

**Quality and Productivity Commission
31st Annual Productivity and Quality Awards Program
"Celebrating Quality Service"**

2017 APPLICATION

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

NAME OF PROJECT: LIBRARY OFFERS MOBILE MAKERSPACES

DATE OF IMPLEMENTATION/ADOPTION: MARCH 2016
(Must have been implemented at least one year - on or before July 1, 2016)

PROJECT STATUS: Ongoing One-time only

HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT? Yes No



EXECUTIVE SUMMARY: Describe the project in 15 lines or less using Arial 12 point font. State clearly and concisely what difference the project has made.

1 In 2016, LA County Library rolled out its new MākMōs, or Maker Mobiles, vehicles that
2 offer a new delivery system for maker spaces—collaborative environments that promote
3 making, learning, and exploring. These branded vans travel throughout the county,
4 bringing creative Science, Technology, Engineering and Math (STEM) programs to local
5 communities. Intended primarily for kids and teens, but also serving adults, MākMōs
6 provide hands-on learning in computer coding, robotics, engineering and more. Their
7 mobility allows them to service library branches that are unable to offer permanent on-
8 site makerspaces, as well as geographic areas that may not easily be able to access
9 one of the system's 87 libraries, community organizations and events that wish to
10 partner with the library, and underserved populations that may not have regular access
11 to STEM learning. While other libraries have made certain services mobile, like book
12 and bike mobiles, the MākMō is the first of its kind in Southern California, creating new
13 opportunities for 21st century learning and a forward-thinking, future-oriented solution
14 for learning on-the-go, eliminating barriers to access.
15

BENEFITS TO THE COUNTY

| (1) ACTUAL/ESTIMATED ANNUAL COST AVOIDANCE | (2) ACTUAL/ESTIMATED ANNUAL COST SAVINGS | (3) ACTUAL/ESTIMATED ANNUAL REVENUE | (1) + (2) + (3) = TOTAL ANNUAL ACTUAL/ESTIMATED BENEFIT | SERVICE ENHANCEMENT PROJECT |
|---|--|---|--|-------------------------------------|
| \$ 8,300,000 | \$0 | \$ 0 | \$ 8,300,000 | <input checked="" type="checkbox"/> |

ANNUAL = 12 MONTHS ONLY

| | | |
|--|--------------------------|--|
| SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS County of Los Angeles Public Library 7400 E Imperial Hwy, Downey, CA 90242 | | TELEPHONE NUMBER 562.940.8462 |
| PROGRAM MANAGER'S NAME Jesse Walker Lanz | | TELEPHONE NUMBER 562.940.5821 EMAIL jlanz@library.lacounty.gov |
| PRODUCTIVITY MANAGER'S NAME AND SIGNATURE (PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME) Allison Ortiz  | DATE 07/5/2017 | TELEPHONE NUMBER 562.940.4106 EMAIL aortiz@library.lacounty.gov |
| DEPARTMENT HEAD'S NAME AND SIGNATURE Skye Patrick  | DATE 07/5/2017 | TELEPHONE NUMBER 562.940.8400 |

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1st FACT SHEET – LIMITED UP TO 3 PAGES ONLY: Describe the **challenge(s), solution(s), and benefit(s)** of the project. What quality and/or productivity-related outcome(s) has the project achieved? Provide measures of success. Use Arial 12 point font.

Challenge: Makerspaces—collaborative environments that promote making, learning, and exploring—were one of the most requested services by library customers during visioning sessions held in 2016, as interactive STEM (Science, Technology, Engineering and Math) programs are not always available in schools. Makerspaces have traditionally been built inside library walls; however, as the Library’s 87 branches are all situated in unique locations, they are not uniform in size or style, and most facilities don’t have the space for a dedicated maker area, or the budget to hire a dedicated and trained librarian to run this type of program at each site. Additionally, like all County Departments, the Library has a vast service area of over 3,000 square miles, meaning not all of the area’s 3.3 million residents are able to easily visit one of the system’s libraries, leaving some underserved when it comes to accessing 21st century learning opportunities.

Solution: The four MākMō vehicles make it possible for the Library to meet demand and need for STEM and makerspace programs in a creative way, while serving all ages (kids, teens and adults). The vans are large enough to store and support a variety of activities, but agile enough to be deployed to any location. Each vehicle is equipped with learning technology including 3D printers, robotic components, electrical circuits, iPads, engineering blocks, and more, and transports both equipment and staff. Rather than limiting makerspace access geographically by building within existing libraries, giving MākMōs wheels allows LA County Library to remove barriers and expand its reach outside library walls by setting up shop as a pop-up, creating ample creative opportunities. Sites visited include parks, community centers, Boy and Girl Scout troops, and even underserved schools where access to STEM learning and activities may not be readily available, and where such programs may have the largest impact on children’s futures. When visiting libraries, any available space becomes a makerspace, as activities are stored in the vehicles and set up inside meeting rooms or open spaces. Each of the four MākMōs has a dedicated librarian, so activities can be customized based on community interests.

The vehicles were inspired by the work of SparkTruck, a nonprofit offering STEM programming at a national level, who shared operations recommendations to help shape the concept for MākMō. The program proposal was pitched to the Board offices in March of 2016, and three supervisory districts (first, fourth and fifth) provided funding at this time. The Library went out to bid for the vehicles in April 2016, and the fully designed and equipped vehicles were received in November 2016. Second district funded a fourth vehicle in FY16-17, which was just recently received and will be rolled out soon.

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Benefits (Worthiness of Award): Maker mobiles fill service gaps that the Library was unable to provide in its physical locations. By attending both Library and community events and partnering with local organizations, MākMōs remove barriers while increasing community awareness of the Library. MākMō vehicles reach more youth than on-site programming could and allow L.A. residents—no matter their background or school district—to experiment with robotic coding, circuit building, and more, often for the first time. The goal is to spark early interest in science and technology via active learning so today’s youth can meet future job demands. Specifically, the Library hopes to interest young girls in technical fields. Reshma Soujani from Girls Who Code, a non-profit organization dedicated to closing the gender gap in technology, and a frequent partner of the Library, recently presented at the American Library Association Conference about the lack of interest and readiness for girls in the technology job market, which continues to put them further behind. MākMō programs hope to change this by increasing young girls’ interest in these fields. Anecdotal feedback from parents and children alike has informed staff that participants in MākMō programs are excited and inspired by the activities it offers. The US Bureau of Labor Statistics predicts STEM occupations will grow faster than average for all occupations through 2022, and the trend is likely to continue, so sparking interest in this field early in life is a key benefit. MākMō staff also sees opportunities for expanding external partnerships with companies like steelworks factories and NASA, further connecting maker mobile activities with STEM careers.

Quality and/or Productivity-Related Outcomes:

- Only one librarian is hired per MākMō, so the Library only incurs the cost of four librarians (one per vehicle) as opposed to one librarian per library. For LA County, the full cost for a MākMō librarian including employee benefits is approximately \$100,000; therefore, the County incurs a cost of \$400,000 annually for staffing makerspaces as opposed to a cost of \$8,700,000 that could be incurred if attempting to staff all 87 branches with a dedicated makerspace librarian.
- The cost to purchase and outfit one vehicle is \$60,000, making the total cost for four vehicles \$240,000. This is a one-time cost, with the exception of vehicle maintenance. Additionally, the library spent \$101,978 per vehicle (\$407,912 total) on equipment and activities. This is significantly lower than what it would cost to outfit all library buildings with dedicated makerspaces, which is estimated to be \$8,872,086 (\$101,978 times 87 locations).
- In a seven-month period since the vehicles hit the streets, three MākMōs have held a total of 124 total in-library programs with 2,775 attendees, and have attended 44 community outreach events, reaching a total of 21,323 attendees.
- Due to popularity of this service, a fourth vehicle has been funded by the second supervisorial district, expanding MākMō programming.

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Linkage to the County Strategic Plan – 1 page only. Which County Strategic Plan goal(s) does this project address? Explain how. Use Arial 12 point font.

The MākMō project best addresses Goal I – Make investments that transform lives. It specifically ties into Strategy I.1.7, “Support Library Efforts to engage Children and Families,” and the intention to “extend programs and services for underserved youth and families at all County libraries, including early learning programs and mobile literacy services.”

While MākMōs were created to serve all libraries and communities, one of the most significant benefits they provide is expanding Library services beyond building walls, making STEM learning mobile, able to travel to underserved communities and improve the lives of those who need it most. By investing in creative STEM programs that children, teens and adults can all enjoy, the vehicles and their activities help to transform lives by raising awareness of STEM-field opportunities and careers.

The project also addresses Goal II- Foster Vibrant and Resilient Communities, specifically Strategy II.2.2 Expand Access to Recreational and Cultural Opportunities: Expand access for all County residents, particularly those in unincorporated and high-needs areas, who have traditionally underutilized the County’s museums, theatres, beaches, parks, and other recreational facilities.

While MākMōs are primarily intended as a learning opportunity, they are also fun; they represent a cross-pollination of education and recreation. By delivering services directly at events, schools, and partner organizations, the vehicles provide access to communities who may underutilize libraries by going directly to the people they serve, as opposed to waiting for customers to visit a library location, which may not be convenient.

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COST AVOIDANCE, COST SAVINGS, AND REVENUE GENERATED (ESTIMATED BENEFITS TO THE COUNTY): If you are claiming cost benefits, include a calculation on this page. Please indicate whether these benefits apply in total or on a per unit basis, e.g., per capita, per transaction, per case, etc. You must include an explanation of the County cost savings, cost avoidance or new revenue that matches the numbers in the box. Remember to keep your supporting documentation. Use Arial 12 point font

Cost Avoidance: Costs that are eliminated or not incurred as a result of program outcomes. Please indicate whether these are costs to the County or to other entities.

Cost Savings: A reduction or lessening of expenditures as a result of program outcomes. Please indicate whether these were expenditures by the County or by other entities.

Revenue: Increases in existing revenue streams or new revenue sources to the County as a result of program outcomes.

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By establishing MākMōs that can service all County districts and library locations, the Public Library has avoided the annual, recurring costs of hiring a dedicated maker space librarian for each of its 87 locations. As each Librarian I position costs, on average, \$100,000 including employee benefits, MākMō vehicles avoid an estimated \$8,300,000 annually (\$8,700,000 to staff all 87 branches minus the \$400,000 spent annually on staffing maker mobiles).

In addition, purchasing four MākMōs and equipping them with activities and equipment resulted in substantial one-time cost avoidance, as the Library did not need to purchase this equipment for each of its 87 locations. Equipment for each vehicle costs, on average, \$101,978 (\$407,912 total for all four vehicles). The cost to outfit all libraries would be an estimated \$8,872,086 (\$101,978 times 87 locations). By subtracting the cost of the four vehicles (\$240,000, or \$60,000 each) and the cost of equipment for these vehicles (\$407,912), there is a one-time cost avoidance of \$8,224,174 by not equipping all library branches with maker space materials, and sharing them via maker mobiles instead. This cost avoidance was not reflected in the calculations above as it is a one-time/long-term savings, and not annual.