Sanjay Jagadeesh

English 1

Research Essay Outline

11/20/24

Topic: AVs (Autonomous Vehicles)

Introduction

1. Background on AVs

* What are AVs?
* Current situation of AVs
* **Question**: In the future, how will the implementation of AVs change in the United States, and will it differ between different regions of the country?
* **Thesis**: In the future, AVs will see limited growth across the nation, with most of the growth concentrated in urban areas.

Future Expansion of AVs

* Benefits & Drawbacks
  + Less pollution, parking spaces, curb space, new jobs created in tech.
  + More urban sprawl, jobs lost in some industries, infrastructure cost.
    - “State highway planners say it will cost billions in public money to prepare the nation's 4 million miles of paved roads and 250,000 intersections for widespread use of autonomous cars” (Ornes).
* *Urban vs. Rural*
  + Differences in Preparation
  + Transit
  + Infrastructure

Impact on Cities

* Changes in:
  + Landscape
    - “The trade-off from such a massive investment in better roads could be fewer parking lots, garages and new-road construction” (Ornes).
  + Transportation
    - “Autonomous vehicles make travel more efficient and operate as taxis and shuttles and make deliveries, according to some environmental researchers” (Ornes).
  + Technology
  + Jobs
    - “‘Autonomous cars are going to largely eliminate jobs [people] weren't interested in and create opportunities in work that people will find more rewarding,’ argued Ian Siegel, co-founder and CEO of ZipRecruiter, a job search website’” (Ornes).
  + Policy

Possible diffusion to rural areas (after some time)

* + Possible benefits to rural areas
    - Elderly
    - Medical Emergencies
  + Ways AVs can be implemented outside cities.

Rebuttal

* + Why AV growth will occur sooner/later.
* “According to industry estimates, four in 10 vehicles will be autonomous by 2040 (Accenture Digital, 2014). This is a lucrative new industry, and while the estimates vary, the predicted global value of the autonomous vehicle industry has been projected at $US54billion in 2019, rising to $US556billion by 2026 (Garsten, 2018)” (Porter et al).
* “The AV revolution could be combined with a mass shift to carbon neutral vehicles, presenting new possibilities for carbon reductions. Many pundits claim AV is safer than human drivers, though recent high profile accidents have dented public confidence. For people with disabilities and impairments to mobility, AV presents transformative possibilities, with a recent survey in Australia demonstrating that more than 85% of people felt AV would bring mobility impaired people significant benefits (Regan et al., 2017)” (Porter et al).
* “Debate continues to rage about whether **autonomous** **vehicles** are safer than human-controlled **vehicles**, and whether or not this represents massive advantages for cities of the **future**, or a dystopia of more freeways, trips and congestion” (Porter et al).

Conclusion