



Education Finalist: **Newton's Road Northwest**
Initiative: **Newton's Road Community Liaison Program**

OVERVIEW OF THE INITIATIVE

Newton's Road proposes a Community Liaison Program to connect communities to a toolkit of low or no cost, high quality, hands-on, STEM-related experiences. By recruiting and training a Community Liaison in each of the 20 library districts in the 5-county region, the program will create more opportunity for the 24,000 K-12 children in the Traverse Bay Area Intermediate School District. Each Community Liaison will connect their community's families, educators, libraries, STEAM/Maker Alliance members, businesses, and civic groups to quality regional STEM-related programs. The Community Liaison Toolkit will include presentations, brochures, videos, guides, metrics and a menu of programs and resources that each community can use to make a plan that meets their unique needs.

The following sections contain key information from the application, as written by the applicant. Please note that while detailed financial information has not been provided here, each applicant submitted an initiative budget and supporting financial documents as part of their application. Each proposed initiative and the supporting financial documentation has undergone a thorough financial review by our Community Investment Review Committee and the initiatives proposed by our finalists have been found to be fiscally sound.

This proposal was updated after the initial submission, with the knowledge and approval of the Education committee. This document reflects the updates provided by the applicant.

FULL EXECUTIVE SUMMARY

While Newton's Road (NR) has many significant accomplishments growing STEM awareness and opportunities in the Traverse City area over the years, truly engaging all families in the 5 counties we aim to serve (Antrim, Benzie, Kalkaska, Grand Traverse and Leelanau) eluded us until 2019. Last year, we unintentionally created a road map for what we hope to be the most impactful activity we have ever launched in 2020, the Community Liaison Program.

Last year, in a community where we had no prior support or impact, we successfully piloted the STEM Kits for Regional Libraries Project with help from TADL at the Elk Rapids (ER) Library. In a matter of months, through a cascade of related meetings and conversations, we were also able to implement many of our other programs with the ER schools and the Native American program while gaining new and sustaining support from other like-minded hyper-local nonprofits, the ER Newspaper, Rotary and Chamber of Commerce. This all was accomplished quickly because our new Executive Director, Barb Termaat was able to leverage her long-standing relationships with key ER community leaders.

Based on Barb's success and the knowledge that we could repeat this impactful process all over our region quickly by finding just one highly engaged champion of our mission in each community, we developed the plan for our transformational Community Liaison Program.

The goal of the Community Liaison Program is to thoroughly connect one community at a time to a toolkit of low or no cost, high quality, hands-on, STEM-related experiences. By recruiting and training just 1 Community Liaison in each of the 20 library districts in our 5-county region and providing each Liaison with support and a toolkit, we can create more opportunity for every one of the 24,000 K-12 children in the Traverse Bay Area Intermediate School District!

To accomplish this goal, NR needs a Community Liaison Program Manager who will identify, train, mentor and support community liaisons across the 5-county region. Each Community Liaison will connect their community's families, educators, libraries, STEAM/Maker Alliance members, businesses, and civic groups to quality regional STEM-related programs.

The online NR Community Liaison Toolkit will include presentations, brochures, videos, guides, metrics and a menu of programs and resources that each community can use to make a plan that meets their unique needs. Programs and resources include:

- STEM Kits for Regional Libraries Project
- 3D Printers program guidance
- Mini-grants for STEM educators and events
- Locally customizable STEAM/Maker Alliance Activities Passports for elementary youth
- Virtual Manufacturing Day and other career exploration activities
- Regional STEM Information Hub (www.newtonroad.org)
- STEM Volunteer Matching System
- Northwest Michigan STEM Career Investigation Tool (LIAA partner - development currently in progress)

Community Liaisons will meet weekly with the PM and monthly with the Community Liaisons Network to share best practices. They will be eligible to receive a \$1,000 annual stipend.

We anticipate having 10 communities by the end of the first 12 months--8 new plus TC and ER--and 10 more the second year. 20 libraries = 20 communities!

COMMUNITY TO BE SERVED

The target communities to be served would be based on the location of the community libraries across the 5 counties we aspire to serve (Antrim, Benzie, Kalkaska, Grand Traverse and Leelanau). We have chosen to focus on library service areas because of a library's unique position in the communities as accessible to all learners both in and out of school. The youth served would include those learning in public, private, independent and charter schools as well as homeschool families. Libraries are also a trusted resource for community gatherings and information. There are 4-6 libraries in each county except Kalkaska (which has one larger library for the whole county) for a total of 20.

The public school districts in our region range from 32% to 72% of youth on reduced lunch programs. Nearly every county also has Native American youth and other traditionally underserved youth in school programs.

NEEDS OF THE COMMUNITY TO BE SERVED

"Schools Cannot Do It Alone" is not only the title of a book, but a phrase often said by Kelly Coffin, VP of Instruction in the TBAISD and recent member of our Board of Directors. Another frequent refrain by thought leaders across the U.S. is "Talent is distributed equally - opportunities are not!" These statements absolutely apply to our region.

While NR has greatly increased the number and quality of STEM related experiences available to youth in the Traverse City area over the past decade, youth in communities outside Traverse City do not generally have as many opportunities to engage in regional STEM-related events because of time and distance barriers.

Our recent Rube Goldberg Machine contest is an example of an engaging home-based activity that helps to break down these barriers. The Community Liaison program will encourage participation in regional events that do not require travel, and foster layering STEM activities into local events in their community. For example, we recently arranged for STEM Kits to be available to try out before and during intermission at the ER Rotary Show opening night attended by over 400 people in an effort to raise awareness of this new resource at the ER library.

Families need simple ways to engage because they have very full lives and little time, and especially those that are economically challenged need to know what they can do at zero or very low cost. That's why our NR website has become a one-stop shop for families learning STEM in our region. A recent example of our agility was our immediate response to COVID-19 school closures. We made it very simple to search for all activities in our database that can be done at home or outdoors, and the impact was reflected in March 2020 website metrics: visitors increased 171% and session time increased 360%. The next step is to grow awareness of these resources through our Community Liaison's efforts in communities other than TC and ER.

We believe STEM Kits are a great way to initiate a Community Liaison program, and hence are requesting part of this grant be matching funds for purchasing them in communities that don't have them in their library yet. Here are quotes from families who have checked out STEM Kits in ER:

Father of preschoolers: "We check a new STEM Kit out every week to do with our kids; it has completely changed the quality of our time together and I can see their excitement in learning!"

Grandparent: "We checked them out when our grandkids came to visit and we had so much fun playing together."

Parent of middle and high schoolers: "My kids want to try all 22 kits this year!"

10-year-old: "from the moment I heard about them I wanted to go check one out for me and my brother. They looked hard but once you started working on them your brain started working and you could really finish them and they were fun!"

GAPS IN SERVICES

Schools are overburdened already by academic assessments, social and safety requirements from the state and federal government as well as the cost of transportation. Add up all of these factors and schools find it very hard to add more STEM learning during the school day even though they recognize the benefits to students.

Most schools are like large ships: they need a long time to carefully change direction and hence by their nature will lag behind the rapidly changing skills in the job market. Smaller, agile organizations such as Newton's Road and the STEAM/Maker Alliance are like small boats, we can make quick adjustments to help families learn problem-solving skills together and in the process reinforce what is (and is not yet) taught in their school, we can offer after school programs, and support teachers in learning new approaches and skills.

For example, in mid-April when education leaders faced extended pandemic stay-at-home orders they called for "all hands on deck" and asked Newton's Road to help meet the need for more science and STEM-related learning since teachers were struggling to include these areas. In 2.5 weeks we developed and launched four weekly STEM at Home

Community TV programs through the end of the school year and sustained the STEM Careers portion through the summer.

It is still quite common in our region for elementary students to have very little exposure to science or STEM-related problem solving projects at school. Research shows that by middle school many youth think these subjects are too hard, and dismiss the possibility of exploring high-demand, well-paid STEM-related career options by high school. This situation is even more prevalent if the student has developed math anxiety by the end of elementary school.

Our intention is to build on the natural curiosity of children to grow their self-image as problem solvers. This takes a village to do: at school, in after-school programs, at home, family activities away from home, etc. Then our youth will have a greater chance of thriving in the knowledge economy regardless of the career they choose, since every business and many other pursuits depend on technology and the ability to build teams of creative problem solvers.

In addition to these societal gaps in the youth preparing for the careers of tomorrow, parents and teachers need a much easier means to support their kids and students in having these opportunities. So we focus on meeting them where they are in their communities and ease-fully connecting them to the best resources available across our region and online.

GOALS, OBJECTIVES, OUTCOMES & INDICATORS

GOAL: Connect families community by community across our 5-county region to high quality STEM learning and career exploration opportunities and help all youth develop creative problem-solving skills from an early age so they have the ability to thrive in the rapidly evolving knowledge-based economy.

OBJECTIVES:

- Hire a Community Liaison Program Manager to support the 5-county region by October 30.
- Develop an online Community Liaison Toolkit (based on the pilot in Elk Rapids) to support the program, and iteratively improve it over time.
- Identify and engage a Community Liaison in each community.
- Use the STEM Kits for Regional Libraries Project as a catalyst for engagement, and support matching funds for any remaining libraries in Fall of 2020.

OUTCOMES:

- Every regional public library has STEM Kits available for families of K-12 youth to check out for free.

- Every library district has a Community Liaison engaging to connect families and educators to quality STEM learning and career exploration opportunities.
- The NR searchable database is more robust and used regularly by families and teachers to identify activities appropriate for their children and students.
- More youth elect to take STEM-related programs offered by their high school, after school or Saturday clubs, the Career Tech Center or other opportunities.
- More youth enter STEM-related careers or post-secondary education or training programs after graduation.
- STEM-related learning activities are more available and visible within each community (survey).

INDICATORS:

- All 20 libraries in our region have STEM Kits available to check out and usage increases over time.
- All 20 library districts in the 5-county region have Community Liaisons in place that are actively connecting youth to opportunities at the end of 2 years post grant; 8 additional communities in year 1 and 10 new communities in year 2.
- The NR searchable database increases usage at least 20% year over year.
- The number of students in Career and Technical Education programs and pursuing STEM-related education or career post graduation increases at least 20% in 5 years.
- Each community has at least 2 STEM-related activities introduced at community-wide events and at least 1 article about the program in the local news, newsletter or social media.

ORGANIZATIONAL CAPACITY

Newton's Road is a small but mighty team who leverages technology and partnerships to develop high-impact, low-cost, repeatable solutions to meet community needs.

By September, we anticipated that we would have completed the pilot version of our Career Investigation Platform with our Michigan Tech Engineering Intern, Annalisa Wiesner and at least half of the regional libraries will have STEM Kits (4 of 20 libraries are currently in place). However, the pandemic shifted these timelines out a bit--especially since the libraries were closed and then focused on reopening with modified summer programs to be COVID-safe. We are just now getting the next two libraries in the process of implementing the STEM Kits and are preparing to expand to the remaining 14 libraries. Thus, we will be able to shift our primary focus to the implementation of the Community Liaison program and translate our local successes to regional implementation within the October timeframe with more libraries yet to be onboarded than originally planned. With a growing volunteer database and a wide network of supporters we feel confident that we only need to start asking our supporters for recommendations of potential Community Liaison volunteers and provide them with the tools to quickly ramp up this program.

The greatest need will be to hire a Program Manager focused on the Community Liaison program. We will also seek to engage an Americorps VISTA Volunteer, (in partnership with the Northwest Michigan United Way) to support this and other programs starting in October 2020 or February 2021, depending on the program's TBD timeline.

SUSTAINABILITY OF THE PROPOSED INITIATIVE

One of the success measures we unexpectedly had out of the Community Liaison pilot in Elk Rapids was that the excitement about STEM Kits in the Library and increased visibility of regional programs that Elk Rapids youth can participate in, resulted in the majority of donors in our December giving appeal came from those living in the Elk Rapids School District. They felt connected in a meaningful way and acted on that feeling. We believe that by increasing our reach in meaningful ways will help immensely in garnering the support we need to sustain the program with the support of businesses, foundations, philanthropists, community organizations, families and the general public. We already have received one grant to purchase STEM Kits for five more libraries and have submitted a second grant for STEM Kits in the remaining eleven libraries. Our intention is to expand locally via volunteers who see the benefit for their children and community and hold local fundraisers to grow and sustain their STEM Kits, and other STEM programming. We are also currently investigating the possibility of a low-cost subscription model with our Board for families. These subscription donations will support the PM and Liaison roles. Since the Community Liaison Toolkit is online, it can be easily sustained.