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Navigating urban mobility: Clustering European cities based on shared vehicle systems complexity

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Abstract | The evolution of sharing economy and sustainability-focused models, driven by digital innovation, has prompted extensive research to dissect their essential components. Consequently, shared vehicle systems (SVS) and business models promote efficient and sustainable urban mobility by providing collaborative and accessible transportation solutions. This study aims to segment 173 European cities based on the number of bikes, cars, scooters and mopeds available to share via platforms, alongside population and area coverage metrics. The results should indicate which cities lead the way and the available shared vehicle portfolio in the leading ones. As a segmentation algorithm, K-means was chosen. Three clusters emerged: townies comprises 151 smaller cities with abundant cars, solaris occupies solely Paris whose scores are the leading ones, while capitalis includes 21 larger cities excelling in the number of scooters. Significant disparities between clusters underscore the need for sustainable urban mobility strategies. The results unravel distinctness among SVS in European cities, providing valuable insights for future developments in urban mobility transformations.

Key words | *sharing economy, shared mobility, sustainable transport, segmentation analysis*

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