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Welcome the Driverless Trucks

After much experimentation, autonomous big rigs are now making real deliveries. Policymakers should start rolling out the red carpet.

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by The Editorial Board

The Editorial Board publishes the views of the editors across a range of national and global affairs.

It was a glimpse of a very appealing future: A sleek 18-wheeler powered by Aurora Innovation Inc. trundled down Interstate 45 from Dallas to Houston last week with a trailer full of goods and a completely empty cab. At long last, autonomous trucking may have arrived.

Although driverless experiments have been underway for some time, Aurora's excursion marks the first fully independent freight delivery along a public highway. By next year, the company hopes to have 10 trucks plying the route. At least five competitors are working on similar technology. By 2035, the total market could exceed $600 billion.

Trucks are essential to the 21st-century economy. They move nearly three-quarters of the nation's freight by value, bringing raw materials to manufacturers, essential goods to supermarkets, gas to pumps, drugs to hospitals, anything you order on Amazon to your doorstep. They sustain the miraculous global supply chains that consumers now take for granted.

As freight demand rises, however, the industry's challenges are mounting. Harsh working conditions have led to high turnover and chronic driver shortages. Burdensome regulation adds costs, reduces productivity and squeezes margins. Carbon emissions are pronounced. Accidents are distressingly common.

Automated big rigs could transform this picture. Unlike human drivers, they aren't subject to hours-of-service regulations and can run close to 24/7, thereby doubling the daily range of a given truck, from 600 miles to 1,200 miles. That in turn could slash costs per mile by as much as 42%, while reducing congestion, expanding capacity, accelerating deliveries and boosting productivity economywide.

Environmental benefits, too, could be substantial. Autonomous trucks have precise throttle and brake controls, which minimize fuel burn. They could also be driven in coordinated "platoons" that cut down on wind drag, improve mileage and reduce emissions. Aurora reckons that they could increase net energy efficiency per loaded mile by up to 32%.

Perhaps the biggest advantage will be safety. Human error causes nearly 90% of truck accidents. Autonomous big rigs will be hard-wired to follow traffic laws and equipped with tools such as cameras, collision-avoidance systems, lidar, radar and ultrasonic sensors. They won't get

Look, Ma, no hands. *Source: Aurora Innovation*

Trucking Dominates US Freight Shipments

Mode	By Value	By Weight
Truck	72%	64%
Rail	3	8
Water	1	4
Air	3	0
Multiple	14	3
Pipeline	6	20

Source: TRIP (2022)

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fatigued, distracted or drunk, and they are unlikely to exceed speed limits or collide with fixed objects, as humans tend to do. Mishaps will surely still occur, but optimism is warranted.

Of course, it's fair to worry about how all this will affect jobs. One study sponsored by the Department of Transportation found that any layoffs are likely to be gradual and would affect at most 1.7% of the workforce. Current drivers should mostly be unaffected, while younger ones will have time to master new skills as the job evolves (think less Smokey and the Bandit, more logistics and customer service). For the broader economy, the picture is bright: Automated trucks should raise wages for all US workers, create up to 35,000 jobs a year and increase gross domestic product by as much as 0.3%.

Policymakers should embrace this transition. States should follow Texas' lead in encouraging autonomous innovation. The White House should ensure that existing displaced-worker programs have the resources to help truckers acquire new skills. Congress, finally, should consider establishing a federal safety framework – the industry is inherently interstate – while ensuring that companies still have latitude to experiment.

Like most new technologies, autonomous trucks pose plenty of challenges. On balance, though, the benefits look to far exceed the risks. Cheaper, faster, cleaner, safer: There's a lot to like.