



FRC 8726 Cryptohawks

Dear Chair Feldman, Vice Chair Kagan, and Members of the Education, Energy, and Environment,

We, **FRC 8726 Cryptohawks**, would like to request a report **in favor** of HB0531 — State Department of Education - Public Schools STEM and Robotics Program - Study. We compete in an organization called FIRST® Robotics Competition (FRC), an international program where thousands of high school students, aided by mentors, teachers, and sponsors, work together to build and compete with industrial-sized robots against other robots from around the world. FRC combines the rigors of STEM with the excitement of sports to develop the technical and professional skills of future STEM leaders.

FRC CryptoHawks 8726, as a team, is a primarily student-supported, school-based FRC team in Frederick County that aims to bring advanced STEM education opportunities to areas with historically minimal STEM programs. Through FRC, we have been able to provide the rigor, the excitement, and the hands-on experience that the core curriculum lacks. These values have been our main driving force when it comes to hosting yearly FIRST Lego League events or STEM outreach events.

Through the MSDE Robotics grant, numerous robotics teams like ours have been helped. However, only 85% of the 200+ high school teams with a robotics team are being underserved. Many football teams or athletic teams have travel, and coaching stipends covered or at least partially covered, teams like ourselves need to be 100% fundraised. There is still work to be done here.

In our own surveys, 100% of our alumni have gone on to pursue STEM majors at prestigious institutions, including the University of Maryland, the University of California, Irvine, Cornell University, the University of Pennsylvania, and Georgia Tech. In a study done at the Brandeis Heller School for Social Policy and Management, 63% of FIRST alumni worked in the stem workforce compared to 43% not in FIRST. It is proven that FIRST alumni are 1.4 times more likely to pursue STEM careers. 61% of FIRST participants majored in either Engineering, as compared to just 26% in the general people.

HB0531 is a step in the right direction to support robotics and STEM teams throughout the state. Historically, the barrier-to-entry for FRC and other STEM teams has been very high. For FRC, It takes about \$20,000 a year to cover expenses. This includes \$10,000 a year for FIRST registration, with the rest being for tools, machinery, metal stock, and travel. FRC teams like ours run primarily on sponsorships from different organizations in order to cover our expenses. Currently being primarily student run with minimal school support, it is difficult for many teams to be able to handle these finances alone.

The impact of Robotics and STEM programs do wonders to support the future development of STEM in Maryland. Students participating in FIRST are able to support their community. Throughout our team,

there are many members who mentor their own elementary robotics teams. This kind of impact compounds and one day once those kids grow up maybe they will grow to mentor their own teams. Robotics and STEM programs build a community and tradition of STEM developments where we support each other. To keep on that mission we need support from our state too. We hope that this study will help understand how Maryland can reduce the barrier-to-entry for other FRC and STEM teams. That Maryland, through this task force, can provide the support for the students interested in STEM to be able to access incredible STEM programs like FRC.

Thank you for your time,

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