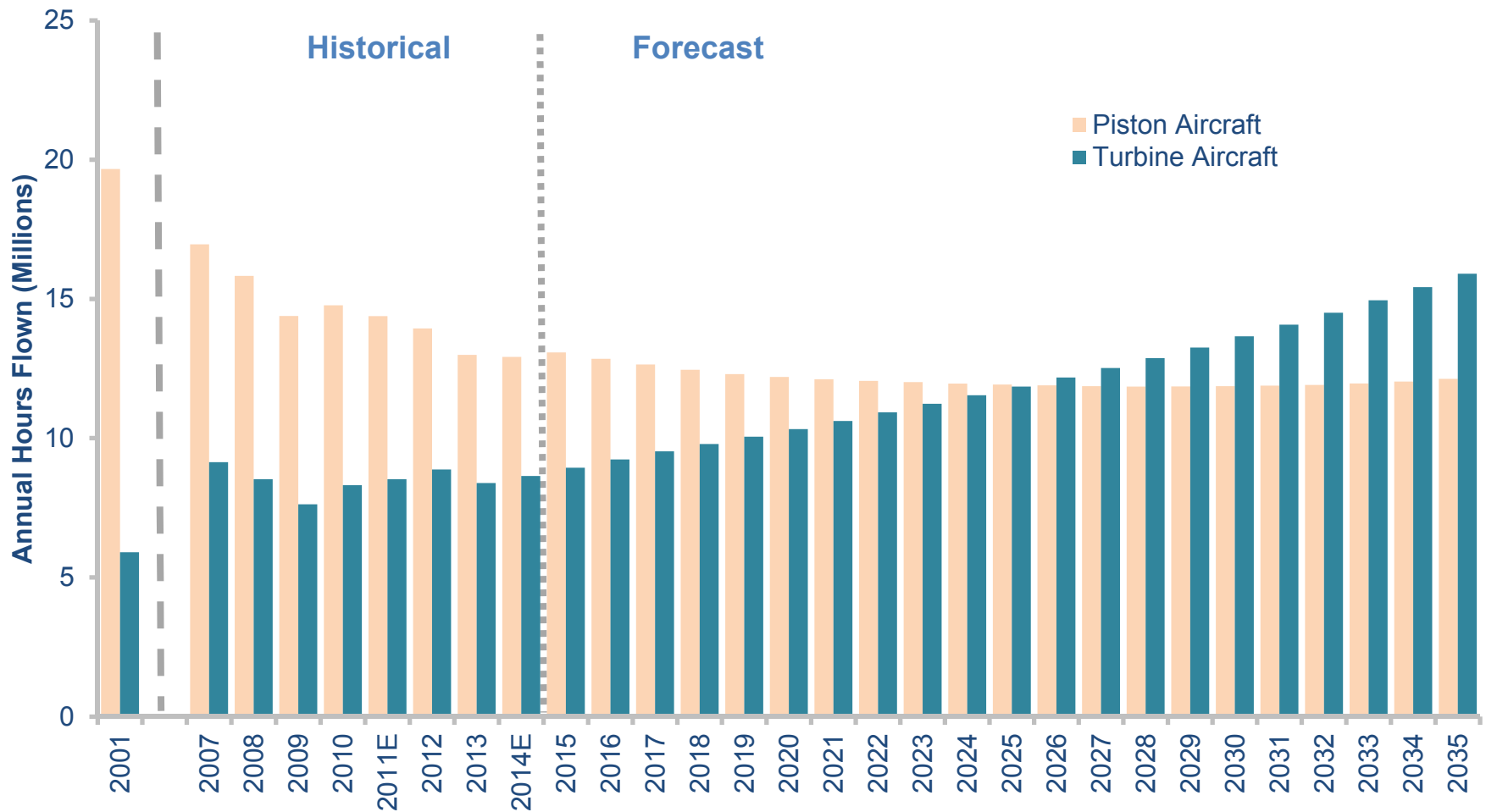


Sources: Statistics Canada Tables 401-0029, 401-0036, and 401-0037.  
Note: Most recent data available is 2013

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# GA and Air Taxi Aircraft Hours Flown

## United States: 2001-2014 & 2015-2035 Forecast



Source: FAA Aerospace Forecast FY 2015-2035

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# Air Cargo



# Canadian Air Cargo

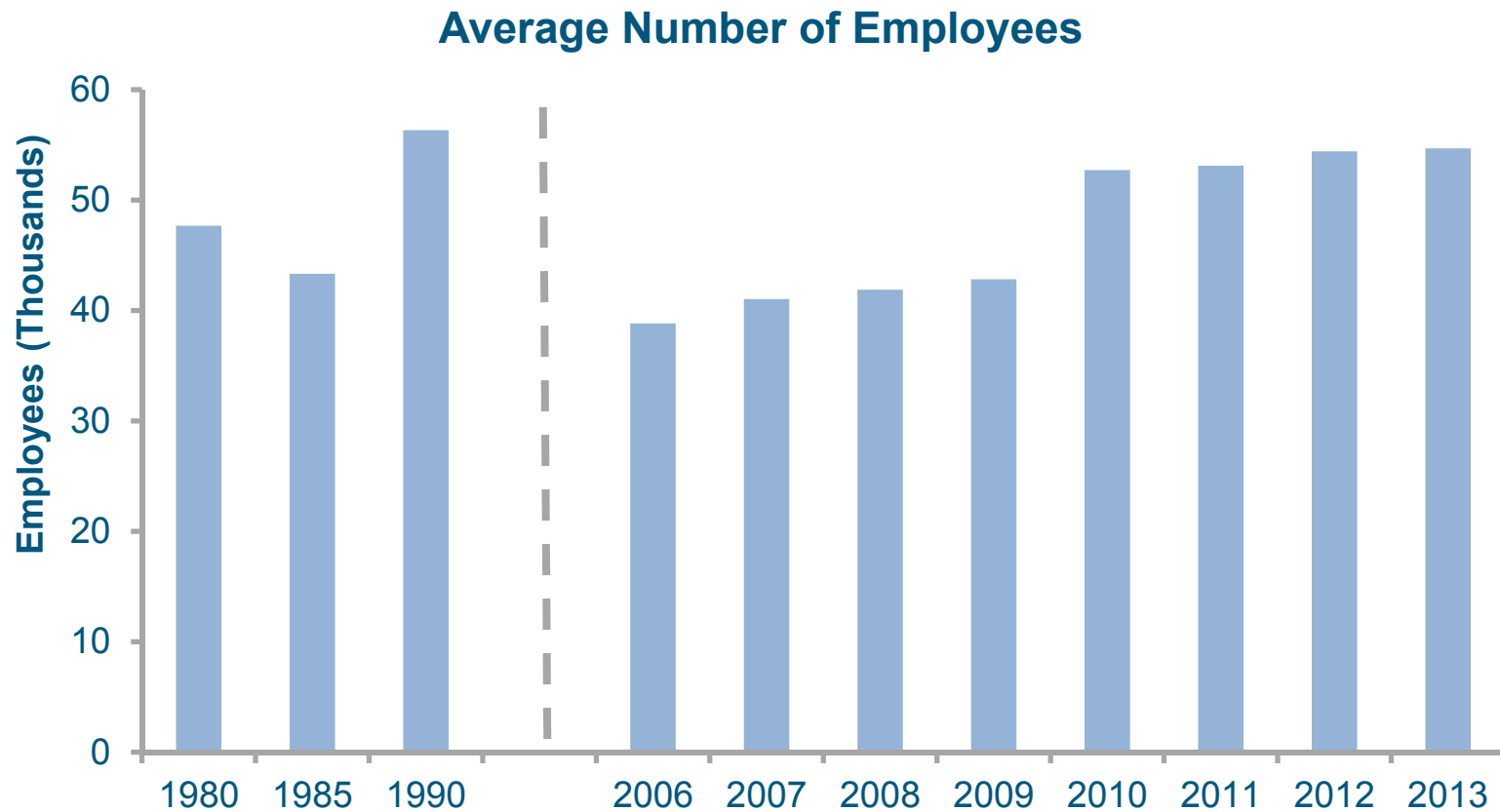
- No accurate data

# Other Stats



# Number of Employees

## Canadian Commercial Air Carriers: 1980 - 2013



Source: 1980-1990- Statistics Canada, Aviation in Canada

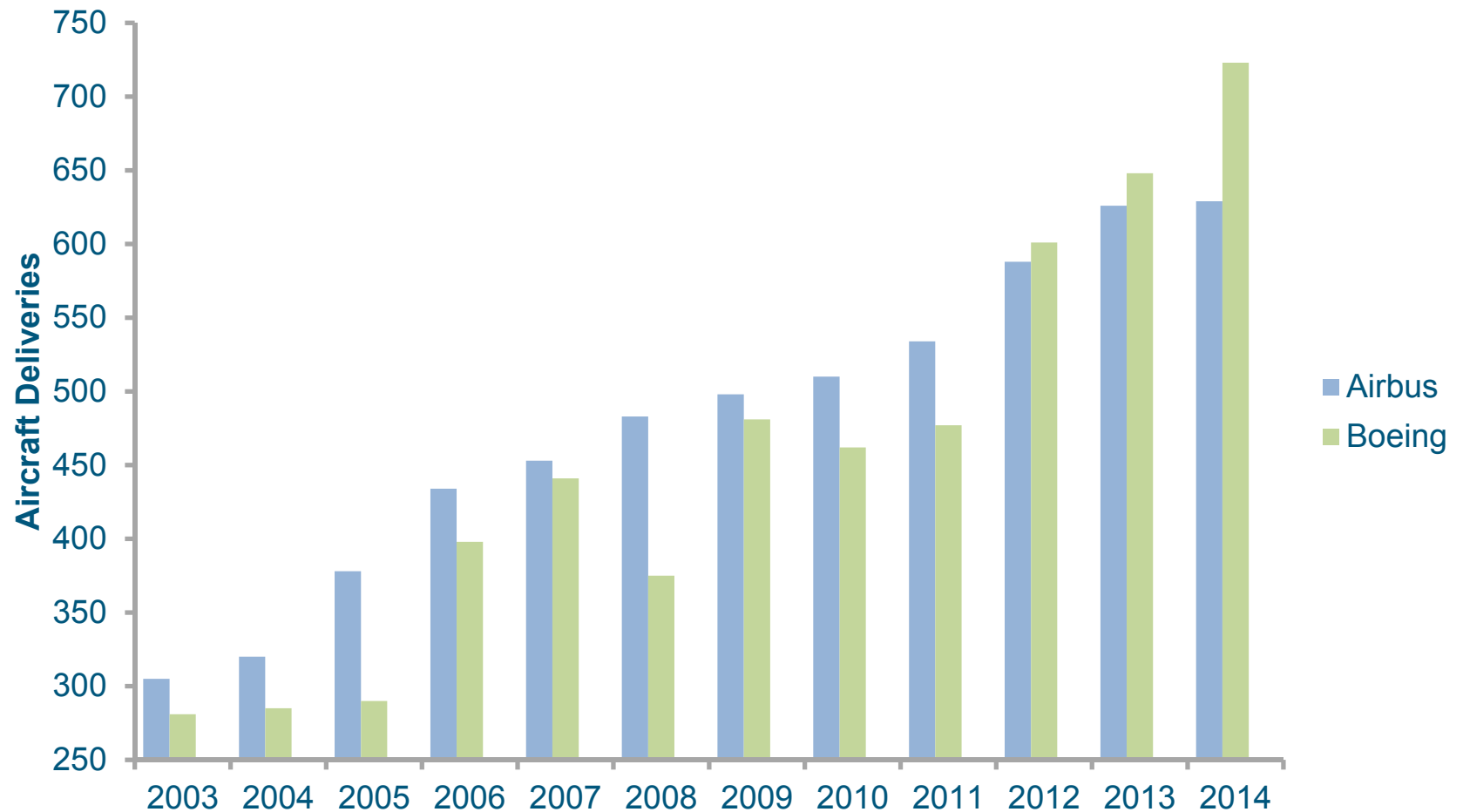
2006-2013- Statistics Canada, 51-004-X

Note: Most recent data available is 2013

# Global Aircraft Deliveries

## Boeing & Airbus

### Total Annual Aircraft Deliveries

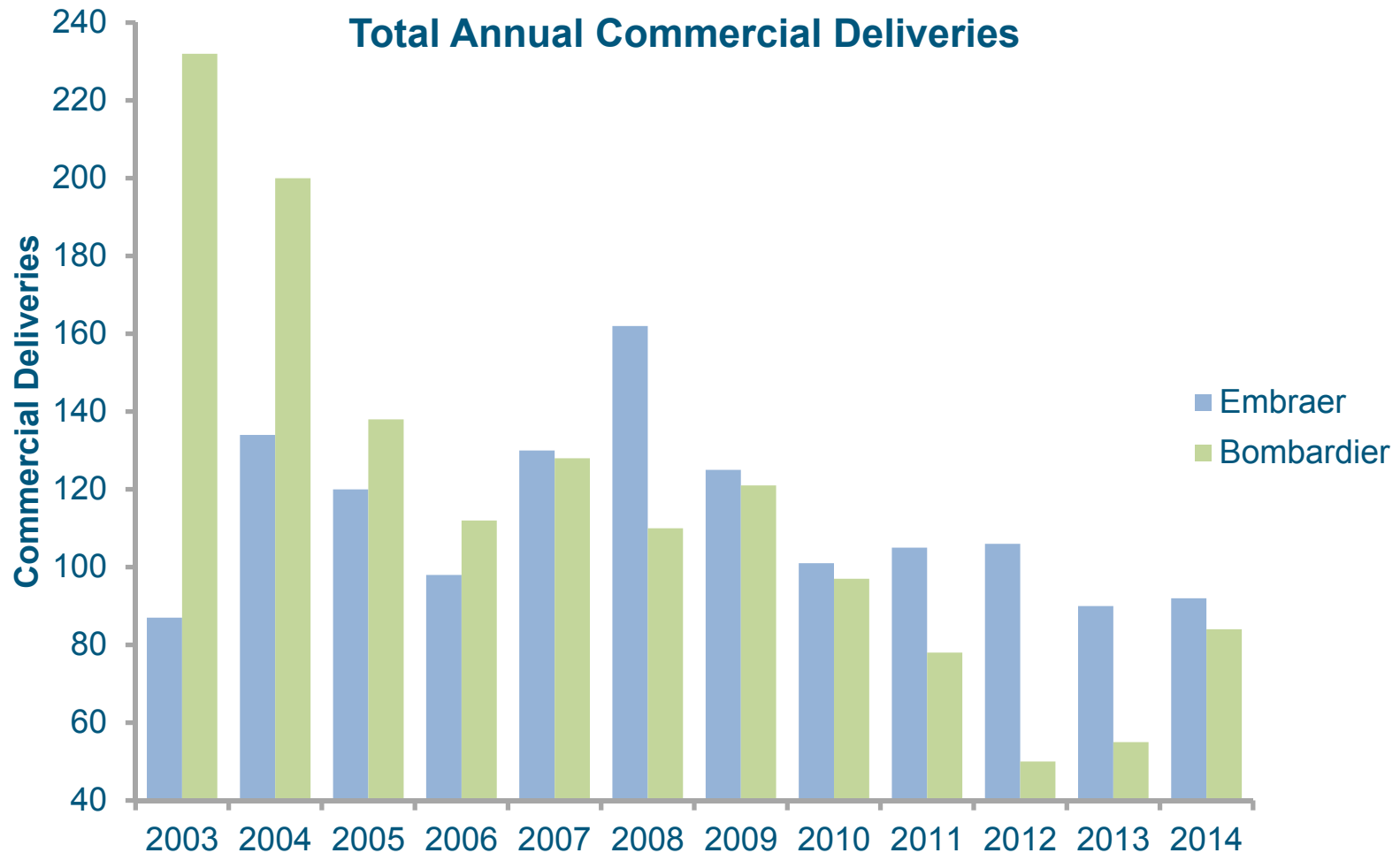


Source: Boeing and Airbus Delivery Reports

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# Global Aircraft Deliveries

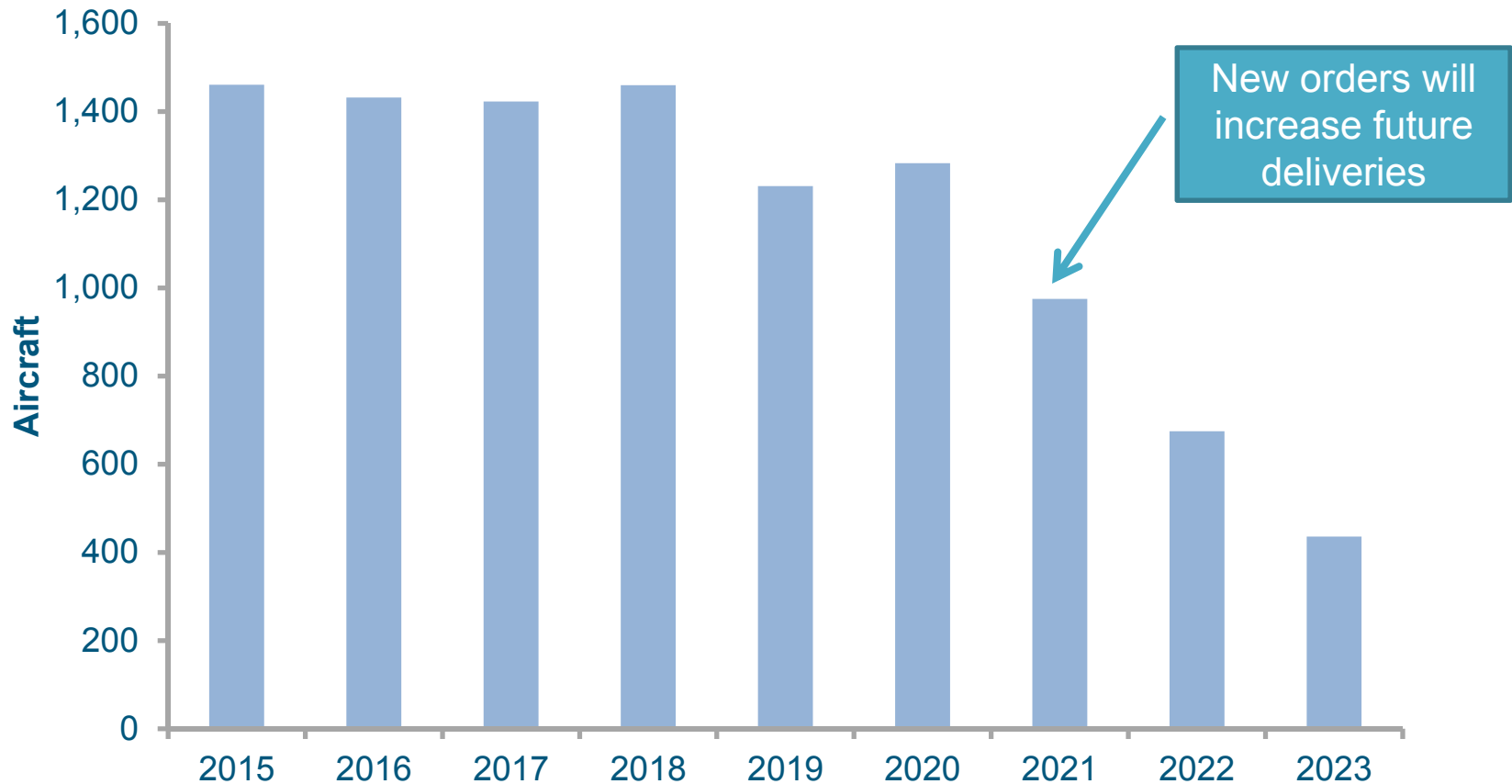
## Bombardier & Embraer



# Global Aircraft on Order, by Delivery Date

Airbus, Boeing, Embraer

Total Aircrafts on Order



Source: Diiio Mi Fleet Current Summary  
Note: Estimates of orders as of January 6, 2015

# Regional Aircraft Developments

## Phase out of small aircraft

- 33-55 seat turboprops are **ageing**
  - Bombardier Dash-8/100 (35 seats): 26 year average age
  - Dash-8/300 (55 seats): 18 years
  - ATR-42: 20 years
- Regional jets also **ageing**
  - CRJ-200: 15 years
  - ERJ-135: 14 years
  - ERJ-145: 14 years
- Economics of 55 seat RJ problematic with high fuel price



# Regional Aircraft Developments

## Phase out of small aircraft

- Within 3 – 10 years:
  - Turboprop Aircraft will reach maximum cycles
  - Cost of rebuild has marginal economic benefit
- Bombardier has no 35-55 seat aircraft in production
  - CRJ 55 seat not in production
- ATR has ATR-42/500/600 in production
  - But orders are small
- Carrier “solutions”:
  - Phase out 33-55 seat aircraft
  - Buy low cycle used aircraft
  - Rebuild to extend life

# Regional Aircraft Developments

## Phase out of small aircraft

### Air Canada

- Addition of further **(23)** Q400 aircraft
- AC plans to refurbish 19 Dash 8-300 aircraft, but Dash 8-100 aircraft not part of this program

# Developments in Airline Strategy

## Re-banking

- Airlines un-banked many hubs in the early 2000s to cut costs
- But many airlines have started to re-bank
  - American Airlines began re-banking its hubs at Dallas/Ft. Worth, Miami and Chicago O'Hare last year
  - United Airlines has re-banked its Denver and Houston hubs and will begin re-banking its Chicago O'Hare hub this month
- Though more expensive, banked schedules allow for shortened connection times as well as improved directional flows

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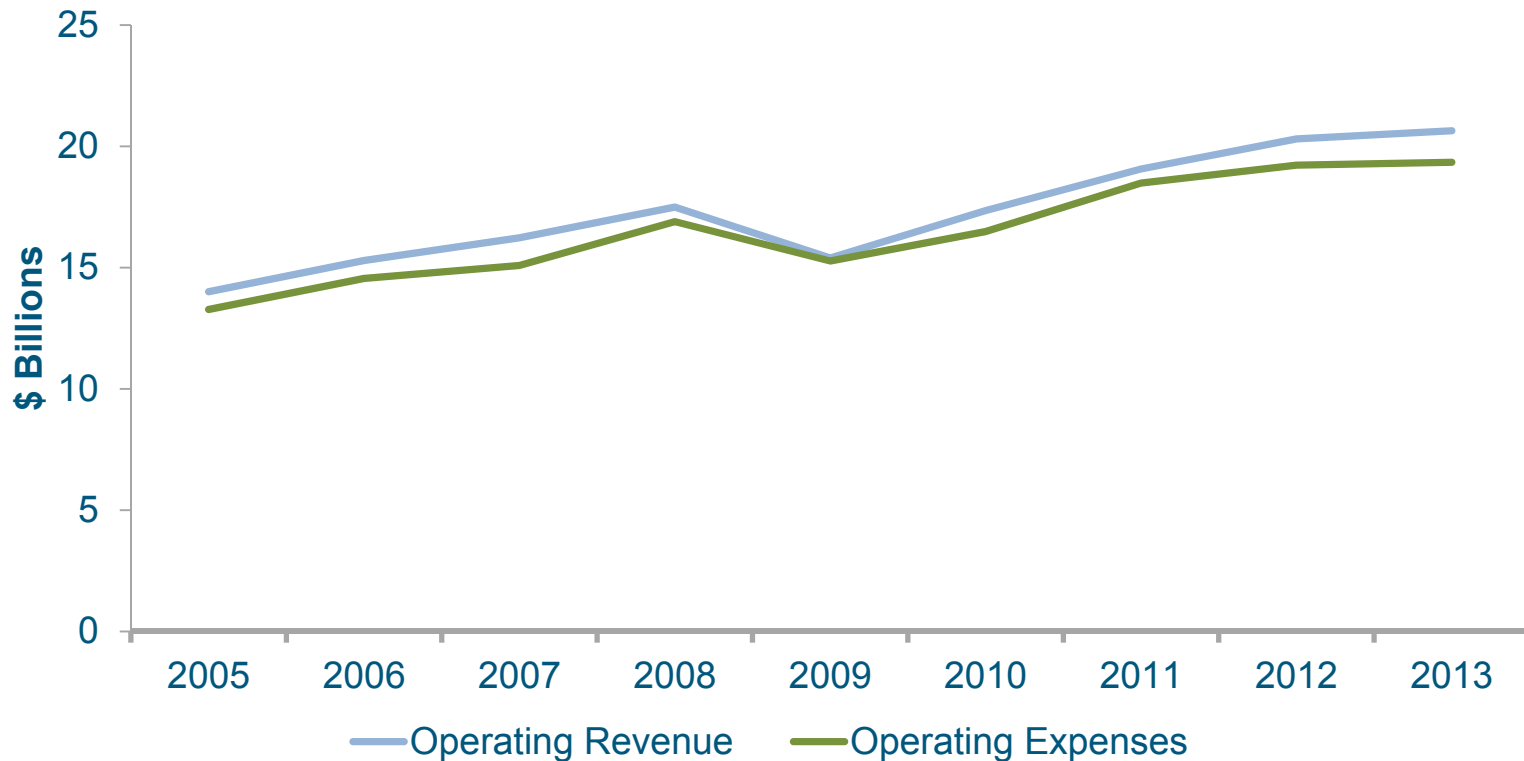
# Financial



# Canadian Air Carrier

## Revenue and Expenses: 2005 - 2013

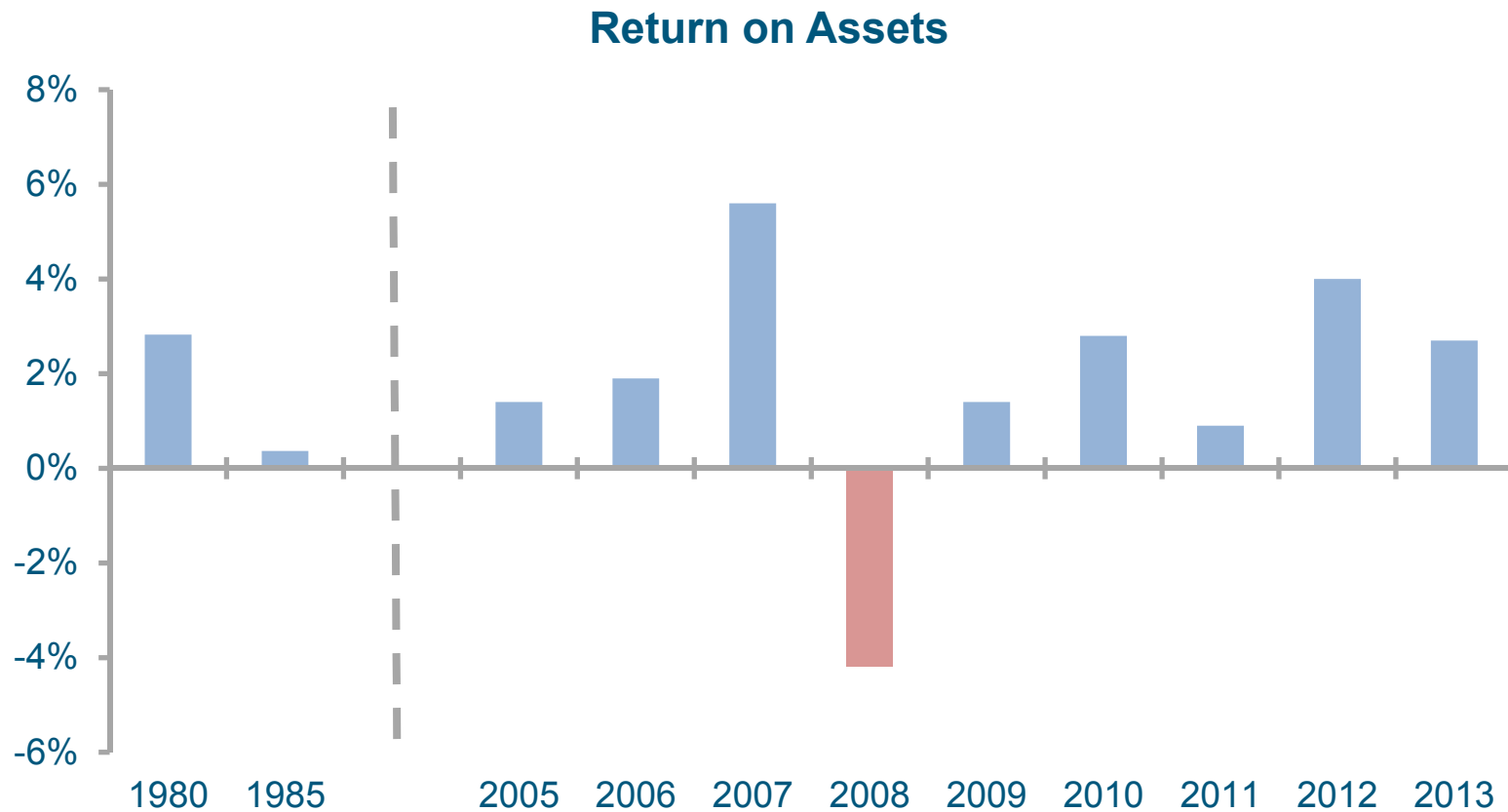
### Operating Revenues and Expenses



Source: Statistics Canada, 51-004-X  
Note: Most recent data available is 2013

# Canadian Air Carriers

## Return on Assets: 1980 - 2013



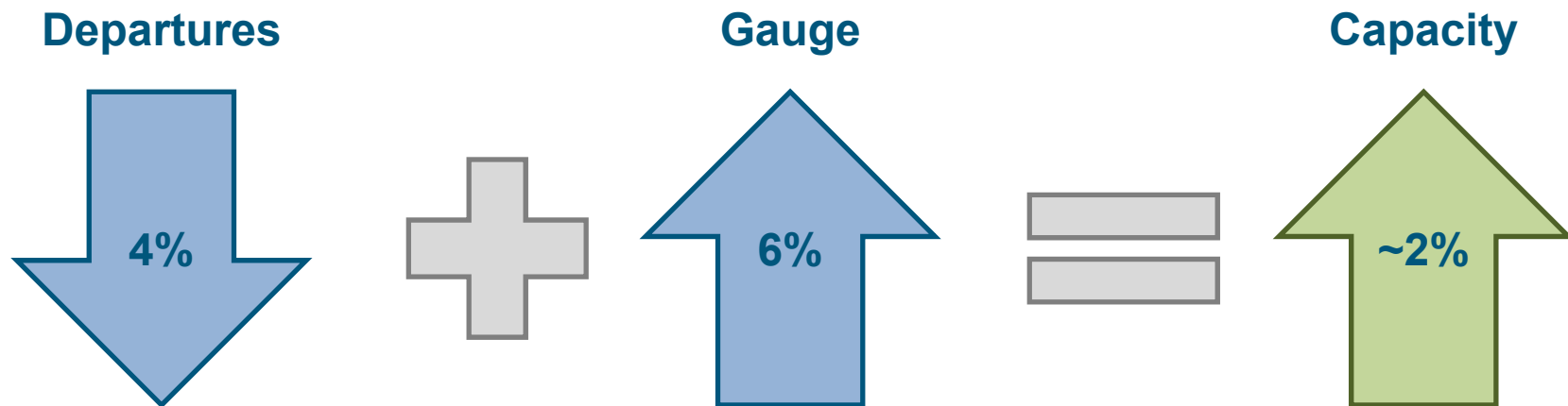
Source: Statistics Canada,  
1980-1985- Aviation in Canada; 2005-2013, 51-004-X.  
Note: Most recent data available is 2013

# Developments in Airline Strategy

## Re-gauging

Example: United Airlines

- United plans to reduce departures and increase gauge as to increase revenue and optimize use of existing slots at O'Hare



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# Investment





# Total Capital Investments

## Canadian Airports

Capital Investments by Canadian Airports  
From Transfer date to Airport Authority to 2013



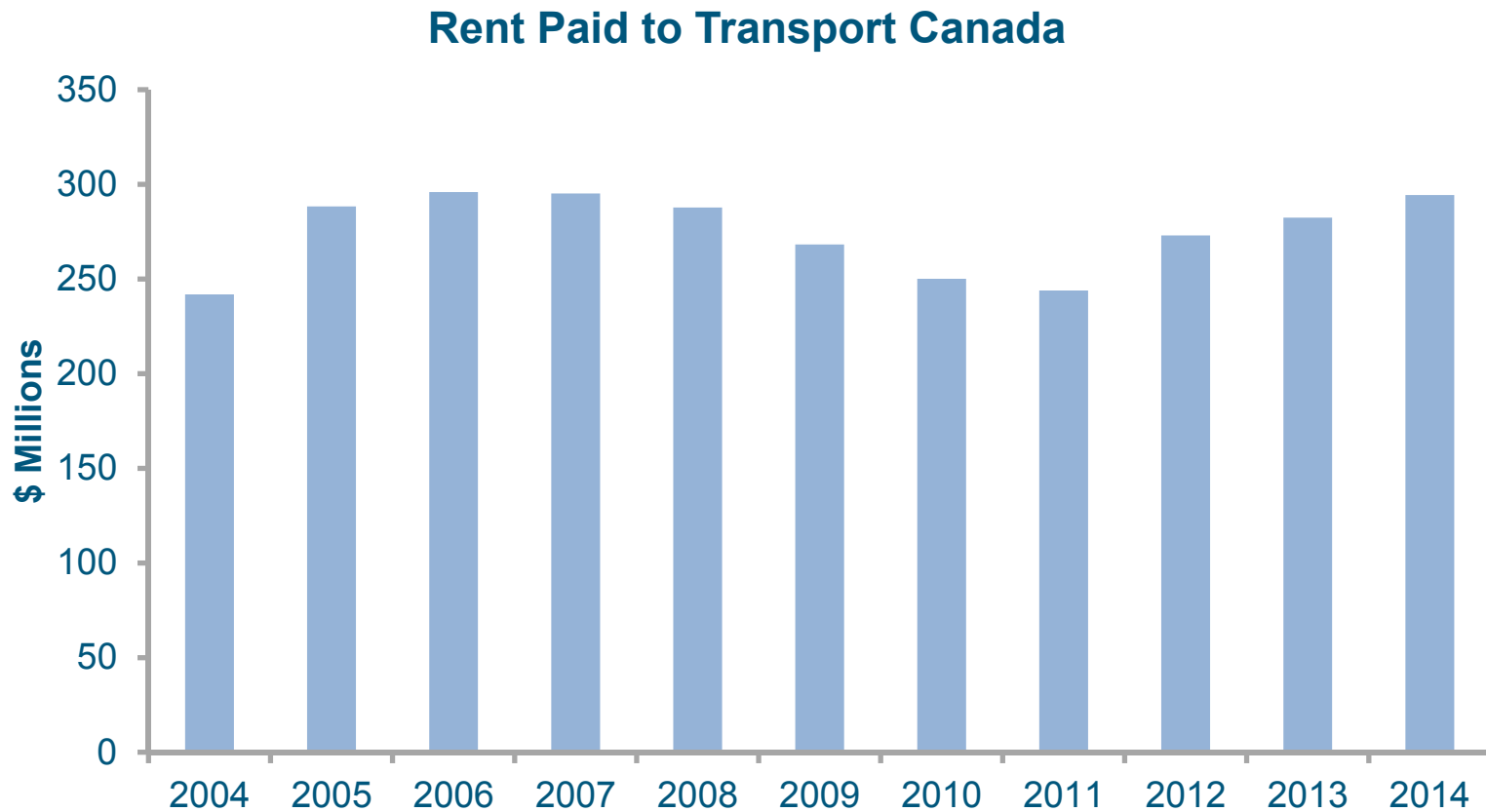
Source: Airport Annual Reports.

Note: Most recent data available is 2013

Note: Montreal includes both Trudeau and Mirabel Airports

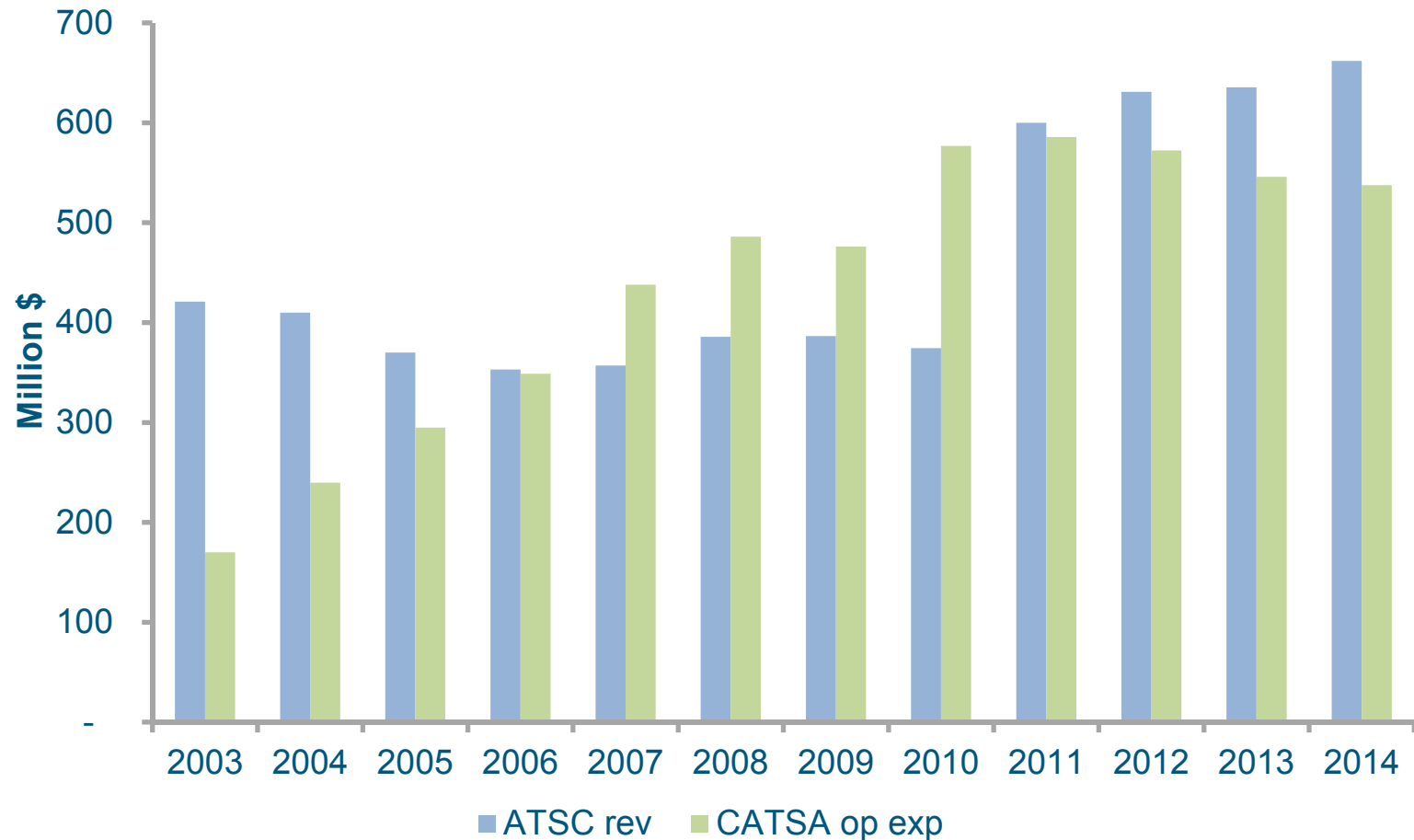
# Rents Paid to Transport Canada

## Canadian Airports



# Air Travellers' Security Charge & Expenditure

## Revenue vs. Operating Expense



Source: CATSA Annual Reports and Public Accounts of Canada, Annual Financial Review

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# Aviation Security Since 2003

- ATSC Revenues: **\$5.6b**
- CATSA Op. Expenses: **\$5.3b**
- CATSA Investment: **\$1.0b**
  
- First 2 years:
  - Revenue **\$830mn**
  - Expenses **\$410mn (\$616mn)**
  
- Is aviation security merely a benefit to passengers?

Or is it national security, with benefits to Canada?

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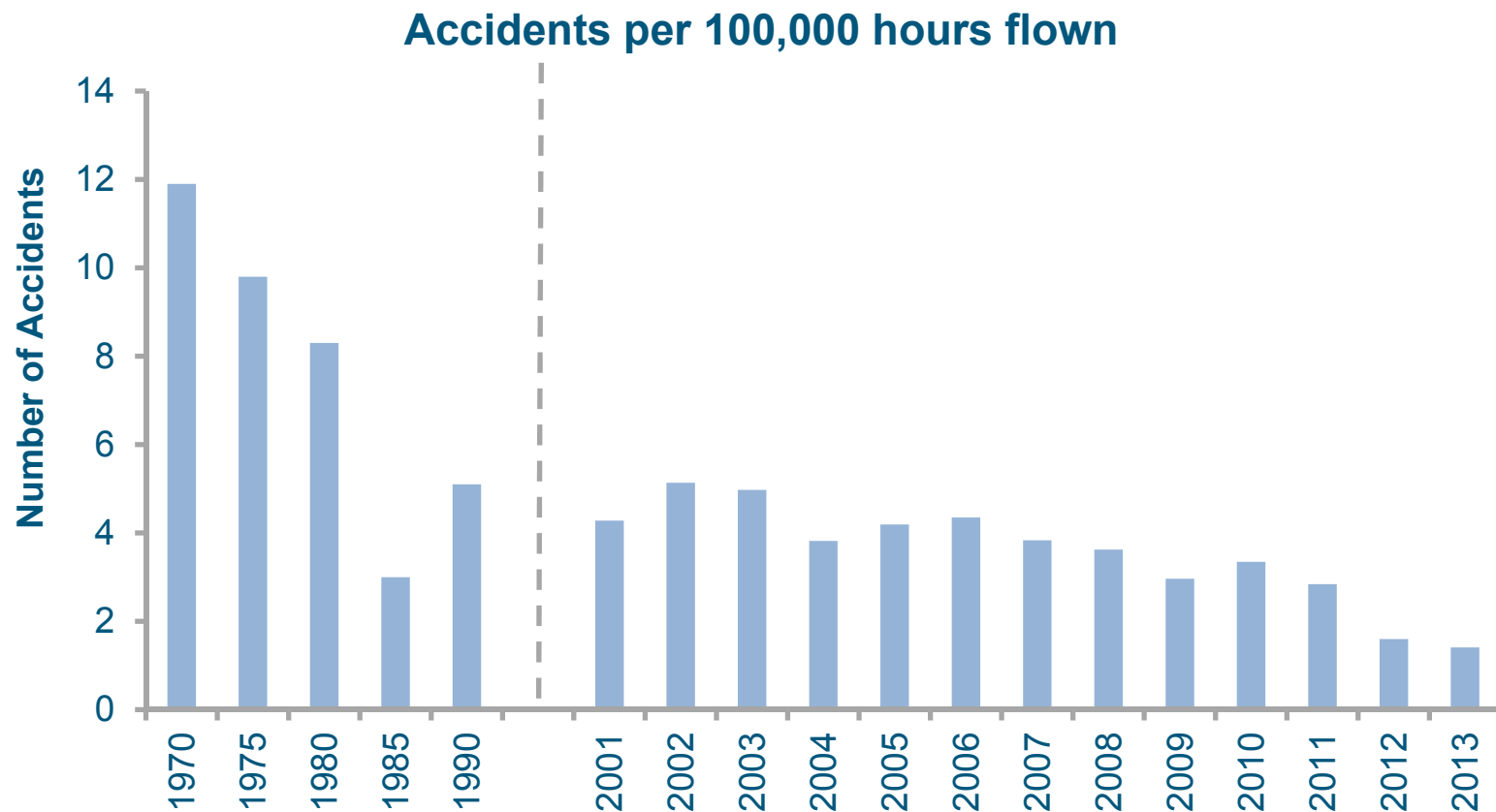
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Safety



# Accidents

## Canadian Commercial Aircraft (1970 – 2013)



Source: 1970-1990 Statistics Canada, Aviation in Canada  
2001-2013 Statistics Canada, 51-004-X;  
Transportation Safety Board of Canada  
Note: Most recent data available is 2013

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