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## China Sees Growth Engine in a Web of Fast Trains

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WUHAN, China — The world’s largest human migration — the annual crush of Chinese traveling home to celebrate the Lunar New Year, which is this Sunday — is going a little faster this time thanks to a new [high-speed rail](#) line.

The Chinese bullet train, which has the world’s fastest average speed, connects Guangzhou, the southern coastal manufacturing center, to Wuhan, deep in the interior. In a little more than three hours, it travels 664 miles, comparable to the distance from Boston to southern Virginia. That is less time than [Amtrak](#)’s fastest train, the Acela, takes to go from Boston just to New York.

Even more impressive, the Guangzhou-to-Wuhan train is just one of 42 high-speed lines recently opened or set to open by 2012 in [China](#). By comparison, the United States hopes to build its first high-speed rail line by 2014, an 84-mile route linking Tampa and Orlando, Fla.

Speaking at that site last month, [President Obama](#) warned that the United States was falling behind Asia and Europe in high-speed rail construction and other clean energy industries. “Other countries aren’t waiting,” he said. “They want those jobs. China wants those jobs. Germany wants those jobs. They are going after them hard, making the investments required.”

Indeed, the web of superfast trains promises to make China even more economically competitive, connecting this vast country — roughly the same size as the United States — as never before, much as the building of the Interstate highway system increased productivity and reduced costs in America a half-century ago.

As China upgrades and expands its rail system, it creates the economies of large-scale production for another big export industry. “The sheer volume of equipment that they will require, and the technology that will have to

be developed, will simply catapult them into a leadership position,” said Stephen Gardner, Amtrak’s vice president for policy and development.

But the high-speed trains, which average speeds of up to 215 miles an hour, have their critics here. Heavily subsidized regular trains, which require 11 hours for the trip from Guangzhou to Wuhan, cost \$20.50 one-way. The bullet train costs \$72, or one to three weeks’ pay for an assembly line worker.

“These prices are unreasonable, just like a lion opening its bloody mouth,” said one recent Internet posting, using a Chinese proverb for voracious greed.

Yet many workers traveling home for the lunar New Year were understanding of the high price. “Based on the distance, the price is not too high,” said a plastic injection molding worker who gave his surname, Li, and was catching the slow train to save money.

China’s lavish new rail system is a response to a failure of central planning six years ago.

After China joined the [World Trade Organization](#) in November 2001, exports and manufacturing soared. Electricity generation failed to keep up because the railway ministry had not built enough rail lines or purchased enough locomotives to haul the coal needed to run new power plants.

By 2004, the government was turning off the power to some factories up to three days a week to prevent blackouts in residential areas.

Officials drafted a plan to move much of the nation’s passenger traffic onto high-speed routes by 2020, freeing existing tracks for more freight. Then the global financial crisis hit in late 2008. Faced with mass layoffs at export factories, China ordered that the new rail system be completed by 2012 instead of 2020, throwing more than \$100 billion in stimulus at the projects.

Administrators mobilized armies of laborers — 110,000 just for the 820-mile route from Beijing to Shanghai, which will cut travel time there to five hours, from 12, when it opens next year.

Zhang Shuguang, the deputy chief engineer of China’s railway ministry, said in a speech last September that

the government planned 42 lines by 2012, with 5,000 miles of track for passenger trains at 215 miles an hour and 3,000 miles of track for passenger and fast freight trains traveling 155 miles an hour. Top speed on the Tampa-to-Orlando line is supposed to be 168 miles an hour.

Though they have yet to retreat from their goals, Chinese officials have hinted in the last several weeks that stimulus spending may slow. Some transportation experts predict that a few of the 42 routes may not be finished until 2013 or 2014 as a result. One worry is whether China is overinvesting in high-speed trains that may require operating subsidies like those for maintaining highways: fares on a route from Beijing to Tianjin have been set lower than initially forecast to make sure they stay full.

The new trains leave 29 times a day for Wuhan from a gargantuan train station on the outskirts of Guangzhou that opened on Jan. 30. With soaring steel girders, white walls and enormous skylights far overhead, the station, Asia's largest, resembles a major airport.

As the Chinese train whizzes across the countryside, tile-roofed homes in ancient villages gape windowless, hints of peasant relocations that the government has not publicly quantified.

To avoid bulldozing urban neighborhoods, huge rail stations have been erected in industrial districts on the edge of cities. Subways to the stations are still being built in Guangzhou and Wuhan; passengers now take 40-minute bus rides from city centers.

The three-hour train to Wuhan makes a quicker trip than the nearly two-hour flight, once faster train check-in times are accounted for. Airlines are losing customers.

Bullet trains travel faster than a commercial jet at takeoff. They require extremely flat, straight routes. Amtrak's Acela only briefly reaches its top speed of 150 miles an hour because it runs on old, curvy tracks that it shares with 12,000-ton freight trains.

On a recent Wednesday, the 2:50 p.m. bullet train glided smoothly out of Guangzhou's station and within four minutes was traveling more than 200 miles an hour. Practically every seat on the 14-car train was full of migrants heading home for Chinese New Year.

Sun Nanyu, a 9-year-old girl dressed in pink Minnie Mouse barrettes and a pink-and-gray “Hello Kitty” sweater, sat in economy class with her father.

“I was scared to go on this train because it goes so fast, but now I’m not scared at all because it’s very stable and doesn’t wobble back and forth,” Nanyu said before falling asleep on her tray table.

Many Americans may be too corpulent for the economy-class seats, which measure just 18 inches between the arm rests. One-way first-class seats are \$114 and two inches wider.

The 2:50 train arrived in Wuhan at 5:52, six minutes early. A nearly full train back to Guangzhou the next day also arrived six minutes early.

Soaring tax revenue, a national savings rate of 40 percent and laborers who earn less than \$100 a month help make high-speed rail affordable to build in China.

Even with cheap labor, the Wuhan-Guangzhou line cost \$17 billion (116.6 billion renminbi); it has so many tunnels through mountains that at times it feels like a subway.

A saying is making the rounds in Guangzhou: a resident can board a train in the morning, have lunch at historic Mount Yuelu in Changsha, dinner at the famous Yellow Crane Tower in Wuhan and still come home and sleep in her own bed.

For Americans, a comparable trip would involve a Boston resident who catches a train to Philadelphia, has lunch near the Liberty Bell, goes to dinner in colonial Williamsburg, Va., and returns home by bedtime.

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