

TECHNICAL APPENDIX

# California's Arts and Cultural Ecology

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This Technical Appendix supports the full report, *California's Arts and Cultural Ecology*, and is accompanied by a highlights document, *Arts, Culture and Californians*, presenting select research findings. All materials are available via [www.irvine.org/ArtsEcology](http://www.irvine.org/ArtsEcology).

# Introduction

In this technical appendix, we describe our data sources and document the quantitative and qualitative methods we used to evaluate characteristics of California’s arts and cultural nonprofit organizations and their host communities. We integrated quantitative data from five main sources, each with limitations and advantages, from which we made requisite correcting adjustments.

By carefully designing three key indicator variables—budget size, organization focus area (mission and/or artistic discipline), and region—we assessed how arts and cultural organizations vary across California.

To make use of the rich data available from the California Cultural Data Project, we investigated how well the data represent the entire landscape of nonprofit arts and cultural organizations in California. Based on the results, we designed a method for weighting the Cultural Data Project data to improve estimates.

To explore how Californians’ arts participation compares with the rest of the U.S. and varies across large metros in the state, we used data from the National Endowment for the Arts’ Survey of Public Participation in the Arts.

To investigate how arts and cultural organizations reflect and vary by the characteristics of the communities in which they are located, we compiled and analyzed data from the U.S. Census and other supplemental sources.

For estimating the economic impact of California’s arts and cultural organizations, we used the Impact Analysis for Planning input-output model and data for the state of California.

This appendix also covers methodologies used in our interviewing work. To illustrate special features of California’s smaller arts and cultural organizations and the challenges they face, we used data from interviews with organizations that are typical of those underrepresented in other data sources.

Our careful approach integrates the best available data sources to shed new light on California’s nonprofit arts and cultural ecology and the cities, towns, and communities in which it is embedded.

# Data Sources

Our analysis draws upon five main quantitative data sources: the National Center for Charitable Statistics (NCCS), the California Cultural Data Project (CDP), the Survey of Public Participation in the Arts (SPPA), the American Community Survey (ACS), and the Impact Analysis for Planning (IMPLAN) input-output modeling system. We also use supplemental data from the 2000 Census (housing unit density), the California Department of Finance (current city population estimates), and the California Consumer Price Index. We also conducted 36 interviews with organizations underrepresented in the CDP. Below, we briefly describe how each of our data sources is constructed and their limitations. Our analyses and interpretations of data from all sources do not reflect the views of the organizations responsible for creating and sharing data.

## National Center for Charitable Statistics (NCCS)

We use data from the NCCS because they provide the most complete information on the number of arts and cultural nonprofits in California and offer limited information on organizational budget size, location, and mission/artistic discipline for all organizations. The NCCS maintains multiple data files on the nonprofit sector. Our analysis uses data from both the 2008 CORE-PC and 2010 Business Master File (BMF), both the most recent available at the time of analysis.

The CORE-PC and BMF vary in important ways. The CORE-PC contains more detailed and reliable financial data, but only for 501(c)(3) organizations with gross receipts over \$25,000. In contrast, the BMF includes organizations with smaller budget sizes and non-501(c)(3) nonprofits, but has less reliable and less detailed financial data. These differences stem from variation in source data and IRS filing requirements: The CORE-PC only contains records for organizations required to file tax returns (Form 990s)—501(c)(3)s with annual gross receipts greater than \$25,000. Therefore the CORE-PC excludes other

501(c) numbers, organizations with receipts under \$25,000, and religious organizations. In contrast, the BMF includes information on all nonprofits. A CORE-PC file exists for each tax-filing year and will contain 990 information from the most recent year an organization filed, from within the last three years. The BMF is a cumulative list of all registered nonprofits maintained by the IRS.<sup>1</sup> Whereas the CORE-PC contains detailed financial information drawn from tax return filings of Form 990, the BMF is primarily constructed from initial tax filing forms: Form 1023 and Form 1024. The BMF contains very limited financial data from the most recent 990 available and/or initial tax filing form. Organizations not required to file 990s may have no financial information recorded. Similarly, some recorded financial information in the BMF file is from very old source data. To summarize, the BMF contains data for more organizations, but CORE-PC financial data is more reliable.

NCCS data have two other limitations worth noting. The BMF file overestimates the number of nonprofits because organizations that may be defunct are included, and both the BMF and CORE-PC files have inaccuracies in address data. We have taken steps to minimize both issues, which we describe below.<sup>2</sup>

## California Cultural Data Project (CDP)<sup>3</sup>

The CDP provides detailed information on organizations' finances, employment, and attendance for a sample of California organizations that elect to complete an extensive online profile. The longitudinal data span fiscal years ending in 2007, 2008, and 2009. Financial data is derived from an organization's audit, financial review, or year-end financial statements in the case of unaudited or unreviewed organizations. Most often respondents complete information because of grant application requirements. Although 93.3% of CDP respondents are nonprofit organizations, the CDP survey can also be taken by unincorporated groups, entities within parent organizations, fiscally

sponsored groups, government agencies, and individual artists. A non-arts or cultural organization may be included, although reported information should be limited to an arts and cultural program within it.

Although the CDP provides a rich source of information, the data also present certain challenges. The CDP data are not a random sample and contain relatively few observations (1,604 unique arts and cultural organizations or 11% of those in the NCCS, our estimate of the “full universe” of organizations). Consequently, the organizations in the CDP are not representative of the NCCS along certain key dimensions. In addition, although the CDP is a longitudinal study, modest participation rates limit the CDP’s current utility for year-to-year comparisons. For instance, increases in the number of organizations participating in the CDP cannot be ascribed to overall growth in the nonprofit arts and cultural sector, and parsing the CDP by fiscal year results in very small per-year sample sizes. Given these limitations, we opted not to conduct longitudinal analyses, and weighted CDP data to the NCCS to improve estimates. In subsequent sections of this appendix, we detail our procedures, as well as the ways in which the CDP differs from the full universe of arts and cultural organizations as measured by the NCCS.

### Survey of Public Participation in the Arts (SPPA)

To assess arts participation among Californians, we turned to the National Endowment for the Arts (NEA) Survey of Public Participation in the Arts (SPPA), a random sample survey of 17,000 to 18,000 adults periodically conducted by the U.S. Census Bureau as part of the ongoing Current Population Survey.

The survey results list respondents according to their place of residence, but they do not identify the location of arts events that respondents report having attended. Reported events attended could actually be located anywhere, although presumably, most occur in a given respondent’s state and region of residence. We employed data from the 2002 and 2008 SPPA, making use of a combined-years dataset compiled by the NEA.<sup>4</sup> The SPPA represents the largest and

most detailed long-term data source for a broad range of arts participation in the United States. These data permitted us to complement CDP information on attendance, collected from organizations, with arts participation data provided by surveyed individuals. We used these data to explore how arts participation by Californians as a whole compared with the rest of the U.S. The sample is large enough to permit breakouts for the largest metro regions in the state, which we then compared with the rest of California.

### American Community Survey (ACS) and supplemental place sources

To understand how California’s arts and cultural organizations vary by characteristics of place, we used data on city characteristics from five sources: the 2006–08 ACS Multi-Year Estimates, the California Department of Finance, the 2000 decennial U.S. Census, the Foundation Center (for data on private arts giving by city), and the California State Controller’s Office (for data on public expenditures for arts activities).

The ACS is a nationwide survey conducted by the Census Bureau. From it, we used data on demographics and housing and land use characteristics of cities and their populations. Unlike the decennial census, population and housing information is collected annually for a small subset of the population. Combined three-year estimates (for 2006, 2007, and 2008) yield average socioeconomic characteristics with a large enough sample size to estimate results for geographic areas with populations of 20,000 or more.<sup>5</sup>

From the Department of Finance (DOF), we used population estimates for 2009 for all of California’s 480 cities.<sup>6</sup> From the decennial U.S. Census, we used data on land area and housing units to construct a measure of housing unit density for each city (data on land area by city are not available in the ACS). From the Foundation Center, we used data on annual giving by city in 2008 by private arts philanthropies, culled from 35 sources.<sup>7</sup> To evaluate public arts funding for cities, we used data from the California State Controller’s Office on total operating expenditures by city (excluding capital expenditures, and before counting associated revenue) for Fiscal Year 2007–08

for two categories of city expenditures in the “Culture and Leisure” group: museums and community centers/auditoriums.

By using these various sources, we captured recent and reliable data on community characteristics available at the time of our research. However, it is important to note that some geographic areas, and their arts and cultural organizations, are excluded from our analysis. In particular, unincorporated (non-city) areas are excluded. We limited our analysis to include only incorporated areas—cities—because the most complete and consistent data is available across all our sources at that scale. For three datasets—the DOF population estimates, and Foundation Center and Controller’s Office data on arts funding—full information is provided for all California cities. Our analysis of the distribution of arts and cultural organizations by city population size reflects the complete DOF dataset of city populations for 2009, for this reason. However, as noted, the ACS data captures only those geographic areas with a population of 20,000 or more. This coverage captures 78% of California’s total population, but 189, or 39%, of California’s 480 cities, have populations under 20,000 and are therefore excluded from our ACS data. The city-based portion of the excluded data is small; most (79%) of the state population not included in the ACS consists of people living in unincorporated areas. For some ACS variables (detailed later), data is further excluded for certain jurisdictions, due to suppression for privacy reasons or other census-imposed constraints. In general, the analysis of city characteristics other than population size—namely demographic, housing, and land use features—is limited to a subset of all cities. These limitations are discussed in the section below on city-based analysis.

## Impact Analysis for Planning (IMPLAN)

We purchased the IMPLAN modeling system for the state of California because it includes data that allows for the creation of input-output models for any combination of California counties, and for the state as a whole. The data used in the IMPLAN system is based on the benchmark U.S. input-output tables; IMPLAN obtains regional estimates from the U.S. Bureau of Economic Analysis that allow calibration of regional input-output models. The IMPLAN data we purchased was for the year 2008, the most recent year for which regional data were available.

## Interview data

To probe features of arts and cultural organizations that lack metrics in current data sources, we gathered data from 36 smaller organizations on organizational formation, evolution and governance structure, participation, access to space, and their relationships with other organizations and embeddedness in their communities as well as on CDP and NCCS data points such as revenue sources, budgets, employment, volunteers, and in-kind support. The interviewees, none of whom had taken the CDP survey as of July 2010, were selected from NCCS and Alliance for California Traditional Arts records on the basis of location, focus area, and budget size. The organizations were selected to mirror the state’s regional distribution of arts and cultural organizations. We targeted smaller organizations, though several have budgets above the \$250,000 level. We disproportionately chose organizations working in ethnic, folk, multidisciplinary, humanities, heritage, and non-visual arts museums, areas of focus that are underrepresented in the CDP.

# Methodology

## Data preparation

We integrated NCCS, CDP, ACS, and supplemental data sources to create databases that contained a single record for each organization with the most recent financial information available, adjusted for inflation.<sup>8</sup> To prepare the NCCS data, we restricted all nonprofit organizations to those in the arts and cultural category and reduced the number of potentially defunct organizations to achieve more conservative estimates. In this section, we summarize our data preparation process and the measures we took to improve the accuracy of estimates.

**1. Limiting the universe of NCCS arts and cultural organizations.** To define the arts and cultural component of the NCCS, we restricted nonprofit organizations based on the NCCS’s National Taxonomy of Exempt Entities (NTEE) codes to include only those organizations coded as arts, culture, and humanities (“A” codes). We also explored more expansive definitions based on other research efforts<sup>9</sup> and the NTEE codes represented in the CDP data.<sup>10</sup> Ultimately, we opted for a conservative definition because arts and cultural organizations likely constitute only a subset of many groups, and because including a more expansive definition would render our subsequent weighting adjustments of the CDP to the NCCS less accurate.

**2. Correcting for presence of defunct organizations in the NCCS.** We addressed an identified problem in the NCCS BMF file of overcounting nonprofits due to nondeletion of defunct organizations. To correct for this issue, we identified the likely subset of potentially defunct organizations and reduced this group by 75% using a random sample. We isolated the pool of potentially defunct organizations by identifying organizations not present in the CORE-PC file that also had not filed a 990 within 24 months of the BMF file date, after excluding organizations formed in 2010. The group includes organizations with gross receipts under \$25,000 that had not filed a 990-N, or e-Postcard—an IRS filing requirement implemented in

2006 that will be fully phased in 2010, which attempts to track small nonprofits not required to complete full 990s. We chose to reduce this group by 75% based on sampling the NCCS performed on non-990-N filers. In an effort to determine the percentage of active organizations unaware of the requirement versus truly defunct organizations, the NCCS randomly selected 100 organizations and could only confirm that 25 were active.<sup>11</sup> Our adjustment reduced our estimates of the population of California arts and cultural nonprofit organizations from 15,005 to 10,746.

**3. Data cleaning and merging procedures.** Our preparations also entailed recoding potentially erroneous data, merging different data sources to create databases with a single observation/organization, and reconciling discrepancies. After recoding potentially erroneous nonfinancial CDP data as missing,<sup>12</sup> we merged CDP and NCCS data using federal tax identification numbers. We performed manual checks to ensure fiscally sponsored groups in the CDP did not contain NCCS data from their parent organization. When merging NCCS and CDP with ACS data, we encountered postal address discrepancies and inaccuracies. In cases of address discrepancies (i.e., city locations) between source data, we relied first on CDP data (because it is a more accurate and up-to-date source), then on the NCCS BMF file as opposed to the CORE. BMF address data is generally concurrent or more recent than CORE, and inaccuracies exist in the CORE file because organizations sometimes list their tax preparers’ address on 990s rather than their own. By making multiple corrections to city name misspellings and matching neighborhoods listed as cities to city names, we increased the percentage of organizations with positive city matches from the ACS data from 71% to 91%. The remaining nonmatching organizations (9%) are primarily limited to unincorporated areas without ACS coverage.

**4. Construction of our data universe.** After merging the CDP and NCCS, we eliminated those organizations present in the CDP but not present in the NCCS from our analyses. The number of these organizations totaled 415, representing 26% of all CDP cases. This step was taken in order to construct an identifiable universe of organizations for our work. The CDP is a nonrandom and nonrepresentative sample of arts and cultural organizations in California (reflecting the fact that participation in the CDP survey is voluntary); for more about the representativeness of the CDP in relation to the known universe of arts and cultural organizations in the NCCP, see our complete discussion starting on page 11.

### Construction of key indicator variables

To conduct meaningful analyses, we grouped arts and cultural organizations along three key dimensions: organizational focus areas (mission/discipline), budget size, and region. Our constructs bridge CDP and NCCS definitional differences, reflect distinctions meaningful to our audience, and by necessity, carry forward some definitional constraints present in the source data.

**1. Organizational focus areas.** We developed seven categories to aggregate organizations by mission/discipline:

- Arts and cultural support
- Ethnic, folk arts, and multidisciplinary
- Media, film/video, broadcasting, and publishing
- Visual arts
- Performing arts
- Music
- Humanities, legacy, and other museums

To construct these groups, we consolidated the NCCS's 42 arts, culture, and humanities codes within its National Taxonomy of Exempt Entities (NTEE). In addition, we created a crosswalk to assign the CDP's 15 National Standard for Arts Information Exchange Project (NISP) categories into appropriate groups. We assigned organizational focus areas based on NTEE codes, as opposed to NISP codes.

In Table A1, we present the NTEE and NISP subgroups that comprise our organizational focus areas.

Some details useful for interpretation may not be apparent from the group or subgroup names alone. The arts and cultural support group includes professional associations, and those dedicated to management, research, advocacy, fundraising, or education. Ethnic, folk arts, and multidisciplinary encompasses organizations ranging from folk art museums to art centers, guilds, and multipurpose cultural organizations. Although we realize many art practices considered ethnic or folk arts also could fit within an alternate discipline—visual arts, performing arts, music, etc.—this category carries forward both the NCCS and CDP's treatment of ethnic and folk arts as a distinct group. We chose to combine ethnic and folk arts with multidisciplinary, after inspecting the definition and makeup of NTEE codes A20 (Arts & Culture) and A99 (Arts, Culture & Humanities Not Elsewhere Classified). A20 includes cultural centers and multipurpose cultural organizations with arts guilds, and a visual inspection of organization names coded within A99 suggests that it captures organizations dedicated to folk and ethnic art forms and guilds and artist centers. The visual arts group includes both visual arts organizations and art museums, and captures NISP codes for design arts, crafts, and photography. The performing arts category includes dance and theater organizations, but music (including opera and musical theater) falls within a separate category. Our decision to isolate music from performing arts rests on the fact that music, though a performing art, is also very widely experienced through recordings, unlike theater and dance. Furthermore, sample sizes allow for music's treatment as a stand-alone category. The humanities, legacy, and other museums group ranges from historical organizations to children's and science museums. It also includes A27 (Community Celebrations). Note that this subgroup excludes ethnic fairs and festivals, which fall under A23 (Cultural & Ethnic Awareness). All nonprofits with NTEE codes falling outside the arts, culture, and humanities have been excluded from our analysis.

**TABLE A1. CROSSWALK OF ARTS AND CULTURAL ORGANIZATIONS' FOCUS AREA CATEGORIES**

FOCUS AREA	NTEE <sup>1</sup> CODES	LABELS (NCCS)	NSIP <sup>2</sup> CODES	LABELS (CDP)
<b>ARTS AND CULTURAL SUPPORT: PROFESSIONAL ASSOCIATIONS, MANAGEMENT, RESEARCH, ADVOCACY, FUNDRAISING, EDUCATION</b>	A01	Alliances & Advocacy		
	A02	Management & Technical Assistance		
	A03	Professional Societies & Associations		
	A05	Research Institutes & Public Policy Analysis		
	A11	Single Organization Support		
	A12	Fund Raising & Fund Distribution		
	A19	Support Not Elsewhere Classified		
	A25	Arts Education		
	A6E	Performing Arts Schools		
	A26	Arts & Humanities Councils & Agencies		
<b>ETHNIC, FOLK ARTS, AND MULTIDISCIPLINARY</b>	A20	Arts & Culture	11, 14	Interdisciplinary, Multidisciplinary
	A23	Cultural & Ethnic Awareness		
	A24	Folk Arts	12	Folklife/Traditional Arts
	A53	Folk Art Museums		
	A99	Arts, Culture & Humanities Not Elsewhere Classified		
<b>MEDIA, FILM/VIDEO, BROADCASTING, PUBLISHING</b>	A30	Media & Communications	9	Media Arts
	A31	Film & Video		
	A32	Television		
	A33	Printing & Publishing		
	A34	Radio		
<b>VISUAL ARTS</b>	A40	Visual Arts	5	Visual Arts
	A51	Art Museums		
			6	Design Arts
			7	Crafts
			8	Photography
<b>PERFORMING ARTS</b>	A60	Performing Arts		
	A61	Performing Arts Centers		
	A62	Dance	1	Dance
	A63	Ballet		
	A65	Theater	4	Theater
<b>MUSIC</b>	A68	Music	2	Music
	A69	Symphony Orchestras		
	A6A	Opera	3	Opera/Musical Theater
	A6B	Singing & Choral Groups		
	A6C	Bands & Ensembles		
<b>HUMANITIES, LEGACY, AND OTHER MUSEUMS</b>	A70	Humanities	13	Humanities Storytelling
	A80	Historical Organizations		
	A82	Historical Societies & Historic Preservation		
	A84	Commemorative Events		
	A27	Community Celebrations		
	A50	Museums		
	A52	Children's Museums		
	A54	History Museums		
	A56	Natural History & Natural Science Museums		
	A57	Science & Technology Museums		
			10	Literature

Sources: 1. National Taxonomy of Exempt Entities, National Center for Charitable Statistics; 2. National Standard for Arts Information Exchange Project, Cultural Data Project.

**2. Budget size.** To analyze the distribution of California’s arts and cultural organizations across budget size and how budget size is interconnected to other characteristics, both organizational and place-based, we divided arts and cultural organizations into six budget categories:

- Less than \$25,000
- \$25,000 to under \$250,000
- \$250,000 to under \$500,000
- \$500,000 to under \$2 million
- \$2 million to under \$10 million
- \$10 million and over

To construct these thresholds, we first considered which financial variable would best serve as a proxy for budget size. Different accounting practices for our source data (Form 990s for the NCCS and audits for the CDP) complicated this undertaking. To attain the best data coverage and consistency, we constructed a variable based on NCCS data, although we make extensive use of detailed CDP data on financial expenditures for our economic impact analysis. Experts in the arts nonprofit sector concur that no ideal measure exists for defining arts organization “size.” Researchers have used a variety of measures to estimate and compare nonprofit organizational budget size, all various permutations of estimated revenue and estimated total expenditures. We want our measure to meet two criteria: 1) to be as conceptually accurate as possible in conveying annual resources-at-hand and budget potential, and 2) to maximize data consistency and availability. We used a measure that came closest to being the best to work with both these criteria simultaneously.

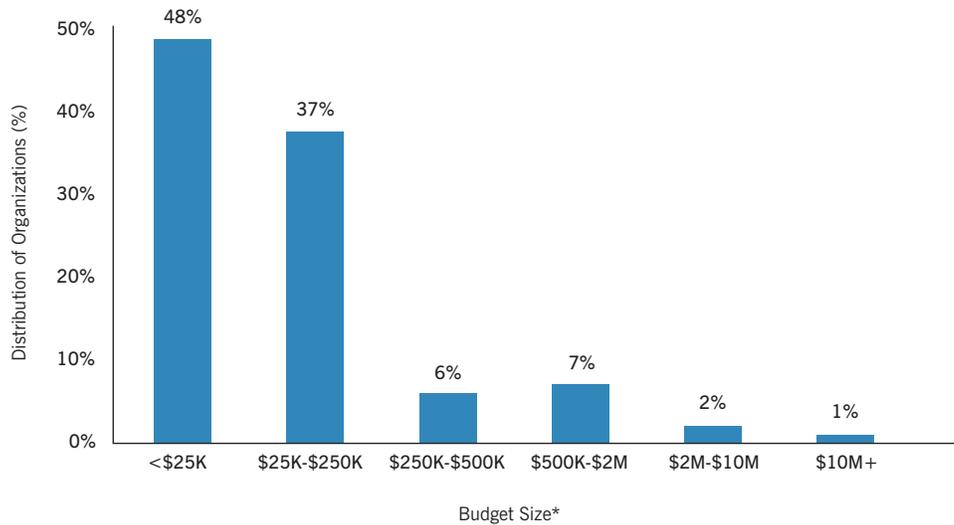
For organizational budget size, we designed a measure that comes closest to being best on both criteria simultaneously: 990-defined gross receipts minus the costs of assets sold.<sup>13</sup> This modified version of gross receipts is preferable to total revenues because the latter do not include revenues from rentals, certain types of fundraising, and goods sales, all of which are more accurately treated as activities that the organization undertakes that affect its resource position and spending power. In symmetrical fashion, for our economic impact work, we use a modification of total expenses (990-defined total expenses plus the

cost of goods sold, expenses associated with rental income, and expenses associated with fundraising events).

Modified expenses and modified gross receipts are also the best options from another important standpoint: data consistency and availability. Expenses data are missing for 55% of our organizations—non-990 filers, primarily 501(c)(3)s with gross receipts under \$25,000. Because expenditures are the best measure for assessing economic impact, we thus restricted our economic impact work to organizations with gross receipts over \$25,000. For organizational budget sizing, we have gross receipts for the entire range of organizations but lack total revenues and the modifiers (amounts earned from fundraising events, rental income, or cost of goods sold) for non-990 filers. However, our modified gross receipts measure, which subtracts asset costs from asset sales receipts to include only net gains (or losses), is apt to be close to accurate because few organizations under \$25,000 will have sold assets (and if they do, we know their total receipts must still be under \$25,000).

To assign budget size thresholds, we analyzed the distribution of organizations, carried forward important categories present in the source data, and developed breaks consistent with Irvine’s internal budget groupings. We opted for three budget categories for organizations with modified gross receipts less than \$500,000. Although the average modified gross receipts value for California’s arts and cultural organizations is \$610,000, small and mid-sized organizations make up the majority of California’s arts and cultural nonprofits. Ninety percent of organizations have modified gross receipts under \$500,000, with 48% falling under \$25,000 (Figure A1). We observed natural modes (or clusters of observations) at the \$0 level. The \$25,000 level corresponds to IRS 990 filing threshold requirements reflected in NCCS BMF vs. CORE files. Many of the organizations with \$0 gross receipts likely are not true \$0 values, but we are confident their budgets fall below \$25,000, or these higher values would be reported on the 990 tax returns and captured in our analysis. These factors informed our selection of less-than-\$25,000 as the smallest budget category.

**FIGURE A1. ARTS AND CULTURAL ORGANIZATIONS BY BUDGET SIZE**



Source: National Center for Charitable Statistics (NCCS). N=10,746; \*2010 dollars, Budget-size values: mean = \$610,485, median = \$29,539, max = \$388 million.

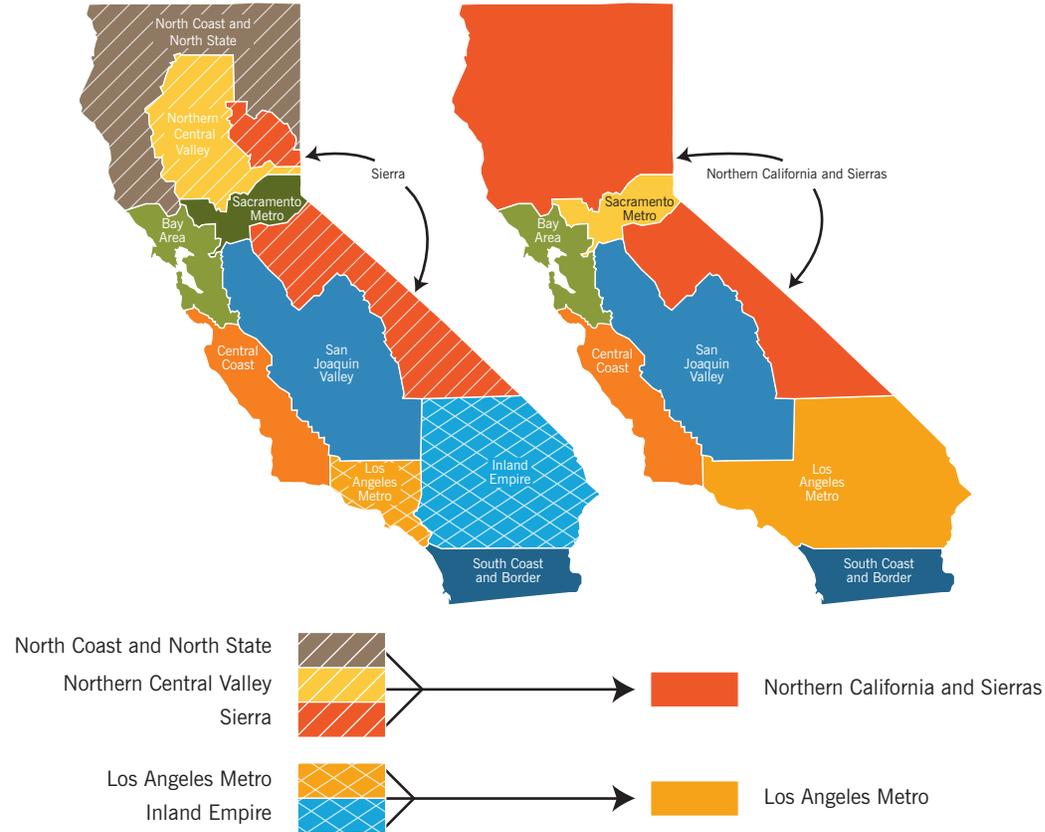
Our budget category breaks for organizations with modified gross receipts over \$500,000 are consistent with The James Irvine Foundation’s existing budget groupings. We observed no clear modes over \$500,000 to give us reason to alter these existing categories.

**3. Region.** We divided California arts and cultural organizations into regional subunits, to allow us to explore how the arts and cultural ecology varies across the state. The regions we designated, which each include urban, suburban, and rural areas, capture distinct, recognized areas in the state in which communities share economic, social, and environmental characteristics (in terms of terrain, vegetation, and climate). These common environmental features have shaped settlement patterns over time (who originally settled in these places and how they supported themselves), patterns that have influenced arts and cultural practices. These regions are built up from county units and cover all areas of California.

We adopt two regional frames: one matching the regional divisions used internally by The James Irvine Foundation and one in which we aggregate geographically contiguous areas with poor CDP coverage, while still maintaining important distinctions based on cultural and demographic differences (Figure A2).

The counties covered in each region for the two aggregations are enumerated in Table A2. We present results using the disaggregated regions where possible, such as those derived directly from NCCS data. For explorations drawn from the CDP data, including our estimates of nonprofit arts and cultural organizations’ economic impact, we use the more aggregated regional framework.

**FIGURE A2. CALIFORNIA ARTS AND CULTURAL REGIONS (LEFT) AND AGGREGATED REGIONS (RIGHT)**



Source: Author-defined regions based on definitions used by The James Irvine Foundation and the Public Policy Institute of California.

**TABLE A2. CALIFORNIA ARTS AND CULTURAL AGGREGATED REGIONS, REGIONS, AND COUNTIES**

AGGREGATED REGIONS	REGIONS	COUNTIES
Northern California and Sierras	North Coast and North State	Del Norte, Humboldt, Lake, Lassen, Mendocino, Modoc, Siskiyou, Trinity
Northern California and Sierras	Northern Central Valley	Butte, Colusa, Glenn, Shasta, Sutter, Tehama, Yuba, Nevada
Northern California and Sierras	Sierra	Alpine, Amador, Calaveras, Inyo, Mariposa, Mono, Plumas, Sierra, Tuolumne
Sacramento Metro	Sacramento Metro	El Dorado, Placer, Sacramento, Yolo
Bay Area	Bay Area	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma
Central Coast	Central Coast	Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz
San Joaquin Valley	San Joaquin Valley	Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare
Los Angeles Area	Inland Empire	Riverside, San Bernardino
Los Angeles Area	Los Angeles Metro	Los Angeles, Orange, Ventura
South Coast and Border	South Coast and Border	Imperial, San Diego

Source: Based on definitions used by The James Irvine Foundation and the Public Policy Institute of California.

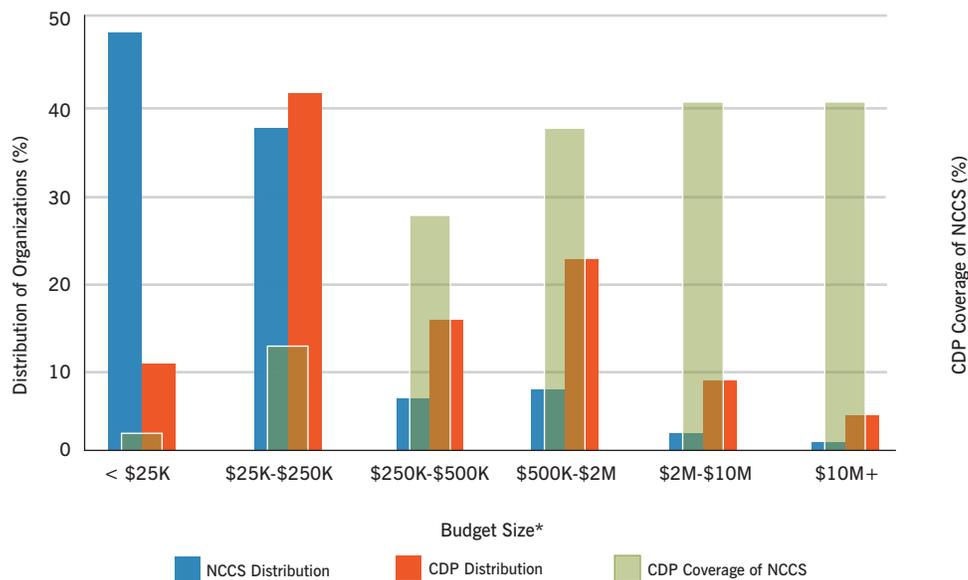
## CDP coverage

The 1,189 organizations found in both the CDP and the NCCS make up an estimated 11% of all California’s arts and cultural nonprofit organizations. Do these CDP organizations reflect the larger landscape of California arts and cultural organizations? What geographic areas and types of organizations, both in terms of budget size and mission/discipline, are overrepresented or underrepresented by the CDP? The CDP represents a large financial investment for California’s grantmaking institutions, and organizations devote significant time and energy to completing the extensive survey. These stakeholders justifiably want to know how well the CDP measures activity in California’s large and diverse nonprofit arts and cultural ecology. We explored the CDP’s external validity before presenting generalized results for California’s arts and cultural ecology drawn from the CDP. We assessed the extent to which the CDP

represents the NCCS universe in terms of three key indicator variables: budget size, organizational focus area, and region. Our analyses reveal that the CDP data vary along these critical dimensions compared with the more comprehensive, but less detailed, NCCS benchmark data.<sup>14</sup> In particular, the CDP underrepresents nonprofit arts and cultural organizations with budget sizes under \$250,000; those in the Northern Central Valley, San Joaquin Valley, and Inland Empire regions; and both underrepresents and overrepresents certain organizational focus areas (Figures A3–A5).

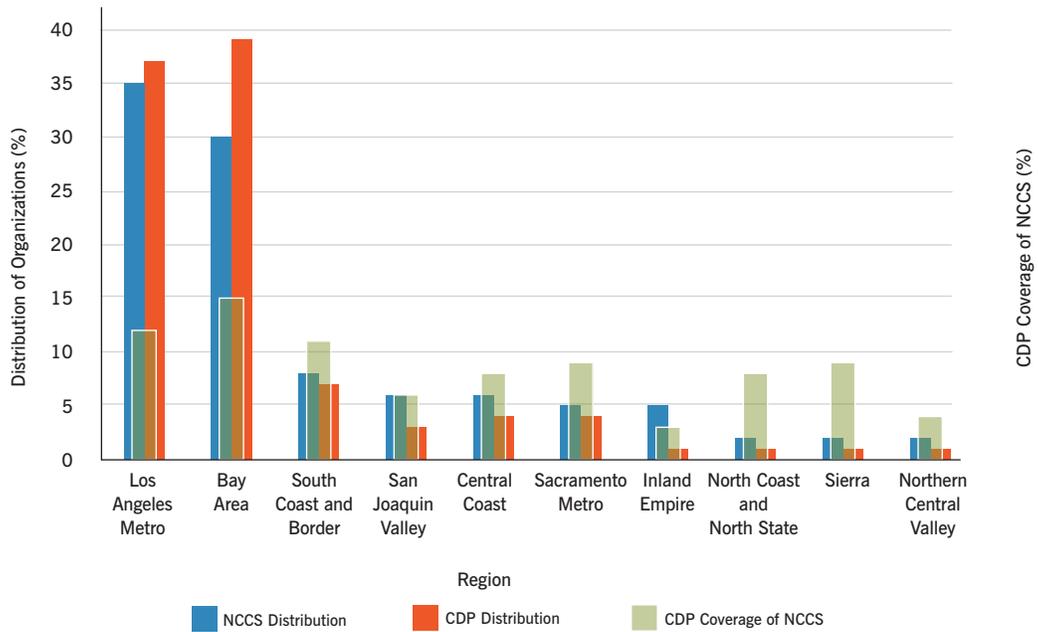
When analyzed through the organizational budget-size lens, we find poor CDP coverage of organizations with small budgets and robust CDP coverage of organizations with large budgets, almost in inverse proportion to their distribution in the NCCS (Figure A3). Specifically, the CDP only captures 2% of NCCS organizations with budget sizes less than \$25,000,

**FIGURE A3. ARTS AND CULTURAL ORGANIZATIONS BY BUDGET SIZE: NCCS VS. CDP, CDP COVERAGE**



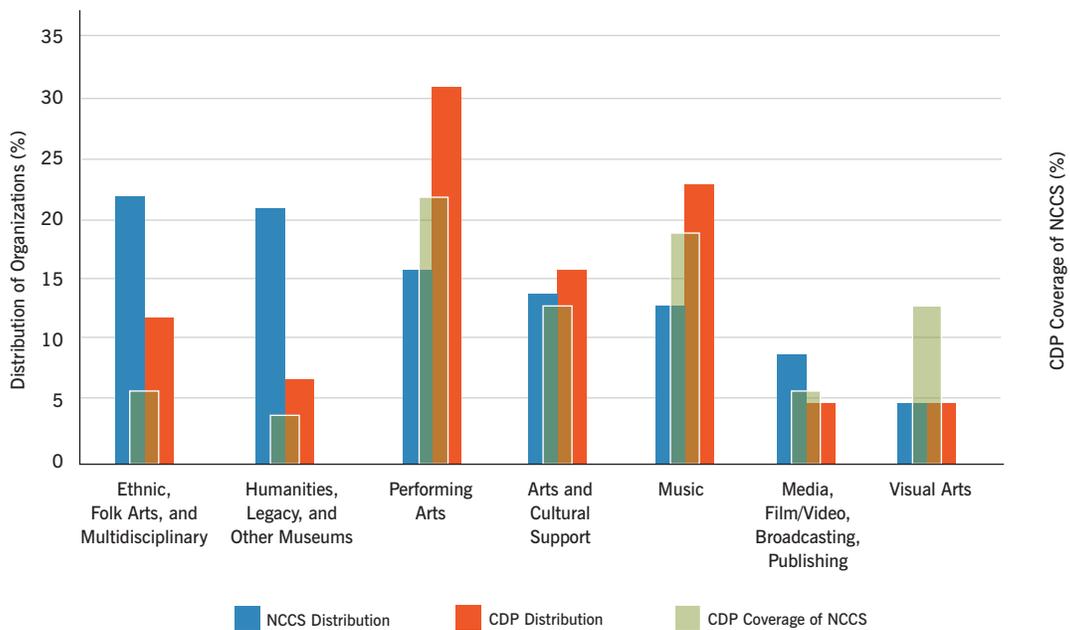
Sources: National Center for Charitable Statistics (NCCS, N=10,746); Cultural Data Project (CDP, N=1,189). \*2010 dollars.

**FIGURE A4. ARTS AND CULTURAL ORGANIZATIONS BY REGION: NCCS VS. CDP, CDP COVERAGE**



Sources: National Center for Charitable Statistics (NCCS, N=10,746); Cultural Data Project (CDP, N=1,189).

**FIGURE A5. ARTS AND CULTURAL ORGANIZATIONS BY FOCUS AREA: NCCS VS. CDP, CDP COVERAGE**



Sources: National Center for Charitable Statistics (NCCS, N=10,746); Cultural Data Project (CDP, N=1,189).

a group that makes up 48% of California arts and cultural nonprofit organizations in the NCCS. In contrast, the CDP captures 37 to 40% of organizations in budget categories greater than \$500,000, although these organizations only make up 10% of all California arts and cultural nonprofits in the NCCS. For some analyses, more robust cover of large organizations does not pose problems. For instance, our estimates of the economic impact of California's nonprofit arts and cultural sector require coverage of aggregate expenditures, not numbers of organizations. But for others, such as exploring internal variations between organizations or characteristics of place, the CDP's limited data on small organizations poses challenges. To correct for coverage inadequacies, we weight CDP data against the NCCS using organizational focus and budget-size groups as benchmark parameters as detailed in the weighting design section.

Our regional analysis reveals three interesting patterns (Figure A4). First, the CDP's coverage of the NCCS shows relatively little regional variation, from a low of 3% for the Inland Empire to a high of 15% for the Bay Area. Second, unlike the distributions by budget size, the regions with the highest percentages of arts and cultural nonprofits, as measured by the NCCS, also had the greatest representation within the CDP. The Bay Area and Los Angeles Metro regions host 30% and 40%, respectively, of California's NCCS arts and cultural nonprofits. The Bay Area and Los Angeles Metro also contain the highest proportions of CDP organizations present in the NCCS—39% and 37%, respectively. Finally, the Northern Central Valley, San Joaquin Valley, and Inland Empire all exhibit low CDP coverage (6% or less of NCCS organizations). This prevented us from using CDP data to conduct region-specific analyses, as further detailed in the weighting design section.

The CDP's distribution varies considerably from that of the NCCS when it comes to organizational focus area (Figure A5). The CDP overrepresents performing arts and music organizations with 22% and 19% NCCS coverage, respectively, versus an average of 11% across all disciplines. Conversely, the CDP only captures 6% of the NCCS's ethnic, folk arts, and multidisciplinary organizations, although this group comprises 22% of all NCCS arts and cultural nonprofits. Similarly, the CDP captures 4% of the NCCS organizations in the humanities, legacy, and other museums group, although this group contains 21% of all NCCS arts and cultural organizations. We include organizational focus in our weighting design in an attempt to correct for this variation, as described in the next section.

We recognize that California CDP coverage continually increases as more organizations participate, and we encourage CDP funders and administrators to target groups that are currently underrepresented and/or to solicit participation through randomly drawn samples so that future researchers will have far greater opportunities to explore the rich potential of the CDP's fine-grained, organizational data.

## Weighting design

Given the CDP data's considerable deviation from NCCS benchmarks and low coverage of organizations with small budget sizes and in certain regions and organizational focus areas, we present generalized estimates drawn from CDP data by first weighting the CDP data against the NCCS. We base our structural weighting on budget size and focus variables, which are the best available parameters to control for structural differences in organizations. The weighting procedure corrects for the nonrepresentativeness of the CDP data to the farthest extent possible. However, the estimates produced from weighted CDP data cannot be considered accurate measures of the full universe of arts and cultural organizations in California. It is not possible to use a nonrandom sample—such as the CDP—as a fully reliable basis for accurate inferences about a population.

We calculated weights based on inverse proportions by bivariate category (the variables of budget size and organizational focus area), so that organizations in each budget-size-by-focus group are inflated to match corresponding frequencies in NCCS. For better accuracy, we assigned minimum reliability threshold levels of 20 cases or 10% of NCCS, but always more than one case. In instances where minimum thresholds are not met, we flag results when a majority of component cells do not meet thresholds. Unfortunately, the CDP sample does not adequately meet minimum reliability thresholds when parsed by an additional third variable: region. We opted to retain budget size and organizational focus in our weighting frame, as opposed to region, since these characteristics are more likely to be direct drivers of internal organizational variation. The CDP's regional coverage also exhibits less variation than with the budget size and organizational focus variables. Furthermore, as detailed in the subsequent section, our explorations of the associations between city characteristics and cities' arts and cultural organizations per capita suggest that fixed regional effects are not significantly associated statistically with organizations per capita after controlling for other factors such as population size, income levels, and

racial diversity. Unfortunately, due to insufficient coverage, we opted not to analyze regional variation along metrics only available through the CDP.

## Participation analysis

We used the NEA's SPPA data to explore how Californians' arts participation compares with the rest of the U.S. and varies across large metros in the state. Researchers must take considerable care in preparing SPPA data for analysis, more so than is generally needed when employing public-use datasets from the Census Bureau such as the American Community Survey or decennial census (whether in aggregated data or individual-level Public Use Microdata Sample data form). Because the Census Bureau fails to impute data for missing cases in the SPPA, unlike most public-use datasets, we carefully constructed aggregate variables (e.g., attendees of various types of events), ensuring that before we included a case, responses were available for each component variable comprising aggregate variables. Otherwise, the case was coded as missing. For means and proportions, we report statistics for non-missing cases as representative of the entire population—a common practice. For frequency counts (number of attendees and numbers of events attended), we took steps to correct for missing data, in order to produce more accurate population estimates. Corrected frequency counts by region (shown in one table only—Table 6), are weighted to include the missing population shares. By region, missing data for numbers of attendees and events ranges from 0% to 4%. To estimate accurate standard errors and correct for the SPPA's sample design issues (stratification and cluster sampling), we used Taylor series linear approximation (as recommended in the NEA's technical documentation). In our full report, we present data on participation rates by demographic group and region (Tables 5 and 6). Due to small sample sizes, however, many of these rates have wide confidence intervals, shown below (Tables A3 and A4).

**TABLE A3. ARTS PARTICIPATION RATE BY DEMOGRAPHIC GROUP IN CALIFORNIA, 2008**

	% PARTICIPATION	95% CONFIDENCE INTERVALS	
<b>SEX</b>			
Men	51	47	56
Women	56	52	60
<b>AGE</b>			
18-24	55	46	64
25-34	55	47	64
35-44	49	41	57
45-54	58	51	65
55-64	66	59	74
65+	39	31	46
<b>INCOME</b>			
Less than \$10,000	36	22	51
\$10,000 to \$12,499	38	15	62
\$12,500 to \$14,999	38	7	68
\$15,000 to \$19,999	46	20	72
\$20,000 to \$24,999	43	30	56
\$25,000 to \$29,999	41	23	59
\$30,000 to \$34,999	38	24	52
\$35,000 to \$39,999	42	28	56
\$40,000 to \$49,999	54	40	69
\$50,000 to \$59,999	46	34	59
\$60,000 to \$74,999	63	50	76
\$75k+	67	61	73
<b>EDUCATION</b>			
Less than 9th grade	20	12	29
Some high school	39	28	51
High school grad (including GED)	38	31	44
Some college	57	52	62
College graduate	69	64	75
Advanced graduate degree	79	73	86
<b>RACE/ETHNICITY</b>			
White non-Hispanic	68	64	72
African American non-Hispanic	48	34	61
Asian/Pacific Islander non-Hispanic	37	25	48
Latino	38	32	44
Other race non-Hispanic	63	42	84

Source: National Endowment for the Arts, Survey of Public Participation in the Arts Combined File, 1982-2008. Participation Rate = % of adults that attended at least one event in past year of all types of events listed in text Table 4.

**TABLE A4. ARTS ATTENDANCE BY CALIFORNIA REGION, 2008**

	ESTIMATE	95% CONFIDENCE INTERVALS	
<b>PARTICIPATION RATE (% OF ADULTS THAT ATTENDED AT LEAST ONE EVENT IN PAST YEAR)*</b>			
Los Angeles Metro	54	48	60
San Francisco Bay Area	66	58	73
South Coast and Border	52	38	65
Sacramento Metro	50	35	64
San Joaquin Valley and Inland Empire	42	33	50
Rest of State	60	46	73
<b>Total State</b>	<b>54</b>	<b>50</b>	<b>57</b>
<b>NUMBER OF ARTS PARTICIPANTS*</b>			
Los Angeles Metro	5,204,200	4,222,658	6,185,742
San Francisco Bay Area	3,595,081	2,941,265	4,248,896
South Coast and Border	1,101,428	578,780	1,624,076
Sacramento Metro	725,543	388,919	1,062,167
San Joaquin Valley and Inland Empire	2,409,879	1,751,688	3,068,070
Rest of State	974,467	591,535	1,357,400
<b>Total State</b>	<b>14,010,599</b>	<b>12,701,500</b>	<b>15,319,690</b>
<b>NUMBER OF ATTENDANCES AT SPECIFIED EVENTS**</b>			
Los Angeles Metro	23,606,710	17,962,240	29,251,190
San Francisco Bay Area	22,113,230	15,645,960	28,580,510
South Coast and Border	3,851,955	12,530	64,509
Sacramento Metro	1,485,004	596,072	2,373,936
San Joaquin Valley and Inland Empire	9,630,073	5,340,835	1,391,931
Rest of State	4,514,620	2,140,257	6,888,984
<b>Total State</b>	<b>65,201,592</b>	<b>56,039,710</b>	<b>74,363,490</b>

Source: National Endowment for the Arts, Survey of Public Participation in the Arts Combined File, 1982–2008. \*For all events listed in Table 4.  
 \*\*Limited to the following types of events: Jazz concerts, classical concerts, musicals, plays, dance (including ballet), opera, and art museum attendance.

For the indicators shown by region, the frequency counts for numbers of arts attendees and numbers of events attended are shown prior to our correction for missing data.

To assess the influence of demographic factors on arts attendance among California adults, we conducted a logistic regression of the likelihood of arts participation

in 2008 for California adults compared to adults in the rest of the U.S., controlling for each respondent’s age, family income, race/ethnicity, sex, education level, and metropolitan status (whether the individual lived in a metropolitan area).

**TABLE A5. LOGISTIC REGRESSION ON ARTS PARTICIPATION FOR CALIFORNIA ADULTS**

	ODDS RATIO
<b>REGION</b>	
San Francisco Bay Area resident	2.16
Los Angeles area resident	
<b>SEX</b>	
Women	1.36
<b>AGE</b>	
25–34	
35–44	0.48
45–54	
55–64	
65+	0.30
<b>INCOME</b>	
\$10,000 to \$12,499	
\$12,500 to \$14,999	
\$15,000 to \$19,999	
\$20,000 to \$24,999	
\$25,000 to \$29,999	
\$30,000 to \$34,999	
\$35,000 to \$39,999	
\$40,000 to \$49,999	
\$50,000 to \$59,999	
\$60,000 to \$74,999	2.79
\$75k+	2.22
<b>METROPOLITAN LOCATION STATUS</b>	
In metropolitan region	
<b>EDUCATION</b>	
Some high school	
High school grad (including GED)	
Some college	2.39
College graduate	4.61
Advanced graduate degree	7.09
<b>RACE/ETHNICITY</b>	
African American	
Asian/Pacific Islander	0.22
Latino	0.42
Other Race	

Source: National Endowment for the Arts, Survey of Public Participation in the Arts Combined File, 1982–2008. Odds ratios are reported for factors significant at 95% or higher confidence level. Odds ratios are in relation to omitted categories for each factor listed.

These are the primary demographic variables that have been shown to influence arts participation rates. The “odds” of participating are computed as the likelihood of participating divided by the likelihood of nonparticipating for a given demographic group (Table A5).

### Analysis by city characteristics

In probing the spatial patterning of arts and cultural organizations in California to find out how arts and cultural activity varies across different types of communities, we analyzed a range of city characteristics in relation to the numbers of organizations per city (absolute and per capita), and organizational focus area and budget size groups. Our sample of arts and cultural organizations included those in the NCCS (N=10,746), for which we had available city-characteristic data. As noted above, we matched 91% of all arts and cultural organizations in our NCCS data to a city location, with most nonmatching cases located in unincorporated (non-city) areas. However, data coverage for our city-based analysis also varies depending on source. To measure demographic, housing, and land use features, we relied on data from the 2006–08 ACS Combined-Year Estimates. However, coverage in the ACS is limited to the 291 cities with populations above 20,000 and for certain ACS variables (racial/ethnic composition and workforce information), coverage is further limited by the Census Bureau. Our multivariate OLS regression analysis puts all the city variables together to assess determinates of numbers of organizations per capita by city. So for this regression, the sample was limited to the 237 cities for which all data was available from all our sources.

For our analysis, we used the following measures of city characteristics and arts organizational breakdown. As dependent variables, we considered total numbers of organizations by city and the per capita number per city. For city characteristics, we utilized population estimates for 2009<sup>15</sup> and housing unit density for 2000 (housing units per square mile land area).<sup>16</sup> We also employed multiple measures from the 2006–08 ACS, including median household income; the Gini index

of income inequality;<sup>17</sup> dividend, interest, and net rental income per household (a measure of wealth); and the percentages of population that are people of color (not white, non-Hispanic individuals), foreign born, over age 25 with a bachelor's degree or higher level of education, and under age 18. Unfortunately, we could not obtain a fully reliable, current measure for urban/rural/suburban, due to unavailability of certain components of this metric in the ACS and outdated census data subject to definitional changes. However, a number of other variables serve as effective proxies. We measure jobs per capita as the number of jobs in each city, based on the job location (not the residential location) of workers, divided by the number of residents, based on residential location of city residents.<sup>18</sup> We also consider principal city status, an official designation of the Census Bureau for central cities in metropolitan and micropolitan statistical areas.<sup>19</sup> Our housing unit density, principal city, and jobs per capita metrics indicate where a city falls on the job center to residential spectrum.

We also measured the impact of arts funding from both private philanthropic sources and public expenditure from city funds. Our data on private philanthropic grant funding, obtained from the Foundation Center, tabulates information from 35 different philanthropic sources. They include only foundation sources, not individual philanthropic contributions, which can be quite substantial. Our data on public city expenditure on the arts, obtained from the California State Controller's Office, measure total operating expenditures (excluding capital expenditures, and before associated revenue is counted) on two line items in city public budgets: museums and community centers/auditoriums. More than half of cities show zero values on these measures (no arts funding).

To consider how city characteristics influence arts presence, we first combined cities into five equal-size groups, or "quintiles," along each dimension of interest. For example, to explore population size, we arrayed all 289 cities from smallest to largest, in terms of their populations, and divided them into five groups—the top 20% (top quintile), second highest 20%, middle 20%, second lowest 20%, and lowest

20%. Cities like Los Angeles, San Francisco, San Diego, Oakland, and Sacramento fall into the top quintile, while cities like Colma, Nevada City, and Fort Bragg are in the lowest. However, these same cities are not necessarily in the top and lowest quintiles on other community features such as percent of non-white or age structure. For instance, while San Diego falls into the top quintile on population size, it falls into the middle (third) quintile by percent of non-white population share (meaning it's about average on this factor of interest), and into the second quintile (almost the lowest) in its share of residents under 18 years old (indicating that San Diego hosts fewer families with children than most cities in the state).

Quintiles group similar cities along each particular dimension. By counting the numbers of arts and cultural organizations that fall into each quintile group, we used the quintiles to test whether the distribution of organizations was evenly spread among them (Table A6). For instance, if each of the five groups of cities by population accounts for one-fifth of all organizations, then we can conclude there is little variation by city population size. We also probed whether each quintile captures similar variation in terms of numbers of organizations on a per capita basis, a useful measure, since we would expect the largest set of cities in total population to account for more organizations (Table A6).

To tease out which city characteristics influence a city's number of organizations per capita and arts organization budgets by city, we conducted multivariate OLS regressions. We included "dummy" variables as indicators of regional location to correct for effects of regional differences in arts presence. We also transformed certain highly skewed variables into natural log format for better specification: (1) our two dependent variables: the number of organizations per capita and the total of arts organization budgets by city and (2) a number of independent variables (population, housing unit density, jobs per capita, median household income, percent of the population over age 25 with a bachelor's degree or higher, dividend, interest, net rental income per household,

**TABLE A6. ARTS AND CULTURAL ORGANIZATIONS BY CITY CHARACTERISTIC QUINTILE**

	FIRST (LOWEST)	2ND	MIDDLE	4TH	5TH (HIGHEST)	ALL CITIES
<b>PERCENTAGES OF ARTS AND CULTURAL ORGANIZATIONS (%)</b>						
Population <sup>1</sup>	4	6	10	15	65	100
Jobs per Capita <sup>2</sup>	5	7	15	33	39	100
Housing Units Per Sq. Mi. <sup>3</sup>	8	11	21	19	41	100
Median Household Income <sup>2</sup>	7	33	23	24	13	100
Gini Index of Income Inequality <sup>2</sup>	5	10	10	21	54	100
Wealth Measure per Household <sup>2</sup>	5	10	15	42	28	100
Percent 25+ with Bachelor's or Higher <sup>2</sup>	5	10	31	23	31	100
Percent Non-White <sup>2</sup>	14	17	28	35	7	100
Percent Foreign Born <sup>2</sup>	12	15	21	24	28	100
Percent Under 18 <sup>2</sup>	30	39	12	12	6	100
Per Capita Private Philanthropic Funding for the Arts <sup>4</sup>		18		18	64	100
Per Capita City Arts-Related Public Expenditure <sup>5</sup>		44		5	51	100
<b>AVERAGE NUMBER OF ORGANIZATIONS PER 10,000 PEOPLE</b>						
Population <sup>1</sup>	14	5	3	3	3	5
Jobs per Capita <sup>2</sup>	1	2	3	3	6	3
Housing Units Per Sq. Mi. <sup>3</sup>	2	2	3	3	3	3
Median Household Income <sup>2</sup>	2	2	3	3	4	3
Gini Index of Income Inequality <sup>2</sup>	1	2	2	3	6	3
Wealth Measure per Household <sup>2</sup>	1	2	2	4	6	3
Percent 25+ with Bachelor's or Higher <sup>2</sup>	1	2	2	3	6	3
Percent Non-White <sup>2</sup>	4	4	3	2	1	3
Percent Foreign Born <sup>2</sup>	3	3	3	3	2	3
Percent Under 18 <sup>2</sup>	5	3	2	2	1	3
Per Capita Private Philanthropic Funding for the Arts <sup>4</sup>		5		4	9	5
Per Capita City Arts-Related Public Expenditure <sup>5</sup>		6		2	3	5

Sources: National Center for Charitable Statistics (NCCS); Cultural Data Project (CDP); 1. California Department of Finance (for all cities); 2. 2006–08 American Community Survey (for cities with populations of 20,000 or more); 3. 2000 U.S. Census (for cities with populations of 20,000 or more); 4. Foundation Center (for all cities); and 5. California State Controller's Office (for all cities). N=10,746. Numbers of missing observations vary based on different city characteristic source data. Combined values are presented for the first three quintiles on the arts funding variables because those quintiles contain cities with zero arts funding.

and public and private arts funding). One result is that some cities are excluded: those with zero values on our dependent variables (two cities in the first regression, and nine more in the second). This occurred because the log transformation cannot be performed on a zero value. An alternative would have been to substitute a nonzero value for those cities (a common practice), but we felt that excluding them was preferable for more reliable results.

Other adjustments were needed to permit log transformations of our arts funding variables, which contain multiple zero values.

The adjusted R-squared value for our first regression indicates that the included independent variables explain 66% of the variation in cities' numbers of arts and cultural organizations per capita (Table A7). We report results with statistically significant associations at a 95% probability level or higher. In addition to the four independent variables found to have significant,

positive associations (discussed in the main text of the report), two variables prove to be significantly and negatively associated. These two variables are city size and median household income. The finding on city size conforms to the bivariate results shown in Table A6, which show that small cities have substantially more organizations per capita than larger ones. The negative association of median household income is opposite to the positive correlation seen in the bivariate analysis in Table A6. This outcome reflects the fact that the multi-variate regression controls for wealth, education, and other variables that are strongly associated with household income, showing the small residual effect for income after controlling for the other variables. The finding suggests that communities with wealthy but relatively low-income residents (such as wealthy retirees) have more arts organizations per capita. The results are substantially the same in the regression if we use total number of organizations as our dependent variable as they are when using the number per capita—and also regardless of whether we enter city population size in again as an independent variable in the per capita version. In addition, the results are the same if we use a series of “dummy” indicator variables for funding levels (another option to deal with a large number of zero values). Finally, the results are also the same when employing robust standard errors instead of regular standard errors.

In assessing the effects of city characteristics on arts organizational budgets, we were restricted to considering only those organizations with budgets above \$25,000 due to limitations in the NCCS data noted above. Our set of city features proved to be poor overall predictors of arts organizational budget size, measured for each organization’s budget on an individual basis. However, when we totaled all budgets of arts and cultural organizations by city (creating a single summed variable for each city), and measured that total value on a per capita basis, then some city features did prove to be strongly associated (Table A8).

**TABLE A7. CITY CHARACTERISTICS AS DETERMINATES OF CALIFORNIAN CITIES’ NUMBERS OF ARTS AND CULTURAL ORGANIZATIONS PER CAPITA**

	# ORGANIZATIONS PER CAPITA (LOGGED)
Population (logged) <sup>1</sup>	- ***
Principal City <sup>2</sup>	
Housing Unit Density (logged) <sup>3</sup>	
Jobs per Capita (logged) <sup>2</sup>	+ ***
Median Household Income (logged) <sup>2</sup>	- ***
Gini Index of Income Inequality <sup>2</sup>	
Income, Dividend, and Net Rental Income per Household (Wealth proxy) <sup>2</sup>	+ ***
Percent of the Population over Age 25 with a Bachelor’s Degree or Higher <sup>2</sup>	+ ***
Percent of the Population that is Non-White or Hispanic <sup>2</sup>	
Percent of Population that is Foreign Born <sup>2</sup>	
Percent of the Population Under Age 18 <sup>2</sup>	
Private Philanthropic Arts Funding (logged) <sup>4</sup>	+ ***
City Arts-Related Public Expenditure (logged) <sup>5</sup>	
Regional Dummies:	
Sacramento Metro	
Bay Area	
Central Coast	
San Joaquin Valley	
Los Angeles Metro	
Inland Empire	
South Coast and Border	
<b>Adjusted R-squared</b>	<b>0.66</b>

Sources: National Center for Charitable Statistics (NCCS); 1. California Department of Finance; 2. 2006–08 American Community Survey; 3. 2000 U.S. Census; 4. Foundation Center; 5. California State Controller’s Office. Notes: N=237 (for cities with populations of 20,000 or more, and with further exclusions as specified). \* = p < .10, \*\* = p < .05, \*\*\* = p < .01.

The adjusted R-squared value for our second regression indicates that the included independent variables explain 68% of the variation in the summed total of arts organization budgets per city, measured on a per capita basis (Table A8). Some results differ from the first regression. For example, education level of city residents is negatively associated, while income and wealth prove not to be significant. However, two variables—job density and private philanthropic arts funding—prove to have the same positive influence as in the regression on per capita number of organizations, confirming the importance of these factors.

### Economic impact analysis

To gauge the economic impacts of California’s arts and cultural organizations, we first estimated overall business activity by benchmarking detailed CDP data on the distribution of expenditures to NCCS data and then used California IMPLAN models to calculate how nonprofit arts and cultural expenditures reverberate through the economy. Throughout, we took measures to ensure accuracy, although no data were available on spending made locally versus elsewhere, nor were data available on where revenues to arts and cultural organizations came from geographically.

To ensure the reliability of our source financial data, we restricted our NCCS benchmarking universe to those organizations for which detailed and reliable financial data is available from IRS Form 990 reporting (N=4,855, 45% of all organizations). These are 501(c)(3) organizations with gross receipts over \$25,000 (i.e., those present in the NCCS 2008 CORE-PC file). What limited financial data is available for non-990 filers is typically outdated

**TABLE A8. CITY CHARACTERISTICS AS DETERMINATES OF CALIFORNIAN CITIES’ TOTAL AGGREGATE ARTS AND CULTURAL ORGANIZATIONS’ BUDGETS, PER CAPITA**

	TOTAL ARTS ORG BUDGETS, PER CAPITA (LOGGED)
Number of Arts Organizations (logged)	+ ***
Population <sup>1</sup>	- ***
Principal City <sup>2</sup>	
Housing Unit Density (logged) <sup>3</sup>	
Jobs per Capita (logged) <sup>2</sup>	+ *
Median Household Income (logged) <sup>2</sup>	
Gini Index of Income Inequality <sup>2</sup>	
Income, Dividend, and Net Rental Income per Household (Wealth proxy) <sup>2</sup>	
Percent of the Population over Age 25 with a Bachelor’s Degree or Higher <sup>2</sup>	- ***
Percent of the Population that is Non-White or Hispanic <sup>2</sup>	
Percent of Population that is Foreign Born <sup>2</sup>	
Percent of the Population Under Age 18 <sup>2</sup>	
Private Philanthropic Arts Funding (logged) <sup>4</sup>	+ ***
City Arts-Related Public Expenditure (logged) <sup>5</sup>	
Regional Dummies:	
Sacramento Metro	
Bay Area	
Central Coast	
San Joaquin Valley	
Los Angeles Metro	
Inland Empire	
South Coast and Border	
<b>Adjusted R-squared</b>	<b>0.68</b>

Sources: National Center for Charitable Statistics (NCCS); 1. California Department of Finance; 2. 2006–08 American Community Survey; 3. 2000 U.S. Census; 4. Foundation Center; 5. California State Controller’s Office. Notes: N=228 (for cities with populations of 20,000 or more, and with further exclusions as specified). \* = p < .10, \*\* = p < .05, \*\*\* = p < .01.

and from less reliable sources, such as initial filing reports. Although we include these organizations for our other distributional analyses and to generate descriptive statistics, financial data for non-990 filers is not appropriate for economic impact analyses. Because we do not include non-990 filers to generate our economic impact estimates, these results are more conservative than in actuality. However, no reliable way exists to include financial data for non-990 filers and their impact is likely small. If we assumed total expenditures matching gross receipts of \$25,000 for all non-990 filers, the sum is only 3.7% of aggregate total expenditures.

To estimate aggregate nonprofit arts and cultural expenditures, we used a modification of 990-reported total expenses (total expenses plus expenses associated with rental income and fundraising events). We feel this is the most complete and direct measure of total expenditures.

To estimate the indirect and induced expenditures resulting from direct expenditures by California arts and cultural organizations, we used California IMPLAN models that use input-output data to track how expenditures from one sector reverberate through the local (and state) economy. The key data inputs to the IMPLAN modeling framework are direct expenditures by arts and cultural organizations by discipline and region in the state of California. This required analyzing the regional data from the CDP and identifying the cases where there are no data from CDP or where the coverage is not sufficient to provide an accurate basis for economic impact estimates. In cases where the CDP captured less than 25% of all NCCS modified total expenditures, we used statewide data to calculate direct expenditure and employment estimates (Table A9).

**TABLE A9. FRAMEWORK FOR EXPENDITURE AND EMPLOYMENT EXTRAPOLATION**  
NCCS EXPENDITURES CAPTURED BY CDP BY REGION AND FOCUS AREA (%)

	ARTS AND CULTURAL SUPPORT	ETHNIC, FOLK ARTS, AND MULTI-DISCIPLINARY	MEDIA	VISUAL ARTS	MUSIC	PERFORMING ARTS	HUMANITIES
Northern California and Sierras	32	46	0	66	38	44	0
Sacramento Metro	23	31	22	30	16	57	5
Bay Area	33	41	15	99	88	87	31
Central Coast	24	33	12	67	55	41	2
San Joaquin Valley	76	4	99	94	70	41	39
Los Angeles Area	33	46	40	76	85	79	13
South Coast and Border	69	47	5	84	89	71	58

Sources: 990 expenditure data from NCCS 2008 CORE-PC file; Cultural Data Project.

These data were used to calculate employment and expenditures, as reported in Tables A10 and A11, and used with the IMPLAN models to estimate economic impacts for each of the California regions, as reported in Table 18 in the main document. The data for the state as a whole are not exactly the sum of the regional impact estimates, as the statewide IMPLAN model has somewhat higher multipliers than found in the individual regional models.

**TABLE A10. EMPLOYMENT ESTIMATES BY REGION**

	STAFF FULL TIME	STAFF PART TIME	STAFF PART-TIME FTE	CONTRACT	CONTRACT FTE	HEADCOUNT FULL TIME, PART TIME AND CONTRACT	FTE STAFF AND CONTRACT WORKERS
Northern California and Sierras	404	827	310	3,853	307	5,083	1,021
Sacramento Metro	856	1,534	452	23	9	2,413	1,317
Bay Area	5,789	15,667	3,774	33,509	3,595	54,965	13,158
Central Coast	804	2,642	601	6,229	792	9,675	2,196
San Joaquin Valley	350	939	268	1,520	185	2,808	803
Los Angeles Area	7,592	14,113	4,926	26,897	3,073	48,603	15,591
South Coast and Border	1,417	4,287	1,396	5,164	660	10,867	3,472
<b>STATE</b>	<b>17,211</b>	<b>40,008</b>	<b>11,726</b>	<b>77,195</b>	<b>8,621</b>	<b>134,414</b>	<b>37,558</b>

Sources: Cultural Data Project (CDP, N=1,046) benchmarked to National Center for Charitable Statistics (NCCS 2008 CORE-PC, N=4,855). Includes interns and apprentices.

**TABLE A11. TOTAL EXPENDITURES BY DISCIPLINE AND REGION (\$ MILLIONS)**

	ARTS AND CULTURAL SUPPORT	ETHNIC, FOLK ARTS, AND MULTI-DISCIPLINARY	MEDIA	VISUAL ARTS	MUSIC	PERFORMING ARTS	HUMANITIES	TOTAL ARTS
Northern California and Sierras	10.9	3.0	35.8	1.3	2.9	9.1	16.6	79.7
Sacramento Metro	18.8	5.4	95.8	33.8	32.0	13.9	8.2	207.8
Bay Area	152.1	135.4	239.1	127.1	234.2	209.1	212.3	1,309.2
Central Coast	17.6	8.0	12.9	15.9	22.6	19.7	25.2	121.8
San Joaquin Valley	17.9	7.1	9.8	2.5	12.7	6.4	11.8	68.1
Los Angeles Area	289.8	116.2	226.8	225.7	255.0	358.3	285.2	1,757.0
South Coast and Border	16.6	12.8	11.4	32.3	53.0	73.8	72.0	271.9
<b>TOTAL</b>	<b>523.6</b>	<b>287.9</b>	<b>631.5</b>	<b>438.5</b>	<b>612.3</b>	<b>690.2</b>	<b>631.4</b>	<b>3,815.6</b>

Sources: Cultural Data Project (CDP, N=1,046) benchmarked to National Center for Charitable Statistics (NCCS 2008 CORE-PC, N=4,855). 2008 dollars.

# Interviews with Underrepresented Arts and Cultural Organizations

Because the California Data Project severely undercounts three groups: smaller organizations; ethnic, folk arts, multidisciplinary, legacy, and humanities organizations; and organizations outside the major conurbations (expansive regions) of Los Angeles and the San Francisco Bay Area, we explored the nature of arts and cultural organizations with these features, and challenges facing them, in a series of carefully chosen interviews. Using NCCS data as a benchmark, we developed a matrix to guide selection of non-CDP surveyed arts and cultural organizations for interviews. Forty organizations were selected, but we were unable to reach four of them, so the managers of 36 were interviewed in person, asked CDP and NCCS benchmarking questions, and additional questions regarding constituencies served, governance structure, space, and relationship to other organizations and to host communities and neighborhoods.

## Choice of interviewees

We developed a matrix for arraying and choosing non-CDP arts and cultural organizations representative of California as a whole (using NCCS data) by artistic discipline/mission, regional location, and ethnicity/community served. We chose organizations that would reflect our estimated NCCS regional distribution of arts and cultural organizations: 12 in Los Angeles (including Orange County), eight in the Bay Area (including San Jose to the south and Santa Rosa to the north), three in San Diego, with the rest spread across smaller metros and rural counties. We targeted organizations with annual budgets below \$250,000—the organizations least well covered in the California Cultural Data Project dataset (though three of them now have budgets in excess of \$250,000). We disproportionately targeted organizations focused in ethnic/folk/multidisciplinary and humanities/heritage/other (nonvisual arts) museums, although our set includes at least one organization in each of the other

areas of focus. We tracked the various ethnicities served by organizational candidates and the relative population size of each group to produce a set of interviewees reflecting the state's ethnic makeup. The pool of candidates was honed down using the Alliance for California Traditional Arts database supplemented with suggestions from knowledgeable arts ecology watchers and with Internet searches to match organizations to the cells in the matrix. We list the organizations interviewed with their location, start date, and annual budget size in Table A12.

## Interview questions

In addition to questions on organizational mission, who is served, communications, space, relationship to place, relationships to other organizations, governance, budgeting (revenue and expenditures), and strategy, we also asked interviewees to address the impact of their work on participants and those served and how they determine the latter two factors:

What kinds of evidence do you rely on to evaluate your success and impact on participants? For example, participants' contributions of time, energy and/or money; feedback from participants on how your work has affected them; growth in numbers of participants, inquiries about your work; formal evaluations by outsiders?

## Analysis and use of interview insights

For each organization interviewed, a profile has been written that covers the dimensions probed, particularly unique highlights, and informative features. Some of these profiles were used to create text boxes illustrating important points in the narrative of our study.

**TABLE A12. INTERVIEWED ARTS AND CULTURAL ORGANIZATION, CITY, START DATE, BUDGET SIZE**

	CITY	START DATE	BUDGET SIZE
Portuguese Hall	San Diego	1920	336,000
Malki Museum	Banning	1965	25,000
Los Paisanos de Selma	Selma	1967	137,000
Old Time Fiddlers Association	Redding	1973	7,500
VSA California	Sacramento	1974	178,000
South County Historical Society	Arroyo Grande	1976	80,000
Los Viejitos Car Club	East Los Angeles	1980	< 5,000
Silicon Valley Gay Men's Chorus	San Jose	1983	100,000
Friends of Allensworth	Earlimart	1985	unknown
Eso Won Bookstore	Los Angeles	1988	500,000
hereandnow Theatre Company	Los Angeles	1988	27,000
Chaksam-Pa Tibetan Dance & Opera Company	El Cerrito	1989	20,000
Institute of Native Knowledge	Humboldt	1989	40,000
Los Angeles Chinese Orchestra	Los Angeles	1989	10,000
WorldBeat Center	San Diego	1990	375,000
Vietnamese American Arts and Letters Association	Santa Ana	1991	100,000
REACH LA	Los Angeles	1992	450,000
El Centro Cultural	Santa Ana	1994	100,000
Hālau 'o Keikiāli'i	South San Francisco	1994	85,000
Asian American Resource Center	San Bernardino	1995	700,000
De Rompe y Raja	Alameda	1995	20,000
HanNuRi	Los Angeles	1995	12,600
Odissi Vilas	Santa Rosa	1997	30,000
KlezCalifornia	Berkeley	2000	125,000
Persian American Cultural Center	Berkeley	2000	50,000
We The People Cultural Arts Group	Riverside	2000	10,000
Capital Film Arts Alliance	Sacramento	2001	5,000
Breath of Fire Theater	Santa Ana	2003	60,000
Taller Tupac Amaru	Oakland	2003	36,000
SoI Collective	Sacramento	2004	23,000
Garifuna American Heritage Foundation	Long Beach/Los Angeles	2005	15,000
Familia Indigena Unida	San Diego	2006	11,000
Scraper Bikes	Oakland	2007	< 5,000
Barrio Writers	Santa Ana	2009	5,000
Samba Society	Los Angeles	2009	5,000
Leimert Park Drum Circle	Los Angeles	unknown	0

Sources: Interviews, National Center for Charitable Statistics data.

# Endnotes

- <sup>1</sup> While constructing our data set, we identified organizations present in the CORE file that are missing from the BMF. The NCCS advised us that this is a known anomaly, which they have reported to the IRS. We included these organizations only found in the CORE as valid nonprofits, upon the NCCS's recommendation.
- <sup>2</sup> National Center for Charitable Statistics, *Guide to Using NCCS Data* (Washington, DC: The Urban Institute, August 2006), <http://nccsdataweb.urban.org/kbfiles/468/NCCS-data-guide-2006c.pdf>.
- <sup>3</sup> The Cultural Data Project (CDP) is a collaborative project of the Greater Philadelphia Cultural Alliance, The Greater Pittsburgh Arts Council, Pennsylvania Council on the Arts, The Pew Charitable Trusts, The William Penn Foundation, and The Heinz Endowments created to strengthen arts and culture by documenting and disseminating information on the arts and culture sector. For more information on the Cultural Data Project, visit [www.culturaldata.org](http://www.culturaldata.org).
- <sup>4</sup> National Endowment for the Arts, "Survey of Public Participation in the Arts 1982–2008 combined data file," January 2011, <http://www.nea.gov/research/SPPA/index.html>.
- <sup>5</sup> Five-year ACS estimates with data available for areas with populations under 20,000 were not available at the time of analysis.
- <sup>6</sup> State of California, Department of Finance, "E-4 Population Estimates for Cities, Counties and the State, 2001–2010, with 2000 Benchmark," May 2010, <http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2001-10/>.
- <sup>7</sup> For more details, see the Foundation Center website: [www.philanthropyinsight.org](http://www.philanthropyinsight.org).
- <sup>8</sup> All dollar amounts included in the CDP and NCCS have been adjusted for inflation to 2010 dollars (and 2008 dollars for use in the Economic Impact Analysis IMPLAN model) using the California Consumer Price Index for All Urban Consumers (CPI-U) by calendar year, based on the ending date of the tax period (NCCS data) or fiscal year (CDP data). Source: [http://www.dof.ca.gov/HTML/FS\\_DATA/LatestEconData/FS\\_Price.htm](http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Price.htm).
- <sup>9</sup> Maria Rosario Jackson's Arts and Cultural Indicators Project at the Urban Institute and the Greater Philadelphia Cultural Alliance has also defined the arts and cultural component of the NCCS by NTEE codes. In addition to "A" codes (Arts, Culture and Humanities), the Arts and Cultural Indicators Project includes N52 (Fairs); and the Greater Philadelphia Cultural Alliance includes C36 (Forest Conservation), C41 (Botanical Gardens & Arboreta), and D50 (Zoos & Aquariums).
- <sup>10</sup> Approximately 83% of CDP cases present in the NCCS BMF file are "A" codes. Another 5% are "B" codes (Education), but they are scattered among different sub-codes. The final 12% are scattered among the other main code groups. The codes advocated by other researchers are actually not well represented. A few codes that are well represented in the CDP data are: B11 (Single Organization Support), B99 (Education Not Elsewhere Classified) and S20 (Community & Neighborhood Development).
- <sup>11</sup> Amy Blackwood, Katie Roeger, and National Center for Charitable Statistics, "Here Today, Gone Tomorrow: A Look at Organizations that May Have Their Tax-Exempt Status Revoked." Urban Institute E-postcard Site, July 8, 2010: 5. <http://www.urban.org/UploadedPDF/412135-tax-exempt-status.pdf>.
- <sup>12</sup> To increase our sample size, the CDP released unverified organizational profiles, but flagged potentially erroneous outlier nonfinancial data on numbers of contributors, attendees, personnel, and volunteers.

- <sup>13</sup> Gross receipts, while not itself an item on the 990 form, is the total of Rental expenses + Cost or other basis and sales expenses + Direct special event expenses other than fundraising expenses + Cost of goods sold + Total revenue. Total revenue is defined as: Total public support (the sum of direct public support, indirect public support, and government contributions and grants) + Program service revenue + Membership dues and assessments (includes only portion of dues for which member directly benefits (“dues” to public charities are often more accurately reported as contributions) + Total investment income + Net rental income + Net gain/loss from sales of securities + Gross amount from sale of assets other than inventory + Net income/loss from special events + Gross profit/loss from sales of inventory + Other revenue.
- <sup>14</sup> All NCCS estimates reflect the adjustments described in the preceding sections, including a reduction for potentially defunct organizations.
- <sup>15</sup> State of California, Department of Finance, “E-4 Population Estimates for Cities, Counties and the State, 2001–2010, with 2000 Benchmark.”
- <sup>16</sup> Constructed from the 2000 Census housing and land area variables, available for all cities with populations of 5,000 or more.
- <sup>17</sup> The Gini index of income inequality measures the dispersion of household income distribution. Negative incomes are converted to zero. The Gini is a measure of how much a distribution varies from a proportionate distribution. A purely proportionate distribution would have every value in the distribution being equal (that is 20% of the values would equal 20% of the aggregate total of all the values). This is also known as “perfect equality”—in this case, all households would have an equal share of income. A distribution that deviates the most from perfect equality would have every value except one equal to zero, and one value equal to the nonzero aggregate total for all the values. This is also known as “perfect inequality”—one household has all income. The Gini ranges from zero (perfect equality) to one (perfect inequality), and it is calculated by measuring the difference between a diagonal line (the purely proportionate distribution) and the distribution of actual values (a Lorenz curve). This measure is utilized here for household income.
- <sup>18</sup> We also examined jobs per resident workers vis-à-vis jobs per capita, since cities differ in their shares of working age residents. Results for descriptive statistics and regression results were nearly identical for either variable. We present jobs per capita for greater clarity.
- <sup>19</sup> Census-designated principal cities of a micropolitan statistical area are the largest place and, in some areas, one or more additional places that meet official standards.