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Land Use in a World of New Transportation Technologies

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Issue

To prepare for the arrival of autonomous vehicles, the Los Angeles Department of City Planning is exploring land-use strategies to optimize the potential safety and environmental and access benefits of this new technology. Self-driving or autonomous vehicles have captured the imagination of many, including transportation officials, the media, technology entrepreneurs, and travelers. At the same time, this new technology raises complicated questions related to ethics, liability, accessibility, and safety. Technology companies and auto manufacturers are testing autonomous vehicles on public roads today. Although self-driving technology is still under development, advancements are occurring rapidly. In order to capture the benefits and minimize the costs of autonomous vehicles, cities must take advantage of this testing period to prepare for an autonomous future. Autonomous vehicles have the potential to transform mobility in Los Angeles by providing populations previously unable or unwilling to drive with access to vehicles, eliminating human error in traffic crashes, and increasing efficiency through connected vehicle technology; however, these benefits are not assured. In the absence of advanced preparation and planning, there may be unintentional adverse effects, including increased sprawl, vehicle miles traveled, commute distances, and automobile-related pollution.

Research Findings

In reviewing the General and Comprehensive Plans of the 40 most populated U.S. cities and from the interviews with planning staff, the researcher found tremendous variation in the rate at which cities are working to address the potential transportation impacts of AVs. Of those surveyed, only eight cities referenced AVs within their General or Comprehensive Plans. Cities that included AVs in their General Plans share similar approaches to addressing AVs compared to cities that did not include AVs in their General Plans. Many interviewees reported their cities have taken advantage of the public attention around AVs to reinforce existing city goals, which include prioritizing mixed-use development along transit corridors, rethinking parking and curbside management, and adding technological improvements to existing road infrastructure. Cities have also developed mechanisms outside of the General Plan to begin planning for and developing policies to prepare for the deployment of AVs.

KEY TAKEAWAYS

- Cities are moving at different rates in their attempts to address autonomous vehicles: Some have incorporated specific policies in their General Plans while others have engaged in preliminary conversations with state policymakers.

- Cities can use planning mechanisms other than the General or Comprehensive Plan to outline policies that address the projected land use and mobility implications associated with autonomous vehicles.

- Cities should capitalize on public attention around autonomous vehicles to reinforce existing goals related to mobility and future development patterns.

- In this moment of rapid change and uncertainty, cities need to adopt agile, flexible, and adaptable planning approaches that will enable them to respond quickly to changing environments.

Approach

This study utilized qualitative analysis to understand how cities are addressing the potential land use and travel behavior implications of AVs. First, the author drew on the growing body of AV research to outline the projected costs and benefits of this new technology and highlight the key debates associated with this topic area. She then complemented this research by reviewing the most up-to-date General or Comprehensive Plans for 40 of the largest U.S. cities, systematically searching for policies connecting land use and AVs. The author then summarized this information, describing each city's approach to AVs as well as identifying strategies the city proposes to address the potential impacts. To supplement this data, she conducted phone interviews with city staff from nine of the cities in my sample. Interview questions explored each city's overarching approach to AVs and the specific policies the city has considered in response to their state's AV-specific legislation.

Conclusions

Los Angeles's Department of City Planning should consider how AVs can serve the community's visions and goals for the future as set out in their General Plan. In this moment of rapid change and uncertainty, the Department of City Planning needs to adopt agile, flexible, and adaptable planning approaches that will enable them to respond quickly to changing environments. Building on its research findings, this study recommends that the City implement the following strategies:

- The creation of a citywide task force to exchange knowledge on strategies addressing the impending widespread arrival of AVs.

- The incorporation of policies to reduce or eliminate parking requirements for new development in certain areas as part of efforts to update the city's development code.

- The inclusion of shared on-demand mobility options as programmatic measures in updates to the existing TDM Ordinance in order to encourage the use of sustainable transportation modes and the shared use of AVs.

For More Information

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