

# Study on the Pavement Structure with Solar Panel

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## Abstract

This study is development of road system applying solar panels to road pavement block. Concrete pavement block to mount solar panel is designed to verify effective of power generation. Pavement blocks with solar panels is photovoltaic block that enables to produce renewable energy. It is a combination of solar panel and pavement block. For road pavement structures, it is possible to make various shapes in accordance with general road design standards. Before prototyping, the road design standards and the concrete block design standards of South Korea have been reviewed and the prototype specifications were determined based on the findings of the review. The prototype is expected to have higher adaptability on roads in Korea be-cause the concrete block design standards have been employed for determin-ing the concrete strength and size of the prototype block. Power generation panels for photovoltaic power generation are designed to be manufactured by connecting commercially available solar panels in parallel, and to be mounted on mount hole within the blocks. Strength and slip resistance tests are included in follow up research plans to examine road function of the concrete blocks, and measurement of photovoltaic power generation efficiencies after the trial construction.