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STEAMS - Sustainable Transport Environments that Achieve Modal Shift

Scientific Responsible
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The current climate change emergency is urging authorities to develop successful strategies that achieve modal shift towards sustainable transport modes. Even though surveys show that potential passengers would make the shift towards public transport (PT), car ownership continues to be at high levels in Europe, with Greece presenting a 15% increase between 2012 and 2022. The net-zero targets seem to be unachievable for the foreseeable future, which is an indication that our strategies towards modal shift are not effective. The built environment (e.g., infrastructure, street furniture) can cause physical, physiological and psychological body responses, which can elicit either the feeling of happiness or stress. If the examined built environment is the stop of a PT mode (e.g., bus stop), the elements that it consists of can either make the bus system attractive, or make potential passengers refrain from using it. This project aims to investigate elements of PT stop environments in Athens and define whether the way we currently design PT stops negatively contributes to achieving modal shift.

Appropriate elements will be identified and form the basis of the experiments. Participants will be presented these elements and will be asked to provide self-responses (questionnaires), indicating the feeling each element caused them. A saliva sample and heart rate monitoring taken from each participant will provide indication of the true feeling the elements caused. The collected data will be digitised, and statistical analysis will be carried out to identify significant trends between PT stop elements and body responses. The outcomes will contribute to develop a guidance tool, which will influence future decision making in the creation of PT stop environments that achieve modal shift. This tool will be published to advance the state-of-the-art and will be disseminated to local transport authorities and operators to achieve a greater scientific and social impact.