

Working the Rail

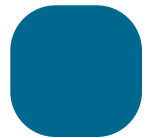
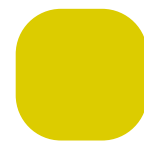
Amtrak's Acela Express
by Catherine Fredman

My workspace is surprisingly serene, considering that it is whizzing along at 137 miles per hour. Picture windows frame panoramic views of the New England coastline, while allowing the sun to pour plentifully inside. Although almost every seat in the train is occupied, I'm sitting in a designated "no cell phone" car, so the ambience has that peaceful, concentrated hush associated with old-fashioned reading rooms stocked with neatly stacked newspapers and overstuffed chairs.

Acela Express is North America's first high-speed train, a long-overdue answer to France's TGV, Japan's Bullet and Germany's super-fast ICE trains. Business travelers have long sought a fast track on the Northeast Corridor. But while the Metroliner, Amtrak's 125-mile-per-hour train, could run from New York City to Washington, D.C., in three hours – a reasonable time, considering the hassle of getting to and from the airport if you were taking the shuttle – Metroliner service wasn't possible on the non-electrified tracks north of New Haven. Amtrak realized something had to be done. "We know that the majority of our travelers are business travelers," says Karen Dunn, spokesperson for Amtrak. "Folks turn to the train as an alternative to flying the shuttle."

While Amtrak worked on upgrading the track to serve speeds of up to 150 miles per hour, it turned to IDEO to create the interior of the new, streamlined cars. "One of the great benefits of the train is that you're on the train for a greater percentage of the journey, whereas on an airplane you spend time getting to the airport and being in an airport before you get on a plane," recalls IDEO president Tim Brown. "If you can deliver a quality experience, people can use their time more productively."

That meant re-examining the train from top to bottom, and redesigning it around the idea of an enhanced workspace. This included the lighting, the color of the carpet, meeting spaces to collaborate, quiet spaces to concentrate, ready access to data and power ports when needing to work and visual breaks when needing to disconnect and reflect. "We had to consider a lot of the issues that are involved in designing any office, but this one had to be on wheels," said Brown.



[Catherine Fredman](#) writes about personal finance, management strategy and adventure travel. She's especially proud of co-authoring best-selling business books with Intel Chairman Andy Grove and Dell Computer CEO Michael Dell, as well as surviving survival school in southwest Utah, where the native New Yorker learned to catch fish with her bare hands and build a fire without matches.

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"One word that was very important in the design approach was 'flow,'" said Richard Eiserman, the team leader on the project. "Flow" demanded ease of getting on the train and moving about the train – and consequently dictated entrances wide enough for a wheelchair, spacious gathering areas near those entrances and motion-sensor-operated glass doors between the cars that shield undesirable train noise from entering the seating area. I caught more than one passenger standing in front of the sensors, waving their arms for the sheer joy of seeing the doors obediently slide open.

In configuring the middle car-six trainset, IDEO decided to put the café car in the middle – "so that someone at one end of the train wouldn't have to walk the entire length of the train to get to it," explained Eiserman. "That had a lot of influence on how the café car was designed."

"Flow" is again the operative word. Unlike the old café cars, which were consistently clogged with waiting customers and passengers pushing through, the Acela Express's Café is totally streamlined. Customers line up against one window-lined wall facing the bartender and the menu, so that they can decide what they want before they get to the counter. Then they either follow the curving partition to the end of the car to return to their seats, or settle in the wide-windowed seating area whose red leather bar stools and thoughtfully placed cuprests emphasize the bistro ambience.

Back in the passenger cars, the two fundamental design principles are "choice" and "comfort." The seating configurations in Business Class vary from two-by-two, to four seats facing each other around an ingenious folding table for conferences, to the occasional single seat with its own table. (First Class is two-by-one.) The pitch between the seats is a roomy 42 inches, nearly double the wiggle room you'd find flying coach. The footrests unfold into a neat slot for a briefcase, or tuck away completely for even more leg room. Every seat also has power outlets. However, with both outlets under the window, when sitting in the aisle seat I had to thread my power cord under my seatmate's legs.



But this minor gripe is more than mitigated by major improvement in the toilets. Designed to be wheelchair-accessible, with light fiberglass surfaces (including a nook to place a handbag), large backlit mirrors and natural light from a window of sand-blasted glass.

As judged by the number of people booking tickets, Acela Express is a rousing success. The service was launched on December 11, 2000, and notched its one-millionth passenger just a year and 11 days later, surpassing Amtrak's original estimate. To be sure, the events of September 11, 2001 have had a lot to do with people switching from

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the plane to the train. "We've seen ridership grow by 40 percent post-September 11 on Acela Express alone, compared to combined Acela and Metroliner ridership a year ago," comments Dunn.

Once four more Acela Express trainsets are delivered, Amtrak intends to phase out Metroliner service entirely. With enough trains in the yard, it is considering instituting non-stop service from New York to D.C., knocking the station-to-station time down to less than two and a half hours. Today, the Boston run is three hours and 23 minutes. On my recent trip, that gave me plenty of time both to work and to gaze out the window and watch as the train paced the cars on I-95 – and beat them.

IDEO

"Tracking the Acela Experience."

Innovation begins with an eye. That's the first lesson in jumpstarting the thought process at IDEO, the Palo Alto, Calif. based industrial design firm and Steelcase partner company which designed the new cars for Amtrak's Acela Express trains.

Forget focus groups. IDEO's interdisciplinary team of designers, human factors researchers and engineers identified a cross-section of Amtrak customers, then shadowed them from the moment they planned their trips until they reached their final destinations. "For the designers to understand what the consumer goes through, they need to put themselves in the consumer's shoes," says Richard Eiserman, who headed up the team.

This intensely user-centric approach produced a long and varied "buglist," the compilation of all the aspects of the journey that irritated, or bugged, the passengers and their nitpicky observers. Items on the bug list included a lack of power outlets, awkward passages between the cars, dark and dank toilets that couldn't accommodate wheelchairs and even the quality of the lighting. Then the team went about eliminating every item on the

bug list and imagining their ideal train car.

That ideal car began to take shape – literally. IDEO is a firm believer in physical prototypes that you can throw, cradle, sit in and live with. "Prototyping is the shorthand of innovation," writes IDEO general manager Tom Kelley in his best-selling book, *The Art of Innovation* (Currency, 2000). "Living, moving prototypes can help shape your ideas." Soon, a full-scale mockup of half of a train car was in IDEO's Boston office. "Every so often, we'd have all the IDEO folks walk through it to understand the kind of space we'd be creating," recalls Eiserman. "Instead of an abstract exercise, it became a real working model that we could test."

As it turned out, the train car was only one aspect of the redesigned Acela. IDEO's fingerprints are all over every step of the journey. "It's not just new equipment," concludes Eiserman. "It's about a new experience."