A New Acela This Way Comes — on Amtrak's Outdated Northeast Tracks: Cameron on Transportation

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I'm a big fan of high-speed trains, which means I often ride Amtrak's Acela to Boston or Washington. It's the best train in North America, though it pales in comparison to true HSR (high-speed rail) in Europe or Asia.

While Acela can hit a top speed of 150 mph, it does so on only 34 of the 457 miles between DC and Boston. Over the entire run, with congestion and station stops, it only averages about 70 mph.

But its 20 daily runs are highly popular, especially with business travelers on expense accounts (the fares are roughly double usual coach fares). The trains are often sold out and, depending on whose accounting you trust, actually make a profit for the quasi-public corporation, carrying 3.4 million passengers a year: 25 percent of Amtrak's total revenue.

As well as its maintained, Acela is still getting old. The trains have been running almost 20 years and they're too small, carrying just 304 passengers per trip. Compare that to the Eurostar from London to Paris (750 passengers per train) or Japan's Shinkansen from Tokyo to Osaka (1,300 passengers).

So, Amtrak is building the next generation of Acela.

When it was shopping for the first Acela, Amtrak tested two European designs: the Swedish X2000 tilt-train and the German ICE Train. Liking elements of both, they opted for neither, instead going for a new design custom built by Bombardier and Alstom. This time they're going with a proven design modeled after Alstom's French TGV and Italy's Pendolino.

The new Acelas will carry 378 passengers and will be built with aluminum bodies. They'll be capable of speeds of 220 mph but will probably never achieve those rates. Given the old roadbed and signal system, they'll probably max out at 160 mph on the small portion of track that can handle it. Think of a Ferrari trying to drive on a potholed I-95.

So while they'll be no faster than the existing Acelas, they may be more comfortable. Using an active tilting system they'll be able to go faster through the Northeast's many curves, without tossing passengers or their drinks into the aisle.

Each of the 28 train sets will have engines at each end pulling and pushing nine passenger cars. If ridership remains strong, three additional articulated coaches can be added to each train set.

The seating will be Business and First Class (Coach is only for the slower and cheaper Northeast Corridor trains). Each plush leather seating row will have power and USB plugs. The Café Car will be snazzier, too.

The initial trainsets are being built now at Alstom's plant in Hormel, New York. Testing should start this fall at the FRA's test track in Pueblo, Colorado, and, if all goes well, on the Northeast Corridor by December.

The new Acelas should enter commercial service in 2021 with all 28 sets delivered by 2022, at which point Amtrak will retire the original models.

Mind you, these new cars are not cheap: about $2 billion for the 28 trains, making them Amtrak's most expensive purchase ever. Each train will cost about double what its European counterparts do because of FRA requirements for crash-worthiness: the engines are built like a tank to sustain any impact in a crash.

So hang in there rail fans. Something new is coming from Amtrak to a train line near you.