Hybrid choice model to disentangle the effect of awareness from attitudes: Application test of soft measures in medium size city

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The need to reduce private vehicle use has led to the development of soft measures aimed at re-educating car users through information processes that raise their awareness about the benefits of environmentally friendly modes, encouraging them to voluntarily change their travel choice behaviour (level of services characteristics being equal). It has been observed that these measures can produce enduring changes, being the result of mindful decisions. It is important then to try and understand what contributes to shape individuals’ preferences in order to be able to define the best policy for fostering changes toward more pro-environmental modes. The objective of this work is to provide empirical evidence of the effect of awareness and individual attitudes on the switch from car driver to more sustainable modes such as Park and Ride. In particular we attempt to discriminate the effect of awareness due to the information provided in a Stated Preference experiment from the effect of individuals’ attitudes toward stress and social norms with respect to sustainable transport modes.

The case study refers to the implementation of a Voluntary Travel Behaviour Change programme in Cagliari (Italy), carried out with the purpose of promoting the use of the light rail in Park and Ride mode. To account for all these effects in the choice between car and Park and Ride we estimate a Hybrid Choice Model where the discrete choice structure allows us to estimate the effect of awareness of environment and stress, while the latent structure allows us to estimate the effect of the latent effect of norms and attitudes toward environment and stress. The results from this case study show that the more people consider the information about stress useful, the more they tend to behave sustainably, suggesting the importance of reporting feedback about stress in the personalised travel plan to promote sustainable mobility. Interestingly, the information about pollution has instead less impact in shifting behaviour toward sustainable modes.