



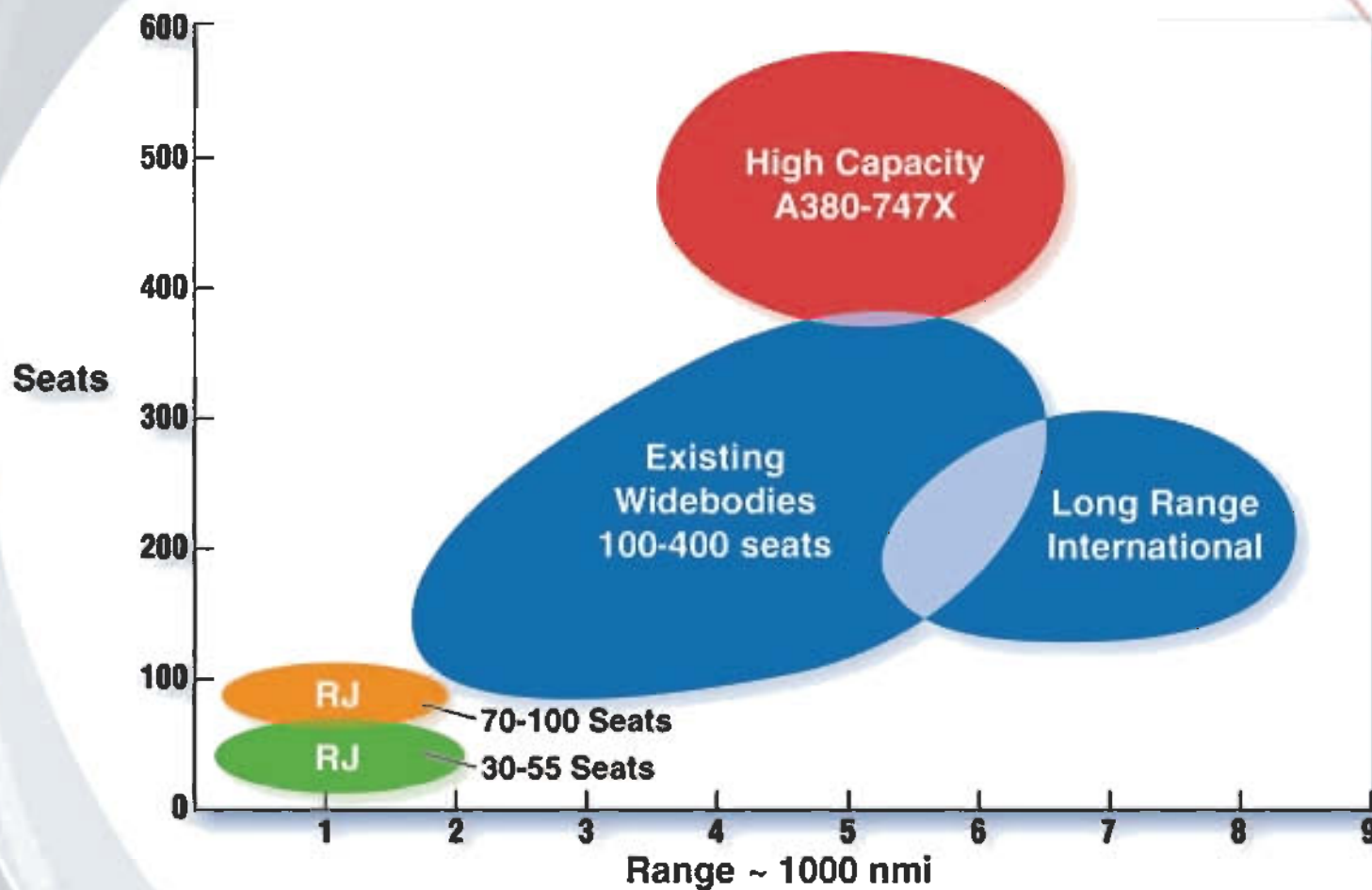
Payload, Range and Speed

Gordon McKinzie
United Airlines

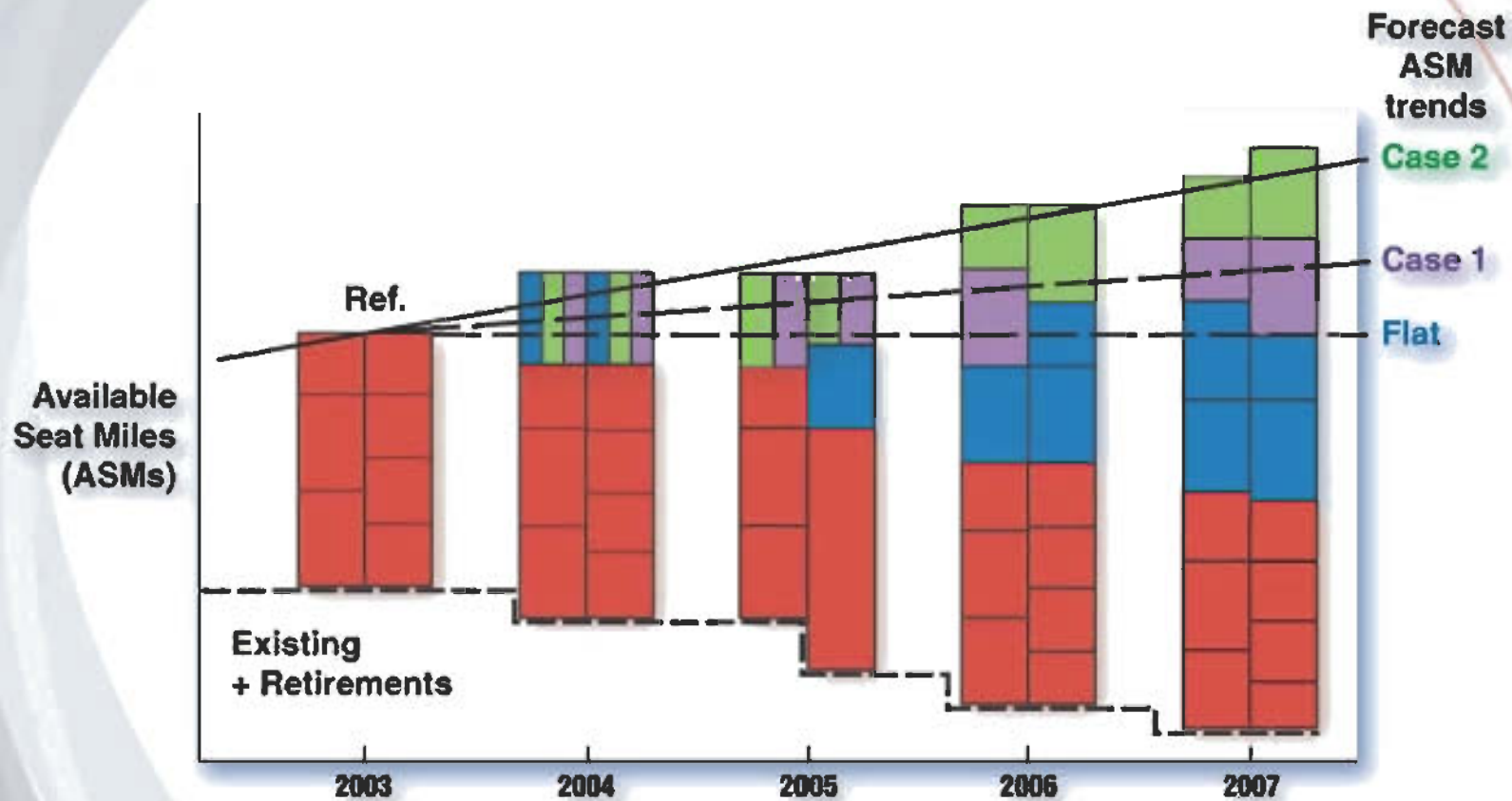


**Payload, Range and Speed:
Where Will We Go and Why?**

Fleet Mix and Growth Assessment



ASM Forecasts Will Define "First Cut" Fleet Expansion



The Airline Cost, Revenue and Profit Scenario

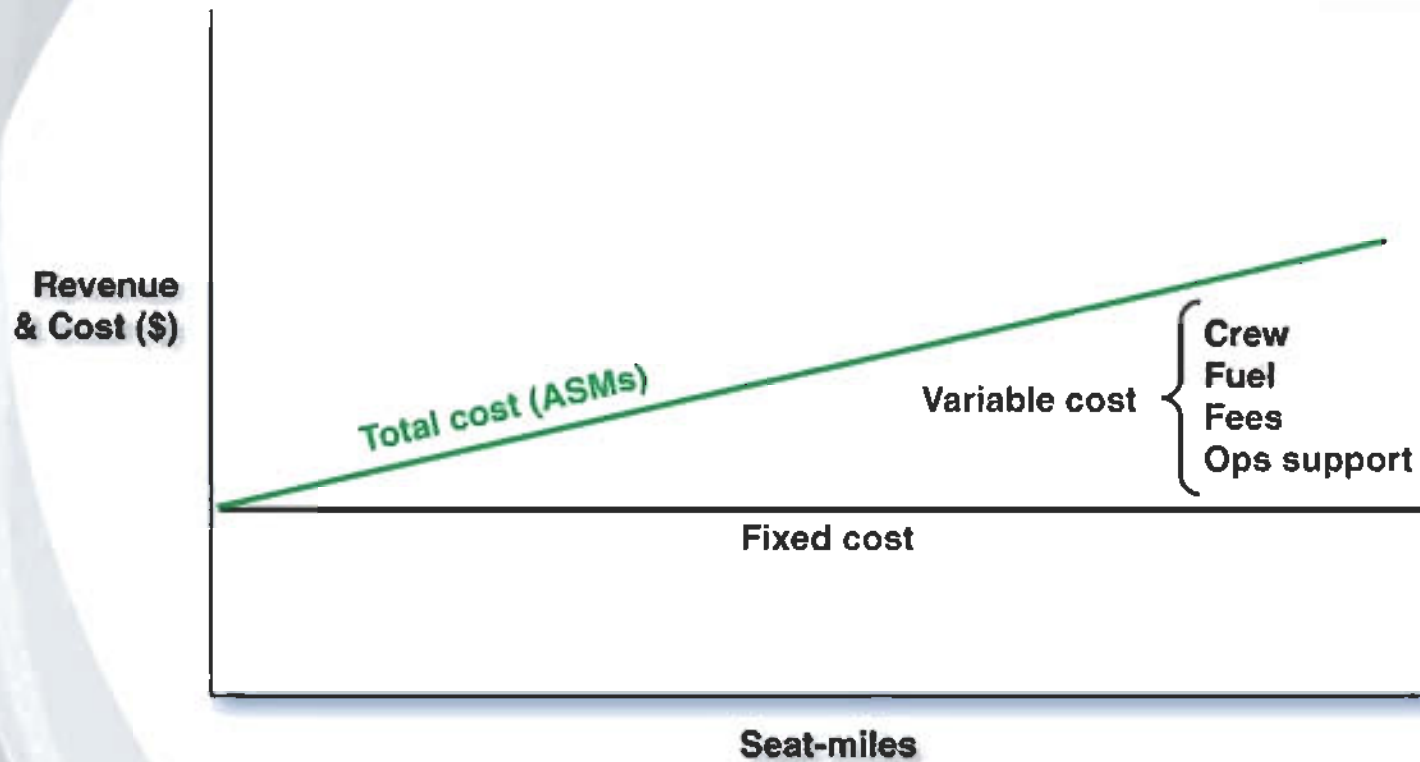
Revenue
& Cost (\$)

Fixed cost

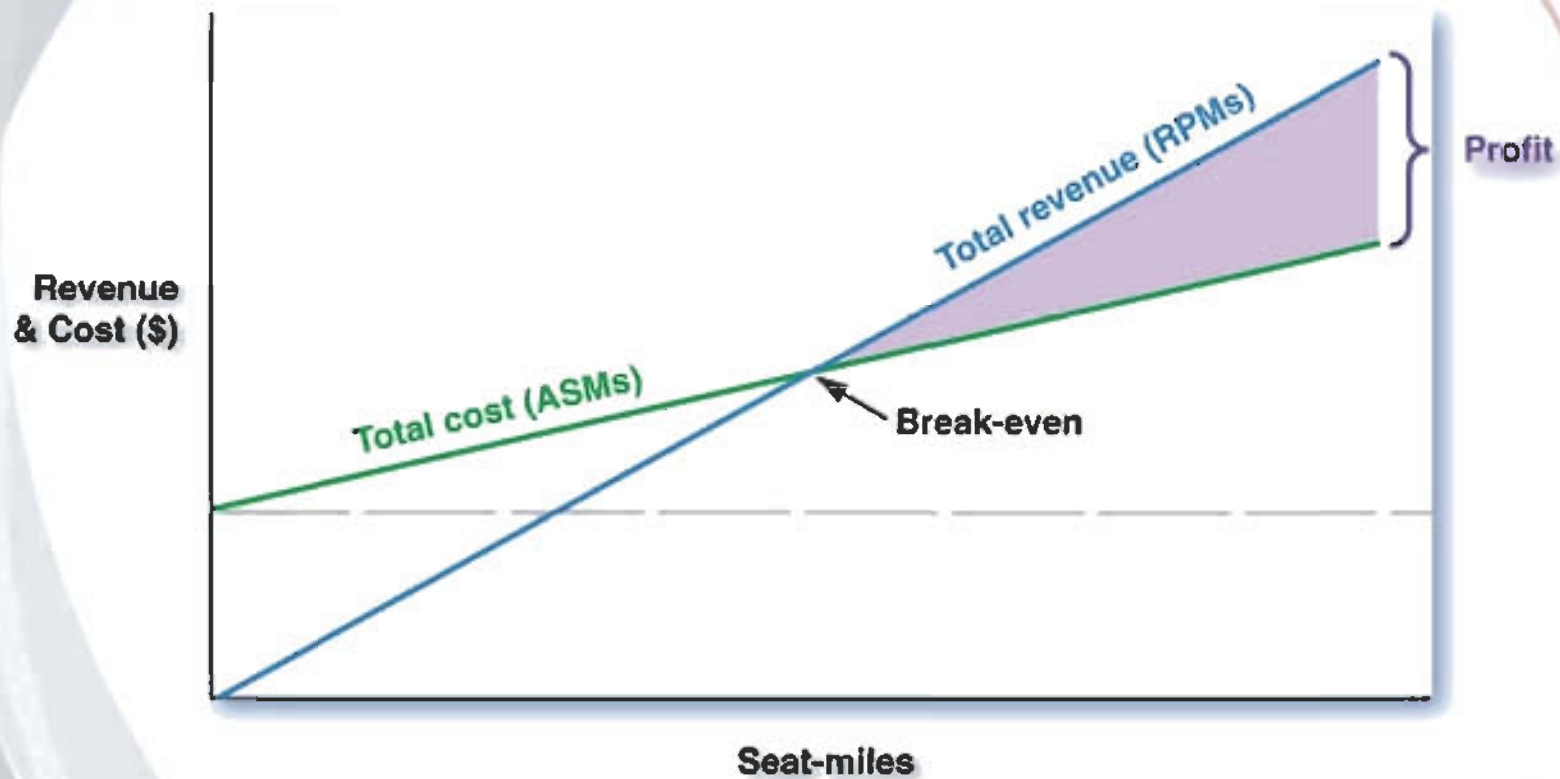
Ownership
Indirect costs
Overhead
Administrative
Non-flying assets

Seat-miles

The Airline Cost, Revenue and Profit Scenario

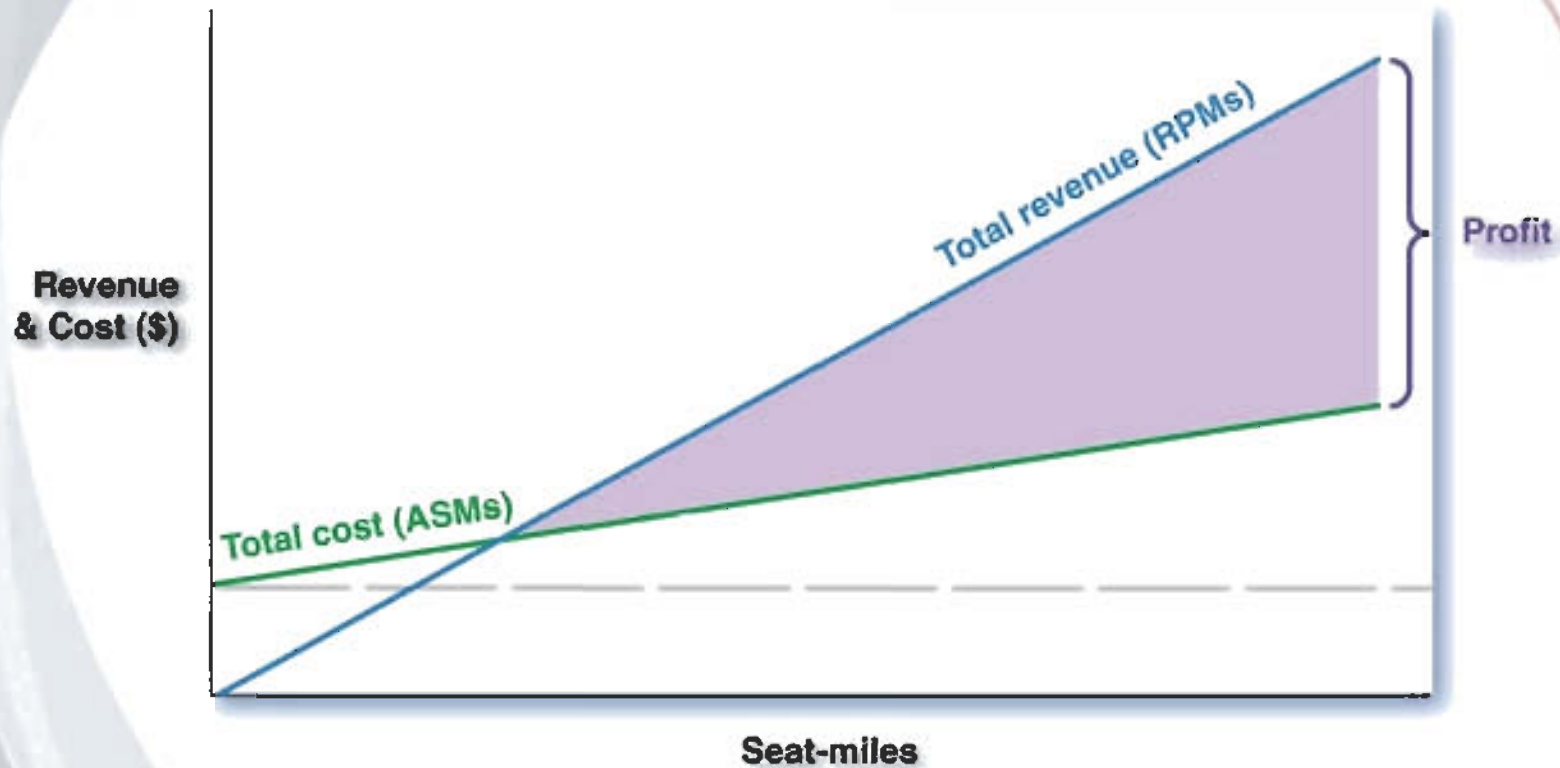


The Airline Cost, Revenue and Profit Scenario



The Airline Cost, Revenue and Profit Scenario

Opening up the profit potential



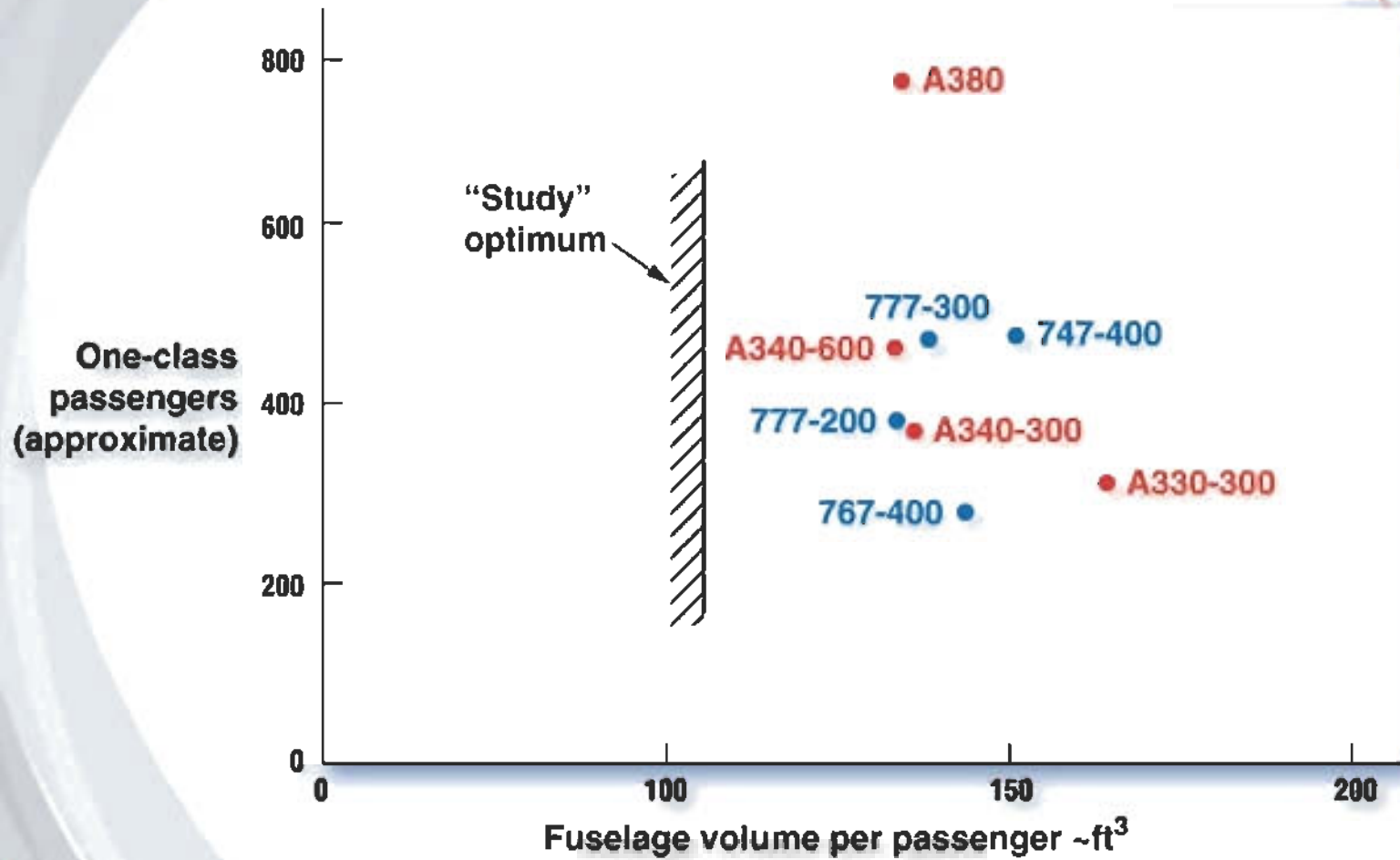
Optimizing The Interior Design . . .



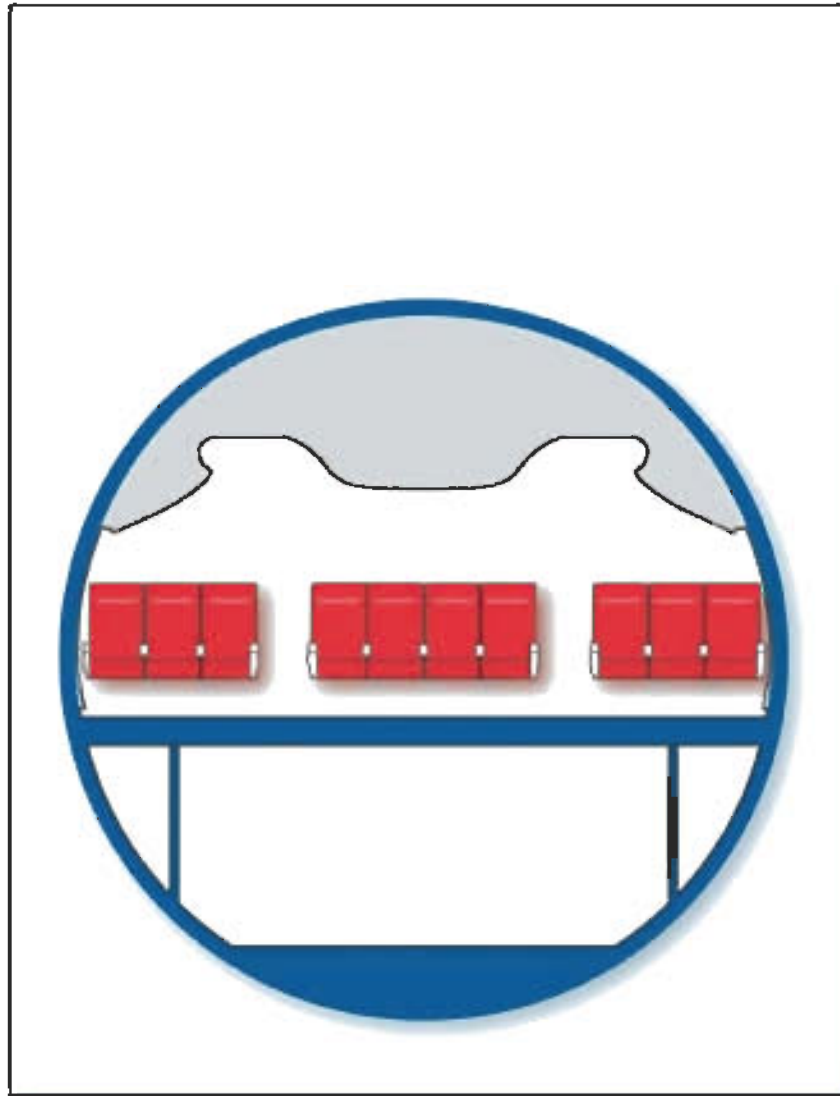
Key Criteria for a Successful Interior

- **Must be a “product differentiator” for the airline.**
- **Must encourage “re-booking potential” with passengers.**
- **Must produce maximum revenue from available cabin volume.**
- **Must be maintenance friendly, with common components.**

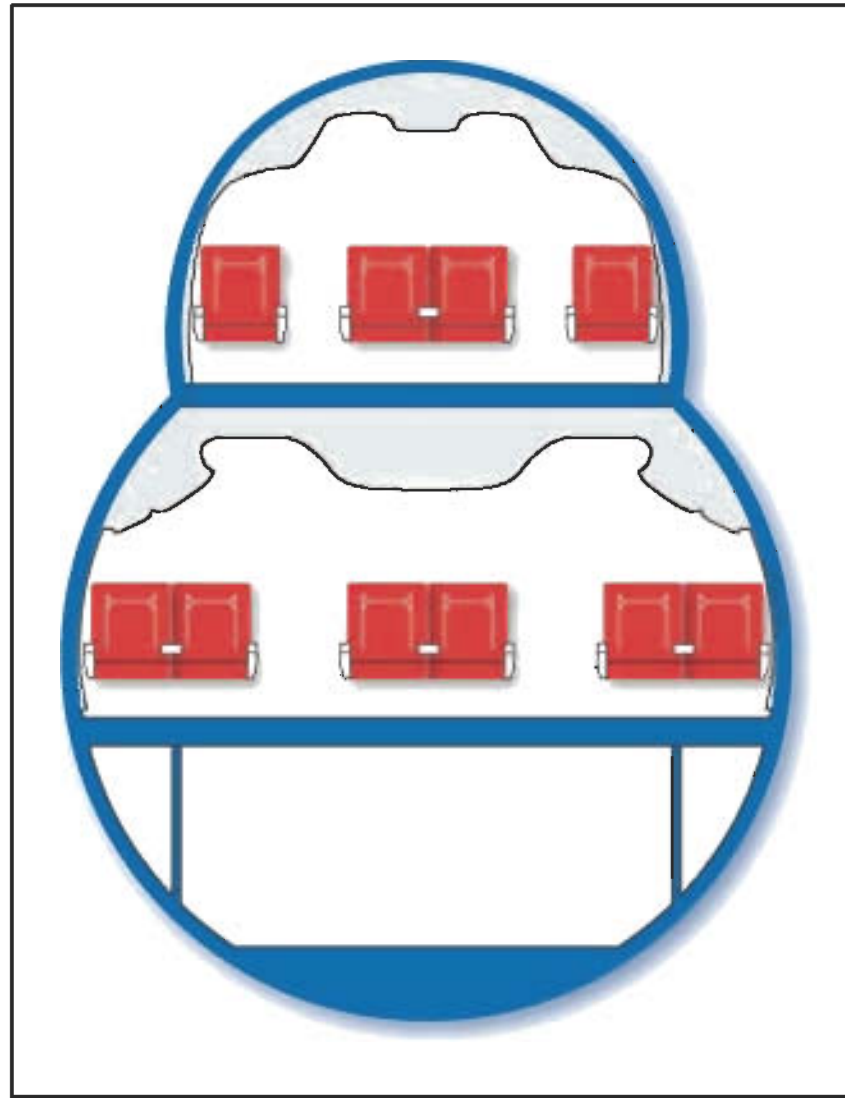
Unit Seat Volumes



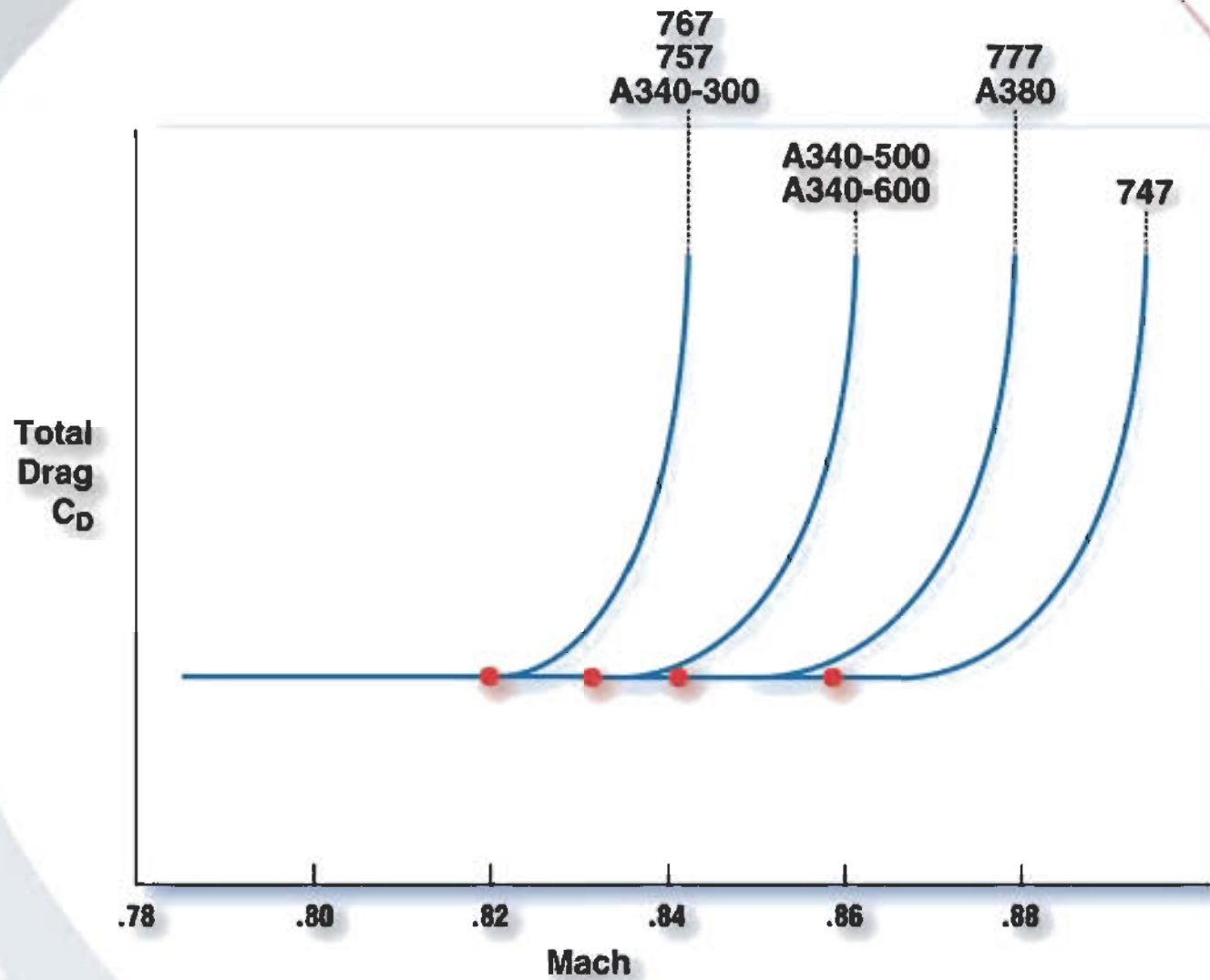
The Shape of Our Past . . .



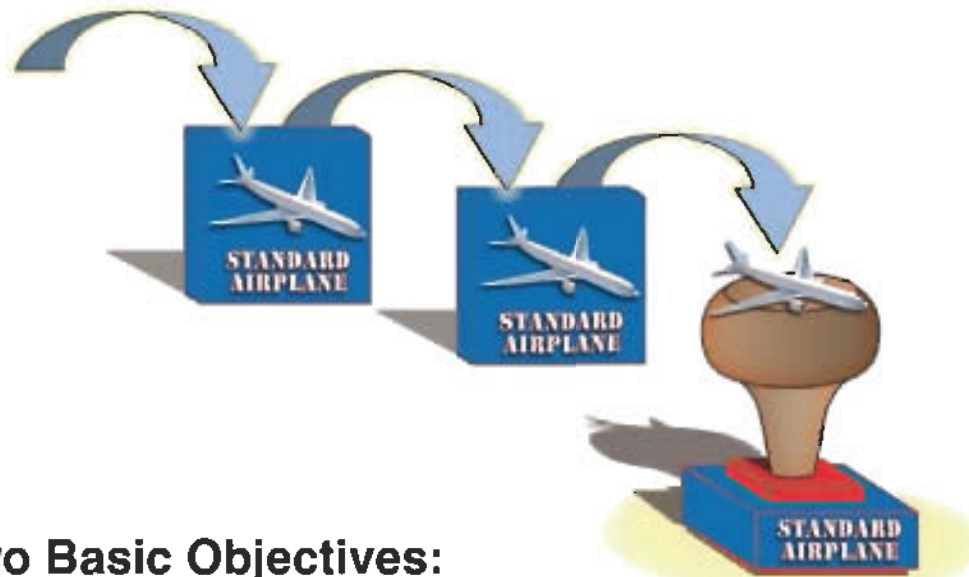
The Shape of Our Future . . .



The High-Subsonic "Brick Wall"



The Standard Airplane



- **Two Basic Objectives:**

1. Reduce airplane acquisition, operational, and maintenance costs.
2. Preserve product differentiation for each airline.

The Airplane is Assembled as a "Frozen Tube"

- **Basic interior architecture is identical for all customers (lavatories, stow bins, sidewalls).**
- **Minor flexibility for galley placement.**
- **Embedded wiring to all amenities with interfaces to "plug and play".**
- **Flight Deck is 100% standard.**



Airline-Unique Features Are Installed at a "Finishing Center"

- **Seats, closets, partitions**
- **IFE/Communications**
- **Décor (carpet, tapestries)**
- **Flight deck avionics "pin changes" only**



Standardization Results in Savings by the Manufacturer That Can be Passed to the Airline

- **“One build fits all”**
 - **No unique engineering required.**
 - **No out-of-position installations.**
 - **No special checkout or test procedures.**

- **Support system costs can be minimized**
 - **Consistent products developed as baseline for all airplanes.**
 - **“One pass” revision scenario for all services.**
 - **Standardization will facilitate common industry problem-solving.**