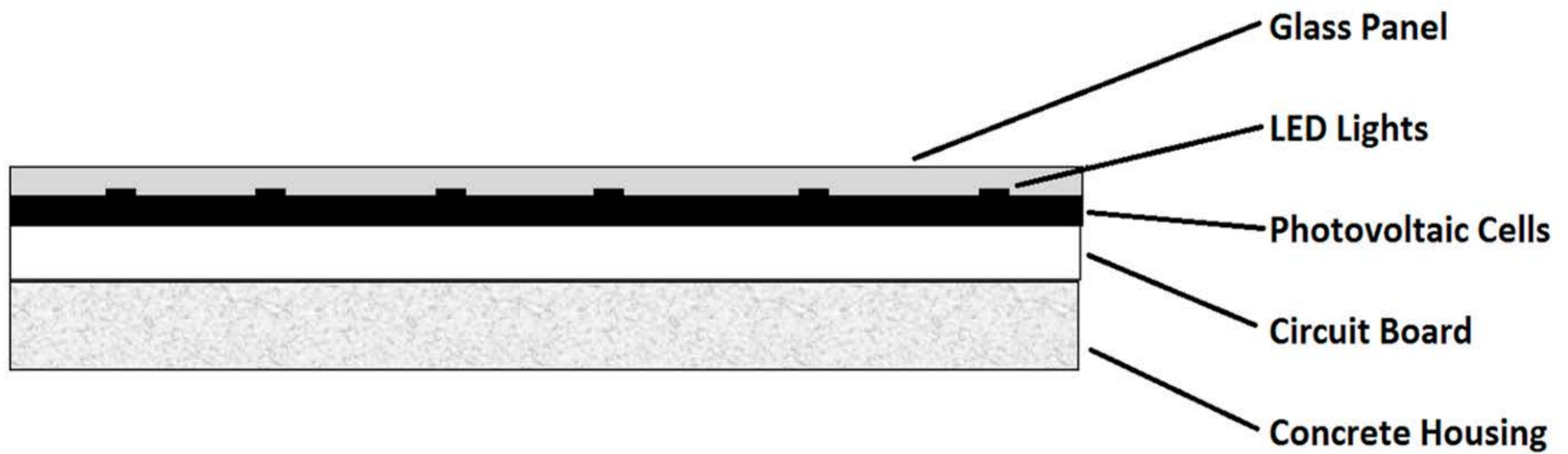




# Solar Roadways

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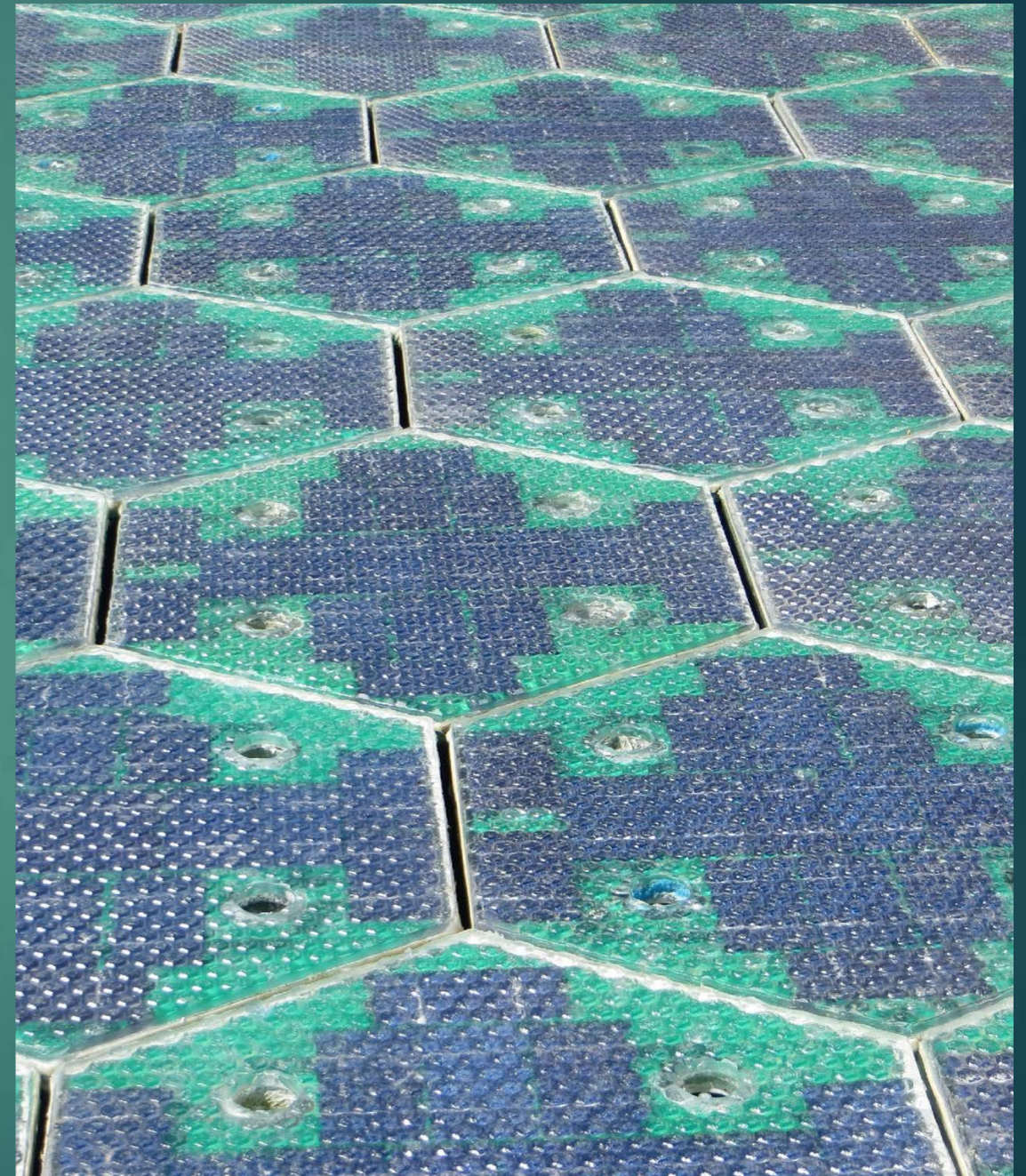




# The Photovoltaic Cells

The photovoltaic cells are placed directly beneath the glass panels

The cells are intended to be the same kind as the ones that are readily available commercially to ensure low costs





# Utilize existing asphalt roads for solar radiation capture?

Over 72,000 square kilometers of asphalt and concrete surfaces exposed to the sun.

- Capable of capturing enough energy to power U.S. three times over.
- Extracting just a portion would solve many civil and electrical infrastructure problems.

Two methods to utilize existing roads:

- First, use roads as solar thermal collectors and installing piezoelectric generators to collect vibration energy
- Second, use thermoelectric systems to convert heat directly into available electricity

We will consider a different approach!

# Conclusions

- Advancements in highway control and operations
- Increased vehicle and travel safety for commuters
- Water quality improvements to surrounding water bodies
- Decreases in fossil fuel consumption and increases in sustainable alternative energy
- Increase in funding opportunities from local to federal agencies
- Increase in social awareness of alternative energies