Online Ethics Center
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Role Play Scenario: A City Decides on Self-Driving Buses

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Description

This role playing scenario involves creating a stakeholder committee that evaluates whether a city should allow a company to use its downtown area as a testbed for a fleet of self-driving buses.

Body

The Scenario

Your city has been selected to participate as a testbed during a one-year period for a fleet of self-driving public buses by a company looking to expand its market presence in the autonomous vehicle space. The buses would travel on standard roads, often using a designated bus lane, within the city's downtown area. The

company indicates that the self-driving bus fleet will be able to interact with regular traffic and would operate within SAE International's levels 4-5 of driving automation.(1) What follows from this is that a human operator (in other words, a bus driver) would not be necessary in the vehicle. The company indicates that the capital and operating expenses associated with a self-driving bus is 1-1.5 million dollars per year–a figure that is based on estimates from published reports (e.g., Chamblee 2018).(2) However, the company claims that a self-driving bus fleet will prove financially advantageous over a short period of time (e.g., it will eliminate the cost of employing human drivers). Moreover, the city may be eligible for a federal transportation grant to help subsidize the initial purchase of the vehicles.

City officials are interested in incorporating self-driving buses into their public transportation system. They have been pushing for the use of autonomous vehicles as part of their approach to mass transit in order to discourage reliance on the individual passenger car and (hopefully) increase safety. The average number of fatalities due to car accidents in the US hovers between 30,000-40,000.(3) The "critical reason" for approximately 94% of these car accidents is connected to the driver, according to the US Department of Transportation.(4) Thus, city officials aim to reduce the number of individual passenger cars on the road and have received assurances from the company that using self-driving buses would lower the number of traffic accidents. Furthermore, projections from city planners indicate that the use of self-driving buses may lower traffic density, which could draw more businesses, tourists, and others into the downtown area and thus generate economic growth.

Before proceeding with the test period for the self-driving bus fleet and in order to be considered eligible for the federal transportation grant, a formal community engagement process between city officials and various stakeholders must occur. City officials must convene a diverse collection of stakeholders to receive public comment and community input, and ultimately build a fuller understanding of how this emerging technology might impact the city. Although city officials are intrigued by the economic aspects of this initiative, their primary responsibility during the stakeholder committee process is to protect the public's interest and well-being. The stakeholder committee, which will include representatives of the company with computer science expertise, must decide whether to recommend that the city participate as a testbed for the self-driving bus fleet.

See the full activity from Georgia Tech online.

- (1)Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles. (2018, June 15). SAE International. Retrieved from https://www.sae.org/standards/content/j3016_201806/.
- (2)Chamblee Self-Driving Shuttle: Smart Solutions Workshop. (2019, April 9). City of Chamblee, Georgia. Retrieved from https://www.gacities.com/getmedia/88f6d9a3-4f53-4184-8ce2-4271e8daa90d/Self-Driving-Shuttle.aspx.
- (3)Road Safety Facts. (n.d.). Association for Safe International Road Travel (ASIRT). Retrieved from https://www.asirt.org/safe-travel/road-safety-facts/.
- (4)Critical Reasons for Crashes Investigated in the National Motor Vehicle Crash Causation Survey. (2015, February). National Highway Traffic Safety Administration (NHTSA). Retrieved from https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812115.

Notes

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