Investigating Public Access to Cultural Organizations in the Urbanized Counties of Metropolitan Detroit: Does the Urban Environment Matter?

Alisa Moldavanova, Lyke Thompson, Katelyn Burkart
Political Science Department and Center for Urban Studies
Wayne State University, Detroit, MI

Paper presented at the 14th Biennial Public Management Research Conference
American University, Washington, DC
June 8-10, 2017
Abstract: Building upon organizational legitimacy theory, this article investigates public access and commitment to audience diversity as two critically important values that convey moral legitimacy on public service organizations. Using the sample of 335 public and nonprofit cultural organizations located in Metropolitan Detroit, this article uses the GIS-modelling approach to develop an index of public access that accounts for institutional admissions policy, the physical characteristics of a location, and the availability of, and access to, transportation. The U.S. Census Bureau data is further used to analyze how accessible cultural institutions are to the traditionally underserved populations and multigenerational audiences. Our analysis reveals that cultural institutions are unevenly distributed in the geographic area, and that certain groups of the population are at a greater disadvantage in terms of their access to particular types of cultural amenities. These findings imply that, although legitimacy is seen as an important organizational goal, cultural organizations may be underutilizing an important community resource – diverse audiences – that would facilitate pursuing legitimacy goals. These findings have important implications for overall urban prosperity and the sustainability of the cultural sector itself.

Keywords: organizational legitimacy theory, intergenerational sustainability, public access, audience diversity, arts and culture organizations, GIS-modelling.

The profound connectedness that exists between cultural organizations and their communities is a blessing in disguise. On one hand, arts and culture organizations are crucial elements of sustainable local communities. Among the known positive effects of vibrant arts and cultural sector in local communities are their contributions to economic development (DiMaggio & Mukhtar, 2004; Nurse, 2006; Rushton & Landesman, 2013; Tubadji, Osoba, & Nijkamp, 2015), innovation (Florida, 2002), enriched social climates and capital (Belfiore, 2002; Hager & Winkler, 2012; Kim, 2016; LeRoux & Bernadska, 2014), and the cultivation of values associated with sustainability (Moldavanova, 2013, 2016; Nurse, 2006; Throsby, 1995). On the other hand, the very sustainability of arts and culture organizations is conditioned upon the type of communities in which such organizations are located, and from which they derive various forms of capital, such as economic, human, and social (Grodach, Currid-Halkett, Foster, & Murdoch III, 2014; Moldavanova 2016; Moldavanova, Pierce & Lovrich, forthcoming).

Continuous demographic changes in urban and suburban communities present a challenging task for public and nonprofit cultural organizations. Unlike more high revenue,
private creative industries (media firms, telecommunications, law and other consulting firms) that often have the capacity to choose their location, most public and nonprofit cultural organizations rely heavily on fixed capital that ties them to their historic locations (Brooks & Kushner, 2001; Chang & Lee, 2003; Evans & Foord, 2008; Grodach, 2016; Grodach, Currid-Halkett, Foster, & Murdoch III, 2014; Mommaas, 2004; Redaelli, 2012). The majority of long-standing cultural organizations (history and natural history museums, opera, ballet, symphony, art museums) were established in certain geographic locations (mostly urban centers) by elites from former generations at the time of the Industrial Revolution or during periods of urban prosperity and growth. In post-industrial cities (e.g. Cleveland, Pittsburgh, Detroit) many of these institutions face severe survival pressures due to the overall economic decline, reduction in the attendance rates, increased competition for funding with other organizations, and the aging of their core audiences and supporters (Moldavanova, 2016; Moldavanova & Goerdel, 2017; Mommaas, 2004; Toepler & Wyszomirski, 2012).

These problems threaten the very sustainability of cultural organizations, forcing them to develop innovative programs and outreach methods to meet the needs of diverse stakeholders (Azmat, Fujimoto, & Rentschler, 2015; Borwick, 2012; Graves, 2005; Johanson, Glow, & Kershaw, 2014; McCarthy & Jinnett, 2001; Moldavanova, 2016; Moldavanova & Goerdel, 2017). In many cases, the stakeholder diversity agenda in cultural institutions is promoted by foundations and donors that strive to encourage social justice by supporting relevant programs (Toepler & Wyszomirski, 2012). However, greater focus on the needs of stakeholders by cultural organizations is also the evidence of their own strategic responses to external and internal pressures (Bryson, 2004; Koteen, 1997; Kotler, Kotler, & Kotler, 2008; Pfeffer & Salancik, 1978; Varbanova, 2013), as well as the evidence of their efforts directed towards achieving
greater overall organizational legitimacy (Dowling & Pfeffer, 1975; Pfeffer & Salancik, 1978; Thomas & Lamm, 2012).

Organizational legitimacy is defined, “… [a]s a condition or status which exists when an entity’s value system is congruent with the value system of the larger social system of which the entity is a part. When a disparity, actual or potential, exists between the two value systems, there is a threat to the entity’s legitimacy.” (Dowling & Pfeffer, 1975, p. 122) The question of legitimacy is of paramount importance to all public service organizations, both governments and nonprofits (Suchman, 1995). Organizational legitimacy can be viewed as a critical resource necessary for organizational survival (Dowling & Pfeffer, 1975; Pfeffer & Salancik, 1978; Thomas & Lamm, 2012). However, in the public and nonprofit sectors, organizational legitimacy is not limited to economic resources that organizations can obtain; rather it is rooted in congruence between the normative environment of organization and its behaviors, products, or image (Dowling & Pfeffer, 1975; O'Donovan, 2002; Suchman, 1995). In this regard, public access and commitment to audience diversity could be viewed as two critically important values that convey moral legitimacy on public service organizations (Suchman, 1995).

Aside from enhancing organizational prospects for immediate survival, higher levels of legitimacy benefit organizations in the long-run by contributing to their long-term sustainability (Thomas & Lamm, 2012; Moldavanova, 2016). In fact, in democratic contexts, as part of their quest for intergenerational sustainability, public and nonprofit cultural organizations must function as socially responsible organizations (Stazyk, Moldavanova, & Frederickson, 2016) that pursue equitable approaches to their public programming (Moldavanova, 2016), which includes their commitment to public access and audience diversity. This type of organizational behavior
enhances the very prospects for organizational legitimacy, therefore, also increasing the chances for organizational survival and sustainability.

However, the ability to achieve greater audience diversity is dependent upon the access structure of individual organizations as well as the cultural sector collectively. If the critical publics upon which those organizations depend cannot readily access them, they cannot demonstrate their moral worth or merit. Therefore, this article examines the relative extent and dimensions of access for the cultural sector organizations as an indicator of their moral legitimacy. The main research questions investigated are: What is the capacity of the cultural sector and its sub-sets to ensure inclusive outreach in a given geography? Are there groups of the population whose lack of access to cultural institutions results in their being ‘underserved’?

The article reports the results of the study conducted on the sample of 335 public and nonprofit cultural organizations from five creative sub-sectors (visual arts, performing arts, science museums and centers, historical organizations, and libraries) located in the urbanized counties of Metropolitan Detroit. We focus on non-commercial arts and culture organizations that perform a variety of public service functions including providing public arts education, fostering economic development, revitalizing cities, and transmitting cultural capital and values across generations (Markusen, 2014; Moldavanova, 2016; Rushton & Landesman, 2013). Despite their important public-serving roles, U.S. arts and culture organizations receive negligible governmental funding (Toepler & Wyszomirski, 2012); therefore, such organizations need to balance their public service missions with economic concerns. Seeking greater organizational legitimacy via enhanced public access and audience diversity is, therefore, an important imperative for such organizations.
To explore the capacity of the cultural sector to ensure greater audience diversity, we use a GIS-modelling approach to develop an index of public access that takes into account institutional admissions policy, the physical characteristics of a location, and the availability of, and access to, transportation. This approach differs from previous cultural mapping studies that used location as the ultimate predictor of access to the arts and culture. Moreover, we also use the U.S. Census Bureau data to analyze how accessible cultural institutions are to the traditionally underserved populations (e.g. low income and minority groups) as well as multi-generational audiences (population under 18 and over 65 years old), which is important for overall urban prosperity, as well as the social legitimacy of the arts and cultural sector organizations. The results are presented both geographically and across demographic groups.

Our analysis shows that different types of cultural institutions are unevenly distributed in the geographic area of interest, and there are clear areas of a) cultural districts (high density of particular types of organizations and the overall presence of the sector) and b) cultural deserts (low density of particular types of organizations and the sector). At the same time, diverse social and economic groups – potential audiences – populate both cultural districts and cultural deserts, thus creating uneven patterns of access. When used in combination with demographic data, the index of access reveals that certain groups of the population are at a greater disadvantage in terms of their access to sub-groups of cultural amenities. Therefore, although legitimacy is seen as an important organizational goal, cultural organizations may be underutilizing an important community resource – diverse audiences – that would allow pursuing legitimacy goals in practice. These findings imply a window of opportunity for arts organizations located in areas nearest to cultural deserts. The findings also have important implications for overall urban prosperity and sustainability of the arts and cultural sector itself.
This article first introduces our theoretical assumptions and provides background information about public and nonprofit cultural organizations and the typical pressures that they face. We then explain our research framework, including the sampling method and the construction of an index of public access to cultural organizations. Next, the article reports a) the results of the density analysis for the entire cultural sector as well as subsets of cultural institutions, as a way to understand general locational patterns of such organizations, b) the more nuanced findings about organizational locational patterns obtained by designing and implementing the index of access, and c) the results of applying the index of access approach to analyzing the public accessibility of cultural organizations to diverse population groups. We further discuss how organizational locations influence their capacity to provide access to various forms of art and culture for a diverse set of patrons and constituencies, and the implications of the access structure for organizational legitimacy. The article also discusses how the index of access approach and study’s findings could be used by policy-makers and cultural managers aspiring to improve public access to arts and culture organizations.

THEORETICAL FRAMEWORK AND PREVIOUS STUDIES

Cultural organizations are important parts of the urban social ecology. They participate in local policymaking, contribute to local economic development and revitalization, engage in creative place-marketing by finding new uses for old buildings, encourage innovation and creativity, stimulate cultural diversity, foster civic engagement and community level social capital, and attract people from other creative professions (Borwick, 2012; Florida, 2002; Grodach, 2014, 2016; Hesmondhalgh & Pratt, 2005; LeRoux & Bernadska, 2014; Pratt, 2008; Scott, 2006; Strom, 2003; Wilks-Heeg & North, 2004). Cultural institutions play these important roles in different types of urban environments, from flourishing urban centers with high
concentrations of creative capital, to revitalizing communities and struggling post-industrial cities, such as Detroit, Cleveland, and Pittsburgh.

Despite their significance for urban sustainability, cultural institutions themselves face numerous sustainability pressures, such as declining arts participation, increasing competition with the entertainment industry, technological changes, economic recessions, and the decline of both public and private support for the arts (McCarthy, Ondaatje, & Novak, 2007; Moldavanova, 2016; Toepler & Wyszomirski, 2012). The issue of sustainability is particularly salient for organizations promoting classical forms of art (DiMaggio & Mukhtar, 2004), which are typically represented by the nonprofit cultural sector (Toepler & Wyszomirski, 2012). Cultural organizations developed a variety of responses to the above pressures, and the stakeholder diversifications strategies, including both donors and audiences, are among the most common ones (Moldavanova & Goerdel, 2017).

Two theoretical lenses are particularly useful in describing organizational behavior under stress, as well as how organizations develop stress-coping strategies: 1) the resource dependency perspective that assumes interdependency between organizations and their wider operational environments, including the ability of organizations to respond to external pressures in strategic ways, by deriving the necessary economic and other types of resources, and 2) organizational legitimacy perspective that, among other, focuses on normative aspects of organizational behavior by recognizing that organizational legitimacy in the public and nonprofit sectors, as a necessary resource for organizational survival, is not necessarily about the economic resources derived by organizations, it is rather about the congruence between organizational and social norms and values.

Resource Dependency Perspective
Resource dependency perspective implies that the ability of organizations to effectively derive various resources from the external environment is of key importance for organizational survival (Aldrich, 2008; Pfeffer & Salancik, 2003). Since arts and culture organizations in the U.S. receive negligible financial assistance from the government and rely significantly on private sources of support (Toepler & Wyszomirski, 2012), audience is a key resource for their survival. Therefore, arts and culture organizations have been in constant search of innovative ways to expand, diversify, and broaden their audiences (McCarthy & Jinnett, 2001; McCarthy, 2004; McCarthy, Ondaatje and Novak, 2007). In many cases, the diversity agenda in cultural institutions is promoted by foundations and donors that strive to encourage more inclusive outreach by supporting relevant programs (Toepler & Wyszomirski, 2012).

Scholars of nonprofit organizations, particularly the ones working in the strategic management tradition (Brown, 2010; Bryson, 2004; Varbanova, 2013), have stressed the importance of identifying and serving the needs of multiple stakeholders as an important factor of organizational success. This suggests that greater focus on stakeholder diversity is of strategic importance for the current and future viability of arts and culture organizations. One way of ensuring greater diversity of organizational stakeholders is to design more inclusive public outreach programs (Moldavanova, 2016), and there is a growing body of the audience development literature that discusses innovative approaches to public outreach developed within the sector, effectiveness of the public outreach programs, and the effect of such programs on individual organizations and the sector as a whole (Azmat, Fujimoto, & Rentschler, 2014; Johanson, Glow, & Kershaw, 2014; Kotler, Kotler, & Kotler, 2008; McCarthy & Jinnett, 2001; Moldavanova & Goerdel, 2017; NEA, 2013). Another suggested direction of expanding the audience base is to increase the social and community relevance of the arts and culture by
stimulating greater engagement of cultural organizations in community development projects outside of the domain of culture and arts, such as, for example, social justice and sustainability awareness initiatives (Borwick, 2012; Graves, 2005; Moldavanova, 2016). Overall, the engagement of arts and culture organizations in audience diversifications strategies could be considered as a pragmatic response to external pressures that those organizations face, as well as the necessary condition for organizational survival.

**Organizational Legitimacy Perspective**

The focus on audience development programs as a pragmatic management strategy would be incomplete without discussing a broader normative imperative of the audience development initiatives – the question of representation and access, and the importance of this imperative for the longer-term sustainability of arts and culture organizations. Thus, aside from praising wider, broader, and more inclusive outreach as a way to achieve strategic advantage, accessibility of cultural institutions for various groups of population is an important normative concern for organizations that aspire to enhance their own legitimacy (Dowling & Pfeffer, 1975; Suchman, 1995).

Organizational legitimacy is defined, “[…]a condition or status which exists when an entity’s value system is congruent with the value system of the larger social system of which the entity is a part. When a disparity, actual or potential, exists between the two value systems, there is a threat to the entity’s legitimacy.” (Dowling & Pfeffer, 1975, p. 122) According to the legitimacy theory, in response to changes in social perceptions about organizational activities and images, organizations engage in the management of such perceptions in order to remain legitimate (O'Donovan, 2002), which may include both conforming to and trying to alter social expectations and values (Dowling & Pfeffer, 1975). Therefore, if social norms favor greater
accessibility of cultural institutions, institutions that aspire to be sustainable would likely adopt wider public access as their own normative commitment.

Organizational legitimacy is considered a critical resource for organizational survival (Dowling & Pfeffer, 1975; O'Donovan, 2002), as well as the longer-term sustainability of organizations (Moldavanova, 2016; Thomas & Lamm, 2012). In the public and nonprofit sectors, organizational legitimacy is not limited to economic resources that organizations can obtain from their environment on a competitive basis; rather it is rooted in congruence between the normative environment of organization and its behaviors, products, or image (Suchman, 1995). This view of organizational legitimacy is relevant for both individual organizations and entire sectors (Suchman, 1995).

The importance of legitimacy for the survival of organizations has been demonstrated in many previous studies (Dowling & Pfeffer, 1975; O'Donovan, 2002; Suchman, 1995; Thomas & Lamm, 2012), and there are also good examples of how legitimacy works as a catalyst for long-term organizational sustainability. In the urbanized area of Metropolitan Detroit, for example, several notable long-standing organizations have experienced critical, ‘life-threatening,’ events. For instance, both Belle Isle Aquarium and the Detroit (now Michigan) Science Center were temporarily closed to the public due to their financial issues and the inability of organizational leadership to properly establish the legitimacy of these institutions. On the other hand, the Detroit Institute of the Arts (DIA), whose collections were under threat to be sold as a result of the City of Detroit’s bankruptcy, was able to effectively capitalize on its stakeholder
relationships and establish its normative significance for the city’s current and future generations of residents, and thus fully preserving its collections (Stryker, 2015). One way for organizations to demonstrate their normative legitimacy to the stakeholders would be by engaging in ethical practices and pursuing ethical values. Public access and commitment to audience diversity are two critically important values that convey moral legitimacy on public service organizations (Suchman, 1995). Therefore, it would be fair to expect that non-commercial arts and culture organizations would be motivated to pursue these two values via deliberately designed organizational practices, thus enhancing their own organizational legitimacy and improving their chance for survival and sustainability. Additionally, sustainable cultural organizations are likely to pursue audience development agenda as part of their ethical commitment to future generations, as evidenced by the institutional culture that is committed to the idea of sustainability (Moldavanova 2016). Such commitment of organizations to ethical practices would position them as socially responsible actors that work proactively to enhance societal sustainability goals (Stazyk et al. 2016).

While the commitment of organizations to public access and audience diversity – for both pragmatic and normative reasons - enhances the very prospects for organizational survival and sustainability, the ability to achieve greater audience diversity and provide more access is dependent upon the access structure of individual organizations as well as the cultural sector collectively. If the critical publics upon which those organizations depend cannot readily access them, they cannot demonstrate their moral worth or merit. Therefore, the main research questions

---

1 Foundations, in particular, served as critical stakeholders that were able to raise funds necessary for safeguarding the DIA’s collections. However, earlier in its history during the Great Recession, DIA’s operations were also supported by the tax mileage levied in a tri-county area (Wayne, Macomb, Oakland), which was passed via popular vote by the majority population in these counties. Such multilayered support shows the high level of DIA’s legitimacy among both elite and non-elite stakeholders.
investigated in this article are: What is the capacity of the cultural sector and its sub-sets to ensure inclusive outreach in a given geography? Are there ‘underserved’ groups of the population resulting from a lack of access to cultural institutions? To answer these questions, we examine the relative extent and dimensions of access for the cultural sector overall and for the different sub-sets of cultural organizations and as an indicator of their legitimacy.

**Insights from Previous Cultural Mapping Studies**

The successful implementation of the audience diversification strategies is conditioned upon the features of the urban environment in which cultural organizations exist, and cultural organizations’ own awareness of their publics, including immediate stakeholders and community at large. One obstacle that limits the ability of culture and arts institutions to achieve greater audience diversity (as both a management and ethical imperative) is the lack of studies that address the question of the geography of the public outreach, and how a location influences the capacity of the cultural sector to meet the audience development needs.

In recent years, there have been several notable studies that engage in cultural mapping with the purpose of exploring the locational patterns of cultural industries (Chang & Lee, 2003; Evans & Foord, 2008; Grodach, 2014, 2016; Grodach, Currid-Halkett, Foster, & Murdoch III, 2014). These studies focus on mapping the sector’s location against other community characteristics, such as the concentration of other industries, population and housing growth, availability of donors, etc. (Chang & Lee, 2003; Evans & Foord, 2008). The cultural mapping studies have also been focused on predicting the vitality of the cultural sector depending on the properties of urban environments (location size, economic and demographic factors) (Grodach, 2016). These studies justify the development of more localized, place-specific, approaches to cultural policy. What is lacking in the literature on locational patterns of cultural institutions is
the needed attention to the question of audience diversity, and how well-positioned cultural institutions are to serve diverse groups of population.

Additionally, scholars have typically mapped ‘cultural industries’ as a whole, including both traditional forms of culture and arts and more commercialized industries (media firms, telecommunications, consulting firms). This non-differentiated approach to cultural mapping does not take into account substantial differences in the challenges of access that older and more classical nonprofit culture and arts institutions face as compared to their younger and more dynamic commercial counterparts. Finally, scholars tend to use either physical locations of individual organizations or a generalized locational quotient for the sector/sub-sector (a measure that derives from comparing specific locations to national averages) for mapping the arts and culture institutional locations (Grodach et al., 2014). These approaches are helpful for predicting the locational patterns of individual cultural organizations and the cultural sector overall; however, they neglect the presence of other factors that may be equally important for describing the access structure, such as, for example, the physical infrastructure that supports or obstructs access.

This article seeks to address the aforementioned gaps in the literature on the geography of the cultural sector by designing and implementing an index of access that takes into account admissions policy, the physical characteristics of a location, and the availability of, and access to, transportation. The purpose of the index is to holistically explore the exiting geographical, institutional, and social barriers limiting access to cultural organizations, analyze the public accessibility of these institutions, and develop recommendations regarding improving access to cultural organizations. To achieve this goal, we consider the social and demographic profile of local communities and explore the availability of different kinds of cultural amenities to different
groups of the population. Specifically, we focus on those groups of population that are traditionally underrepresented among cultural organizations’ audiences, with the goal to address the linkage between public access that focuses on enhanced diversity and the social legitimacy attached to public and nonprofit arts and culture organizations.

RESEARCH METHODOLOGY

This article seeks to explore the locational patterns of cultural institutions in the urbanized counties of Metropolitan Detroit relative to the social and demographic profile of their communities. Specifically, we seek to explore the locational patterns of five sub-groups of cultural institutions (visual arts, performing arts, historical organizations, science organizations, and libraries) and the cultural sector overall to determine the access of diverse socio-demographic groups to cultural amenities in their immediate geographic area.

Our approach is based on two assumptions: a) the social and demographic profiles of local communities undergo dynamic changes, while core audiences of many cultural organizations often remain stale; b) most long-standing cultural organizations are located in certain areas because of historic development patterns that favored a location when it was founded because of its accessibility. These assumptions are consistent with previous studies that show that certain geographic areas tend to specialize in a particular set of industries (Brooks & Kushner, 2001; Chang & Lee, 2003; Evans & Foord, 2008; Grodach, 2016; Grodach, Currid-Halkett, Foster, & Murdoch III, 2014; Mommaas, 2004; Redaelli, 2012), and that industry location may be a dynamic characteristic (arts location and concentration patterns have been shifting overtime) (Grodach, 2016). Indeed, as cities and regions have expanded, the location may no longer serve the community in the same manner it once did and may fail to adequately reflect current and future needs of local communities. While the actual audiences of cultural
organizations, particularly in slowly transforming urban areas such as Detroit, are likely to differ from the social and demographic profile of their communities, engaging with the diverse audiences is, nevertheless, an important part of cultural organizations’ long-term legacy.

This article explores the accessibility of culture as a community resource, and we use the terms “cultural districts” and “cultural deserts” to describe geographic areas with different concentration of cultural organizations. Conventionally, cultural districts are defined as areas in which arts and culture facilities serve as the primary attraction (Brooks & Kushner, 2001). We use term “cultural districts” in a slightly different way, to describe areas of high concentration of the cultural sector organizations. We also use the term “cultural desert” to denote areas with low presence of cultural institutions. This terminology is borrowed from previous studies that mapped arts industries (Grodach, 2016), and from the literature on sustainable food and health practices (Adams, Ulrich, & Coleman, 2010; Bertrand, Thérien, & Cloutier, 2008; Cummins, Findlay, Petticrew, & Sparks, 2005; Pearce, Witten, & Bartie, 2006).

**Sampling and Data Sources**

There are different approaches to conceptualizing creative industries and defining the cultural sector. For example, Richard Florida uses the term ‘creative class’ to characterize creative human capital, including people in various creative professions not limited to arts and culture (Florida, 2002). Such a broad approach recognizes the interdependence of different forms of creative activity (artistic, scientific, or economic). Another common approach is to focus on creative industries, including both classical nonprofit arts (e.g., opera, symphony, art museums), and creative businesses such as media arts promotion agencies, private galleries, and experimental arts (Brooks & Kushner, 2001; Currid, 2009; Grodach, Currid-Halkett, Foster, & Murdoch III, 2014; Mommaas, 2004). This latter strategy considers the overall presence and
concentration of cultural industries in given locations characterized as ‘innovation districts’ (Grodach, Currid-Halkett, Foster, & Murdoch III, 2014). Scholars employing the innovation district concept tend to focus on ‘cultural clusters’ and generally explore the relationship that exists between such clusters and a variety of community characteristics (Grodach, 2016; Grodach, Currid-Halkett, Foster, & Murdoch III, 2014; Mommaas, 2004).

In this article, we have adopted a mixed approach by focusing on formal organizations that include both classic forms of art and other cultural institutions beyond the arts. We choose to focus on classic forms of culture because these types of organizations are in the greatest need for diversifying their audiences, and are most affected by the historical patterns (DiMaggio & Mukhtar, 2004), as compared to more dynamic cultural industries (media firms, telecommunications, law and other consulting firms).

Our sample of organizations includes 335 public and nonprofit cultural organizations located in the urbanized counties (Wayne, Macomb, Oakland, and Washtenaw) of metropolitan Detroit. In this number we have sought to capture all organizations that fit this sampling frame of public and nonprofit cultural organizations in these four counties. Organizations in the sample comprise five sub-sectors that represent major areas of arts and cultural activity in the region: 28 visual arts organizations (art museums and galleries); 15 science organizations; 87 music and performing arts organizations; 70 historical organizations, and 135 libraries.

The sample included non-commercial arts and culture organizations that pursue public service missions, which makes public access and audience diversity important normative imperatives for such organizations. These organizations are either incorporated nonprofits or public cultural organizations, such as, for example, public libraries and municipal historical museums. In order to avoid sample bias, we reviewed organizational missions to make sure that
all organizations in the sample aspire to serve public at large. This allowed excluding narrowly positioned member-serving organizations (e.g. church choir, ethnic cultural organizations that do not serve larger public, etc.), since wider public access does not appear to be an important institutional value for such organizations. The study also excluded arts and culture businesses whose activities are driven primarily by profit making rather than public serving motives, as well as individual artists, advocacy organizations and professional alliances, fundraising organizations (e.g. friends groups), and seasonal events (e.g. festivals, celebrations, temporary exhibitions).

Additionally, only organizations that had a clearly identifiable geographical location (address) in the four-county area of Metro Detroit were included in the study. This included both organizations that have their own premises, and those that perform or exhibit in a clearly identifiable location that belongs to another organization (e.g. church, community center). Touring organizations were excluded from the sample, unless they had a permanent location where members of the public could find them.

The sample of organizations that meet the above criteria was derived from multiple data sources, including the following: 1) membership database of CultureSource – and arts advocacy organization operating in Southeast Michigan, comprised of 120 organizational members; 2) SustainArts Database, comprised of 572 arts, culture, and humanities nonprofits and support organizations in the Detroit Metropolitan Area; 3) Guidestar database of nonprofit organizations in the State of Michigan comprised of 1266 organizations. In addition to the above sources, we conducted several web searches using open source material, such as municipal government websites, visitdetroit.com, the University of Michigan web site, the Wayne State University’s College of Creative Studies’ website, and guide2detroit.com. Open search terms used included: "Metro-Detroit Arts," "Metro-Detroit Theaters," “Metro-Detroit Museums," “Metro-Detroit
Libraries,” “Metro Detroit History.” Our intent was to collect the universe of organizations in the metropolitan area within our categories. While the search process may have missed some, our sample is close to the population of public and nonprofit cultural organizations actively operating in the urbanized counties of metropolitan Detroit and located within the five sub-fields of arts and culture.

Data Analysis

The findings reported in this article are based on two stage study that, first, explored general locational patterns of the cultural sector and sub-groups of cultural institutions in Metro Detroit, to identify areas with high and low presence of institutions (“districts” and “deserts”). At this stage of the analysis, we used two approaches to mapping the access: traditional density analysis that uses physical addresses of organizations as access points, and the index of access approach that incorporates several accessibility factors, including institutional admission policy and the presence of transportation infrastructure. Second, the study examined access of socio-demographic groups to cultural amenities in their immediate geographic area. In particular, we were interested in groups of population that are traditionally considered ‘underserved’ (i.e. underrepresented among arts’ audience, such as racial minorities, low socio-economic status and income, low education), as well as multigenerational audiences linked to arts’ organizations survival and longer-term sustainability (older populations as potential donors, and young people as future publics and supporters).

Traditional Approach: Density Analysis. In the first part of the study, Kernel density analysis was performed in ArcGIS with the goal of determining saturation levels for all cultural organizations and the five sub-sectors, as a proxy for access. Kernel density is a form of spatial interpolation that uses a bandwidth algorithm based on the number of points, standard, and mean
distance to calculate density bands. Density analysis allows identifying areas of organizational clustering and determining the geodesic distance (the shortest path between two vertices).

Physical addresses for each of the 335 public and nonprofit cultural organizations verified via Google maps were used as location-identifiers, as opposed to using organizational legal addresses, which may be different from actual physical locations. We identified individual organizational locations instead of mapping the sub-sectors as a whole, as was done in some previous studies of arts and culture locational patterns (Grodach, Currid-Halkett, Foster, & Murdoch, 2014). Organizational addresses were geocoded into a geographic information system, where each organization was identified by its sub-group (visual arts, science, performing arts, historical organizations, and libraries).

We then performed spatial interpolation to determine relative density of organizations from the sector and by sub-sectors, which allowed determining the locations of ‘cultural deserts’ and ‘cultural districts.’ The resulting raster (‘heat’ or ‘intensity’ map) from the density analysis shows areas with different densities of organizations (see Appendix 1). Locations with a heavy density of facilities - districts - are color-coded in red, and locations with a low density of facilities – deserts - have no color. The raster also shows transitional areas, with the medium levels of organizational concentrations.

**Revised Approach: Access Index.** The access index presented in this article employs a community resource accessibility model that is based on advances from previous studies of access in a variety of community settings, such as education, health, and food (Adams et al., 2010; Bertrand et al., 2008; Cummins et al., 2005; Pearce et al., 2006). Common approaches of measuring access to community resources and amenities include: 1) counting the number of facilities within a given distance from an area of interest (typically, within 500-1500 meters or a
5-10 minute walk); 2) approximating the presence of at least one facility of a given type within a specified distance from an area of interest; 3) measuring distance to the nearest facility of a given type; and 4) calculating percentage of population with access to a community resource in an area of interest (Adams et al., 2010; Bertrand et al., 2008; Pearce et al., 2006; Sparks, Bania, & Leete, 2011; Witten, Exeter, & Field, 2003; Yoon & Srinivasan, 2015).

Building on these previous studies, the index of access advanced in this article is based on the presence (or absence) of at least one facility of a given type (i.e. arts and culture sub-field) within a specified distance from an area of interest. While such an approach is not without limitations, our assumption was that as long as population of a given Census tract has access to at least one type of cultural organization from a given sub-field within the specifies access parameters (see the description of access index components below), that sub-field of culture would be considered accessible to the Census tract. We did not account for the quality of cultural institutions or their admissions price structure (short of classifying institutions as either free or not free).

Previous studies that relied on measuring distance to a community resource or the presence of a resource within a given distance as a proxy for access typically constructed the distance either using the street network approach that factors in physical access barriers (Adams et al., 2010; Sparks et al., 2011; Witten et al., 2003), or the Euclidean distance approach (as the crow flies) (Bertrand et al., 2008; Sparks et al., 2011). Depending on the goals of the study, either of these approaches makes sense. We chose to rely on the Euclidean distance approach, which works well when the geographic boundaries of a study are clearly defined (Metro Detroit in this case).
Previous studies of access to community resources relied on different methods of aggregating data, including by zip code, tract, block, and even neighborhood (Sparks et al., 2011). However, the lower the level of analysis is, the less secondary data is going to be available for further analyses. Therefore, we chose to focus on the Census tract as the unit of analysis that based on the physical address of an institution (as in the traditional, density analysis, approach), since our ultimate goal was to examine accessibility of cultural resources to various socio-demographic groups of population, and we could use the latest Census data for analyzing access at the tract level. We used geography-based Census tract centroids, rather than population-weighted or postal code centroids, to measure access.

At this stage of the study, we used a GIS-modelling approach to offer a more nuanced measure of community resource accessibility. We constructed an index of access for the entire sample of organizations and the sub-fields to illustrate the accessibility of these organizations (separately and collectively) for different Census tracts.

Scholars of community resource accessibility have used various components for designing their access indexes, such as travel time, distance, availability (or unavailability) of a given resource, and an index was typically obtained as either a sum or a weighted sum of its components (Bertrand et al., 2008; Pearce et al., 2006; Sparks et al., 2011; Witten et al., 2003). Previous studies have also relied on various means of transportation in approximating public access to a community resource, such as walking, driving, and/or reliance on public transportation (Adams et al., 2010; Bertrand et al., 2008; Pearce et al., 2006; Sparks et al., 2011; Witten et al., 2003; Yoon & Srinivasan, 2015).

The index of access presented in this article takes into account 3 principal factors: 1) travel distance as a proxy for the likelihood of travel; 2) institutional admission policy; 3)
physical/transportation access (walking/biking/driving distance, transit accessibility, access to a vehicle for 90% of population). The resulting index of access is an aggregated score (sum of components) that each Census tract obtains based on the following factors:

1. Free vs. paid admission policy (within 0.5 miles of walking distance; coded as 1 for free admission, and 0 if the admission is not free).

2. Walking distance (0.5 miles).

3. Biking distance (5 miles).

4. Driving distance (30 miles).

5. Connected by transit service (within 0.5 miles of walking distance).

6. At least 90 percent of residents have access to a car.

No weight was applied to any one factor, and a Census tract received a point for meeting each of the above criteria. For example, if there was at least one institution of a given type with free admission located within 0.5 miles of the walking distance from a Census tract, that tract would receive 1 point for the first component of access. Half a mile was chosen as a walking distance based on the previous studies that determined that this is the outer limit that people will walk to use public transportation (Boarnet et al., 2013).

Access index values, therefore, range from 0 to 6, with 0 being least accessible area (no access within 30 miles) and 6 being most accessible area. In our study, no tract scored as 0. The outcome of this approach is 6 access areas (access scores 1, 2, 3, 4, 5, 6) that are collections of Census tracts with similar levels of access. In substantive terms, people living in areas with high access scores have the most access to cultural institutions from the sample, and people living in areas with low access scores have low access to the cultural institutions.
The novelty of this approach is that it considers the accessibility of cars and transit service, as well as institutional admissions policy, which the traditional, density analysis, approach did not include. For example, the access is now explained not only by the distance of a Census tract from a cultural organization’s location, but rather by the availability of the transportation infrastructure and organizational policies. That is to say, cultural organizations located further from Census tracts could still be accessible to the population if transportation infrastructure were to become available. Although the index of access was developed here for arts and culture institutions, it may serve as a model of accessibility for a wider variety of community resources.

**Accessibility Analysis: Socio-Demographic Factors.** In the second part of the study, we explored the accessibility of cultural resources to different socio-demographic groups in the population. Because previous analysis was conducted on Census tracts, we were able to compile data to create socio-demographic profiles of each area and discuss how these areas are different from one another. This was done by assigning an access value to each Census tract within the geographic boundaries of Metro Detroit, and accumulating across those Census tracts the socio-demographic characteristics of the areas under the same access index value.

The socio-demographic characteristics of local communities were derived from the most current Census data (2010), within the following categories: 1) socio-economic status and income (median household income, percent in poverty, percent with Social Security, percent with Food Stamps); 2) employment status (percent of unemployed, percent in labor force); 3) ethnicity/minority status (percent minority - all Non-Whites; percent Hispanics); 3) age (under 18 years old; 65 years and over); 4) education (percent with less than Bachelor degree); 5) population size. We used median values for the socio-demographic variables, with the exception
of population size that was reported as total population in a given geographical area. Using medians as opposed to means allowed correcting for the uneven distribution of data and the effect of outliers.

While several previous studies have explored the accessibility of community resources to different socio-demographic groups of population (Adams et al., 2010; Sparks et al., 2011), including the accessibility of cultural resources (Redaelli, 2012), none of these studies employed such a comprehensive approach to defining access as a multi-component index that we used in this article. Therefore, our approach offers an important contribution to the community resource accessibility literature.

**FINDINGS**

The first goal of this study was to get a sense of the locational patterns of different groups of cultural institutions in the urbanized counties of Metropolitan Detroit (Wayne, Oakland, Macomb, and Washtenaw counties), and identify areas with high and low concentration of particular kinds of institutions (‘districts’ and ‘deserts’). To accomplish this goal, we used two approaches to mapping access: a traditional density analysis that uses physical addresses of organizations as access points, and the index of access approach that considers several accessibility factors. The second goal was to examine access to institutional locations and community characteristics. In particular, we sought to examine access for groups of population that are traditionally considered ‘underserved’ (i.e. underrepresented among arts’ audience, such as racial minorities, low income, low education) and groups of population linked to arts’ organizations survival and longer-term sustainability (older populations as potential donors, and young people as future publics and supporters).

**Findings from the Density Analysis**
Based on the analysis of maps produced via traditional density analysis for the entire cultural sector (Appendix 1), cultural resources in the urbanized counties of Metropolitan Detroit are distributed unevenly, with some counties (Wayne, Oakland and Washtenaw) having greater concentration of organizations as compared to other counties (Macomb). There are two notable cultural districts – Woodward Corridor that includes the parts of the City of Detroit and nearby suburbs and the City of Ann Arbor (location of the University of Michigan). A less notable cultural district is located in Royal Oak/Bloomfield Hills area (modern-day centers of wealth in Metro Detroit). On the other hand, there are also areas within each county that have low concentration of cultural institutions (e.g. parts of the Washtenaw County).

Overall, cultural sector in Metro Detroit follows three main locational patterns: 1) historical path (areas with high concentration of organizations tend to be located in the areas of initial population settlement); 2) population size and presence of governing bodies (areas with high concentrations of organizations tend to be located in the areas of county seat locations), and 3) centers of community wealth. Newer facilities, in particular, appeared to select locations with access to potential donors (where donors had relocated as the city expanded), creating mini-districts in recent suburbs such as Bloomfield Hills (established 1932), Rochester Hills (established 1984) and Northville (established 1955).

The findings about the importance of historical legacy as well as dependency of organizational locations upon the availability of resources are consistent with previous literature on the location of cultural districts (Brooks & Kushner, 2001; Chang & Lee, 2003; Evans & Foord, 2008; Grodach, 2016; Grodach, Currid-Halkett, Foster, & Murdoch III, 2014; Mommaas, 2004; Redaelli, 2012), as well as the resource dependency theory (Pfeffer & Salancik, 1978) that
would justify organizations choosing certain locations due to greater availability of resources in such locations.

Another factor that appears to be important in describing the locational patterns of the cultural sector, although not completely independent from the historical, population, and wealth concentration factors, is the presence of educational infrastructure (universities and community colleges). Our observation about higher density of cultural organizations in areas with the presence of universities and colleges is consistent with findings by Florida (2002) regarding the important role of higher educational institutions for creative vitality. Additionally, since the locations of population centers are interdependent with auto-transportation patterns (freeway corridors), the presence of transportation infrastructure is also an important factor for describing cultural organizations’ locational patterns.

When comparing density maps for the sub-fields of arts and culture (Appendix 1), it becomes clear that visual and performing arts organizations follow locational patterns that are similar to the cultural sector overall, with cultural districts observed in areas of historical settlement, modern day population centers, and areas with high concentration of population wealth. Performing arts organizations are more widely distributed in Metropolitan Detroit as compared to visual arts, and, in addition to the three noted above districts, they have an additional clearly identifiable cultural district in Plymouth/Northville. Locations of visual arts organizations are sparser, and most of the metropolitan area, with the exception of the three cultural districts, could be considered as an area of low concentration of the visual arts.

Science organizations are the least numerous and least concentrated in the area, and they follow a distinct locational pattern. The largest science district is located in Ann Arbor, and the second largest is in Detroit. Both of these districts are also characterized by the presence of large
research universities – University of Michigan in Ann Arbor and Wayne State University in Detroit, which, perhaps, signifies strong interconnectedness that exists between educational infrastructure and interest in and support for science. There is at least some presence of science organizations in each of the four counties, but there are also substantial areas of Metro Detroit with no science institutions in close proximity.

Libraries and historical organizations follow similar locational patterns; they are widely distributed in the area and are covering both urban and rural locations. Less numerous - historical organizations - have three clearly identifiable cultural districts – Detroit, Royal Oak, and West Bloomfield. The largest desserts for this type are located in Macomb and the peripheral areas of Washtenaw counties. More numerous – libraries – are evenly distributed throughout the Metropolitan Area, with lesser concentration of organizations observed in the rural Washtenaw County. Among all types of organizations, libraries have the largest number of districts. There is a very clear library district in Detroit, and less clear but also notable districts in Ferndale, Livonia, and Trenton. There is also sizable number of libraries in Bloomfield Hills and Ann Arbor.

Overall, based on the density analysis, most accessible institutions are those greatest in number (performing arts, libraries, historical organizations), and least accessible organizations are those smallest in number (science centers). All non-arts organizations (history, science, and libraries), which include significant number of ‘younger’ organizations, seem to have followed population and demand rather than historical path. This finding is consistent with Grodarch’s study (2016) that discovered the mobility of cultural clusters. Density analysis also shows that, comparatively speaking, residents of Macomb County have the least access to the cultural sector. However, there are variations in access depending on the sub-field of culture, and in each of the
four counties there are areas of low concentration of cultural organizations that could be labeled as cultural deserts.

**Findings from the Access Index Analysis**

Organizational location maps for the entire cultural sector and the five sub-sectors that utilize the index of access (Appendix 2) reveal a more nuanced picture of the cultural resources accessibility in the urbanized counties of Metropolitan Detroit, as compared to the traditional density analysis. Overall, access is more broadly distributed, which could be attributed to the influence of the described above access index components, as well as the influence of the libraries and historical organizations as the most publically accessible institutions (Appendix 2). Similarly with the density maps, some cultural districts are still located in the areas of wealth concentration; however, there are other high access areas that are not linked to wealth concentration (darker areas on the maps in Appendix 2). High access zones only partially follow locational patterns along the lines of population size/wealth concentration/county seats identified via the density analysis. Moreover, cultural deserts are no longer located only in the remote areas (county boundaries) of the urbanized area.

The access map for all cultural institutions reveals that there are no zones that have zero access, a relatively small portion of the Metro Detroit territory that has low access (indexes 1 and 2), and about half of the remaining Metro Detroit territory that has either average access (indexes 3 and 4) or high access (indexes 5 and 6). Additionally, access is widely distributed in the four-county area, and there is no county in a particularly disadvantaged position. However, Washtenaw County has the strongest concentration of both highest access (6) and lowest access (1 and 2) zones.
While the overall access to the cultural sector appears to be widely distributed, when comparing access maps for the sub-fields of arts and culture (Appendix 2), we find substantial differences in the access depending on the type of cultural institutions. Index of access, therefore, allows identifying particularly problematic areas. For instance, visual arts and science organizations appear to be the least accessible, as evidenced by about half of the Metro Detroit territory covered with low access zones (indexes 1 and 2). Access for these two types of cultural amenities is especially problematic in Oakland County.

On the other hand, access to the performing arts is widely distributed. However, there are no areas, where the access index reaches the highest score, which could be partially explained by the fact that performing arts institutions rarely offer free admissions, and their admission prices typically range from $3 to $250. Zones with the least access to the performing arts (indexes 1 and 2) are located along county boundaries, primarily in Oakland, Macomb, and Wayne Counties.

Access structure for historical organizations and libraries resembles the overall cultural access map (Figure 2). Being the largest cultural sub-sectors, these two types of organizations ‘frame’ the overall access map, which also means that libraries and historical organizations play critical roles in ensuring wider population access to culture. Access to libraries is particularly well-established, and there is only one zone with access index of 1 (federal prison facility in the Washtenaw County). Therefore, our results confirm the historically important role of libraries as long-standing public cultural institutions in the United States that are well-positioned to perform important cultural and educational functions. Historical organizations have a slightly higher number of low access areas (indexes 1 and 2), but the overall access is quite high as well. Most low access areas for historical organizations are located in Macomb County.
When reflecting on the access structure (i.e. the six components of the access index), it appears that there are three factors that matter the most in describing the differences among the sub-fields of arts and culture: a sub-sector’s size, institutional admissions policy, and location of transportation corridors and access to transportation. Understandably so, sub-sectors with greater number of organizations offer better public access to the residents of Metro Detroit, and organizations offering free admissions are more accessible as well. On the other hand, the fragmented transportation infrastructure that exists in the urbanized counties of Metropolitan Detroit reduces the accessibility of cultural institutions.

**Accessibility Analysis: The Role of Socio-Demographic Factors**

In the final part of the study, we explored the accessibility of cultural resources to different socio-demographic groups in the population by assigning an access value to each Census tract within the geographic boundaries of Metro Detroit, and accumulating across those Census tracts the socio-demographic characteristics of the areas under the same access index value (Appendix 3). The access index analysis has resulted in six access zones for all cultural sub-fields, except for the performing arts that only had five access zones and no zone with the highest access. On the other end of the access continuum are the libraries that have all six access zones but only one Census tract with access of one. There are no Census tracts with access of zero in any of the sub-fields of arts and culture organizations.

In order to analyze the accessibility of cultural resources to diverse population groups, we focused on six socio-demographic factors: 1) socio-economic status and income (measured as median household income, percept of population in poverty, percent with Social Security, percent with Food Stamps), 2) employment status (measured as percent of unemployed and percent in labor force), 3) ethnicity/minority status (measured as percent minority – all Non-
Whites and percent Hispanics), 4) education (measured as percent with less than Bachelor
degree), 5) age (measured as percent under 18 years old and percent 65 years and over), and 6)
population size.

Our assumption was that the first four socio-demographic variables describe what could be considered as traditionally underserved groups among cultural organizations’ audiences. While this may not be true for all arts and culture organizations, classical forms of arts and culture, especially the ones represented by the nonprofit sector (e.g. music and performing arts, visual arts), are frequently considered as ‘elitist’ (DiMaggio & Mukhtar, 2004). These organizations have in some sense been built by the elites and are still largely sustained by them. So, the democratic—broad scale—legitimacy is lacking in such organizations. Therefore, providing wider public access and diversifying their audiences by including members of the underrepresented groups is of particular importance for the normative legitimacy of the classical arts and culture organizations. Likewise, serving multigenerational audiences (category 5) is an important element of cultural organizations’ moral legitimacy. Moreover, the ability of cultural organizations to serve young generations of future supporters and older generations of current donors is important for both immediate survival and intergenerational sustainability of the arts and culture organizations (Moldavanova, 2016). The population size variable (category 6) could be viewed as an overall indicator of the cultural sector’s accessibility, since the more population is located in higher access zones the more accessible the sector would be to the Metro Detroit population.

Based on the analysis of aggregated access tables in Appendix 3, the least problematic socio-demographic factors in terms of access are age and population size. It appears that there are no evident access disparities for young people and seniors, and both of these groups are
likely to be found in areas with different levels of access. Additionally, the variable ‘population’ is approximately normally distributed, and the majority of Metro Detroit population has a reasonably good access (zones 3 and 4) to all arts and culture sub-fields across the board. Therefore, it appears that arts and culture organizations are well-positioned to serve substantial proportions of the Metro Detroit population as well as multigenerational audiences, which, at least in theory, would mean the enhanced prospects for the sector’s moral legitimacy and long-term sustainability.

On the other hand, consistent access deficiencies across all sub-fields of arts and culture are observed for the communities in Metro Detroit that have higher percentage of Hispanics, as well as higher percentage of less educated people (more people with less than Bachelor degrees). Therefore, improving access for these two groups of population appears to be most critical. Other, less consistent access deficiencies for various sub-fields of arts and culture include: areas with higher proportion of low income population (in history), lower proportion in labor force (in performing arts and libraries), higher percent on food stamps (in history, performing arts, libraries), higher percent on Social Security (in visual arts), higher percent minority (in libraries). Therefore, the results of our descriptive analysis indicate that populations that have lower socio-economic, employment, and minority statuses may, in fact, be at a greater disadvantage in terms of access to several types of arts and culture organizations. Subsequently, the existing access barriers would limit the ability of several sub-fields of arts and culture organizations to ensure comprehensive public access and effectively serve the diverse populations, thus limiting the ability of such sub-fields to achieve greater moral legitimacy.

Libraries, however, are a special case, as the only Census tract that has low access level (index 1) is the federal corrections facility that also happens to house higher proportion of minority population.
On the other hand, highest access (indexes 5 and 6) to historical, performing arts, science, and visual arts organizations is observed in areas with more educated people (lower percentage of population with less than Bachelor degrees). Highest access to historical organizations is observed in areas with higher percentage of employment and higher income, and higher access to science institutions is associated with higher levels of income. Once again, these observations point out possible presence of a certain ‘elite’ access structure that follows education and higher social status. Education, in particular, appears to be a consistent factor for both reducing and enhancing access to most types of cultural amenities, with the exception of libraries that seem to follow more egalitarian locational patterns as compared to other cultural sub-fields. While our descriptive analysis does not test for causality, it is possible that education may, in fact, be a powerful predictor of the arts and culture organizations’ locational patterns.\(^3\)

Our observation regarding the consistent role of education, as well as less consistent but powerful roles of socio-economic and minority statuses, is not unproblematic for organizational legitimacy. It implies that stakeholders with less education and lower social mobility, who could have benefitted from improved access to cultural amenities more so than more educated stakeholders with higher social mobility, are actually at a greater disadvantage in terms of their access to cultural resources. This paints more of an instrumental rather than normative view of organizational legitimacy, with clear access barriers that need to be overcome. Therefore, while for pragmatic reasons it may be economically more beneficial for arts and culture institutions to focus on areas with higher levels of education and socio-economic status, it is also morally

\(^3\) It is possible that arts and culture organizations would be more likely to choose more educated communities as their locations due to the higher levels of arts and culture appreciation observed and higher levels of support available in such communities. However, considering the positive relationship that exists between human capital (expressed via levels of education) and other forms of capital (economic, social, etc.); it is also possible that more educated people would have more resources to enable their own higher access to cultural amenities.
imperative that such organizations work on ensuring better access for less educated and less socially and economically advantaged communities.

DISCUSSION AND CONCLUSIONS

This article investigated public access and commitment to audience diversity as two critically important values that convey moral legitimacy on public service organizations. Using the sample of 335 public and nonprofit cultural organizations located in Metropolitan Detroit, we used the GIS-modelling approach to develop an index of public access to cultural institutions. While previous approaches to mapping cultural institutions focused on physical locations of individual organizations or whole sectors, our approach introduces an innovative way of defining and analyzing access that takes into account institutional admissions policy, the physical characteristics of a location, and the availability of, and access to, transportation.

We find that while the overall access to the cultural sector appears to be widely distributed, there are substantial differences in the access depending on the sub-field of arts and culture. Index of access, therefore, allows identifying particularly problematic access areas. When reflecting on the access structure, it appears that there are three factors that matter the most in describing the differences among the sub-fields of arts and culture: a sub-sector’s size, institutional admissions policy, and location of transportation corridors and access to transportation. Understandably so, sub-sectors with greater number of organizations offer better public access to the residents of Metro Detroit, and organizations offering free admissions are more accessible as well. On the other hand, the fragmented transportation infrastructure that exists in the urbanized counties of Metropolitan Detroit reduces the accessibility of cultural institutions.
We further used the U.S. Census Bureau data to analyze how accessible cultural institutions are to the traditionally underserved populations. Our analysis revealed that arts and culture organizations are generally well-positioned to serve substantial proportions of the Metro Detroit population; however, certain groups of the population are at a greater disadvantage in terms of their access to particular types of cultural amenities. In particular, consistent access deficiencies across all sub-fields of arts and culture are observed for the communities in Metro Detroit that have higher percentage of Hispanics, as well as higher percentage of less educated people. Therefore, improving access for these two groups of population appears to be most critical. Other, less consistent, access deficiencies indicate that populations that have lower socio-economic, employment, and minority statuses may, in fact, be at a greater disadvantage in terms of access to several types of arts and culture organizations. Moreover, we find some evidence of an ‘elite’ access structure that follows higher levels of education and higher social status.

These findings imply that, while moral legitimacy is an important pursuit for cultural organizations that aspire to achieve long-term sustainability, organizations might be underutilizing an important community resource – diverse audiences – that would allow implementing their legitimacy goals in practice. Alongside the issues with the normative dimension of legitimacy, we also find some evidence of more instrumental, elite-type considerations that may be influencing arts and culture sector’s access structure. Therefore, from a normative point of view, it would be important to overcome the existing access barriers in order to enhance to ability of arts and culture organizations to act as socially responsible and, ultimately, sustainable organizations.
These findings imply a window of opportunity for cultural organizations, donors, and policy-makers. Some possible ways of improving public access to cultural organizations in the urbanized counties of Metropolitan Detroit may include such institutional policies, as offering free admissions and/or subsidized access, especially for people with lower socio-economic status, as well as increasing public outreach in geographic areas with high concentration of minority populations (especially Hispanics) and populations with lower levels of education. Particularly useful could be the early outreach programs in public schools, in order to provide access and cultivate cultural appreciation skills among young people early on in their lives. A possible policy intervention, on the other hand, would be improving transportation options for low and medium access Census tracts to ease access to cultural institutions, which may include both better public transportation networks as well as donor-supported transportation (e.g. busses for school students and seniors) to assist cultural institutions with their public outreach efforts. Additionally, considering the low number and lower accessibility of science organizations in Metro Detroit, it would be beneficial to incentivize and support the creation of new science institutions in the area.

By offering an innovative way of defining and describing the accessibility of culture as a community resource to the public, this article contributes to the previous scholarship in multiple ways. First, the methodology introduced in this article contributes to the literature on community resource accessibility by introducing a comprehensive, multi-component, index of access that could be utilized in future studies of arts and culture accessibility beyond Metro Detroit, as well as studies of accessibility of other types of community resources. Second, by investigating the potential of arts and culture organizations to pursue two critical pillars of organizational legitimacy – public access and audience diversity – this article sheds more light on the
application of the legitimacy theory. Access index analysis also indicates that cultural organizations partially follow locational patterns along the lines of population size/wealth concentration/county seat, thus confirming basic assumptions of the resource dependency theory about organizations choosing locations with access to greater resources.

While offering these important methodological and theoretical contributions, the study is not without limitations. Some of these limitations, however, offer potent directions for future research. First, our study did not include commercial arts and culture organizations; however, there is often a symbiotic connection that exists between arts businesses and nonprofits (Toepler & Wyszomirski, 2012), particularly the ones located within the same geographical boundaries. Therefore, future studies would benefit from exploring access structure that considers both commercial and noncommercial cultural sectors. Second, our comprehensive index of access includes six different components that are relevant to the context of our study; however, there may be some variables currently not included in the study, such as, for example, economic factors (admission price structure, behavioral incentives, quality of supply and demand, etc.), that may be important for understanding public access to cultural organizations. Future studies should attempt to explore the role of such variables and, possibly, include those as part of the access index. Third, the analysis presented in this article is descriptive in nature, and it suggests rather than tests the role of factors that either enhance or depress access to the cultural sector. Fourth, there is some indication that certain institutions provide less access. This may be because their attachments to elites—resource dependence—frees them the necessity. Therefore, one possible test would be to assess the extent of their revenue that comes from such sources.

Finally, our analysis is based on the specific context of urbanized counties in Metropolitan Detroit; therefore, our observations may have limited potential for a wider
generalizability. Future studies should include predictive analyses that explore the relative weight and possible causes of access barriers, as well as wider geographical contexts - in order to identify which access barriers are sector-specific and which ones are geographically-determined. Finally, it may also be beneficial to explore relationships that may exist between socio-demographic variables (as independent variables) and the access index (as the dependent variable).

Acknowledgements: This research has been funded by the National Endowment for the Arts, Research: Art Works Program under grant # 16-968176 (spring 2016 funding cycle).

References


doi:10.1080/14719037.2017.1293141


Appendix 1. Metro Detroit Density Maps for All Cultural Organizations and the Five Sub-Sectors
Appendix 2. Metro Detroit Access Index Maps for All Cultural Organizations and the Five Sub-Sectors
Appendix 3. Access Analysis and Socio-Demographic Variables

### Visual Arts Access Index

<table>
<thead>
<tr>
<th>Variable</th>
<th>1 Index</th>
<th>2 Index</th>
<th>3 Index</th>
<th>4 Index</th>
<th>5 Index</th>
<th>6 Index</th>
</tr>
</thead>
<tbody>
<tr>
<td># of tracts</td>
<td>7</td>
<td>226</td>
<td>598</td>
<td>343</td>
<td>72</td>
<td>28</td>
</tr>
<tr>
<td>Population</td>
<td>18,837</td>
<td>823,923</td>
<td>1,869,668</td>
<td>1,228,419</td>
<td>219,676</td>
<td>89,069</td>
</tr>
<tr>
<td>% in Labor Force</td>
<td>59.5%</td>
<td>61.1%</td>
<td>61.2%</td>
<td>63.8%</td>
<td>57.2%</td>
<td>63.15%</td>
</tr>
<tr>
<td>% Unemployed</td>
<td>6.0%</td>
<td>8.0%</td>
<td>12.5%</td>
<td>7.5%</td>
<td>13.1%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$50,156.00</td>
<td>$59,194.20</td>
<td>$40,414.50</td>
<td>$39,286.00</td>
<td>$22,913.00</td>
<td>$58,823.50</td>
</tr>
<tr>
<td>% with Social Security</td>
<td>35.0%</td>
<td>32.0%</td>
<td>32.2%</td>
<td>31.65%</td>
<td>26.5%</td>
<td>29.0%</td>
</tr>
<tr>
<td>% with Food Stamps</td>
<td>9.3%</td>
<td>10.4%</td>
<td>20.7%</td>
<td>9.3%</td>
<td>28.4%</td>
<td>6.5%</td>
</tr>
<tr>
<td>% in Poverty</td>
<td>10.0%</td>
<td>10.4%</td>
<td>20.25%</td>
<td>9.5%</td>
<td>38.4%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Median Age</td>
<td>42.9</td>
<td>40.7</td>
<td>39.2</td>
<td>40.6</td>
<td>33.6</td>
<td>42.5</td>
</tr>
<tr>
<td>% under 18</td>
<td>19.7%</td>
<td>23.0%</td>
<td>22.3%</td>
<td>31.65%</td>
<td>21.8%</td>
<td>20.75%</td>
</tr>
<tr>
<td>% 65 and over</td>
<td>17.6%</td>
<td>18.8%</td>
<td>18.2%</td>
<td>14.9%</td>
<td>10.15%</td>
<td>16.0%</td>
</tr>
<tr>
<td>% Minority</td>
<td>17.8%</td>
<td>15.5%</td>
<td>39.55%</td>
<td>18.6%</td>
<td>48.2%</td>
<td>15.4%</td>
</tr>
<tr>
<td>% Hispanic</td>
<td>3.7%</td>
<td>2.0%</td>
<td>1.9%</td>
<td>2.5%</td>
<td>2.9%</td>
<td>2.65%</td>
</tr>
<tr>
<td>% Less than Bachelor’s</td>
<td>75.9%</td>
<td>75.6%</td>
<td>82.2%</td>
<td>69.7%</td>
<td>72.6%</td>
<td>56.42%</td>
</tr>
</tbody>
</table>

### Historical Organizations Access Index

<table>
<thead>
<tr>
<th>Variable</th>
<th>1 Index</th>
<th>2 Index</th>
<th>3 Index</th>
<th>4 Index</th>
<th>5 Index</th>
<th>6 Index</th>
</tr>
</thead>
<tbody>
<tr>
<td># of tracts</td>
<td>2</td>
<td>88</td>
<td>424</td>
<td>434</td>
<td>110</td>
<td>61</td>
</tr>
<tr>
<td>Population</td>
<td>5,190</td>
<td>118,811</td>
<td>1,899,232</td>
<td>1,486,406</td>
<td>405,804</td>
<td>214,376</td>
</tr>
<tr>
<td>% in Labor Force</td>
<td>32.9%</td>
<td>60.85%</td>
<td>60.12%</td>
<td>62.5%</td>
<td>64.35%</td>
<td>67.7%</td>
</tr>
<tr>
<td>% Unemployed</td>
<td>4.45%</td>
<td>7.22%</td>
<td>13.3%</td>
<td>8.3%</td>
<td>7.2%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$125,076.00</td>
<td>$33,175.30</td>
<td>$35,665.00</td>
<td>$33,440.00</td>
<td>$61,469.00</td>
<td>$65,854.00</td>
</tr>
<tr>
<td>% with Social Security</td>
<td>17.32%</td>
<td>30.82%</td>
<td>32.32%</td>
<td>31.83%</td>
<td>28.64%</td>
<td>27.23%</td>
</tr>
<tr>
<td>% with Food Stamps</td>
<td>37.1%</td>
<td>11.6%</td>
<td>23.7%</td>
<td>11.8%</td>
<td>7.4%</td>
<td>6.1%</td>
</tr>
<tr>
<td>% in Poverty</td>
<td>26.7%</td>
<td>10.55%</td>
<td>24.9%</td>
<td>11.15%</td>
<td>8.15%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Median Age</td>
<td>41.45</td>
<td>41.8</td>
<td>39.1</td>
<td>40.2</td>
<td>40.8</td>
<td>39.3</td>
</tr>
<tr>
<td>% under 18</td>
<td>10.15%</td>
<td>12.9%</td>
<td>33.8%</td>
<td>22.0%</td>
<td>21.4%</td>
<td>31.0%</td>
</tr>
<tr>
<td>% 65 and over</td>
<td>10.1%</td>
<td>14.35%</td>
<td>13.2%</td>
<td>14.6%</td>
<td>12.9%</td>
<td>13.6%</td>
</tr>
<tr>
<td>% Minority</td>
<td>41.4%</td>
<td>11.8%</td>
<td>41.5%</td>
<td>21.20%</td>
<td>14.9%</td>
<td>12.4%</td>
</tr>
<tr>
<td>% Hispanic</td>
<td>12.25%</td>
<td>2.1%</td>
<td>1.8%</td>
<td>2.4%</td>
<td>2.15%</td>
<td>2.6%</td>
</tr>
<tr>
<td>% Less than Bachelor’s</td>
<td>84.7%</td>
<td>78.4%</td>
<td>83.0%</td>
<td>75.3%</td>
<td>57.5%</td>
<td>25.1%</td>
</tr>
</tbody>
</table>
### Science Center Access Index

<table>
<thead>
<tr>
<th></th>
<th>1 Index</th>
<th>2 Index</th>
<th>3 Index</th>
<th>4 Index</th>
<th>5 Index</th>
<th>6 Index</th>
</tr>
</thead>
<tbody>
<tr>
<td># of tracts</td>
<td>11</td>
<td>182</td>
<td>604</td>
<td>247</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>Population</td>
<td>34,549</td>
<td>1,401,727</td>
<td>1,881,195</td>
<td>850,157</td>
<td>84,224</td>
<td>17,850</td>
</tr>
<tr>
<td>% in Labor Force</td>
<td>60.8%</td>
<td>64.8%</td>
<td>60.25%</td>
<td>64.25%</td>
<td>60.05%</td>
<td>63.7%</td>
</tr>
<tr>
<td>% Unemployed</td>
<td>6.1%</td>
<td>7.9%</td>
<td>12.4%</td>
<td>7.2%</td>
<td>7.8%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>50,156.00</td>
<td>61,155.00</td>
<td>199,354.00</td>
<td>582,882.00</td>
<td>2,838,008.00</td>
<td>589,978.00</td>
</tr>
<tr>
<td>% with Social Security</td>
<td>13.02%</td>
<td>30.47%</td>
<td>32.84%</td>
<td>30.48%</td>
<td>24.96%</td>
<td>31.87%</td>
</tr>
<tr>
<td>% with Food Stamps</td>
<td>8.3%</td>
<td>8.95%</td>
<td>22.15%</td>
<td>9.42%</td>
<td>12.6%</td>
<td>2.0%</td>
</tr>
<tr>
<td>% in Poverty</td>
<td>8.4%</td>
<td>9.15%</td>
<td>20.65%</td>
<td>10.3%</td>
<td>34.6%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Median Age</td>
<td>42.9</td>
<td>40.85</td>
<td>39.4</td>
<td>40.15</td>
<td>33.45</td>
<td>42.8</td>
</tr>
<tr>
<td>% under 18</td>
<td>18.2%</td>
<td>22.75%</td>
<td>22.3%</td>
<td>21.9%</td>
<td>15.1%</td>
<td>23.6%</td>
</tr>
<tr>
<td>% 65 and over</td>
<td>17.6%</td>
<td>13.5%</td>
<td>13.45%</td>
<td>14.6%</td>
<td>11.8%</td>
<td>17.5%</td>
</tr>
<tr>
<td>% Minority</td>
<td>12.5%</td>
<td>17.8%</td>
<td>38.9%</td>
<td>20.3%</td>
<td>29.3%</td>
<td>10.2%</td>
</tr>
<tr>
<td>% Hispanic</td>
<td>4.6%</td>
<td>2.3%</td>
<td>1.9%</td>
<td>2.5%</td>
<td>2.8%</td>
<td>2.0%</td>
</tr>
<tr>
<td>% Less than Bachelor's</td>
<td>64.1%</td>
<td>71.15%</td>
<td>83.65%</td>
<td>62.2%</td>
<td>39.3%</td>
<td>52.3%</td>
</tr>
</tbody>
</table>

### Performing Arts Access Index

<table>
<thead>
<tr>
<th></th>
<th>1 Index</th>
<th>2 Index</th>
<th>3 Index</th>
<th>4 Index</th>
<th>5 Index</th>
<th>6 Index</th>
</tr>
</thead>
<tbody>
<tr>
<td># of tracts</td>
<td>1</td>
<td>96</td>
<td>576</td>
<td>487</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>Population</td>
<td>5,180</td>
<td>381,797</td>
<td>1,884,603</td>
<td>1,842,116</td>
<td>375,936</td>
<td></td>
</tr>
<tr>
<td>% in Labor Force</td>
<td>33.85%</td>
<td>69.62%</td>
<td>60.2%</td>
<td>63.45%</td>
<td>63.45%</td>
<td></td>
</tr>
<tr>
<td>% Unemployed</td>
<td>8.9%</td>
<td>7.2%</td>
<td>14.25%</td>
<td>8.7%</td>
<td>6.25%</td>
<td></td>
</tr>
<tr>
<td>Median Household Income</td>
<td>50,156.00</td>
<td>68,427.00</td>
<td>336,808.50</td>
<td>325,500.00</td>
<td>681,464.50</td>
<td></td>
</tr>
<tr>
<td>% with Social Security</td>
<td>35.05%</td>
<td>30.73%</td>
<td>32.32%</td>
<td>31.31%</td>
<td>31.39%</td>
<td></td>
</tr>
<tr>
<td>% with Food Stamps</td>
<td>57.1%</td>
<td>8.2%</td>
<td>27.2%</td>
<td>11.85%</td>
<td>7.8%</td>
<td></td>
</tr>
<tr>
<td>% in Poverty</td>
<td>11.2%</td>
<td>8.1%</td>
<td>26.3%</td>
<td>19.9%</td>
<td>8.22%</td>
<td></td>
</tr>
<tr>
<td>Median Age</td>
<td>41.45</td>
<td>42.9</td>
<td>38.7</td>
<td>40.15</td>
<td>41.45</td>
<td></td>
</tr>
<tr>
<td>% under 18</td>
<td>10.35%</td>
<td>22.4%</td>
<td>13.1%</td>
<td>22.0%</td>
<td>20.6%</td>
<td></td>
</tr>
<tr>
<td>% 65 and over</td>
<td>19.1%</td>
<td>13.85%</td>
<td>12.65%</td>
<td>14.4%</td>
<td>15.25%</td>
<td></td>
</tr>
<tr>
<td>% Minority</td>
<td>41.8%</td>
<td>7.0%</td>
<td>42.0%</td>
<td>22.0%</td>
<td>20.0%</td>
<td></td>
</tr>
<tr>
<td>% Hispanic</td>
<td>12.5%</td>
<td>1.95%</td>
<td>1.8%</td>
<td>2.5%</td>
<td>2.7%</td>
<td></td>
</tr>
<tr>
<td>% Less than Bachelor’s</td>
<td>84.7%</td>
<td>73.0%</td>
<td>82.5%</td>
<td>72.5%</td>
<td>50.55%</td>
<td></td>
</tr>
</tbody>
</table>

* Only 1 census data
<table>
<thead>
<tr>
<th>Library Access Index</th>
<th>1 Index</th>
<th>2 Index</th>
<th>3 Index</th>
<th>4 Index</th>
<th>5 Index</th>
<th>6 Index</th>
</tr>
</thead>
<tbody>
<tr>
<td># of tracts</td>
<td>1 *</td>
<td>11</td>
<td>444</td>
<td>328</td>
<td>307</td>
<td>182</td>
</tr>
<tr>
<td>Population</td>
<td>1,391</td>
<td>43,373</td>
<td>1,476,488</td>
<td>1,101,812</td>
<td>955,581</td>
<td>670,877.00</td>
</tr>
<tr>
<td>% in Labor Force</td>
<td>0.3%</td>
<td>60.55%</td>
<td>41.2%</td>
<td>64.3%</td>
<td>58.0%</td>
<td>63.4%</td>
</tr>
<tr>
<td>% Unemployed</td>
<td>0.0%</td>
<td>6.6%</td>
<td>10.1%</td>
<td>7.7%</td>
<td>13.15%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Median Household Income</td>
<td>-</td>
<td>$55,892.00</td>
<td>$42,759.50</td>
<td>$38,525.50</td>
<td>$30,139.00</td>
<td>$25,835.50</td>
</tr>
<tr>
<td>% with Social Security</td>
<td>0.0%</td>
<td>31.63%</td>
<td>31.86%</td>
<td>31.84%</td>
<td>30.86%</td>
<td>31.87%</td>
</tr>
<tr>
<td>% with Food Stamps</td>
<td>100.0%</td>
<td>9.25%</td>
<td>17.4%</td>
<td>9.8%</td>
<td>11.8%</td>
<td>11.8%</td>
</tr>
<tr>
<td>% in Poverty</td>
<td>26.7%</td>
<td>6.35%</td>
<td>18.1%</td>
<td>10.1%</td>
<td>10.2%</td>
<td>10.45%</td>
</tr>
<tr>
<td>Median Age</td>
<td>41.4</td>
<td>43.45</td>
<td>39.9</td>
<td>40.5</td>
<td>37.55</td>
<td>40.25</td>
</tr>
<tr>
<td>% under 18</td>
<td>0.8%</td>
<td>20.1%</td>
<td>22.4%</td>
<td>21.6%</td>
<td>22.3%</td>
<td>22.05%</td>
</tr>
<tr>
<td>% 65 and over</td>
<td>4.3%</td>
<td>17.63%</td>
<td>13.2%</td>
<td>14.8%</td>
<td>12.1%</td>
<td>14.45%</td>
</tr>
<tr>
<td>% Minority</td>
<td>65.8%</td>
<td>8.8%</td>
<td>30.63%</td>
<td>21.0%</td>
<td>48.7%</td>
<td>17.45%</td>
</tr>
<tr>
<td>% Hispanic</td>
<td>19.4%</td>
<td>2.95%</td>
<td>1.9%</td>
<td>2.3%</td>
<td>1.8%</td>
<td>2.55%</td>
</tr>
<tr>
<td>% Less than Bachelor’s</td>
<td>93.5%</td>
<td>64.32%</td>
<td>78.9%</td>
<td>70.82%</td>
<td>82.5%</td>
<td>72.4%</td>
</tr>
</tbody>
</table>