

THE ETHICS OF CAVs

CHARLIE KNOX, PRINCIPAL, PLACEWORKS, ON WHAT THE NEAR FUTURE HOLDS FOR THE CONNECTED TRAVELER

Clean-fuel connected autonomous vehicles (CAV) will undoubtedly change the face of transportation and they will help resolve many of our existing challenges, especially if they are a shared on-demand resource and carry multiple passengers in most cases. Still, without significant subsidies to allow access by lower income users, CAVs alone may not be able to offer realistic access to everyone, and therefore, be able to completely replace the utility and equity afforded by fixed rail, Bus Rapid Transit (BRT) and even feeder bus routes.

A foretelling case in point: as the Tennessee Department of Transportation and the city of Nashville determine how to use roughly \$5 billion to expand the Metro light rail system; they face opposition to continuing to fund fixed route transit based on the argument that CAVs will eliminate the need for today's technology. A pivotal point of the critique is that with ever-improving lithium-ion and cellular technology, everyone will have a mobile device and therefore will easily be able to hail a CAV for any transportation purpose.

But the flaw in this argument is that a CAV rider will also need a payment mechanism. As ubiquitous as cell phones and bar-coded transit cards have become, many riders still pay in cash or buy daily cards due to the lack of a credit card or debit card backed by a bank account.

The cure, argue many transportation engineers, is that with a little time, CAVs will allow lower income commuters to reach jobs less tethered to fixed-route transit and therefore help increase their purchasing power.

That would be ideal, but in the meantime millions of travelers will still rely on light rail, bus, and BRT. This is helping shape land-use

patterns that are increasing transit use and decreasing dependency on smaller roadway vehicles, which are the primary cause of peak hour congestion and bottlenecks, no matter whether they're clean-fuel or autonomous.

THE SPINE OF THE COMMUNITY

Efficient and heavily used BRT systems, such as in England and Colombia, are landmarks in and of themselves, helping to define both the transportation network and the sense of place, whether urban, suburban and sometimes even rural.

These transit spines have helped communities become more holistic – with life, work, and play activities in close proximity, both near stations and along main thoroughfares leading to them. No one is willing to be told they have to live near transit, but practical experience is proving in many places worldwide that building transit-oriented development with a mixture of uses is resulting in ever-greater populations taking advantage of the benefits of transit-oriented development (TOD).

The ethical need to maintain a transit system that also serves less advantaged travelers is a strong reason to maintain and improve light rail, BRT, and maybe even traditional bus and paratransit systems. But even more importantly, fixed-route systems work: they are reliable, visible and offer everyone equal access and relatively low-cost travel options.

For many commuting drivers, beating their mobile device's estimate for arrival time to a destination is today's version of winning, and CAVs will likely improve performance on that scale, but the goal of transportation professionals should be that everyone wins in the future. So yes, CAVs will be essential in transforming our world and improving quality of life, but fixed-route transit will more than likely continue to provide a significant complementary need for the foreseeable future. □

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CHARLIE KNOX is the principal of PlaceWorks, based in the San Francisco Bay Area. PlaceWorks is one of the premier planning, design and environmental firms in the U.S. The firm's expertise and services span a wide range of planning, design, science and engineering, economics, environmental analysis and community outreach disciplines. Government agencies, corporations and developers, educational institutions and nonprofit organizations across the country rely on PlaceWorks to consistently provide thoughtful, accurate and thorough solutions to their most complex problems. For more information, visit the firm's website at www.placeworks.com.