Annual Report
Arts and Cultural Heritage Fund
Legacy Amendment
Science Museum of Minnesota

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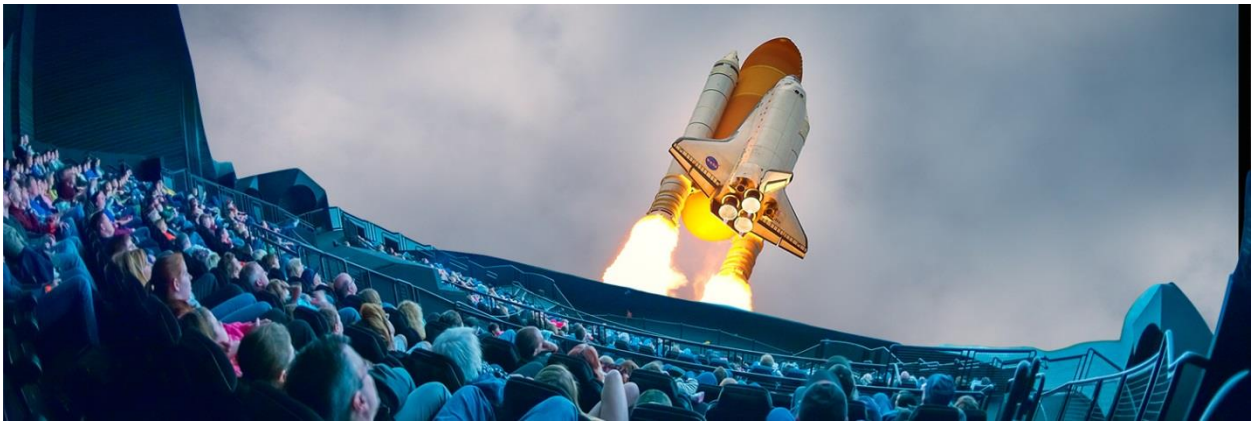

The Science Museum of Minnesota is pleased to submit an annual report for the work we are doing with the generous appropriation of $1.1 million per year for fiscal years 2014-2015 from the Arts and Cultural Heritage Fund of the Minnesota Legacy Amendment. This report details accomplishments in **FY15: July 1, 2014 – June 30, 2015**. We are grateful for your support of our programs.

American Indian Programs July 1, 2013 – June 30, 2015

FY15 Report, 3.6 FTE

The Arts and Cultural Heritage Fund has been instrumental in helping the Science Museum of Minnesota to establish and expand our American Indian exhibit and programming, beginning with the purchase of the Bishop Henry Whipple Collection in fiscal years 2010-2012. We were fortunate to acquire the Bishop Whipple Collection, consisting of local and regional American Indian artifacts from the 1850s. *We Move and We Stay*, the exhibition's title, was created in FY13 and features artifacts from both the Whipple collection and the museum's other American Indian collections. The exhibition tells the story of generations of Dakota and Ojibwe people who have made their home in Minnesota. We have relied heavily on our American Indian advisory council in shaping this exhibit and they have lent their voices and stories to the objects in this collection, as this is their story to tell. The exhibition opened in February 2013 and we continue to expand and improve the exhibit and visitor programming.

Our goals for the American Indian programming project in FY14-15 include:

1. Expanding the pilot exhibition to include more objects, hands-on activities and visitor feedback opportunities;
2. Initiating community programming that included creating a teen program for American Indian youth;
3. Inventorying and digitizing the museum's American Indian ethnology collections to make them accessible to a larger audience.

Our work during FY15 has continued our exhibition expansion. *We Move and We Stay* is located in the museum's Collection Gallery, a climate-controlled area of the museum. We expanded the area in which we are displaying objects and have more than doubled the initial footprint of the exhibit. For this expansion, we completed moving other non-sensitive exhibits into other gallery spaces in the museum. The exhibition now has a footprint of approximately 4,000 square feet, in addition to the Visible Lab. Additional exhibition information can be accessed at: https://www.smm.org/nativeamerican .

We are displaying 90 objects and will be gradually adding new objects to the exhibit for viewing. Our goal is to create an exhibition experience that is accessible and hands-on. Additions to the exhibition include old objects like the remains of a bison occidentalis (9,000-4,000 BCE) found in St. Paul and an important animal for the people who lived in what is now called Minnesota, and a hide painting made by an unknown Dakota artist. Also installed are objects that have evolved over time like the three generations of jingle dresses. New contemporary objects in the exhibition include the two Pat and Gage Kruse birch bark "paintings." Interactive multimedia components were developed and installed in FY15. One of the components, *Cloudy Waters: Dakota Reflections on the River* by Mona Smith, was installed in FY15. The piece creates a focus on the Mississippi River from a Dakota perspective.

Our Visible Lab is accessible to visitors. We created a space in the public gallery to prepare and conserve objects from the museum's collection. These objects are being installed in the exhibition. This glass enclosed space allows visitors to observe how objects in this exhibit are conserved for future generations and prepared for display. Visitors are able to view these objects as they go through the process of getting ready for display and volunteers are available to interpret and explain what is occurring in the Lab.

For 15 weeks in FY14, year one of our two-year Legacy funded grant, we ran a pilot afterschool program with teen students from several local schools including the American Indian Studies Program at Harding High School in Saint Paul and the Center School in Minneapolis. This program sought to develop youth's understanding of science, technology, engineering, and mathematics (STEM) by providing opportunities for them to conduct community research and learn about museum practice. The youth participants met twice a week and focused on the Native American Exhibition. They critiqued the exhibition, compared it to exhibitions at other museums, suggested changes, and, for the program's culmination, created dioramas on themes they thought should be included in the exhibition. Viewers of the dioramas learned about how modern Native Americans live here now and about connections to the past. Three youth teams used objects from the museum's collections and outside objects to convey issues related to: cultural appropriation, historical trauma, and the continuing struggles of the American Indian movement. The museum hopes to leverage this prototype experience to secure future funding for ongoing programming.

The Science Museum employs a staff member onsite to conduct an inventory and digitization of the American Indian collections. The process entails creating digital images of the objects, and updating records with object descriptions, measurements, locations, and materials. This staff brings the capacity to: update records with new classifications and object names; add terms to the classification and object name lexicon; identify issues in the database and standardize data fields to improve search capability. This project also includes the identification of media material relating to the digitized objects, including the cataloging of photographs and other related ephemera, greatly increasing our knowledge and understanding of these cultural artifacts. The digitization process increases accessibility of the stories that these objects tell. In FY15, 2,590 objects were digitized during the reporting timeframe.

As of June 30, 2015, the direct expenses for this project are $249,578.12. The administrative costs are $0. We received $49,467 from another private donor in support for *We Move and We Stay* American Indian programming. We are grateful for the continued support from the Arts and Cultural Heritage Fund to expand this project – from purchasing the Bishop Henry Whipple Collection to doubling the footprint of the exhibit.

School Services

July 1, 2013 – June 30, 2015

FY15 Report, 2.81 FTE

The Science Museum continues to make it a top priority to enhance our programs and offerings to schools and teachers throughout the state. With previous Legacy funds, we undertook a museum-wide evaluation of our offerings to schools to determine the best way to serve our student and educator audiences. We are building on our current programs and creating new programs, based on the results of our evaluation efforts. We are consistently refining and improving our offerings for teachers and students who come to the museum, and for programs we conduct across the state. Without support from the Arts and Cultural Heritage Fund, students and teachers would lose a valuable resource for engaging in and experiencing science education. Building on our successes of FY12-13, our work for the FY14-15 biennium had three goals:

1. Reach every county in Minnesota through our work with schools;
2. Improve support for 21st century teacher needs through more explicit connections to standards;
3. Increase our web capacity to support access to museum resources.

It is our goal to provide programming to the entire state of Minnesota, bringing science education into the classroom and offering programs at the museum that students and teachers can participate in. If students are not able to come to the museum, we send instructors to schools statewide to provide programming and assemblies, allowing participants the opportunity to have hands-on, interactive experiences. County reach is monitored for our outreach programs and we also monitor field trip bookings and attendance.

During the 2014-2015 school year, for the second consecutive year, we served schools in 87 of 87 counties across Minnesota, and met our goal thanks to critical support from the Arts and Cultural Heritage Fund.

A critical piece to reaching this goal was the impact of our School Liaison staff position. As mentioned in a prior report, the Science Museum hired a School Liaison, Kelly Meyer, with funds from Legacy. In FY15, she continued to build and strengthen partnerships with schools across Minnesota. Kelly's work is essential in that it provides educators and schools with a personal connection to the museum. Through the efforts of the School Liaison we are reaching out to teachers to provide multiple access points to engage with museum staff through conferences, meetings, and educator previews. We continue to focus on the integration of best practices for working with changing and underserved audiences.

Highlights of the School Liaison's work in the 2014-2015 school year included the following:

- Attended and exhibited at 10 conferences including: EdMN, Minnesota Elementary School Principal Association (MESPA), Minnesota Conference on Science Education (MnCOSE). She discussed museum resources available to educators, gathered hundreds of e-mails to add to our *SciEd* mailing list, and built upon previous relationships.
- Hosted a two-day activity at the Iron Range STEM Showcase in Virginia, Minnesota. On the first day, students collaborated to do an engineering and building challenge. Nearly 2,000 sixth graders attended this event. On the second day, around 800 family members completed a butterfly themed activity which was designed to complement our *Flight of the Butterflies* themed curriculum for school groups.
- Led the Field Trip Success group. This group of ticketing, programming, and staffing colleagues met on a monthly basis to review field trip survey data and comments, to review attendance, to consider upcoming challenges, and to discuss successes that the museum is having as a leading field trip provider.
- Served on two local science-based boards and committees. For the Minnesota Science Teachers Association (MnSTA), she served as the informal institution representative for the board. For the Minnesota Independent School Forum (MISF), she served as a STEM Committee member. Both roles allowed for relationship building and allowed for board members, committee members, and teachers around the state to better understand the role that informal education can have in student education.

In FY15, there were two teacher previews hosted at the Science Museum. The first was in February for the opening of the exhibition *Space: An Out of Gravity Experience* and the Omnifilm *Journey to Space.* Nearly 300 teachers attended this preview. Examples of teacher feedback include:

- "The Omnitheater show, *Journey to Space,* was inspirational to girls and women...[encouraging them] to pursue careers in engineering and space science."
- "Taking back what I learned and guiding discussions around exhibits makes me a better teacher. When we go for a specific exhibit which clearly supports and connects to a standard, I know the standard is being met in a clear and scientific way. The visuals for learning and the out of classroom experience reinforce our concepts and provide me with better examples and understanding of the content I teach."
- "The Science Museum is a respected and valuable institution in our state. It opens the door to science and experiences a school may not be able to provide…SMM training for teachers is invaluable as it helps teachers to guide students in inquiry and discoveries. The Science Museum of Minnesota helps build and strengthen students' interests in science and engineering."
- "Students ask questions and seek the answers after a Science Museum field trip. For many of our students a field trip to the Science Museum of Minnesota is a first time event. There

are moments of learning that cannot be described in words but rather by a look on a child's face as the science comes alive and connections are made."

The second preview was held in May for the fall opening of *Humpback Whales* in the Omnitheater. Around 100 educators attended this event which included guest speaker Fred Sharpe from the Alaska Whale Foundation, hands-on activity stations for educators, and time and space to look over Minnesota standards that align to the film. Examples of teacher feedback include:

- "I just loved the guest speaker portion, the movie was just so wonderful, and I am always motivated and inspired after the hands-on activities. Thanks again."
- "I was impressed with how focused you are on helping educators get the most value out of a presentation like this."
- The Science Museum is a wonderful asset to the learning community! Thank you for all you do to encourage teachers in MN!"

We have also increased our communications tools and web capacity to support access to museum resources. With Legacy support, the museum launched a new communications and marketing initiative for our school audience branded as *SciEd*. The *SciEd* initiative was designed to make it easier for teachers to keep informed on new and existing SMM programs and opportunities that are most relevant to their classroom or professional needs. The *SciEd* initiative has supported and enhanced the work of our School Liaison to establish and grow relationships with teachers and schools through one-to-one communication, professional meetings, teacher previews, and participation at education conferences.

- We printed a new *SciEd* Teacher Resource Guide with 10,000 copies distributed in 2014-2015.
- Over 11,000 teachers signed up to receive the weekly *SciEd* email that provides updates for museum programs and resources. SciEd branded emails are sent out every Tuesday. We monitor email open rates and click through rates to assess the effectiveness of educator focused communications.
- Legacy funds have generously supported our work with Tilka Design, which re-branded and redesigned our *SciEd* educator focused materials and communications.

- School network data is reviewed monthly by our school network staff, development, research and evaluation team, and other museum staff to ensure that goals associated with geographic reach are achieved.

Usage of our online standards database and teacher education guides are tracked through web statistics. As noted in a prior report, we also launched the Science Museum's Minnesota Academic Standards database in December 2013. This tool allows educators to search the museum's menu of programs to find resources for a specific grade to ensure that specific academic standards are supported. We continue to revise and refine this database so it is easily accessible and user friendly for teachers. Since its launch, the database was accessed 13,243 times, providing a very valuable resource for educators statewide. The searchable database can be found online at: https://www.smm.org/educators/standards .

As of June 30, 2015, the direct expenses for this project are $243,012.22. The administrative costs are $0. Additional funding for the School Network project includes gifts from private donors totaling $284,425. The support provided by the Arts and Cultural Heritage Fund has given us the ability to invest in new program development and create new resources that directly address academic standards and ensure teachers and students have high-quality educational experiences with Science Museum of Minnesota programs.

Omnitheater Digital Upgrade

July 1, 2013 – June 30, 2015

FY15 Report

Since the opening of the William L. McKnight-3M Omnitheater in the current riverfront facility in 1999, over 500,000 people have visited, on average, each year. The Omnitheater is a leader in the giant screen industry and is a large part of the cultural fabric of our community. The Science Museum has produced more giant screen films than any other museum in the world. Its films have been seen in 148 cities in 31 countries around the world and have been translated into 14 languages.

Beginning in early 2014 major movie distributors started supplying movies in digital format and 2013 was the last year that commercial movie theaters used film projection technology. Our goal for this project is to implement the technical upgrades in the Omnitheater necessary to show digital productions. We will continue to provide educational and inspirational programming supported by educational enhancement materials and programs as we transition from a film-based to digital technology. The Science Museum has successfully concluded an agreement with IMAX Corporation for the new Laser Dome projection system. The museum will be the only beta site for this technology and the first giant dome screen theater in the world to operate this new projection technology.

In FY15**,** the Omnitheater Digital Upgrade project made progress in the pre-development and design phase. Progress milestones included the following:

IMAX: The Science Museum of Minnesota has been designated the "beta site" as the first installation worldwide of the 2nd generation digital projection system in a giant dome screen Omnitheater. We reached an agreement with IMAX on the principal terms for the ground-up design and installation of the IMAX laser digital dome projection system.

Two highly credentialed locally-based firms will undertake the design and construction to facilitate installation of the new projection and sound systems.

HGA Architects: HGA of Minneapolis has been selected as the architecture firm for building the new projection booth for the digital projector. HGA Architects will be leading the mechanical, structural, and electrical design work.

McGough Construction Co.: McGough of St. Paul has been selected to lead and oversee the construction work. The first major construction milestone occurred in September 2015 when the theater shut down for a month to build out the new rear projection booth and other mechanical infrastructure to house the digital system.

The intended outcome for the Omnitheater Digital Upgrade project is to implement technical upgrades necessary to show digital productions, as the film format is being phased out. The conversion to digital is not merely an enhancement; it is critical to the Omnitheater's continued existence and sustainability. The new projection system will result in a more vivid screen image and more immersive sound. Because of technological advancements, the new system will use considerably less energy to run and will save on maintenance costs. The upgrade improves accessibility for people with vision, hearing and mobility impairments. We anticipate the Digital Upgrade project will be completed in the fall of 2017. We have modified and pushed out the anticipated timeline due to the need to prioritize the building preservation project at the Science Museum of Minnesota.

Visiting the 3M-McKnight Omnitheater is one of the most beloved experiences at the Science Museum. Visitors appreciate the one-of-a-kind learning opportunity that this top attraction, and iconic Twin Cities cultural and educational resource, provides. For nearly four decades, it has thrilled and delighted Minnesota residents of all ages and has inspired generations of Minnesota school children by exposing them to the wonders of science and technology. It brings the world's natural wonders vividly to life in a way other media cannot. Unlike other giant screen theaters in the metro area, we show entirely educational films and teachers respond positively: "The Omnitheater is a huge experience for most of our students!"

The project has been designated as a funding priority by the Museum's Board. In addition to generous Legacy support, we are actively fundraising for this project from our private donor base. The project resonates with private donors as they see the need to upgrade to digital to sustain the Omnitheater as a vital, engaging scientific resource for our state.

As of June 30, 2015, the direct expenses for this project are $594,000. The administrative costs are $0. Arts and Cultural Heritage Funds are designated for purchasing equipment for the Technology Upgrade. We have secured $1,000,000 from 3M for this project, with an additional $985,815 in commitments from private donors to support the Omnitheater Technology Upgrade. We will continue to seek private funds to complete this project. We look forward to showing films with

improved image quality and using a digital project system that uses less energy to operate. Thanks to support from the Arts and Cultural Heritage Fund, we can continue to provide this one of a kind, immersive experience to visitors.

Information

July 1, 2013 – June 30, 2015

The Science Museum of Minnesota is pleased to submit this report on support from the Arts and Cultural Heritage Fund of the Legacy Amendment. We're proud of our work on these projects and look forward to continuing the important work that these funds make possible. The museum would be thrilled to provide a tour of the museum, our school services, American Indian programming, or the Omnitheater, and we would be happy to answer any additional questions. Please contact Jon Severson directly for additional information: jseverson@smm.org or 651-221-9499.

Legacy project information is accessible online at:

http://www.smm.org/legacy

http://www.legacy.leg.mn/projects/2015-science-museum-minnesota

ADDENDUM: Science Museum of Minnesota - Board of Trustees 2014-2015

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