

# Photovoltaic support transportation plan design

Why are photovoltaic-powered electric transportation systems gaining global momentum?

Photovoltaic-powered electric transportation systems are gaining global momentum owing to their superior enactment and zero carbon emissions. With a growing number of electric vehicles (EVs) on the road, implementation of efficient and well-organised charging stations is extremely indispensable.

Is photovoltaic pavement a viable energy harvesting technology?

Recommendations for its future development are proposed in six aspects. As an emerging energy harvesting pavement technology, the photovoltaic (PV) pavement, which combines mature photovoltaic power generation technology with traditional pavement facilities, can make full use of the vast spatial resource of roadways.

How many kilowatts of photovoltaic modules are installed per year?

A total of 321 kilowatts of photovoltaic modules are installed, and they generate approximately 632 megawatt hours annually. These projects help UDOT reduce its electricity bills with the renewable energy produced.

Why do PV pavement modules need a rigid base layer?

Miniaturization is one of the trends for PV pavement modules since it can effectively reduce the construction difficulty. However, it also raises the demands on the pavement substrate. Typically, a rigid base layer is desired before the mounting of modules to ensure the proper functions.

Where is UDOT implementing solar canopies?

UDOT is implementing solar canopies in a parking lot at its headquarters in Salt Lake City. This aerial view shows the first phase completed and the second phase underway (to the far right). In 2017, UDOT began to consider ROW solar installations.

Do PV modules need a rigid base layer?

Typically, a rigid base layer is desired before the mounting of modules to ensure the proper functions. Moreover, the surface contamination, structural damage, and performance failure of modules during operation make regular maintenance of PV pavements essential.



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