ASNE PEP2024 Unmanned Design Competition

(Technical Report)

The Struggle Over Automated Driving in California's Cities

(Sociotechnical Research Paper)

An Undergraduate Thesis Portfolio
Presented to the Faculty of the
School of Engineering and Applied Science
In Partial Fulfillment of the Requirements for the Degree
Bachelor of Science in Mechanical Engineering

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May 10, 2024

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Sociotechnical Synthesis

How can vehicular efficiency be improved? Automakers and tech firms are developing technologies that can optimize road vehicles' driving performance, thereby marginally improving their efficiency.

What is the optimum feasible design for an unmanned electric-propelled vessel? The capstone team attempted to develop an electric-powered vessel that can complete a racecourse in a time trial. The vessel was entered into the annual Promoting Electric Propulsion (PEP) organized by the Office of Naval Research and the American Society of Naval Engineers (ASNE). Though the vessel encountered a failure at the competition and was not able to continue, new components have been implemented, strengthening the points of failure. Developers of robotic road vehicles argue that they offer advantages of safety, convenience, and efficiency.

Tech companies, automakers, insurers, advocates, transit agencies, and policy makers all compete for influence in determining the place of automated driving technology in the future of urban mobility. Although "autonomous vehicles" advertised by tech companies have shown no capacity to play a leading part in urban passenger mobility, they that stand to gain from AV sales and operations have sustained undue confidence in them by associating them with notions of technological progress and by exaggerating their safety relative to that of human-driven vehicles. These groups through various strategies try to shape regulations and public perception on the deployment of AVs on roads.