CM2 Cooperative Mobility for Competitive Megaregions	**UTC Project Information – Cooperative Mobility for Competitive Megaregions (CM²)**
Project Title	Who drives, where, and when? An evaluation of behavioral responses to license-plated based driving restrictions
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Brief Description of Research Project	In an effort to manage increasing pollution and congestion in cities, regions, and megaregions around the world, governments have implemented various types of driving restriction programs. License-plate-based restriction programs that ban car travel for specific vehicles on certain days of the week based on license-plate numbers are increasingly popular. While there are different policy variations in terms of where, when, and what types of vehicles are banned or exempted, these programs share the goal of restricting the number of cars on the road, modernizing vehicle fleets, and reducing pollution. The literature on whether and how much these programs reduce pollution or congestion is mixed. Mexico City's program, *Hoy No Circula*, has been particularly well-studied. Early findings suggest that the program has not worked as intended and may have even increased pollution by encouraging households to purchase older, second cars (Davis, 2008; Eskeland & Feyzioglu, 1997). The empirical evidence supporting this second-car hypothesis, however, is quite weak and there is a myriad of other ways that a household can adjust driving behavior to avoid or ignore the ban (Guerra & Millard-Ball, 2017). Despite the substantial literature on license-plate-based restrictions and regular reference to the second car hypothesis in the literature, very few studies of driving restrictions examine household-level behavior. Understanding behavioral responses to driving restrictions is essential to minimizing social harm, ensuring that the policies work to reduce pollution, and adjusting policies to support low-income households.

	This study helps to fill this behavioral gap by using Mexico City's 2017 household travel survey to examine who drives what types of cars, where, and at what time of day. Survey respondents report government-issued hologram numbers that indicate whether a car on the road is exempt from the policy due to a newer low-polluting vehicle, potentially restricted on weekdays and Saturdays, or definitely restricted on Saturdays. Contrary to popular beliefs, very few potentially restricted drivers on the road have second cars in their household. Instead, these generally poorer residents use their cars infrequently for short trips in parts of the city that are less regulated. We also build on this analysis through household surveys and focus groups in three inner suburban areas of Mexico City. Residents of these areas have close to the median metropolitan household income and average car-ownership rates. Those that have a car generally have just one and it is restricted one day per week and one or more Saturdays per month. Most report driving their cars because it is less expensive and safer than using transit, particularly for shorter shopping and recreational trips with other family members within the suburbs. Avoiding the once-per-week ban is therefore relatively easy. No survey respondents or focus group participants match the literature's profile of someone who needs a second restricted car for a daily work commute. Focus group participants, although aware of the implications of air pollution for human health and generally supportive of the policy's intentions, report frustration that the bans do not affect wealthier residents, who own multiple exempt cars and drive the most. References Davis, L. W. (2008). The Effect of Driving Restrictions on Air Quality in Mexico City. Journal of Political Economy, 116(1), 38–81. https://doi.org/10.1086/529398 Eskeland, G. S., & Feyzioglu, T. (1997). Rationing can backfire: The "day without a car" in Mexico City. The World Bank Economic Review, 11(3), 383. Guerra, E., & Millard-Ball, A. (2017). Getting around a license-plate ban: Behavioral responses to Mexico City's driving restriction. Transportation Research Part D: Transport and Environment, 55, 113–126. https://doi.org/10.1016/j.trd.2017.06.027

Describe Implementation of Research Outcomes (or why not implemented)	Nothing to report yet
Impacts/Benefits of Implementation (actual, not anticipated)	Nothing to report yet
Web Links (to reports, project website, etc.)	