

Increasing Electric Vehicle Adoption Via Strategic Siting of Charging Stations

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Abstract: In order to increase electric vehicle (EV) adoption it is necessary for a central authority to drive the initial investment in charging infrastructures. Recent works on optimization problems for siting and sizing of charging stations for EVs have started addressing this issue by considering strategic multi-period optimization problems. One limitation of these works, however, is that they consider the demand (i.e. number of EVs and their geographical distribution) over time to be static and given as an input. In this presentation, we present a more holistic optimization framework that considers how new infrastructure impacts EV demand growth, and how the infrastructure can be installed in a way that it properly responds to future demand. This framework has been validated by Hydro-Québec and is being applied to help achieve Quebec's objective of having 100,000 EVs on the roads by 2020, and 1,000,000 by 2030.

Bio: Martim Joyce-Moniz obtained his PhD from the Université Libre de Bruxelles, in 2016. Working under the supervision of B. Fortz and L. Gouveia, he developed MIP models and exact methods for telecommunication network design problems with single-path routing. Afterwards he spent a few months at the University of Vienna as a postdoc, working with M. Leitner and L. Gouveia on decomposition methods for another network design problem. Currently, he is a postdoc at GERAD and Polytechnique Montréal, working with M. Anjos and B. Gendron (CIRRELT).

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All are welcome

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