

Arts Vibrancy in Northwest Arkansas



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NATIONAL CENTER FOR ARTS RESEARCH

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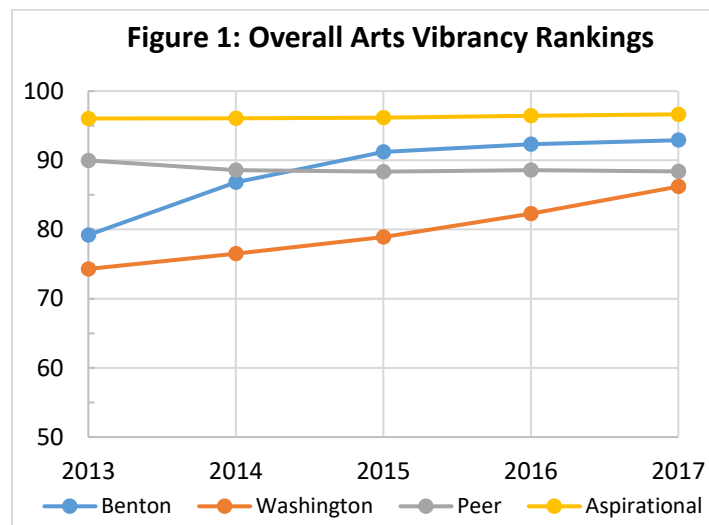
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Arts Vibrancy Analysis for Northwest Arkansas: Benton County, AR and Washington County, AR

This analysis examining arts vibrancy in Northwest Arkansas was conducted at the request of the Walton Family Foundation. It incorporates the arts vibrancy index developed by SMU DataArts, where Overall Arts Vibrancy is a weighted combination of three measures: (1) the Arts Providers score (45%), (2) the Arts Dollars score (45%), and (3) the Government Support score (10%). As described below, we view these three scores as proxies for a community's arts and culture (A&C) supply, demand, and state and federal government support, respectively, on a per capita basis. We also provide Socio-economic Rankings and Other Leisure Rankings in this report for informational purposes, but these scores are not incorporated into the Overall Arts Vibrancy Rankings.

For each measure, we compare rankings for Benton County and Washington County to a set of peer counties and a set of aspirational counties (see Appendix A). In selecting peer counties, we attempted to identify counties with similar population size, Overall Arts Vibrancy, Socio-economic, and Other Leisure characteristics. In selecting aspirational counties, we attempted to identify counties with similar Socio-Economic characteristics and higher Overall Arts Vibrancy.

As shown in Figure 1, the Overall Arts Vibrancy for Benton and Washington counties has increased over the five-year period. In 2013, both NW Arkansas counties were ranked below peer counties on Overall Arts Vibrancy. In 2017, Benton County's Overall Arts Vibrancy (93rd percentile) was higher than peer counties (88th percentile) but still lower than the aspirational counties (97th percentile). Washington County's ranking in 2017 (86th percentile) was competitive with the peer counties' ranking. Note that being ranked in the 86th percentile indicates that Washington County's Overall Arts Vibrancy on a per capita basis is higher than 86% of US counties.



In the rest of the report, we provide summary analyses for each of the five dimensions, the three dimensions included in the Overall Arts Vibrancy Rankings: (1) Arts Providers, (2) Arts Dollars, and (3) Government Support, plus (4) Socio-economic and (5) Other Leisure. We also include an appendix for each dimension along with a detailed analysis of the corresponding sub-dimensions. A final appendix provides an in-depth comparison to Orange, Durham and Wake counties in North Carolina. As described in Appendix A, all of our measures are on a per capita basis, distance discounted and population weighted.

Some of the key takeaways from the analysis are as follows:

- Benton and especially Washington County ranked below peer and aspirational counties in the Arts Providers Rankings. Benton County's rankings have increased substantially with the opening of the Crystal Bridges Museum and it is now competitive with peer and aspirational counties on two Arts Provider measures, but both NW Arkansas counties lag behind peer and aspirational counties on other measures. This bifurcation indicates that NW Arkansas has established a solid core of large A&C institutions but lacks a critical mass of independent artists and the small A&C organizations that emerge organically from such an agglomeration.
- Both NW Arkansas counties registered considerable increases in their Arts Dollars Rankings and are now very competitive. Benton County consistently outperformed both peer and aspirational counties over the last four years and ranked in the 98th percentile in 2017. Washington County ranked in the 96th percentile in 2017. The high rankings are driven by the art museum sector, but NW Arkansas lags behind peer and aspirational counties in the performing arts.
- Benton County received considerable increases in federal government support between 2014 and 2017 and both NW Arkansas counties are now very competitive in the Government Support Rankings. State arts funding appears to be spread out over many recipients. Federal funding, on the other hand, has been concentrated in relatively large dollar grants to a few recipients. This funding pattern reinforces the point above regarding a solid core of large A&C institutions with relatively few independent artists and small arts and culture organizations.
- Benton and Washington counties lag behind peer and aspirational counties in the Socio-economic Rankings, although both NW Arkansas counties saw small increases from 2015-17. Benton and Washington counties track closely for three of the five Socio-economic measures but diverge on measures of Per Capita Income and Percentage of Families not living in Poverty. On the Per Capita Income measure, Benton County ranks lower than peer and aspirational counties and Washington County ranks well below Benton County. On the Percentage of Families not living in Poverty measure, Benton County ranks well above the peer and aspirational counties and Washington County ranks well below the peer and aspirational counties.
- The Northwest Arkansas counties lag behind peer and aspirational counties in the Other Leisure Rankings, but they have improved their rankings considerably over the five-year period in the Hotels, Restaurants, and Bars categories. NW Arkansas lags behind peer and aspirational counties with respect to Cinemas. Washington County is competitive and Benton County lags behind peer and aspirational counties with respect to Zoos and Botanical Gardens and Professional Sports.

Summary Analysis of Trends with Respect to Arts Providers

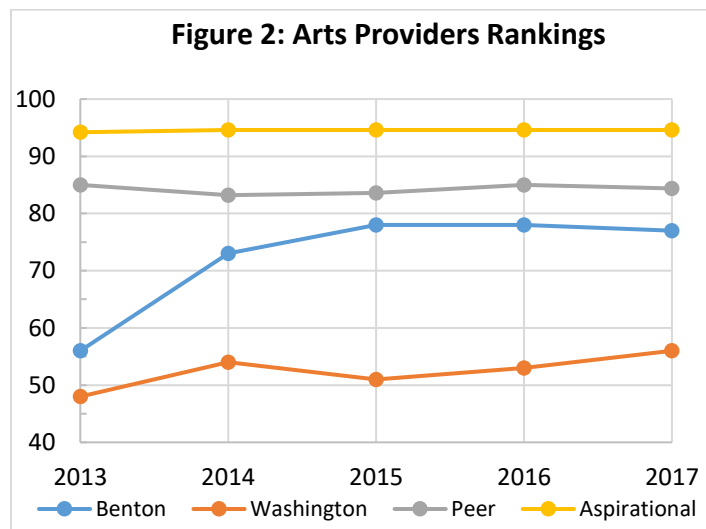
The Arts Providers score combines four measures: (1) number of Arts & Culture Employees, (2) number of Arts & Culture Organizations, (3) size-weighted number of Arts, Culture & Entertainment Firms, and (4) number of Independent Artists (see Appendix B), on a per capita basis. This score represents a proxy for the overall supply of arts and culture in a community.

As shown in Figure 2 below, Benton and especially Washington County consistently ranked below peer and aspirational counties in the summary Arts Providers Rankings. We note that Benton County ranked in the 77th percentile, which means that it ranked higher than 77% of counties in terms of Arts Providers per capita. But peer (84th percentile) and aspirational (95th percentile) counties ranked considerably higher.

As detailed in Appendix B, Benton County’s rankings have increased substantially with the opening of the Crystal Bridges Museum, and Benton County is now competitive with peer and aspirational counties on two Arts Provider measures: (1) number of Arts & Culture Employees, and (2) size-weighted number of Arts, Culture & Entertainment Firms. Both counties lag behind peer and aspirational counties in terms of number of Arts & Culture Organizations and number of Independent Artists.

This bifurcation indicates that NW Arkansas has established a solid core of large A&C institutions but lacks a critical mass of independent artists and the small A&C organizations that emerge organically from such an agglomeration. In this sense, the A&C landscape of NW Arkansas most resembles Hamilton (Chattanooga), TN, and Fayette (Lexington), KY, among peer counties and least resembles Travis (Austin), TX, and Buncombe (Asheville), NC, among aspirational counties.

The recently established University of Arkansas School of Art should help to attract independent artists to NW Arkansas. The challenge will be to keep these independent artists in the community. We note that the University of Arkansas already offered degrees in music and theatre. NW Arkansas is competitively ranked in the theatre sector but not in opera, music, or dance. The situation in NW Arkansas is similar to Dallas, TX, where SMU’s long-established Meadows School of the Arts attracts artists to Dallas but the city has struggled to maintain a thriving community of independent artists.



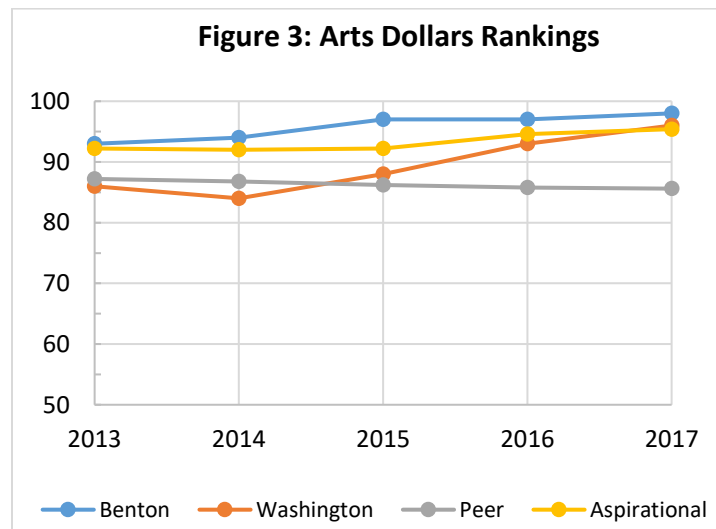
Summary Analysis of Trends with Respect to Arts Dollars

The Arts Dollars score combines four measures on a per capita basis: (1) Total Program Revenue, (2) Total Contributed Revenue, (3) Total Expenses, and (4) Total Compensation for all A&C organizations in the market (see Appendix C). This score represents a proxy for the overall demand for arts and culture in a community.

As shown in Figure 3, Benton and Washington counties are very competitive in the summary Arts Dollars Rankings. Benton County ranked in the 98th percentile and Washington County ranked in the 96th percentile in 2017. Both counties have seen considerable increases over the five-year period, whereas peer counties have seen a small decline (to the 86th percentile) and aspirational counties have seen small increases (to the 95th percentile).

As detailed in Appendix C, there are some fluctuations in reported Program Revenue and Total Compensation, mostly attributable to inconsistencies in reporting by one or two organizations. Overlooking those inconsistencies leads to the following conclusions. NW Arkansas is competitive in the Program Revenue and Total Compensation rankings. Both NW Arkansas counties outperformed peer and aspirational counties in the Contributed Revenue ranking in 2017 and in the Total Expense rankings from 2015-2017. Benton County consistently outperformed both peer and aspirational counties over the last four years.

Looking at individual A&C sectors (supplemental analysis not shown), NW Arkansas excels in the art museum sector, is somewhat lower than peer and aspirational counties in dance, music, and orchestra, and substantially lower in opera and general performing arts. Rankings increased substantially after 2015 in arts education and “other” museums. NW Arkansas is now competitive in these two sectors as well as in the community-based, performing arts center, and theatre sectors.



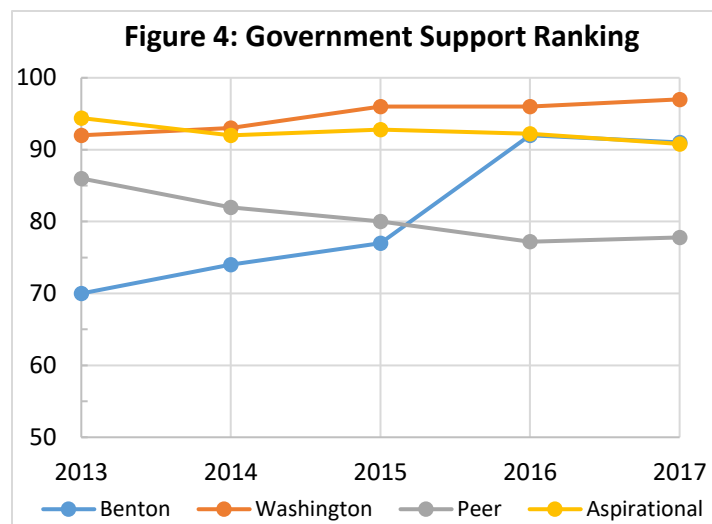
Summary Analysis of Trends with Respect to Government Support

The Government Support score combines four measures on a per capita basis: (1) Total State Arts Grant Dollars, (2) Number of State Arts Grants, (3) Total Federal Arts Grant Dollars, and (4) Number of Federal Arts Grants allocated to arts and cultural organizations in the market (see Appendix D). This score represents a proxy for the level of government support for arts and culture in a community, but it does not track local government support for arts and culture because there is no reliable data source for local government support. Our interviews with arts leaders in NW Arkansas indicated that local government support for arts and culture is adequate.

As shown in Figure 4, Benton and Washington counties are currently very competitive in the summary Government Support Rankings. Benton County ranked in the 91st percentile and Washington County ranked in the 97th percentile in 2017. Benton County saw considerable increases over the five-year period, which translated into small increases for Washington County as well. Peer counties saw a decline (to the 78th percentile) and aspirational counties remained mostly flat (91st percentile).

As detailed in Appendix D, state arts funding for the NW Arkansas counties is very competitive, although dollars allocated to Benton County have slipped over the last two years. State arts funding appears to be spread out over many recipients. As a result, NW Arkansas is on par with peer and aspirational counties in terms of State Arts Grant Dollars but substantially above peer and aspirational counties in terms of Number of State Arts Grants. This result is encouraging given that Arkansas' State Arts Agency funding ranks in the mid-30s (out of 50 states) in funding per capita (<https://nasaa-arts.org/research/funding/>).

The increase in Benton County's Government Support ranking is primarily attributable to substantially increased Federal funding, both in terms of number of grants and total dollars funded. The relative ranking for Federal Arts Dollars (94 in 2017) was substantially higher than the relative ranking for Federal Arts Grants (72 in 2017), which suggests that federal funding concentrates relatively large dollar grants to a few recipients (see Figures D3 and D4).



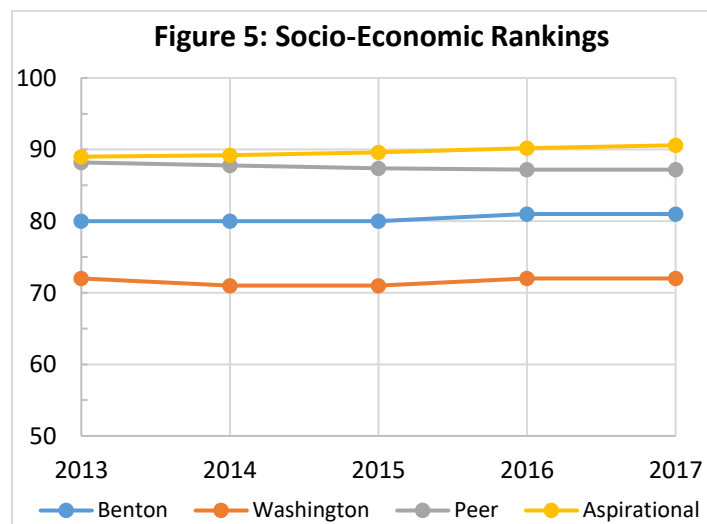
Summary Analysis of Trends with Respect to Socio-economic Measures

The Socio-economic score combines five measures: (1) Percentage of the population employed, (2) Percentage of the population with a Bachelor’s Degree or higher, (3) Per capita income, (4) Percentage of households with Income > \$150K, and (5) Percentage of families and people not living in poverty (see Appendix E). This score represents a proxy for the socio-economic composition of the community, with the percentage of families and people not living in poverty acting as a proxy for income inequality. We do not incorporate the Socio-economic score into the overall arts vibrancy score but our analyses suggest that it plays an indirect role.¹

As shown in Figure 5, Benton and Washington counties lag behind peer and aspirational counties in the summary Socio-economic Rankings. Benton County ranked in the 81st percentile and Washington County ranked in the 72nd percentile in 2017. Both counties saw small increases from 2015-17. Peer counties saw a small decline (to the 87th percentile) and aspirational counties saw small increases (to the 91st percentile) over the five-year period.

As detailed in Appendix E, Benton and Washington counties track closely for three of the five socio-economic measures but diverge on Per Capita Income and Percentage of Families not living in Poverty measures. On the Per Capita Income measure, Benton County ranked lower than peer and aspirational counties and Washington County ranked well below Benton County as well as the peer and aspirational counties. On the Percentage of Families not living in Poverty measure, Benton County ranked well above the peer and aspirational counties and Washington County ranked well below the peer and aspirational counties.

Both NW Arkansas counties are competitively ranked on the Percentage of the Population Employed measure although this number slipped over the five-year period, perhaps due to an influx of retirees. Both NW Arkansas counties ranked below peer and aspirational counties on the Percentage of Population with a Bachelor’s Degree and the Percentage of Households with Income > \$150K measures.



¹ Our research examining the effect of distance on the propensity to attend arts and culture events indicates that socio-economic characteristics are the most important determinants of attendance after distance from the venue.

Summary Analysis of Trends with Respect to Other Leisure

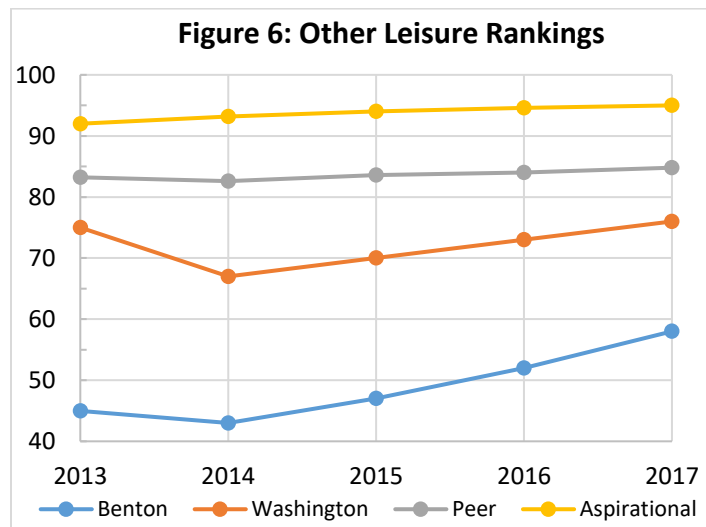
The Other Leisure score combines six measures: (1) number of Hotels, (2) number of Restaurants, (3) number of Bars (4) number of Zoos & Botanical Gardens, (5) number of Cinemas, and (6) number of Professional Sports Teams (see Appendix F), on a per capita basis. This score represents a proxy for both complements (hotels, restaurants, and bars) and potential substitutes (zoos, botanical gardens, cinemas, and sports events). We do not incorporate the Other Leisure score into the Overall Arts Vibrancy score but our analyses suggest that it plays an important, indirect role.²

As shown in Figure 6, Benton and Washington counties ranked below peer and aspirational counties in the summary Other Leisure Rankings. Benton County ranked in the 58th percentile and Washington County ranked in the 76th percentile in 2017. Both counties experienced declines early on and are seeing recent improvements in their rankings. Peer (85th percentile in 2017) and aspirational (95th percentile in 2017) counties remained mostly flat.

As detailed in Appendix F, Benton and Washington counties have improved their rankings considerably over the five-year period in the Hotels, Restaurants, and Bars categories. On each of these measures, at least one NW Arkansas county is competitive with peer counties.

NW Arkansas lags behind peer and aspirational counties with respect to Cinemas. Washington County is competitive and Benton County lags behind peer and aspirational counties with respect to Zoos and Botanical Gardens and Professional Sports.

As noted in Appendix F, we do not include a measure for outdoor recreation facilities because there is not a reliable, national data source. We also note that the botanical garden measure does not capture the extensive trails and grounds at Crystal Bridges Museum even though they provide similar benefits.



² Our research examining the effect of distance on the propensity to attend arts and culture events indicates that the presence of complementary entertainment options (i.e., hotels, restaurants, and bars) is the third-most important determinant of attendance after distance from the venue and socio-economic characteristics.

Appendix A: Note on Methodology and Comparison Market Detail

Measures in this report are averages for the current year and the previous year (e.g., the average for 2012 and 2013 yields 2013 measures). This produces smoother trends that are less affected by omissions and temporary aberrations in the data. For all years, we match census data for the previous year with organization data for the current year. The logic for this matching is as follows. We assume that Census Bureau estimates represent reality at the end of the calendar year, e.g., census data for calendar year 2012 represents reality as of December 31, 2012. Most nonprofit arts organizations follow fiscal years that end between May 31 and September 30, so the Census Bureau reality as of December 31, 2012 represents conditions that line up with the middle of fiscal year 2013 for most nonprofit arts organizations.

All rankings in the report start with distance discounted measures at the zip-code level (<http://mcs.smu.edu/artsresearch2014/ncar-arts-activity>), which are then aggregated to the county level using population-based weights. The distance discounting is consistent with the idea that zip codes and counties do not exist in a vacuum. The process creates zip-code measures that capture characteristics of surrounding zip codes (discounted by distance) and county-level measures that capture characteristics of surrounding counties (discounted by distance). In addition, we deflate dollar measures by a cost of living index. Then, at the county level, we divide the distance-discounted measures by distance-discounted population to create per capita scores. We transform raw scores into ordinal rankings from 0-100 for 3,140 US counties.

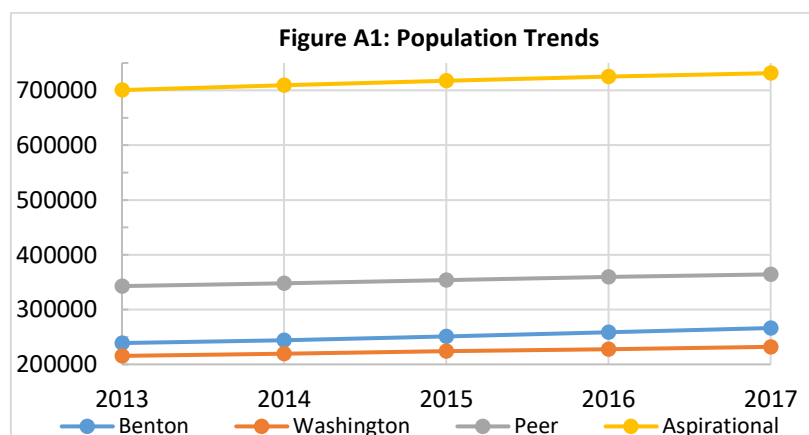
The Peer comparison set consists of the following five counties (key cities in parentheses):

1. Polk County (Des Moines), IA
2. Durham County (Durham), NC
3. Larimer County (Fort Collins), CO
4. Hamilton County (Chattanooga), TN
5. Fayette County (Lexington), KY

The Aspirational comparison set consists of the following five counties (key cities in parentheses):

1. Ramsey County (St. Paul), MN
2. Travis County (Austin), TX
3. Buncombe County (Asheville), NC
4. Charleston County (Charleston), SC
5. Allegheny County (Pittsburgh), PA

Figure A1 below shows five-year population trends (no distance discounting) for Comparison Markets. Benton and Washington counties have lower population than peer counties and substantially lower population than aspirational counties. Population in NW Arkansas counties and comparison counties is growing.



Appendix B: Arts Providers Detail

Arts & Culture Employees is a count measure (using census data) of the number of employees working for dance companies, music companies, theaters, freelance arts organizations, museums, and historic sites.

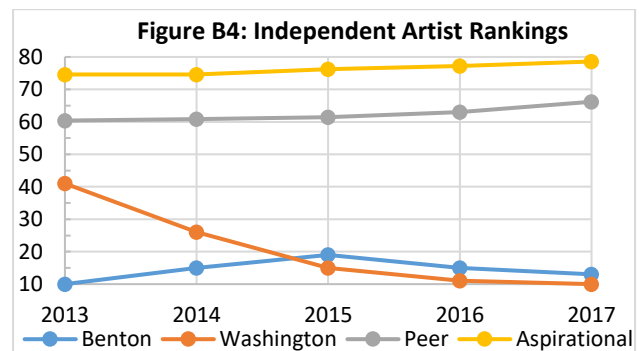
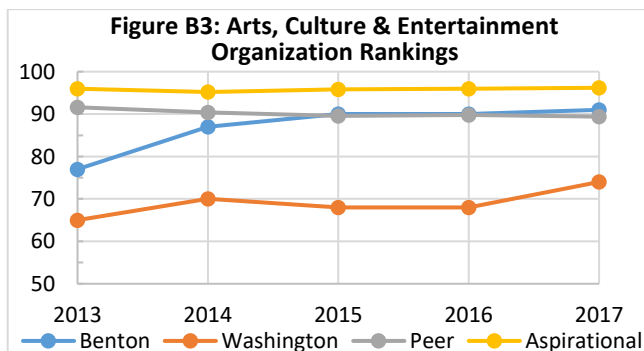
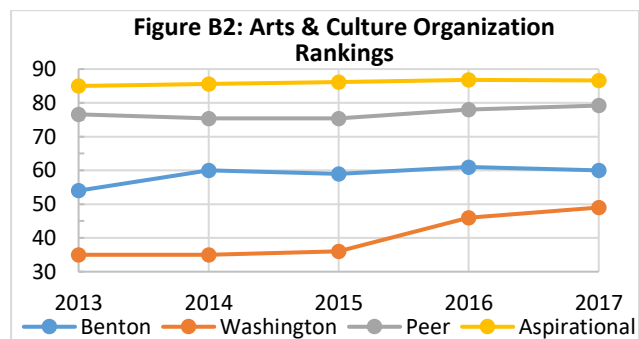
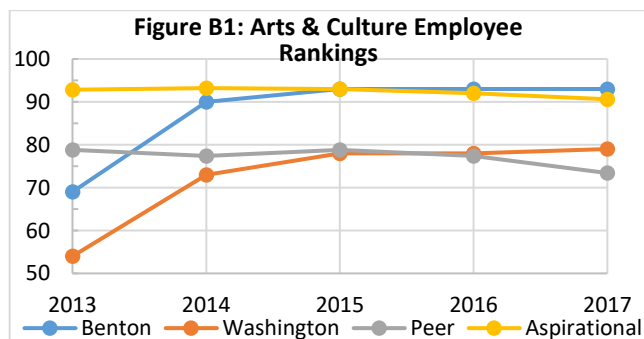
Arts & Culture Organization Rankings is a count measure of the number of A&C organizations compiled from IRS 990s, DataArts, Theatre Communications Group, Association of Art Museum Directors, and League of American Orchestras.

Arts, Culture & Entertainment Rankings is a size-weighted measure (using census data) of the number of dance companies, music companies, theaters, freelance arts organizations, museums, historic sites, fine arts schools, film and sound companies.

Independent Artist Rankings is a count measure (using census data) of the number of freelance individuals primarily engaged in performing in artistic productions, in creating artistic and cultural works or productions, or in providing technical expertise necessary for these productions.

Key takeaways:

1. Dramatic increases in Arts & Culture Employee rankings and Arts, Culture & Entertainment Organization rankings follow the opening of Crystal Bridges Museum.
2. Increases in Arts & Cultural Organization rankings for Washington County after 2015 appear to be attributable to increases in the number of arts education and other museums (supplemental analyses not shown in the report). Nevertheless, NW Arkansas ranks consistently lower than peer and aspirational counties in terms of the number of Arts & Culture Organizations.
3. Collectively, the competitive rankings for Arts & Culture Employees and size-weighted number of Arts, Culture & Entertainment Organizations combined with the low rankings for unweighted number of Arts & Culture Organizations indicates that NW Arkansas has developed an ecosystem of large A&C organizations but lacks an ecosystem of small A&C organizations.
4. NW Arkansas ranks lower than peer and aspirational counties in terms of independent artists. Combined with point #3 above, this indicates that A&C activity in NW Arkansas is driven more by large A&C organizations and less by independent artists and small groups of artists creating new organizations.



Appendix C: Arts Dollars Detail

We compile Arts Dollar measures for all A&C organizations from IRS 990s, DataArts, and Theatre Communications Group.

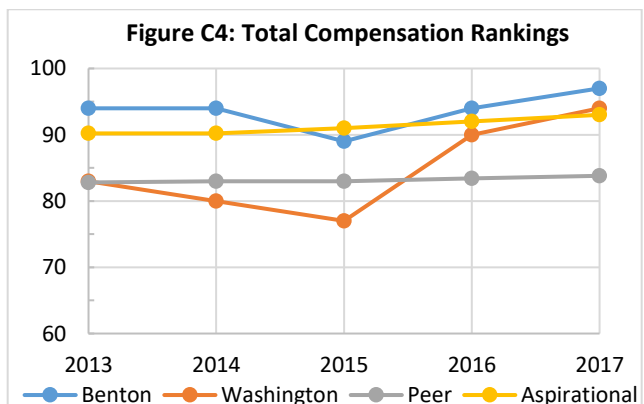
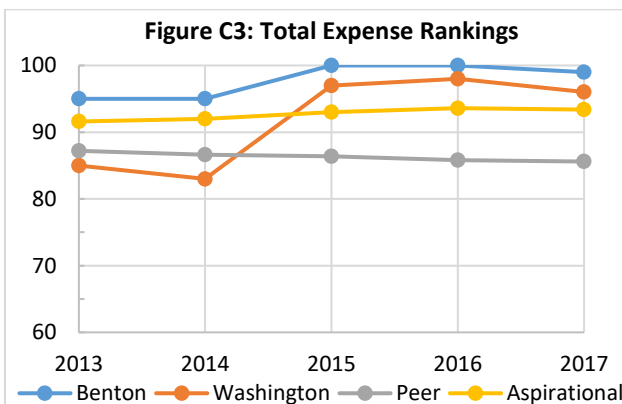
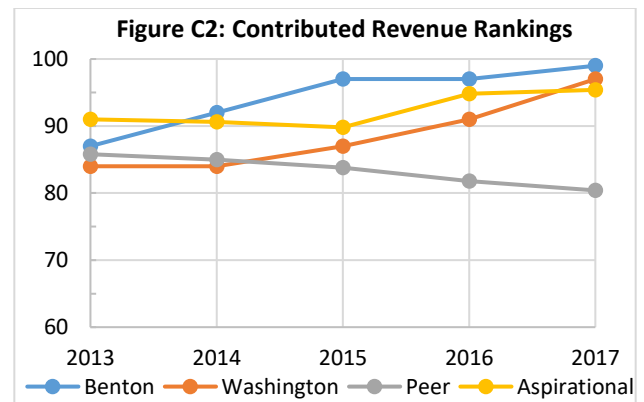
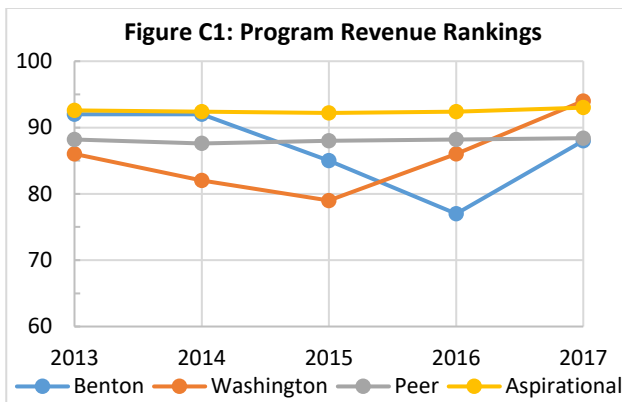
Program Revenue: All earned revenue associated with consumer attendance, in the form of ticket/entry fees and parking, concessions, and gift store sales.

Contributed Revenue: all contributed revenue from all sources, including individual, corporate, government, and foundations.

Total Expenses: all operating expenses. **Total Compensation:** all salaries and employee benefits.

Key takeaways:

1. Washington County generally ranks below peer and aspirational counties on Program Revenue (except in 2017) and Benton County has fluctuated, partly due to inconsistencies (in reporting) by one or two larger organizations.
2. Benton County's ranking on Contributed Revenue is consistently competitive, while Washington County shows marked improvement after 2014. Both counties ranked above both peer and aspirational counties in 2017.
3. NW Arkansas is highly competitive in the Total Expense ranking after 2014.
4. NW Arkansas is competitive in Total Compensation, with a drop in 2015 due to inconsistencies in IRS 990 filings for one or two organizations.
5. Looking at individual A&C sectors (supplemental analysis not shown), NW Arkansas is competitive in most sectors, excels in the art museum sector, is somewhat lower than peer and aspirational counties in dance, music, and symphony and substantially lower in opera and, with the demise of Live on Stage in NWA, general performing arts. Rankings increased substantially after 2015 in arts education and "other" museums.



Appendix D: Government Support Detail

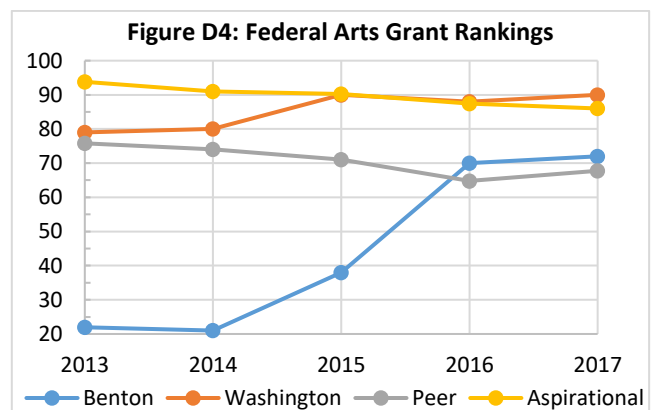
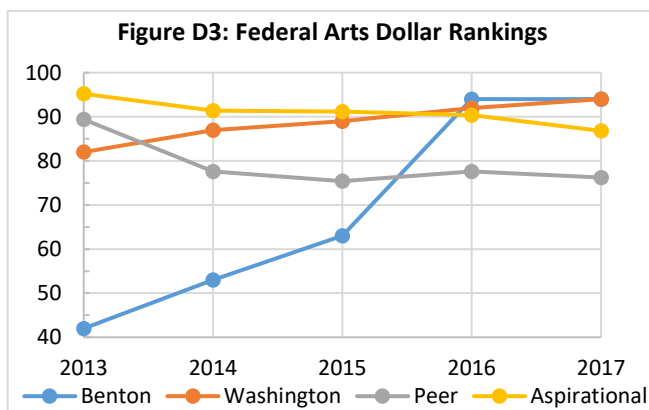
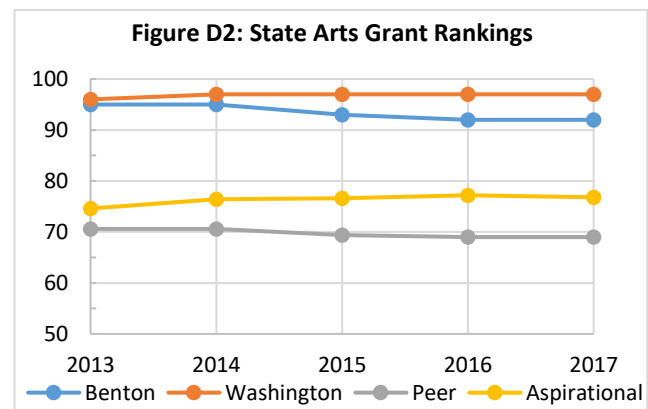
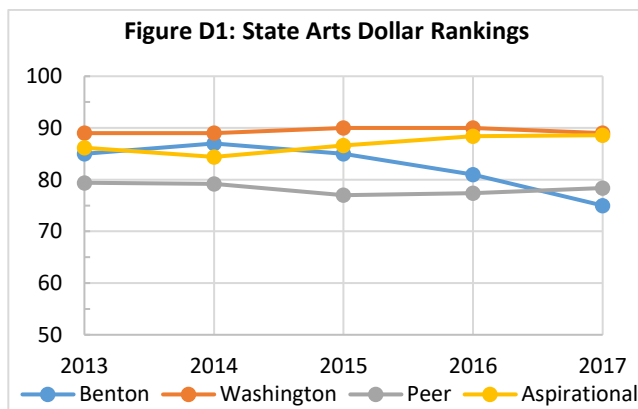
State arts data come from the National Assembly of State Arts Agencies and federal arts data come from the National Endowment for the Arts and the Institute for Museum and Library Services.

State Arts Dollars and Grants: total arts dollars granted and number of grants aggregated at the zip code.

Federal Arts Dollars and Grants: total arts dollars granted and number of grants aggregated at the zip code.

Key takeaways:

1. NW Arkansas generally compares favorably to peer and aspirational counties for both state and federal funding.
2. State arts funding appears to be spread out over many recipients. As a result, NW Arkansas is on par with peer and aspirational counties in terms of state dollar funding but substantially above peer and aspirational counties in terms of state grant numbers.
3. Benton County saw large increases in federal funding over the last four years and a slight decrease in state dollar funding. Benton County's relative ranking for Federal Arts Dollars (94 in 2017) is substantially higher than the relative ranking for Federal Arts Grants (72 in 2017), which suggests that federal funding is concentrated in relatively large dollar grants to a few recipients.³



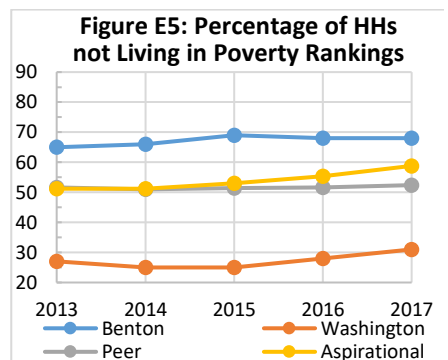
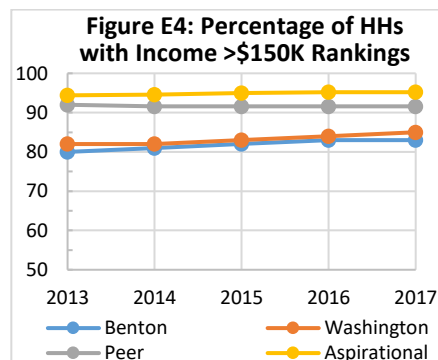
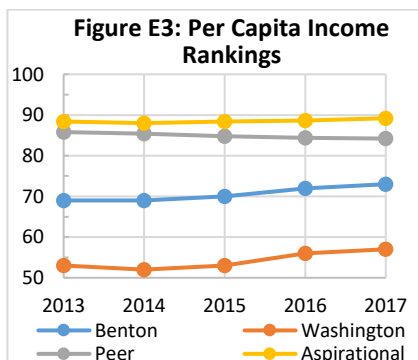
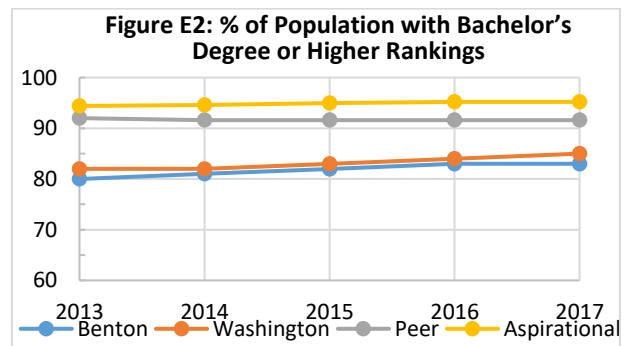
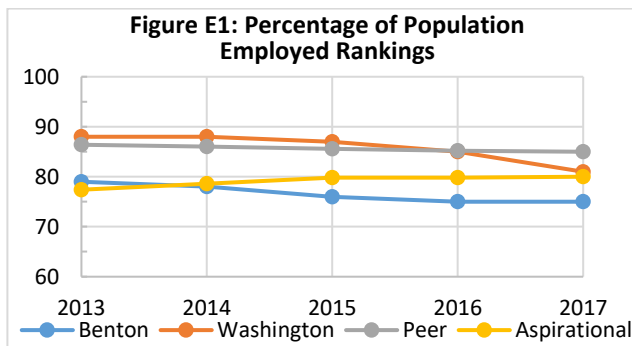
³ Key recipients of federal grants in NW Arkansas include University of Arkansas, Walton Arts Center, Theatre Squared, Crystal Bridges Museum, and John Brown University.

Appendix E: Socio-economic Detail

All measures come from Census Bureau data reported at the census tract level.

Key Takeaways

1. Rankings for the peer and aspirational counties tend to track closely for each of the five measures. Benton and Washington counties track closely for three of the five measures but diverge on the Per capita income and Percentage of families not living in poverty measures.
2. The Percentage of the Population Employed declined in the last 2-3 years, likely due to: (a) Trailing spouses accompanying professional transplants to the area, which explains increases in population, Per Capita Income, Percentage of Households with Income > \$150K, and Percentage of Population with Bachelor's Degree; and (b) An influx of retirees attracted by the opening of the Crystal Bridges Museum, related changes in amenities (hotels, restaurants, bars, see Appendix F), and proximity of the University of Arkansas⁴, which is inferred from (i) large decreases in Percentage of the Population Employed in zip code 72751 in Northern Benton County, where Bella Vista is recognized as a top 25 best places to retire, (ii) large decreases in Percentage of the Population Employed in several Washington County zip codes, especially in the south, and (iii) a strong negative (-.42) correlation between changes in the population over 65 and changes in Percentage of the Population Employed.
3. At the same time, NW Arkansas' other Socio-economic rankings (Percentage of households with bachelor's degrees, Per capita income, Percentage of households with income greater than \$150K, and Percentage of families not living in poverty) have increased slightly.
4. Still, NW Arkansas ranks below peer and aspirational counties on percentage of households with bachelor's degrees, per capita income, and percentage of households with income greater than \$150K. Perhaps due to the presence of Wal-Mart, Benton (but not Washington) County ranks higher than peer and aspirational counties on the percentage of families not living in poverty.



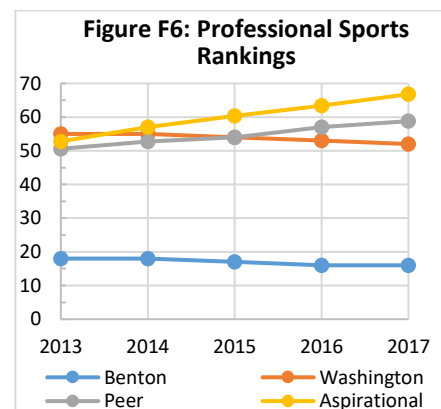
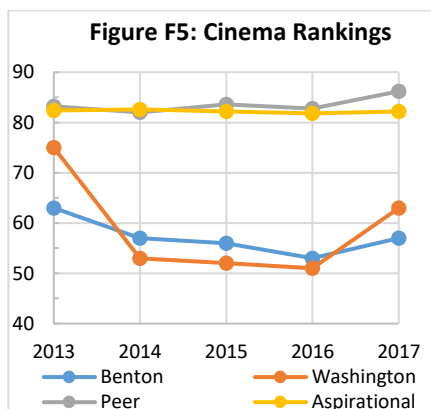
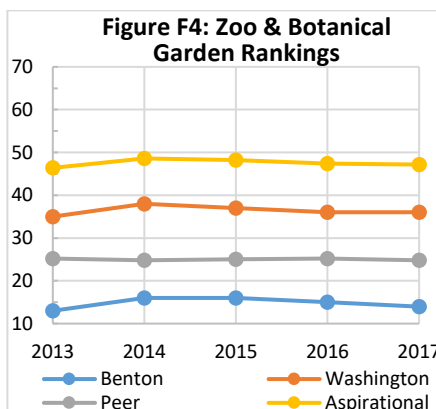
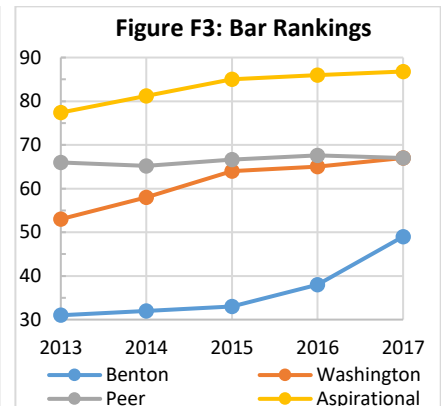
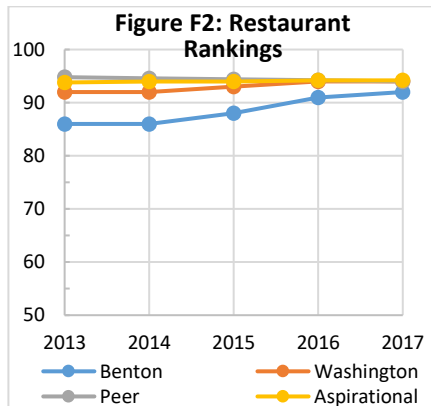
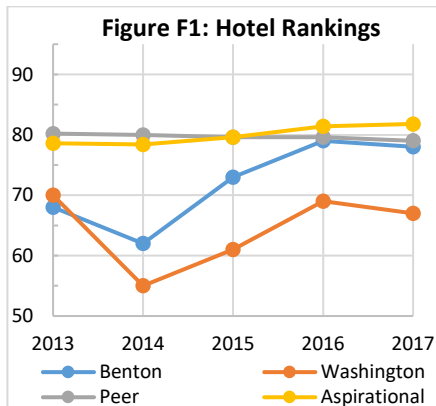
⁴ See "Baby Boomers Are Retiring to College Towns," US News & World Report, Aug 31, 2018.

Appendix F: Other Leisure Detail

All data come from the Census Bureau with attempts to correct for missing zoo information attributable to non-independent operating structures (e.g., zoos operated within state or city cultural affairs or recreation office). We do not have a reliable nationwide measure of outdoor recreation facilities, including bike trails and greenspace, so that dimension of leisure is not captured in the Other Leisure detail.

Key takeaways:

1. Historically, NW Arkansas lagged behind peer and aspirational counties on most Other Leisure measures but has closed the gap considerably the last few years.
2. Benton County has improved substantially in the Hotel rankings and is now competitive with peer counties. Washington County has also improved but continues to lag behind peer counties.
3. NW Arkansas is now competitive on Restaurant rankings.
4. Washington County is competitive in several categories whereas Benton County continues to lag behind peer counties. Specifically, Benton County lags behind Washington County and peer and aspirational counties in terms of Bars, Zoos and Botanical gardens, and Professional sports. It is worth noting that the extensive trails and grounds at Crystal Bridges Museum are not recognized as a botanical garden even though they provide similar benefits.
5. Cinema represents an exception to the general trends. It appears that Washington County lost one or more Cinemas in 2013 and rebounded in 2017, resulting in lower Cinema Rankings for NW Arkansas.



Appendix G: Analyses Comparing Washington and Benton counties to Orange, Durham and Wake counties in North Carolina

This comparative analysis focuses on Wake, Durham, and Orange counties for three reasons. First, initial conversations with Walton Family Foundation representatives identified these counties as a good comparison set. As shown in Table A, the Overall Arts Vibrancy scores for Benton County are higher than Wake County and lower than Durham and Orange counties; Washington County is lower than the other counties.

**Table A
Comparing NW Arkansas and Triangle Counties**

<u>County</u>	<u>Overall Arts Vibrancy</u>	<u>Land Area</u>	<u>Water Area</u>	<u>Total Area</u>	<u>Total Population</u>	<u>Population Density</u>
Washington	87.7	2440	27	2467	219,930	89.15
Benton	93.3	2195	94	2289	245,231	107.14
Wake	91.6	2162	58	2220	998,576	449.81
Durham + Orange	95.9/97.3	1771	39	1810	434,425	240.01

Second, the combined geographic area (in square kilometers) for Wake and Durham + Orange counties are roughly equal to Washington and Benton counties (see Table A). In addition, the distance between the two major cities in the Triangle (22 miles from Raleigh to Durham) is about the same as the distance between the two major cities in Washington and Benton counties (23 miles from Fayetteville to Bentonville).

Third, the contiguous nature of the counties is similar, with communities in Washington and Benton counties lined up from south to north along I49 (and to a lesser extent route 59 to the west) and communities in Wake, Durham, and Orange counties lined up from east to west along I40 (and also route 147 to the north). Finally, both areas have clusters of minority populations, African American in the Triangle (overall 25%) and LatinX in NW Arkansas (overall 16%).

Despite similarities between the two regions, it is important to recognize that the Triangle (especially Wake County) features much greater population density (i.e., number of people per square kilometer) than does NW Arkansas. Also relevant are the three major universities in the Triangle (one in each of the three anchor cities) that attract 80,000 students compared to 28,000 students at the University of Arkansas (both regions have additional, smaller universities). The universities affect the arts vibrancy of the surrounding communities, ensuring the sustainability of at least one art museum and multiple, large performing arts facilities in each of the Triangle’s anchor cities.

For example, the University of North Carolina presents its Carolina Performing Arts Series in a 1400-seat venue and its resident professional theatre company, PlayMakers Rep, produces a full season in the 600-seat Paul Green Theatre. In Durham, Broadway tours pass through the 2700-seat performing arts center; Duke University presents a performing arts series in a 1200-seat venue and previously produced Broadway-bound professional theatre in a 600-seat venue; and the Carolina Theatre adds an additional 1,048-seat venue. The Duke Energy Center in downtown Raleigh features a 2300-seat auditorium for Broadway tours, a 1700-seat concert hall, a 600-seat opera theater, and a 170-seat black box theater, with North Carolina State University adding a 750-seat theatre. Smaller venues exist throughout the Triangle, but it is easy to see that the universities contribute to an abundance of arts performance spaces.

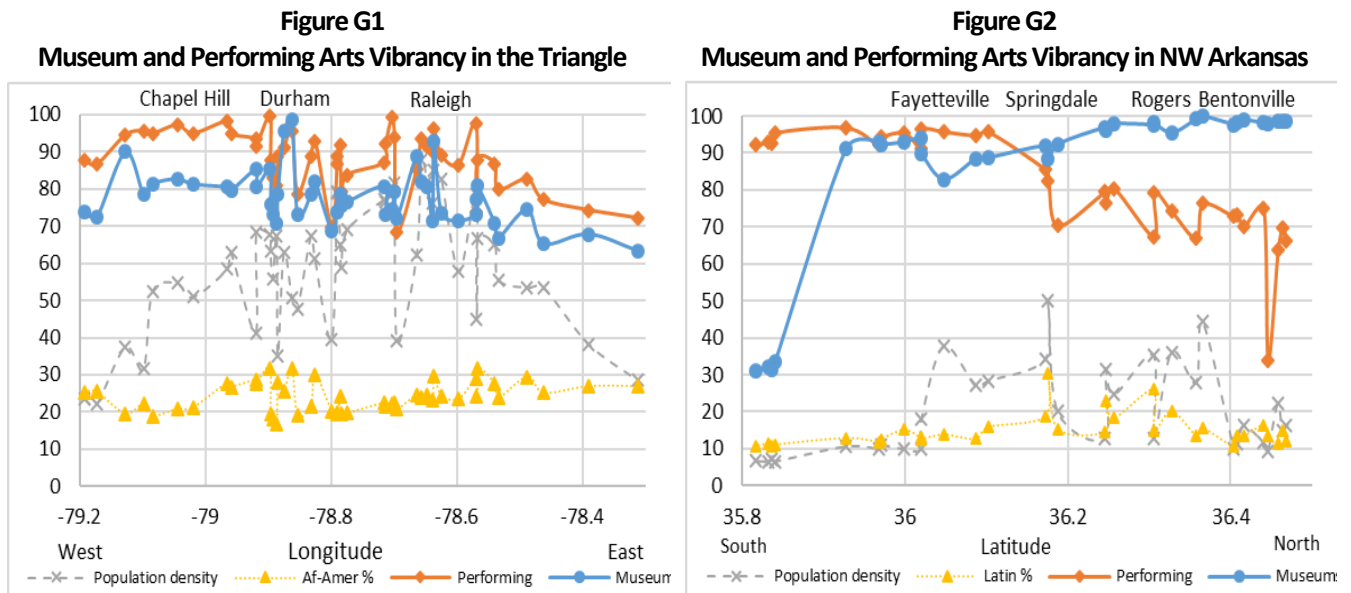
To compare the Triangle and NW Arkansas, we constructed zip-code level measures of arts vibrancy in two broad sectors: (1) Performing Arts Vibrancy scores aggregate total arts activity in a zip code (measured as total expenses) for all dance, theatre, opera, symphony, music, and performing arts centers, and (2) Museum Vibrancy scores aggregate total arts activity in a zip code (measured as total expenses) for all art, science, children’s and historical museums. We divided these measures by population to create per capita measures.

As described in Appendix A, we spatialized the measures by discounting arts activity and population by distance. Spatializing smooths arts activity supply and population across the community. We then transformed the spatialized zip code scores into percentile rankings (0-100) for all US zip codes. A score of 60, for example, means that the per capita arts vibrancy in a zip code is higher than 60% of the zip codes in America.

Figure G1 shows Population Density, percentage of the population that is of African descent, and Museum and Performing Arts Vibrancy in the Triangle by zip code. The population density score is the spatialized population in the zip code divided by 10,000. The percentage of the population that is African-American is also a spatialized measure, so it represents the percentage of the population in and around the zip code that is African-American.

Zip codes are arranged along the X axis by longitude so that the most westerly zip codes appear to the left and the most easterly zip codes appear to the right. Although some Wake zip codes are located further west than some Durham zip codes, the X axis lines up reasonably well with Orange County zip codes to the west, Wake County zip codes to the east, and Durham County zip codes in the middle. We also label the approximate locations for Chapel Hill, Durham City, and Raleigh. It is worth noting that zip codes where population density is lower than 50 are located west of Chapel Hill, east of Raleigh, and otherwise off the Raleigh/Durham/Chapel Hill corridor (generally south of Raleigh or north of Durham and Chapel Hill). The distance from the dense central corridor (where most arts activity takes place) explains the dips in arts vibrancy at a particular longitude.

In the Triangle, the Performing Arts Vibrancy score is consistently above 70, approaches 100 in some Durham and Raleigh communities, with a clear fall-off (in population density as well as Performing Arts Vibrancy) as you travel east from Raleigh. Museum Vibrancy scores show a similar pattern; mostly above 70, approaching 100 in Durham where the Museum of Life and Science is located, and falling off east of Raleigh. The overall takeaway is that all of the Triangle communities have good to excellent access to the performing arts and museums.



African-Americans live throughout the Triangle, but Durham has the most prominent historic (due to North Carolina Mutual Insurance Company and the historically African-American, North Carolina Central University) and cultural (due to African American Dance Ensemble, Hayti Heritage Center and the Blues Festival) African-American ties. These culturally-specific organizations ensure that the Triangle’s largest minority population has access to arts that speak directly to their cultural heritage.

We see different patterns for Museum and Performing Arts Vibrancy in NW Arkansas. Figure G2 shows Population Density, percentage of the population that is LatinX, and Museum and Performing Arts Vibrancy in

NW Arkansas by zip code. Zip codes are arranged along the X axis by latitude in this case, so that the most southerly zip codes appear to the left and the most northerly zip codes appear to the right. We also label the approximate locations for Fayetteville, Springdale, Rogers and Bentonville. Population density approaches 50 in these communities and is much lower south of Fayetteville, north of Bentonville, and at various latitudes as you move away from the I49 corridor to the east or west.

For NW Arkansas, the Performing Arts Vibrancy score in Washington County is mostly above 80 (and frequently in the 90 range) and consistently at or below 80 in Benton County. The simple correlation between latitude and Performing Arts Vibrancy is $-.82$; that is, Performing Arts Vibrancy goes down as you go further north. Museum Vibrancy scores show an opposite pattern: below 40 in south Washington County, rising to around 90 in and around Fayetteville, and approaching 100 in most of Benton County. The overall takeaway is that Washington County residents have good to excellent access to the performing arts and moderate to excellent access to museums and that Benton County residents have moderate access to the performing arts and excellent access to museums.

The LatinX community is most concentrated in the Springdale/Lowell/Rogers area. The Arts Center of the Ozarks offers multicultural offerings, some of which cater to the LatinX community. There are some small culturally-specific organizations (e.g., Latin Art Organization of Arkansas, LatinX Theatre Project) and festivals (e.g., Northwest Arkansas Hispanic Heritage Festival in Fayetteville) that celebrate LatinX art and heritage, but the community may be underserved. This is likely true for other culturally-specific communities, but we did not conduct additional analyses due to the small overall numbers (e.g., 3.6% Asian and 3.0% African-American).

We provide a heat map to help visualize the NW Arkansas Arts Vibrancy patterns at:

<http://ncar-prd.cox.smu.edu/ArtVibrancyAnalysis/WaltonFamilyFoundation/>.