

Partnership Proposal for
STEM and Aviation Programming
Between Truckee Tahoe Airport District and
The Boys and Girls Club of North Lake Tahoe

“Where GREAT FUTURES Take Flight”



Revised March 2015

Executive Summary

The Truckee-Tahoe region would greatly benefit from a partnership between BGCNLT and the Truckee Tahoe Airport District. A three-year agreement in which the Truckee Tahoe Airport District provides \$45,000 a year to BGCNLT could provide the resources needed to expand and enhance STEM opportunities for youth and families throughout the region. The partnership between BGCNLT and Truckee Tahoe Airport District would provide:

- 1) Increased outreach to community youth and families.
- 2) Improved attitudes towards STEM subjects, fields and careers, including aviation in both youth and their families.
- 3) Increased knowledge, skills and hands on experience in STEM fields and specifically in aviation.

Likewise, the partnership increases impact and visibility for the Truckee Tahoe Airport District's outreach programs to include children and families on the North Shore; enhances current STEM educational programming at the Club and truly capitalizes on two valuable community assets: BGCNLT and The Truckee Tahoe Airport.

What Can BGCNLT and The Truckee Tahoe Airport District Do?

Considering children spend less than 20% of their days in school, it is important that parents, community agencies, local businesses all come together to help educate, inspire and guide students into positive and GREAT Futures and increasingly into STEM fields.

BGCNLT and the Truckee Tahoe Airport are well positioned to make a positive impact on students both in and out of school simply by exposing students to aviation and STEM with a fun, hands-on and interactive approach. Collaborating would allow each agency to fulfill their educational and outreach missions in a more effective and efficient way.

BGCNLT will provide:

- 1) A year round full time STEM Coordinator who is tasked with creating and implementing education programs and activities with a special focus on STEM and aviation. This person will ensure that there are daily opportunities for children to engage in STEM and/or aviation lessons across the region. They will do at least 11 one hour presentations in 5th grade TTUSD classrooms in March and April to set up curriculum for their Challenger field trip.
- 2) Shared resources for the community. The program curriculum, activities and resources will be made available to all local youth serving agencies. The coordinator will also be a liaison between the Airport, the Club and all agencies in the region to coordinate the distribution of these resources and will also be responsible for scheduling curriculum and resources and scheduling events, classes and programs.
- 3) Assistance with implementation and the expansion of the Mission to Mars Camp. BGCNLT will provide qualified youth development professionals to assist with running the camp and will help to expand the camp from the current 12 students to 36 students. BGCNLT will assist with recruitment of new students with a special emphasis on children who live on the North Shore part of the airport district. Lastly, BGCNLT will assist with transportation needs to and from camp with Boys and Girls Club vans.

- 4) Creation of a new summer specialty camp introducing younger students to aviation and aerospace. The camp will serve approximately 12-15 youth in grades 2nd-5th grade and use both Club and airport resources, (ie Club classrooms and supplies and the airport’s flight simulator for a demonstration.) The program would be a “lead in” for students to continue on to the “Mission to Mars” camp in future years.
- 5) Staffing, planning and program support for the “Santa Fly-in” program in December.
- 6) Overall program evaluation and data regarding attendance in programs, outcomes and outreach.
- 7) Recognition of the Airport District on all Club collateral and at events as a partner agency and sponsor.
- 8) Additional assistance with airport projects on an as needed basis.

The Truckee Tahoe Airport District will provide:

- 1) Funding in the amount of \$45,000 a year for a three year term, with an opportunity for renewal.
- 2) Resources, guidance and tools for aviation curriculum.
- 3) Space for summer camps, programming etc.

Below is a budget and explanation of how funds will be utilized:

Personnel	
STEM Coordinator (Annual Salary)	\$30,000.00
Camp Counselor (40 hours @ \$13.00 @ 3 weeks Camp)	\$1,560.00
(2) Afterschool Program Assistants (5 hrs. per week @ \$13.00 @ 40 weeks)	\$5,200.00
Van Driver (\$15.00 @2hrs @ 12 days camp)	\$360.00
(8) Staff members for Santa Fly -in (4 hrs. @ 8 staff @ \$12.00 per hour)	\$384.00
Personnel subtotal:	\$37,504.00
Payroll taxes & Benefits	\$7,500.80
Program Expenses	
Flight Simulator	\$2,500.00
Mission to Mars Camp Supplies (shirts for kids, paper, notebooks, pencils, etc.)	\$400.00
BGCNLT Summer Camp Supplies (shirts for kids, paper, notebooks, pencils, etc.)	\$500.00
Lunches for Camp Kids during camps	\$500.00
Afterschool STEM program September- June (\$100 per month @ 10 months @ 2 sites) (rocketry kits, science kits, notebooks, paper, pencils, calculators etc.)	\$2,000.00
Transportation (20 trips @ 12 miles @ 55.5 cents)	\$132.00
Total Expenses	\$51,036.80
Requested from Truckee Airport	\$45,000.00
Covered by BGCNLT	\$6,036.80

Personnel

The majority of funding will provide high quality staff members to carry out year round programming.

- **STEM Coordinator:** Will oversee and coordinate all STEM related programs throughout the Club and the region. This will be a year round position who will be responsible for all facets of programming, for volunteer recruitment, community outreach, marketing and management of part-time program staff. This coordinator will work closely with the airport district to ensure that all goals and objectives including classroom visits, coordination of Challenger field trip and creation of new summer specialty camps focusing on STEM and aviation.
- **Camp Counselors:** provide staffing, implementation and evaluation of camp programs that have STEM and aviation at their core.
- **After-school Program Assistants:** provide implementation of STEM and aviation themed programs and activities in after-school hours. Also will assist with coordination between schools, teachers and parents to ensure clear communication between all parties.
- **Van Driver:** Will provide transportation to and from airport for Mission to Mars Camp and other field trips throughout the school year and summer.
- **Santa Fly-in Staff members:** provides support to Airport staff with this event. Also will help with the planning and implementation of kid crafts and activities at the event.

Program Expenses

- **Flight Simulator:** will provide the Club and the entire community with a wonderful educational tool that can be used for many years. It will be housed primarily at the Boys & Girls Club but can be used by outside agencies and transported to other locations on an as needed basis. BGCNLT will be responsible for the scheduling and maintenance of the simulator.
- **Camp Supplies:** these include everyday supplies such as paper and pencils to science kits and models that can be used for years to come.
- **Transportation:** BGCNLT will provide transportation to and from BGCNLT to the Mission to Mars camp at no extra charge to their families.

Boys and Girls Club of North Lake Tahoe Background

BGCNLT is part of a nationwide Movement of community-based, autonomous organizations and Boys & Girls Clubs of America (BGCA) working to help youth of all backgrounds develop the qualities needed to become responsible citizens and leaders.

While BGCNLT is a part of this nationwide network, it has been run by a local board of directors and financially supported by local donors since 1998. Since then, the Club has accomplished a lot in the community. It has grown from two small donated houses into a 14,000 square foot facility; forged strong partnerships with the Tahoe Truckee Unified School District, the North Tahoe Public Utility District, local community foundations, other non-profit organizations as well as with business owners from across the region. Over the last 15 years, the Club has positively impacted thousands of local youth and their families with countless programs, events and activities.

BGCNLT offers daily access to a broad range of programs in five core program areas (Character and Leadership Development; Education and Career Development; Health and Life Skills; The Arts; and Sports, Fitness and Recreation) and several specialized initiatives. All programs are designed to drive positive outcomes for youth and reinforce necessary life skills.

Annually, over 900 children are members at the Kings Beach site, with an average of 325 attending daily during the school year and 140 during the summer months. An additional 900+ children are impacted by BGCNLT programming through special events and community outreach. Members come from across the North Shore, West Shore and Truckee and represent the community's diversity. Approximately 52 percent of families are White, 44 percent Hispanic and 49% qualify for a free and reduced lunch. Additionally, 18% of members come from single parent households.

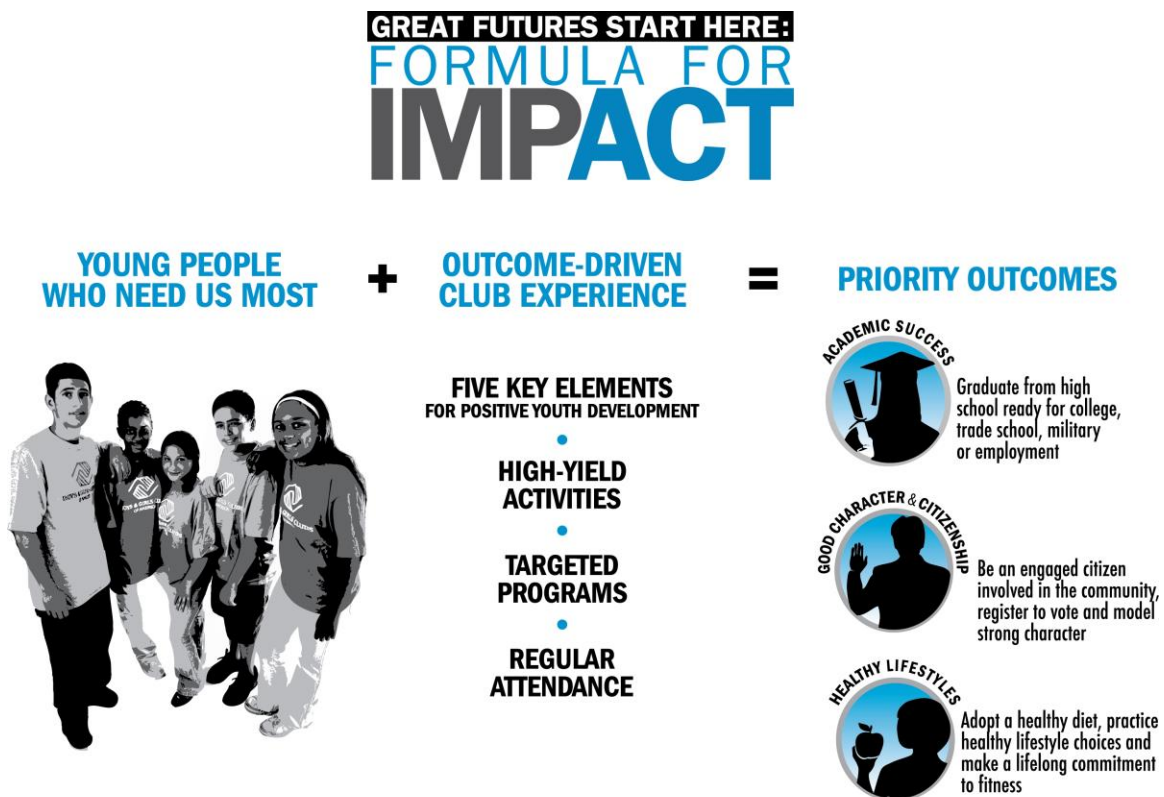
Recently, BGCNLT has opened an elementary school site in Truckee, CA where an average of 100 children are participating in fun after-school programs focusing on academic support.



Formula for Impact

To make sure that all of our members have great futures, the Boys & Girls Club Movement and our local Club has adopted the Formula for Impact, a research-based theory of change that describes how we can increase our impact – *exponentially* – on the young people we serve.

It calls for us to consistently provide the most powerful Club Experience possible – by implementing the Five Key Elements for Positive Youth Development, offering high-yield activities and providing targeted programs – all of which help youth achieve priority outcomes.ⁱ Then, because we also know that attending the Club more frequently and over a greater length of time makes young people more likely to achieve positive outcomes, Clubs must pursue strategies to increase attendance, program participation and member retention.ⁱⁱ



STEM Background and Need

Nationally, there is a huge push for educators and policy makers to focus on Science, Technology, Engineering and Mathematics (STEM) programming in and out of school. Some estimates say that as many as 80% of all future jobs will require some level of STEM skills and knowledge. Currently, only 44% of 2013 U.S. high school graduates are ready for college-level math and 36% ready for college-level science.ⁱⁱⁱ Additionally, minority students and female students are underrepresented in STEM fields and in STEM related higher education programs.

These trends are evident in local statistics, as well. Locally, only 58% of high school students from TTUSD tested at proficient or advanced in Mathematics and 66% in Science. Additionally, 5% of Hispanic or Latino students tested proficient or advanced in Mathematics and 37% in Science. Lastly, 17% of female students scored at proficient or advanced in Mathematics and 59% in Science.^{iv}

STEM is an interdisciplinary and applied approach that is coupled with hands-on, problem-based learning. The STEM approach focuses on critical thinking, real world problem solving and on inspiring curiosity and confidence in students.

STEM programming is effective both in and out of traditional learning environments and proven to be particularly effective in afterschool programs because it fosters a collaborative, fun interactive environment where students do not feel academic pressure and are free to “have fun” while learning. Researchers have shown that an early interest in pursuing science and engineering is a better indicator of whether a student will pursue a career in these fields than a student’s grades in school.^v For this reason, it is crucial that afterschool programs are engaging, fun, interesting and approachable.

There are many positive outcomes that come from STEM programming. The three that are often highlighted on a national level and that the Boys and Girls Club of North Lake Tahoe are focusing on are:

1. Improved attitudes toward STEM fields and careers
2. Increased STEM knowledge and skills
3. Higher likelihood of graduation and pursuit of a STEM career

Five Key Elements for Positive Youth Development: BGCA worked with the nationally recognized Search Institute to review relevant research and study highly effective Clubs. Through Club visits and interviews with managers, program staff, teens and community leaders, the five key elements that determine the level of impact a Club makes on the development of young people were identified. *High-yield activities:* The research of Dr. Reginald Clark has demonstrated that high-achieving students spend more time engaged in activities that reinforce the skills and knowledge they learn in school. “Enhancing the Educational Achievement of At-Risk Youth,” an evaluation of BGCA’s national education strategy, Project Learn, confirms the effectiveness of using such high-yield activities in Boys & Girls Clubs. *Targeted programs:* BGCA offers many national programs that are designed to help young people achieve our priority outcomes of academic success, good character and citizenship, and healthy lifestyles. Many of BGCA’s targeted programs have been evaluated for their effectiveness. Some of BGCA’s targeted programs have also been deemed “evidence based” by the federal government.

ii “Making Every Day Count: Boys & Girls Clubs’ Role in Promoting Positive Outcomes for Teens.” Public/Private Ventures, 2009.

iii <https://nms.org/Education/TheSTEMCrisis.aspx>

iv California Standardized Testing Data from School Accountability Report Card (SARC)
<http://www.axiomadvisors.net/LiveSARC/Presentation/SARCAdministration/Portals/Portal1/Detail.aspx?CDS=31669443130010&LanguageID=1&Preview=False&HidePDF=True&Category=Assessments&DivID=CST>

v Tai, R.H., Liu, C. Q., Maltese, A.V., & Fan, X. (2006). Planning early for careers in science. *Science*, 312, 1143- 1144.