



Inspire! Grants for Small Museums

Sample Application IGSM-245692-OMS -20
Project Category: Lifelong Learning

Coronado Quivira Museum

Amount awarded by IMLS:	\$ 35,797
Amount of cost share:	\$8,121

The project description can be viewed in the IMLS Awarded Grants Search:
<https://www.imls.gov/grants/awarded/igsm-245692-oms-20>

Attached are the following components excerpted from the original application.

- Narrative
- Schedule of Completion

Please note that the instructions for preparing applications for the FY2021 Inspire! Grants for Small Museums grant program differ from those that guided the preparation of FY2020 applications. Be sure to use the instructions in the Notice of Funding Opportunity for the grant program and project category to which you are applying.

Project Justification

The Rice County Historical Society (RCHS) proposes to research and produce an interactive Digital Tour Experience (DTE) that guides an audience through the 35 miles of Santa Fe Trail sites in Rice County, Kansas. Today a person trying to retrace even a small portion of the Trail may encounter poor weather, challenging terrain, and many “No Trespassing” signs. But modern technology can overcome these barriers to provide a rich Trail experience to museum visitors and to an online audience who is unable to visit these sites in person. Through the DTE, which will be set up as an interactive touchscreen display in the RCHS’s Coronado Quivira Museum (CQM) and embedded in the museum’s website, the public will have much broader and better-interpreted access to these historic sites. This goal will be achieved through a partnership among RCHS, Ad Astra Educational Research & Outreach (AAERO) Ltd, Lyons High School (LHS), Kansas Drone Imaging LLC (KDI), Mutual Telephone Company (MTC), and consultants across multiple disciplines.

What need, problem, or challenge will your project address, and how was it identified?

The DTE project will address the present geographical reality, which is the lack of access to most portions of the Santa Fe Trail. The experience of travelling the Rice County section of Trail in a contiguous manner has not been possible since 1880. Online Trail “tours” were recently developed by the National Parks Service and the Santa Fe Trail Association, but they both simply offer users a few static images and a paragraph of text, rather than an experience that allows users to feel as though they have explored the sites in person.

The DTE project will allow the museum to modernize and expand its interpretive efforts beyond the confines of the museum building. The permanent Santa Fe Trail exhibit provides information about five major and five minor sites along the Trail in Rice County, but visitors continually express the desire for a deeper experience with the Trail and these locations. Four of the five sites are on private property and miles away from a paved road. The one site which is on public land is accessible via a dirt road, a mile off the state highway. The DTE exhibit within the museum will help satisfy visitors’ requests to experience a walk along the Trail, while having key features of each site explained to them. Embedding the DTE content within the museum’s website will afford the same opportunity to a world-wide audience.

The DTE project also addresses the challenge of connecting the museum to a new, young audience. The local LHS ROTC program offers an after-school course in unmanned aerial vehicles (or drones), and students often have difficulty seeing the local career opportunities available in this field. The DTE project team will partner with LHS to engage students with historical sites through applications of drone imaging technology, forming a closer relationship between these students, the museum, and the rich local history.

Who or what will benefit from your project?

Visitors to the CQM, especially those with limited mobility, will benefit from this project. Annually 2,400 people visit the CQM and its permanent Santa Fe Trail exhibit. With the addition of the DTE, researchers of the Trail who are not able to visit the sites will be able to experience them from the museum or from the DTE content embedded within the CQM website. LHS participants will benefit as they learn to use drones in a potential career with a local context. Other communities will benefit from the knowledge gained through the DTE project, as the project team will share details about the processes, resources required, community partnerships developed, and the visitors’ responses to this interpretive technique. Based upon this information, other small rural museums may endeavor to create a similar application that meets their own unique needs.

How will your project advance your institution’s strategic plan?

RCHS’s strategic plan identifies “offering meaningful high quality, relevant programs which are appropriate for various museum audiences” as one of its key goals. In order to accomplish this goal, input from community stakeholders and the expertise of scholars, educators, media specialists, and museum professionals will be utilized to produce a new way for visitors to experience the Santa Fe Trail and to expand₁

their knowledge of it. Input from the LHS drone program and trial results from community members will ensure that the project meets this key goal.

How will your project address the goals of Inspire!Grants for Small Museums (Section A, esp. A1)?

The results and benefits of the DTE project are aligned with IMLS's agency-level goals to promote lifelong learning and increase public access to the trail as a "macro-artifact." By engaging Trail site landowners and the LHS drone students in the DTE-development process, the project will promote the sense that everyone can contribute to a community's knowledge about its history. By enabling museum visitors, people with limited mobility, and interested Trail buffs around the world to access an in-depth tour of Trail sites with specific points of interest explained, public access to these historic sites will be greatly increased. This will be accomplished through a partnership among specialists in media, drone applications, instructional design, educational technology, pedagogy, history, and social sciences that will support a small museum staff to ensure that the content and quality of the finished DTE will effectively engage the anticipated audience.

Project Work Plan

Who will plan, implement, and manage your project?

- Joseph Kern, Executive Director of the non-profit Ad Astra Educational Research & Outreach, Ltd, will serve as **Project Director** to oversee the operations of the project, coordinating with all partners to ensure that activities are performed as outlined, from planning and development to evaluation and dissemination. He will also serve on the **media team**, creating the drone images and video, and developing and installing the finished DTE museum exhibit. He will disseminate results by presenting to museum professionals about the processes and outcomes of the project. Kern has jointly managed multiple grant projects, including a current 3-year National Science Foundation project (#1742519), has been conducting educational drone programs since 2013, and has developed online and hands-on educational user interfaces as a university Instructional Designer from 2012 to 2017.
- Kipp Cordell, **Videographer** (media team), will film, edit, and produce video of CQM artifacts and Trail landowner interviews, to be embedded within the DTE. Cordell works for MTC, a local telecommunications company that provides video services. He has been involved in videography since 2010, and his work includes filming, editing, and production of commercials, testimonials, and short and full length documentaries for non-profits and commercial businesses.
- Casey Wilson, **Media Specialist** (media team), will assist in planning and storyboarding the drone videography, will edit the raw drone footage into concise action shots that communicate the in-person experience of each Trail site, and will conduct the LHS drone workshops. Wilson is a professional photographer and the Interactive Multimedia Design instructor at Flint Hills Technical College (FHTC), with experience in drone outreach to K-12 schools.
- Dr. Leo Oliva, **Historian**, is a Kansas Trail expert who will provide scholarly insight into the DTE content.
- Charlene Akers, **RCHS Director**, will manage the finances of the project and ensure that all project work adheres to CQM guidelines and goals. Akers has served as RCHS Director for eight years.
- Jim Eskut, LHS ROTC and **drone course instructor**, will work with the media team to conduct the high school workshop and set up a student drone field experience at a Trail site.
- Dr. Joyce Thierer, **External Evaluator**, will report on the management of the grant and its processes in accomplishing intended goals. Thierer is a historian and "Old West" interpretation specialist, with experience involving the use of 360-degree video in historical interpretation.

What specific activities, including evaluation, will you carry out?

Activity 1. Research relating to the Santa Fe Trail in Rice County will be collected and organized by the historian, RCHS director, and project director. Directions regarding how to include vital artifacts and Trail sites will be given to the media team to guide their work.

Activity 2. The videographer and historian will create video clips to showcase the significance of CQM artifacts specifically related to the DTE Trail sites.

Activity 3. The videographer will record and produce interview videos and site tours with Trail landowners.

Activity 4. The media team will photograph the Trail sites with a 360-degree camera, create 3D scans of the terrain, capture drone video from multiple perspectives to explore each site, and will edit the media to simulate an on-the-Trail experience.

Activity 5. The media team will engage LHS students in a workshop that introduces the application of drones for historical record-keeping. Students will be challenged to create a visual record of a local site. If student videos are of exceptional quality they will be added to DTE product.

Activity 6. The interactive Digital Tour Experience will be created by the project director, using the online ThingLink platform to let users follow a map of the Trail's path through Rice County. Important sites are indicated on the map with a digital button. When users tap a site they will enter the rotatable 360-degree view of the location, where more digital buttons allow them to display annotated pictures, landowner interviews, terrain scans, and CQM artifact video clips created by the team. Each button can be placed anywhere within the 360-degree image, so artifacts can be specifically placed in their real locations for users to find, activate, and learn from. Unlike many forms of museum media, the DTE is a living document that can be updated with new or better content at any time. A test DTE of one Trail site can be seen in the Supporting Documents.

Activity 7. The project director will integrate the DTE into the museum's Santa Fe Trail exhibit area by building a touchscreen monitor display case onto the existing exhibit structure, along with new instructional signage. The monitor would show the DTE map for visitors to access and explore, and existing artifact description cards will be updated to direct users to their origin sites on the interactive map. The DTE will also be embedded into the CQM website.

Activity 8. Museum staff will conduct outreach presentations in county schools, using classrooms' interactive whiteboards to allow students to manipulate local sites on the DTE. Artifacts or replicas from the featured sites will be brought for students to see, blending the digital tour with hands-on experiences for students.

Activity 9. Evaluations will be performed for project activities 1-8.

- The project director will work with the evaluator to outline project milestones, and reports from the team to the project director, conveyed to the evaluator, will ensure that the project is progressing on schedule.
- Each media component used in the finished DTE will be evaluated and revised by the project team for its quality and contribution to the interpretation of each Trail site. The project director and CQM staff will invite stakeholders including RCHS members, local Santa Fe Trail Association members, landowners, and teachers to test the DTE and provide feedback on its user interface, content, and learning experience.
- The ThingLink platform provides in-depth engagement data, including timestamped counts of views and clicks on the digital artifacts, plus time spent interacting with the content. This data will be analyzed to indicate how engaging the DTE is for visitors, allowing the project team to identify the most popular Trail sites and most interesting types of embedded media. Data can be isolated by date, showing changes in visitor engagement over time.
- Qualitative data will be collected to contextualize the quantitative DTE data and further investigate the user experience. For one month of Year 1 (baseline data) and throughout Year 2, CQM staff will document in writing the visitor comments and questions regarding the Trail exhibit and the addition of the DTE. When applicable, comments will be categorized by their relevance to one of three categories: 1) Understanding: An expression of developing new knowledge or insight as a result of the exhibit; 2) Interest: An expression of becoming more (or less) interested in the Trail as a result of the exhibit; 3) Application: A statement about doing something as a result of the exhibit experience. This methodology was selected as the least intrusive method that would provide a more personal understanding of how the Digital Tour Experience influences audience engagement with the museum display.

Activity 10. The museum staff and members of the project team will share their results with local, state, and national museum personnel through print and social media, conferences, and existing collegial connections.

What is your project's maturity level?

The project is in its exploratory phase, prototyping the DTE and testing its feasibility as an audience engagement tool that can be developed using local resources. The long-term goal after the completion of this 3

single-county project is to work with other counties in Kansas and along the entire Trail to develop customized Digital Tour Experiences for each locality.

What are the risks to the project, and are they accounted for in the work plan?

The first risk is the weather, which may cause delays in filming the remote areas on the Trail. Sites will be scouted during the planning phase of the project so that the media team can use good weather efficiently. None of the sites should take more than a single day to shoot, with plenty of cushion in the proposed timeline.

The second risk is inadequate staffing, turnover in the project team, or reluctance from landowners to participate. The project director and team members have held meetings to ensure that timelines are appropriate, attainable, and that no single role will be over-burdened. Each member of the team has made a commitment to the two-year grant timeline and receives benefits beyond financial compensation. The LHS drone program will increase its impact on student outcomes by providing career training and possibly contributing to the end product. The media specialist will be guided through a unique geographical area of the state in which to practice his photographic arts and will use the raw drone footage as an educational resource for students in his FHTC media courses. The videographer and project director both live in Rice County and have an interest in supporting community endeavors. The project director is the 5th generation of his family to live at one of the major Trail sites, which is named after his grandfather. The RCHS has fostered decades-old relationships with landowners through collaborative events, so there is strong mutual support among landowners and the CQM.

A third subject of concern when working with drones is ensuring that all work complies with Federal Aviation Administration (FAA) regulations involving the registration of drones, rules for educational users, and rules for commercial users. These rules include the commercial licensing of all members of the media team who will be flying drones. The project director, media specialist, and drone course instructor are all versed in these rules, so FAA compliance will not be an issue that would affect the lawful completion of the project's activities.

What time, financial, personnel and other resources will you need to carry out the activities?

Time: The proposed DTE project will require 24 months from its research phase to dissemination of results. In light of the risks cited above, as well as the fact that Trail sites are more photogenic in certain seasons, extra time was built into the project timeline to create a work schedule that does not rush the team and ensures the quality of results. The project will begin on September 1, 2020 and conclude on August 31, 2022.

Personnel: The awarded IMLS funds will be primarily applied to the project director's wages, consultants' fees, equipment, and travel. The expertise of the videographer, media specialist, and Trail historian are essential to the project's quality control and execution, and the oversight of the external evaluator ensure integrity in reporting the project's progress and success. Although this grant does not require cost-sharing, the historian, RCHS executive director, and other museum staff are donating their time to this project.

Resources: The equipment listed in the budget justification will allow the DTE to go beyond the existing Trail "tours" that consist of flat images and text, into an immersive, interpretive experience that meets project goals.

How will you track your progress toward achieving your intended results?

The project's progress and success will be measured in terms of accomplishing the first seven Activities within the first twelve months. Remaining activities including outreach, DTE deployment, evaluation, and dissemination will occur over the second twelve months. The previously listed evaluation tools will be used to track progress of each Activity, and the project director will convey this information in monthly summaries to other team members and to the external evaluator. Any deviation from the plan's scope or timeline would be dealt with through these frequent communications among the project team and evaluator.

How and with whom will you share your project's results?

The RCHS director will report project results on CQM's website, its Facebook page, and in the quarterly newsletter. A page on the museum's website will be dedicated to the Santa Fe Trail's Digital Tour Experience. The project director and RCHS director will present the process and results of this project at professional meetings, such as the Kansas Museum Association and the national Santa Fe Trail Symposium. The project team will also contact area schools to offer an in-school DTE presentation program.

Project Results

What are your project's intended results and how will they address the identified problem? How will the knowledge, skills, behavior, and/or attitudes of the intended audience change as a result of your project?

The problems solved by developing the DTE as a museum exhibit and an online Trail tour include: 1) the inability for a public audience to experience a walk along the trail or an understanding of the geographical context of its major sites; and 2) a lack of connection between young residents and their local history or ways in which community members can contribute to museum projects. These problems were identified through visitors' frustrations with the inaccessible Santa Fe Trail sites, and the acknowledgement that existing museum displays could be made more interactive with modern instructional technology through a process that promotes community involvement. The Trail sites are crucial to acquiring an understanding about the movement of goods and services on the most famous 19th century commercial trail in the United States. By employing drone and 360-degree image technology, combined with digital interactivity, visitors will have an immersive experience not otherwise available. Audience members will understand the physical context of Trail sites and their relation to local geography. Working with the local high school provides a means of community ownership of the project, connecting a new generation to their local history and to the museum. Positive comments from museum visitors, engagement with LHS students, and reactions of students and teachers through classroom presentations will allow the project team to see positive attitudes and a higher degree of interest in the local history of the Trail.

What data will you collect and report to measure your project's success?

With a successful project, recorded visitor comments about the interactive museum exhibit will be overwhelmingly positive. Visitors will spend more time engaging with the DTE than with the common walk-and-scan experience of the existing Santa Fe Trail exhibit. ThingLink data will show that users clicked on most of the available content items to explore deeper and learn more. DTE outreach programs will be requested by local schools each year, and more school-museum partnerships will develop. Other museums and organizations that see the project's success will express interest in developing their own DTEs.

What tangible products will result from your project?

The results of the proposed project will be an updated, interactive digital display for the museum's Santa Fe Trail exhibit. This Digital Tour Experience will include a variety of project-produced media that can be accessed by users as they visit each DTE Trail site through the physical museum display or the CQM website.

How will you sustain the benefits of your project?

The project will be sustained through the RCHS's operating budget. Funds are allocated each year for educational programming and exhibitions, allowing museum staff to continue DTE outreach programs with area schools and maintain the physical exhibit. The media developed and hosted online to be embedded within the DTE will remain accessible, even after subscriptions purchased for their creation are cancelled at the end of the funding period. The relationships formed among museum staff, the LHS drone program, and local consultants will allow for possible extensions of this project and maintenance of the finished DTE product for long-term sustainability.

