***The Governor’s STEM Competition***

***Bishop Shanahan High School***

***Project Summary***

**“Brilliantly Bright Solar LED Street Signs”**

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In accordance with the theme, “Building a Stronger Pennsylvania”, our team hoped to create a safer standard for roadways while maintaining energy efficiency by designing and building a folding mechanism for stop signs with a built-in LED lighting system powered by solar energy. This LED lighting system, as supported by research and in par with state regulations according to the MUTCD, would help improve driver awareness and reduce the amount of car crashes at intersections. However, these stop signs, used for when traffic lights go out, have to be manually opened by road crew workers in order to regulate the flow of traffic. Moving on to the state competition, we hope to use the additional stipend to improve solar energy output / capacity as well as adding a motor and wireless connectivity via Arduino units for remote opening and closing of the sign by ios/android app functionality. A secure casing to contain all the mechanical components is also projected as an improvement. With these improvements, we hope to eliminate road crew workers from getting out of their cars during harsh winter storms which ultimately provides for greater safety. With a fully motorized design, the amount of time to open each sign at the intersection would be greatly reduced as well. With these improvements, we would like to see these signs used more frequently than they are today.