

## Comfort By Design

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Passengers overwhelmingly prefer the interior of the Boeing 777

It doesn't matter if it is a flight across the country or around the world. For a trip of any length of time, one concern rises to the top of every passenger's flying agenda: personal comfort. Industrial designers and engineers at The Boeing Company understand that better than any airline manufacturer in the world. When Boeing designed the 777 especially for longer flights, the company put great emphasis and effort into ensuring that long flights are as comfortable as possible.

It was a concept that became a reality embraced by both passengers and airlines.

## More Elbowroom

As evidenced in this photo, the interior of the 777 gives a sense of visual spaciousness, and the sidewalls of the 777 are more upright and room-like than found on Airbus models.

Not surprisingly, extra space was the primary solution to the comfort question. The 777 team at Boeing made the new airplane wider - a stunning 30.9 inches (78.4 centimeters) wider than its Airbus counterpart, the A330/340. This extra elbowroom made the 777 the widest airplane of its class, allowing for roomier aisles and seats. Individual airlines choose seating configurations that make the most sense for them and the routes they are flying. However, once an interior is configured, those extra inches make a difference in coach, business, and economy classes. When airlines opt to seat nine abreast in economy class, for example, the seats can be 18 1/2 inches (46.99 centimeters) wide - the widest in the industry. In business class, seating can accommodate 20-inch (50.8 centimeter) wide seats, the same size as first-class seats on many competing airplanes. First-class seats are the same width as those found on the 747 -- 21 inches (53.3 centimeters).

## Seeing is Believing

Perception is also a key to making people feel more comfortable. Boeing designers have long understood the important principles of shape and size and how the human eye interprets those things. To create more visual spaciousness, the sidewalls of the 777 are more upright and room-like than found on Airbus models. Indeed, all Boeing current models feature the unique interior of near vertical walls at seat-height. Not only does this allow for more shoulder room, it gives passengers a less "closed-in" feeling.

## Everything in its Place

Obvious safety issues aside, outside of the structural characteristics of an airplane's interior, nothing can make passengers more uncomfortable than being packed into seats cluttered with carry-ons that have no place to go. Boeing put a lot of thought into stowbins and how best to use them to create a roomier and more comfortable environment during flight time. The overhead bins on the 777 contain more volume per passenger than other airplanes in its size category. Because of the enhanced design, the 777 stowbins can accommodate twice as many roll-aboard carry-ons as the Airbus 330/340. And, because the bins are hinged and counterbalanced to swing down and out for ease of loading, it isn't necessary for a passenger to be tall to load them. When loaded, they swing up and out of the way to give the cabin a more open feeling.

## Listening to Airline Customers and Passengers

Boeing didn't create the customer comfort models out of thin air. In fact, science, customer comments, focus groups and research formed the basis of much of what the company has created to ensure passenger comfort. A decade ago, Boeing conducted a widebody airplane (airplanes with two aisles) survey in "mock-up" duplicates of airplane interiors manufactured by the company. Engineers and industrial designers asked 3,972 people to try out the space and tell them about the comfort level of the 777, as compared to other airplanes. Boeing used their comments to ensure that the 777 offered passengers maximum comfort. In 1992, the 777 cabin became the first airplane interior to be honored for excellence by the Industrial Designers of America. The award reflected advances in the understanding of the contribution of light and design to passenger comfort.

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Passengers have noticed the difference, too. In 1999, 5,732 passengers from all over the world flying on long-range routes filled out surveys about the airplane models they preferred. The scientific random-sample survey was not conducted by Boeing, but by the airlines themselves. The results were very clear. More than three out of four passengers who had flown aboard both the 777 and the Airbus A330/340 preferred the 777 -- an overwhelming margin. Among European first-class passengers, the 777 was preferred 65 to 35 percent. In the United States and Canada, the preference was 84 to 16 percent and 91 percent of Middle Eastern first-class passengers chose the 777. In business class, the preference for the 777 was 77 percent in Europe, 89 percent in the United States and Canada, 75 percent in Asia and 93 percent in Australia.

In economy class, where space per passenger is often at a premium, the results were also quite impressive. Seventy-eight percent of passengers flying on European routes, 93 percent of passengers originating from the United States and Canada, 88 percent of passengers bound from the Middle East, 82 percent of passengers disembarking from Asia, and 73 percent of passengers originating from Australia preferred the 777.

The Boeing Company's reputation for leading aviation design extends far beyond an airplane's flight deck or avionics, but to the personal comfort of those who choose to fly specific airplanes. The 777 remains state of the art, comfortable and cozy -- a living room at 35,000 feet (10,668 meters). That's what designers at Boeing had in mind and seek to improve even today.

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