

Demographic analyses in the US: an insight-based approach to studying diverse needs for library planning

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Introduction

This paper was born from our collaboration on state-level evaluation work for library funds dispersed through the Institute of Museum and Library Services (IMLS). The Library Services and Technology Act (LSTA), or “Grants to States” as it is also known, is the largest funding source managed by the IMLS. It has a specific framework for dispersing funds through State Library Administrative Agencies (SLAAs). LSTA funds represent dedicated funding distributed on a population-based formula according to the rules and regulations articulated in LSTA. Generally, LSTA is a flexible framework, yet it does have a few important requirements. One is the submission of a LSTA Evaluation every five years for the work funded in that period, as well as a required submission of a plan, which each SLAA must submit at the beginning of the next five year period. The plan articulates the goals SLAAs will achieve with these funds over the next five years; at the end of that period, SLAAs are required to submit another five year LSTA Evaluation, typically done by an independent evaluator.

For the 2013–2017 period, the SLAAs issued competitive requests for proposals to hire independent evaluators that would start work in the mid to late 2016 and submit a final five-year evaluation to the SLAA and to IMLS by March 30, 2017. Upon completion of the evaluations, the SLAAs focused on developing five year plans for the 2018–2022 period, submitted to IMLS by June 30, 2017. Both the latest [evaluations and the plans](#)¹ are available on the IMLS website. It is worth noting that because evaluations for each five-year period must be submitted by March 30 of the final year of the plan, the independent evaluation process can never consider the complete fifth year of data. As a good practice, when QualityMetrics undertakes an evaluation, they first review the last year of the previous evaluation cycle to gain an understanding of continuities between the previous five-year and the latest plan at hand that is to be evaluated. Also, the fourth years of annual administrative data are not due to IMLS until the end of December, so there is a relatively short amount of time to incorporate the fourth year’s findings into the final evaluation due on March 30.

It is important, therefore, for the evaluators to gain an understanding of state trends and how they may influence the evaluation process. Even during the COVID-19 years, the experiences of the different states and the libraries in these states varied

considerably, despite the uniformity of experience in terms of general disruptions. Some states faced these disruptions differently than others. More densely populated states, such as the east and west coast states, may have had more closings and logistical considerations compared to less populated states such as Alaska or the middle of the country.

Beyond the annual administrative data from IMLS, it is critical to understand statewide trends by considering broad demographic trends as well as economic and other health and civic indicators. Libraries operate in an environment that is shaped by policies and procedures at the federal level (for example the LSTA requirements), at the state level (for any SLAA-provided funding), and at the local level. Although the majority of public library funding comes from local sources, state and federal funding has served as an important driver for bridging inequities and implementing innovations. Such funding, therefore, is typically utilized to address the needs at two ends of the spectrum: to ensure that everyone experiences an adequate level of library service and, on the other hand, ensure that opportunities for funding innovative and transformative services and programs prepare libraries and their communities for the future!

IMLS provides detailed [guidelines for the LSTA Evaluation process](#)² and the [LSTA Planning process](#).³ In general, the guidelines encourage outcome-based evaluation processes, and the plans serve as a high-level logic model for the outcomes-based evaluation process. Though typically the majority of these summative five-year evaluations are completed in five to six months, QualityMetrics believes the SLAAs and the quality of the evaluations will benefit if the independent evaluators had 9–12 months ahead of them; some SLAAs do recognize the importance of allowing adequate time for the evaluation and issue their contracts earlier. In summarizing the level of effort the SLAA performs to the Office of Management and Budget (OMB), in addition to the external evaluators' work, IMLS suggests that on average an SLAA will need to devote about 90 hours of effort for the evaluation and about 90 hours of effort for the plan.

The guidelines refer to three key elements for these evaluations and plans: the LSTA purposes, the LSTA priorities, and the Measuring Success focal areas and intents. The three lists below capture these key elements:

LSTA Purposes

Purpose of LSTA (20 U.S.C. § 9121)

1. Enhance coordination among Federal programs that relate to library, education, and information services;
2. Promote continuous improvement in library services in all types of libraries in order to better serve the people of the United States;

3. Facilitate access to resources in all types of libraries for the purpose of cultivating an educated and informed citizenry;
4. Encourage resource sharing among all types of libraries for the purpose of achieving economical and efficient delivery of library services to the public;
5. Promote literacy, education, and lifelong learning, including by building learning partnerships with school libraries in our Nation's schools, including tribal schools, and developing resources, capabilities, and programs in support of State, tribal, and local efforts to offer a well-rounded educational experience to all students;
6. Enable libraries to develop services that meet the needs of communities throughout the Nation, including people of diverse geographic, cultural, and socioeconomic backgrounds, individuals with disabilities, residents of rural and urban areas, Native Americans, military families, veterans, and caregivers;
7. Enable libraries to serve as anchor institutions to support community revitalization through enhancing and expanding the services and resources provided by libraries, including those services and resources relating to workforce development, economic and business development, critical thinking skills, health information, digital literacy skills, financial literacy and other types of literacy skills, and new and emerging technology;
8. Enhance the skills of the current library workforce and recruit future professionals, including those from diverse and underrepresented backgrounds, to the field of library and information services;
9. Ensure the preservation of knowledge and library collections in all formats and enable libraries to serve their communities during disasters;
10. Enhance the role of libraries within the information infrastructure of the United States in order to support research, education, and innovation;
11. Promote library services that provide users with access to information through national, State, local, regional, and international collaborations and networks; and
12. Encourage, support, and disseminate model programs of library and museum collaboration.

LSTA Priorities

Grants to States (20 U.S.C. § 9141)

1. Expand services for learning and access to information and educational resources in a variety of formats (including new and emerging technology), in all types of libraries, for individuals of all ages in order to support such individuals' needs for education, lifelong learning, workforce development, economic and business development, health information, critical thinking skills, digital literacy skills, and financial literacy and other types of literacy skills;

2. Establish or enhance electronic and other linkages and improved coordination among and between libraries and entities, as described in 20 U.S.C. § 9134(b)(6), for the purpose of improving the quality of and access to library and information services;
3. (A) Provide training and professional development, including continuing education, to enhance the skills of the current library workforce and leadership, and advance the delivery of library and information services; and (B) Enhance efforts to recruit future professionals, including those from diverse and underrepresented backgrounds, to the field of library and information services;
4. Develop public and private partnerships with other agencies, tribes, and community-based organizations;
5. Target library services to individuals of diverse geographic, cultural, and socioeconomic backgrounds, to individuals with disabilities, and to individuals with limited functional literacy or information skills;
6. Target library and information services to persons having difficulty using a library and to underserved urban and rural communities, including children (from birth through age 17) from families with incomes below the poverty line (as defined by the Office of Management and Budget and revised annually in accordance with section 9902(2) of title 42) applicable to a family of the size involved;
7. Develop library services that provide all users access to information through local, State, regional, national, and international collaborations and networks; and
8. Carry out other activities consistent with the purposes set forth in 20 U.S.C. § 9121, as described in the State library administrative agency's plan.

Measuring Success Focal Areas and Intents

- Lifelong Learning
 - Improve users' formal education
 - Improve users' general knowledge and skills
- Information Access
 - Improve users' ability to discover information resources
 - Improve users' ability to obtain and/or use information resources
- Institutional Capacity
 - Improve the library workforce
 - Improve library's physical and technology infrastructure
 - Improve library operations
- Economic & Employment Development
 - Improve users' ability to use resources and apply information for employment support
 - Improve users' ability to use and apply business resources
- Human Services

- Improve users' ability to apply information that furthers their personal, family, or household finances
- Improve users' ability to apply information that furthers their personal or family health & wellness
- Improve users' ability to apply information that furthers their parenting and family skills
- Civic Engagement
 - Improve users' ability to participate in their community
 - Improve users' ability to participate in community conversations around topics of concern

LSTA has articulated purposes and priorities that determine on broad terms where libraries invest funds and what programs and activities they can support. It is paramount, though, for the state library agencies to know the needs of their communities. This is where a variety of national data sources, paramount among them national census data, come to serve the needs of the agencies, the evaluators, and the planners.

Data Sources for Demographic Analyses

We used a variety of data sources in our demographic analysis for the LSTA evaluations. We will primarily consider U.S. Census data, but will review some other options before considering census data in more detail. Throughout this paper, we will use the Utah LSTA analysis as our primary example.

U.S. Census Bureau Data

The [United States Census Bureau](#) was our main source for the Utah LSTA analysis. General benefits of census bureau data include its availability for every state and for most U.S. territories. Availability is also important because using it across state analyses makes those analyses more directly comparable with each other.

The Census Bureau's most familiar product is the [decennial census](#), the nationwide census administered every 10 years. Because it has been performed each decade since 1790, it is useful to show changes over time. This data is also fairly easy to find and use. However, a downside, particularly related to the LSTA analyses, is that the decennial census includes only a limited set of variables. Currently, these variables include number of people residing in a household, their relation to each other, and their sex, age, race, and ethnicity. An additional downside is that evaluating data only once across a decade may not show nuances of population changes over time.

The [American Community Survey](#), or ACS, has a broader set of variables that include socioeconomic information, making it a valuable source for demographic analysis (notable variables include: country of birth, U.S. citizenship status, year of naturalization, year of entry into the U.S., residence one year ago (migration patterns),

race, ethnicity, ancestry, and language spoken at home). The ACS is also administered by the Census Bureau, and was developed out of the former “long form” from the decennial census, which provided additional questions to a sample of households. Since the early 2000s, the ACS has been sent to a sample of U.S. households on 1-year or 5-year cycles (based on community size); thus, it can track demographic shifts over shorter periods than the decennial census.⁴ A downside of ACS data is that smaller areas provide less precise estimates. Further, 1-year estimates are not available for areas with lower population density (less than 65,000), so 5-year estimates must be used. This affected our Utah analysis; only 7 out of Utah’s 29 counties are large enough to provide 1-year data. We used the 5-year estimates for the majority of the analysis, so that county data was comparable. The Census also provides access to ACS microdata (individual-level data), as well as the standard aggregate data reported in census tables.

The Census partners with the Bureau of Labor Statistics to produce the [Current Population Survey](#) (CPS), which is administered monthly. It is a primary source of labor force statistics, including the national unemployment rate and other issues relating to employment and earnings. Additionally, it includes country of birth, U.S. citizenship status, and year of entry into U.S. The CPS is also the only census source that provides parental place of birth.

Additional Data Sources

The [Integrated Public Use Microdata Series](#) (IPUMS) provides an array of data, including U.S. Census data and international data. IPUMS is a useful tool for those interested in additional microdata. This microdata is available over time; the U.S. decennial data goes back to 1850, and ACS data back to 2000. Although this data is at the individual level, names are only included in historic data (the most recent is for 1920). For current and recent data, names and other identifiable information, including some geographic information such as street addresses, has been suppressed because this data is publicly available (through a registration process).

Other federal government agencies provide data with additional or subject-specific detail. For instance, the CDC’s [Social Vulnerability Index](#) uses Census data to rank census tracts on fifteen social factors, including poverty and lack of vehicle access, to estimate a community’s ability to weather hazardous events. This ranking helps determine which communities may be most likely to need specific types of support.

Another example is data gathered by the [National Center for Education Statistics](#) (NCES). The NCES gathers and reports data similar to that gathered by the Census Bureau, such as educational attainment and school enrollment, but rather than being reported by the individuals experiencing education, the data is primarily reported by the institutions providing that education. Additionally, the NCES provides some international data, enabling comparisons. Specific agencies like the NCES can be helpful for demographic studies, particularly geographic-focused analyses like ours,

because they provide many state-focused or county-focused statistics and tools. For instance, the NCES provides dashboards showing key statistics by school district, incorporating ACS socioeconomic variables. These topic-specific studies may provide additional insight into demographic shifts; for instance, school enrollment by age, sex, or race can show population changes.

This kind of topic-specific data is often available at smaller levels of government (state, municipal), if needed for more local analysis. However, availability of data at state and local government levels varies. In highly populated states such as California, there may be greater levels of data available, and at smaller geographic levels, than more rural states like Utah or Nevada.

IMLS collects data about public libraries through the Public Library Statistics (PLS) annual data collection and SLAA data every two years. Historically, the PLS data have focused on quantitative data elements and are useful supplements of other more detailed and contextual data provided by libraries directly. PLS data describe the entity administratively (is it a county system, or a single main library building, and various variations), the collections, staffing, expenditures. They also provide useful location information for branch locations. The latest Tableau view of the PLS data is available on the IMLS website through the Library Search & Compare interface.⁵ Additional web sites are also available that marry the PLS with the American Community Survey (ACS) survey collaboratively developed with IMLS and Census.⁶

Nonprofits or think tanks may be sources for preexisting demographic reports, tables, or datasets. For our Utah analysis, we found many helpful reports on Utah's changing demographics from the University of Utah's Kem C. Gardner Policy Institute.⁷

Insight can also be found in data gathered directly by or in cooperation with populations of interest. For example, the [Native Land Information System](#)'s mission is "to compile, consolidate, and visualize data and information that Indigenous peoples of North America need to protect their lands and resources and plan for the future."⁸

For the rest of this paper, we will primarily focus on Census data, and in particular the American Community Survey (ACS). This is because the ACS covers many relevant topics, is available for the entire United States, and it was the basis for much of our Utah analysis. ACS data is not perfect, but can be a helpful tool, particularly if you are aware of its limitations.

Geographic Levels in Census Data

The geographic level selected for analysis (nation, state, county, etc.) impacts the data that is available, how precise it is, how well it maps to a particular topic, and how results can be presented. There is not necessarily a "perfect answer" for the appropriate geographic level to select for a given project. Analyses by county are fairly

simple to create, but because large cities may be encompassed into larger counties or be divided by county lines, results may be difficult to interpret. More granular levels of geography include census tracts, which are broken into comparable population sizes. However, that results in analyzing many more sub-geographical units, which may make it harder to visualize or report results succinctly.

The census offers geographic areas that are defined either legally or statistically.⁹ Legal boundaries for cities, counties, states, and congressional districts are defined by law at local, state, or federal levels. These have the benefit of being broadly understood and familiar to most audiences. In the case of our LSTA analyses, they also mapped well to how areas are served by public libraries (often at the city or county level).

Statistical areas include Census-Bureau-defined census blocks, tracts, and metropolitan and micropolitan statistical areas. Census tracts typically have a population size between 1,200 and 8,000 people, with an ideal size of 4,000 people. They vary widely in spatial size, depending on their population density. While these can be more difficult to grasp than the more familiar counties and cities, they have the benefit of being more evenly comparable. When using ACS microdata, the smallest available statistical units are Public Use Microdata Areas (PUMAs), with a minimum population of 100,000. PUMAs correspond to counties and neighborhoods. The Census's Zip Code Tabulation Areas (ZCTAs) are statistical areas that use groups of census blocks to approximate zip codes (defined by the U.S. Postal Service). However, they are not an exact match, and using them can be challenging. Finally, note that the boundaries for both legal and statistical areas can change over time, which is important to keep in mind for any analysis that considers multiple years of data.

Surprisingly, the Census Bureau has no definition for “rural”; instead, the Census designates areas as rural by default if they are not already classified as urban. These geographies are classified as such by density of population, rather than by legal definitions of cities or towns. Thus, the Census defines “urbanized areas” as containing 50,000 or more people; “urban clusters” have at least 2,500 but fewer than 50,000 residents. Areas that do not fit either of those definitions are thus designated as rural by default. Note that because these boundaries are only redefined when the decennial census is administered, the ACS does not reflect changes in urbanization over time.

Accessing U.S. Census Data

The Census Bureau provides a variety of options for accessing and visualizing census data in addition to the various options for downloading data tables. There are three main places to start exploring census data:

- [Explore Census Data](#) is the dedicated data area and provides links to start with tables, maps, data profiles, or microdata.¹⁰

- The [Table Navigator](#) lists relevant tables, provides keyword searching, includes many filter options, and allows for customization such as including or excluding the margin of error.¹¹
- The [Census Survey Explorer](#) begins with a search box and is searchable by topic, geography, and more.¹²

The Census Bureau also offers a variety of helpful pre-created visualizations and maps. Many compare data at the state level, but some include counties and other geographies. Examples include the [2020 Census Demographic Data Map Viewer](#).¹³ This map’s default view is at state level, but zoom options also provide county or census tract levels. This map contains data on race and ethnicity, housing, group quarters, population density, and change in population (2010–2020). Another example is the [Census Flows Mapper](#), which shows migration patterns into and out of a selected state or county.¹⁴ This visualization draws from the ACS’s questions on place of residence, both current and one year ago.

Considering Data on Race and Ethnicity

Because race and ethnicity are socially and politically created constructs, there are always difficulties measuring them; Census data is no different. It is important to understand how the Census (and other data sources) measure race and ethnicity to understand their constraints and how they can be used.¹⁵ Currently, the Census Bureau measures six race categories: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, White, or Some Other Race.¹⁶ Respondents are also asked to write out their ancestry (for example, German, Lebanese). An additional variable reports those who select more than one category as “two or more races.”¹⁷ A separate question asks, “Are you Hispanic or Latino?”

Since race and Hispanic/Latino ethnicity are recorded separately, using them in analyses can be challenging. One common method is using the Census’s “race alone” tables and including a footnote that reports the separate percentage for the Hispanic/Latino population. This creates an overlap in the data, since each person who selected “yes” for Hispanic/Latino ethnicity also selected one or more of the six racial categories. Another method is reporting the Hispanic/Latino counts as a race, and eliminating them from the races that population also selected. Problems here include undercounting racial categories, and ignoring potential nuance in the data for communities such as the Black Hispanic/Latino population. Other methods of analyzing and reporting this data exist, but none are ideal.

The MENA (Middle Eastern and North Africa) population is also often undercounted (see footnotes for the first paragraph in this section). The OMB currently defines this population as White, even though that is not how many people in this population identify. Consequently, many in this population select the “Some Other Race” category.

Thus, they are aggregated with respondents who do not share their identity (including many who identify as Hispanic/Latino), and thus are undercounted.

Because of difficulties gathering data in the early months of the pandemic, the 2020 ACS 1-year estimates are particularly non-reliable.¹⁸ Survey participation dropped 32% compared to 2019, and those who responded were more likely to be white, college-educated, and earn a higher income. Thus, the data is not useful as a representative set, especially not in comparison to other years of data.

Other meaningful ACS variables for demographic analyses include: ancestry (“what is this person’s ancestry or ethnic origin?”), nativity (native U.S. or foreign born), place of birth, language spoken at home, age (shows if a population is getting younger or older), median income, migration patterns, household internet access and/or computer, level of educational attainment, literacy level (particularly by age), and immigration status (including year of U.S. entry). The ACS “S” (Subject) tables are helpful and available for many geographies.¹⁹ Table titles also include numbers indicating the subject(s) covered; lists of these are available online.²⁰

On Disaggregating Data

Disaggregating data may reveal additional nuance for particular subgroups that may be hidden when aggregated in broad racial and ethnic categories. For instance, looking at the “Asian” category as a monolith can often reinforce the “model minority” myth, particularly related to educational attainment, income, and health. However, specific communities, particularly Southeast Asian such as Vietnamese and Hmong communities, are often disadvantaged in these areas.²¹ The ACS race²² and ancestry²³ variables can help distinguish between these communities.²⁴ This is a growing field of research, especially in higher education; the book *Measuring Race: Why Disaggregating Data Matters for Addressing Educational Inequality* (Teranishi et al., 2020) is an excellent place to start.²⁵

Many public libraries now use more sophisticated tools to study the populations they serve, such as market research tools and market segmentation. There is a movement toward people-driven over collection-driven data. Regardless, we need to maintain an awareness of methods used (by ourselves and by others), and the biases in those tools (and the groups creating them), as well as the flaws or limitations present in the underlying data.

Sex and Gender Data Issues

Similar to racial data issues are those with the Census’s “sex” variable.²⁶ The Census Bureau reports that its question “What is Person 1’s sex? male, female” is intended to capture “current sex,” which is defined based on biological attributes such as chromosomes, anatomy, and hormones.²⁷ As such, the binary answer options do not encompass the complex non-binary nature of biological sex nor of a state of

transitioning. Additionally, this variable is not intended to reflect gender identity, but because no additional gender variable is provided, much research problematically uses the sex variable as gender. However, in July 2021 the Census Bureau began asking for gender identity, sexual orientation, and sex at birth, in its Household Pulse Survey.²⁸ Hopefully this will result in future change across other Census surveys. In the meantime, the binary sex variable should be used with caution, acknowledging its limitations.

Steps to Perform a State-Wide Demographic Analysis

The Utah LSTA analysis was guided by the specific needs and goals of the [Utah State Library](#). The primary purpose was to analyze recent (past decade) demographic shifts within Utah, to specifically consider shifts in rural areas, and to suggest how those shifts might impact community needs in relation to public libraries, in order to guide the state library’s strategic focus for the next five years. The state library requested a brief analysis of both demographic analysis and community needs; ultimately, we provided a seven-page demographic analysis of the state, primarily at the county level.

The first step was choosing the geographic level for Utah. We selected counties because low population made it harder to use smaller geographies, and counties were commonly used in reference to the library system, particularly the bookmobile routes. Additionally, county-level analysis enabled us to use existing rural, urban, and frontier designations from the Utah Department of Health & Human Services. This met the state library’s request for analysis related to library services for rural populations.²⁹

ACS and the decennial census were the main data sources. We considered race, ethnicity, age, sex, state migration, socioeconomic variables, and those directly related to library needs, such as home computer and internet access. Additionally, our analysis was guided by in-depth demographic reports by the Kem C. Gardner Policy Institute.³⁰ The requested brevity of this report made including disaggregated data impractical. Thus, a weakness of this analysis is that it did not provide more specificity into its understanding of communities and their needs.

Below (Figure 1) is an example table from our Utah demographic analysis, using the 2020 Census State Redistricting Data, at the county level. For it, I used the “race alone” data and included the separately-reported Hispanic or Latino variable. Counties are also listed as either “urban, rural, or frontier.”³¹

Figure 1

Population Shares by Race and Hispanic or Latino Origin, Utah Counties (Census 2020)										
Urbanity		Race Alone (Not Hispanic or Latino)					Some Other Race and Two or More Races (Not Hispanic or Latino)	Hispanic or Latino	Minority (total non-white)	Urbanity
		White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander				
	State of Utah	75.4%	1.1%	0.9%	2.4%	1.1%	4.1%	15.1%	24.6%	
Frontier	Beaver County	80.8%	0.3%	1.0%	0.5%	0.3%	2.0%	15.1%	19.2%	Frontier
Rural	Box Elder County	85.6%	0.3%	0.7%	0.8%	0.2%	2.9%	9.6%	14.4%	Rural
Urban	Cache County	82.1%	0.8%	0.5%	1.7%	0.5%	3.1%	11.3%	17.9%	Urban
Rural	Carbon County	81.6%	0.2%	1.0%	0.3%	0.1%	3.7%	13.1%	18.5%	Rural
Frontier	Daggett County	94.2%	0.1%	0.0%	0.1%	0.2%	2.3%	3.1%	5.8%	Frontier
Urban	Davis County	80.6%	1.1%	0.4%	1.9%	0.9%	4.2%	10.8%	19.4%	Urban
Frontier	Duchesne County	85.4%	0.1%	4.5%	0.3%	0.2%	3.0%	6.6%	14.6%	Frontier
Frontier	Emery County	89.7%	0.0%	0.6%	0.4%	0.1%	2.1%	7.2%	10.3%	Frontier
Frontier	Garfield County	87.5%	0.1%	1.8%	0.6%	0.1%	2.4%	7.6%	12.5%	Frontier
Frontier	Grand County	77.4%	0.7%	3.4%	0.8%	0.1%	4.9%	12.7%	22.6%	Frontier
Rural	Iron County	83.1%	0.7%	1.7%	1.1%	0.4%	3.5%	9.6%	16.9%	Rural
Frontier	Juab County	91.5%	0.1%	0.8%	0.3%	0.4%	2.2%	4.9%	8.5%	Frontier
Frontier	Kane County	90.3%	0.4%	1.6%	0.8%	0.0%	2.8%	4.2%	9.7%	Frontier
Frontier	Millard County	82.0%	0.1%	0.8%	1.1%	0.1%	2.3%	13.7%	18.0%	Frontier
Rural	Morgan County	94.0%	0.1%	0.3%	0.5%	0.0%	2.4%	2.8%	6.0%	Rural
Frontier	Piute County	88.7%	0.0%	0.3%	0.0%	0.0%	2.4%	8.6%	11.3%	Frontier
Frontier	Rich County	92.8%	0.4%	0.0%	0.1%	0.2%	2.6%	3.9%	7.2%	Frontier
Urban	Salt Lake County	67.6%	1.9%	0.6%	4.2%	1.8%	4.4%	19.6%	32.4%	Urban
Frontier	San Juan County	41.6%	0.2%	49.5%	0.2%	0.4%	3.0%	5.2%	58.4%	Frontier
Rural	Sanpete County	83.3%	0.8%	0.8%	0.6%	0.9%	2.9%	10.7%	16.7%	Rural
Rural	Sevier County	90.1%	0.3%	1.5%	0.2%	0.2%	2.8%	4.9%	9.9%	Rural
Rural	Summit County	82.9%	0.4%	0.2%	1.7%	0.1%	3.6%	11.2%	17.1%	Rural
Rural	Tooele County	80.1%	0.6%	0.6%	0.7%	0.9%	4.1%	13.1%	19.9%	Rural
Rural	Uintah County	80.7%	0.3%	6.4%	0.4%	0.3%	4.0%	8.0%	19.4%	Rural
Urban	Utah County	78.6%	0.6%	0.4%	1.5%	1.0%	4.4%	13.4%	21.4%	Urban
Rural	Wasatch County	81.0%	0.4%	0.2%	1.0%	0.1%	2.8%	14.5%	19.0%	Rural
Rural	Washington Cou	81.8%	0.5%	0.9%	1.0%	0.9%	3.6%	11.4%	18.2%	Rural
Frontier	Wayne County	91.2%	0.0%	0.8%	0.6%	0.1%	3.4%	3.9%	8.8%	Frontier
Urban	Weber County	73.9%	1.2%	0.5%	1.4%	0.4%	4.0%	18.6%	26.1%	Urban

Source: 2010 and 2020 Census State Redistricting Data
 Table 5, *First Insights – 2020 Census Race and Hispanic or Latino Origin in Utah*, August 2021, Gardner Policy Institute

Example Table from LSTA Utah Demographic Study

Conclusion

The LSTA grants evaluation framework and the projects supported are aligned along key socioeconomic indicators of healthy communities; this framework is known as the “Measuring Success Framework.” It comprises key focal areas and intents. Focal areas include: Lifelong Learning, Information Access, Institutional Capacity, Employment and Economic Development, Human Resources, and Civic Engagement. The first three focal areas convey areas where we can track library indicators that are more library centric and the last three focal areas are a bit broader, covering community indicators where libraries often have an indirect impact. Using the data available in the Census and the other tools we described above, we can develop a set of indicators for these six focal areas that can track library impact in a more meaningful way. For example, the following indicators are offered as examples of what we can focus one for each one of the focal areas:

<i>Focal Area (defined by IMLS' Measuring Success Framework):</i>	<i>Example indicators</i>
Lifelong Learning	Educational Attainment Literacy Level Attainment
Information Access	Computer ownership Internet availability/quality at home Location of public libraries in the area
Institutional Capacity	A few or more of the PLS data elements and their combined ratios
Employment and Economic Development	Unemployment rates Average income Industry data Employment data
Human Resources	Health rankings Health education
Civic Engagement	Affordable housing Housing Market Voting Other cultural indicators

Demographic analysis is helpful as it can map indicators to broad areas articulating in the measuring success framework. Similar efforts describe the health of various states with broadly driven indicators and this paper can help us think about developing similar efforts for library health.³²

These data help us gain insights about our communities and their diverse needs and help us track whether libraries are making a difference. Though direct causation is not something that this socio economic approach entails, it does provide deep knowledge of communities and needs. For those interested in creating similar analyses, look at some [IMLS evaluation reports](#) or some of the LSTA planning documents and you discover useful insights about communities in your state! Some of the data we have synthesized are providing a deeper understanding of these communities and their libraries. Ultimately, we hope these analyses help support and guide useful library programming that has real impact.

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Author Biographies

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Dr. Starr Hoffman is experienced in quantitative and qualitative data analysis, instructional and program assessment, and benchmark peer data comparison, primarily in a higher education setting. Her positions in academic libraries have included strategic planning, coordinating library-wide assessment, data literacy instruction, staffing level analyses, and digital collections. During her work in government documents (2006–2011), she helped evaluate the collections and services of library government document departments in the state of Texas. In addition to her work in academic libraries, she is experienced in peer-reviewing assessment reports at the class and program level for academic colleges. Starr has been a member of the ACRL Trends and Statistics Survey Editorial Board since 2018, consulting on questions and metrics for this national survey. She has a Masters in Library Science and a PhD in Higher Education from the University of North Texas.

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Dr. Martha Kyrillidou is director of QualityMetrics, LLC recently completing projects such as space plans for the Noel Wien Public Library and the University of Alaska Fairbanks, strategic planning for the University of Montana, collection evaluation for the San Mateo Public Library, organizational climate assessment for the University of Oregon, and LSTA evaluations for more than 20+ state library agencies. Martha worked at the Association of Research Libraries (ARL) for 20+ years. In this role, Martha developed evaluation protocols that measure library service quality including space assessment, diversity, equity, and organizational culture, and the impact of networked electronic services; well known protocols include LibQUAL+, ClimateQUAL, DigiQUAL, and MINES for Libraries. Martha has library credentials from the iSchools of Ohio and Illinois, including a Master's in Library Science from Kent State University and a Ph.D. in Library and Information Science from the University of Illinois at Urbana-Champaign.

Endnotes

¹ <https://www.ims.gov/grants/grants-state/five-year-evaluations>.

² “Guidelines for FY 2018–2022 Five-Year Evaluation,” accessed December 16, 2022, https://www.ims.gov/sites/default/files/2018-2022_fiveyearevaluationguidelines.pdf.

³ “2023-2027 Five Year Plan Guidelines,” accessed December 16, 2022, <https://www.ims.gov/sites/default/files/2021-03/fiveyearstateplanguidelines2023-2027.pdf>.

⁴ ACS 3-year estimates were discontinued in 2013.

⁵ “IMLS Public Library Statistics: Search & Compare,” accessed December 16, 2022, <https://www.ims.gov/search-compare>.

⁶ “Public Library by State: Library System & ACS Data Viewer,” accessed December 16, 2022, <https://experience.arcgis.com/experience/8615879a13774badaa6c9f477371205b/>.

⁷ “Demographics,” Kem C. Gardner Policy Institute, accessed November 29, 2022, <https://gardner.utah.edu/demographics/>.

⁸ “About the Native Land Information System,” accessed November 29, 2022, <https://nativeland.info/about/>.

⁹ “Legal/Administrative and Statistical Geographic Entities,” United States Census Bureau, accessed November 29, 2022, <https://www.census.gov/programs-surveys/geography/about/training/legal-and-geographic-entities.html>.

¹⁰ “Explore Census Data,” accessed November 29, 2022, <https://data.census.gov/>.

¹¹ “Table Navigator,” accessed November 29, 2022, <https://data.census.gov/table>.

¹² “Census Survey Explorer,” accessed November 29, 2022, <https://www.census.gov/data/data-tools/survey-explorer/>.

¹³ “2020 Census Demographic Data Map Viewer,” accessed November 29, 2022, <https://www.census.gov/library/visualizations/2021/geo/demographicmapviewer.html>.

¹⁴ “Census Flows Mapper,” accessed November 29, 2022, <https://flowsmapper.geo.census.gov/map.html>.

¹⁵ Strmic-Pawl, H. V., Jackson, B. A., & Garner, S. (2018). Race Counts: Racial and Ethnic Data on the U.S. Census and the Implications for Tracking Inequality. *Sociology of Race and Ethnicity*, 4(1), 1–13. <https://doi.org/10.1177/2332649217742869>.

¹⁶ The U.S. Office of Management and Budget (OMB) provides guidelines by which all federal race data, including Census Bureau data, is collected. The OMB announced in 2016 its intention to review the current standard, including potential to create an additional Middle Eastern or North African (MENA) group. However, the OMB has not yet changed the race reporting standard set in 1997. Sources: <https://www.census.gov/about/our-research/race-ethnicity.html>; <https://www.census.gov/library/visualizations/interactive/decennial-census-measurement-of-race-and-ethnicity-across-the-decades-1790-2020.html>; <https://www.census.gov/topics/population/race/about.html>.

¹⁷ Because individuals may select more than one race, when using and presenting this data, percentages may add up past 100%. This is simply something to be aware of and to mention to your audience.

¹⁸ McCue, D. (2022, April 28). “Defining ‘use with caution’: How we’re Navigating New Census Bureau data,” Joint Center for Housing Studies. Retrieved November 29, 2022, from <https://www.jchs.harvard.edu/blog/defining-use-caution-how-were-navigating-new-census-bureau-data>.

¹⁹ “Subject Tables: American Community Survey,” accessed November 29, 2022, <https://www.census.gov/acs/www/data/data-tables-and-tools/subject-tables/>.

²⁰ “Census Reporter: Table Codes,” accessed November 29, 2022, <https://censusreporter.org/topics/table-codes/>.

²¹ Lao, M. (2021, March 17). The case for requiring disaggregation of Asian American and Pacific Islander Data. California Law Review. Retrieved November 27, 2022, from <https://californialawreview.org/the-case-for-requiring-disaggregation-of-asian-american-and-pacific-islander-data/>; Edlagan, C., & Vaghul, K. (2020, August 12). How data disaggregation matters for Asian Americans and Pacific Islanders. Washington Center for Equitable Growth. Retrieved November 27, 2022, from <https://equitablegrowth.org/how-data-disaggregation-matters-for-asian-americans-and-pacific-islanders/>.

²² “Race: American Community Survey,” accessed November 29, 2022, <https://www.census.gov/acs/www/about/why-we-ask-each-question/race/>.

²³ “Ancestry: American Community Survey,” accessed November 29, 2022, <https://www.census.gov/acs/www/about/why-we-ask-each-question/ancestry/>.

²⁴ Each of these questions contain write-in components. The race question, although it reports Asian American Pacific Islander as a single category in aggregate tables, provides checkboxes for: Chinese, Vietnamese, Native Hawaiian, Filipino, Korean,

Samoan, Asian Indian, Japanese, Chamorro, Other Asian, and Other Pacific Islander, in addition to the write-in box for additional communities (such as Hmong).

²⁵ Additional suggested sources in this area include:

<https://www.unlv.edu/news/article/better-service-numbers>; López N, Hogan H. What's Your Street Race? The Urgency of Critical Race Theory and Intersectionality as Lenses for Revising the U.S. Office of Management and Budget Guidelines, Census and Administrative Data in Latinx Communities and Beyond. *Genealogy*. 2021; 5(3):75. <https://doi.org/10.3390/genealogy5030075>; OiYan A. Poon, Jude Paul Matias Dizon, and Dian Squire. (April 2017). "Count Me In!: Ethnic Data Disaggregation Advocacy, Racial Mattering, and Lessons for Racial Justice Coalitions," *JCScore* 3, 1, 91–124. <https://doi.org/10.15763/issn.2642-2387.2017.3.1.91-124>.

²⁶ See also: Garvey, Jason & Hart, Jeni & Metcalfe, Amy & Fellabaum-Toston, Jennifer. (2019). Methodological Troubles with Gender and Sex in Higher Education Survey Research. *The Review of Higher Education*. 43. 1–24. 10.1353/rhe.2019.0088.

²⁷ "Sex: American Community Survey," accessed November 29, 2022, <https://www.census.gov/acs/www/about/why-we-ask-each-question/sex/>.

²⁸ "Census Bureau Survey Explores Sexual Orientation and Gender Identity: New Household Pulse Survey Data Reveals Differences between LGBT and Non-LGBT Respondents During COVID-19 Pandemic," accessed November 29, 2022, <https://www.census.gov/library/stories/2021/11/census-bureau-survey-explores-sexual-orientation-and-gender-identity.html>.

²⁹ Our LSTA analyses vary widely by state. For instance, California is more heavily populated, and has more urban centers. Type of analyses, geographic levels, data considered, and topics explored may vary broadly based not only on the geographic area, but also the purpose for the analysis and needs of its audience.

³⁰ The Gardner Institute provides many helpful reports and tables, including this integral resource: Backlund, M., et al. (May 2021). *Data Book: Diversity in Utah: Race, Ethnicity, and Sex*. Salt Lake City, UT: Kem C. Gardner Policy Institute, University of Utah. More can be found here: "Demographics," Kem C. Gardner Policy Institute, accessed November 29, 2022, <https://gardner.utah.edu/demographics/>.

³¹ Utah Department of Health & Human Services designates that "Urban counties have a population density of 100 or more people per sq. mile; Rural counties have a population density of fewer than 99 but greater than 6 people per sq. mile and Frontier counties have 6 or fewer people per sq. mile" as per <https://ruralhealth.health.utah.gov/https-ruralhealth-health-utah-gov-utah-state-profile/county-classifications-map/>.

³² “America’s Health Rankings,” accessed December 16, 2022, <https://www.americashealthrankings.org/>.

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