



POTENTIAL IMPACT ANALYSIS OF DRIVERLESS CARS ON MEGAREGION TRAFFIC FLOW PATTERNS

The emerging mobility industry is rapidly changing and holds promise for greater sustainability in transportation, reducing emissions and energy use while increasing traffic efficiency. Existing forecasts for the impact of this trend have tended to focus almost exclusively on driverless car studies and through limited scenario-based simulations. This proposal will develop a diverse analytical framework for driverless cars as well as traditional passenger and freight flows to more comprehensively predict the near future travel patterns in Texas megacities, especially Dallas-Fort Worth and Houston.

This study aims to further our previous research, GIS-based Megaregion Transportation Planning Model, by developing more informed planning strategies for self-driving vehicles. The Year 1 to 3 proposals focused on creating a database of freight mobility and identifying its travel patterns. The Year 4 to 5 proposed research will comprehensively summarize previous literatures related to the operation of driverless cars and the impact of this new mode on future travel patterns. Then, it will attempt to understand patterns of traditional and emerging mobility in the same framework. The model framework will be based on a four-step travel demand modeling, including trip generation, distribution, mode split, and assignment, that was already implemented for the previous research outputs.

The findings of this study could help create applications allowing decision-makers and planners to gain a better understanding of the potential impacts of driverless cars on policies, plans, and events in the megaregion.

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Potential Impact Analysis of Driverless-Cars on Megaregion Traffic Flow Patterns (#CM2-62)

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Project Information Form:
<https://tinyurl.com/9ww6c9a8>



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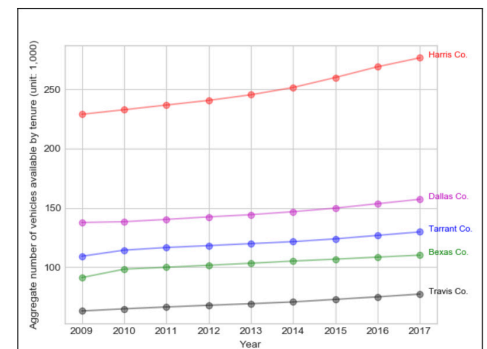


Figure 1. Growing patterns of number of vehicles in Texas Triangle's four major counties