

Electric Mobility: The Challenge of Adapting Existing Car Parks

The transition to electric mobility is one of the cornerstones of European policy to reduce carbon emissions and move towards more sustainable cities. Yet alongside the opportunities this transformation offers, new challenges are emerging that directly affect urban infrastructure, particularly public and private car parks.

Today, these spaces are evolving to serve a new generation of vehicles equipped with high-capacity batteries and increasingly powerful charging systems. This raises a pertinent question for public authorities, infrastructure managers and construction professionals: are our car parks ready for this new form of mobility?

Adapting this infrastructure goes far beyond installing chargers. In many public car parks operated under administrative concessions and built several decades ago, adding charging points first requires work on grid connections, electrical switchboards or transformer substations. Moreover, putting electrification targets into practice still raises open questions in cases where the infrastructure is owned by the public administration but operated by a concessionaire.

On top of this, there is a lack of consistent criteria. While some administrations consider that the concessionaire should bear the investment needed to enable charging, others choose to carry out this work themselves as owners of the infrastructure. This diversity of approaches reflects a growing tension between the public interest in accelerating decarbonisation and the need to safeguard the economic viability of operations that must undertake significant investments with no clear certainty of return.

Technological uncertainty also shapes decision-making. Charging power levels, energy management systems and storage technologies are evolving rapidly, leading some operators to question whether the investments made today will adequately meet future needs.

The challenge is particularly complex in urban areas with ageing populations, where electric vehicle uptake is progressing at a more moderate pace. Even with support schemes such as Spain's MOVES programmes [1], actual charging demand does not always justify the planned investments. Added to this is the risk of under-used facilities and a perception of risk shaped by some recent incidents, which has encouraged more conservative positions among certain managers and concessionaires.

From the perspective of the public administration, ultimately the owner of much of this infrastructure, the challenge is not simply to expand the charging network. It is about reconciling climate ambition, safety, economic viability and public service in a context of technological transformation and social change. Public acceptance, demographic change, new mobility habits and risk perception will shape the success of the transition towards accessible, safe electric mobility, fully integrated into our cities, as much as the technology itself.

References:

- [1] MOVES (Programa de Incentivos a la Movilidad Eficiente y Sostenible) is the Spanish Government's incentive scheme for electric vehicles and charging infrastructure, coordinated by IDAE (Institute for Energy Diversification and Saving, Ministry for the Ecological Transition and the Demographic Challenge) and managed by the regional governments. Its third edition was established by Royal Decree 266/2021 of 13 April (Boletín Oficial del Estado, 14 April 2021). Official information: <https://www.idae.es/ayudas-y-financiacion/para-movilidad-y-vehiculos/programa-moves-iii>

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