

AV/EV Big Rigs with Interstate Highway Intercept Centers.

The Future. Prognosticators believe, rightly so, that sooner or later the nation’s 18-wheel truck fleet will be made up of autonomous vehicles [AVs]. This eventuality is being rushed to market by the competition to be first with the AV technology and by the shortage of over-the-road truck drivers. The recent supply chain breakage put a spotlight on the shortage and although efforts are being made to improve the situation, the shortage persists and likely will continue to do so for a while. Pay is low and working conditions are tough.



One approach may be to provide “Intercept Centers” for the over-the-road big AV rigs to rely on as an interim destination. The Intercept Centers could be connected directly to the interstate highways and other large federal highways and intercept the trucks before they entered the local high traffic roadways of a metro area. The AV trucks would be directed from the Interstate Highway to a docking station at the Center.



Several functions would be provided at the Intercept Center. First, fueling and maintenance [physical and digital] would be provided to ensure the truck was road-worthy and ready to re-enter the Interstate System on another voyage with another cargo. Second, the cargo in the truck would be off-loaded, broken-down as appropriate and when complete, the truck could be re-loaded for a continuing trip. Since there is no driver, the truck can return immediately to the road once serviced and loaded. Third, if the truck was destined for an interior metro location, a driver would take the controls, as a harbor pilot would for a sea-going vessel, and the pilot drives the truck through the metro area to its local destination.

Ports’o Call. The land use and transportation implications are clear. Land, suitably sized, adjacent to the Interstate System can be anticipated to be an Intercept Center. In large metro areas, there may need to be Intercept Centers at all points of the compass.

A Harbor Pilot is a mariner who guides ships through dangerous or congested waters, such as harbors or river mouths. Pilots are expert shiphandlers who possess detailed knowledge of local waterways.

LINK:

<https://canaveralpilots.com/what-is-a-harbor-pilot/>

A model for the near-term future can be seen at the nation’s deep water ports. Tankers, container ships and other big boats travel the open seas with the ship’s captain in full control...until the ship approaches a harbor. Then the ship stops, takes on-board a harbor master who then pilots the ship through the harbor to a dock. Consider a big-rig truck on the interstate approaching its final destination in a metro area where the roads are smaller, more contorted and more heavily congested. Is this the place for an 18-wheeler without a driver? If not, is a system of intercepting “ports” the answer until the system is both perfected and accepted.

- The AV big rig travels the interstate or other federal highway with a steady flow of regulated traffic and few interruptions along the way.
- Upon approaching a metro area, the AV truck “docks” at a service center on the edge of town that is directly connected to the highway.
- A driver then boards the truck and drives it to the final destination using the local road system.

Such a system plays to the strength of the two elements of the system.

- The AV truck travels the interstate or federal highway with regularized traffic, without a “sleepy” driver and without unnecessary stops, especially if the vehicle becomes electrified.
- The driver assumes responsibility for the truck’s delivery with local knowledge, human control of the vehicle and the facility to make several stops for trucks with less than a full load. Changes in schedules can be accommodated. In addition, a trucker’s life becomes more “normal”. The driver can live in the metro area without having to spend extended time on the road.

Conclusion. Service, maintenance and fueling can be provided at the Intercept Centers. The system plays to the strength of each of the components. The AV/EV truck travels the highways best suited for remote control. The Local Driver takes over in the metro traffic and uses her/his skills to navigate the local road network. Future land use plans should consider the possibility of Intercept Service Centers near interstate and major federal highways.

FROM...THE WALL STREET JOURNAL.

LOGISTICS REPORT

By [Heather Somerville](#) and [Jennifer Smith](#) | Photographs by Cassidy Araiza for The Wall Street Journal

Updated Aug. 18, 2021 5:35 am ET

For Robot Trucks, Navigating Highways Is Just One Bump in the Road

Investors have rushed into startups that promise to have big rigs drive themselves, but a path to commercial markets remains a major challenge

Excerpts:

“In the past four months, four prominent self-driving trucking companies collectively valued at about \$26 billion, including TuSimple and Plus, have rushed to tap public markets, leveraging the robust market for initial public offerings and the popularity of a vehicle known as a special-purpose acquisition company, or SPAC, in bids to raise large sums of money.

“Investors have poured roughly \$5.7 billion into TuSimple, Plus, Embark Trucks Inc. and Aurora Innovation Inc. in the past year, according to an analysis by The Wall Street Journal. The shift to public markets adds greater scrutiny to these companies, and urgency to demonstrate that they can map a path into commercial markets.”

Read the full article at LINK: https://www.wsj.com/articles/for-robot-trucks-navigating-highways-is-just-one-bump-in-the-road-11629279002?reflink=share_mobilewebshare