



# SPONSORSHIP PROSPECTUS

LAUREL HEIGHTS  
ELECTRIC VEHICLE CLUB

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# ABOUT US

The Electric Vehicle Club is a team-based, STEM-related, project-oriented, student-driven, extracurricular project that centres around the design and construction of 12V and 24V electrically powered cars. We focus on inspiring and educating future engineers to think green while also creating awareness around the environmental impacts of modern technologies. We strive to help demonstrate new and exciting green alternatives to fossil fuels while learning and having fun at the same time.

## MISSION

Our mission is to provide an opportunity for young engineers to further their design, manufacturing, and engineering skills, as well as inspire more students to pursue a career in a STEM field. Students gain invaluable industry skills in manufacturing, welding, CAD design, CNC, and engineering design principles. The club allows students to continue their learning outside the classroom and benefit from hands-on experience that cannot be obtained through traditional classroom work and textbooks. Additionally, our work helps students develop teamwork, cooperation, and leadership skills.

## CHALLENGE

LHSS EVC participates in an annual endurance race hosted by the University of Waterloo. High schools and colleges from all over Ontario come to pit their designs against each other.

The race format is as follows; teams have one hour to complete as many laps as possible without stopping, on one set of batteries. The event consists of two races; a 12V and a 24V race. Teams typically build two cars, with one dedicated to either race. The goal is to produce an electric car that is fast as well as energy efficient.

# GROUPS

Students have the opportunity to join the following groups.

Mechanical

Electrical

Data Management

Design

Outreach

Software

## Staff Members

TECH DEPARTMENT  
Dean Henderson



TECH DEPARTMENT  
Matthew Kraemer



# COST

The estimated value of each car is around \$7 000. This year, we hope to bring on an additional car to our garage as our previous car gets ready to retire. To hopefully build our new car, we expect the following costs:

Drivetrain ----- \$3 000

    Motor  
    Controller  
    Chain/sprockets

Steering & Suspension ----- \$900

    tie-rods  
    ball joints  
    steering shaft/wheel  
    king pin assembly  
    rear axle assembly  
    front wheel assembly

Operation Costs ----- \$900

    tires  
    battery chargers  
    transportation  
    specialized equipments  
    maintenance

Batteries ----- \$600

Frame/Rolling Chassis ----- \$600

    aluminum sheets  
    steel frame

Electrical & Instrumentation ----- \$400

    general wiring/fuses  
    relay  
    communication equipment  
    LED read-out/speedometer

Brakes & Throttle ----- \$300

    brake calipers/disk  
    throttle

Safety & Ergo ----- \$300

    belts  
    emergency power cut-off switches  
    seat

Total | \$ 7 000

# OUTLINE

LHSS Electric Vehicle Club has built several cars since its inception in 2009. Our team aims to build at least one new car each year, whilst simultaneously working to modify our pre-existing model. Having two projects running at once brings many benefits to our team. Not only does this allow more student bodies to get involved, but it also helps to raise our chance at success at any given competition. In our newest car, we're incorporating concepts such as momentum retention and weight reduction to achieve a more streamlined experience. As we have continuously done in the past, we hope to keep learning from our past experiences, continue to push the limits of engineering, and aim to build our best car yet.

