

AN INVENTORY AND ASSESSMENT OF LOS ALAMOS ARTS AND CULTURAL ASSETS

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EXECUTIVE SUMMARY

The structure of the arts and cultural (A&C) economy of Los Alamos is fundamentally different from that of other New Mexico communities. Many communities in New Mexico have large and diverse pools of 'cultural producers' but are limited in their access to markets of any scale (Santa Fe, of course, is exceptional). The opposite is true in Los Alamos – a wealthy residential population creates a very substantial demand for cultural services that is not met by local producers. These expenditures thus leak from the local economy to Santa Fe, Albuquerque and points beyond.

This market imbalance is not for lack of initiative. A small number of local organizations (e.g., the Art Center at Fuller Lodge, Historical Society, Little Theater, Light Opera, Arts Council) have been established to address this demand. Also, to their credit, the Los Alamos County government and local economic development institutions (e.g., Chamber of Commerce, MainStreet) have shown a real commitment to the development of Los Alamos' cultural economy, and their efforts are well recognized within the local A&C community. However, to date, these initiatives have not reached the point of critical mass necessary to attract the talent and generate the innovation necessary to establish a vibrant cultural economy.

To understand the unique characteristics of Los Alamos' A&C community in relation to others in New Mexico, it is necessary to consider the key role of the Los Alamos National Laboratory (LANL) on the economic and social structure of the community. The most important aspect is the approximately 9,500 jobs that the lab creates and the impact of these jobs on a community with a population of only 12,000. The overall pattern is well-known but warrants a summary:

- In Los Alamos, two-thirds of the workforce is employed in professional occupations (28 percent in scientific and engineering occupations alone). By contrast, less than one-third are employed in professional occupations statewide (only 4 percent in science and engineering).
- These occupations require high levels of education. More than 62 percent of the Los Alamos population over the age of 24 years old has at least a Bachelor's Degree (17 percent have a Doctorate degree); by contrast, only 23 percent of the state's population of the same age has a Bachelor's degree or more (1.3 percent with a doctorate degree).
- These well educated workers earn high wages. The median household income in Los Alamos in 2000 was \$71,500, more than twice the median income of \$34,100 for the state. One-third of Los Alamos County households earned more than \$100,000 in 2000, while about the same share of households statewide earned more than \$50,000. On the other hand, one-third of all Los Alamos County households earned less than \$50,000, compared to more than two-thirds throughout the state.

- As LANL recruits widely for qualified workers, the local workforce is much less likely to be native New Mexican. Only 30 percent of all residents of Los Alamos – including children – were born in the state; while 52 percent of all residents of the state were born here.
- Finally, the ethnic composition of this workforce lacks the diversity found in other parts of New Mexico. In Los Alamos, 80 percent of the population is Anglo (white, non-Hispanic) while only 13 percent is Hispanic and 0.5 percent is Native American. By contrast, in New Mexico as a whole, Anglos make up only 45 percent of the population, while Hispanics make up 42 percent and Native Americans nine percent.

The implications of this socioeconomic structure for the A&C economy are manifold. First and most obviously, the demand for cultural products is very strong as a result of both high incomes and a propensity of high income households to spend a greater share of their income on cultural products. Further, several persons surveyed for this study noted that the population has sophisticated tastes and a cosmopolitan character.¹

There are also important implications in terms of cultural production. First, given the very specific educational requirements of LANL's employees and that the large majority of Los Alamos residents are born out of state, we can infer that most employees of LANL living in Los Alamos relocated to the area to exploit a very specific set of skills. The skills are not easily transferable to work in the arts and cultural sectors, and high incomes from their current occupations provide little incentive to do so. Second, high local average wages result in a relatively high cost of living in Los Alamos; in particular, a high cost of housing. The high cost of living discourages residents from work in lower paying arts and cultural occupations. Third, insofar as social and cultural diversity has been found to be strongly correlated with engagement and innovation in the arts, the relatively low level of diversity in Los Alamos (at least ethnically) does not provide fertile ground for cultural production. Finally, the long and diverse history of the various communities and regions of New Mexico has been crucial to the state's cultural economy. However, the (modern) history of Los Alamos is recent and very narrowly focused, beginning with the Manhattan Project during WWII and the subsequent development of LANL.

Within this context, the principal findings of this study are:

- The organizational structure of the A&C community in Los Alamos is highly centralized, with three or four key institutions serving to link together most of the individuals and organizations that are active in the community.

¹ Note, again, that 70 percent of the population now living in Los Alamos – including children – is from out of state. Also, while the same share of the population of Los Alamos is foreign born as in the state as a whole (8 percent), foreign born residents of Los Alamos are native of many world regions (European, 39 percent; Asian, 42 percent; Latin American, 8 percent; African, 3 percent), whereas 77 percent of foreign born residents of New Mexico as a whole are from Mexico and Central America alone.

The institutions at the center of the network are diverse and complementary in activities – there are support organizations, commercial establishments, art spaces and preservationist groups.

- Conspicuous for their absence at the center of the network are individuals and organizations directly engaged in creative or artistic activities. While such individuals and organizations are found within the network, they tend to be peripheral. In social analytic terms, this suggests that these artistic organizations have specific audiences, supporters and collaborators, but generally do not reach across the community in a manner that is associated with growth and innovation. Further, these individuals and organizations are generally non-professional, suggesting that their work is driven more by their interests in expression than by response to market demands.
- The A&C community of Los Alamos has a number of ties to Santa Fe and to a lesser extent, Albuquerque, but despite some initiatives (especially from LANL and the LANL Foundation in educational fields), the community otherwise is poorly integrated with its immediate region. In particular, this research indicates that connections with neighboring pueblos (San Ildefonso and Santa Clara) and Bandelier National Monument are quite weak. More generally, the Bradbury Museum is perhaps the only significant point of contact between the community and larger markets; tourism is poorly developed, especially as regards A&C.
- Since the events of September 11, 2001, Los Alamos' A&C economy has suffered a very sharp downturn in terms of revenues, employment and the number of businesses and establishments. This is not unique to Los Alamos – the same has been found in BBER's research in other communities (e.g., Silver City, Las Vegas, and Raton). At this point, it is unclear as to whether this is a regional or statewide phenomenon, is specific to smaller communities, or is part of some other broader pattern.

Based on these findings and analysis, leaders of the A&C community in Los Alamos may consider the following strategies to continue the development of their cultural economy:

- The application for a designated Arts and Cultural District in Los Alamos should be vigorously promoted. The value of an A&C district is uniquely important to Los Alamos as it represents a specific and targeted effort to cultivate a sense of place in a community where the impact of LANL tends to overshadow other assets and histories. Anchored at its poles by the Bradbury Museum and the Art Center at Fuller Lodge, the community's application for district designation strikes a good balance in leveraging its recognition as a center of technology in its development as a center for arts and cultural activities.

- The market focus of the district and other initiatives to grow the local cultural economy should be residents of Los Alamos and the county. Based on income data alone, it is clear that per capita expenditures on cultural products and activities by local residents far exceed the statewide (or national) average, yet by all accounts the vast majority of these expenditures are leaving the town. Capturing only a small share of this total would represent a significant increase in the current revenues of the community's A&C activities.
- Although this local market should be the focus of development, it should be complemented by initiatives to appeal to both regional (northern New Mexico) and national-global markets. Addressing multiple geographical markets makes sense economically, because each works on its own timeframe (e.g., local markets in evenings, regional on weekends, national-global during summer months, etc.), thus providing greater balance over the course of the year. Accommodating multiple geographical markets also creates a more interesting mix of products and experiences – a factor that is certain to be appreciated by the community's cosmopolitan local audience. Also, working on various markets will contribute to the overarching mission of cultivating a more complex and nuanced sense of place, as it will require a greater diversity of offerings.
- Specific initiatives in the development of the district as a cultural center may include the cultivation of stronger relationships with regional partners and possibly the development of a small 'boutique' hotel. The findings of this research indicate that relationships with neighboring pueblos (e.g., San Ildefonso and Santa Clara) and natural-environmental resources (e.g., Bandelier and Valles Caldera) are very poorly developed, and could serve as key assets in broadening the image of the community at all scales. This may involve initiatives to welcome the very talented and well recognized artists of the region – especially those from San Ildefonso and Santa Clara – to teach, work and sell within the district, possibly collaborating with the Art Center and existing businesses. Likewise, incorporating services and promotional activities related to the natural environment (e.g. Bandelier and the Valles Caldera) into the district could help integrate Los Alamos with its regional environment, further contributing to broader and perhaps more authentic sense of place. Specifically, drawing the outreach and educational initiatives of the Pajarito Environmental Education Center into the district could help expand the potential district market.
- Although this research does not provide definitive data and analysis, the findings do suggest the possibility for the development of a small hotel in the district with limited but high quality meeting space. LANL attracts a large volume of visitors, whose current options are local hotel franchises and higher quality lodging in Santa Fe. The presence of high-quality accommodations in the district would contribute significantly to evening and weekend markets for local businesses, and most importantly

- contribute to the sense of place that should be a principal goal of all initiatives.
- The cultured and cosmopolitan population of Los Alamos appreciates and is able to afford cultural products and experiences of the highest value, which of course helps to explain the attraction of Santa Fe to local residents. A major challenge to the development of the A&C economy in Los Alamos is providing this quality on a small scale and against the strong pull of Santa Fe. Instead of any attempt to compete directly with Santa Fe, efforts should be made to foster collaboration, for example creating occasional markets in which Santa Fe and other regional-based galleries and performing arts companies are encouraged to travel to Los Alamos. Another strategy to promote quality and establish distinctive offerings would be to draw upon local strengths in technology to leverage the development of unique cultural products. The findings of this research suggest (surprisingly) that little of this is occurring locally, and to the extent that it is occurring it is largely divorced from local institutions and appeals instead to groups working in Santa Fe (e.g., Santa Fe Complex, Santa Fe Institute) and Albuquerque (UNM and UNM ArtsLab). Again, initiatives should be undertaken to cultivate these relationships and encourage their location in Los Alamos and the A&C district.

In the final analysis, the best strategy available to Los Alamos is (to paraphrase and to employ an old cliché) to think locally and act regionally – that is, identify the assets most unique to the community (technology?) and seek to leverage and integrate those assets with very different but complementary regional assets (art and history?) to create something new and not easily replicated.

INTRODUCTION

During the period March-July 2009, UNM-BBER conducted a three part investigation of the arts and cultural (A&C) economy of Los Alamos, with a focus on an inventory and assessment of the community's cultural assets. The three parts are:

- An extensive inventory of the assets of the creative economy of the Los Alamos area. The information was collected from web searches, secondary and primary data collection, reviews of public documents and prior studies, and interviews with dozens of community leaders, public officials, business owners, artists and interested individuals. The results are available as an Excel[®]-based directory of over 130 entries, including descriptions, contact and personnel information, and where available, budget and funding data for A&C institutions and activities.
- A community-based survey of 45 artists, historians, supporters, retailers, market representatives and others engaged in creative industries in Los Alamos and neighboring communities. The survey included questions about A&C participation, the advantages and disadvantages of living and working in the Los Alamos area, demographics and relationships with and among A&C and other community institutions. By better understanding the individuals, institutions and relationships that comprise the creative economy, this analysis can help lead to innovation, market expansion, stronger organization, more broad-based participation, and even new models of community leadership.
- An analysis of the impact and trends of the creative economy of the Los Alamos area. This analysis draws from a variety of sources, including lodger's tax records, attendance and enrollment figures, and most importantly, the Dun & Bradstreet database of employment and revenues of businesses and public and non-profit institutions for the period 1989 – 2006. This quantification of the creative economy provides an objective account of the importance of the A&C industries for purposes of policy and planning.

The findings of this research are presented in this report in two main parts. The first is an analysis of the social assets of the creative economy of Los Alamos, including a social network analysis, an evaluation of survey results, and a review of the institutional inventory. The second part includes an analysis of the economic impact of the A&C industries in the area, including an analysis of trends during the 1989-2006 period, and information about the potential market for A&C industries.

SOCIAL ASSETS

Survey Methodology

BBER designed a survey to provide data for the qualitative analysis component of the research project. The survey is included in the Appendix as **Figure A-1**. The survey was designed to elicit information on the demographic characteristics of the A&C community, the advantages and disadvantages of doing artistic, cultural, and creative work in the Los Alamos area, and relationships among individuals, organizations, and institutions engaged in this community.

BBER utilized a snowball sampling method in our qualitative analysis. A snowball sample is a subset of the population under study (in this case, individuals and institutions involved in artistic, creative, and cultural activities in and around Los Alamos) that is generated by members of the population themselves. How this happens, more specifically, is that a handful of members of the population are chosen to serve as “seeds” and are interviewed by BBER. Then, each of these is asked to name others within the population as part of the interview, some of whom are subsequently interviewed. These are again asked to name others, some of whom are interviewed, and so on until a large percentage of the names that come up have already come up before, at which point it is determined that “saturation” has been reached. While it is very likely the sample thus generated is not representative of the population under study, it is also very likely that it accurately reflects who within the population is most visible and active within it.

The findings from the survey are discussed in this section, beginning with the social network analysis.

Social Network Analysis

Social network analysis is a type of research that involves analysis of the organizational structure – both formal and informal -- of the study population. Using social network analysis software such as UCINET, which BBER used for this study, one is able to quantify the level of connectedness within the network, assess the relative “importance” (e.g., the extent to which each mediates between others within the network) of each actor within the network, and identify those actors who are isolated from the others, among many other possible analyses. The software also provides a way to visualize the networks through “maps” whose layouts can be manipulated in several ways to reflect various attributes of the actors.

Data gathered through the survey instrument was used to conduct a social network analysis of the arts and cultural social network in and around Los Alamos. The names of individuals and institutions given by interviewees in response to survey question #6, “Please name in rank order up to five people or institutions with whom your interactions are most important in your arts and cultural activities,” were the names that ultimately served to populate the sample of the arts and cultural universe, and were the pool from which the names of

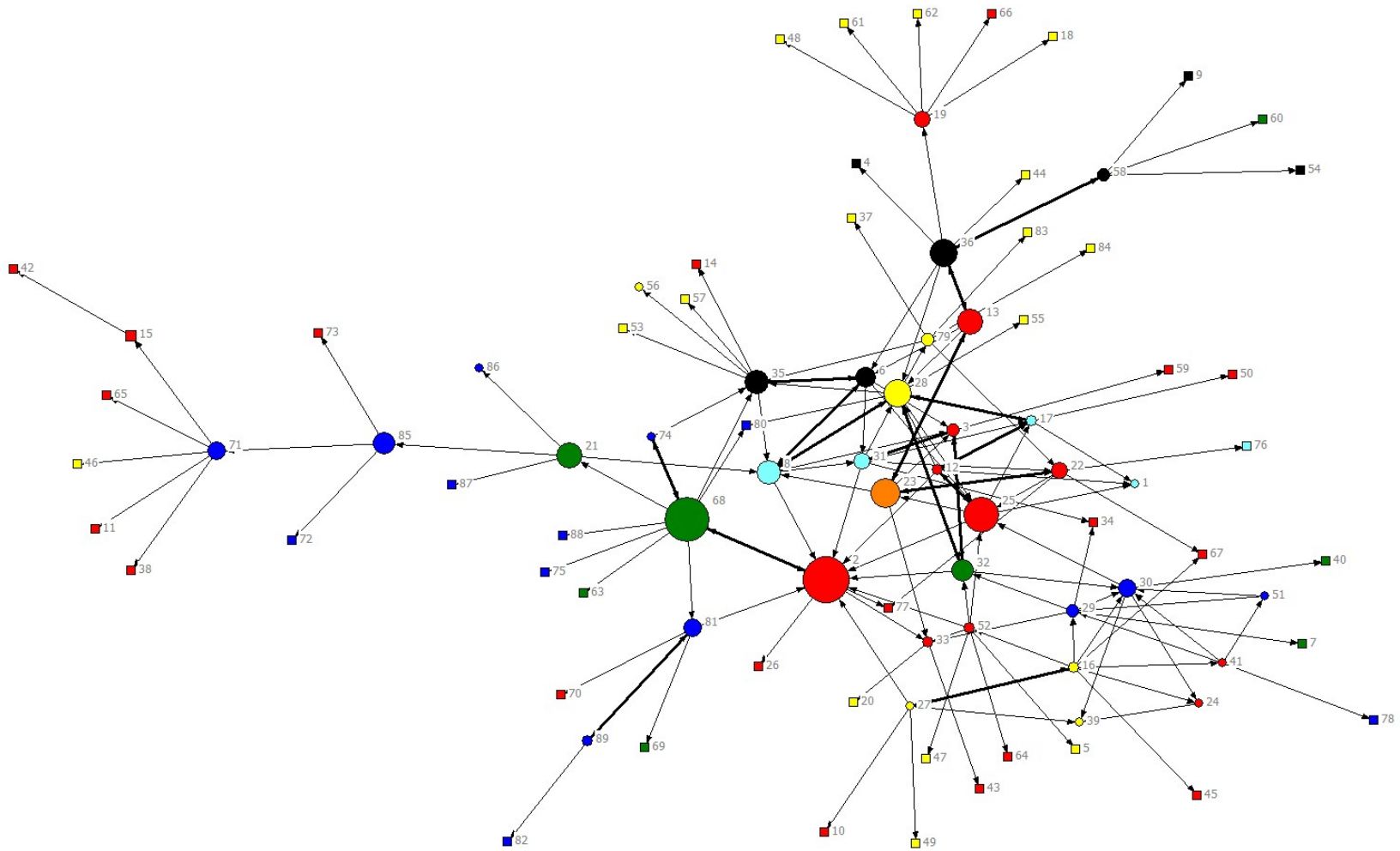
interviewees were drawn. Specifically, the two individuals ranked highest in answer to this question (unless they had already been interviewed or were not Los Alamos-area residents) were the two interviewed next. (The remaining four names were included in the analysis of the entire network.) This pattern was repeated for each interviewee, so that the number of interviewees “snowballed” from the original set.

Figure 1, below, is a map of the relationships among individuals and institutions engaged in Los Alamos’s arts and cultural social network. The map shows:

1. the individuals or institutions mentioned in response to question # 6 of the survey instrument (“Please name in rank order up to five people or institutions with whom your interactions are most important in your arts and cultural activities.”).² These institutions or individuals are represented by “nodes” in the shape of either circles, which symbolize those who were interviewed, or squares, which symbolize those who were not interviewed. The numbers are codes for the names of the nodes, which are given in the first key that follows Figure 1. The color of the node indicates the sphere to which the individual or institution belongs. BBER created six different categories of activity, as described in the second key following Figure 1. Blue indicates the creative sphere, green is commercial, red is support, light blue is development and tourism, black is technology, yellow is culture and heritage, and orange is art space. The layout of the nodes reflects the “spring-embedding” graph theoretic layout, which is based on an algorithm that simulates a spring so that those nodes with a strong connection to one another are situated relatively closer to one another than are those with weaker connections. The placement of the nodes does not reflect geography, and the directions in which the clusters are displayed are for presentation purposes only.
2. the direction of the mentioning; i.e., the arrow points to the individual or institution referenced by the node at the other end of the arrow. Thick lines between nodes indicate reciprocal ties, or instances when two nodes mention each other; and
3. the level of “between-ness centrality” of the individuals or institutions, as indicated by the size of the node. A node’s between-ness centrality level indicates how much that node mediates between other nodes in the network.

² In this analysis, we emphasize the organizational role of institutions (rather than individuals) in forming social networks. Thus, where an individual is identified in a survey and this individual is associated with an established institution, the data is coded according to the institution. Only when an individual is not associated with an established institution or where context indicates that the reference is specific to the individual and not the institution is the individual identity retained (though without directly naming the individual).

FIGURE 1: LOS ALAMOS ARTS AND CULTURAL SOCIAL NETWORK BY SPHERE



KEY TO FIGURE 1: NODES

1 Art in Public Places Board	46 National Hispanic Cultural Center
2 Art Center at Fuller Lodge	47 Native Plant Society of NM
3 Arts Council	48 New Mexico Humanities Council
4 ArtsLab/ISDM (UNM)	49 NM Garden Clubs Inc.
5 Bandelier National Monument	50 NM Women's Forum
6 Bradbury Museum	51 Oxymoron Dance Group
7 CB Fox	52 Pajarito Environmental Education Center
8 Chamber of Commerce	53 Pojoaque Pueblo
9 City Knowledge / Venice Project Center	54 Redfish Group
10 Colorado College	55 J. Robert Oppenheimer Memorial Committee
11 Contemporary Hispanic Market	56 San Ildefonso Pueblo
12 County Council	57 Santa Clara Pueblo
13 NM Department of Cultural Affairs	58 Santa Fe Complex
14 US Department of Energy	59 Senior Center Retired & Senior Volunteer Program
15 EspanoLos Alamos Arts Council	60 Simtable.com
16 First United Methodist Church	61 Society of Southwest Archivists
17 Fuller Lodge Historic District Advisory Board	62 New Mexico Historical Records Advisory Bd
18 Historical Society of New Mexico	63 The Harp of the Spirit Publishing Co.
19 Institute of American Indian Arts	64 The Wildlife Center (in Espanola)
20 Immaculate Heart of Mary church	65 Traditional Hispanic Market
21 Karen Wray Fine Art - Gallery and Studio	66 UNM Zimmerman Library Digital Collection Program
22 Los Alamos County Public Library	67 UNM-Los Alamos
23 Mesa Public Library Gallery	68 Village Arts
24 Los Alamos Concert Association	69 Wilde Meyer Gallery
25 Los Alamos County	70 Women Artists of the West
26 Los Alamos County Fair	71 artist
27 Los Alamos Garden Club	72 artist
28 Los Alamos Historical Society & Museum	73 fundraiser
29 Los Alamos Light Opera	74 artist
30 Los Alamos Little Theatre	75 artist
31 Los Alamos MainStreet	76 promoter
32 Los Alamos Monitor	77 Thelma Hahn
33 Los Alamos Public Schools	78 artist
34 Los Alamos Summer Concert Series	79 historian
35 Los Alamos National Laboratory	80 artist
36 Los Alamos Visual Analytics	81 artist
37 Lawrence Livermore National Lab Archives	82 artist
38 Legacy Art	83 historical figure
39 Living Treasures of Los Alamos	84 historical figure
40 Los Alamos Bank	85 artist
41 Los Alamos Relay for Life	86 artist
42 Los Alamos YMCA	87 artist
43 Los Alamos Youth Soccer League	88 artist
44 Maxwell Museum	89 artist
45 McCurdy School	

KEY TO FIGURE 1: SPHERES

	Creative	Activities directly engaged in the conception and production of original art & cultural products. This may include products intended for commercial markets, but excludes replication of non-original work (e.g., replication or manufacturing of established design).
	Commercial	Activities that directly or indirectly bring art and cultural products to the market for-profit, or otherwise rely on creative activities for 'content' in commercial activities. Institutions in the commercial sector may include for-profit entertainment companies (e.g., motion picture and sound production studios); media (e.g., broadcast, print, online); venues (e.g., movie theaters, clubs); design, marketing and advertising firms; art galleries; and so on.
	Support	Activities that help to make possible the creation, preservation and presentation of original art and cultural products. Support can be material (e.g., public institutions, foundations), educational (e.g., public schools and universities), political (e.g., advocacy), or some other form, with the exception of for-profit activities designated as commercial.
	Development & Tourism	Activities that draw upon and/or contribute to a sense of place rooted in arts and culture in order to create markets for arts and cultural activities (e.g. business organizations, tourism promotion, hospitality businesses, land developers).
	Technology	'high technology' activities that either make use of arts and cultural products in their development (e.g., video games) or directly or indirectly make possible new forms of artistic and cultural expression with the use of technology (e.g., computer generated graphics).
	Culture and Heritage	Activities that preserve and promote the region's culture and history, including institutions (e.g., historical museums) and historic sites, as well as cultural events (e.g., powwows).
	Art Space	Spaces provided for the conception, production, and display of original artistic work, with the exception of for-profit activities designated as commercial. This may include performance spaces, studios, institutions (e.g., art museums), or artistic events (e.g., music festivals). This does NOT include spaces for the exclusive use of a performing arts company.

Tables 1 and 2 summarize in statistical form the results of the social network analysis. Table 1 provides details for the 25 individuals or institutions ('nodes') whose role in mediating the network is most significant. This table provides two measures of centrality for each of the 25 nodes. Between-ness measures the degree to which an actor falls along the paths of, or lies between, other actors within the network, and thus indicates the extent to which an individual or institution is in a position to mediate relations among others within the network. In-degree centrality is a more direct tabulation of the number of times that an institution or individual is mentioned by others in the network, and it thus serves as a measure of 'popularity' within the network.³ Table 2 provides a statistical overview of the network according to category of activity (as described above and defined in the second key following Figure 1).⁴

³ A related measure is 'out-degree', which tabulates the number of nodes mentioned by an individual or institution. Out-degree is not included in the table.

⁴ Because BBER collapsed individuals into their associated businesses, organizations, or institutions and eliminated self-mentions, the actual numbers of total mentions and interviews completed are higher than those shown in this table. BBER completed 45 surveys, but because of the 'collapsing' of individual according to institutions, only 38 nodes are identified here. It is

The most obvious characteristic of the social network in Los Alamos' A&C community is the diversity of the activities of the institutions and individuals that form the core of the network. This is indicated by the range of colors among the largest nodes in Figure 1. This diversity suggests that a wide range of complementary activities are present – a critical factor in the development of a vibrant and growing A&C community.

Among the ten most central nodes by measure of between-ness (see Table 1), six of the seven categories of activity are represented (support, commerce, art space, culture and heritage, technology, and development). The category of activity most central to the network is supporting institutions, which account for 34 percent of all institutions and individuals referenced by interviewees (i.e. 'mentions' in Table 2). The key institutions here are the Art Center at Fuller Lodge (#2 in Figure 1) and the County of Los Alamos (#25). The position of Fuller Lodge is particularly notable, as it is both most frequently mentioned (first in in-degree ranking), suggesting that its importance is widely recognized, and the most significant institution in mediating relationships among other nodes (also first in between-ness ranking). The central role of supporting institutions is unsurprising, as it is the mission of these institutions to promote A&C by bringing together the many institutions and individuals that comprise the sector.

The commercial sphere is also represented at the core of the network. Village Arts (#68), in particular, has significant status in the network and is useful in illustrating the potential role of institutions in mediating the network. Although infrequently mentioned by those surveyed (in-degree ranking is 18th), Village Arts is identified by institutions and individuals that are otherwise not connected, thus revealing a potential mediating role that far exceeds its 'popularity' within the network. This important 'between-ness' role of commercial enterprises has been seen in other studies of New Mexico's cultural economy by BBER.

The gallery at the Mesa Public Library (#23), defined here as an art space because of its function in displaying visual art, reveals a similar standing within the network. Again, despite relatively few mentions (15th in in-degree ranking), the high between-ness ranking suggests that the library gallery space is a common ground for an otherwise disparate grouping of institutions and individuals. This measure may suggest the possibility of using the library space – or the social organization that underlies the space – to foster stronger relations within the community. Apart from the Mesa Public Library, no other art space *per se* was specifically referenced in the surveys⁵.

also important to note that some of these mentions are outside the Los Alamos area (25 of the 89 are located further than 25 miles from Los Alamos), so the data should not be read as an inventory of organizations or individuals associated with each sphere.

⁵ For the purposes of this study, 'art spaces' include only those institutions which provide space only, and do not include theaters such as Little Theater, which as a performing arts company is included in the 'Creative' sphere.

TABLE 1: RANKINGS OF INDIVIDUALS AND INSTITUTIONS BY SPHERE, GEOGRAPHY AND SELECTED MEASURES OF CENTRALITY

INDIVIDUAL / INSTITUTION	BETWEEN-NESS RANK	IN DEGREE RANK	SPHERE	GEOGRAPHY ¹
Art Center at Fuller Lodge	1	1	Support	Los Alamos
Village Arts	2	18	Commercial	Los Alamos
Los Alamos County	3	3	Support	Los Alamos
Mesa Public Library Gallery	4	15	Art Space	Los Alamos
Los Alamos Historical Society & Museum	5	2	Culture and Heritage	Los Alamos
Los Alamos Visual Analytics	6	19	Technology	Los Alamos
Karen Wray Fine Art Gallery and Studio	7	31	Commercial	Los Alamos
State of New Mexico Dept of Cultural Affairs	8	20	Support	Santa Fe
Los Alamos National Laboratory	9	4	Technology	Los Alamos
Chamber of Commerce	10	5	Development & Tourism	Los Alamos
Los Alamos Monitor	11	8	Commercial	Los Alamos
artist	12	32	Creative	Los Alamos
Bradbury Museum	13	9	Technology	Los Alamos
Los Alamos Little Theatre	14	6	Creative	Los Alamos
artist	15	33	Creative	Within 25 miles
artist	16	21	Creative	Los Alamos
Institute of American Indian Arts	17	22	Support	Santa Fe
Los Alamos MainStreet	18	16	Development & Tourism	Los Alamos
Los Alamos County Public Library	19	17	Support	Los Alamos
historian	20	34	Culture and Heritage	Los Alamos
Los Alamos Arts Council	21	7	Support	Los Alamos
Los Alamos Light Opera	22	10	Creative	Los Alamos
Santa Fe Complex	23	23	Technology	Santa Fe
LA Public Schools	24	11	Support	Los Alamos
Pajarito Environmental Education Center	25	35	Support	Los Alamos

¹ "Los Alamos" includes White Rock

Source: UNM-BBER, 2009.

TABLE 2: REPRESENTATION OF SPHERES IN THE LOS ALAMOS ARTS AND CULTURAL SOCIAL NETWORK

SPHERE	TOTAL A&C MENTIONS	INTERVIEWED	INDIVIDUALS ¹	INSTITUTIONS ²	BETWEENNESS TOP TWENTY-FIVE
Creative	16	9	15	1	5
Commercial	8	3	4	4	3
Support	29	11	5	24	7
Development & Tourism	5	4	1	4	2
Technology	7	4	1	6	4
Culture and Heritage	22	6	6	16	2
Art Space	1	1	0	1	1
TOTAL	88	38	32	56	24

¹ "Individuals" means persons who are not known to be affiliated with an arts or cultural institution.

² "Institutions" means organizations, agencies, or businesses engaged in artistic or cultural activities that were either mentioned as such or to which BBER assigned individuals mentioned who are known to be affiliated with them.

Source: Census Bureau, American Community Survey, 2005-2007 average; UNM-BBER, 2009.

The fourth type of activity found in the core of the network is culture and heritage. Representatives of this category were widely referenced, accounting for fully 25 percent of all mentions made in the surveys (second only to the support category). In particular, the Los Alamos Historical Society and History Museum (#28) is widely recognized (2nd in in-degree ranking) and its role in mediating relationships (5th in between-ness ranking) is commensurate with its high degree of recognition. Although cultural and heritage organizations have been found to be central to networks in other A&C communities studied by BBER, the role of the Historical Society in Los Alamos is uniquely important. In a relatively new town – certainly in contrast to many other communities in New Mexico – the Heritage Society and Historical Museum plays a key role in fostering a sense of place in Los Alamos, linking the locale to the Manhattan Project and the social dynamics that surrounded it.

The technology sphere is represented in the network most centrally by Los Alamos Visual Analytics (LAVA, #36), which, among other projects, is working with the Institute of American Indian Arts in Santa Fe to develop techniques for the digital storage and display of visual arts. LAVA's exposure in Los Alamos is somewhat limited (in-degree ranking of 17), though its relationships suggest a more important role in connecting with other organizations (between-ness ranking of 6). Also within the technology sector is LANL (#35), which is often mentioned (4th in in-degree) though somewhat less significant in terms of mediating relationships (between-ness ranking of 9th). Bradbury Museum (#8), which serves as the public face of LANL, also has a presence in the A&C network of Los Alamos (9th in in-degree ranking and 13th in between-ness). Although not insignificant, the ranking of LANL within these networks – particularly in terms of its role in mediating relationships – may seem surprisingly low given that the organization is, without equal, the single dominating force in the history and economy of the region. Possible explanations may include the secure nature of the LANL's work and focus of LANL Foundation on math and science education.⁶ Rather, LANL's impact on the local A&C economy is indirect, based in the wages paid by the institution and the demand for A&C activities of those employed by the Lab.

Economic development interests are represented in the A&C network by the Chamber of Commerce (#8) and Los Alamos MainStreet (#31). In all likelihood, Los Alamos MainStreet can expect to play a great role in the cultural economy as it begins to develop initiatives associated with its application for standing as an

⁶ The focus of LANL Foundation grantmaking is math, science, and engineering educational initiatives in the public schools in Northern New Mexico. In 2008, less than one percent of the \$3.6 million in grants given by the Foundation were specific to arts and culture activities. The largest single receipt of arts and cultural funding was the Albuquerque-based Girl Scouts of New Mexico Trails program, which uses "illustration, writing, story-telling, broadcasting, and technology in programming aimed at girls ages 6-13 who are from underserved areas" in Northern New Mexico.

Arts and Cultural District under State of New Mexico guidelines and jurisdiction. The role of the District may be significant to the development of A&C in Los Alamos, as the designation of the District offers the community an opportunity to continue to develop a sense of place that is too often missing in newer communities established and dominated by a single economic focus.

Finally, 33 different individuals and institutions in the creative category – those directly engaged in the production of art and cultural products – were mentioned in the course of the interviews. Performing arts companies were the most prominent among these. Specifically, the Los Alamos Little Theater (#30) and the Los Alamos Light Opera (#29) were frequently referenced (in-degree rankings of 6 and 10, respectively). However, none of the 33 individuals and institutions referenced in the interviews are located at the center of the network (top ten in terms of between-ness rankings). In the specific cases of the Little Theater and the Light Opera, relatively low between-ness rankings (14th and 22nd, respectively), may suggest that supporters of the programs derive from established audiences which have relatively limited involvement in other segments of the arts and cultural community. More broadly, for the creative sector as a whole, the low level of integration suggests that artists are in a position to exercise little influence in the development and maintenance of relationships that define the community; in raw terms, they have little power within the network.

To provide context, individual artists and institutions are seldom found at the very center of A&C networks investigated by BBER. However, this very low level of integration within networks is exceptional. A striking contrast is Las Vegas, New Mexico, where the creative sector is a principal source of energy and initiative, but where the economic and institutional structure of the community is able to provide only very limited support. As we will discuss below, those surveyed offer a number of explanations for the limited visibility of these artists in Los Alamos, but perhaps the most common are the shadows of LANL and Santa Fe over the creative environment.

Apart from representation in the network and more specific to the dynamics of this network is the large number of reciprocal ties (i.e., arrows connecting nodes in both directions), especially in the most clustered area of the map and including many of the most central nodes. Reciprocity in social network analysis indicates a mutuality of relationships: an *interdependence* among institutions and individuals. This characteristic often reflects patterns of collaboration or, at minimum, significant opportunities for collaboration. The fact that some of the reciprocally connected institutions represent different spheres is still more encouraging, given the tendency for interactions between differing types of activities to give rise to innovation – whether in the realm of art and creativity or social-organizational development.

Participant Demographics

Table 3 summarizes the demographic data provided by the 45 individuals who were interviewed for this study and compares these to the demographics of Los Alamos County as a whole. The purpose is to gauge the representativeness of the participants in the study with respect to the population of the county as a whole. Additionally, because the methodology was designed to solicit the leaders of the A&C community to participate in the study, this analysis is more broadly suggestive of representativeness of these leaders with respect to the total population.

The table is divided according to gender, ethnicity, and age. The first two columns, under the label 'Respondents', show the demographic characteristics of the survey respondents; the next two columns, labeled 'Los Alamos Co.', show the corresponding information for the population of Los Alamos County as a whole. Chi square measures the degree of difference of the proportions of the two.

Beginning with gender, 62 percent of respondents were female, higher than the proportion of the county population. However, the Chi square value of 2.85 is below the critical value of 3.84, indicating that the difference in participation is not significant (i.e., one cannot be 95 percent sure that the difference is more than random). Similarly, although 93 percent of the respondents are Anglo (white, non-Hispanic), this does not vary sufficiently from the share of the total population of the county to be considered non-random (i.e., chi-square of 3.19 is below the critical value of 5.99).

The age of respondents, however, are significantly different from that of the population. As the table shows, 58 percent of respondents are between the ages of 50 and 64, and another 22 percent are older than 64 years of age. By contrast, only 45 percent of the population of Los Alamos County (over 18 years of age) is 50 years old or older. Most notable is the relatively low number of respondents between the ages of 40 and 49.

At the bottom of the table are data on the place of residence and the length of time of residence in the area of participants in the study in the Los Alamos area. Unfortunately, comparable information for the county population is not available, making it impossible to statistically assess the representativeness of participants with respect to the population. However, it is possible to make several general inferences with these data. Most importantly, note that very few of the respondents (only 1 of 32) have spent their entire life in Los Alamos County while the great majority has spent twenty or more years in the community. This likely attests to the impact of LANL. The majority of households in Los Alamos County depend (or depended during their work career) on LANL for employment, and most (nearly all) of these relocated from other areas to live and work in Los

Alamos County.⁷ Thus, few have spent their entire life in the area. On the other hand, those that are most active in the local A&C community have strong ties to the area, having spent a good deal of time there. Those who are least likely to be involved in A&C activities are those who have relocated to the area (as most have) but are in mid-career, possibly with children and other responsibilities.

Of the 45 participants in the study, more than two-thirds lived in the immediate area (Los Alamos and White Rock). Most of the others work in Los Alamos, though a few live and work in Santa Fe but have strong connections with the community.

As in any survey study, there is a possibility that the methodology used to identify survey participants is, itself, biased, such that the results indicate as much about the methodology as the actual population. In this case, as discussed above, BBER used a 'snowball' sample to identify participants – i.e., participants themselves defined the population to be surveyed. The advantage of this 'participant-driven' design is that it anticipates bias and makes it the subject of the study. In other words, the purpose of the study is to reveal how the community itself identifies its participants and leaders. Thus, while it is certainly true that the results may be an inaccurate reflection of the participation of the entire community, there is little doubt that the results are an accurate reflection of the self-identification of the leadership of the arts and cultural community.

⁷ Note, for instance, that of the 9,476 employed persons 16 years of age and older residing in Los Alamos County, a remarkable 96 percent work in the county. By another measure, direct employment at LANL is estimated to be 9,500. Given the high cost of housing in the county, it is reasonable to assume that most households in Los Alamos County reside there to be close to employment at LANL.

TABLE 3: COMPARISON OF DEMOGRAPHIC CHARACTERISTICS OF SURVEY RESPONDENTS TO TOTAL POPULATION OF LOS ALAMOS COUNTY

	RESPONDENTS		LOS ALAMOS CO.		CHI SQ	D.F.
GENDER						
Female	28	62%	9,107	49.6%	1.43	
Male	17	38%	9,236	50.4%	1.41	
Total	45	100%	18,343	100%	2.85	1
					3.84 (.95 critical)	
ETHNICITY						
Anglo	42	93%	15,051	82.1%	0.70	
Hispanic	2	4%	2,155	11.7%	2.04	
Other ¹	1	2%	1,137	6.2%	1.15	
Total	45	100%	18,343	100%	3.19	2
					5.99 (.95 critical)	
AGE						
18-29 years old	2	4%	1,535	8.4%	0.83	
30-39 years old	4	9%	2,650	14.4%	0.96	
40-49 years old	3	7%	3,359	18.3%	3.33	
50-64 years old	26	58%	3,846	21.0%	29.08	
>64 years old	10	22%	2,220	12.1%	3.81	
Total ²	45	100%	13,610	74%	37.18	4
					9.49 (.95 critical)	
RESIDENCE						
Los Alamos or White Rock	32	71%				
<25 miles of Los Alamos ³	5	11%				
Santa Fe	3	7%				
Other NM	4	9%				
Outside NM	1	2%				
Total	45	100%				
TIME IN AREA⁴						
<10 years	8	25%				
10-19 years	2	6%				
>19 years	21	66%				
Lifetime	1	3%				
Total	32	100%				

¹ Includes Native American, African American, Asian, 'Some other race', and two or more races.

² Does not include those under 18 years of age.

³ Includes San Ildefonso Pueblo, Santa Clara Pueblo, Guachupangue, San Pedro, Santo Nino, Espanola, La Mesilla, El Rancho, Jaconita, Pojoaque, Cuyamungue, and Santa Cruz.

⁴ Includes only those residing in Los Alamos or White Rock.

Source: Census Bureau, American Community Survey, 2005-2007 average; UNM-BBER, 2009.

Institutions and Organizations

The 45 members of the Los Alamos area arts and cultural community who participated in the survey were asked to identify organizations with which they were involved. The 45 participants made 301 references to 159 different organizations (71 were local, 71 were in other parts of New Mexico, and 17 were outside the state). Seventeen organizations were mentioned at least 4 times, accounting for 115 of the 301 total references (38 percent of the total). Another 11 organizations were mentioned 3 times; 22 were mentioned twice, and 109 were mentioned once. In all, 31 percent of organizations mentioned were referenced two or more times.

BBER compiled the demographic information of the respondents who mentioned the most-often cited organizations in **Table 4**, below. The Art Center at Fuller Lodge was the most often cited organization, with 17 mentions. The Los Alamos Historical Society, Chamber of Commerce, Little Theater, and Arts Council also had many mentions. . Of the 17 organizations cited at least four times by the 45 respondents, two are outside Los Alamos County (Santa Clara Pueblo and the Department of Cultural Affairs).

Looking at the demographics of the respondents who mentioned these 17 organizations, it appears that the female respondents are more involved in these organizations than are the male respondents (the fact that female respondents made up 62 percent of the total respondents, makes the difference in involvement slightly less significant, however). The youngest respondents (those aged 18 to 39) mentioned the Art Center and the Arts Council most often, while respondents age 65 and over mentioned the Art Center and the Historical Society most often.

Of the 17 most-often mentioned organizations, most were mentioned by respondents who live in Los Alamos County. However, three of them were mentioned solely by respondents who live outside Los Alamos County: the Bradbury Museum, Santa Clara Pueblo, and the Department of Cultural Affairs. While this may at first seem surprising, this reflects a more general fact that a large number of employees of Los Alamos businesses live in other parts of the region.

Comparing the organizations mentioned by respondents who live in the county, newer residents (lived in Los Alamos less than 10 years), cited many of the same organizations as did those who have lived in Los Alamos 20 or more years. However, newer residents also cited several organizations that the longer-term residents did not mention (some of these are not included in Table 4 because they had fewer than four mentions): the Los Alamos County Public Library, the Symphony Orchestra, the Community Winds, Immaculate Heart of Mary Catholic Church, Coro de Camara Chamber Chorus, the Commerce and Development Corporation, LANL, and Los Alamos MainStreet. Conversely, those who have lived in Los Alamos the longest mentioned the following organizations that

shorter-term residents did not: UNM-Los Alamos, the Pajarito Environmental Education Center, Bandelier National Monument, Women Artists of the West, and Living Treasures Los Alamos. (Because so few of the respondents were non-Anglo, BBER did not include the ethnicity of the respondents in Table 4.)

TABLE 4: DEMOGRAPHIC CHARACTERISTICS OF SURVEY RESPONDENTS BY REFERENCED CULTURAL ORGANIZATIONS IN LOS ALAMOS AREA

ORGANIZATION	TOTAL	GENDER		AGE				
		Female	Male	18-29	30-39	40-49	50-64	>64
Art Center at Fuller Lodge	17	13	4	2	1	-	9	5
LA Historical Society	13	7	6	1	-	-	8	4
LA Chamber of Commerce	10	6	4	-	1	-	8	1
LA Little Theater	9	5	4	1	-	-	8	-
LA Arts Council	8	5	3	2	-	-	4	2
UNM - LA	6	4	2	-	1	-	5	-
LA Light Opera	6	4	2	-	-	-	6	-
LA Concert Assoc	6	5	1	-	-	-	4	2
Bradbury Museum	6	4	2	-	1	-	5	-
LA Co	5	4	1	-	1	-	2	2
APP Advisory Board	5	4	1	-	-	-	3	2
Santa Clara Pueblo	4	2	2	-	1	-	3	-
LA Public Schools	4	2	2	-	1	-	2	1
LA Garden Club	4	3	1	-	-	-	1	3
LA Co Library	4	3	1	1	-	-	3	-
LA CDC	4	2	2	-	-	-	4	-
DCA	4	2	2	-	-	-	4	-
TOTAL	115	75	40	7	7	-	79	22

ORGANIZATION	TOTAL	LIVE in LA		TIME IN LOS ALAMOS			Life time
		Yes	No	<10 yrs	10-19 yrs	20+ yrs	
Art Center at Fuller Lodge	17	15	2	3	2	9	1
LA Historical Society	13	10	3	1	1	7	1
LA Chamber of Commerce	10	5	5	2	-	3	-
LA Little Theater	9	7	2	1	1	5	-
LA Arts Council	8	7	1	2	-	4	1
UNM - LA	6	2	4	-	-	2	-
LA Light Opera	6	5	1	-	1	4	-
LA Concert Assoc	6	6	-	-	1	5	-
Bradbury Museum	6	-	6	-	-	-	-
LA Co	5	3	2	1	-	2	-
APP Advisory Board	5	4	1	1	-	3	-
Santa Clara Pueblo	4	-	4	-	-	-	-
LA Public Schools	4	1	3	-	-	1	-
LA Garden Club	4	4	-	1	-	3	-
LA Co Library	4	3	1	1	1	-	1
LA CDC	4	1	3	1	-	-	-
DCA	4	-	4	-	-	-	-
TOTAL	115	73	42	14	7	48	4

Source: UNM-BBER, 2009.

Perceived Advantages and Disadvantages

Table 5 shows the responses of the 45 community members who completed the survey to the question, “Please name in rank order three advantages and three disadvantages of working in the arts & cultural field in Los Alamos.” The unique qualities of the local population was the most often cited advantage to doing artistic or cultural work in Los Alamos, named nearly twice as often as the second-most cited advantage. In particular, respondents described the local population as highly educated, sophisticated, wealthy, and highly appreciative and interested in artistic and cultural products. The respondents also described the local community as extremely supportive of A&C (the second-most mentioned advantage), stating that those individuals who become involved in local A&C activities tend to be extremely dedicated, devoted, and hardworking.

There seems to be a distinction between these two sets of qualities of the local population, however, which becomes apparent in the cited disadvantages to doing A&C work in Los Alamos: while the population has a great interest in and appreciation for art and culture, many apparently do not partake of the local A&C offerings, as demonstrated by the twelve responses stating that the local population does not spend locally on A&C products. Respondents also complained that locals, as voters, do not tend to endorse public funding of local A&C, which is a contributor to the “lack of funding” disadvantage, as is a lack of funding from local businesses and LANL. A related disadvantage is the lack of a substantive local market for A&C. Respondents particularly mentioned the lack of prospective buyers, the inability to bring in “big names,” and a lack of quality art for sale. The number one named disadvantage was the geographic isolation of Los Alamos, which can also be construed as a contributor to the lack of consumption of local A&C products.

TABLE 5: PERCEIVED ADVANTAGES AND DISADVANTAGES OF WORKING IN ARTS AND CULTURAL INDUSTRIES IN LOS ALAMOS AREA

ADVANTAGES	1st	2nd	3rd
Educated - Cosmopolitan population ¹	12	8	10
Supportive community	6	6	5
Ease of communication	4	7	1
Natural beauty / outdoor activities	3	2	5
LANL resources	3	2	0
Collaborative	0	4	4
Many A&C activities	3	1	1
Good quality of life	3	0	0
Great variety of local art	1	2	1
History of the area	2	0	0
Easy to get work shown / exhibit talent	1	0	2
Good institutional infrastructure	1	0	0
Access to funding	0	1	0
Regional diversity	0	1	0

DISADVANTAGES	1st	2nd	3rd
Geographic isolation	8	6	5
Lack of funding	8	4	3
Small market	5	5	4
Lack of local spending on A&C	4	5	3
Lack of art/performance spaces	4	5	2
Non-local public misperceptions of Los Alamos ²	3	2	6
Lack of collaboration/cooperation	4	3	1
Lack of support for A&C from LANL	1	2	2
Lack of local commercial businesses ³	1	1	2
High cost of living	1	1	0

¹ described as educated, wealthy, talented, and international, with sophisticated tastes and an appreciation of and interest in art and culture.

² that it is a "closed" city, known only for LANL, negative perceptions related to nuclear weapons, that it is expensive there.

³ a lack of art supply stores, in particular.

Source: UNM-BBER, 2009, based on survey of 45 persons involved in arts and cultural activities in Los Alamos area.

Directory of Arts and Cultural Activities

Table 6 is a summary of the directory BBER has assembled of individuals and institutions involved in artistic, creative, or cultural activities in the Los Alamos area. The summary of the entire directory is organized according to legal status and area of activity.

The complete directory includes 131 entries, including addresses for 76 entries; phone numbers for 92; e-mail addresses for 53; and information on the management structure for 40 businesses and organizations.

In order to maintain consistency, we used the “universe” of arts and culture institutions and activities BBER established for our Albuquerque arts and culture study. These categories were formed along the lines of standard industrial classifications established by the North American Industry Classification System (NAICS). For example, we established the category of “artist” to include artists, musicians, actors, dancers and all others directly involved in creating visual or performing arts, literature and film.

The directory includes artists or institutions that have a basic internet presence. This does not necessarily mean a web page specifically, but it means that at some point, the artist or institution is mentioned in some capacity on the internet. This could mean an actual artist’s website, or it could mean a mention in an arts council’s newsletter. Initial research began with basic internet searches of natural gateways into a community’s arts and culture activities. For example chambers of commerce or art association websites. Over time this produced a kind of “snowball effect” whereby one internet link would lead to another and so on to build our arts and culture directory. The directory also includes artists and institutions that may not have a web presence but have been referred to us by individuals within the community as important to local arts and culture. While internet research formed the majority of the directory, we sought input from the community on arts and culture activities.

We caution that the directory is not comprehensive. We did not want to systematically bias out certain art fields or institutions, but we certainly did not expect to account for absolutely everything. Our goal was a thorough examination of a community’s arts and culture activities to provide a working outline of the scope of the A&C community and to serve as a foundation for our social network analysis.

TABLE 6: ARTS AND CULTURAL ORGANIZATIONS IN LOS ALAMOS AND NEIGHBORING COMMUNITIES, BY ACTIVITY AND LEGAL STATUS

	INDIVIDUAL	PRIVATE FOR-PROFIT	PRIVATE NON-PROFIT	PUBLIC	TOTAL
Arts	27	2	7		36
Accommodations ¹		6			6
Architecture		2			2
Art event ²			7		7
Art gallery		6		1	7
Arts advocacy			10		10
Cultural preservation		1	3		4
Education			4	8	12
Environmental advocacy			2		2
Foundation		1	8		9
Government ³				1	1
Library/museum			1	2	3
Media ⁴		3	2		5
Performance space		1		1	2
Restaurant ¹		13			13
Retail ⁵		8			8
Technology	1	7			8
TOTAL	28	50	44	13	135

Note: This directory is not exhaustive but includes only individuals and institutions well known in the community and particularly those with a strong presence in print and internet media. The main focus of the directory is institutions and organizations, although some individuals well known in the community who are not otherwise associated with an established institution are included.

¹ Includes only restaurants and accommodations located in the historical district.

² Describes any fair, festival, or gathering that draws a significant amount of people and contains some sort of art and culture component.

³ Includes local and regional government agencies that support arts and culture activities.

⁴ Includes any local newspapers, magazines, websites, radio, and tv stations that cater specifically to disseminating local news.

⁵ Describes book stores, music stores, art supply stores, or any place that sells or displays local art, but cannot be described as a gallery.

Source: UNM-BBER, 2009

ECONOMIC MARKETS

Arts and Cultural Businesses

Table 7, on the following page, provides data on the number of establishments, employees, and sales of arts and culture-related businesses (with employees) in Los Alamos County for the years 1990, 2000, and 2007.⁸ **Figure 2** shows the total number of A&C establishments and revenues (in constant 2008 dollars) for the years 1989 through 2006. **Figure 3** again shows revenues in constant dollars, but with the average number of employees in A&C business for the period 1989-2006. The source of the information is Dun & Bradstreet.⁹

The most significant pattern in these figures is a very sharp decline in revenues beginning in 2001. Very similar patterns are found in the cultural economies of other communities in New Mexico studied by BBER, including Silver City and Las Vegas.¹⁰ Although there is no direct evidence to substantiate this, it is reasonable to assume that this pattern is associated with the tragedy of September 11, 2001, which affected travel patterns and public investment, if not the cultural environment of the country.

A careful examination of the figures reveals the response of businesses to the crisis. **Figure 2** shows that, following a lag of about two years, the decline in revenues was matched by a closing of A&C businesses, resulting in a decline from a high of 235 A&C businesses in 2002 and 2003, to 217 in 2006. Although a clear break from the pattern of growth in the number of businesses, the loss of A&C businesses in Los Alamos County was somewhat more modest than seen in other communities studied by BBER. **Figure 3** shows that the more immediate response to falling revenues was for businesses to reduce their payroll by cutting the number of employees, on average by about one employee per establishment (from 8.2 to 7.2). A somewhat more optimistic indication is that the number of employees among establishments that remained open reached a bottom by 2004, and has begun to increase slowly in subsequent years. One interpretation of these patterns is that the post-9/11 decline in revenues was devastating to some of the weaker – perhaps newer – businesses, but that the businesses that survived are more viable with less competition, and have begun to expand.

⁸ The categories in Table 7 generally follow those that BBER used in our study of Albuquerque arts and cultural industries. We are very inclusive in developing these categories – think of them as creative industries, rather than arts & culture in a more narrow sense.

⁹ The Dun & Bradstreet Corporation is a well-respected provider of marketing information. BBER recently purchased Dun and Bradstreet data that was compiled by Walls and Associates into the National Establishment Time-Series Database (NETS)©. The NETS dataset is based on individual contacts of businesses by Dun & Bradstreet researchers. The dataset includes names and locations of companies, number of employees, total sales, links to headquarters, industry classification, type of ownership (public, private, non-profit, etc.) and dozens of other variables.

¹⁰ Without comparable data and analysis, it is not possible to determine whether this pattern is part of a national trend, or instead is specific to the southwest region, New Mexico or perhaps the cultural economies of small towns.

Returning to **Table 7**, we see that these dynamics have, with only a few exceptions, affected most sectors of the cultural economy in Los Alamos County. Of the 24 subsectors included in this study, 19 experienced declines in revenues between 2000 and 2006. In all, only interior design, motion picture and video industries, craft manufacturing, travel-related services, and sports clubs saw revenues increase over the six year period.

A notable characteristic of the creative sector in Los Alamos, compared to that of other smaller communities studied by BBER, is its diversity. In all, there are two dozen distinct subsectors of creative activity found in Los Alamos, ranging from hospitality to craft manufacturing, from art instruction to software development. Of these subsectors, hospitality¹¹ is the largest, with 23 businesses (mainly restaurants) generating more than \$15 million in annual sales. Software developers comprise the second largest sector, with nearly \$14 million in sales. Various religious, civic and non-profit businesses and organizations also account for significant revenues, though perhaps more than any other subsector, these establishments have seen very sharp declines in revenues and employment over the past six years.

¹¹ For the purposes of this study, only hotels and restaurants that are located in the historical district of Los Alamos are considered as part of the cultural economic sector.

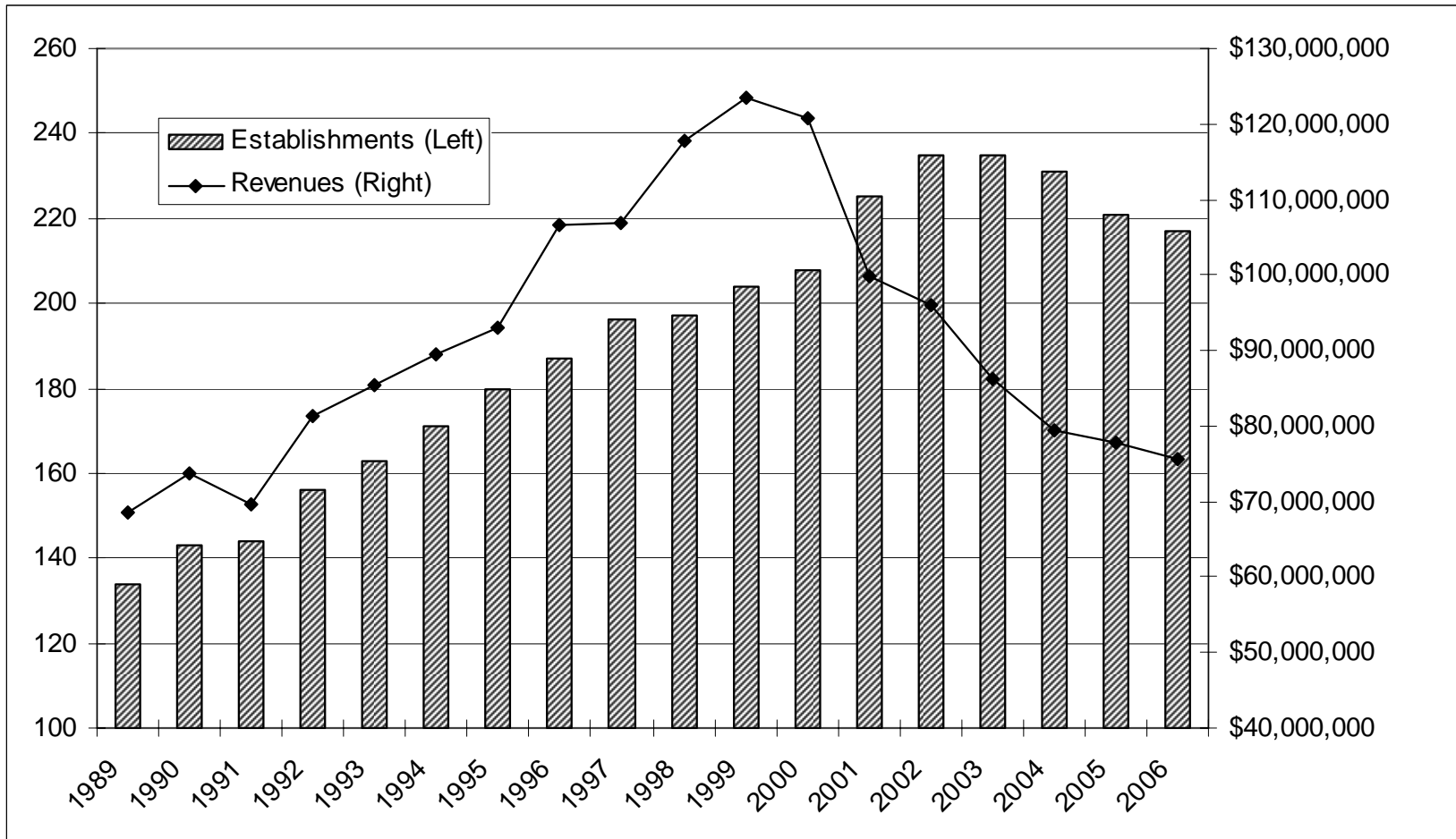
INVENTORY AND ASSESSMENT OF LOS ALAMOS ARTS AND CULTURAL ASSETS

TABLE 7: BUSINESSES, EMPLOYMENT AND REVENUES OF ARTS & CULTURE RELATED BUSINESSES IN LOS ALAMOS COUNTY, 1990, 2000 AND 2006.

	1990			2000			2006		
	Businesses	Employees	Revenues	Businesses	Employees	Revenues	Businesses	Employees	Revenues
Craft Manufacturing	5	18	1,028,245	3	2	131,282	6	9	666,226
Retailers (books, musical instruments, etc)	32	92	8,395,494	33	179	14,577,701	28	156	8,836,627
Publishers	3	40	2,389,021	8	69	5,270,410	8	67	4,034,526
Software Design	8	24	1,875,314	19	142	16,089,173	17	131	13,772,385
Motion Picture and Video Industries	0	0	0	1	3	138,784	4	18	835,293
Radio and Television Broadcasting	2	16	566,658	3	11	575,015	4	10	567,115
Libraries	4	21	825,068	5	110	3,383,200	3	107	2,604,456
Architects	3	7	427,611	7	21	1,909,216	5	22	1,016,748
Interior Design	4	9	647,267	5	8	518,376	10	14	841,915
Photography	3	2	164,783	6	7	590,769	6	7	388,436
Art Instruction	1	1	32,957	4	33	1,551,628	5	22	692,927
Higher Education -- Arts & Humanities	1	63	6,018,199	1	63	6,754,257	1	72	6,408,090
Performing Arts Companies	1	2	100,518	5	42	2,487,857	5	8	275,227
Independent Artists, Writers, & Performers	4	5	303,365	10	20	1,171,036	9	17	613,039
Museums, Historical Sites	4	19	1,262,731	3	18	1,345,203	3	18	786,698
Amusement and Recreation Industries	6	107	3,151,307	12	166	4,587,244	15	219	4,219,826
Civic, Social, & Professional Organizations	12	91	17,150,597	19	193	29,863,782	18	160	6,569,561
Grantmaking and Giving Services	1	3	254,260	1	3	383,844	1	1	12,816
Restaurants and Accomodations	14	421	18,724,003	18	438	17,946,251	23	470	15,612,960
Religious Organizations	30	164	9,122,048	31	129	5,198,018	30	109	4,207,650
Travel and Sightseeing Industries	3	9	714,828	5	12	1,615,163	5	13	1,637,584
Advertising Agencies	0	0	0	3	2	418,352	2	2	228,316
Sports Teams and Clubs	0	0	0	0	0	0	2	4	260,916
Agents and Promoters	2	6	470,620	6	39	4,208,401	7	10	541,483
TOTAL	143	1,120	73,624,893	208	1,710	120,714,960	217	1,666	75,630,820

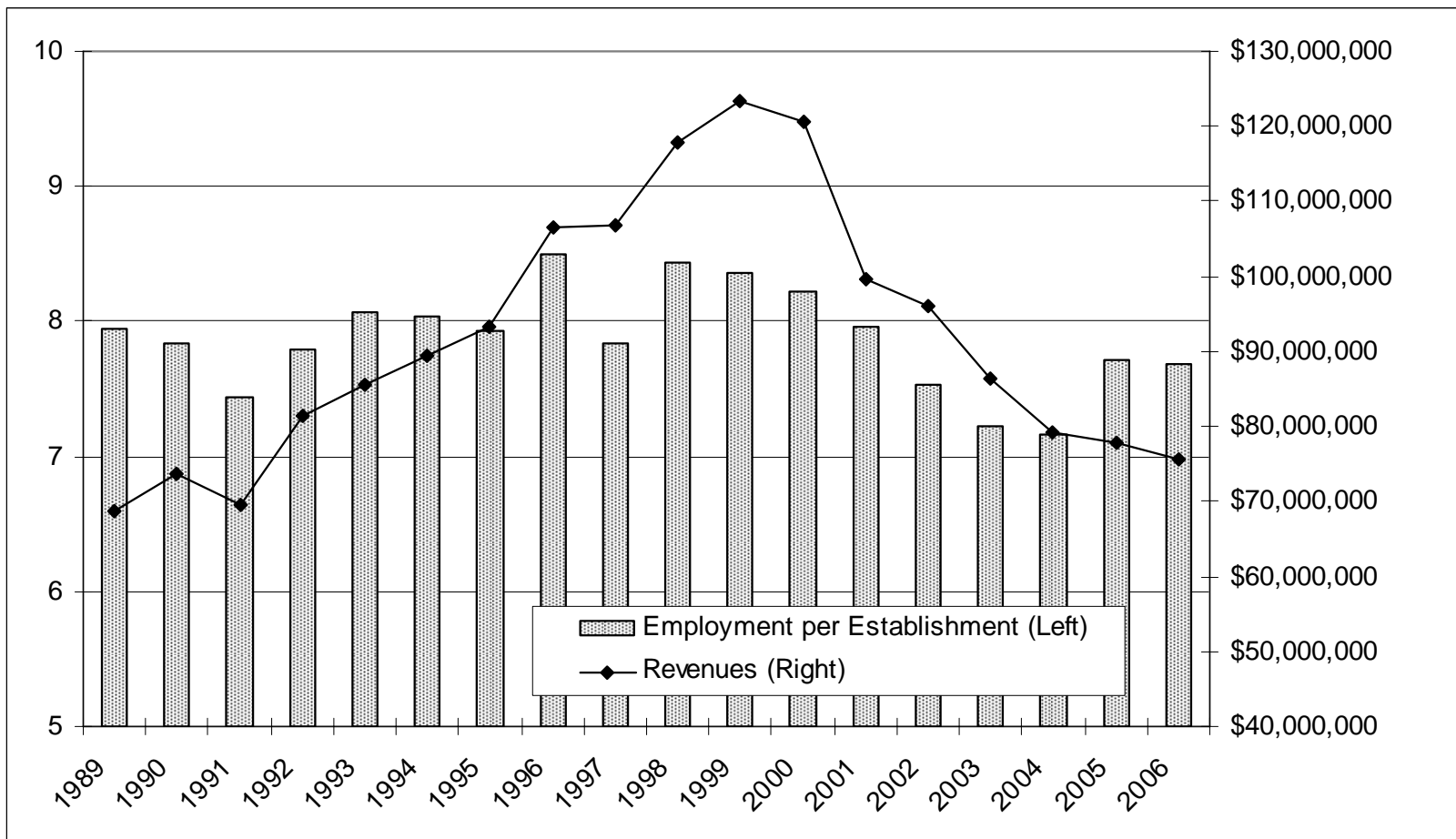
Source: Dun & Bradstreet; summary by UNM-BBER, 2009.

FIGURE 2: ESTABLISHMENTS AND REVENUES IN CREATIVE INDUSTRIES IN LOS ALAMOS COUNTY, 1989 - 2006



Source: Dun & Bradstreet; summary by UNM-BBER, 2009.

FIGURE 3: EMPLOYMENT PER ESTABLISHMENT AND REVENUES IN CREATIVE INDUSTRIES IN LOS ALAMOS COUNTY, 1989 - 2006



Source: Dun & Bradstreet; summary by UNM-BBER, 2009.

Economic Impact of Tourism

Table 8 and **Figure 4** display lodger's tax revenues for Los Alamos County for fiscal years 2000 through 2008. Overall, the figures show that tourism activity has remained relatively even over the nine year period. Likely due to the presence of LANL, lodger's taxes remained relatively solid in 2001 and 2002, when revenues declined in some of the state's other smaller communities. Relative to the state as a whole, Los Alamos has seen a slight drop in its share of lodger's tax receipts, largely as a result of increased hospitality revenues in the larger cities along the Rio Grande corridor.

According to a 2006 estimate by the Travel Industry Association (TIA), based on the association's Travel Economic Impact Model, travelers spend \$30 million per year in Los Alamos County, generating 390 jobs, \$5.74 million in wages and salaries, and \$470 thousand in local tax revenues. Although county-specific estimates are highly imprecise, this model places Los Alamos County 23rd among 33 counties in New Mexico in terms of tourism-related revenues per capita – about \$1,500 per year.

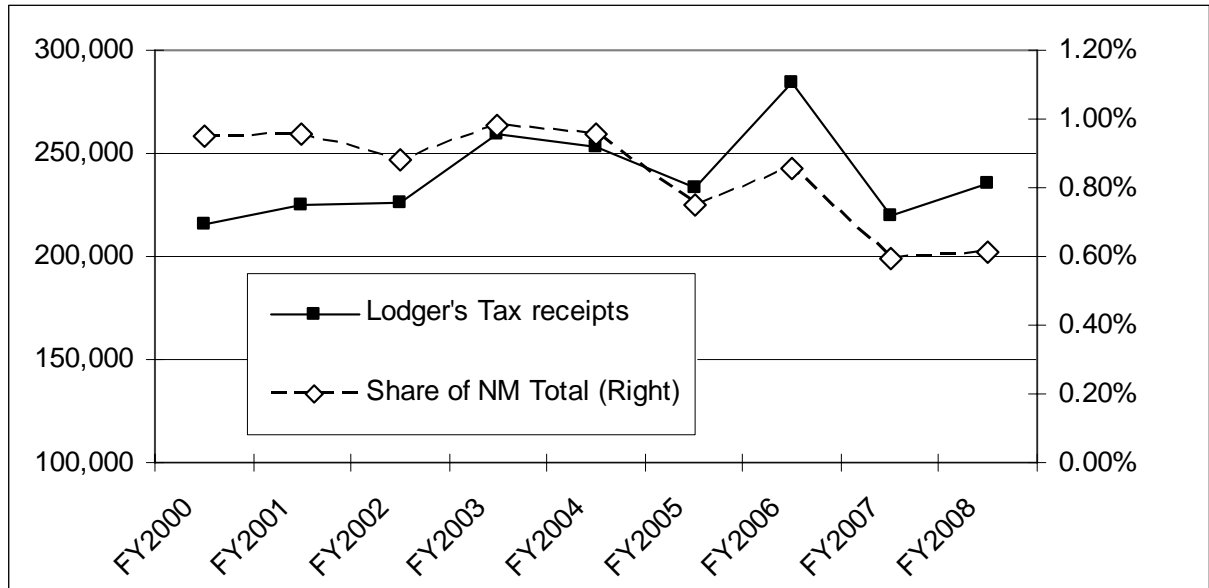
TABLE 8: LODGER'S TAX REVENUES FOR LOS ALAMOS AND LOS ALAMOS COUNTY, FISCAL YEARS 2000-2008. (All Values \$2008)

Los Alamos Co	
FY2000	215,122
FY2001	225,446
FY2002	226,172
FY2003	259,162
FY2004	252,881
FY2005	233,636
FY2006	284,297
FY2007	219,405
FY2008	235,144

Source: New Mexico Department of Finance and Administration, Local Government Division.

Note: Lodger's tax rate for Los Alamos County is 5 percent.

FIGURE 4: LODGER’S TAX REVENUES FOR LOS ALAMOS AND LOS ALAMOS COUNTY, FISCAL YEARS 2000-2008. (ALL VALUES \$2008)



Source: New Mexico Department of Finance and Administration, Local Government Division.
 Note: Lodger’s Tax rate for Los Alamos County is 5 percent.

Table 9 displays visitor center statistics from the Los Alamos Chamber of Commerce from 2008.

TABLE 9: LOS ALAMOS VISITOR’S CENTER STATISTICS

Los Alamos Visitor Center Data	
Los Alamos Visitor Center Walk-ins	1,476
White Rock Visitor Center Walk-ins	5,483
Chamber Website Visits	172,897
Total Inquiries (e-mail, mail, phone)	395,608

Source: Los Alamos Chamber of Commerce, 2009.

Markets for Arts and Cultural Events

Table 10 on the following page shows attendance at some of the most prominent arts and cultural institutions and events in Los Alamos. These data were collected by BBER through interviews with various organizations, and consists of some actual counts as well as estimates by personnel. As the table shows, the Bandelier National Monument is the most significant draw to the area with 202,981 visitors in 2008. The Bradbury Science Museum is also a significant draw with 69,359 in 2007. The Los Alamos Historical Museum brought in nearly 30,000 visitors in 2007, while this year’s Summer Concert Series was estimated by the organizer to draw around 1,000 attendees per show. With 22 shows this season, this puts the series near the attendance levels of the Historical Museum. The Public Library’s adult and juvenile programs drew over 14,500 attendees in fiscal year 2009, and the events sponsored by the Los Alamos Arts Council had nearly as many attendees at their numerous events in 2008.

TABLE 10: MARKETS FOR CULTURAL INSTITUTIONS AND EVENTS IN THE LOS ALAMOS AREA

ORGANIZATION/EVENT	ATTENDANCE / PARTICIPATION (Est.)	FREQUENCY OF EVENT	PREDOMINANT GEOGRAPHICAL SOURCE OF ATTENDEES
Bandelier National Monument	202,981 ¹	Continuous	none predominant
Bradbury Museum	69,659 ²	Continuous	none predominant
Los Alamos Historical Museum	28,498 ²	Continuous	none predominant
Summer Concert Series	22,000 ³	annual: May-September	NM
Los Alamos County Public Library System		Continuous	Los Alamos
<i>adult programs attendance</i>	2,265 ⁴		
<i>juvenile programs attendance</i>	12,392 ⁴		
Los Alamos Arts Council	12,400 for all events ¹		
Kite Festival	1,500	Annual	NM
Spring Craft Fair		Annual	NM
<i>attendees</i>	2,500		
<i>participants</i>	125 vendors		
Holiday Craft Fair		Annual	NM
<i>attendees</i>	2,500		
<i>participants</i>	125 vendors		
Brown Bag Performances	80-100	Continuous - matinee event	Los Alamos
Missoula Children's Theater		Annual	NM
<i>attendees</i>	350-400		
<i>participants</i>	60		
Scarecrow Contest	17 to 21	Annual	Los Alamos (local businesses)
Pumpkin Glow	2,000	Annual	NM
Winterfest	500-800	Annual	NM
Guitar Series	30-80	Monthly	Los Alamos
Los Alamos High School Senior Recitals		Annual	Los Alamos
<i>attendees</i>	100		
<i>participants</i>	3 to 12 groups		
Performance Series	NA	Continuous	NM
Pumpkin Carving Party	50	Annual	Los Alamos
Masquerade Recital	170	Annual	Los Alamos
Kite-building Workshops	300	Continuous	Los Alamos
Monthly Arts Forum	5 to 15 local arts organizations	Monthly	Los Alamos
Los Alamos MainStreet			
Next Big Idea Festival	1,200-1,400 ⁵	annual	Los Alamos
Fair and Rodeo Parade	2,000 ⁵	annual	Los Alamos
Halloweekend	2,000-2,500 ⁵	annual	Los Alamos
Art Center at Fuller Lodge		Continuous	none predominant
Summer Craft Fair	3,000-4,000	Annual	NM
Fall Craft Fair	1,800-2,000	Annual	NM
Other	2544 ⁶	Annual	Los Alamos
Los Alamos Little Theatre	1,737	Continuous	Los Alamos
8x10's	286 ⁷	Annual	
Melodrama	320 ⁷	Annual	
One Flew Over the Cuckoo's Nest	632 ⁷	One time performance	
Sarah Plain and Tall	499 ⁷	One time performance	
Chamberfest	1,500	Annual	NM

¹ 2008

² 2007

³ 2009

⁴ Fiscal year 2009

⁵ Estimates provided by Los Alamos MainStreet

⁶ 3rd Quarter 2009

⁷ September 2008 - May 2009

Source: UNM-BBER, 2009, based on interviews with principal organizers.

APPENDIX

FIGURE A-1: LOS ALAMOS ARTS AND CULTURAL COMMUNITY SURVEY

University of New Mexico

Verbal Informed Consent for Surveys

A Study of Arts and Cultural Districts in New Mexico MainStreet Communities

The University of New Mexico’s Bureau of Business and Economic Research (BBER) is conducting a research study with the support of the New Mexico MainStreet program and in collaboration with members of your community. The purpose of the study is to inventory the artistic, cultural, and creative assets in New Mexico. You are being asked to participate in this study because you have been identified as a person involved in art, culture, creative, or cultural tourism activities in your community.

Your participation will involve answering several questions. The survey should take no more than 30 minutes to complete. Your involvement in the study is voluntary, and you may choose not to participate. You can also refuse to answer any of the questions at any time. The survey includes questions such as “What are three advantages of working in the arts & cultural field in your community?” and asks you to provide names of individuals involved in the arts and cultural community in your town whom BBER may ask, in turn, to complete a survey for this study.

There are no risks associated with your participation in this study. All information you provide will be kept confidential. With your permission, BBER may use direct quotes from your survey in the final report or in presentations, but without including any identifying information.

The findings from this project will provide information on the human and institutional artistic, creative, and cultural assets in your community.

Do you have any questions for me about this research project, the survey, or your participation in the survey before I ask you for your consent to participate? [Allow time for questions and answers.]

Should any questions about this research project arise, you can call Dr. Jeffrey Mitchell at (505) 277-5993. If you have questions regarding your legal rights as a research subject, you may call the UNM Human Research Protections Office at (505) 277-0067.

Do you consent to participate in this survey? _____ Yes _____ No [Check the appropriate response.]

Researcher’s Name

IRB#: 08-550
Version: 11/11/08

OFFICIAL USE ONLY			
APPROVED	01/19/09	EXPIRES	01/18/10
The University of New Mexico Main Campus IRB			



Bureau of Business
& Economic Research

LOS ALAMOS ARTS AND CULTURAL COMMUNITY SURVEY

Informed Consent

Before beginning the survey, the community volunteer (“Researcher”) must read the Verbal Informed Consent for Surveys script (attached at the front) to the interviewee and check the appropriate response at the bottom of the script page. (If the interviewee does not give consent, do not proceed with the survey.) Then sign your name in the “Researcher’s Name” area on the bottom of the script pages and leave one copy with the interviewee.

Inform the interviewee that the survey should take about 15-20 minutes.

Background:

1. Your name: _____
2. How long have you lived in/around Los Alamos? _____
If not for entire life, where did you live before? _____
3. Describe your involvement in arts, cultural, and creative activities. Please be specific about the type of creative work that you are engaged in (e.g., landscape painting, historical fiction).
4. Choosing from the following list, in which **one** role do you exert the greatest influence on the arts and cultural community in Los Alamos (*circle*). *Check other roles as appropriate.*

 artist preservationist teacher/mentor supporter (\$) student

 enthusiast volunteer organizer promoter business
5. Please identify arts & cultural or community organizations with which you are currently involved.
6. Please name in rank order up to five people or institutions with whom your interactions are most important in your arts and cultural activities. These may include peers, mentors, students, artists, fans, collaborators, organizers, financial supporters, galleries, and so on.

INVENTORY AND ASSESSMENT OF LOS ALAMOS ARTS AND CULTURAL ASSETS

1. NAME _____ INSTITUTION _____
RELATIONSHIP _____ FREQUENCY OF CONTACT 1 2 3 4 5
TOWN OF RESIDENCE _____
CONTACT INFORMATION _____

2. NAME _____ INSTITUTION _____
RELATIONSHIP _____ FREQUENCY OF CONTACT 1 2 3 4 5
TOWN OF RESIDENCE _____
CONTACT INFORMATION _____

3. NAME _____ INSTITUTION _____
RELATIONSHIP _____ FREQUENCY OF CONTACT 1 2 3 4 5
TOWN OF RESIDENCE _____
CONTACT INFORMATION _____

4. NAME _____ INSTITUTION _____
RELATIONSHIP _____ FREQUENCY OF CONTACT 1 2 3 4 5
TOWN OF RESIDENCE _____
CONTACT INFORMATION _____

5. NAME _____ INSTITUTION _____
RELATIONSHIP _____ FREQUENCY OF CONTACT 1 2 3 4 5
TOWN OF RESIDENCE _____
CONTACT INFORMATION _____

Contact
1...no contact in years 2...about once a year 3...about once a month 4...about once a week
5...daily

