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A quantitative model of accelerated vehicle-retirement induced by subsidy

Lorentziadis, Panos L.

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Title:	A quantitative model of accelerated vehicle-retirement induced by subsidy
Year:	2011
Author:	Lorentziadis, Panos L., Vournas, Stylianos G.
Abstract:	A number of accelerated vehicle-retirement programs have been implemented by private companies and public agents to reduce pollution and promote environment friendly technology. Our paper examines subsidy programs for the acquisition of a new low-pollution vehicle, provided that an old technology unit is retired. A model is developed to determine the appropriate subsidy level that induces the replacement of a specified number of existing old technology units within a given time period. Alternatively, given the subsidy level, the model allows the determination of the required time period to achieve a desired replacement target. In this way, the proposed method could be used to assess the effectiveness of a subsidy-based policy of accelerated vehicle-retirement in reaching a targeted number of scraped vehicles within a specified time framework.

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