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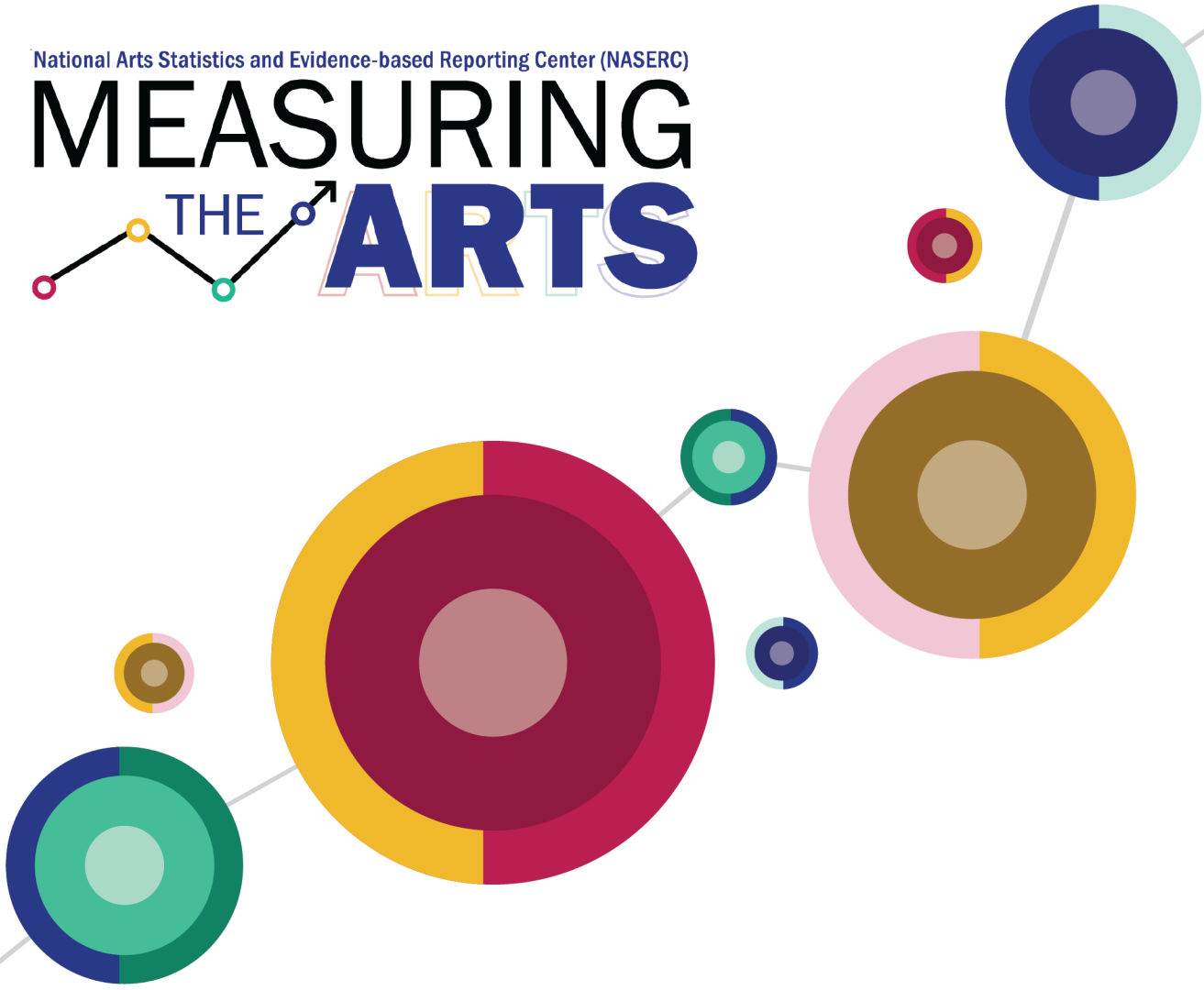

The Arts in the United States: Developing Key National Indicators of Arts Activity

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A Report for the National Endowment for the Arts by the National Arts Statistics and Evidence-based Reporting Center

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National Arts Statistics and Evidence-based Reporting Center

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The authors wish to acknowledge the many experts who contributed their insights to this project as a member of the technical working group or as a consultant interviewee:

- **The 2022–2023 cohort of technical working group members**: Jen Benoit-Bryan, SMU DataArts; Cézanne Charles, rootoftwo; Mirae Kim, George Mason University; Bronwyn Mauldin, Los Angeles County Department of Arts and Culture; Jennifer Novak Leonard, University of Illinois–Urbana-Champaign; Omari Rush, Culture Source; Michael Rushton, Indiana University; Ryan Stubbs, National Assembly of State Arts Agencies; Zannie Voss, SMU DataArts
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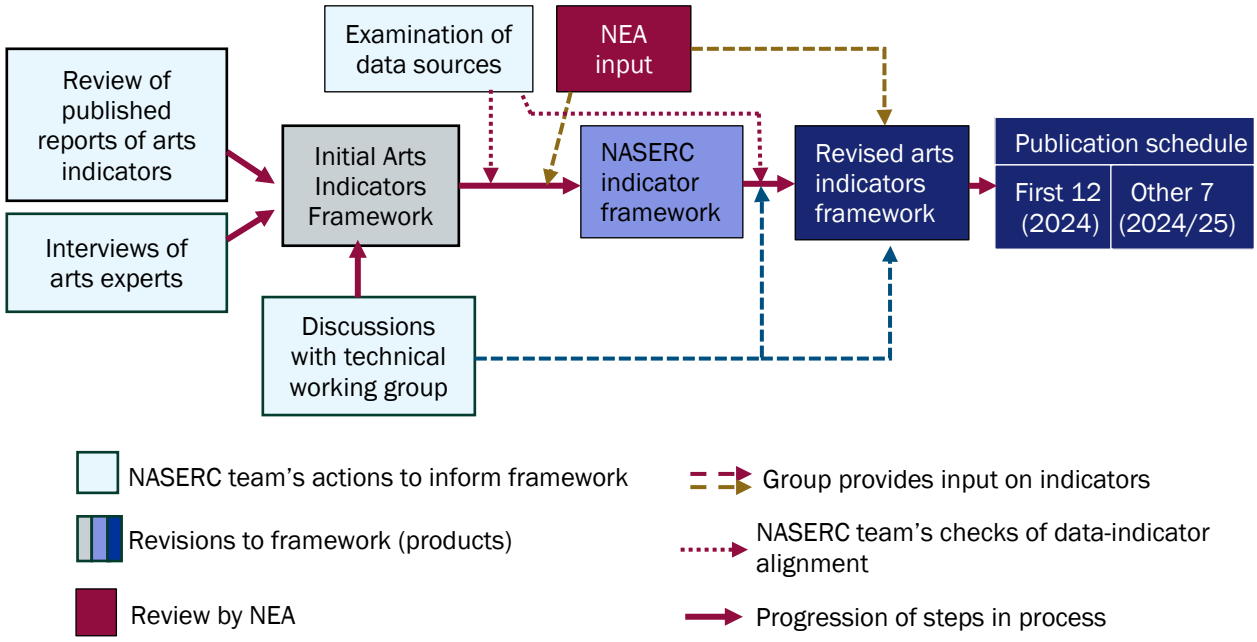
Executive Summary

The National Endowment for the Arts' (NEA's) Office of Research and Analysis created the National Arts Statistics and Evidence-based Reporting Center (NASERC) in 2022 to provide the public with regularly updated statistics on the health and vitality of the arts in the United States. The NEA contracted with the American Institutes for Research (AIR) to develop and operate NASERC. AIR's initial charge was to identify potential statistics—or indicators—of arts-related activity in the United States based on methodologically sound, regularly updated, publicly accessible, and nationally representative data collections.

However, the development of an arts indicators framework faces challenges caused by a lack of consensus among arts experts on key definitions and a lack of consistency in data sources. Experts have different definitions for foundational terms such as artist, other cultural worker, arts organization, and arts participation. Although this report does not resolve these differences in definitions, it does make clear how the NASERC team defines these terms using the available data. This report also describes the publicly available data sources used to form the indicators, along with specific survey questions that served as a basis for the indicators. This report summarizes the team's efforts in creating a cohesive framework and identifying and organizing indicators into that framework.

NASERC's Arts Indicators Framework has four domains and indicators within each domain. The framework provides a structure to report statistics on the health and vitality of the arts, based on a review of published arts indicators reports. In addition, the NASERC team established a nine-member technical working group (TWG) consisting of arts administrators, arts funders, and arts researchers who serve terms lasting between 18 and 24 months. The NASERC team consulted the TWG and an additional set of nine arts experts during framework development. The team also examined existing data sources to ensure that the arts-related data were sufficiently robust to serve as indicators. Data considerations, such as completeness, frequency of release, and the level of preparation and analysis necessitated a phased rollout of the indicators system. The initial set of indicators published in 2024 includes 12 indicators with at least one indicator from each domain. Publication of the full set of 19 indicators (the seven not published in 2024 and updated versions of the original 12 indicators) will occur later in 2024 and 2025. Exhibit ES1 illustrates the process followed by the NASERC team for developing the framework.

Exhibit ES1. Process for Developing the NASERC Arts Indicators Framework



Note. NASERC = National Arts Statistics and Evidence-based Reporting Center; NEA = National Endowment for the Arts.

NASERC's Initial Framework Was Based on a Literature Review

The NASERC team reviewed 61 publications (e.g., doctoral dissertations, research articles, research reports) on arts indicators, recorded all the arts domains described in published indicator frameworks, and created a potential pool of indicators. The team grouped the arts indicator domains found in the literature into nine conceptual categories that would serve as candidate domains for the NASERC framework. The team discarded two categories because they were less common among the published indicator frameworks. By consolidating the categories further, the NASERC team reduced the number of candidate arts domains to four:

- Artists and other cultural workers
- Arts participation
- Arts and cultural assets
- Arts and education

After reducing the number of candidate arts domains to four, the team examined the pool of indicators and assigned them to groups based on their alignment with the four domains.

Arts Experts Offered Input on the Arts Indicators Framework

In addition to the literature review, the team solicited input from two sets of arts experts. One set of experts consisted of the TWG members, and they provided input during three meetings and on drafts of the indicators. The other set of nine experts consisted of arts administrators, arts funders, and arts researchers, but the NASERC team asked for their input only once, during one-

hour consultative interviews. The interviewees shared their data needs and their knowledge of publicly available data that could be useful as arts indicators. In response to questions about recommended data sets and data needs, the arts experts noted the following:

- The experts recommended the following data sources:
  - Information and reports published by the NEA
  - The Survey of Public Participation in the Arts
  - Commercial data sets
  - The Otis Report on the Creative Economy
  - The DataArts center at Southern Methodist University (SMU DataArts)
  - The National Center for Charitable Statistics Data Archive (however, other experts stated that the archive contained outdated information)
- The experts expressed interest in indicators that could track the flow of funds from philanthropic organizations and other grant-funding sources and indicators related to art infrastructure.
- The experts also expressed interest in the arts and education indicator domain. They noted the importance of internet access for student learning, especially during the pandemic. They recommended looking at families' internet access using the American Community Survey.
- For potential topics that cut across indicators, the experts expressed interest in the role of the arts in mental health, well-being, equity, education, innovation, professional trajectories, generational shifts, and cultural/community diversity. They also had an interest in additional arts participation, including gig workers, volunteers, and hobbyists.

The consultants and TWG members also offered general advice to the NASERC team about arts indicator frameworks. The advice coalesced according to the following themes:

- The NASERC team should remain objective when discussing the indicators and avoid offering value judgments on content. Different groups will perceive the indicators differently, so the NASERC team must take a neutral stance when presenting all findings.
- Research in the arts field is fraught with different definitions of key concepts. For example, differing definitions exists for artist, artist income, arts occupations, and arts organizations. Therefore, it is essential that the NASERC team provide clear definitions up front to prevent misunderstandings among the audience.
- Indicators should remain as up to date as possible, using valid and robust data, preferably reflecting nationally representative samples. The arts also needs more and consistent data, particularly longitudinal data to track changes across time.
- Indicators should provide economic and geographic information that is helpful to policymakers, arts managers, and grant writers. The experts suggested that the NASERC team provide separate findings for specific geographic areas and demographic groups.
- Indicators need to be presented in a more nuanced way to ensure the associated narrative provides a more holistic view of the arts' impact in people's lives and communities.
- Economic indicators need to go beyond sales (e.g., ticket sales, art sales) as an indication of value.

- Experts mentioned the fragility of the arts environment, as evidenced during the COVID-19 pandemic. Data can help arts organizations, arts advocacy groups, and individual artists thrive during challenging times.

The NASERC Team Catalogued Potential Data Sources

The NASERC team's efforts at developing an arts indicators framework relied on publicly available, high-quality data gathered from representative samples. Therefore, the team conducted an exhaustive search of data collections and data sets developed or commissioned by the following federal statistical agencies:

- U.S. Census Bureau
- Bureau of Labor Statistics at the U.S. Department of Labor
- Bureau of Economic Analysis at the U.S. Department of Commerce
- National Center for Education Statistics at the U.S. Department of Education
- Internal Revenue Service at the U.S. Department of the Treasury

The NASERC team cataloged 43 data sets, as developed by these federal agencies. The team also determined the extent to which these data sets contained data relevant to the indicator domains identified during the literature review. The result was a data asset map that described each data set, its arts-related content, the ease/difficulty involved in extracting and analyzing the relevant data, the amount of missing data, and the frequency of data collection and publication.

By reviewing the literature on arts indicators frameworks developed previously, the NASERC team could see how other research teams defined key terms and concepts. The NASERC team scrutinized the specific survey codes used by other researchers to define artists, arts-related occupations, arts organizations, and arts industries. The team weighed the advantages and disadvantages of various definitions based on the specific data sets. Even though the definitions often were consistent with those of other researchers, the NASERC team arrived at their definitions independently. The data asset map section of the main report provides the specific data sources and survey codes used to define key arts-related terms.

Based on the information in the data asset map, the NASERC team classified each data set as high, medium, or low priority. High priority means that the data set contained high-quality data related to a particular arts indicator domain that was easily extracted and summarized in the team's initial set of indicators. The team identified 12 indicators for analysis using high-priority data. Another seven indicators required additional conceptualization or programming (i.e., based on data from low- or medium-priority databases). The NASERC team expects the release of the other seven indicators later in 2024 or 2025, along with updated versions of the original 12 indicators.

The NASERC Arts Indicators Framework: Four Domains and 19 Indicators

The literature review, the TWG meetings and consultative interviews, and the mapping of data sets and their content all contributed to NASERC's Arts Indicators Framework. The framework has four domains identified during the literature review, with the 19 indicators aligned with a specific domain. A high-level summary of the framework, domains, and indicators is in Exhibit ES2.

Exhibit ES2. The NASERC Arts Indicators Framework

Domain	Indicator	Initial rollout
Artists and other cultural workers	A.1. Who are the artists? Number of artists, by occupation, demographic, and other individual characteristics.	2024
	A.2. Who are the other cultural workers? Number of other cultural workers, by occupation, demographic, and other individual characteristics.	2024
	A.3. Where are artists and other cultural workers located in the United States? Number of artists and other cultural workers, by occupation and local geography.	2024
	A.4. What do artists and other cultural workers study in undergraduate education? Number of artists and other cultural workers, by occupation and major field of study in undergraduate education and occupations of individuals with arts and cultural degrees.	2024 or 2025
	A.5. What is the labor market status of artists and other cultural workers? Employment status and characteristics of artists and other cultural workers.	2024 or 2025
	A.6. Who are the arts managers? Number of managers in selected arts-related industries, by demographic characteristics.	2024 or 2025
	A.7. What are the earnings for artists and other cultural workers? Earnings and household income, by occupation.	2024
	A.8. What are the labor market outcomes for young artists and other cultural workers? Employment, earnings, and household income for young artists and other cultural workers by occupation.	2024
Arts participation	B.1. Who attends arts events in person? Demographic characteristics of individuals attending arts events or venues in person.	2024
	B.2. What does arts participation look like? Nature of arts participation, by frequency, intensity, and other characteristics.	2024 or 2025
	B.3. Who is personally creating or performing art? Individuals personally creating or performing art, by demographic characteristics.	2024
	B.4. How much time do Americans spend on arts activities? Time participating in select arts activities, by demographic characteristics.	2024
	B.5. What does consumer spending in the arts look like? Household arts spending by demographic characteristics.	2024or 2025
Arts and cultural assets	C.1. What do the arts contribute to the U.S. economy? Value added to GDP, by arts industries.	2024
	C.2. Which industries employ artists and other cultural workers? Direct Arts and Cultural Production Satellite Account employment, by arts industry.	2024
	C.3. How many artists and other cultural workers are employed in arts organizations and businesses? Number of artists and other cultural workers employed in arts organizations and businesses, by sector.	2024 or 2025
	C.4. How many small businesses are involved in the arts? Number of small businesses in the arts, by demographic characteristics.	2024 or 2025
Arts and education	D.1. Who majors in the arts? Demographics of graduates in arts and cultural fields of study from postsecondary institutions.	2024
	D.2. Who teaches the arts in schools? Number and characteristics of elementary and secondary art teachers and postsecondary faculty.	2024

Note. NASERC = National Arts Statistics and Evidence-based Reporting Center; GDP = gross domestic product.

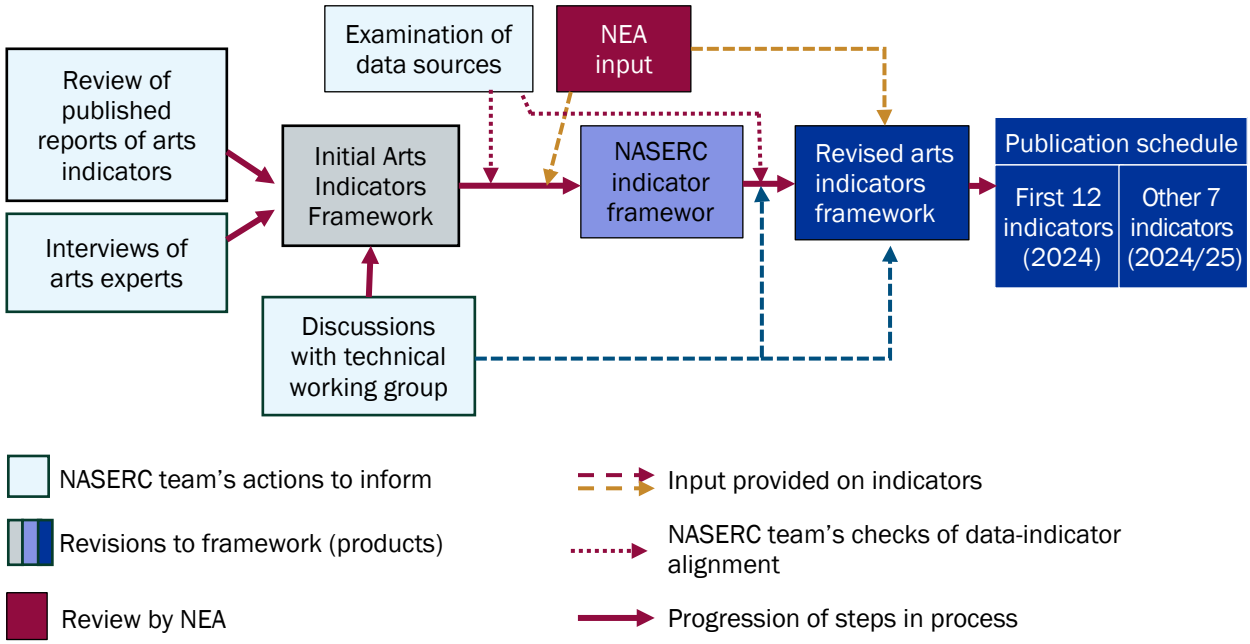
Introduction

The National Endowment for the Arts' (NEA's) Office of Research and Analysis created the National Arts Statistics and Evidence-based Reporting Center (NASERC) in 2022 to provide the public with regularly updated statistics on the health and vitality of the arts in the United States. The NEA contracted with the American Institutes for Research (AIR) to develop and operate NASERC. AIR's initial charge was to identify potential statistics—or indicators—of arts-related activity in the United States based on methodologically sound, regularly updated, publicly accessible, and nationally representative data collections.

Efforts to develop an arts indicators framework face multiple challenges that do not affect other types of indicator systems. Museum or concert goers have different interpretations of the arts they encounter; so also do social scientists and arts experts have different notions of what constitutes art, art domains, arts organizations, and indicators of arts activity. To add to the challenge, the data collections for basing the indicators—most of which are surveys—may change the questions they ask, phrase questions in different ways, change their sampling procedures, or become discontinued. Such changes hamper researchers' ability to track trends in indicator values across time. One purpose of this report is to provide a clear and explicit description of how the NASERC team developed its Arts Indicators Framework. The document and appendices describe the NASERC framework, its indicator domains, aligned indicators, and the data sets used to generate the indicator estimates. It also provides the specific survey-based definitions for important terms and concepts (i.e., survey response codes).

The NASERC team developed its Arts Indicator Framework through a series of activities. First, the team conducted an exploratory review of published literature on arts indicators and indicator frameworks. Second, they consulted with nine arts experts regarding their data needs and their knowledge of publicly available data for use as arts indicators. Third, the team solicited input from members of this project's technical working group (TWG) regarding the development of indicators, their information needs, and their knowledge of available data. Fourth, the team explored the websites of federal statistical agencies to develop a data asset map that describes the data sets and data elements that might serve as arts indicators. NEA staff provided guidance throughout this process. Exhibit 1 illustrates the process followed by the NASERC team for developing the framework.

Exhibit 1. Process for Developing the NASERC Arts Indicators Framework



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The structure of this document corresponds with these four activities. The first section describes the process for exploring the research literature on arts indicators and the results from that search. The second section describes the input provided by arts experts serving as consultants and TWG members. During interviews and TWG meetings, these experts provided their preferences for indicators, their understanding of data collected by federal statistical agencies, and their preferred uses for these indicators. The third section presents the data asset map, which describes the nationally representative surveys administered by federal statistical agencies. This section also described the arts-related data from those surveys and potential indicators based on those data. The fourth section describes the NASERC Arts Indicators Framework in its entirety, including its domains, indicators, data sources, and codes used to define key terms and concepts. The fifth section provides more details about the individual indicators. The document ends with a summary, a series of next steps, and appendices containing more detailed information.

Section 1. Literature Review Summary

The starting point in developing the NASERC Arts Indicators Framework involved reviewing published literature on arts indicator frameworks and documenting their indicators and the characteristics of their frameworks (definitions of these terms are in the sidebar). The literature review served two purposes: It informed our understanding of the variety of dimensions—or domains—of arts activity, and it provided us with a pool of indicators to consider for the framework.

Later, the NASERC team and TWG members scrutinized the dimensions of arts activity embedded within the published indicator frameworks. The NASERC team envisioned a framework consisting of four to five domains to reflect the breadth of arts activity in the United States. The team wanted the framework to include enough indicators to adequately reflect the multiple domains of arts activity but not so many indicators that might paint an overly complex picture to the audience. To balance breadth and simplicity, the team set the maximum number of indicators at 30. These indicators had to meet three specific criteria: (a) well supported in the research literature, (b) based on publicly available data that are reliable and valid, and (c) provide adequate representation of the underlying populations. The details on the literature review process and findings are in Appendix A.

KEY TERMS

Indicator: a variable used to represent a type of activity at a specific place and time.

Arts activity indicators (or simply arts indicators): variables that represent some aspect of the production and consumption of art. (For this project, arts indicators will be based entirely on publicly available data.

Arts indicator domain: a grouping of indicators that reflect one dimension of arts activity (e.g., artists, art consumers, arts training).

Arts indicator framework: a collection of art indicator domains that together provide a multidimensional picture of the importance of the arts to a population at a specific place and time.

Process for Reviewing Previous Work on Arts Indicators

The literature review began with a set of 14 documents that partners at the NEA considered foundational to the topic of arts and cultural indicator frameworks. The literature reviewers looked up the documents cited in each foundational document[1] (referred to as "ancestors" because they include some ideas or concepts that formed the basis for the foundational document) in hopes of finding other arts indicator frameworks. The reviewers also looked for "descendants," which are documents that subsequently cite the foundational work and continue the concepts and ideas to another generation. The reviewers removed duplicate references from the lists of ancestors and descendants. Next, the review team combined the ancestors, the descendants, and the 14 foundational works into a single list of 414 documents. The team forwarded the list to the project's research librarian, who then obtained all but 57 documents directly through AIR's subscriptions, from the internet, or through connections with libraries at research universities.[2] Thus, the pool of potentially relevant documents numbered 357.

The literature review team then screened the title, abstract, and full text of the 357 documents to make sure that the documents described arts indicator frameworks. Of the 357 documents, 296 documents did not have arts indicators. The team then examined the contents of the remaining 61 documents more fully (Exhibit 2).

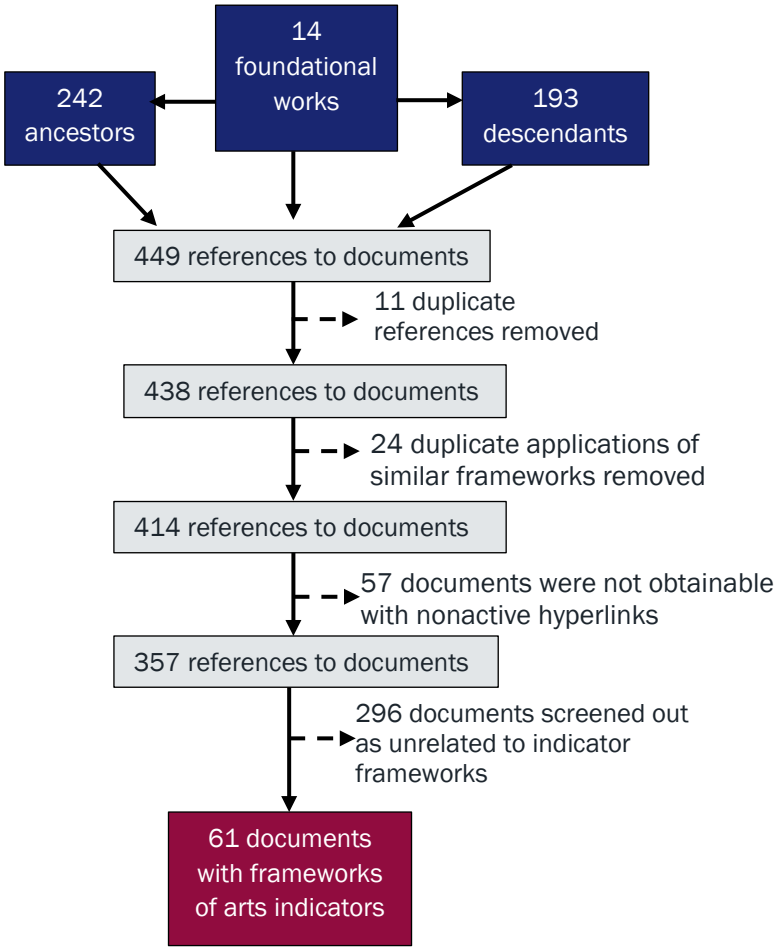
[1] Throughout this section, the general term "documents" refers to published print materials, including books; articles in newspapers, magazines, and academic journals; papers presented at scholarly conferences; doctoral dissertations and master's theses; government reports; and reports published by research organizations.
[2] Nearly all inaccessible references had hyperlinks that were no longer valid.

Results of the Literature Review

Next, the literature review team created a list of all the domains of arts indicators in the 61 documents. They distilled general categories among the domains. The process yielded the following nine categories of domains:

- Arts-related places and infrastructure
- Artists, their employment status, and their wages
- Products created by artists
- Consumption of and participation in art
- Educating students to create and appreciate art
- Arts-focused enterprises, including nonprofit organizations and for-profit businesses
- Industries and agencies (and their employees) that help support the work of artists
- Arts influence in the economy, including inputs, outputs, and growth
- Stimulating environments generated from a diverse population and a diversity of viewpoints and ideas

Exhibit 2. The Literature Search Resulted in 61 Documents Describing Arts Indicator Frameworks



These nine categories became potential domains for the NASERC Arts Indicators Framework. The NASERC team considered nine domains as too many, so the team winnowed down the list by first removing those that were least common among the frameworks described in the literature. We removed one potential domain (*products created by artists*) because it appeared in only three of the previously published indicator frameworks. The team also removed *stimulating environments generated from a diverse population and a diversity of viewpoints and ideas* because it appeared in only six of the published frameworks.[3]

The NASERC team further reduced the number of candidate domains through consolidation. For example, most arts indicator frameworks did not have domains related to supporting industries and agencies but dispersed these important components of the arts among other domains. Also, nonartists whose work helps support artists are in domains related to artists, arts-focused enterprises, industries and agencies, and the consumption of and participation in art. Thus, we

[3] The NASERC team may reconsider these potential indicators during the option years of the NASERC contract.

aggregated these supporting workers into one domain. Likewise, the funds that arts-related enterprises receive from supporting organizations or public agencies usually relate to the enterprises domain or an arts economy-related domain. It also is common to combine arts infrastructure (i.e., buildings) with arts enterprises.

The NASERC team consolidated the categories of arts-related places and infrastructure, arts-focused enterprises, industries and agencies, and arts influence in the economy into a single domain. This consolidation is consistent with the perspective taken by researchers with the DataArts group at Southern Methodist University (SMU DataArts, formerly the National Center for Arts Research) when considering the economic implications of the arts. The DataArts researchers argue that to understand the economic aspects of the arts in a community, one must consider the art policy/funding environment, art enterprises, and arts-related buildings and infrastructure in a community (Voss et al., 2014). Based on this logic, the NASERC team opted to include this broader domain (called arts and cultural assets) in its framework (see Exhibit A6 in Appendix A).

Thus, by removing two less common domains and consolidating others into broader domains, the NASERC team reduced the number of potential indicator domains from nine to four:

- Artists and other cultural workers
- Art participation
- Arts and cultural assets
- Arts and education

Later sections of this report describe the team's efforts at identifying the most promising indicators in these four domains.

Section 2. Soliciting Expert Input and Feedback

In addition to exploring the research literature to help develop the Arts Indicators Framework, the NASERC team obtained input from the nine-member TWG. The group comprises arts administrators, arts funders, and arts researchers who serve terms lasting between one and two years. The TWG met for two hours each in January and March 2023, during which the members engaged in significant discussions and provided thoughtful feedback, both during and after the meetings. Although membership in the TWG will change as necessary to meet the needs of NASERC, the group will continue to meet quarterly to provide ongoing feedback on project activities. These arts experts provided the NASERC team with initial thoughts on indicators and feedback on the iterations of the NASERC Arts Indicators Framework described later in this document. Biographies of the TWG members as of March 2023 are in Appendix B.

The NASERC team also identified nine other arts experts whose input would be invaluable to the indicator framework development process. These experts included arts and cultural researchers, analysts, practitioners, funders, administrators, and artists. They shared their perspectives from the federal, foundation, philanthropic, advocacy, academic, technology, and nonprofit spaces. The NASERC team reached out to these experts and scheduled one-hour interviews (i.e.,

consultative interviews) with them regarding their thoughts on the arts indicators. These interviews occurred in January–March 2023. (The interview questions are in Appendix C.)

The topics covered during the TWG meetings and consultative interviews are in the subsections that follow. With considerable overlap in the input offered by TWG members and the consultants, the team consolidated their comments into a series of broad themes.

Topics Discussed in the TWG Meetings and Consultative Interviews

Members of the NASERC team provided the TWG members and consultants with discussion topics prior to each meeting. The meetings and interviews occurred via videoconferencing on the Zoom platform. We recorded (with permission) the meetings and interviews to ensure that written notes adequately captured the experts' input. Later transcribed, the recordings helped with the development of key themes from the meetings and interviews that we summarized in memos for the NEA.

The TWG meetings and interviews addressed the following topics:

- Information needs for their arts communities
- The types of indicators needed to inform stakeholders about arts activities
- Research questions about the arts
- The types of statistics they use and those still needed to help communicate the impact of the arts
- Additional resources that would aid in the development of the NASERC program of work

Key Recommendations

In response to questions posed during the consultative interviews and TWG meetings, experts discussed their favored data sources and indicators that they thought the arts field would find most interesting. Their recommendations included the following:

- **Data source and reference report recommendations.** Although most of the experts relied on data from the NEA, particularly the Survey of Public Participation in the Arts (SPPA), many also suggested using commercial data to complement existing federal data sets. They provided specific recommendations for additional data sources and reports to reference, such as the Otis Report on the Creative Economy, SMU DataArts, and the National Center for Charitable Statistics Data Archive. Many expressed reservations regarding the data archive because the center stopped updating the data set in 2017 or 2018. International resources also were offered as examples to consider, including Arts Council England.
- **Funding and infrastructure content recommendations.** Many experts noted interest in whether the indicators could track the flow of funds from philanthropic organizations and other grant-funding sources. In addition, some expressed interest in measuring the scope of arts infrastructure, but they experienced difficulty finding the appropriate data sets. Multiple consultants emphasized the importance of looking beyond nonprofit organizations as sources for indicator information.
- **Art and education content recommendations.** The experts encouraged the NASERC team to investigate the arts and education, and they made suggestions about specific measures at both the elementary/secondary and postsecondary levels. In addition to demographic

measures, some noted that internet access is important for learning, and the American Community Survey (ACS) has information on household internet access.

> "The definitions of the art forms and the public consciousness are constantly changing, and what they meant 20 years ago is completely different from what they mean today."
>
> —Expert Consultant

- **Additional expert individual and organization recommendations.** Many of the consultants provided recommendations for other potential experts that the NASERC team could consult, including the names of individuals or organizations already serving on the TWG, on the consultation list, or identified by the NASERC team as contributors to the field of arts indicator research. References to these names and organizations validated the list of arts experts developed jointly by the NASERC team and the NEA.

Other Themes Emerging From the Expert Interviews and TWG Meetings

The interviewed arts experts who participated in the TWG meetings offered additional advice related to the NASERC team's efforts to develop an arts indicators framework. The following are the main themes from those discussions:

- **Objectivity of indicator content.** The NASERC team should remain objective when discussing the indicators and avoid offering value judgments on content. Some groups will see certain trends as positive, whereas others may not. Therefore, it is imperative for the NASERC team to remain as neutral as possible.
- **The need for clear definitions.** Indicators should have clear and consistent definitions that adequately describe general concepts. Specifically, consistent definitions are necessary for "artists" and "other cultural workers" that encompass the various industries in which creativity is applied. Arts experts also stressed balancing the value of comparable measures and definitions across the indicators with the need for flexibility to revise the measures across time to reflect new developments in the arts (e.g., reevaluation of the occupations used to define other cultural workers to capture emerging areas, consideration of evolutions in artistic media and its impact on the definition of artists). Further reinforcing the need for clear distinctions between types of artists, the consultants emphasized the difference in scholarly outputs between artistic genres, specifically the noted extensiveness of music research given its early connection to psychology. Also, many expressed interest in how the indicators would address professional versus avocational artists.
- **Use of timely, robust, and disaggregated data.** Indicators should remain as up to date as possible, using valid and robust data, preferably reflecting nationally representative samples. The arts also needs more and consistent data, particularly longitudinal data to track changes across time and disaggregated data for a granular and geographically specific view.
- **The need for detailed and disaggregated indicator findings.** The indicators should provide economic and geographic information that would be helpful to policymakers, arts managers, and grant writers. The experts requested that the NASERC team provide separate findings for specific geographic areas and different demographic and other groups. Most agreed that the indicators should provide monitoring information, such as the progress of various groups in arts creation and participation.
- **The importance of contextualizing the arts' impact holistically.** Across the board, the experts suggested a more nuanced approach to displaying arts indicators to ensure the

associated narrative provides a more holistic view of the arts' impact in people's lives and in communities. Many mentioned the role of the arts in mental health, well-being, equity, education, innovation, professional trajectories, generational shifts, and cultural/community diversity. The experts also expressed interest in investigating additional arts participation, including gig workers, volunteers, and hobbyists. The NASERC team cautioned against using only predominantly economic indicators, such as ticket sales, to determine value.

- **The fragility of arts ecosystems.** Reflecting on the experience of the COVID-19 pandemic, the fragility of the arts ecosystems was a shared theme. TWG members and consultants agreed that frequently updated arts indicators would have been useful for arts organizations, government agencies, and policymakers to better support the work of individual artists and arts organizations.

Integrating Feedback Into the NASERC Arts Indicators Framework

We used feedback from the consultative interviews and the TWG meetings to refine the Arts Indicators Framework, develop indicator proposals, and determine priorities for indicator development. Taken together, the comments provide strong support for the NASERC project as the NEA envisioned it.

Objectivity and Context in Indicator Content

The consultants emphasized the importance of providing context for the indicators to establish the relevance of different topics and avoid improper comparisons. The NASERC team believes that the range of indicators in the four domains offers users an objective multidimensional picture of arts activity in the United States, while allowing users to drill down to explore specific domains or indicators. Exploring intersectionality and underserved population data across indicators also will provide users the ability to distill common themes. TWG members also highlighted the issue of objectivity. When developing indicator content, the NASERC team attempted to avoid placing subjective values on specific measures or to act in an advocacy role.

Definition of Artists

The NASERC team paid careful attention to the definition of artists, particularly as the consultants and TWG experts noted the large amount of part-time and gig employment among artists. For the initial presentation of indicators, the team prioritized some ACS and Current Population Survey (CPS) indicators because they provide full counts of self-employed individuals, whereas business establishment–based surveys do not. As the team better understands the characteristics of self-employed artists compared with other artists, it will be easier to put the establishment-based indicators into context. The NASERC Arts Indicators Framework also has the arts and cultural assets domain, which covers employment

DEFINITION OF ARTIST

The NASERC team adopted the NEA's definition of artist. That is, artists are those who identify with one of the following 13 specific artist occupations [a]: architects; landscape architects; fine artists, art directors, and animators; designers; actors; producers and directors; dancers and choreographers; music directors and composers; musicians; entertainers; announcers; writers and authors; and photographers.

[a] See NEA's 2022 publication *Arts Data Profile #31—Artists in the Workforce: National and State Estimates for 2015–2019*.

and other financial issues related to the arts industry. The indicators in this domain contain links to other relevant finance information in the NASERC Arts Indicators Framework, such as earnings and household incomes for artists.

Demographic and Geographic Disaggregation Needs

The consultants highlighted the need for both demographic and geographic details in the indicators. The NASERC team established a series of standard variables, including demographic variables (e.g., gender, race and ethnicity) and geographic variables (e.g., state) to use across indicators, when available. The team also prioritized the development of Indicator A.3 on the geographic distribution of artists and other cultural workers. Even when it might not be feasible to show statistical differences between groups in detailed geographic data (e.g., numbers of landscape architects by race and ethnicity and municipality), the data could appear in tabular or map form to enable further use of the information.

Trend Analysis

The consultants also emphasized the importance of developing consistent measures to track trend comparisons. When feasible, we will incorporate trend comparisons across indicators.

Section 3. Data Asset Map

In addition to reviewing the published literature on arts indicator systems and soliciting input and feedback from arts experts, the NASERC team examined the data sets published by federal statistical agencies and those published by nongovernmental organizations.[4] This examination improved the team's understanding of the availability of public data related to the arts, the quality of the survey items, the representativeness of the survey samples, and the frequency of data collections. In short, the review of federal surveys and databases helped the NASERC team see which data have sufficient quality to include in the NASERC Arts Indicators Framework. This section describes the data asset map that the NASERC team created to document the federal data sources and the features of their content.

The data asset map incorporates information collected from the following sources:

- NEA's existing statistical holdings
- Data collected by various federal agencies, including the following:
  - U.S. Census Bureau
  - Bureau of Labor Statistics at the U.S. Department of Labor
  - Bureau of Economic Analysis at the U.S. Department of Commerce
  - National Center for Education Statistics (NCES) at the U.S. Department of Education
  - Internal Revenue Service (IRS) at the U.S. Department of the Treasury

[4] For the initial set of arts indicators, the NASERC team decided to prioritize data collected by federal agencies. The team intends to broaden the scope of the data asset map io include more fine-grained data that use state or local data sources.

In all, 43 data sets are part of the data asset map as potential data sources for arts indicators. Exhibit 3 summarizes the information from the data asset map. For each data set, the NASERC team evaluated its usability for arts indicators based on the following:

- Availability of specific data on the arts and culture
- Periodicity and the most recent year of data
- Level of geographic granularity
- Availability of variables reflecting respondent characteristics (e.g., gender, race and ethnicity, age, educational attainment, artist occupation, labor force status, income)

Some nonfederal data sources that are not nationally representative are in the data asset map because they contain important contextual information or perspectives of the arts community. Some of these nonrepresentative sources are making notable progress in expanding their coverage and may supply acceptable arts data for future indicators. Some potential sources of international data also appear.

Exhibit 3. Data Asset Map Data Sets

Data set name and website	Source	Unit of analysis	Development priority
American Community Survey	U.S. Census Bureau	Individual	High
American Time Use Survey	U.S. Bureau of Labor Statistics	Individual	High
Annual Business Survey	U.S. Census Bureau and National Center for Science and Engineering Statistics	Business	Medium
Arts and Cultural Production Satellite Account	U.S. Bureau of Economic Analysis	Industry	High
Arts Basic Survey	U.S. Census Bureau and National Endowment for the Arts	Individual	Medium
Arts Education Data Project	Arts Education Data Project	School	Low
Baccalaureate and Beyond Longitudinal Study	National Center for Education Statistics	Individual	Low
Beginning Postsecondary Students Longitudinal Study	National Center for Education Statistics	Individual	Medium
Business Dynamics Statistics	U.S. Census Bureau	Establishment	Medium
Consumer Expenditure Surveys	U.S. Bureau of Labor Statistics	Individual	Medium
County Business Patterns	U.S. Census Bureau	Establishment	Medium
Culture Track	LaPlaca Cohen	Individual	Low
Current Employment Statistics	U.S. Bureau of Labor Statistics	Establishment	Medium
Current Population Survey	U.S. Census Bureau and U.S. Bureau of Labor Statistics	Individual	High
Economic Census	U.S. Census Bureau	Business	Low

Data set name and website	Source	Unit of analysis	Development priority
Employment Projections	U.S. Bureau of Labor Statistics	Occupational group	High
General Social Survey	National Opinion Research Center	Individual	Low
George Mason University–Nonprofit Employment Data Project	George Mason University, Center on Nonprofits, Philanthropy, and Social Enterprise	Establishment	Low
Grant Search	National Endowment for the Arts	Grantee	Medium
High School Longitudinal Study	National Center for Education Statistics	Individual	Low
High School Transcript Studies	National Center for Education Statistics	Individual	Medium
Integrated Postsecondary Education Data System	National Center for Education Statistics	Postsecondary institution	High
Job Openings and Labor Turnover Survey	U.S. Bureau of Labor Statistics	Business	Low
National Assessment of Educational Progress Arts Assessment	National Center for Education Statistics	Individual	Low
National Household Education Surveys Program	National Center for Education Statistics	Individual	Medium
National Indian Education Study	National Center for Education Statistics	Individual	Low
National Postsecondary Student Aid Study	National Center for Education Statistics	Individual	Low
National Survey of College Graduates	National Center for Science and Engineering Statistics	Individual	High
National Teacher and Principal Survey	National Center for Education Statistics	Individual	High
Nonemployer Statistics by Demographics Series	U.S. Census Bureau	Business	Medium
O*NET	U.S. Department of Labor	Individual	Medium
Occupational Employment and Wage Statistics	U.S. Bureau of Labor Statistics	Establishment	Medium
Occupational Outlook Handbook	U.S. Bureau of Labor Statistics	Occupational group	High
Panel Study of Income Dynamics	University of Michigan, Institute for Social Research	Individual	Low
Postsecondary Education Transcript Studies	National Center for Education Statistics	Individual	Low
Quarterly Census of Employment and Wages	U.S. Bureau of Labor Statistics	Establishment	Medium

Data set name and website	Source	Unit of analysis	Development priority
Quarterly Services Survey	U.S. Census Bureau	Business	Medium
Service Annual Survey	U.S. Census Bureau	Business	Medium
Statistics of Income Tax Statistics, Partnerships (IRS Form 990 data)	Internal Revenue Service	Business	Medium
Survey of Public Participation in the Arts	U.S. Census Bureau and National Endowment for the Arts	Individual	High
UIS Statistics	UNESCO Institute for Statistics	Country	Low
Unified Database of Arts Organizations	National Center for Charitable Statistics	Business	Low
World Cities Culture Forum Data	World Cities Culture Forum	City	Low

Note. Unit of analysis is based on the lowest level of data collection or estimation in the data set. Establishment surveys include only business operations at a particular site, whereas a business survey would include operations at all sites operated by the business.

Data Set Development Priority for Indicators

Each data set has an assigned priority level for indicator development (high, medium, or low) based primarily on the level of programming and conceptual development needed to produce indicators for that data source. Priority ratings also depended on statistical metrics and validity of the estimates, based on the NASERC team's typical statistical programming tasks, such as computation of estimates, standard errors, sample sizes, and coefficients of variation. Data sets that require extensive programming and those with complex data structures, minimal documentation, and imprecise methods for estimating statistical variance also were rated as lower priority (such data sets require more investment to produce and validate reliable results). Other factors contributing to priority ratings included data periodicity (i.e., the likelihood that regular data collection will continue) and coverage of arts-related topics. The NASERC team may adjust these priority levels as they further investigate the methods and utility of complex data sets, when releasing new data sets, discontinuing other data sets, and improving data collection and sampling methods.

Data Sets Designated as High Priority

Data sets rated as highest priority are those that meet the criteria to use in indicators and can be prepared efficiently for reporting. Given the resources allocated for initial arts indicator development, the NASERC team focused efforts on the most promising data, including data currently used by the NEA. The initial set of arts indicators—those released by NASERC in 2024—were those with the highest priority. For example, the NASERC team identified the ACS as a high priority for the development of indicators of artists and other cultural workers. The ACS is an annual, nationally representative household survey that provides detailed demographic, housing, social, and economic data on the United States. The ACS also is the one source with estimated counts of artists and other types of cultural workers, with direct references to their degrees (including field of study) and the industries they work in. Thus, the ACS provides detailed artist occupations broken down by a variety of demographic characteristics,

including gender, race, ethnicity, age group, disability status, and educational attainment. Particularly important for the arts, the ACS can report data for self-employed individuals. The ACS data are available for the United States as a whole, each state, the District of Columbia, Puerto Rico, and many large counties and cities. Finally, the ACS provides the opportunity to explore additional characteristics such as commute time, undergraduate field of study, marital status, and health insurance coverage. As another example, although available on a less-than-annual basis, the SPPA is valuable for high-priority development for indicators because it is the best data source on arts participation in the United States.

Data Sets Designated as Medium Priority

Medium-priority data sets are those that the NASERC team believes would provide valuable information but require more resources proportional to the expected results or would not provide indicators annually. For example, the Occupational Employment and Wage Statistics (OEWS), an establishment-based survey, produces employment and wage estimates annually that cover more detailed occupations not captured in the ACS. However, OEWS data exclude self-employed individuals, owners and partners in unincorporated firms, household workers, and unpaid family workers. This is particularly an issue because many artists are independent or self-employed. Therefore, the use of this data set will require the development of relevant measures and how to interpret them in an appropriate context. As another example, compared with the SPPA, the Arts Basic Survey has a medium priority for development because it includes a smaller number of survey items and will not have new data until 2025.

Data Sets Designated as Low Priority

Low-priority data sets are those that would require extensive technical and conceptual development to provide indicators. Such data may be incomplete, may not be collected regularly, or may contribute only narrowly focused indicators (e.g., indicators that focus on a limited geographic area or a single type of art). Some low-priority data sets may be good candidates for future research reports because they may have high-value findings for specific communities.

Future Expansion of Data Sources

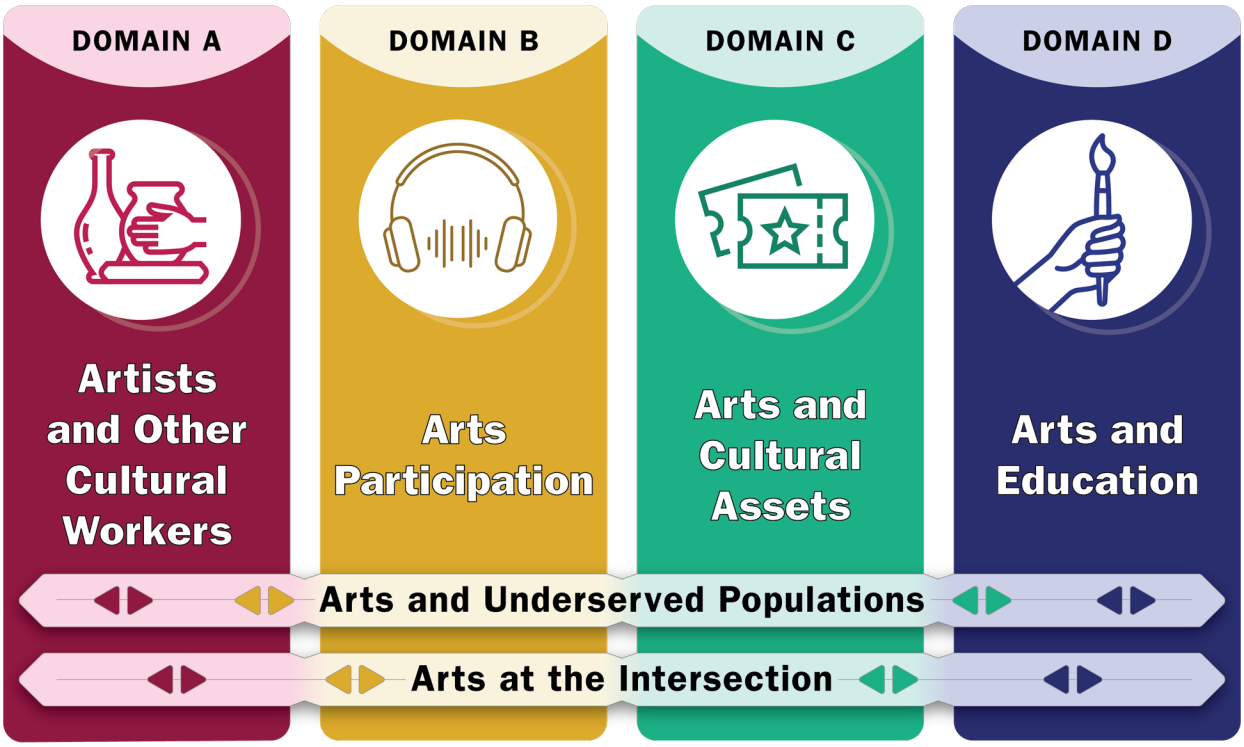
The NASERC team will continue to add more data sets to the data asset map based on recommendations from the NEA, arts expert consultants or TWG members, or continued research. For example, the NASERC team plans to perform further searches for data sets on volunteerism, philanthropy, and infrastructure (e.g., construction and renovation of arts facilities). The NASERC team also aims to continue to research data sets that may illuminate arts at the intersection and arts impact, including but not limited to data sets that cover health outcomes, mental health and well-being, nontraditional education programs (e.g., arts education outside traditional school settings), and the environment. (See the next section for a discussion of intersectionality.)

Section 4. Arts Indicators Framework

Development of the NASERC Arts Indicators Framework resulted from a review of the research literature, potential data sources, and feedback received from the NEA and arts expert consultants and TWG members. The framework allows for progressive elaboration throughout

the life of the specific arts indicators and for the arts indicators program overall. The framework has four major domains: artists and other cultural workers, arts participation, arts and cultural assets, and arts and education. The initial selection of indicators presents 19 general topical areas across the four major domains, but important linkages also exist across indicators and domains. Therefore, the four major domains have two crosscutting topic areas: arts at the intersection and arts and underserved populations (see Exhibit 4). The NASERC team included these crosscutting topic areas to allow for examination of important intersectional topics, such as equity and accessibility. Crosscutting topics appear in a later section.

Exhibit 4. NASERC Arts Indicators Framework



Domain A: Artists and Other Cultural Workers

Indicators in this domain describe artists and individuals whose employment involves supporting artists or the arts industry (the latter referred to as *other cultural workers*). The indicators describe the demographic characteristics, background, and other characteristics of interest for artists. The indicators also describe their types of artistic work, their means of employment, and their income. This domain includes an indicator focused on other cultural workers, including their occupation, means of employment, and income.

Domain B: Arts Participation

This domain describes participants in the arts, including the type of activities they pursue and their time use and spending habits. Arts participants are persons who attend arts events (consumption) or engage in arts activities as a nonprofessional (e.g., those who paint for a hobby or personal fulfillment).

Domain C: Arts and Cultural Assets

This domain is multifaceted. It describes the economic impact of the arts in the United States (i.e., inputs and outputs) as well as the types of arts funding, arts infrastructure, and the places where arts happen across communities.

Domain D: Arts and Education

This domain describes the extent to which students at the elementary, secondary, and postsecondary levels learn to create and appreciate art. The domain includes an indicator on the number and characteristics of art teachers.

Crosscutting Topics

In addition to analyzing data and presenting general findings for domains of arts indicators, the NASERC team will sometimes analyze data and present findings from a specific perspective—that of groups of individuals or geographic types. These specific perspectives are crosscutting topics because they are embedded in all domains.

Arts and Underserved Populations

The NEA Strategic Plan recognizes the importance of making the arts more accessible and helping artists attain successful careers. By examining the arts and underserved populations, NASERC has an opportunity to identify populations that may face barriers in arts participation, artistic careers, and arts access. For example, demographic analyses of artists show that they are more likely to have bachelor's or higher degrees than the general labor force and are less likely to belong to racial/ethnic minority groups than the general labor force. Not only are Black and Hispanic adults less likely to have bachelor's degrees than White and Asian adults, but even among bachelor's degree recipients, the proportion of Black graduates in visual and performing arts is lower than their average among other fields of study.

In addition to the lower percentages of Black and Hispanic adults becoming artists, barriers also exist to public participation in the arts. For example, lower percentages of Black and Hispanic adults than White adults attended stage plays or art museums/galleries based on 2017 SPPA data; however, there were small or nonsignificant differences in other art participation activities. The indicators will use the most recent data available and provide comparisons and potential barriers that may affect participation, such as access to culturally relevant arts activities. Other potential demographic comparisons include urbanicity, geographic location, socioeconomic status (SES), disability status, veteran status, and limited English proficiency. For example, underserved populations also tend to have lower incomes. These income factors will contribute to barriers in participating in the arts, such as a lack of transportation and a lack of reliable access to the internet. Ongoing monitoring is necessary to determine whether these gaps narrow across time.

Other Examples of Crosscutting Topics

The NASERC team commits to exploring other crosscutting topics as well, as they become more fully developed. Other crosscutting topics might include urban-rural distinctions or sections of the United States.

Arts at the Intersection

The NASERC team will explore how arts indicators and domains interact with other socially defined topics. Because they are socially constructed topics, different people may define them differently. Therefore, the presentation of intersectional findings will require more emphasis on how NASERC defines the topics.

As an example, new research exists on the contributions of the arts to both physical and mental health (Jenabi et al., 2023; Schnitzer et al., 2021). Art therapy plays an increasing role in the health industry, resulting in specialized education programs, employment, and contributions to the economy. Other intersectional topics of interest include arts and aging, arts and construction, arts and digital transformation, arts and societal/community impacts, and arts and veterans. The NASERC team will look for opportunities to highlight intersections with the arts as new data sources become available. The arts and education domain of the Arts Indicators Framework is a first step in this work, aiming to capture intersections between the arts and education.

Linkages across indicators and domains can result in complex analyses that may be difficult to present in a format designed for accessibility to general audiences. Simple linkages between indicators can be easily included to help individuals interested in specific topics, such as artist employment, arts degrees, or nonprofit arts businesses. More complex linkages, such as those developed through statistical models, may appear as separate reports or as special focus indicators.

Topics of Interest for Future Exploration

The NASERC team aimed to select indicator topics that highlight a wide variety of statistics on the health and vitality of the arts in the United States. However, these topics encountered limitations based on the availability, accessibility, and quality of publicly available data. Indicator topics that we could not examine based on available data include the following:

- Barriers and motivations to arts participation
- The geographic location of arts-related industries
- Funding for the arts
- Capital expenditures within arts and cultural industries and organizations
- The arts education and activities of schoolchildren

The NASERC team developed the Arts Indicator Framework to also include new data sources and indicator topics as data become available. The team will continue to monitor the availability of new data sources that could be useful for developing indicators on the topics outlined previously or other yet-to-be-identified indicator topics of interest.

Definitions of Key Variables in the NASERC Arts Indicators Framework

TWG members and consultants noted the importance of NASERC's role in developing definitions to measure progress in the arts. This section provides NASERC's definitions of the following terms: artists, other cultural workers, arts-related fields of study, arts-related industries, geographic units, and demographic and other individual characteristics.

The suggested definitions are based on the technical availability of specific items in the data files. However, in practice, sample sizes may be insufficient in some cases to permit disaggregation of demographic variables or geographic units while ensuring data reliability data.

Artists

There are many ways to define "artist." For example, an Urban Institute report defined artists as "adults who have received training in an artistic discipline/tradition, define themselves professionally as artists, and attempt to derive income from work in which they use their expert artistic vocational skills in visual, literary, performing, and media arts" (Jackson et al., 2013, p. 1). Although the definition was suitable to the theme of that report, the NASERC team needs to adopt a definition of artists that aligns with elements found in federal data sets. The NASERC team will propose using many other sources for the arts indicators, but they will use ACS as the primary benchmark for counts of artists and other cultural workers and how they relate to specific industries. The artists and other cultural workers (see next subsection) definitions used for the ACS data set are based on respondents' self-reported occupations, whereas business or establishment respondent surveys (such as the OEWS) use occupational classifications developed by employers. In the context of these data sets, workers in NEA-defined artist occupations are considered artists. This definition mirrors that used in the report *Artists and Other Cultural Workers: A Statistical Portrait* (NEA, 2019, p. xv).

The NEA developed a list of 13 specific artist occupations—architects; landscape architects; fine artists, art directors, and animators; designers; actors; producers and directors; dancers and choreographers; music directors and composers; musicians; entertainers; announcers; writers and authors; and photographers—based on the 2018 Standard Occupational Classification (SOC) system.[5] The full Key to Artist Occupations is at https://www.arts.gov/sites/default/files/Key-To-Artist-Occupations_UPDATED.xlsx. This listing comes from the NEA's (2022) *Artists in the Workforce: National and State Estimates for 2015–2019* and has remained consistent for many years. Because this definition of artist occupations has substantial public acceptance and the transparency is high (the mapping is available to the public on the NEA website), the NASERC team did not propose revising the artist occupation classification.

Other Cultural Workers

In addition to the specific artist occupations, the NEA developed a list of 17 occupations classified as "other cultural workers": archivists, curators, and museum technicians; librarians; library technicians; editors; broadcast and sound engineering technicians; television, video, and motion picture camera operators and editors; motion picture projectionists; ushers, lobby attendants, and ticket takers; tour and travel guides; models and demonstrators; forest and conservation technicians; printing press operators; print binding and finishing workers; jewelers and precious stone and metal workers; photographic process workers; etchers and engravers; and molders, shapers, and casters. Publication of the most recent version of this list occurred in April 2019 as part of *Artists and Other Cultural Workers: A Statistical Portrait* (NEA, 2019). The full Key to Other Cultural Worker Occupations is at https://www.arts.gov/sites/default/files/KeytoOccp.xlsx.

[5] The SOC is a "federal statistical standard used by federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data." For more information, see https://www.bls.gov/soc/.

One limitation of the NEA's current list of other cultural worker occupations is that it is based on the 2010 SOC. Appendix D maps the NEA's 2010 SOC other cultural worker occupations from the *Artists and Other Cultural Workers* report to the 2018 SOC occupation codes. Although reports of other cultural worker occupations are not at the detailed occupation level because of sample size issues, we include detailed codes for mapping confirmation purposes.

In addition to updating the SOC mapping, the NASERC team integrated the following adjustments:

- Removed forest and conservation technicians (19-4071) because it often appears combined with physical and social science technician occupations in ACS. Also, the alignment of this occupation category with the arts is partly an artifact of the 2010 SOC classification.
- Added media and communications equipment workers, all other (27-4099), given that other communications-related occupations within 27-4000 are part of other cultural workers. The NASERC team added it to the NEA occupation group broadcast, sound, and lighting technicians.
- Removed molders, shapers, and casters (51-9195) given that mapping in the OEWS data suggests that the category more aligns with manufacturing than with art.
- Included musical instrument repairers and tuners (49-9063); desktop publishers (43-9031); and makeup artists, theatrical and performance (39-5091) because they were in the NEA's *Artists and Other Cultural Workers* report but not in the current Key to Other Cultural Worker Occupations mapping file.

Reporting Limitations. Although multiple federal agencies use the SOC codes, the level of detail across the data sets does not always allow mapping to the NEA artists and other cultural workers classifications. In some cases, the detailed occupational classifications required for the artists and other cultural workers classifications may be aggregated at a high level, such as "arts, design, entertainment, sports, and media occupations." The large ACS survey provides data for most of the detailed artists and other cultural workers classifications, but the musical instrument repairers and tuners, desktop publishers, and makeup artists (theatrical and performance) occupations are all part of larger occupation aggregates, thus making it difficult to report employment in these groups. The NASERC team proposes continuing to explore how small other cultural worker occupations are part of federal data sources and making reporting decisions for these groups in indicators on a case-by-case basis.

Future Considerations. Although the list of artists appears relatively intuitive, the list of other cultural workers presents more nuanced considerations and differing perspectives. Other cultural workers include occupations with substantial creative elements and occupations entirely dependent on artists, such as motion picture projectionists (39-3021) and ushers, lobby attendants, and ticket takers (39-3031). Although many if not most jobs involve some element of creativity or dependence on artistic design, the other cultural workers category identifies those occupations in which the linkages are most compelling. Needing to identify the most compelling linkages introduces subjectivity and elicits differing perspectives. One approach to reduce the amount of subjectivity in the selection of other cultural worker occupations would be to undertake a more detailed analysis using the O*NET system, which allows searches of occupations by subject matter knowledge, skills, interests, and other criteria. Scores and rankings are in each measure. For example, a search for "fine art" knowledge in O*NET confirmed the

relatively high fine arts knowledge rating of 58 for makeup artists (theatrical and performance) (39-5091), which confirmed the relevance of this category among other cultural workers. However, the occupation art, drama, and music teachers (postsecondary; 25-1121) is not in the other cultural workers classification even though it has the second highest score in fine arts knowledge (98). A more systematic effort, especially one involving multiple criteria, could identify additional occupations or suggest other changes. The NASERC team plans to explore O*NET data in more detail in the future. However, an investigation of this nature would consider only the scope of artist-related skills, knowledge, and abilities, not occupations that would depend on alignment with arts outputs (e.g., projectionists, ushers).

Arts and Cultural Fields of Study

Production of indicators in the arts and education domain will require developing and implementing new measures of arts-and-culture–related courses and fields of study (see Indicator D.1). Some mapping work regarding high school courses has already been implemented for major aggregates of visual and performing arts (see *Digest of Education Statistics* Table 225.10). Because of the priority in looking at access of different groups to the artist labor force, the NASERC team proposes prioritizing information on postsecondary degrees, both the number of degrees awarded in arts and cultural fields of study from the NCES Integrated Postsecondary Education Data System (IPEDS) and the context of artist employment related to undergraduate degree field of study (ACS).

The NASERC team created a preliminary mapping of arts and cultural fields of study for use in the artists and other cultural workers and arts and education indicator domains (Exhibit 5). This mapping results from analysis of the NCES Classification of Instructional Programs (CIP) with reference to the bachelor's degree field of study reported in ACS. CIP provides a taxonomic scheme that supports the accurate tracking and reporting of fields of study and program completions activity. Originally developed by NCES in 1980, revisions to the CIP occurred in 1985, 1990, 2000, 2010, and 2020. The NASERC team first examined the most common bachelor's degree fields of study reported in ACS for individuals in artist occupations. We then mapped this listing of ACS fields and their classification codes to CIP codes used in IPEDS to generate a list of relevant fields of study. The bachelor's degree fields of study in ACS most typically related to artist employment were ACS 14 series architecture and ACS 60 series arts. Additional fields of study (and their corresponding ACS codes) with relatively high artist labor force percentages in ACS include communication technologies (2001), mass media (1903), journalism (1902), composition and rhetoric (3302), architectural engineering (2403), advertising and public relations (1904), art and music education (2314), and computer networking and telecommunications (2107). This information on bachelor's degree fields of study from ACS helped build a preliminary arts and cultural fields of study mapping of CIP codes relevant to the artist labor force.

Exhibit 5. CIP Codes Relevant to the Artist Labor Force as Determined Through ACS and NCES Number of Degrees Awarded in 2018–19

CIP field of study	CIP code	Bachelor's degrees	Master's degrees	Doctoral degrees
Fields aligned with artist employment in ACS				
Architecture and related services	4.0000	8,806	7,311	255
Communication, journalism, and related programs	9.0000	92,528	10,463	583
Communications technologies/technicians and support services	10.0000	4,444	535	0
Web page, digital/multimedia, and information resources design	11.0801	1,148	488	0
Data modeling/warehousing and database administration	11.0802	183	1,238	0
Computer graphics	11.0803	782	280	0
Modeling, virtual environments, and simulation	11.0804	409	190	0
Computer software and media applications, other	11.0899	655	274	3
Web/multimedia management and webmaster	11.1004	139	5	0
Art teacher education	13.1302	840	649	19
Music teacher education	13.1312	3,170	1,148	71
Drama and dance teacher education	13.1324	111	96	0
Architectural engineering	14.0401	770	173	15
Architectural engineering technology/technician	15.0101	380	21	0
Rhetoric and composition	23.1304	2,302	166	95
Visual and performing arts	50.0000	89,730	17,113	1,845
Recommended additions				
Creative writing	23.1302	2,875	3,112	20
Religious/sacred music	39.0501	286	92	11
Art therapy/therapist	51.2301	199	456	7
Dance therapy/therapist	51.2302	0	35	0
Music therapy/therapist	51.2305	467	149	3

Note. ACS = American Community Survey; CIP = Classification of Instructional Programs; NCES = National Center for Education Statistics. Data sourced from the U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 2020.

The preliminary mapping also includes several fields of study with obvious connections to the arts that do not appear on the ACS list because they are too detailed for ACS collection. For example, creative writing (CIP 23.1302) should be an arts and cultural field of study, even though this detailed field of study does not appear in ACS. Also, the NCES degree data capture three new art therapy fields of study in the health domain that are relevant to the arts at the intersection discussion. The NASERC team also suggested including religious/sacred music (39.0501) because of its alignment with more general music arts.

Arts-Related Industries

The arts and cultural assets domain consists of multiple facets of economic activity in the arts. The Arts and Cultural Production Satellite Account (ACPSA) is the data source for indicators on the value added to gross domestic product (GDP) by arts industries (Indicator C.1) and the major industries that employ artists and other cultural workers (Indicator C.2). ACPSA captures a set of industries contributing to the arts, making the development of indicator content based on this data set straightforward. However, it also is important to include indicators that capture industries with large absolute numbers of artists and other cultural workers and industries with high percentages of artists and other cultural workers as a proportion of their total employees (Indicator C.3). For these indicators, a data source such as ACS, which captures self-employed individuals and has adequate sample size for geographic granularity, is an important resource. To leverage ACS, the NASERC team developed a mapping of art-oriented industries.

Exhibit 6 shows the top 25 industries with the highest percentages of workers who are artists based on ACS, with information on North American Industry Classification System (NAICS) codes and titles, total employment, total artist employment, and the percentage of employees who are artists. Another perspective is to look at industries that employ large numbers of artists, regardless of the percentage of artists. Conceptually, this would include large industries that employ large numbers of people but only a small proportion of whom are artists. These two perspectives offer significantly different vantage points on artist employment. For example, the top five industries that employed more than 100,000 artists in 2021, from ACS, are independent artists, writers, and performers (NAICS 7115); specialized design services (5414); architectural, engineering, and related services (5413); motion pictures and video industries (5121); and other professional, scientific, and technical services (5419Z). These industries rank 1, 2, 9, 5, and 7, respectively, in the Exhibit 6 rankings. In some cases, industries that are among those with the highest percentage of workers who are artists are not among those with the highest artist employment totals. For example, sound recording industries (5122) is ranked 6 in Exhibit 6 but does not appear in the top 25 industries with the highest number of workers who are artists. Depending on the policy context, one of the two perspectives may be more relevant than the other, so both measures are important. We can perform similar analyses for other cultural worker–related industries.

Exhibit 6. Twenty-Five Industries With the Highest Percentage of Workers Who Are Artists, 2021

Rank	NAICS code	NAICS title	Total employment	Total artists	Artist %
Total, all industries			**157,815,522**	**2,369,441**	**1.5**
1	7115	Independent artists, writers, and performers	309,839	255,399	82.4
2	5414	Specialized design services	358,668	254,592	71.0
3	4531	Florists	89,453	45,691	51.1
4	7111	Performing arts companies	134,527	63,005	46.8
5	5121	Motion pictures and video industries	424,011	130,968	30.9
6	5122	Sound recording industries	46,026	12,440	27.0

Rank	NAICS code	NAICS title	Total employment	Total artists	Artist %
7	5419Z	Other professional, scientific, and technical services	526,958	129,312	24.5
8	515	Broadcasting (except internet)	366,607	78,603	21.4
9	5413	Architectural, engineering, and related services	1,650,010	251,587	15.2
10	5111Z	Periodical, book, and directory publishers	185,968	26,504	14.3
11	5418	Advertising, public relations, and related services	579,266	75,276	13.0
12	711M	Promoters of performing arts, sports, and similar events, agents and managers for artists, athletes, entertainers, and other public figures	100,404	11,634	11.6
13	51111	Newspaper publishers	130,303	14,221	10.9
14	5191ZM	Other information services, except libraries and archives, and internet publishing and broadcasting and web search portals	43,755	4,548	10.4
15	51913	Internet publishing and broadcasting and web search portals	287,002	23,536	8.2
16	3162	Footwear manufacturing	24,965	1,880	7.5
17	32711	Pottery, ceramics, and plumbing fixture manufacturing	26,384	1,964	7.4
18	3133	Textile and fabric finishing and fabric coating mills	16,024	1,168	7.3
19	8121M	Nail salons and other personal care services	483,355	34,355	7.1
20	3399M	Sporting and athletic goods, and doll, toy and game manufacturing	97,064	6,550	6.7
21	315M	Cut and sew, and apparel accessories and other apparel manufacturing	161,990	9,994	6.2
22	8131	Religious organizations	1,104,657	68,072	6.2
23	3231	Printing and related support activities	461,104	24,943	5.4
24	4243	Apparel, piece goods, and notions merchant wholesalers	113,753	5,245	4.6
25	316M	Data processing, hosting, and related services	185,447	8,223	4.4

Note. NAICS = North American Industry Classification System.

Geographic Units

Consultants and TWG members consistently mentioned the need for additional arts-related data on subnational geographic levels. Such data are necessary for policy development at the state and local levels and for arts organizations to plan and develop their programs. Challenges such as small sample size may limit the reporting of state and local data, but important strides may be made in the NASERC Arts Indicators Framework. The NASERC team's response to this need will include the production of critical new tabulations for the first set of indicators (those released in 2024) and further development of approaches for more detailed analyses in the future.

For the initial release of indicators, the NASERC team developed state and large county tabulations for Indicator A.3, based on the numbers of artists and their percentage of the labor force and supported by measures of statistical reliability. These tabulations provide jurisdictions with policy-relevant information about their artist labor forces in the context of the national metrics. These tabulations use one-year ACS data to allow the inclusion of both independent artists and those employed in a government, for-profit, or nonprofit setting. Future analyses can determine the relevance of five-year ACS data, which would provide additional sample size for more statistically robust local-level data, but at the expense of less timely information and the inclusion of COVID-19-era disruptions. We will explore other establishment-level surveys, such as County Business Patterns, even though they exclude independent artists. Longer term solutions could include statistical modeling of data from multiple surveys and administrative sources.

Analysis of geographic units appear as tabulations within the established indicators, when possible. For future indicators, the NASERC team may explore refinements to the presentation of geographic information by taking advantage of web-based visualization software or profile templates. Such software can generate customized views of national, state, or local statistical comparisons.

Demographic Characteristics

Demographic characteristics include variables such as sex/gender, race and ethnicity, age, disability status, and educational attainment. Appendix E contains the NASERC team's suggested demographic variables, including breakouts and preliminary data on these groups from the ACS for reference. The goal of these guidelines is to standardize variable breakdowns, to the extent possible, across indicators.

Sex and Gender.[6] Many federal surveys continue to use a binary definition of this variable. Responses of "male" or "female" are the only options currently available in the ACS and most other federal surveys. The NASERC team will remain vigilant in expanding the analysis categories (e.g., including a nonbinary category) as reporting options become more inclusive in federal surveys.

Race and Ethnicity. The NASERC team recommends showing all minimum reporting race groups separately and suppressing data for groups that have inadequate samples for specific cells. However, the Office of Management and Budget (OMB) recommends caution in collapsing racial/ethnic groups because it might mask important differences among groups or infer misleading similarities among collapsed groups. Researchers focused on smaller race groups generally prefer showing "does not meet statistical standards" for these groups with an insufficient sample size, rather than aggregating dissimilar groups, such as combining Asian and Hawaiian/Pacific Islander.

Other Individual Characteristics

The NASERC team will investigate veteran status and marital status in indicators based on sources that capture these data. Given that specific NEA programs target veterans, they were a population group of particular interest. Data on couple status were available through the ACS, which provides a limited perspective on LBGTQ+ individuals. The NASERC team anticipates

[6] Some data sources use sex; others use gender. The data source's usage dictated the word form used in this report.

more data on LBGTQ+ individuals to be available in the future as federal agencies modernize their surveys. The NASERC team will remain vigilant for new analytic opportunities. See Appendix E for breakouts of veteran status and couple status variables and preliminary information on these groups for reference. The NASERC team anticipates that the list of other individual characteristic variables will expand during the development of indicator content and the exploration of new data sources. Additional variables already flagged for future exploration include citizenship status, health insurance status, housing characteristics, internet access, language spoken at home, and urbanicity.

Work and Employment Characteristics

Work and employment characteristics (i.e., employment status, work intensity, employer type, personal/household earnings and income) were key domains for understanding the participation of artists in the labor force. Strong interest remains in understanding the economic viability of artist professions. More recently, there is renewed focus on the employment rate of artists as the COVID-19 pandemic forced shutdowns of entertainment venues that employed many artists. See Appendix E for breakouts of these variables and preliminary information on these groups for reference.

Section 5. Arts Indicators

This section provides descriptive information for each arts indicator along with key analytic objectives. Each indicator will include roughly two to three pages of content. Content will include a key message box or highlight, a narrative description of the findings, and graphics supporting the findings. The NEA will receive supporting documentation with statistical tests for the findings, when appropriate. Each indicator will include appropriately documented tabular data supporting the findings. The tabular data will include the notes and source descriptions needed to properly reference the metric computations and sources, along with standard errors when relevant. See Appendix F for detailed statistical notes. The indicators will include cross-sectional analyses of the most recent data along with comparisons to relevant prior data points such as 2010 and 2019. In some cases, 2020 data do not appear because of the COVID-19 disruption in the labor force in general and its impact on federal surveys specifically. We selected 12 indicators for immediate development; these indicators have an asterisk (*). Development for all other indicators will be in 2024 or 2025. Some indicators can move into development as soon as the base year indicators are complete. Others require more conceptual development to identify the best data sources for the indicator. If additional development is necessary, the indicator description includes a notation to that effect.

Domain A. Artists and Other Cultural Workers

Five indicators in the artist and other cultural workers domain will roll out in 2024. Development of another three indicators within this domain will occur later in 2024 or 2025.

***Indicator A.1. Who are the artists?**[7]

Key measures: Number of artists, by occupation, demographic, and other individual characteristics
Data source: American Community Survey

This indicator highlights the number of artists, by occupation, demographic group, and other individual characteristics. It uses ACS data to show information for the major artist SOC codes broken out by the following demographic and other individual characteristics: sex, race and ethnicity, age group, disability status, marital status, educational attainment, and veteran status. These data on artists in the labor force are compared with the labor force overall. An explanation of how to define artists in the context of labor force surveys and what occupations are used to capture the profession appears in a textbox. Time series analyses describe trends in the characteristics of artists across time. Beyond the base year, there are opportunities to explore other individual characteristics, such as citizenship status, health insurance status, internet access, language spoken at home, or housing characteristics, given the ACS sample size. Geographic information on artists is in Indicator A.3.

***Indicator A.2. Who are the other cultural workers?**

Key measures: Number of other cultural workers, by occupation, demographics, and other individual characteristics
Data source: American Community Survey

This indicator highlights the number of other cultural workers by occupation, demographic group, and other individual characteristics. It mirrors and is the complement to Indicator A.1. It uses ACS data to show information for the major other cultural worker SOC codes broken out by the following demographic and other individual characteristics: sex, race and ethnicity, age group, disability status, marital status, educational attainment, and veteran status. The data on other cultural workers in the labor force are compared with artists in the labor force and the total labor force overall. An explanation of how to define other culture workers in the context of labor force surveys, what occupations are used to capture the profession, and the limitations of this analysis appear in a textbox. Time series analyses describe trends in the characteristics of other cultural workers across time. Beyond the base year, opportunities exist to explore other individual characteristics, such as citizenship status, health insurance status, internet access, language spoken at home, or housing characteristics, given the ACS sample size. Geographic information on other cultural workers will occur in future years under Indicator A.3.

***Indicator A.3. Where are artists and other cultural workers located in the United States?**

Key measures: Number of artists and other cultural workers, by occupation and local geography
Data source: American Community Survey

This indicator highlights the number of artists and other cultural workers, by occupation and geographic location. In the base year, the indicator explores the number and percentage of artists in the labor force by state and the top 10 most populous counties. In the future, the NASERC team will expand the analysis to capture the number and percentage of other cultural workers in the labor force by state and county. Artist and labor force locations are determined by the

[7] "Indicators with an asterisk are those published in early 2024. Other indicators will be published later in 2024 or 2025."

location of their residence, rather than the location of the business at which they work. The NASERC team aims to explore other concepts related to the geography of work in the future, such as work location and commuting. In addition, the indicator currently uses the one-year ACS for time series analysis. In the future, the team will explore tabulating county-level and congressional district–level data from five-year ACS to produce reliable information that communities can use to have a more local count. Even though details for many small counties would be missing, basic counts would be useful to local communities preparing grants or proposing new facilities or new programs.

Indicator A.4. What do artists and other cultural workers study in undergraduate education?

Key measures: Number of artists and other cultural workers, by occupation and major field of study in undergraduate education and occupations of individuals with arts and cultural degrees
Data source: American Community Survey

This indicator will explore what artists and other cultural workers study for their bachelor's degrees and what occupations bachelor's degree recipients in arts and cultural fields of study end up in. Because the collection of data on major fields of study occurs in the ACS only for bachelor's degrees (even if the individual has a higher degree), the indicator will focus on those with a bachelor's degree or higher. Information will be part of the indicator to note what proportion of this population has a bachelor's degree as their highest attainment level and what proportion have a higher degree (master's, professional, or doctoral degree). A textbox will note the fields of study included in the definition of arts and cultural fields of study. The indicator will highlight mobility between bachelor's degrees in arts and cultural fields of study and employment, as well as the intersection of an arts education with occupations outside the arts and those in arts occupations who studied outside the arts. Time series analysis will describe trends across time.

Indicator A.5. What is the labor market status of artists and other cultural workers?

Key measures: Employment status of artists and other cultural workers
Data source: Current Population Survey

This indicator will highlight employment and unemployment rates among artists and other cultural workers compared with the overall national labor force. It also will aim to explore information on multiple job holding, such as artists holding nonartist secondary jobs or nonartists holding artist secondary jobs and details on part-time employment (such as reasons for part-time employment) and seasonal/temporary employment. Time series analysis will describe trends across time. Sample size permitting, the indicator will include analysis by artist and other cultural worker occupations and selected demographic and individual characteristics. Either the CPS or ACS could be useful as the data source for this indicator because both allow for the computation of employment and unemployment rates. Using the ACS would allow for more detailed analysis with the survey's larger sample size; however, the NASERC team proposes using the CPS because it allows for trend analysis of monthly employment/unemployment data and includes data on multiple job holders and details on part-time employment and seasonal/temporary employment. Yet with its smaller sample size, using the CPS will make it necessary to report most employment statistics at the total (aggregate) level for artists and other cultural workers. The NASERC team will explore the feasibility of including some comparisons by detailed artist and other cultural worker occupations, but this may not be possible based on available sample sizes.

Indicator A.6. Who are the arts managers?

Key measures: Demographic and employment characteristics of arts managers
Data sources: Annual Business Survey; American Community Survey

This indicator will explore select demographic characteristics of managers in selected arts industries. Analysis will be based on information in NEA's July 2022 research brief: Arts Managers by Race, Ethnicity, and Gender: 2015-2019. The indicator will use the most recent five-year data from the ACS (2018–2022 data released January 2024). The definition of arts managers will be similar to that used in the July 2022 research brief—defined as managerial occupations that fall into arts-related industries within the following sectors: arts and entertainment, information, professional services, and retail trade. The NASERC team will offer NEA an opportunity to consider some suggestions for additional arts-related industries. A note on the definition of arts management, what is included, and limitations will be in a textbox. The indicator will not only analyze managers by the selected arts-related industries noted in the definition and by sex and race and ethnicity as done in the July 2022 research brief but also consider the analysis of additional NASERC demographic characteristics, such as age group and educational attainment.

***Indicator A.7. What are the earnings for artists and other cultural workers?**

Key measures: Earnings and household income of artists and other cultural workers, by occupation
Data sources: American Community Survey

This indicator highlights earnings of artists and other cultural workers, supplemented with analyses of their household income. Initial analysis in the base year uses ACS data on median annual earnings for full-time, year-round workers and part-time and/or part-year workers. Educational attainment is the selected demographic breakout. Analyzing individual artist earnings and their household incomes highlights that although earnings for artists in some employment categories are lower than in other occupations, artists tend to cluster in higher income households. The expectation is that the earnings of other cultural workers will mirror that of the overall labor force. In the future, the analysis for this indicator could expand to include a look at earnings by percentile (e.g., low/middle/high earners) as well as other demographic and individual characteristics, sample size permitting. Time series analysis will describe trends across time. Future analysis for this indicator, or a related topical report, could investigate earnings by occupation and employer type. Artists working in some employer types may have notably higher or lower wages than those in similar occupations working in other industries. Another future investigation could analyze models that control for educational attainment, age, employment intensity, artist occupation, and other factors.

***Indicator A.8. What are labor market outcomes for young artists and other cultural workers?**

Key measures: Employment, earnings, and household income for young artists and other cultural workers by occupation
Data sources: American Community Survey

This indicator highlights the labor force status and earnings information for young artists and other cultural workers, supplemented with an analysis of their household income. As with Indicator A.7, initial analysis in the base year uses ACS data on median annual earnings for full-

time, year-round workers and part-time and/or part-year workers. Although Indicator A.8 uses measures similar to Indicator A.7, it shows only information about young adults ages 18–29 employed in artist occupations and all occupations. This focused analysis aims to examine labor market outcomes of individuals who have recently left education and entered the labor force. The base year indicator focuses on only young artists; future editions of this indicator will explore employment and earnings of young adults in other cultural worker occupations.

Domain B. Arts Participation

The NASERC team envisions having at least five indicators in the arts participation domain. Indicators B.1, B.3, and B.4 will roll out in 2024, whereas Indicators B.2 and B.5 are still under development and will roll out later in 2024 or 2025.

***Indicator B.1. Who attends arts events in person?**

Key measures: Demographic characteristics of individuals attending arts events or venues in person
Data sources: Survey of Public Participation in the Arts; Arts Basic Survey

This indicator highlights demographic characteristics of arts participants attending or visiting events or venues in person. This includes activities such as attending live performing arts events (e.g., music, dance, and theater); visiting art museums, galleries, or places with historical or design value; attending craft fairs; and going to the movies. Activities involving the personal creation and performance of art are in Indicator B.3, which also uses data from the SPPA. Arts Basic Survey (ABS) data may be part of future iterations of this indicator depending on SPPA and ABS data availability and release schedules. Analyses will report on the following demographic characteristics when possible: sex, race and ethnicity, age group, disability status, and educational attainment. To the extent feasible, the team suggests using the standard demographic variable configurations to permit consistency across indicators. The NASERC team also will use arts participation categories already established by the NEA in other publications using SPPA or ABS data. With anticipated small sample sizes, there may be a need to develop new or modified aggregate groupings of some of the participation categories to enable more detail on demographic characteristics. Time series analysis will describe trends across time, as possible, based on a review of items from the most recent SPPA or ABS to prior instruments.

Indicator B.2. What does arts participation look like?

Key measures: Nature of arts participation, by frequency and intensity
Data sources: Survey of Public Participation in the Arts; Arts Basic Survey

Using data from the 2022 SPPA, this indicator will focus on general concepts established in Indicator B.1 but explores more detailed breakdowns by frequency (i.e., number of times) and location of in-person arts event attendance. In addition, the analysis will move beyond the scope of Indicator B.1, in-person events, to look at rates of arts participation in selected activities by electronic or digital media. Sample size permitting, we will provide breakdowns by selected demographic and individual characteristics. In addition, trend analysis to comparable measures in SPPA 2017 will be included, when possible.

***Indicator B.3. Who is personally creating or performing art?**

Key measures: Individuals personally creating or performing art, by demographic characteristics
Data sources: Survey of Public Participation in the Arts; Arts Basic Survey

This indicator explores the general population's pursuit of artistic hobbies and interests, highlighting the "personal creation or performance" dimension of arts participation to complement Indicator B.1. In the base year, it uses SPPA data to describe such activities as working with pottery or ceramics; doing weaving, doing crochet, or creating other textile arts; playing a musical instrument; performing or practicing any acting, singing, or dance; taking photographs as an artistic activity; and doing creative writing. ABS data may be useful in future iterations of this indicator depending on SPPA and ABS data availability and release schedules. Analysis will report on the following demographic characteristics when possible: sex, race and ethnicity, age group, disability status, and educational attainment. The NASERC team also will explore whether sample sizes allow for the reporting of details on other individual characteristics. Time series analysis will describe trends across time, as possible, based on a review of items from the most recent SPPA or ABS to prior instruments.

***Indicator B.4. How much time do Americans spend on arts activities?**

Key measures: Time participating in select arts activities, by demographic characteristics
Data source: American Time Use Survey

This indicator explores the percentage of people who are involved in arts activities outside their employment and the amount of time (participation in a typical day and number of minutes participating) they spend on these activities. The American Time Use Survey (ATUS) provides a unique perspective on time use because respondents provide minute-level information on activities performed on the designated survey day. Other surveys of arts participation are based on recollection responses, which can be imprecise based on survey methodology studies. Data from the ATUS provide a time series of participation and time spent solely on the following selected non-work-related arts activities: arts and crafts with children; listening to or playing music; arts and crafts as a hobby; reading or writing for personal interest; dancing; being an arts volunteer; and attending performing arts, museums, or movies or films. A key feature of this indicator is to show types of arts activities related to educational attainment and age group, though other demographic characteristics, including sex and race and ethnicity, also will be covered. One limitation of the ATUS is that survey respondents can choose only one activity during a given period (except when caring for others). Thus, time spent multitasking with arts activities is not available. Thus, if a respondent were listening to music while working, he or she would most likely mark "working" as the activity performed at that time. Similarly, if a person were listening to music while driving to work, the time would be classified as "travel to work" time, rather than "listening to music" or "working."

Indicator B.5. What does consumer spending in the arts look like?

Key measures: Household arts spending, by demographic characteristics
Data source: Consumer Expenditure survey

This indicator will look at consumer expenditures on arts-related activities. It will explore trends across time in household spending on arts-related activities, including the impact of the COVID-19 pandemic, and compare spending on arts-related activities to spending on other categories such as health care, food, and other entertainment. The Consumer Expenditure survey enables a comparison of how spending on arts activities relates to expenditures for basic household necessities and discretionary expenses. Arts-related spending categories include fees and admissions (e.g., plays, theater, opera, concerts, movies, parks, museums), reading (e.g., newspapers, magazines, books, digital book readers), and other arts-related items (e.g., musical instruments, photographic and audiovisual equipment, video game software and hardware, video and audio streaming). Some limitations to the data must be considered. Sometimes the grouping of spending categories makes comparisons difficult. For example, in the combined category for toys, games, arts and crafts, and tricycles, arts and crafts is the primary arts-related expenditure of interest.

Domain C. Arts and Cultural Assets

The NASERC Arts Indicators Framework will have four indicators within the arts and cultural assets domain. Two indicators will be ready for the 2024 rollout, whereas the other two are still under development. The NASERC team expects that the two remaining indicators will roll out later in 2024 or 2025.

***Indicator C.1. What do the arts contribute to the U.S. economy?**

Key measures: Value added to GDP (gross domestic product), by arts industry
Data source: Arts and Cultural Production Satellite Account

This indicator draws on concepts developed for the ACPSA to present trends across time in the total value and percentage of GDP for the arts and cultural sector. The indicator also presents trends in value added for arts and culture industries. It primarily summarizes ACPSA report data tables already published by the NEA. *The U.S. Arts Economy in 2021: A National Summary Brief* contains data in sufficient detail for analyses that would be appropriate for the indicator (NEA, 2023a).

***Indicator C.2. Which industries employ artists and other cultural workers?**

Key measures: Direct ACPSA employment, by arts industry
Data source: Arts and Cultural Production Satellite Account

This indicator presents major industries that employ artists and other cultural workers. Although a variety of data sources could be useful for this indicator, the NASERC team uses ACPSA data because it can provide a comparable employment data perspective to the economic value-added data in Indicator C.1. This will enable comparisons of employment and value added in the future, such as value added per artist employee and other measures. Similar to Indicator C.1, this indicator primarily summarizes ACPSA data tables already published by the NEA.

Indicator C.3. How many artists and other cultural workers are employed in arts organizations and businesses?

Key measures: Number of artists and other cultural workers employed in arts organizations and businesses, by sector

Data source: American Community Survey

This indicator will highlight raw numbers and percentage distributions of artists and other cultural workers across time, by industry and organizational sector (e.g., public, private, government, nonprofit). Most indicators in the arts and cultural assets domain will draw on industry or business establishment data to provide finance data regarding the arts industry. For example, Indicator C.2 uses the ACPSA to present data on major arts and cultural industries that employ artists and other cultural workers by looking at the overall number of workers engaged in producing arts and culture-related goods and services, arts and cultural workers as a percentage of total industry employment, and average compensation for arts and cultural workers. Although these data sources provide essential information for the indicator system, using the ACS for Indicator C.3 will capture information not included in industry and business establishment surveys, such as details on self-employed artists and full-time and part-time status to have a more complete understanding of working conditions across the economy. The indicator will cover the artist employment category by nature of business, which will highlight those artist professions that are most likely to be self-employed as well as those most likely to be associated with government agencies or for-profit or nonprofit businesses. It will contribute to the understanding of the proportions of artists captured in establishment-based surveys and how the percentages of artists in various business sectors have changed across time. A textbox will acknowledge the overlap with other NASERC indicators, such as Indicator C.2, and how the universe analyzed in Indicator C.3 differs from those indicators. Future breakdowns could include other employment characteristics such as commuting to work.

Indicator C.4. How many small businesses are involved in the arts?

Key measures: Number of small businesses in the arts, by demographic characteristics

Data sources: Nonemployer Statistics by Demographics series; Annual Business Survey

This indicator will provide information on small businesses owners in the arts. Potential demographic characteristics (e.g., sex, race and ethnicity, educational attainment) will be covered as possible. More conceptual development is necessary to identify the best data sources for this indicator. The Nonemployer Statistics by Demographics series specifically focuses on small businesses but has had no updates since 2019. The ABS collects information on business owners but does not provide information at the more detailed NAICS levels, so the information would represent a broad spectrum of arts, sports, and entertainment industries. Further investigation of available data sets may reveal other approaches, and potentially the proportion of small businesses in specific arts industries may itself be of interest, even if data on the demographics of the owners are not available. The NASERC team also will consider if approaches used in other NEA publications (such as a May 2020 blog post on monitoring freelancers and small businesses in the arts economy) may be adapted for this indicator.

Domain D. Arts and Education

At present, the NASERC team plans to publish two indicators in this domain in 2024.

*Indicator D.1. Who majors in the arts?
Key measures: Demographics of graduates in arts and cultural fields of study from postsecondary institutions **Data source**: Integrated Postsecondary Education Data System

This indicator shows the trends in the number of postsecondary degrees awarded in arts and cultural fields of study across time, by level of degree and the key demographic characteristics of graduates. Postsecondary degrees often are the preferred entrance qualifications for many arts careers. Thus, the number of postsecondary degrees awarded in arts and cultural fields of study reflect the professional interest of young adults in the arts and arts careers. The indicator provides the number and percentage of postsecondary degrees awarded in the visual and performing arts plus other arts-related fields of study, such as arts education, architecture, creative arts therapies, and creative writing. Trend data and breakdowns by select demographic variables and detailed fields of study falling under visual and performing arts and other arts-related fields of study also are included. NCES collects annual data from individual institutions of higher education on detailed degree fields, by sex, race and ethnicity, and level of degree in the IPEDS. In the future, the data could be aggregated at the state or local (e.g., county) level. With additional development, it also would be feasible to provide a breakdown for Historically Black Colleges and Universities, Tribal Colleges, and other Minority-Serving Institutions.

*Indicator D.2. Who teaches the arts in schools?
Key measures: Number and characteristics of elementary and secondary art teachers and postsecondary faculty **Data sources**: National Teacher and Principal Survey; National Survey of College Graduates

This indicator highlights the number of art teachers in public elementary and secondary education and arts faculty in postsecondary institutions. It uses National Teacher and Principal Survey data for public elementary and secondary school teachers and National Survey of College Graduates data for postsecondary faculty. NCES gathers information on the characteristics of public and private school teachers through the National Teacher and Principal Survey, which enables the identification of arts teachers across all education levels for both public and private schools. The indicator will include an analysis of these groups by sex and race and ethnicity. The National Survey of College Graduates identifies postsecondary instructional faculty in various fields, including the arts. It is useful to know about the number of faculty involved in arts instruction and their demographics compared with those of graduates in arts fields as well as artists more generally. There may have been limited recent efforts to analyze the arts faculty component of this sector. Although this analysis would be somewhat exploratory with the very small sample size, the NASERC team has calculated basic demographic characteristics on sex and race and ethnicity. The base year only included analysis of the most recent years of data; more extensive time series analysis is a consideration for the future.

Conclusions/Next Steps

The preceding sections describe the NASERC team's process for developing the Arts Indicators Framework. At present, the framework has 19 indicators, organized according to the domains of artists and other cultural workers, arts participation, arts and cultural assets, and arts and education. NASERC published its initial set of 12 indicators in 2024, and readers can expect annual reports on all 19 indicators beginning in 2024 and 2025. The team expects that the four domains will remain the same for the foreseeable future, but specific indicators may change during the identification of new data sources. The team may develop new indicators or domains to add to the present framework, based on data needs provided by the NEA, NASERC's TWG, or interviews with other arts experts. The team also will explore crosscutting topics and intersectional topics. The team expects to address the crosscutting topics in the annual indicator reports, whereas findings for intersectional topics will likely be in stand-alone reports published as they are completed.

The NASERC team will create other products, such as summaries of literature scans and topical reports. The topics of these products will be based on information needs expressed by members of the TWG, consultants, the NEA, or the public. The NEA may subsequently decide to post these products to their website.

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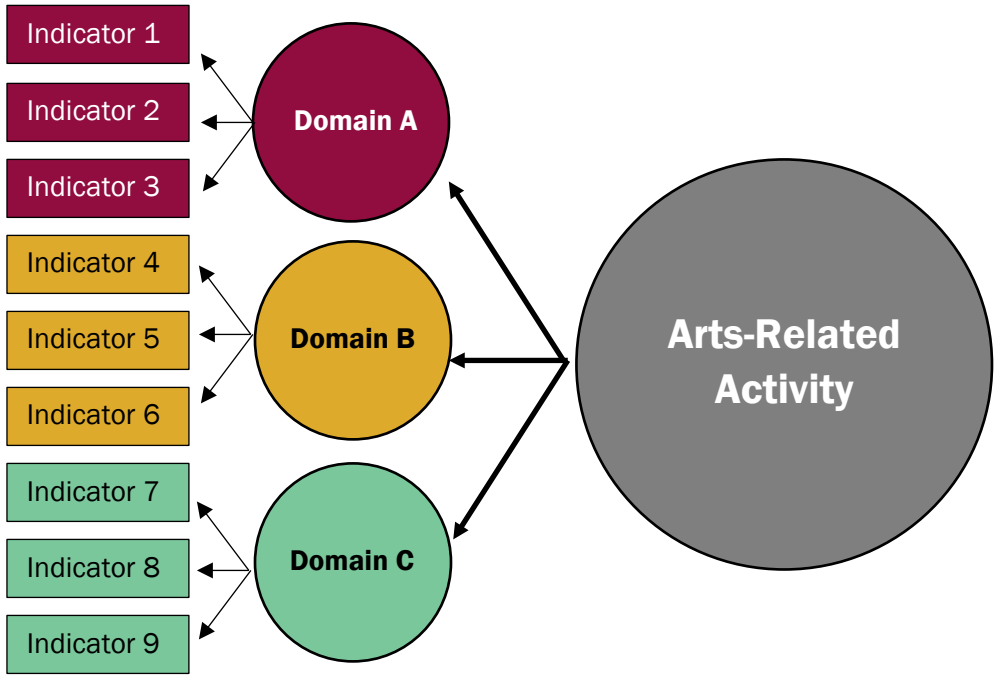
Appendix A. Literature Review

Purpose and Process Underlying the Literature Review

Part of the NASERC team's mission involves measuring "arts-related activity" and documenting the amount of this activity during a specific time period and across time. Not being able to directly measure arts-related activity through observation complicates the task. Arts-related activity is a multidimensional abstract construct—one inferred based on the presence, absence, or magnitude of several domains, each inferred from observable and interrelated variables. These directly observable variables are indicators of the domains that make up the underlying construct of arts-related activity (Exhibit A1).

Exhibit A1. Arts-Related Activity Is an Abstract, Multidimensional Construct, Inferred by Observable Variables



The main body of this report summarized the four domains that the NASERC team recommended tracking and reporting on in summer/fall 2023 (artists and other cultural workers, arts participation, arts and cultural assets, arts and education). This appendix describes the six-step process that the NASERC team followed to identify other arts indicator frameworks within the existing research literature and develop the NASERC indicator framework to incorporate those indicators and indicator domains that are well supported within the literature and meet the team's main criteria.

Process for Developing a Research-Based Arts Indicators Framework

The NASERC team followed a six-step process for this literature review. First, the team conducted a search for literature—articles in journals, magazines, and newspapers; books; reports; and websites—on arts indicators to better understand the various ways that policymakers and researchers conceptualize the arts and culture landscape. Second, the team screened the documents found during Step 1 to ensure their relevancy to the topic of arts and cultural indicators. Third, the team recorded the arts-related domains specified in the relevant documents and grouped them into nine categories. The nine categories became our initial list of domains for consideration in the NASERC Arts Indicators Framework.

The next two tasks involved reducing the number of indicator domains to a number that provides a coherent view of arts activity while also reflecting the breadth of ways that Americans can interact with art. The fourth task involved tallying the number of indicator frameworks described in the literature that included an indicator and removing from consideration two domains not frequently included in other frameworks. The fifth step involved grouping conceptually similar domains together. The sixth step involved examining the pool of indicators to determine their availability, validity and reliability, and alignment with the remaining domains.

Step 1. Searching for Ancestors and Descendants

The literature search strategy involved branching backward and forward from publications that the NASERC team already knew were relevant to the topic of the arts. The already known works (i.e., foundational works) most likely built on previous publications that the authors cited. The team referred to those cited works as "ancestors" because they came before the foundational publication and contained some of the same concepts (much like parents and grandparents pass down genes to a particular individual).[8]

The NASERC team also branched forward from the foundational publications. They used Google Scholar to find documents that cited the foundational publication. This forward-branching approach is the "descendant" approach because the newer documents carried concepts forward beyond the foundational work (much like children have genes from their parents). Google Scholar provided references to works that cited the foundational work.

Literature reviewers can look for multiple generations of ancestors by checking references in parent publications, grandparent publications, and so on. Similarly, reviewers can look for multiple generations of descendant publications. Given that the goal of the search was to uncover a variety of conceptual frameworks of the arts (i.e., arts domains and indicators) rather than uncover all existing conceptual frameworks, the team decided to limit the search for descendant and ancestor publications to one generation. That is, the team looked up the work in the reference lists of the foundational publications, and they looked up the subsequently published documents that cited the foundational publications.

[8] The NASERC team initially followed a more comprehensive approach to uncovering relevant documents using types of searches frequently used in systematic evidence reviews (e.g., database search using keywords, search of organizations' websites). However, those initial efforts generated lists of documents numbering more than 25,000, most of which were not relevant to the topic. Rather than screening the abstracts and full-text versions of these documents—a task that would exceed the project resources—the NASERC team and the NEA decided to take the approach summarized here.

Foundational Publications. The following references to foundational publications came from NEA staff:

- CultureWatchEurope. (2012). *Cultural access and participation: From indicators to policies for democracy*. https://rm.coe.int/09000016806a34cd
- Hong, B. (2014). National cultural indicators in New Zealand. *Cultural Trends*, *23*(2), 93–108. https://doi.org/10.1080/09548963.2014.897450
- Inter-university Consortium for Political and Social Research. (2019) *National archive of data on arts and culture*. https://www.icpsr.umich.edu/web/pages/NADAC/index.html
- Iyengar, S. (2013). Artists by the numbers: Moving from descriptive statistics to impact analyses. *Work & Occupations*, *40*(4), 496–505. https://doi.org/10.1177/0730888413505097
- Jackson, M. R., Kabwasa-Green, F., & Herranz, J. (2006). *Cultural vitality in communities: Interpretation and indicators.* Urban Institute. https://www.urban.org/sites/default/files/publication/50676/311392-Cultural-Vitality-in-Communities-Interpretation-and-Indicators.PDF
- KEA European Affairs. (2015). *Feasibility study on data collection and analysis in the cultural and creative sectors of the EU.* European Commission. https://ec.europa.eu/assets/eac/culture/library/studies/ccs-feasibility-study_en.pdf
- Kushner, R. J., & Cohen, R. (2016). *National arts index 2016. An annual measure of the vitality of arts and culture in the United States: 2002–2013*. Americans for the Arts.
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- National Endowment for the Arts. (2019). *Artists and other cultural workers: A statistical portrait.* https://www.arts.gov/impact/research/publications/artists-and-other-cultural-workers-statistical-portrait
- National Endowment for the Arts. (2023). *State-level estimates of the arts' economic value and employment 2001–2021* (Arts Data Profile #33). https://www.arts.gov/impact/research/arts-data-profile-series/adp-33
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- VanderBrug, J. (2020). The ESSA arts indicator in Illinois: A study in the art of policymaking. *State Education Standard*, *20*(1), 21–25. https://files.eric.ed.gov/fulltext/EJ1241594.pdf
- Villarroya, A. (2018). *Barometer: Culture indicators*. The Social Observatory. https://elobservatoriosocial.fundacionlacaixa.org/en/indicadors-cultural

Ancestors of the Foundational Publications. The ancestor search involved recording the references to all 14 foundational publications and removing the duplicates. This process resulted in the identification of 244 distinct works.

Descendants of the Foundation Publications. We identified descendant publications by entering the references from all 14 foundational publications into Google Scholar. The search engine provides a link to the foundational work and a separate link labeled "Cited by X," where X is the number of publications referring to the foundational work. Clicking on the "Cited by" link allows the user to view all the descendant publications. The descendant search identified 193 unduplicated works.

Step 2. Screening Identified Works for Relevance

The literature reviewers combined the lists of ancestors, descendants, and foundational works and then removed references that appeared in more than one list (i.e., duplicates) and references that described additional applications of the same indicator framework. For example, between 2009 and 2017, Kushner and Cohen (2016) used the same framework of 80 indicators[9] to calculate the National Arts Index, a single statistic intended to summarize the health of the arts. Rather than keep all nine Kushner and Cohen reports (and the two attributed to Americans for the Arts), the team kept just one of these reports and removed the other 10 from the list.

The remaining list included 414 references. The team then attempted to screen the references based on their titles, abstracts, and full texts, but they could not fully screen 57 references because the hyperlinks to the documents were no longer active or the full text was not obtainable. Another 294 references were screened out because they did not relate to the topic of arts indicators or were not in English.[10]

The team reviewed the contents of the 58 documents that remained and extracted information regarding the indicator framework structure (e.g., art domains and indicators reflecting the specific domains). The results appear in the following sections.

The literature review uncovered indicator systems developed for the United States, countries in the European Union, Australia, and New Zealand.[11] Most documents summarized the indicators to provide a snapshot of arts activity for a country, region, state, and city. Other documents did not use indicators to describe the arts landscape, instead comparing the dimensions that underlie the indicator frameworks. For example, one literature review of arts and cultural indicator frameworks attempted to classify the domains of arts activity (Ortega-Villa & Ley-Garcia, 2018). The team decided to keep these other literature reviews in the pool of relevant works because they offered conceptualizations against which to compare the NASERC framework.

[9] The actual number of indicators examined from year to year varied based on availability.
[10] Most documents that assess arts-related activity also include cultural indicators. Documents with only cultural indicators were categorized as not relevant and not included in the catalog of arts indicators. Documents that described a framework including both cultural and arts indicators remained in the pool of relevant documents.
[11] CultureWatchEurope (2012) also contains sample survey questions from arts-focused surveys administered by government agencies in other countries. The NASERC team attempted to obtain the original arts-focused surveys or technical manuals about those surveys to verify the presence of the survey questions. In most cases, the team could not obtain the survey, or the cited work was in a language other than English. Accordingly, the team decided to exclude indicators from national surveys administered outside English-speaking countries and the European Union.

Step 3. Describing the Dimensions/Domains of Arts-Related Activity

As noted at the beginning of this appendix, arts activity is an abstract construct not directly measurable but commonly inferred based on interrelated variables or indicators. The initial analysis focused on describing the structure of the indicator frameworks.

Indicator Frameworks and Their Structures. The team organized the indicator frameworks by their intended geographic setting (e.g., city, county, region, state, country). In doing so, the team saw substantial variation in arranging the indicators into dimensions of arts activity (Exhibit A2).

Some frameworks have few indicators. The Center for an Urban Future developed a framework with just two indicators, which measure a unitary construct. That framework documents the number of nonprofit and for-profit organizations that constitute the creative core industries in a city (e.g., advertising, film/video, broadcasting, music, visual arts) as one indicator and the number of individuals employed by those organizations or freelancing as the other indicator (Center for an Urban Future & Mount Auburn Associates, 2005). Likewise, the indicator model used by Ernst and Young (2014) focuses on just two indicators of arts activity in European Union countries: turnover (i.e., revenue generated by art organizations) and employment (i.e., the numbers of individuals employed by arts-focused enterprises). The simplicity of the latter model may relate to their client's purpose: to predict economic growth in terms of future revenue and job creation, rather than a description of all arts-related activity in the European Union.

In contrast, two indicator frameworks have not only a lot of indicators but also dimensional structures that are more complex than the others. The two indicator frameworks also appear to be nearly identical (see Exhibit A3). The organization of the frameworks includes three dimensions and nine subdimensions. The Creative Cities framework has 25 indicators (Rodrigues & Franco, 2019), and the Cultural and Creative Cities Monitor has 29 indicators (Montalto et al., 2019). Both frameworks derived their dimensions and subdimensions empirically by examining the statistical associations between groupings of indicators and dimensions and determining which pattern best fit the data gathered from various cities.[12,13]

Breadth and Depth of Indicator Frameworks. Those developing an indicator framework of arts activity face a trade-off. If the framework has many indicators or indicator domains, policymakers and program administrators will get a more comprehensive view of the various dimensions of arts activity in their geographic area. Yet the better view comes with a price: The development, analysis, and continuous updates of the indicators can drain a research team's resources. Moreover, policymakers and administrators may be overwhelmed if there are too many indicators or if the indicators show conflicting trends.

[12] Specifically, both research groups used factor analysis to create the multidimensional framework.
[13] The NASERC team cannot positively determine whether the creation of the two frameworks occurred in collaboration or independently at the same time. Neither main study cites the other, and Rodrigues and Franco's subsequently published paper mentioned the Cultural and Creative Cities Monitor but attributed the work to the European Union.

Exhibit A2. Arts Indicator Frameworks Vary by Complexity and Breadth

Target setting	Indicator model	Number of dimensions	Number of indicators	Source
City	ArtPlace America Vibrancy Indicators	2	10	Stern (2014)
City	Boston Indicators	7	14	Boston Indicators (2015)
City	Center for an Urban Future	—	2	Center for an Urban Future and Mount Auburn Associates (2005)
City	Creative Cities	3 dimensions, 8 subdimensions	25	Rodrigues and Franco (2014)
City	Cultural and Creative Cities Monitor	3 dimensions, 9 subdimensions	29	Montalto et al. (2019)
City	Factor-Based Model	3	17	Sung et al. (2020)
City	Indicators of Creative Placemaking	4	23	Morley et al. (2014)
City	NCAR Arts Vibrancy Index	3	12	Voss et al. (2014)
City	WESTAF Creative Vitality Suite [a]	—	4	https://cvsuite.org
County	Urban Institute's Arts and Livability Framework [b]	4/1	23/5	Morley et al. (2014)
State	Kentucky [c]	4	25	Donnan et al. (2014)
State	Mississippi	—	7	Mississippi Arts Commission (2022)
National	Australia	3	16	Australian Bureau of Statistics (2014)
National	Barometer/Eurometer	—	12	Villarroya et al. (2018)
National	Cultural Asset Index	1	4	Stern and Seifert (2017)
National	Cultural Engagement Measure	1	4	Stern and Seifert (2007)
National	Ernst and Young	—	2	Ernst and Young
National	EuroStat	3	18	https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Culture_statistics
National	KEA Works	4	12	KEA European Affairs (2006)
National	National Arts Index	4	80	Kushner and Cohen (2014)
National	New Zealand	5	19	New Zealand Ministry for Culture and Heritage (2009)
National	UNESCO [d]	4	22	UNESCO (2019)
National	Urban Institute's ACIP	4	Varies [e]	Jackson and Herranz, 2002; Jackson et al. (2006)

Note. ACIP = Urban Institute's Arts and Culture Indicators Project; EuroStat = European Union Statistical Agency; NCAR = National Center for Arts Research; UNESCO = United Nations Educational, Scientific, and Cultural Organization; WESTAF = Western States Arts Federation. Although the National Endowment for the Arts (NEA) produces documents showing trends for multiple indicators, the agency has not adopted a single multidomain framework. NEA domains and indicators appear in later exhibits. Data sourced from authors' review of documents identified through ancestry and descendent searches.

[a] The Creative Vitality Index/Suite is a proprietary product. Little information is available on its development. [b] The Arts and Livability indicator framework has four dimensions, and only one dimension is relevant to this project. [c] A contractor conducted Kentucky's study of arts activity. In the methods section of the report, the contractor states that the data come from Economic Modeling Specialists International (EMSI), the "standard source for economic and workforce data." Thus, one cannot be sure of the information sources that EMSI drew on to study economic and workforce trends. [d] The UNESCO indicator model is customizable for use at the national level or the city level. Some indicators are setting specific, meaning that they are useful only when examining arts/culture activity in national or urban settings. [e] The Urban Institute's ACIP can be used nationwide, yet its aim is to provide a snapshot of arts and cultural activity at the city or neighborhood level. The number of indicators varies by city.

Exhibit A3. Nearly Identical Creative Cities and Cultural and Creative Cities Monitor Frameworks

Indicator framework	Dimensions	Subdimensions (number of indicators)
Creative Cities	1. Culture	1.a. Places of culture and facilities (6)
		1.b. Cultural participation and attractiveness (6)
	2. Creative economy	2.a. Creative industries (3)
		2.b. Research and development
		2.c. Intellectual property and innovation (1)
	3. Favorable environment	3.a. Human capital and education (2)
		3.b. Openness and diversity (1)
		3.c. Local and international connections (2)
		3.d. Governance (1)
Cultural and Creative Cities Monitor	Cultural vibrancy	1.a. Cultural venues and facilities (5)
		1.b. Cultural participation and attractiveness (4)
	Creative economy	2.a. Creative and knowledge-based jobs (3)
		2.b. Intellectual property and innovation (2)
		2.c. New jobs in creative sectors (3)
	Enabling environment	3.a. Human capital and education (3)
		3.b. Openness, tolerance, and trust (5)
		3.c. Local and international connections (3)
		3.d. Quality of governance (1)

The National Arts Index (e.g., Kushner & Cohen, 2014), with its 80 indicators, may provide a case in point. The indicators cover just four dimensions of arts activity in the United States and allow aggregation into a single statistic that reflects overall vitality of the arts. However, the indicators come from a combination of sources, with some updated quarterly, others annually, and still others every couple of years. The annual collection of that indicator information, analysis, visual presentation, and summary of the index information probably required a great deal of resources.

When reading annual reports for the National Arts Index, policymakers and arts administrators found the sheer number of indicators and their often contradictory findings overwhelming. Some indicator frameworks can present a complicated story if the reader does not know which indicators are critical and which are not.

The NASERC team sought to contain the costs of indicator development and maintenance while still presenting a coherent picture of arts activity to decision makers. They made strategic choices regarding the domains that best capture the different facets of arts activity and indicators that closely aligned with those domains.

Some choices on the makeup of the NASERC arts indicators framework come from previously published frameworks (see Exhibit A4). The team listed all the domains in those frameworks and attempted to classify them into cohesive groups. The following categories emerged:

- **Arts-related places and infrastructure**: arts-related venues in the locality, including cinemas, art museums, performance halls, and open public spaces (e.g., for festivals)
- **Artists**: employment patterns (counts of artists, percentages of the workforce who are artists) and artists' earnings
- **Things produced**: art types, the numbers of products created, copyright/protection of intellectual ownership, and quality of items produced
- **Consumption and participation**: arts engagement, household expenditures on art, attendance at art functions, and tourism to arts-focused places
- **Education**: art instruction in K–12 schools, art majors in college, and art teachers
- **Enterprises**: nonprofit and for-profit organizations focused on the arts or culture
- **Supporting industries and agencies:** nonarts enterprises and agencies that are instrumental to artistic creation, including art suppliers, distributors, gallery owners, auctioneers, public funding agencies, and individuals employed by those enterprises
- **Economic inputs, outputs, and growth**: costs of producing art, revenue, economic value added, and arts-related exports
- **Diversity/stimulating environment**: interaction among individuals of different backgrounds, diversity, presence of a university or college, and the percentage of the population younger than 30 years old

The NASERC framework is one of several attempts to categorize dimensions across indicator frameworks. For example, Ortega-Villa and Ley-Garcia (2018) also attempted to categorize dimensions, and as with the NASERC framework, their framework includes a category for infrastructure and equipment, art production, art consumption, and arts-related economic factors. However, their consolidated framework also includes culture-related categories ("culture and human rights," "culture and human development") as well as a "whole cycle" category ("the whole cycle of production-circulation-consumption"), a category for "no dimensions," and a category focused on information and communication technologies. The NASERC team purposely avoided including purely cultural elements in the NASERC framework because of the imperfect association between arts and culture. For example, some frameworks have substantial numbers of indicators focused on historic sites as representing culture. Although such sites are important to understanding one's past, their connection with art is a matter of debate.

The NASERC framework has a conceptual basis, whereas some other frameworks have an empirical basis. Specifically, the Creative Cities framework (Rodrigues & Franco, 2019), the Cultural and Creative Cities Monitor framework (Montalto et al., 2019), and Sung and colleagues' (2020) three-factor framework were all derived by statistically analyzing the factors

that underlie a large number of indicators. The factors are conceptually similar to art domains or dimensions (see Exhibit A3). The NASERC team also considered taking the factor-analytic empirical approach to identifying key domains had they possessed the indicator data already and the resources to perform that analysis. Another issue that makes a factor analysis difficult is the complex statistical relationships between SES, arts production (i.e., being an artist), and arts consumption/participation. The empirical process of identifying dimensions (factor analysis) can produce different sets of dimensions based on the SES of the communities being examined.

The team's next step was tallying the number of arts indicator frameworks that included domains of arts activity that align with the nine categories above. The results of this alignment task are in Exhibit A4.

Exhibit A4. Domains of Arts- and Culture-Related Frameworks and the Degree to Which They Include NASERC's Emergent Domains

Framework and domain	Places, infrastructure	Artists	Things produced	Consumption/ participation	Education	Enterprises	Supporting industries	Economic inputs, outputs, and growth	Diverse, stimulating environment
Arts and Culture Indicators in Community Building Project ACIP (Jackson & Herranz, 2002)									
Presence: establishments	X					X			
Participation				X					
Impact		X				X	X	X	
System of support							X		X
Australia (Australian Bureau of Statistics, 2014)									
Cultural employment		X							
Household expenditure on cultural goods and services				X				X	
Visitor expenditure on cultural goods and services				X					
Government support for culture							X		
Private sector support for culture							X		
Voluntary work and culture		X							
Economic contribution of cultural industries								X	
Cultural assets	X								
Talent (human capital)		X							
Cultural identity			X						
Innovation (new work/companies)		X					X	X	
Global reach								X	
Cultural attendance				X					
Cultural participation				X					

Framework and domain	Places, infrastructure	Artists	Things produced	Consumption/ participation	Education	Enterprises	Supporting industries	Economic inputs, outputs, and growth	Diverse, stimulating environment
Access				X					
Education in arts and culture					X				
Boston Indicators (Boston Indicators, 2015)									
Competitive edge in cultural life and the arts	X					X		X	
Exciting regional destination	X								
Equitable access to cultural participation				X					
Impact of arts organizations on community life						X			
Vibrant expressions of cultural diversity		X		X					X
Opportunities for arts education					X				
Public support for the arts							X	X	
Creative Cities (Rodrigues & Franco, 2019)									
Art and cultural establishments/venues	X								
Cultural participation and attractiveness				X					
Creative economy								X	
Research and development					X				
Intellectual property and innovation		X							
Human capital and education		X			X				
Openness and diversity									X
Local and international connections	X	X		X		X			
Governance						X	X		
Cultural and Creative Cities Monitor (Montalto et al., 2019)									
Cultural venues and facilities	X								
Cultural participation and attractiveness				X					
Creative and knowledge-based jobs		X							
Intellectual property and innovation							X		
New jobs in creative sectors		X							
Human capital and education					X				

Framework and domain	Places, infrastructure	Artists	Things produced	Consumption/ participation	Education	Enterprises	Supporting industries	Economic inputs, outputs, and growth	Diverse, stimulating environment
Openness, tolerance, and trust									X
Local and international connections	X	X		X		X			
Quality of governance							X		
Ernst and Young (Ernst & Young, 2014)									
Revenue								X	
Jobs		X							
EuroStat (Deroin, 2011)									
Culture-related education					X				
Cultural employment		X							
Cultural enterprises						X			
International trade in cultural goods								X	
Cultural engagement				X					
Use of internet, communications, technology	X								
Household expenditure on culture				X					
Price index of cultural goods/services								X	
Public expenditure on culture								X	
Factor-Based Framework (Sung et al., 2020)									
Arts business							X	X	
Arts consumption				X					
Arts organizations						X			
Indicators of Creative Placemaking (Morley et al., 2014)									
Resident attachment to community	X	X							
Quality of life	X								X
Arts and cultural activity		X					X	X	
Economic conditions	X								
KEA works (mostly focused on output; KEA European Affairs, 2006)									
Core arts fields		X							
Cultural industries		X							
Creative industries		X							
Related industry		X							

Framework and domain	Places, infrastructure	Artists	Things produced	Consumption/ participation	Education	Enterprises	Supporting industries	Economic inputs, outputs, and growth	Diverse, stimulating environment
Mississippi (Mississippi Arts Commission, 2022)									
Artist counts (roster)		X							
Annual report: economic impact								X	
Numbers of grants		X				X		X	
National Arts Index (Kushner & Cohen, 2014)									
Financial								X	
Capacity	X	X							
Arts participation				X					
Competitiveness	X	X		X	X	X	X		
NCAR Arts Vibrancy (Voss et al., 2014)									
Supply (arts providers), artists, culture workers	X								
Arts dollars (arts demand), arts organization balance sheets				X					
Government support		X							
New England (New England Foundation for the Arts, 2009, 2017)									
Creative industry sectors						X	X		
Creative establishments	X								
Creative industry groups							X		
Creative workforce		X							
Cultural nonprofits by state						X			
Cultural revenue/expense							X		
New York Framework (Stern & Seifert, 2017)									
Nonprofit cultural inventory						X			
For-profit cultural firms						X	X		
Resident artists		X							
Cultural Participation			X						
New Zealand (New Zealand Ministry for Culture and Heritage, 2009)									
Engagement	X	X		X					
Cultural identity									X
Diversity							X		X
Social cohesion									
Economic development								X	

Framework and domain	Places, infrastructure	Artists	Things produced	Consumption/ participation	Education	Enterprises	Supporting industries	Economic inputs, outputs, and growth	Diverse, stimulating environment
UNESCO (UNESCO, 2019)									
Environment and resilience	X						X		
Prosperity and livelihoods		X		X			X	X	
Knowledge and skills					X				
Inclusion and participation			X	X					
Number of arts frameworks including each domain (out of 17)	**12**	**17**	**3**	**13**	**8**	**10**	**12**	**13**	**7**

Note. Information based on authors' classification of dimensions from arts and cultural indicator frameworks.

Step 4. Using the Results of the Alignment Task to Reduce the Number of Domains

The categories listed as column headers in Exhibit A4 are well represented in the literature, with two exceptions: things produced and diverse, stimulating environment. Only three of the 17 indicator frameworks presented in Exhibit A4 include a domain related to the things that artists produce, and only seven of the 17 frameworks include a domain about a diverse, stimulating environment. The team reduced the count of domains from nine to seven by dropping the things produced domain and by making diversity a crosscutting factor. The NASERC team may revisit these two indicators in the future, if interest arises among TWG members and the NEA. The result of Step 4 is a reduction in the number of potential domains from nine to the following seven:

- Artists
- Places/infrastructure
- Enterprises
- Supporting industries and agencies
- Consumption/participation
- Economic inputs, outputs, and growth
- Education

To better understand the central concept represented by each domain, the NASERC team performed an indicator-level alignment task. Specifically, they pooled the indicators from the documents identified in the literature review and sorted them according to the domain to which they most closely aligned conceptually. The indicators and their sources are listed by domain category in Exhibit A5.

Exhibit A5. Alignment of Indicators to the Remaining Seven Domains

Domain and literature source	Indicators
Artists	
Australian Bureau of Statistics (2014)	1.1 Cultural employment. In census of population and housing, the numbers of Australians holding 1 of 14 culture-related occupations*
Villarroya (2018)	Eurostat: Government expenditures on culture as percentage of gross domestic product and public spending*
	Survey of artists and cultural workers in Spain (2022): experience irregularity in work, experience financial difficulties during pandemic, considered abandoning creative activity, considered seeking work abroad
Boston Indicators (2015)	Total arts-related employment by county
Donnan et al. (2014)	Standard industry analysis of federal employment data. Estimated number of artists*
	Survey of creative freelancers in Kentucky, distributed via key arts organizations
Ernst and Young (2014): revenue and jobs in creative and cultural industries in the European Union (EU)	Numbers of jobs (not full-time equivalent) in each creative cultural industry, based on information from industry associations and national statistical offices. Numbers "confirmed" through interviews with representatives of different organizations in the 11 Cultural and Creative Industrial sectors. "Scaled up data from main markets also used world data (global market value) and market share scaling-down factor."*
EuroStat (2011): cultural participation and private cultural activity	Amateur artistic activities EU statistics on income and living conditions; adult education survey, community survey on information and technologies in households
	Employment in certain cultural occupations (88 2ISCO codes)+
	Number of workers (employees and self-employed) in cultural field+
Jackson and Herranz (2002)	Contributions/donations to arts organizations
	Volunteers at arts organizations
KEA European Affairs (2006)	Employment: country-specific methods in the EU (a uniform process of coding occupations was implemented in 2007)
Kushner and Cohen (2014): National Arts Index capacity component	Artists in the workforce, based on Census Bureau's Current Population Survey (same as NEA's analysis)*
	Workers in arts and culture occupations, based on Bureau of Labor Statistics' Standard Occupational Codes associated with 46 occupations*
	Employees in arts and culture industries, based on Census Bureau's County Business Patterns NAICS codes—employees in companies in arts industries*
	"Creative industries" employment, based on data from Dun and Bradstreet 643 eight-digit Standard Industrial Classification codes (similar to NAICS).
	New work in theater, orchestra, opera, Broadway, and film, based on national service organizations: Theatre Communications Group, League of American Orchestras, Opera America, Broadway League, Motion Picture Association of America
	Arts union membership based on data from U.S. Department of Labor's Office of Labor Management Standards for 10 largest arts-related unions

Domain and literature source	Indicators
	Independent artists, writers, and performers, based on numbers in NAICS 7115 (independent artists, writers, and performers)*
	Artistic assets in the national income accounts
Kushner and Cohen (2014): National Arts Index financial flow component	Songwriter and composer performing rights royalties, data from the American Society of Composers, Authors, and Publishers and Broadcast Music Inc.
	Wages in artistic occupations, data from Bureau of Labor Statistics' Occupational Employment Statistics and NEA*
	Payroll in arts and culture industries, Census Bureau's County Business Patterns*
Kushner and Cohen (2014): National Arts Index arts participation component	Copyright applications, based on data from the Library of Congress's Copyright Office*
	Volunteering for arts organizations, based on data from the Census Bureau's Current Population Survey*
Kushner and Cohen (2014): National Arts Index arts competitiveness component	Arts-related work while volunteering, based on data from the Census Bureau's Current Population Survey*
	Arts and culture share of private giving, based on Giving USA data
	Share of metropolitan households contributing to arts and culture, based on Scarborough Research studies
	Share of employees in arts and culture industries*
Montalto et al. (2019): Creative Economy Index: creative and knowledge-based jobs dimension	Jobs in arts, culture, and entertainment
	Jobs in media and communication
	Jobs in other creative sectors
	Jobs in new arts, culture, and entertainment enterprises (specific data not identified)
Morley et al. (2014)	Median earnings of resident employed in the arts and entertainment establishments
	Proportion of employees working in arts- and entertainment-related establishments
Music Industry Research Association (2018)	Professional organization survey of its members about amount of work and income
National Endowment for the Arts (2008)	American Community Survey (ACS) artist occupation codes*
National Endowment for the Arts (2011a): projections	Employment statistics from Bureau of Labor Statistics' Occupational Outlook Handbook*
National Endowment for the Arts (2011b): artists and arts workers	ACS artist occupation codes*
	County Business Patterns—individuals employed by arts organizations and arts-related businesses*
National Endowment for the Arts (2013): equal opportunity	Occupation Employment Statices (OES)*
	O*Net: Department of Labor database of worker attributes and job characteristics*
National Endowment for the Arts (2018): arts data profile	ACS and Current Population Survey (CPS) trends in self-employed workers, demographics, incomes and earnings*

Domain and literature source	Indicators
National Endowment for the Arts (2019a)	Trends in employment among arts and other cultural workers according to six federal data sets (mostly ACS and CPS)*
National Endowment for the Arts (2023b): state-level estimates of arts' economic value and employment	ACS/CPS: numbers of workers in each state who are employed through the arts industry, as either an artist or an other cultural worker*
New Zealand Ministry for Culture and Heritage (2009): Theme 1: Engagement discussion	1a: cultural employment data from New Zealand Census of Population and Buildings: number of people in cultural employment as a percentage of total employment+
New Zealand Ministry for Culture and Heritage (2009): Theme 5: Economic development	1b: employment in creative occupations data from New Zealand Census of Population and Buildings: number of people employed in creative occupations as a percentage of total employment; count of "creators" or "artists"+
	1c: Median incomes from creative occupations data from New Zealand Census of Population and Buildings: median income received by people in creative occupations as a percentage of the median income of all employed people+
	5a: income of the cultural industries, Statistics New Zealand: Annual Enterprise Survey, value of sales of goods/services and other income of cultural industries in constant prices+
Rodrigues and Franco (2019): Creative Vitality Index/Suite	Number of jobs in creative occupations (data source not specified)
	Number of people employed in creative and cultural companies, divided by the total of people employed in all economic activities and multiplied by 100
	Employed population with average/high qualifications (secondary, postsecondary, and higher education)
Stern and Seifert (2017): New York City neighborhoods	Artist registries maintained by arts organizations
	Census data: Public Use Microdata Areas*
Stern and Seifert (2007): natural cultural districts	Artists listed in database of Pew Fellowships
UNESCO (2009a)	Cultural employment using statistical classifications of occupation, percentage compared to all workers+
	Proportion of employees working in arts- and entertainment-related establishments+
	Cultural employment using statistical classifications of occupation, percentage compared to all workers+
Voss et al. (2014): Arts Vibrancy Index arts providers	Independent artists per County and Zip code Business Pattern collected by Census Bureau*
	Arts and culture employees
	Arts, culture, and entertainment employees
Women's Bureau (2015)	Women's earnings and the wage gap*
Woronkowicz and Noonan (2017)	Current Population Survey data on transitions between paid employment and self-employment*

Domain and literature source	Indicators
Places/infrastructure	
Australian Bureau of Statistics (2014)	Number of cultural infrastructures related to museums and galleries+
	Number of library holdings, heritage items in archives
	Heritage listings and sites
Barometer (2018)	Satisfaction with cultural facilities in European cities
Kushner and Cohen (2014): National Arts Index capacity component	CD and record stores
	Movie screens
	Establishments in arts and culture industries
	Creative industry establishments
Kushner and Cohen (2014): National Arts Index financial flow component	Capital investment in arts and culture industries, based on NAICS codes and County Business Patterns data*
	Capital investment in nonprofit arts organizations based on NAICS codes and County Business Patterns data*
Kushner and Cohen (2014): National Arts Index competitiveness component	Share of establishments in arts and cultural industries, based on NAICS codes and County Business Patterns data*
Montalto et al. (2019): cultural venues and facilities	Sights and landmarks (no data source provided)
	Museums (no data source provided)
	Cinema seats (no details on data sources)
	Concerts and show (no details on data sources)
	Theaters (no details on data sources)
Morley et al. (2014)	County/Zip code Business Patterns data on arts- and entertainment-related establishments per 1,000 population*
New Zealand Ministry for Culture and Heritage (2009): engagement discussion	1g: heritage protection indicator per the Heritage Protection indicator report—proportion of sites on the New Zealand Historic Places Trust registry that have been destroyed, relocated, or partly removed
Rodrigues and Franco (2019)	Art galleries: buildings
	Number of museums open to the public
	Capacity
	Places
	Capacity of cultural locations
	Theaters
	Number of hotel establishments
	Number of rooms in hotel establishments
	Restaurants
	Total cultural premises (local authority)
	Airports
	Passenger arrivals by airport
	Transport and storage companies
	Concluded building redevelopment (urban regeneration)

Domain and literature source	Indicators
	Licensed building redevelopment (urban regeneration)
	Annual population variation (global attractiveness for new residents)
UNESCO (2019): environment and resilience	Numbers of libraries, museums, galleries, performance venues, cinemas, traditional cultural spaces, creative hubs, educational institutions, and cultural internet sites
Consumption and Participation	
Australian Bureau of Statistics (2014)	1.2.1 Average weekly household expenditure on cultural goods services at current prices+
	1.2.2 Proportion of household expenditure on cultural goods/services at current prices+
	1.3.1 Visitor expenditure on cultural goods and services (national visitor survey of departing visitors): number of international visitors to cultural and heritage sites
	1.3.2 Expenditures by international cultural and heritage site visitors, per person
	1.3.4 Expenditure by international indigenous tourism visitors and no-indigenous tourism visitors
	1.3.5 Domestic overnight visitors who participated in indigenous activities
	3.1.1 Cultural attendance: attendance and nonattendance at selected cultural venues and events+
	3.1.4 Attendance at selected cultural venues and events by country of birth+
	3.1.5 Attendance at selected cultural venues and events by disability status+
	3.1.6 Domestic cultural and heritage visitors
	3.1.7 Domestic cultural and heritage visitors by activity type
	3.2.1 Adults' average time on selected culture and leisure activities, per ABS Time Use Survey
	3.2.2 Children's participation in selected cultural activities, per ABS Time Use Survey
	3.2.3 Children's participation in at least one cultural activity by sex, per ABS Time Use Survey
	3.2.4 Children's participation in at least one cultural activity by age, per ABS Time Use Survey
	3.2.5 Children's participation in at least one cultural activity by country of birth, per ABS Time Use Survey
	3.2.6 Indigenous participation in indigenous cultural activities, per ABS Time Use Survey
	3.2.7 Indigenous participation in indigenous cultural activities by age group, per ABS Time Use Survey
	3.3.1 Access to regional cultural touring programs, number of metro and regional locations visited by touring expeditions
	3.3.2 Regional cultural touring program statistics

Domain and literature source	Indicators
Barometer (2018)	Question in European Quality of Life survey: difficulty in accessing cultural services
Boston Indicators (2015): equitable access to cultural participation	2.3.2 Free or reduced-price events or tickets
	2.3.3 Universal access to arts and culture for people with disabilities
EuroStat (2011): private cultural participation	Cinema and live performance, attendance, visiting cultural sites per data on EU-statistics on income and living conditions, adult education survey, community survey on information and technologies in households, EU media program statistics (information on cinema attendance)
	Reading books and newspapers: EU-statistics on income and living conditions, adult education survey, community survey on information and technologies in households
EuroStat (2011): private cultural expenditure	Household expenditure on cultural goods and services, by COICOP+
	Consumer price index on cultural goods and services, by COICOP+
	Price index of cultural goods and services+
EuroStat (2011)	Cultural participation and attendance (specific data uncertain)
Jackson and Herranz (2002): arts and culture indicators in community building project	"Participation"—arts organizations/trade organizations participant counts; Audiences—seat counts, ticket sales
	"Participation"—periodic time-use surveys
	"Impact"—civic participation
Kushner and Cohen (2014): National Arts Index capacity component	Personal expenditures on arts and culture, based on data from Bureau of Economic Analysis National Income and Product Accounts*
	Engagement in the arts, based on data from the American Time Use Survey (percent of Americans x their time commitment)*
	Noncommercial radio listenership (e.g.., NPR), based on data from Radio Research Consortium and industry Arbitron ratings
	Public television viewing, based on data provided by PBS from the Nielsen Television Index
	Foreign visitor participation in arts and culture activity, based on exit survey administered to outbound international travelers by the International Trade Administration in the Department of Commerce
	Attendance at Broadway shows in New York City, based on data provided by the Broadway League
	Attendance at touring Broadway shows, based on data from the Broadway League
	Attendance at live popular music, based on Scarborough Research large-scale national consumer marketing studies
	Attendance at symphony, dance, opera, and theater based on Scarborough Research large-scale national consumer marketing studies
	Motion picture attendance, based on data from the National Association of Theater Owners
	Art museum visits, based on Scarborough Research large-scale national consumer marketing studies
	Opera attendance, based on data from Opera America

Domain and literature source	Indicators
	Symphony attendance, based on data from Orchestral Survey Reports published by the League of American Orchestras
	Nonprofit professional theater attendance, based on data from Theatre Communications Group's Theatre Facts report
Kushner and Cohen (2014): National Arts Index competitiveness component	Population share attending Broadway shows in New York City or on tour, based on data from Broadway League
	Population share attending live popular music, based on Scarborough Research data
	Population share attending symphony, dance, theater from Scarborough research data
	Population share visiting art museums based on Scarborough research data
	Population share attending opera from Opera America Professional Opera Survey data
	Population share attending symphony from data from League of American Orchestras
	Population share attending nonprofit professional theater based on data from Theatre Communications Group
Montalto et al. (2019): cultural vibrancy, cultural participation and attractiveness dimension	Tourist overnight stays (no details on data sources)
	Museum visitors (no details on data sources)
	Cinema attendance (no details on data sources)
	Satisfaction with cultural facilities (no details on data sources)
Montalto et al. (2019): enabling environment, local and international connections	Passenger flights (no details on data sources)
	Potential road accessibility (no details on data sources)
	Direct trains to other cities (no details on data sources)
National Endowment for the Arts (2004, 2019b, 2020)	Survey of Public Participation in the Arts: in last 12 months, did respondent go to ballet, crafts or visual arts festival, art museum/gallery, visit historic park/monument, read books, watch or listen to live or recorded music)*
New Zealand Ministry for Culture and Heritage (2009): Engagement discussion	1d: Cultural experiences, data from Statistics New Zealand Cultural Experiences Survey: average (per adult) frequency of experiencing cultural activities (e.g., live music, art galleries/museums, craft purchases)+
	1e: Barriers to cultural experiences, data from Statistics New Zealand Cultural Experiences Survey: proportion of adult encountering barriers preventing them from experiencing cultural activities+
	1f: Household spending on cultural items, Statistics New Zealand: Household Economic Survey (HES), proportion of all household expenditure consumed purchasing cultural items+
	1h: Access to arts, culture, and heritage activities and events, Venues Survey, 2008; New Zealand Census of Population and Dwellings: proportion of shows, performances, etc. at venues outside the five main centers+
New Zealand Ministry for Culture and Heritage (2009): Theme 2: Cultural identity	2b: Local content on television indicator, New Zealand on air: local content reports, first run hours of local content as a proportion of the entire TV schedule
New Zealand Ministry for Culture and Heritage (2009): Theme 3: Diversity discussion	3b: Attendance at/participation in ethnic cultural activities; Stats NZ: Cultural Experiences Survey, percentage of population 15+ who attended or participated in at least one cultural activity the previous year+

Domain and literature source	Indicators
Rodrigues and Franco (2019)	Total bed nights in hotel establishments
	Proportion of foreign guests
	Total visitors
	Total foreign visitors
	Number of spectators
	Ticket sales
	Intermediate consumption of cultural and creative industries
Stern and Seifert (2007)	"Participation" from periodic time-use surveys*
Stern and Seifert (2007)	Cultural participation: contents of nonprofit arts organizations' participant databases
UNESCO (2019): prosperity and livelihoods	Household expenditures+
UNESCO (2019): inclusion and participation	Access to culture+
	Cultural participation+
	Participatory processes+
Education	
Australian Bureau of Statistics (2014)	3.4.1 Persons 15–69 enrolled in an academic course of study, level of main field of study (ABS Survey of Education and Work)+
	3.4.2 Proportion of people currently studying toward nonschool qualification (ABS Survey of Education and Work)+
	3.4.3 Proportion of people currently studying toward a culture-related nonschool qualification by sex (ABS Survey of Education and Work)
	3.4.4 Proportion of people currently studying toward a culture-related nonschool qualification by age group (ABS Survey of Education and Work)+
	3.4.5 Proportion of people currently studying toward a culture-related nonschool qualification by country of birth (ABS Survey of Education and Work)+
Barometer (2018)	Eurostat: Percentage of higher education graduates with degrees in culture-related disciplines
Boston Indicators (2015): 2.6 opportunities for arts education	2.6.1 Teachers dedicated to the arts in Boston Public Schools
	2.6.2 Percent of students receiving weekly arts instruction
	2.6.3 Children and youth participation in after-school arts programming
EuroStat (2011)	Average number of languages learned by secondary students
	Most frequently learned languages by secondary students
	Mobility of tertiary students
	Number of tertiary students participating in the Erasmus project
	Number of tertiary students studying in a field related to culture
Kushner and Cohen (2014): National Arts Index arts participation component	Number of SAT test takers who completed four of more arts courses*

Domain and literature source	Indicators
Kushner and Cohen (2014): National Arts Index competitiveness component	Visual and performing arts share of all degrees, based on College Board data
	Share of SAT test takers who completed four or more arts courses, based on College Board data*
Montalto et al. (2019): creative economy index, enabling environment, human capital and education-based jobs dimension	Graduates in arts and humanities (data source not specified)
	Graduates in information and communication technology (data source not specified)
Rodrigues and Franco (2019)	Research and development units in higher education institutions
	Higher education establishments
	Lecturers in higher education+
	Number of higher education students enrolled in arts and humanities courses
	Higher education graduates in arts and humanities
	Number of higher education students enrolled in ICT courses
	Higher education graduates in ICT
	Higher education graduates
	Number of students in higher education
	Number of higher education institutions
	Ranking of higher education institution.
Townsend (2017)	NCES IPEDS data on arts majors*
UNESCO (2019): knowledge and skills	Education and sustainable development+
	Cultural knowledge+
	Multilingual education+
	Cultural and artistic education+
	Cultural training+
Enterprises	
Americans for the Arts (2020)	Enterprise revenue: earned income + donations from individuals, foundations, corporations + funding from federal, state, and local government*
Boston Indicators (2015): 2.1 competitive edge in cultural life and arts	Total arts-related businesses by county*
Boston Indicators (2015): 2.4 impact of arts organizations on community life	2.4.1 Diversity of arts organizations by neighborhoods (arts organizations by type, by neighborhood)
Boston Indicators (2015): 2.5 vibrant expressions of cultural diversity	2.5.1 Demographically representative leadership in arts organizations
EuroStat (2011): cultural employment, enterprises, and external trade enterprises in cultural sectors	Structural business statistics on enterprises in each industry sector, new enterprises per sector, trends in sectors—persons employed by enterprise (doesn't align with rest of indicator)

Domain and literature source	Indicators
EuroStat (2011): cultural employment characteristics and performance of culture-related enterprises	Domains of structural business statistics and business demography+
Jackson and Herranz (2002)	Numbers of arts nonprofits and commercial/for-profit enterprises; may come from lists or directories that catalog presence of arts and cultural organizations and resources
	Contributions/donations to arts organizations
	Volunteers at arts organizations
Koo and Curtis (2016) Boston and other American cities	Number of arts organizations, per capita (based on IRS 990 data from Guidestar + NTEE codes)*
	Revenue raised by arts organizations per ticket sales and other participation sources*
Kushner and Cohen (2014): National Arts Index capacity component	Registered arts and culture 501(c)(3) organizations, based on organizations in major group A of the National Taxonomy of Exempt Entities (NTEE) and group N52 (IRS Business Master Files)*
	Arts support organizations, based on organizations classified in the NTEE as alliance/advocacy organizations, institutes for research and/or public policy analysis, monetary support (single or multiple organizations) and nonmonetary support not elsewhere classified adjusted for population*
	Performance of SAT test takers with 4 years of art or music, based on data from the College Board*
	Arts majors by college-bound seniors, based on responses to SAT survey questions shared by College Board*
	Visual and performing arts degrees, based on data from U.S. Department of Education's Classification of Instructional Program codes*
Morley et al. (2014)	Arts, culture, and humanities nonprofits per 1,000 population*
Rodrigues and Franco (2019)	Total number of cultural and creative industries
	Total number of industries by city over the total of all cities (concentration) multiplied by 100
	Density per capita of cultural and creative industries (number of industries/resident population multiplied by 100)
	Weight of cultural and creative industries in the total industries in the city (relevance) multiplied by 100
Stern and Seifert (2017): New York City neighborhoods	Number of nonprofit organizations based on IRS master file of tax-exempt organizations*
	Borough art councils*
	Database on applicants to New York City cultural development fund
	Foundation directory: nonprofit organizations receiving funding for arts or cultural project
	Reference USA's proprietary database on for-profit cultural resources
Stern and Seifert (2007): natural cultural districts	IRS master list of nonprofit cultural providers
	For profit/commercial firms: digital database of local businesses, grant applications from arts funders, newspapers, web searches

Domain and literature source	Indicators
UNESCO (2019): prosperity and livelihoods	Cultural businesses
Voss et al. (2014): Arts Vibrancy Index supply	Arts organizations from IRS 990s*
Supporting industries and agencies	
Australian Bureau of Statistics (2014)	1.1 Cultural employment: in census of population and housing, the numbers of Australians holding 1 of 14 culture-related occupations+
	1.4.1 Government support for culture (total, from nation, state, local) per Australian Bureau of Statistics+
	1.4.2 Total government contribution to cultural funding+
	1.4.3 Total government support for culture in funding per person
	2.4.1 Number of project companies and artists funded (state level)
	2.4.2 Support for innovation in indigenous arts and culture
	2.4.3 Government support for arts incubators
	2.4.4 Subsidies to film industries
Barometer (2018)	Eurostat: government expenditures on culture as percentage of gross domestic product and public spending
Boston Indicators (2015): 2.1 competitive edge, cultural sector funding by state	2.1.2 NEA grants per state*
	2.7.1 Massachusetts Cultural Council funding
	2.7.1b Cultural facilities fund
Kushner and Cohen (2014): National Arts Index financial flow component	Foundation arts and culture funding, based on Foundation Center's annual studies of foundation grants of $10,000 or more from approximately 1,100 of the largest foundations
	United arts fundraising campaigns, data based on Americans for the Arts' estimates of revenue from fund-raising campaigns in 37 localities
	Federal government arts and culture funding, annual budget allocations to National Endowment for the Arts, National Endowment for the Humanities, Institute for Museum and Library Services, Corporation for Public Broadcasting, and some DC programs (Smithsonian, Holocaust museum, National Gallery, and Kennedy Center)+
	State arts agency legislative appropriations, data from National Assembly of State Arts Agencies
	Local government funding of local arts agencies, based on data from local arts agencies of the 60 most populous U.S. cities (gathered by Americans for the Arts' U.S. Urban Arts Federation members program)*
Kushner and Cohen (2014): National Arts Index capacity component	Arts support organizations, based on organizations classified in the NTEE as alliance/advocacy organizations, institutes for research and/or public policy analysis, monetary support (single or multiple organizations) and nonmonetary support not elsewhere classified adjusted for population*
Kushner and Cohen (2014): National Arts Index competitiveness component	Share of foundation funding, per the Foundation Center data
	Arts and culture share of corporate funding, based on data from the Committee Encouraging Corporate Philanthropy
	Share of federal government arts and culture funding, per capita per data from the NEA, National Endowment for the Humanities, Institute for Museum and Library Services, Corporation for Public Broadcasting, and

Domain and literature source	Indicators
	some DC programs (Smithsonian, Holocaust museum, National Gallery, and Kennedy Center)*
	Share of state government arts and culture funding, per capita based on data from National Assembly of State Arts Agencies*
	State arts agency share of state general fund expenditures, based on data from National Assembly of State Arts Agencies*
Mississippi Arts Commission (2022)	Number of grants: total amount, spread across state in terms of house districts and senate districts
Montalto et al. (2019): creative economy index, creative and knowledge-based jobs dimension	Jobs in media and communication
	Jobs in other creative sectors
	Jobs in new media and communication (specific data not identified)
	Jobs in new enterprises (specific data not identified)/other creative sectors
New Zealand Ministry for Culture and Heritage (2009): engagement discussion	1a: Cultural employment data from NZ Census of Population and Buildings: number of people in cultural employment as a percentage of total employment+
	3a: Cultural grants to minority ethnic groups indicator: NZ Lottery Grants Board applications/allocations: percentage of grants for arts, culture, heritage to non-Mauri and non-NZ European ethnic groups, relative to those of all ethnic groups+
Stern and Seifert (2007): natural cultural districts	Database of Pew Fellowships
UNESCO (2019): prosperity and livelihoods	Public finance for culture
UNESCO (2019): environment and resilience	Expenditures on heritage
Voss et al. (2014): Arts Vibrancy Index arts dollars	Contributed revenue: revenue from contributions to nonprofit and cultural organizations (also included public funding)
Voss et al. (2014): Arts Vibrancy Index government support	State arts dollars*
	State arts grants*
	Federal arts dollars*
	Federal arts grants*
Economic Inputs, Outputs, Growth	
Australian Bureau of Statistics (2014)	1.7.1 Value of production of cultural goods and services
	1.7.2 Output and value added selected cultural industries
	2.5.1 Value of cultural exports
Boston Indicators (2015): 2.2 exciting regional destination	2.2.1 Impact on local and regional tourist industry
Ernst and Young (2014)	Final retail prices for each of the 11 creative and cultural industries; estimates from key trade organizations, sector publications, and verified market assumptions; market research analyses and Eurostat as complementary sources

Domain and literature source	Indicators
EuroStat (2011)	International trade in cultural goods (Eurostat Comext database).
	International trade of cultural services, based on Balance of Payments domain and International Trade in Services documents, UNESCO FCS framework for cultural states, UNESCO UIS the Globalization of cultural trade (2004-2013; 2016 edition)+
	Turnover (revenue) index in publishing, growth of turnover by country, turnover by publishing sub-activities, value added in manufacturing>
	Data from Comext file on imports and exports from EU member countries+
Kushner and Cohen (2014): National Arts Index competitiveness component	Arts share to GDP, based on data from National Endowment for Arts and Bureau of Economic Analysis Arts and Culture Production Satellite Acts*
	Share of payroll for art and culture industries, data from the Bureau of Labor Statistics Occupational Employment Statistics and the NEA*
	U.S. share of world creative goods trade based on data from the United Nations Conference on Trade and Development*
	Return on Assets of Arts business, based on data collected by Robert Morris associates Annual Statement Studies
	Share of nonprofit arts organizations with year-end surplus
Morley et al. (2014)	Relative payroll of arts and entertainment–related establishments
National Endowment for the Arts (2013, 2018, 2023a)	Economic growth for arts sector, by industry; comparison of trends between artists and workers in other industries (Arts and Cultural Production Satellite Account)*
	Government's contribution to the arts (Arts and Cultural Production Satellite Account)*
	Comparison of trends between artists and workers in other industries (Arts and Cultural Production Satellite Account)*
New Zealand Ministry for Culture and Heritage (2009): Theme 5: economic development	5b: Value-added contributed by the creative industries, Statistics New Zealand: Annual Enterprise Survey; value added by the creative industries in 2005 dollars expressed as an index+
	5c: The creative industries' proportion of total industry value-added Statistics New Zealand: Annual Enterprise Survey; Statistics New Zealand: National Accounts; Statistics New Zealand: Prices+
Ortega-Villa and Ley-Garcia (2018)	Total income from hotel establishments
	Expenditure on cultural activities
	Turnover/revenue of cultural and creative industries
	Percentage of creative industries in total economic activity
	Expenses with staff in cultural and creative industries
	Gross added value, at market prices, of cultural and creative industries
	Gross fixed capital formation of cultural and creative industries
UNESCO (2019): prosperity and livelihood	Culture in gross domestic product
	Trade in cultural goods/services
Voss et al. (2014): Arts Vibrancy Index arts dollars	Total expenses
	Total compensation

Domain and literature source	Indicators
Waldfogel (2017)	Data on production of digital recordings (music), based on data from an organization of music professionals (Music Brains)

Note. COICOP is Classification of Individual Consumption by Purpose. Data sources that are publicly available and based on representative samples have an asterisk (*). Data sources marked with a plus sign (+) also are publicly available and likely based on a representative sample from outside the United States.

Step 5. Reducing the Number of Domains Through Conceptual Consolidation

The literature review informed the NASERC team's selection of domains representing arts activity and the identification of indicators for those domains. The nine initial domains were reduced to seven. The NASERC team wanted to pare down the indicator framework to four or five domains that represented the main facets of arts activity, a process accomplished by strategically combining some domains. First, although our framework distinguishes between artists, arts-related enterprises, and supporting industries and agencies, many indicator frameworks make no such distinctions. Rather, they create counts of other cultural workers—those whose work supports the arts—to accompany the counts of artists. For arts-supportive government agencies, other frameworks incorporate those agencies by recording the numbers of public funding sources for arts-focused enterprises or by incorporating the public funds into calculations of economic value added. The team decided to take this approach as well, thus eliminating the supporting industries and agencies domain.

Next, the NASERC team merged the places/infrastructure domain, the enterprises domain, and the economic inputs, outputs, and growth domain into one broad domain: arts and cultural assets. This domain incorporates the rationale promoted by the SMU DataArts, which suggests that to understand the arts and cultural assets, one must examine public policies and funding for the arts, the arts at the community level, and arts organizations (Exhibit A6; Voss et al., 2014).[14]

With these consolidations, the NASERC Arts Indicators Framework was reduced to the following four domains (see Exhibit A6):

- Artists and other cultural workers
- Arts participation
- Arts and cultural assets
- Arts and education

[14] SMU DataArts also puts individual artists in the arts ecosystem, but the NASERC team prefers to make artists a distinct domain.

Exhibit A6. Conceptual Development of a Four-Domain Model of Arts Activity

Original nine domains	Categorizing domains	Seven-domain framework	Domain consolidation	Four-domain framework
Arts-related places and infrastructure		Arts-related places and infrastructure	Part of SMU DataArts Arts Ecosystem	
Artists		Artists		Artists and other cultural workers
Things produced →	Few analogs in literature	DOMAIN REMOVED		
Consumption and participation		Consumption and participation		Arts participation
Education		Education		Arts and education
Enterprises		Enterprises	Part of SMU DataArts Arts Ecosystem	
Supporting industries and agencies		Supporting industries and agencies	Part of SMU DataArts Arts Ecosystem	Arts and cultural assets
Economic inputs, outputs, and growth		Economic inputs, outputs, and growth	Part of SMU DataArts Arts Ecosystem	
Diverse, stimulating environment →	Incorporate diversity into all other domains	DOMAIN REMOVED		

Step 6. Selecting Indicators for the NASERC Framework

The team chose the indicators that make up the NASERC framework because they are publicly available, involve a nationally representative sample, and do not rely on estimates developed by arts professional associations. Data sources include the ACS, County Business Pattern data, CPS, and SPPA. The NASERC team proposed an indicator system with 19 indicators representing the four domains. During the initial year (2023), the team developed 12 of those indicators and, beginning in 2024, NASERC will add the remaining indicators (see body of this document for more information on the proposed indicators for the base year).

Appendix B. Biographical Information on Members of NASERC's Technical Working Group

Jen Benoit-Bryan, Director of Research, SMU DataArts

Jen Benoit-Bryan, PhD, leads the research team for SMU DataArts—formerly known as the National Center for Arts Research. Dr. Benoit-Bryan's research focuses on equity in arts engagement, the relevance of arts offering to communities, and the organizational culture within arts and culture organizations. Dr. Benoit-Bryan previously led the Slover Linett Audience Research consulting team as president, and in that role she served as the principal investigator for the multiwave Culture and Community Culture Track study conducted in partnership with LaPlaca Cohen and Yancey Consulting. The Culture and Community study explored the shifting role of arts and culture in people's lives through the pandemic, the growing desire for changes towards equity in arts and culture organizations, and how digital arts engagement has broadened and diversified participation. Dr. Benoit-Bryan has worked on wide-ranging, multiyear projects with the Museums Moving Forward initiative; the Barr Foundation; the Wallace Foundation; the National Academy of Sciences; the Kennedy Center; the Metropolitan Opera; the Museum of Fine Arts, Houston; Carnegie Hall; and the Central Park Conservancy, among many others.

Cézanne Charles, Partner and Cofounder, rootoftwo

Cézanne Charles is a creative practitioner, curator, and researcher with 20 years of experience working at the executive and senior management levels in the creative industries in the United States and the United Kingdom. Her work focuses on the intersection of art, design, technology, culture, economy, social justice, and public policy. Charles codirects, with John Marshall of rootoftwo, a research- and practice-driven art, design, and technology studio that explores the consequences of underimagined futures through tangible objects, environments, and participatory methods. From 2008 to 2019, Charles served as director of creative industries at Creative Many, where she led the design and implementation of the company's creative industries research. In that role, she also designed and directed programs that empowered the practices of Michigan artists, designers, and makers, with a core focus on Detroit.

Charles serves on the Allied Media Projects board of directors, the Michigan Arts and Cultural Council, the BIPOC-led[15] Advocacy Coalition, the Michigan Central District Art Program's advisory, the Museum of Contemporary Art Detroit board of directors, and the stewardship board for Design Core Detroit's UNESCO City of Design initiative. She has a master of public affairs (formerly administration) from the Gerald R. Ford School of Public Policy at the University of Michigan and a bachelor of arts in theater studies from Ohio State University.

Mirae Kim, Associate Professor and Director, Master of Public Administration Program, George Mason University

Mirae Kim, PhD, is an associate professor of nonprofit studies and master of public administration program director at the Schar School of Policy and Government. Before joining

[15] BIPOC is a shortened form for Black, Indigenous, and people of color.

the Schar School, Dr. Kim was a faculty member in the Andrew Young School of Policy Studies at Georgia State University from 2017 to 2020, and before that she taught at the Harry S. Truman School of Public Affairs at the University of Missouri. Dr. Kim earned her doctorate in 2014 from Rutgers School of Public Affairs and Administration and a master's degree from Carnegie Mellon University. She earned her bachelor's degree in English literature from Seoul National University in South Korea and was an exchange student for more than a year at Auckland University in New Zealand. Finally, Dr. Kim was a member of the Penn Social Impact Doctoral Fellows Program led by Dr. Peter Frumkin.

Currently, Dr. Kim serves as a coeditor of the Nonprofit Policy Forum. She also is a board member at the Association for Research on Nonprofit Organizations and Voluntary Action and a visiting scholar at the Independent Sector. Dr. Kim is currently part of the research team that builds the Nonprofit Panel Data Platform, as funded by the National Science Foundation to improve the collection of data about nonprofit organizations. Dr. Kim also has been leading the Nonprofit Organization Research Panel project since 2015, which she created to provide valuable information for nonprofit practitioners while producing much-needed data for researchers in the nonprofit community. Inspired by her previous role as a managing editor of *Civic Engagement* magazine, this initiative seeks to facilitate discourse about public service and broaden interest in the field.

Bronwyn Mauldin, Director of Research and Evaluation, Los Angeles County Department of Arts and Culture

Bronwyn Mauldin oversees a research and evaluation team that uses data and social science methods to improve the Department of Arts and Culture's work and strengthen the arts ecology of Los Angeles County. Mauldin has spent her career conducting applied research and evaluation for nonprofit organizations, philanthropies, and government. She also teaches research methods to students in the arts administration program at Claremont Graduate University. In her career, Mauldin has evaluated farmworker programs in California's Central Valley, studied employment conditions for truck drivers in the Pacific Northwest, analyzed apprenticeship opportunities in the health care industry, and researched villager organizing in rural northeast Thailand. She is presently a writer and zine maker, but previously she served as the artist in residence at Mesa Verde National Park in Colorado, Denali National Park in Alaska, and Kulturni Centar REX in Belgrade, Serbia.

Jennifer Novak Leonard, Research Associate Professor and Research Director of the Arts Impact Initiative, College of Fine and Applied Arts, University of Illinois Urbana-Champaign

Jennifer Novak-Leonard, PhD, is research associate professor and research director of the Arts Impact Initiative in the College of Fine and Applied Arts at the University of Illinois at Urbana-Champaign. Her work focuses on the social roles of arts, artists, and creativity; how they impact people and communities; and implications for policy and practice. She specializes in the development and use of novel measurement systems and in examining racial, ethnic, and socioeconomic inequities in outcomes and opportunities for arts, artists, and movements toward cultural democracy to inform public and social policy. In addition, Dr. Novak-Leonard serves as the research director of the Strategic National Arts Alumni Project.

Omari Rush, Executive Director, CultureSource

Omari Rush engages the arts as a passion and profession, and in each mode enjoys discovery and deepening impacts. As executive director of CultureSource in Detroit, he advances efforts to have creative expression thrive in communities. His complementary civic service ranges from recently completing an appointment to the State of Michigan Council for Arts and Cultural Affairs (serving three governors, two as council chair) to currently being board chair of the National Assembly of State Arts Agencies and a board member of Arts Midwest in Minneapolis and the Lewis Prize for Music.

Rush earned degrees in music from the University of Michigan and Florida State University and extended his love for learning by (a) completing fellowships with the Salzburg Global Forum and Association of Performing Arts Professionals, (b) managing the K–12 education program of the University Musical Society, and (c) serving on research advisory committees for the National Endowment for the Arts and the Indiana University O'Neill School of Public and Environmental Affairs.

A lapsed clarinetist, Rush now uses his voice to cohost a monthly arts-focused radio show on NPR affiliate WEMU-FM, and he plays on a Rivendell Clem-L bicycle, which he rides daily on streets and trails.

Michael Rushton, Professor, Indiana University

Michael Rushton, PhD, is a professor whose expertise and teaching focuses on the economics, management, and public policy of the arts. His publications include articles on such topics as public funding for the arts, the role of nonprofit organizations, taxation, copyright, freedom of expression, and the arts and local development. He is the editor of *Creative Communities: Art Works in Economic Development* (2013) and the author of *Strategic Pricing for the Arts* (2014). He is currently writing a book on the moral foundations of public funding of the arts.

Before joining Indiana University in 2006, he held faculty positions in Canada, the United States, and Australia and served as a senior policy advisor to the government of the Canadian province of Saskatchewan. At Indiana University, he has served as director of strategic planning and associate vice president for university academic affairs.

Ryan Stubbs, Senior Director of Research, National Assembly of State Arts Agencies

Ryan Stubbs directs the National Assembly of State Arts Agencies (NASAA) research team to provide high-quality information for the benefit of state arts agencies and the arts and culture field. His areas of expertise include public funding for the arts, state policy and the creative economy plus state arts agency funding, services, operations, and grant making. He oversees a research portfolio that includes dynamic data visualization tools, field surveys, and research customized to the needs of state arts agencies. Stubbs also represents state arts agencies and NASAA at state, regional, and NASAA research forums and serves as NASAA's primary research liaison to federal agencies, foundations, consultants, and scholars conducting research on public support for the arts. Stubbs has more than 10 years of professional experience in the field of arts research. Prior to joining NASAA, he served as the director of research for the Western States Arts Federation, where he specialized in analyzing state and local creative

economy data, implemented web-based research technology, and launched an initiative aimed at supporting independent music. Stubbs has experience in state government as a capital construction analyst for the Colorado Department of Higher Education and in economic development as a business manager for Adams County, Colorado. He holds master's degrees in public administration and urban and regional planning with an emphasis on economic development planning from the University of Colorado, Denver.

Zannie Voss, Director, SMU DataArts; Professor, SMU Meadows School of the Arts and Cox School of Business (Original TWG Member)

Zannie Giraud Voss, PhD (Aix-Marseille III Graduate School of Management–AE, France), is director of SMU DataArts and professor of arts management. Prior to joining the SMU faculty, she was a professor in the Department of Theater Studies and an adjunct professor in management in the Fuqua School of Business at Duke University, where she also served as producing director of Theater Previews at Duke, a professional theater company dedicated to the development and co-production of new works.

Dr. Voss has consulted on projects for numerous foundations and national arts service organizations, including the Theatre Communications Group (TCG), for which she has coauthored TCG's *Theatre Facts* since 1998. She has published articles examining the strategic factors that influence organizational performance in nonprofit professional theaters in the *Journal of Marketing*, the *Journal of the Academy of Marketing Science*, the *Journal of Marketing Research*, the *Academy of Management Journal*, *Organization Science*, the *Journal of Services Marketing*, *American Theatre*, and the *International Journal of Arts Management*, for which she served as an associate editor. She served as managing director of PlayMakers Repertory Company, associate manager of the Alley Theatre, assistant director of audience development at the Mark Taper Forum, and site visitor and panelist for the National Endowment for the Arts.

She is a board member of the International Association of Arts and Cultural Management and the New Orleans Museum of Art, and she recently served a three-year term as a member of the American Academy of Arts and Science's Commission on the Arts.

Appendix C. Consultative Interview Questions

Question 1. Can you describe how the work you do and/or your organization does is connected with the arts?

Question 2. We'd like to discuss the topic of arts indicators. Arts indicators are general statistics that provide the public with information about the importance of the arts. For example, we could highlight the number of individuals who consider their work as an artist as their main occupation (for example, "1 in 15 American adults lists 'artist' as their main occupation").

> **Question 2a.** Are there statistics that you use when describing the importance of your work or the importance of the arts generally?
>
> **Question 2b.** Are there statistics that you wish you had to better promote your work?
>
> **Question 2c.** Are there arts-related topics/metrics that you think need to be highlighted to inform the public and arts community about the importance and impact of the arts in the United States? For example: information on arts infrastructure, participation in the arts, access to the arts, or how the arts affect communities, the economy, education and education outcomes, or underserved populations?
>
> **Question 2d.** What kind of information would you or your organization like to have about the arts and their impact? Why would having this information be helpful/valuable to you?
>
> **Question 2e.** Can you think of any "big questions" that you and others who you work with have asked about the arts that you were unable to answer given available data? What are the information needs that you see?

Question 3. In the future, we will be conducting research related to the arts and publishing in-depth reports and evidence guides. What topics would you like to see covered in this research and reporting?

Question 4. We are currently in the process of conducting a review of the literature on statistical indicators of arts activities. The literature search will look at academic and nonacademic sources published in the United States and other countries. Sources can include but are not limited to articles in newspapers, articles in popular magazines, articles in academic journals, reports, and websites. What research in the arts do you think is important to capture in this literature search? Specific research reports, articles, etc. would be helpful, but we also welcome general topics.

Question 5. Is there anything that you would like to add related to this work that we have not covered today?

Appendix D. Other Cultural Worker Occupation Categories: 2010 and 2018 SOC

Exhibit D1. Standard Occupational Classification (SOC) Codes Used in 2010 and 2018 Surveys

2018 SOC occupation title	2010 SOC code	2018 SOC code	Notes
Archivists, curators, and museum technicians	25-4010	25-4010	
Archivists	25-4011	25-4011	
Curators	25-4012	25-4012	
Museum technicians and conservators	25-4013	25-4013	
Librarians and media collections specialists	25-4021 25-9011	25-4022	Change in code between 2010 and 2018
Library technicians	25-4031	25-4031	
Editors	27-3041	27-3041	
Broadcast and sound engineering technicians	27-4010	27-4010	
Audio and video technicians	27-4011	27-4011	
Broadcast technicians	27-4012	27-4012	
Sound engineering technicians	27-4014	27-4014	
Lighting technicians	27-4099	27-4015	
Media and communication equipment workers, all other	*27-4099*	*27-4099*	Added to mapping
Television, video, and motion picture camera operators and editors	27-4030	27-4030	
Camera operators, television, video, and film	27-4031	27-4031	
Film and video editors	27-4032	27-4032	
Motion picture projectionists	39-3021	39-3021	
Ushers, lobby attendants, and ticket takers	39-3031	39-3031	
Tour and travel guides	39-7010	39-7010	
Tour guides and escorts	39-7011	39-7011	
Travel guides	39-7012	39-7012	
Models, demonstrators, and product promoters	41-9010	41-9010	
Demonstrators and product promoters	41-9011	41-9011	
Models	41-9012	41-9012	

2018 SOC occupation title	2010 SOC code	2018 SOC code	Notes
~~Forest and conservation technicians~~	~~19-4093~~	~~19-4071~~	Change in code between 2010 and 2018; deleted from mapping
Printing press operators	51-5112	51-5112	
Print binding and finishing workers	51-5113	51-5113	
Jewelers and precious stone and metal workers	51-9071	51-9071	
Photographic process workers and processing machine operators	51-9151	51-9151	
Etchers and engravers	51-9194	51-9194	
~~Molders, shapers, and casters, except metal and plastic~~	~~51-9195~~	~~51-9195~~	Deleted from mapping
Musical instrument repairers and tuners	49-9063	49-9063	Added to mapping
Desktop publishers	43-9031	43-9031	Added to mapping
Makeup artists, theatrical and performance	39-5091	39-5091	Added to mapping

Appendix E. List of Demographic Characteristics, Other Individual Characteristics, and Work and Employment Variables

This appendix provides the demographic characteristics and personal characteristics that the NASERC team will use in their disaggregation of indicators. Exhibit E1 is an example of how to display these characteristics for individuals who prefer the raw numbers.

Demographic Characteristics

Sex and Gender

- Male
- Female

Race and Ethnicity

The OMB is responsible for the standards that govern the categories used to collect and present federal data on race and ethnicity. These standards require a minimum of the following five categories for data on race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. The standards also require the collection of data on ethnicity categories: at a minimum, Hispanic or Latino and Not Hispanic or Latino. It is important to note that Hispanic origin is an ethnicity rather than a race, and, therefore, persons of Hispanic origin may be of any race. Origin is the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States. The race categories American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White, as presented in these indicators, exclude persons of Hispanic origin. The categories have the following definitions:

- **American Indian/Alaska Native**: A person having origins in any of the original peoples of North and South America and maintaining tribal affiliation or community attachment.
- **Asian**: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
- **Black or African American**: A person having origins in any of the Black racial groups of Africa.
- **Native Hawaiian or Other Pacific Islander**: A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
- **Hispanic or Latino**: A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race. For this report, persons were classified as Hispanic regardless of their racial identification.
- **White**: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

- **More than one race**: In most survey sources for the NASERC indicators, individuals had an opportunity to select more than one race group. Individuals who selected more than one race group but did not select Hispanic ethnicity are reported as "More than one race."

Within these indicators, some category labels have been shortened in the text and exhibits for ease of reference. American Indian or Alaska Native is denoted as American Indian/Alaska Native; Black or African American is shortened to Black; Native Hawaiian or Other Pacific Islander is shortened to Pacific Islander; and Hispanic or Latino is shortened to Hispanic.

The NASERC indicators draw from multiple different data sources. The federal surveys generally collect data using the OMB standards for racial/ethnic classification described earlier; however, some sources have additional categories. In particular, the ACS permitted respondents to select "some other race," in addition to allowing them to check multiple race categories. Within the NASERC indicators, these individuals are shown as "Unspecified race." For some postsecondary institutional data, foreign students are counted separately and therefore are not part of any racial/ethnic category.

Age Group

- Under 25
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 and over

Disability Status

The definition of disability status is determined by the data source. For example, the ACS uses a set of six questions to identify persons with disabilities. A response of "yes" to any question indicates that the person in question has a disability. For more information, see https://www.census.gov/topics/health/disability/guidance/data-collection-acs.html. The CPS also uses a set of six questions to identify people with disabilities. A response of "yes" to any question indicates that the person in question has a disability. For more information, see https://www.bls.gov/cps/cpsdisability_faq.htm#Everyone.

Educational Attainment

Educational attainment refers to the highest level of education that an individual has completed, with the following categories:

- Less than high school
- High school, GED, or alternative credential
- Some college: Includes individuals who attended college but did not receive a degree.
- Associate degree
- Bachelor's degree

- Master's degree or higher: Includes professional degrees beyond a bachelor's degree and doctorate degrees.

Other Individual Characteristics

Veteran Status

- Veteran
- Not a veteran

Marital Status

- Living with a same-sex spouse or partner
- Living with an opposite-sex spouse or partner
- Not living with a spouse or partner

Work and Employment Characteristics

Employment Status

- Employed
- Unemployed

Work Intensity

- Full time: Defined as working 35 or more hours per week for 50 or more weeks per year.
- Part time: Defined as working less than 35 hours per week and/or less than 50 weeks in the year.
- Not employed: Same as unemployed because individuals not in the labor force are excluded.

Employer Type

- Federal government
- State government
- Local government
- Private for-profit organization
- Private nonprofit organization
- Self-employed
- Working without pay for a family business

Personal Earnings, Income, Family Income, and Household Income

Several different earnings and income concepts are relevant to artists and other labor force participants. The NASERC team recommends exploring at least two concepts: personal earnings and household income. Earnings would include those monies directly tied to employment as artists, but it could include earnings from other jobs when applicable. Income is a broader concept that includes earnings but also money from investments, pensions, structured payments, and other sources. Family income includes the income of all family members in the household. However, a limitation is that artists who were not in family households would not be part of this

measure. Also, the measure can be complicated when multiple families are in the household (such as subfamilies). On the other hand, household income includes everyone in the household, so partners and nonfamily members are included. Also, everyone is in a household, even if they live alone, so the measure is inclusive. Even though the distributions for personal earnings/income and family/household incomes are different, the NASERC team suggests using the same monetary groupings for both to permit comparisons. The following is one suggestion for income/earnings groupings, though these could be collapsed.

- Less than $10,000
- $10,000 to $19,999
- $20,000 to $29,999
- $30,000 to $39,999
- $40,000 to $49,999
- $50,000 to $59,999
- $60,000 to $74,999
- $75,000 to $99,999
- $100,000 to $149,999
- $150,000 or more

Exhibit E1. Number of Artists and Artists as a Percentage of Labor Force, by Selected Characteristics: 2010 and 2021

	Number of artists, in thousands				Artists as a percentage of the labor force			
Selected characteristic	2010		2021		2010		2021	
Total labor force	**2,070**	**(17.3)**	**2,616**	**(19.6)**	**1.3**	**(0.01)**	**1.6**	**(0.01)**
Sex								
Male	1,128	(11.6)	1,345	(14.2)	1.4	(0.01)	1.5	(0.02)
Female	942	(11.9)	1,272	(13.0)	1.3	(0.02)	1.6	(0.02)
Race and ethnicity								
American Indian/Alaska Native	7	(1.1)	7	(1.3)	0.8	(0.12)	0.9	(0.17)
Asian	116	(4.2)	184	(6.0)	1.5	(0.06)	1.8	(0.06)
Black	120	(4.7)	163	(6.2)	0.7	(0.03)	0.8	(0.03)
Hawaiian/Pacific Islander	1	(0.3)	2	(0.5)	0.5	(0.14)	0.8	(0.18)
Hispanic	185	(5.3)	306	(7.3)	0.8	(0.02)	1.0	(0.02)
White	1,604	(14.9)	1,826	(16.6)	1.5	(0.01)	1.8	(0.02)
More than one race	33	(2.2)	113	(4.2)	1.4	(0.09)	1.8	(0.06)
Unspecified race	4	(0.6)	15	(1.7)	1.3	(0.24)	1.7	(0.18)
Age group								
Under 25	189	(6.0)	204	(6.1)	0.8	(0.03)	0.9	(0.03)
25 to 34	253	(6.1)	695	(13.2)	1.5	(0.04)	1.9	(0.04)
35 to 44	513	(8.2)	643	(10.0)	1.5	(0.02)	1.8	(0.03)

Selected characteristic	Number of artists, in thousands				Artists as a percentage of the labor force			
	2010		2021		2010		2021	
45 to 54	456	(8.6)	469	(7.7)	1.3	(0.02)	1.4	(0.02)
55 to 64	413	(8.3)	384	(7.1)	1.3	(0.03)	1.4	(0.03)
65 and over	128	(4.6)	221	(4.9)	1.4	(0.05)	2.1	(0.05)
Disabilities								
Persons with disabilities	97	(3.7)	168	(6.2)	1.1	(0.04)	1.4	(0.05)
Persons without disabilities	1,973	(16.8)	2,448	(18.5)	1.3	(0.01)	1.6	(0.01)
Marital status								
Living with a same-sex spouse or partner	---	(†)	65	(3.0)	---	(†)	3.4	(0.16)
Living with an opposite-sex spouse or partner	---	(†)	1,526	(16.6)	---	(†)	1.6	(0.02)
Not living with a spouse or partner	---	(†)	1,025	(13.4)	---	(†)	1.4	(0.02)
Educational attainment								
Less than high school	59	(2.8)	64	(3.4)	0.3	(0.02)	0.4	(0.02)
High school or GED	223	(5.2)	267	(7.5)	0.5	(0.01)	0.7	(0.02)
Some college	411	(8.2)	410	(7.9)	1.1	(0.02)	1.2	(0.02)
Associate degree	181	(4.3)	204	(5.4)	1.4	(0.03)	1.3	(0.04)
Bachelor's degree	889	(10.0)	1,216	(12.4)	3.0	(0.03)	3.1	(0.03)
Master's degree or higher	254	(5.2)	456	(8.7)	2.2	(0.04)	1.9	(0.04)
Veteran status								
Veteran	94	(3.6)	73	(3.5)	0.8	(0.03)	0.8	(0.04)
Not a veteran	1,976	(17.3)	2,543	(19.0)	1.4	(0.01)	1.6	(0.01)
Employment status								
Employed	1,862	(16.3)	2,369	(18.3)	1.3	(0.01)	1.5	(0.01)
Unemployed	208	(5.3)	247	(6.0)	1.2	(0.03)	2.3	(0.06)
Artistic occupation								
Actors	50	(3.1)	65	(3.2)	†	(†)	†	(†)
Announcers	57	(3.5)	73	(3.7)	†	(†)	†	(†)
Architects and landscape architects	180	(4.9)	266	(7.5)	†	(†)	†	(†)
Dancers and choreographers	27	(2.6)	18	(1.7)	†	(†)	†	(†)
Designers	802	(12.2)	960	(11.0)	†	(†)	†	(†)
Entertainers	45	(2.8)	43	(3.0)	†	(†)	†	(†)
Fine artists, art directors, and animators	195	(5.9)	307	(6.6)	†	(†)	†	(†)
Musicians, music directors, and composers	199	(5.5)	206	(5.6)	†	(†)	†	(†)

Selected characteristic	Number of artists, in thousands				Artists as a percentage of the labor force			
	2010		2021		2010		2021	
Photographers	157	(4.8)	203	(6.3)	†	(†)	†	(†)
Producers and directors	156	(4.7)	226	(5.9)	†	(†)	†	(†)
Writers	201	(5.5)	249	(5.7)	†	(†)	†	(†)
Work intensity								
Full time	1,302	(14.6)	1,697	(15.6)	1.2	(0.01)	1.4	(0.01)
Part time	560	(8.9)	673	(10.4)	1.8	(0.03)	2.1	(0.03)
Not employed	208	(5.3)	247	(6.0)	1.2	(0.03)	2.3	(0.06)
Employer type								
Federal government	19	(1.6)	30	(2.1)	0.4	(0.03)	0.5	(0.04)
State government	35	(2.3)	40	(2.3)	0.5	(0.03)	0.6	(0.03)
Local government	24	(1.8)	31	(2.1)	0.2	(0.02)	0.3	(0.02)
Private for-profit	1,098	(13.5)	1,404	(15.0)	1.1	(0.01)	1.3	(0.01)
Private nonprofit	182	(4.4)	201	(6.2)	1.5	(0.04)	1.4	(0.04)
Self-employed	523	(7.5)	897	(12.1)	5.5	(0.08)	5.4	(0.07)
Working without pay for a family business	2	(0.5)	14	(1.5)	1.1	(0.23)	3.9	(0.42)
Person earnings group								
Less than $10,000	455	(8.8)	513	(9.5)	1.4	(0.03)	2.0	(0.04)
$10,000 to $19,999	261	(7.2)	258	(6.7)	1.1	(0.03)	1.5	(0.04)
$20,000 to $29,999	249	(5.6)	235	(6.1)	1.1	(0.03)	1.2	(0.03)
$30,000 to $39,999	231	(6.0)	230	(6.6)	1.2	(0.03)	1.2	(0.03)
$40,000 to $49,999	209	(5.2)	215	(5.1)	1.4	(0.03)	1.3	(0.03)
$50,000 to $59,999	158	(5.2)	206	(5.5)	1.4	(0.05)	1.5	(0.04)
$60,000 to $74,999	180	(5.0)	260	(6.1)	1.6	(0.04)	1.6	(0.04)
$75,000 to $99,999	151	(4.3)	293	(7.7)	1.6	(0.05)	1.9	(0.05)
$100,000 to $149,999	112	(4.1)	241	(6.1)	1.7	(0.06)	1.7	(0.04)
$150,000 or more	64	(2.7)	166	(4.5)	1.5	(0.06)	1.6	(0.04)
Family income group [a]								
Less than $10,000	26	(2.3)	26	(2.1)	0.8	(0.07)	1.2	(0.09)
$10,000 to $19,999	45	(2.6)	36	(2.3)	0.7	(0.04)	1.1	(0.08)
$20,000 to $29,999	64	(2.7)	52	(3.4)	0.7	(0.03)	1.1	(0.07)
$30,000 to $39,999	83	(4.0)	62	(3.5)	0.8	(0.04)	1.0	(0.06)
$40,000 to $49,999	92	(3.5)	76	(3.0)	0.9	(0.03)	1.1	(0.04)
$50,000 to $59,999	106	(3.7)	81	(3.2)	1.0	(0.04)	1.1	(0.04)
$60,000 to $74,999	157	(4.5)	142	(4.2)	1.0	(0.03)	1.2	(0.04)
$75,000 to $99,999	246	(5.9)	245	(6.5)	1.2	(0.03)	1.3	(0.03)
$100,000 to $149,999	327	(6.4)	431	(7.5)	1.4	(0.03)	1.4	(0.02)
$150,000 or more	275	(6.1)	682	(10.3)	1.7	(0.04)	1.8	(0.03)
Household income group								
Less than $10,000	70	(3.4)	88	(4.1)	1.2	(0.06)	1.8	(0.08)
$10,000 to $19,999	96	(3.8)	69	(3.3)	1.1	(0.04)	1.5	(0.08)

Selected characteristic	Number of artists, in thousands				Artists as a percentage of the labor force			
	2010		2021		2010		2021	
$20,000 to $29,999	124	(4.5)	92	(3.6)	1.0	(0.04)	1.3	(0.05)
$30,000 to $39,999	147	(5.1)	112	(4.7)	1.1	(0.04)	1.3	(0.05)
$40,000 to $49,999	154	(4.9)	127	(4.1)	1.1	(0.04)	1.3	(0.04)
$50,000 to $59,999	163	(4.7)	143	(5.3)	1.2	(0.03)	1.3	(0.05)
$60,000 to $74,999	230	(5.7)	218	(5.5)	1.2	(0.03)	1.4	(0.03)
$75,000 to $99,999	333	(7.2)	363	(7.7)	1.4	(0.03)	1.5	(0.03)
$100,000 to $149,999	408	(7.9)	558	(9.0)	1.5	(0.03)	1.5	(0.02)
$150,000 or more	345	(7.6)	847	(11.0)	1.8	(0.04)	1.9	(0.02)

Note. Standard errors appear in parentheses, and detail may not sum to totals because of rounding. Symbols have the following meanings: --- = not available; † = not applicable; and ‡ = reporting standards not met because there are too few cases for a reliable estimate or the CV is 50 percent or greater. Data come from the U.S. Department of Commerce, Census Bureau, American Community Survey 2010 and 2021.

[a] Includes only persons residing with other family members.

Appendix F. Statistical Notes

The NASERC indicators contain information with the goal of providing the public with regularly updated statistics on the health and vitality of the arts in the United States. Supplemental online tables, which are accessible from the NASERC website, support analyses throughout the NASERC indicators.

The data in these NASERC indicators come from many different sources—which collect information from both household and institutional respondents—using surveys and compilations of administrative records. Users should be cautious when comparing data from different sources. Differences in aspects such as procedures, timing, question phrasing, and interviewer training can affect the comparability of results across data sources. Unless otherwise noted, data are for the 50 states and the District of Columbia.

Most of the NASERC indicators summarize data from surveys conducted by the U.S. Census Bureau, the Bureau of Labor Statistics, the Bureau of Economic Analysis, the National Center for Education Statistics, or the National Center for Science and Engineering Statistics. Descriptions of the relevant survey systems may come from the sponsoring federal agencies.

Multiple considerations influence the ultimate selection of the data years to feature in the indicators. To make analyses as timely as possible, the latest year of available data (at the time of indicator development) is shown. The choice of comparison years is sometimes based on the desire to show the general base year of 2010, as well as years immediately preceding the COVID-19 pandemic. Some data sources used for the NASERC indicators are not annual, so these also influence the selection of comparison years. When applicable, the narrative may note years in which the data begin to diverge from previous trends.

Survey Types

Data for the NASERC indicators come from two types of surveys: universe surveys and sample surveys. Universe surveys collect information from every member of the population. For example, in a survey regarding graduates of colleges and universities, data would come from each postsecondary institution in the United States. When data from an entire population are available, estimates of the total population or a subpopulation are made by simply summing the units in the population or subpopulation. As a result, there is no sampling error, and observed differences are reported as true.

Because universe surveys often are expensive and time consuming, many surveys collect data from a sample of the population of interest (sample surveys). For example, ACS collects data from a representative sample of persons in the United States, not the entire population. When using a sample survey, statistical uncertainty is introduced because the data come from only a portion of the entire population. This uncertainty must be considered when reporting estimates and making comparisons. (For more information, please see “Measurement of Statistical Variance” for a discussion on standard errors.

Statistical Measures

Various types of statistics derived from universe and sample surveys are reported in the NASERC indicators. Many indicators report the size of a population or subpopulation, and the size of a subpopulation is often expressed as a percentage of the total population. In addition, the average (or mean) value of some characteristic of the population or subpopulation may be reported. The average is obtained by summing the values for all members of the population and dividing the sum by the size of the population. An example is the daily time spent by adults reading books. Another measure that is sometimes used is the median. The median is the midpoint value of the distribution of a characteristic, meaning that 50 percent of the population is estimated to fall at or above this level and 50 percent of the population is estimated to fall at or below this level. An example is the median annual earnings of artists who are full-time, full-year wage and salary workers (a median value of $30,000 would imply that 50 percent of full-time full-year young adult workers earn $30,000 or less and the other 50 percent earn $30,000 or more).

Measurement of Statistical Variance

Using estimates calculated from data based on a sample of the population requires consideration of several factors before the estimates become meaningful. When using data from a sample, some amount of error will always be present in estimations of characteristics of the total population or subpopulation because the data are available from only a portion of the total population. Consequently, data from samples can provide only an approximation of the true or actual value. This uncertainty is often represented as the margin of error of an estimate—that is, the range of values around the estimate expected to contain the true or actual value—which depends on several factors, such as the amount of variation in the responses, the size and representativeness of the sample, and the size of the subgroup for which the estimate is computed. The magnitude of these factors is measured by what statisticians call the standard error of an estimate. A larger standard error typically indicates that the estimate is less precise, while a smaller standard error typically indicates that the estimate is more precise. To estimate the margin of error, the standard error is scaled based on the desired level of confidence in the estimate. Throughout the NASERC indicators, margins of error are produced based on a 95 percent level of confidence.

When data from sample surveys are reported, the standard error is calculated for each estimate. The standard errors for all estimated totals, means, medians, or percentages are reported in the reference tables.

In order to caution the reader when interpreting findings that may be imprecise in the indicators, estimates from sample surveys are flagged with a "!" when the standard error is between 30 and 50 percent of the magnitude of an estimate, and estimates are suppressed and replaced with a "‡" when the standard error is 50 percent of the estimate or greater. Values may also be suppressed when there are based on small sample sizes. Counts of populations are suppressed when they are based on samples of fewer than 30 cases (also replaced with a "‡".) Percentages are suppressed where the numerator is based on fewer than 3 cases, or if the denominator is based on fewer than 30 cases.

Statistical Testing

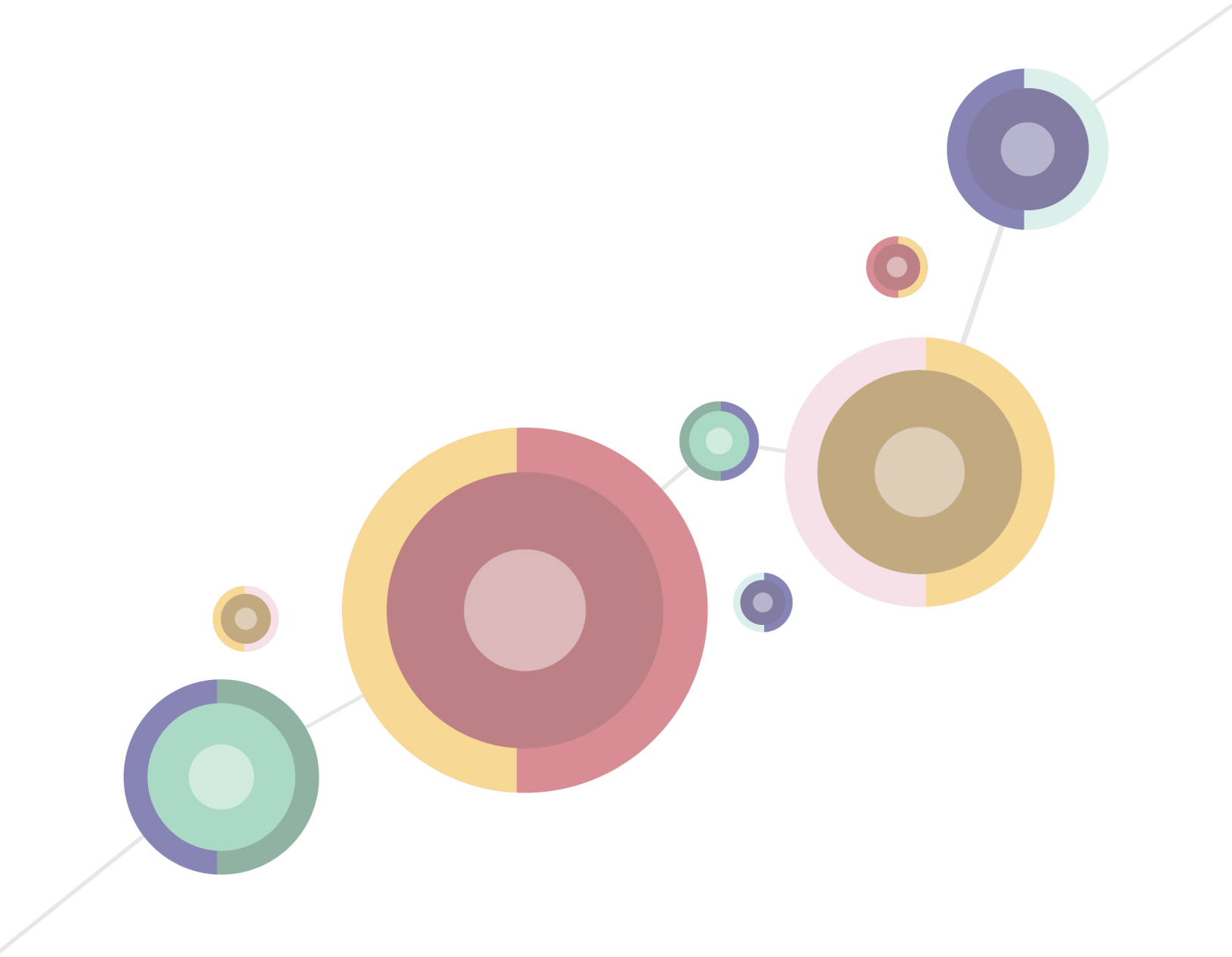
When estimates are from a sample, caution is warranted when drawing conclusions about whether one estimate is different in comparison to another; whether a time series of estimates is increasing, decreasing, or staying the same; or whether two variables are associated. Although one estimate may appear to be larger than another, a statistical test may find that the apparent difference between them is not "statistically significant" due to the uncertainty around the estimates. In this case, the estimates are described as having no measurable difference. Having no measurable difference does not mean that the values are similar, it means that there is substantial uncertainty on whether the values are different and potentially which one is higher.

Whether differences in means or percentages are statistically significant can be determined using the standard errors of the estimates and their associated margins of error. For all NASERC indicators that report estimates based on samples, differences between estimates (including trends over time) are stated only when they are statistically significant, based on a 95 percent level of confidence. To determine whether the difference between two estimates is statistically significant, indicators use two-tailed *t*-tests at the .05 level, with an adjustment if the samples being compared are dependent. A *t*-test is a widely applied statistical computation used to test whether the difference between the reported values for two groups are statistically significant. The analyses are not adjusted for multiple comparisons. In indicator text, statistically significant trends over time are often referred to as "increases" or "decreases."

Data presented in the indicators typically do not investigate more complex hypotheses or support causal inferences. We encourage readers who are interested in more complex questions and in-depth analyses to explore other statistical resources, including publications, online data tools, and public- and restricted-use datasets.

Rounding of Data

All calculations in the indicators are based on unrounded estimates. Therefore, the reader may find that a calculation cited in the text or figure, such as a difference or a percentage change, may not be identical to the calculation obtained by using the rounded values shown in the accompanying tables. Although values reported in the reference tables are generally rounded to one decimal place (e.g., 76.5 percent), values reported in each indicator are generally rounded to whole numbers (with any value of 0.50 or above rounded to the next highest whole number). Due to rounding, cumulative percentages may sometimes equal 99 or 101 percent rather than 100 percent. While Although the data labels on the figures have been rounded to whole numbers, the graphical presentation of these data is based on the unrounded estimates.



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