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Rockefeller Foundation
Innovation for the Next 100 Years

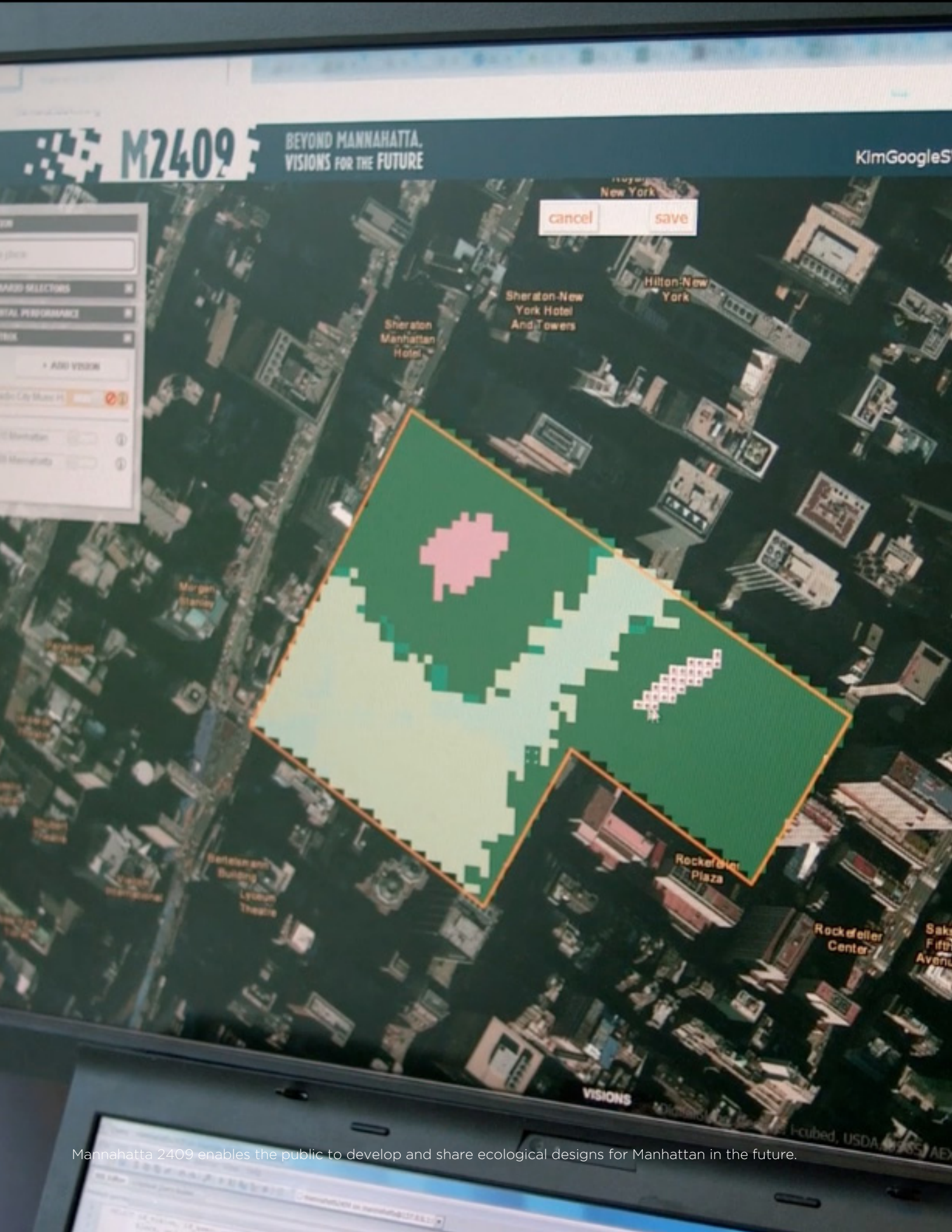
Cultural Innovation in Action

Case Studies from 2011 Grantees of The Rockefeller Foundation's NYC Cultural Innovation Fund

Wildlife Conservation Society
Mannahatta 2409

PREPARED BY:

EmcArts Inc.



Mannahatta 2409 enables the public to develop and share ecological designs for Manhattan in the future.

Introduction

About Wildlife Conservation Society

Founded in 1895, the Wildlife Conservation Society manages the world's largest system of urban wildlife parks, including the New York Aquarium, Central Park, the Queens and Prospect Park Zoos, and the Bronx Zoo. Four million people visit these parks each year, including more than 300,000 school children. Globally, the Wildlife Conservation Society has partnerships with governments, local communities, and organizations in 60 countries—a vast range of 500 projects that protect 200 million acres of land, seascapes, and animals. Using science, education, and conservation, the Wildlife Conservation Society works to change attitudes toward nature and help people imagine wildlife and humans living in harmony, laying a foundation on which to build sustainable futures for wildlife and wild places. The Society's annual budget is just over $219 million.

About the Project

Mannahatta 2409 is an online platform that enables the public to develop and share their own ecological designs for Manhattan in the future using five metrics of sustainability: population density; carbon, fossil fuel use, and climate change mitigation; water quality and stormwater management; biodiversity and ecological restoration; and walkability. Through a Google Maps-type explorer window, visitors to the site can navigate to any block or district in Manhattan and use the tools provided to paint the city as they imagine it should look in 2409. When finished, visitors may save their design as public or private, and share it with friends and colleagues through built-in social media widgets. All public visions are searchable by user, geography, ecological performance, and popularity.

Process

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>
> **- Dr. Eric Sanderson**
> Senior Conservation Ecologist

Starting Conditions

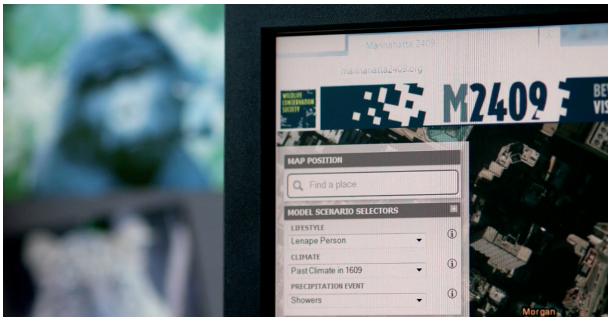
“Manhattan used to be a wild place,” says Dr. Eric Sanderson, senior conservation ecologist. “Then Henry Hudson came 400 years ago and started a different kind of trajectory for the city. We’re now thinking of the next 400 years.” Thinking so long-term raises some mind-bending questions, he adds. How can we bring the innovation we’ve applied to buildings, the economy, and arts and culture and apply it to the city’s environment? How can we make our city healthy and resilient for the long term? How can we engage the public’s imagination in the greatest problem of our generation: designing a sustainable city?

Tackling these questions in the context of the interconnected problems of modern cities was no easy task. New York City, like most other cities, faces significant challenges of ecological performance, including stormwater management, climate change adaptation and mitigation, brownfield remediation, and ecological restoration. The first step in rectifying these problems, Sanderson believes, is to think of the city as a vital ecological place. After all, he maintains, ecological sustainability will only be possible when human developments perform at least as well as the ecosystems that are native to that place. Inspired by backyard chickens and rooftop farms, green buildings and planted roofs, swimmable harbors and rain gardens, local foods and bike lanes, Sanderson and his staff asked themselves a fundamental question: How could we merge and connect these ways of reinventing the city on small scales to the landscape scale of ecological performance?

What emerged was a very big idea: a website that would engage the public in imagining the sustainable city of the future. “We wanted to engage everyone from the Mayor to school children in the

search for ecologically informed sustainability," says Sanderson. But they were confronted with two potentially devastating obstacles. To date, ecological performance standards had only been developed for a few projects nationwide—never for an entire city and never in the context of the detailed pre-development ecology of that city. Additionally, citizens are typically left out of the planning process, left to respond defensively to new zoning proposals instead of being part of developing them.

Wildlife Conservation Society's big idea was to create a website that would engage the public in imagining the sustainable city of the future.



Even though no such website had ever been built, Sanderson and his staff were convinced that the project could work and that the Wildlife Conservation Society was the organization to undertake it. When the grant from the NYC Cultural Innovation Fund was awarded, Mannahatta 2409—as the project was named—became suddenly very real. "I didn't think there was much likelihood we'd be funded," says Sanderson, "so it drove me to be a little more cutting edge than I might otherwise have been. Then the grant came through, and we said to ourselves, 'Oh gosh, now we have to build this!'"

Prototyping

To guide the development of Mannahatta 2409, the Wildlife Conservation Society organized a seven-member advisory committee of experts on buildings, ecosystems, and web-based mapping. In addition to Sanderson and Kim Fisher (Spatial Analyst and Developer), the committee included city planning officials; members of Terrapin Bright Green, a private sustainability consulting firm; and a representative of Human Design Projects. Monthly committee meetings were designed to test new ideas and share approaches to the website design and development.

The Wildlife Conservation Society moved quickly into project development. Once mock-ups and wireframes were prepared, the organization held several design charettes to gather feedback on the project's concept, methods, and initial design work. A wide variety of invited responders participated in the charettes, including teachers,

architects, artists, scientist, city planners, and housing officials, among others. Armed with research, advice from the advisory committee, and feedback from the two charettes, the project team developed a set of methods to estimate flows of carbon, water, biodiversity, and population. Remarkable for their flexibility in allowing multiple inputs, these methods collect information from users about their visions for the city's future.

Changes in Assumptions

The Wildlife Conservation Society's mission statement says that the organization "saves wildlife and wild places worldwide through science, global conservation, education, and management of the world's largest system of urban wildlife parks." Wilderness is not a concept that most people assign to cities—even those with urban wildlife parks like the Bronx Zoo—and even within the Wildlife Conservation Society, Mannahatta 2409 was an institutional gamble that required changing assumptions about wilderness.

Beginning to think more broadly about the relationship between the two spheres of the Society's responsibility—wild places worldwide and its system of urban parks—caused a major shift in institutional perspective. If cities are parts of ecosystems modified by human influence, New York City is an opportunity to demonstrate to and engage the public in changing human influence, in ways that are beneficial to nature within and outside the city. "Our idea is that Manhattan is a landscape for innovation," says Sanderson. "Millions of people around the world have an idea of New York City. We want to fill that idea with an understanding of how ecosystems are resilient and how, by changing lifestyles and ecosystems, cities can survive and thrive, even as climate changes." For the first time, the Society focused on New York City outside the traditional zoological context, embracing the city (and cities) as proper places for conservation and restoration, and connecting across disciplinary boundaries—from conservation biology and ecosystem ecology to urban planning, architecture, and sustainability planning.

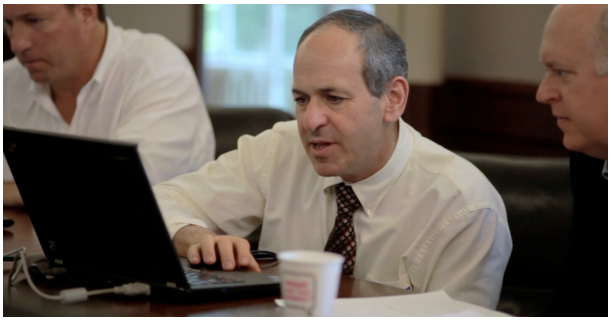
The biggest question, Sanderson says, was whether they could get the science to work. Could they come up with a conceptual model for Mannahatta 2409 that would work quickly and precisely enough, and could they design the technical innovations to support it? Sanderson describes how his assumptions about the project evolved during the prototyping process. "We know a lot about the world," he says, "and we have all these amazing technical tools. I realized that what was missing was the integration. It turns out that we can put conceptual and technical models together in a way that an expert in just one area couldn't do." Fisher agrees. "All this mystique around expertise or technical complexity of a given conceptual model or technical component shouldn't be a deterrent. If you want to put them together, you can." On a practical level, Fisher says he overestimated the role that part-time contractors might play in project development. "I thought we could outsource more work than we could, and it turned out to be more of an in-house operation than I had expected. The idea that you could realize the ideas in your head on the back of someone else's work is an assumption I had to question."

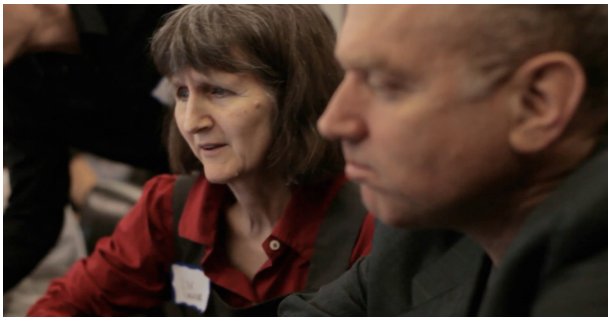
Obstacles and Enablers

It's no surprise that the ambitious scope of Mannahatta 2409 posed the biggest overall challenge for the Wildlife Conservation Society. As a scientific matter, the subject was very large, requiring familiarity with a wide variety of literature and practice—familiarity that no one person could boast. To complicate matters, the literature was not widely cross-referenced, so it was hard to maneuver among energy studies, ecosystem ecology, transportation planning, hydrology, biodiversity science, and urban population dynamics. At the same time, there was a good deal of design risk associated with the calculation of indicators, which had never been calculated at this scale before, but leaders say they were able to mitigate this risk through design charettes, extensive feedback and review, and partnering with experts. Although web-mapping is now common, interactive web maps are still an emerging area of computer science and therefore extremely costly. After developing its initial

concept, the Society discovered that some cost estimates exceeded the budget by ten times. To compensate for this, the Society decided not to engage a single web-mapping firm, but rather to work with individual programmers.

The Mannahatta 2409 team's freedom and independence in pursuing the project were the most critical enablers of success.





Designing for multiple users with varying skill levels was also challenging and posed difficulties in constructing the web map. Some users, Fisher says, wanted "a more complex functionality, while others told us the site was too complex and should be simplified. We figure that if we're getting both responses, we're probably [best off] finding a happy medium." According to Sanderson and Fisher, the team's freedom and independence were the most critical enablers of success, and they credit the Society with "creating this little pocket for us and not putting a lot of restrictions on us." Fisher adds, "We're just doing it, and going after the vision without reference to the way these things are usually done," he says. "We're just building web applications, not taking the conventional approach of hiring a big design firm. This is what enables new things."

Having the right people on board is also critical. "It's all about getting the right people—not just the right skill sets, but the right personalities," Fisher says. "You have to have the ability to work together, to work hard, and to work in spurts. We're carving out a way for people in the organization to think big. The extent to which an institution can carve out a place for people inside to think in different ways… that's what pushes things forward." Both Sanderson and Fisher acknowledge that being in New York City with access to a broad range of expertise—from city planners to environmental and emergency management specialists, architects, and others—helped them immeasurably in building an effective team. The process, say Sanderson and Fisher, felt "very natural" and they note that the only real obstacle for them was time. "It's a trade-off," says Fisher between smaller groups like ours that have to work closely together and bigger organizations where the project might not be so draining on an individual basis." Yet he believes the smaller group has distinct advantages and wonders whether "a bigger group might lose the magic of the creation."

Impact

New Pathways to Public Value

"People come to our parks for an experience with nature," says Sanderson, "but we wanted to have them think of that relationship differently so that they will make better decisions about the environment." Still in its beginning stages, Mannahatta 2409 is a promising opportunity—a totally new approach to thinking about the natural and built environments as a whole. As Sanderson says, "We're hoping that in the stew of all the different visions of Manhattan's future, we might discover something that's brand new—a win-win between the city and nature."

The key, say Sanderson and Fisher, will be "the wisdom of the crowd." They hope that the site's transparency and its total lack of restrictions will create solutions no individual could come to on his or her own. "You can use the site to just paint pretty pictures if that's all you want to do," says Fisher, "but you can also drill down as far as you want and see how different metrics are affected by your decisions. It makes you feel very powerful."

Both say the surprises are still to come as people do things they cannot yet imagine. What will they put in? What visions will they have? "It's exciting to think that people will be working together on creating new visions that are better and better," says Fisher. Sanderson admits he is thrilled by the possibilities. "The environmental community hasn't had anything like this," he says. "Imagining the environment of the city as a positive, proactive, creative act is totally new and exciting."

Perhaps the greatest impact lies in the future. "Our vision is that it won't be just Manhattan and not just 2409," says Sanderson. "It could embrace any geography and date." Already planning to roll out the platform in other boroughs of New York City, Sanderson also sees possibilities for Denver, San Francisco, Jerusalem, and other cities around the world. He also looks forward to expanding the metrics available on the site and says he can see at least eight to ten other useful metrics running alongside the four the website currently supports, including metrics on health, economic performance, coastal management, and others. "This is just version 1.0," he says, "but there will be a version 2.0, 3.0, 4.0, and beyond."

Learn More

Visit ArtsFwd.org to watch a short documentary about this project and learn more about the 2011 Grantees of The Rockefeller Foundation's NYC Cultural Innovation Fund.

Profile written by: Catherine Maciariello for EmcArts

All images: Meerkat Media

About The Rockefeller Foundation's NYC Cultural Innovation Fund

Through the NYC Cultural Innovation Fund, the Rockefeller Foundation invested $16.3 million over six years to increase capacity for cultural innovation. The NYC Cultural Innovation Fund sought to reflect the creative aspirations of low-income and minority people, and to contribute to the development of theory and practice of integrating the arts into efforts to achieve cultural equity and community resilience.

The NYC Cultural Innovation Fund supported a diverse portfolio of experiments, explorations and innovations by 86 different cultural and community organizations in New York City. The Fund helped organizations experiment with new artistic programs and imaginative audience engagement strategies; involve community residents in creating work; present art in unconventional venues where it can be seen by a larger public; showcase work of minority artists and immigrant cultures; and pilot new revenue-generating approaches to sustain artists.

www.rockefellerfoundation.org

About EmcArts

EmcArts is a social enterprise for learning and innovation in the arts. We envision a time when participating in art is recognized as lying at the core of human potential. EmcArts is dedicated to advancing a resilient not-for-profit sector that can make this vision a daily reality. Our programs support individuals, organizations, and communities on their journey to becoming highly adaptive.

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