Discovery Center

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EXECUTIVE SUMMARY

This report provides an initial evaluation of the market and operating opportunity for a Discovery Center to serve Joplin and the surrounding region. This report evaluates several location opportunities; analyzes the area's resident and tourist markets; and, provides a preliminary project concept and a conceptual program of spaces. Based on this initial concept, attendance potential and a pro forma analysis of the revenue potential and operating plan are prepared.

Assessment of Community Needs and Project Benefits

The proposed Discovery Center supports the pillars of the Vision Joplin 2022. Access to a Discovery Center will improve the quality of life for families in the region by providing a space for children to safely learn and grow in. The Discovery Center will showcase the regional identity and uniqueness of the region, will benefit local and regional school districts, businesses, and support economic and tourism development.

Potential Discovery Center Locations

As the central urban location in the region, the focus has been on a location in Joplin. Six potential sites have been identified by the Creative Learning Alliance. See Page 17 for site evaluation. These locations have differing characteristics and further investigations into their availability, buildability and architecture and engineering implications are warranted to designate a preferred site.

Preliminary Project Description

For the purposes of this analysis and to inform design development moving forward, a preliminary project description has been established. (See page 48.) This preliminary project description is the basis for the attendance potential analysis and the preliminary operating plan. As visitor experience planning and architectural programming advance, the project description and program of spaces would also be refined.

The proposed Discovery Center is imagined as an interactive, hands-on learning experience for families and children. A focus on STEAM related experiences is desired by the community. The STEAM acronym describes a popular concept in discovery centers and children's museums in recent years – - Science, Technology, Engineering, Art and Math. Experiences and exhibits that bring together these topics in engaging and thought-provoking ways can meet the child development aspirations of the project and also become

a highly repeatable and popular destination for local residents, area-wide residents on day trips and for tourists visiting the area. In addition, interpretive themes relevant to the region hold great interest. These might include geology and mining, Route 66, agriculture, weather and the living world. Chosen themes would be interpreted and experiences planned through the STEAM informal education approach. In addition to permanent exhibits, the Discovery Center would present changing exhibits in a gallery specially designed to provide new reasons to revisit and to serve niche audiences.

Discovery Center and museum development costs are typically higher than other types of developments due to their unique architecture and exhibit spaces that increase the cost of finishing the building to museum quality standards for collections and exhibitions. Development costs for discovery centers typically fall in a range from $450 to $600 per square foot or more, depending on the capital needs for the project. Development costs typically include:

- Acquisition of land and/or buildings
- Construction costs and contingency for building renovation or new construction
- Design, financing, permitting costs and contingency
- Pre-opening operations
- Endowment and fundraising expenses

Program of Spaces

Major program areas recommended for Discovery Center include exhibits, supportive public spaces and non-public spaces such as administrative, exhibit creation and repair, receiving and storage and building infrastructure. Based on this analysis of the program of spaces, the total building area required for the proposed Discovery Center may range from 17,000 square feet to 23,000 square feet with a mid-range of 20,000. About 40 percent of the space would be exhibit areas and 20 percent supportive public spaces with the remainder administrative, back of house and building operations spaces. (See Page 49.)

Resident Market

The resident market is defined as the 45-minute drive time to Joplin and is further divided into the Primary Market Area: 0 to 15-minute drive; Secondary Market Area: 15 to 30-minute drive; and the Tertiary Market Area: 30 to 45-minute drive. The Total Resident Market Area is estimated to be a population of 287,900 people with a median age of 37.6 and an average household size of 2.53 people. (See page 29.)

The percentage of family households in the Resident Market is 66.3 percent of total households. There is a total of 67,100 children living in the Resident Market Area, and that population is projected to grow by 2.5 percent by 2023. Overall, the Resident Market has a significant population of families and children available to support the Discovery Center.

Tourist Market

In FY 2016, Missouri received 41.7 million visitors to the state. Visitors to the state have been increasing since FY 2010. The median age of Missouri travelers is 43 years old, and approximately one-third of Missouri tourists are families. While on their leisure trip, 25 percent of visitors report attending family attractions and 17 percent of visitors report visiting museums/cultural attractions. Visitation to the state is relatively steady throughout the year without substantial seasonal fluctuation. (See page 36.)

While Joplin is a regional destination with its "Small Town America" charm, connection to Route 66 and its local history, there is limited available statistics regarding tourism. Based on the best available data, a reasonable estimate of traveler volume is 250,000 annual visitors including persons who stayed in paid accommodations and visiting friends and relatives.

Regional Discovery Centers and Children's Museums

The Discovery Center will fill a void for discovery centers and children's museums. From a competitive perspective, there are three discovery centers and children's museums within a 75-minute drive time. (See page 28.) In addition, Tulsa contains two facilities in about a two-hour drive from the area. Overall, this regional context provides an excellent opportunity for the Discovery Center to meet the needs of the local area as well as families residing within a one-hour drive of the site.

Attendance Potential

The Discovery Center has attendance potential from both resident and visitor markets. A repeat attendance pattern locally can be developed, and the "critical mass" of attraction elements can be created to also attract out-of-town visitors, typically those visiting local friends and relatives. The estimate of attendance potential at the Discovery Center has been prepared through a "gravity model" analytical approach. That is, the propensity to visit the Discovery Center is strongest among people who reside the closest with a decrease in attendance among those people living further from the site.

An attendance potential range has been established for a stabilized year of operation. The Discovery Center is estimated at 68,000 to 91,000, with a mid-range planning factor of

79,000. (See page 54.) The ratio of attendance to available resident and tourist markets is typical for comparable facilities. Stabilized attendance levels are typically achieved in the third or fourth year after opening. Estimates of peak attendance days and peak parking demand for the Discovery Center were prepared. At peak periods, the facility would have an estimated 170 to 210 visitors in-house under a mid-range attendance scenario requiring between an estimated 69 to 84 parking spaces at peak periods plus upwards of 25 spaces for staff and volunteers. The preliminary proposed scale of Discovery Center would accommodate this level of visitation.

Operating Revenues

Operating revenues of the Discovery Center will be derived mainly from admission ticket sales, but substantial additional revenue will be derived from sources such as gift shop sales, memberships, and use of the facility for day camps, after school programming, and birthday parties. The stable year earned revenue potential for the Discovery Center is approximately $716,000 in current value of the dollar. (See page 67.) Earned revenue would be supplemented by a variety of non-earned revenues such as gifts, grants, endowment proceeds and gift-in-kind. The earned revenue potential is similar to many of the comparable educational attractions nationally.

Operating and Management Profile

The operating expense estimates for the Discovery Center were prepared to reflect the proposed facility program. The expenses reflect a tightly operated project with a "bottom line" orientation. Inputs to the operating expenses analyses include the experience of comparable facilities and the proposed "metrics" of the facility – its size, program and attendance potential.

The proposed program for the Discovery Center indicates a need for approximately 11 full-time and 20 part-time positions for a total of 21.0 full time equivalent (FTE) employees. The estimated salary budget for the personnel is approximately $753,000 with an estimated average taxes and fringe of 18 percent of total salaries in addition. (See page 68.) The salaries assumed in this analysis are prototypical for the industry and are not meant to set the compensation for a particular position.

In addition to personnel, individual expense items for the Discovery Center include: Utilities, Repairs and Maintenance, Insurance; Supplies and Materials; Advertising, Printing and Publications; Exhibit Reinvestment and Maintenance; Events and Programs; Administrative and a number of other categories. Also included in the operating budget are Capital Reserves to cover major non-recurring expenses for mechanical, electrical and

plumbing repairs and maintenance contracts. An annual replacement reserve budget of approximately 3 percent of total operating expenses is included in the operating plan. In a stable year of operations, the non-personnel expenses are estimated to total $424,000 annually in current value of the dollar plus $39,000 is budgeted for Capital Reserves. A Total Operating Budget of $1,352,000 in current value of the dollar is estimated for the Discovery Center. (See page 75.)

Net Operating Income Potential

The Discovery Center has substantial capacity to generate earned revenue. At the same time, Discovery Centers are complex and labor-intensive operation that requires non-earned contributed revenue to sustain operations. In a stabilized year, the non-earned revenue requirement is approximately $636,000 for breakeven operations. The analysis indicates that stable year earned revenues represent 45 percent of total needed revenues to support operations (including capital reserves). This operating model, however, does not account for building rent or land lease, which if required would increase operating costs and the amount of Non-Earned Revenues required. While some comparable institutions have lower earned revenue ratios and some have higher ratios, this 45 percent ratio is typical of educational attractions. (See page 76.)

Non-Earned Revenue Requirement

The Discovery Center will engage in ongoing fundraising, to establish financial reserves and endowment, and to secure operating grants and government sector support. Virtually all educational attractions require contributed revenues, including gifts, grants, and endowments, to supplement earned revenues. The estimated Discovery Center annual fund-raising requirements are well within industry norms. Contributed revenues should be targeted at levels higher than contained herein, as these would allow more robust levels of service provision, would create revenues to cover shortfalls in earned revenue that may occur, and could contribute to increasing the financial reserves and endowment the Discovery Center should build over time. (See page 77.)

Summary

Discovery Center has the potential to operate successfully over time with high quality and appropriately sized facilities are developed; marketing, education programs and operations are first rate; and, initial and ongoing fundraising is successful. This project will derive substantial income from admission tickets, memberships, programs and retail; however, active and successful fundraising is necessary to sustain the Discovery Center. The operating profile of the facility is similar to many of the comparable educational attractions, whose operating profiles and strategies have been used in preparing the

operating plan. Diversified and creative sources of revenue and sound fiscal management will assist the Discovery Center to sustain its operations.

Section I
INTRODUCTION AND ASSUMPTIONS

Joplin is the urban center for a vibrant region with a rich history and modern amenities. The City was greatly impacted by the tornado in 2011, and out of this tragedy the community has a renewed sense of spirit. The visionary community plan—*Vision Joplin 2022* outlines areas of growth and improvement the community wishes to focus on.—including education, governance, wellness, job growth, branding and quality of life. From this plan, the planning committee identified developing a Discovery Center, as a major enhancement for quality of life and as an anchor destination for the community and for the region. The plan is to develop a regional serving Discovery Center to achieve these goals.

This report evaluates several location opportunities; analyzes the area's resident and tourist markets; provides a preliminary project concept and a conceptual program of spaces. Based on this initial concept, attendance potential and a pro forma analysis of the revenue potential and operating plan is prepared.

In preparing this report, the assumptions listed in **Appendix B** were made. This study is qualified in its entirety by these assumptions.

Section II
POTENTIAL LOCATIONS AND AREA EVALUATION

This section describes the local and regional context and evaluates proposed site areas for the Discovery Center.

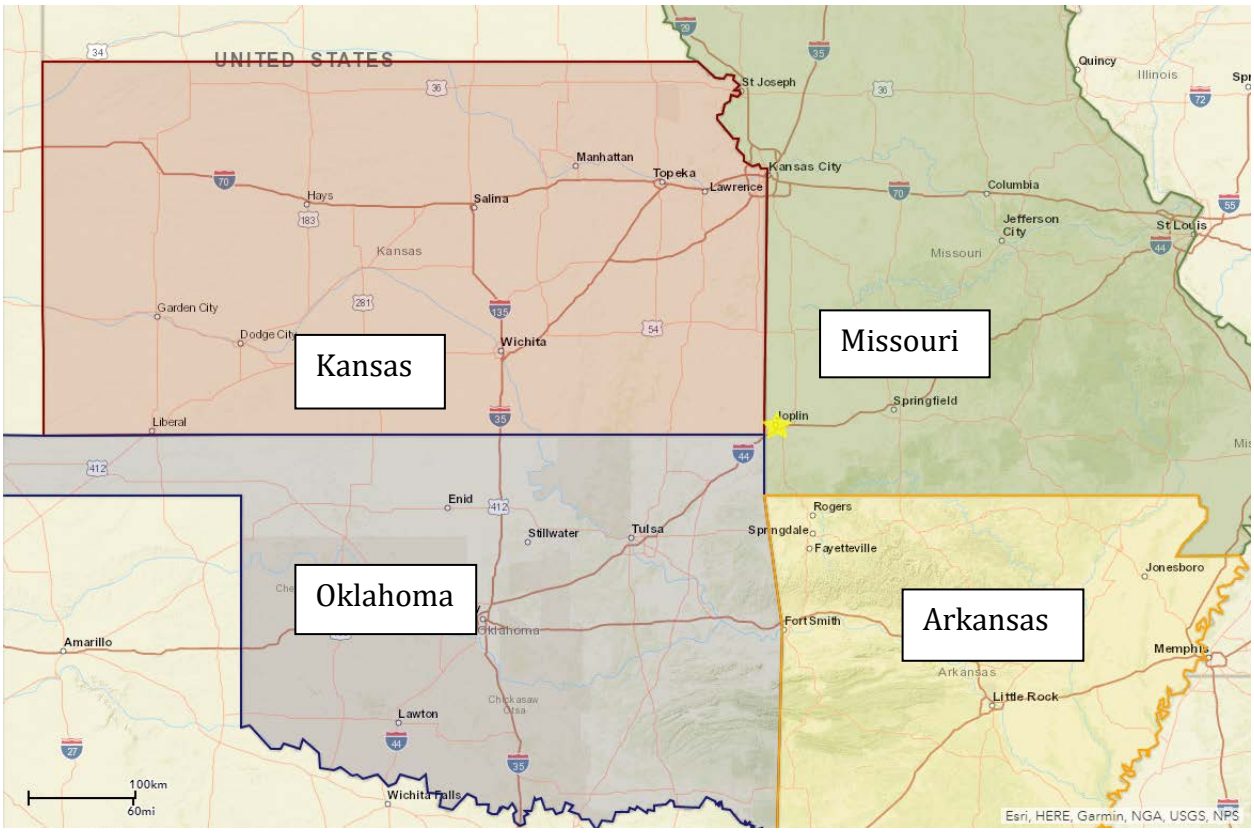
Regional Context

The Joplin, MO area is located in southwest Missouri and as shown in **Figure II-1,** is near three state borders: Kansas, Oklahoma, and Arkansas. Joplin is a commercial hub and serves as a center of services, health care, retail, education, entertainment and culture for the region.

Joplin is connected by Interstate 44[1] on an east-west axis to cities such as St. Louis and Springfield, MO to the east and Tulsa and Oklahoma City, OK to the west. Interstate I-49 going north-south, connects Joplin to Kansas City, MO to Northwest Arkansas – and on to Fort Smith, AR. Additionally, while not visible on Figure II-1, U.S. Route 66 goes directly through Joplin's downtown area, making Joplin a destination along that tourist route.

[1] In this section, Interstate 44 will be expressed as I-44

Figure II-1
Regional Map Relative to Joplin
Discovery Center



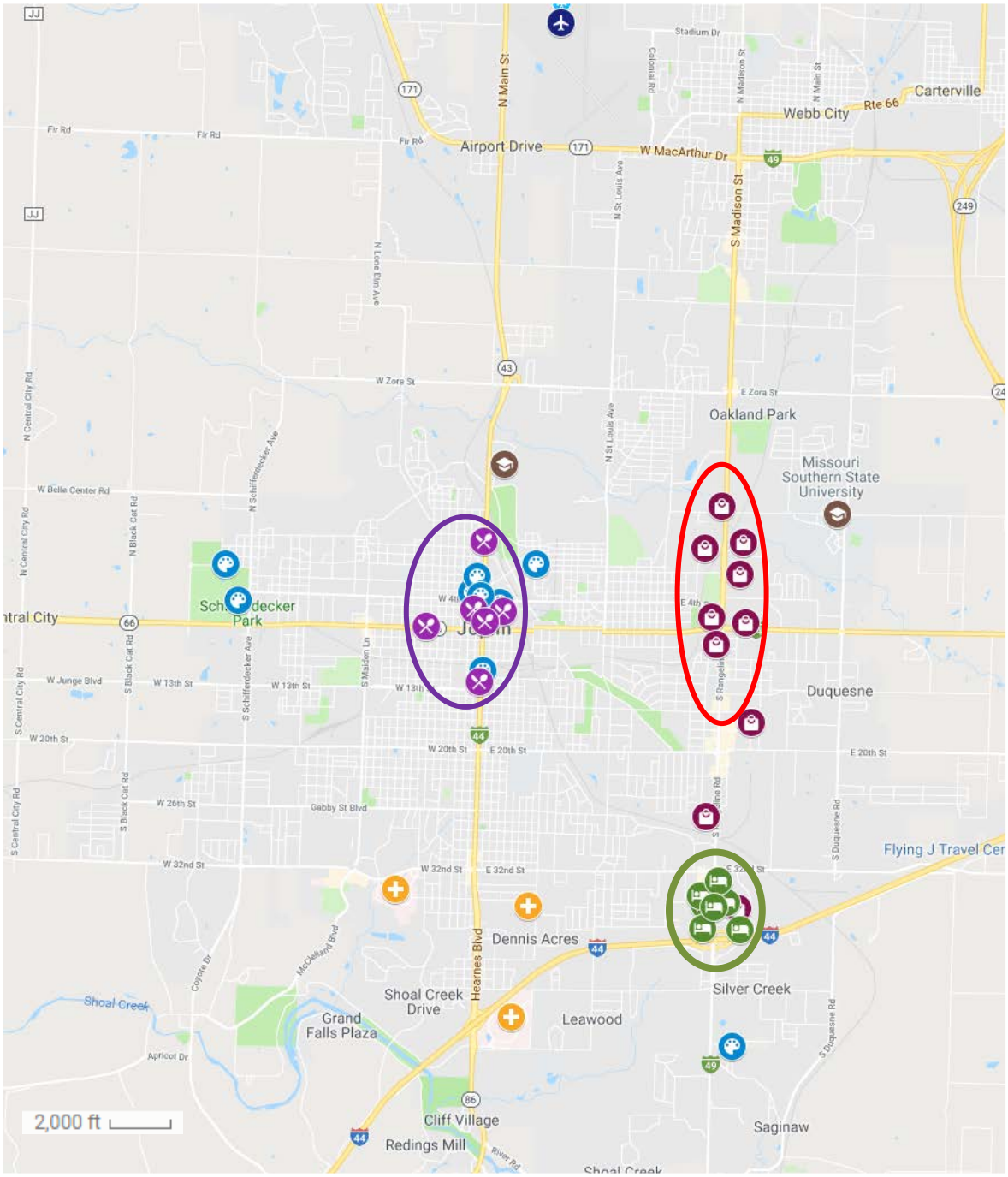
Source: ESRI and ConsultEcon, Inc.

City of Joplin as Regional Service Center

Joplin is a regional service center and many people visit Joplin for services, commerce and activities that are unavailable in their hometown. Joplin's central location and concentration of activities makes it the natural location for a regional serving Discovery Center. Data in Figure II-2 illustrates some of Joplin's assets. Commercial activities include a regional airport, shopping centers and a mall, a downtown retail district, colleges and the regional hospitals. Mercy and Freeman that serve Joplin and surrounding rural communities. Joplin also has a strong and growing cultural presence. The city has a library complete with an art gallery, Spiva Center for the Arts, local artists and galleries, and the city is in the process of developing its cultural center—that, in addition to the Discovery Center, will enrich Joplin's cultural offerings. Joplin is also home to multiple institutions of

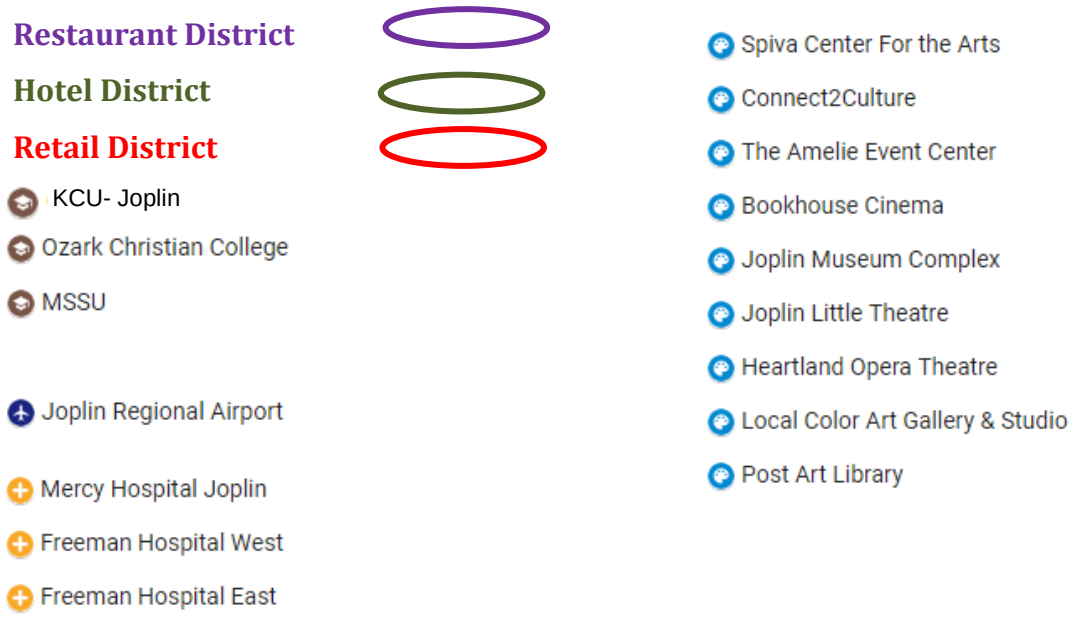
higher learning — Missouri State Southern University, Ozarks Christian College, Kansas City University Medical School and Vatterott College. The commercial, cultural and educational opportunities in Joplin contribute to the strength of the community and to its reputation as a regional destination. The Discovery Center will add to Joplin's existing assets and will support economic and community development. A location in Joplin is the best location to serve the surrounding region.

Figure II-2
Map of Selected Joplin Commercial, Cultural and Institutional Amenities
Discovery Center



Source: Google Maps, Joplin CVB, and ConsultEcon, Inc.
Note: The map is a representative sample of commercial, hotel, art and cultural spaces, medical centers in Joplin, and does not represent locations of all offerings. It is intended to show clusters of commercial and institutional activity to inform the market study and site selection process.

Figure II-2
Map Key for Selected Joplin Commercial, Cultural and Institutional Amenities
Discovery Center



Source: Google Maps, Joplin CVB, and ConsultEcon, Inc.

Assessment of Community Needs and Project Benefits

The proposed Discovery Center supports the pillars of *Vision Joplin 2022.* Access to a Discovery Center will improve the quality of life for families in Joplin by providing a space for children to safely learn and grow.

The Discovery Center will showcase the regional identity and uniqueness of the local area and the region. It will benefit the local and regional school districts, businesses, and help in economic and tourism development. Following are potential benefits of the Discovery Center:

- A family-oriented attraction:
  - Joplin and the region have relatively few indoor family-oriented attractions, particularly those that emphasize learning through play.
  - An opportunity for parents and caregivers to actively engage in stimulating experiences, hands-on activities and locally themed interpretation.
- A complement to educational experiences of area students:
  - A space that can complement Missouri State educational curriculum.

- A space with laboratory learning equipment for STEM learning.
- A space for the arts—music, dance, and visual - moving from STEM to STEAM.
- A partnership with local and regional school districts that would have the Discovery Center become a primary field trip destination.
- Inspire children and foster a passion for lifelong learning that can lead to professional and workforce development, bolstering quality of life for families and children.

♦ Honor and interpret area and regional heritage and history:

- Mining and minerals
- Route 66
- Commerce
- Agriculture
- Arts
- Health care
- Local and regional culture

♦ Enhance the region's competitiveness and economic development:

- Joplin is a regional hub for commerce, health care, transportation and other economic sectors to maintain its competitiveness with other regional cities.
  - Quality of life is crucial to attracting and retaining a qualified workforce – a discovery center improves quality of life and educational outcomes.
- In recent years places like Bentonville, AR and Springfield, MO have been pulling Joplin region residents to their cities because these more distant cities offer a more diverse set of attractions and amenities and have thus increased in popularity. The Discover Center will have the potential to attract visitors to the local area and keep residents local.
  - More visitors to the area will increase sales tax revenue for area communities.
- Discovery Center will add value to existing museum and cultural institutions.
  - Currently, Joplin has a Museum Complex home to the Joplin History and Mineral Museum that engages audiences on the mining town history of the Joplin region and showcases artifacts of Joplin and Missouri history.
  - Joplin also has a growing art and cultural district in the downtown area. The Spiva Art Center and the Connect to Culture organization are collaborating with the city to build a cultural center called the Cornell Complex. The complex will include outdoor plaza and amphitheater, community meeting spaces, indoor performance hall and gallery space.

Evaluation of Potential Locations

Since a Discovery Center is a key component in the Vision Joplin 2022 plan, it is imperative that the new site reflect the current and future identity of the envisioned Joplin and to best serve as a regional asset. Selecting a site will have implications for how the community, and regional visitors/tourists, interact with the Discovery Center and, ultimately, with Joplin and the region as a whole. The map in **Figure II-3** shows potential locations for the Discovery Center identified by the Creative Learning Alliance.

Evaluation of Potential Locations for the Discovery Center

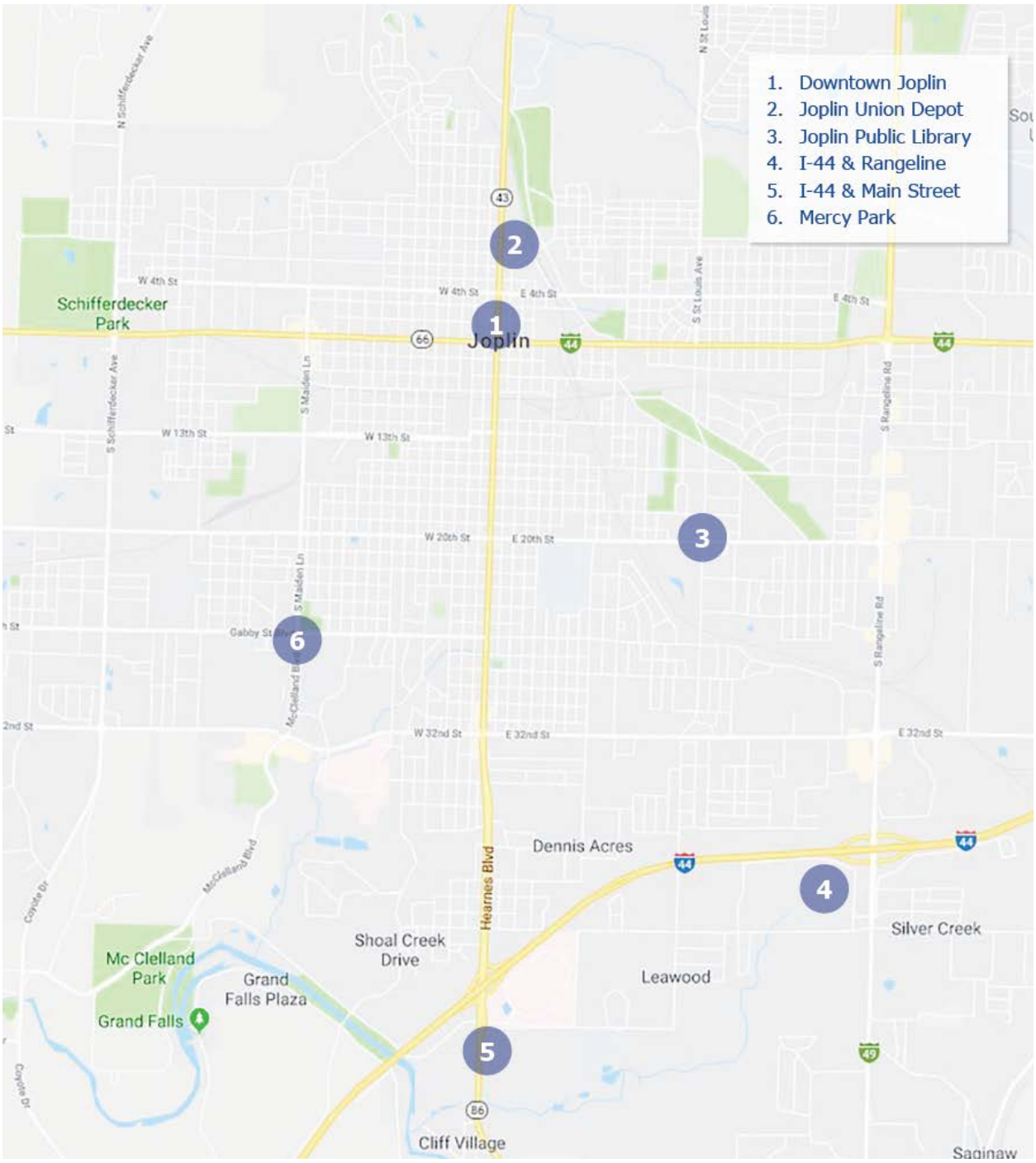
As shown in the map in Figure III-3, there are six areas within Joplin that have been identified by the Creative Learning Alliance as potential locations for the Discovery Center.

- Location 1 is the downtown, possibly adaptive-reuse of existing buildings.
- Location 2 is adaptive reuse of the former Union Station.
- Location 3 is the area near the newly built Joplin Public Library.
- Location 4 is the area near the I-44 Interchange at Rangeline Road.
- Location 5 is the area near the I-44 Interchange at Main Street/Hearnes Boulevard.
- Location 6 is land near Mercy Park.

These are currently conceptual locations without a specific parcel or lot designated, with the exception of Location 1 and Location 2. At Location 1 there is a potential downtown site at a vacant building complex at the corner of Virginia and 5th Street. Location 2 refers to the site of Union Depot, a U.S. National Historic Place, located off of North Main Street and behind the postal office.

Data in **Table II-1 through Table II-4** provides a summary of important characteristics of the identified locations.

Figure II-3
Identified Potential Location Areas
Discovery Center



Source: Creative Learning Alliance and Corner Greer & Associates, Inc.

Table II-1
Potential Location Characteristics Summary
Discovery Center

	Opportunities and Physical Limitations					
	District Character	**Adaptive Reuse or New Construction**	**Existing Building Characteristics**	**Capacity to Accommodate Varying Facility Sizes**	**Site Size and Qualities**	**Potential for Outdoor Space**
Site 1 Downtown Joplin[1/]	Downtown, central business district, walkable	Adaptive Reuse and New Construction	Requires extensive renovation	Yes	Excellent	Yes- potential for protected courtyard or adjacent space
Site 2 Joplin Union Depot	Downtown, edge of business district	Adaptive Reuse and New Construction	Requires extensive renovation of a landmark building	No	Fair	Yes--adjacent open space
Site 3 Joplin Public Library	Residential area, away from main thoroughfares	New Construction	None	Yes	Excellent	Yes--adjacent open space
Site 4 I-44 and Rangeline	Adjacent to commercial strips long Rangeline Road; Next to Exit 8 off I-44	New Construction	None	Yes	Moderate	Yes--adjacent open space
Site 5 I-44 and Main Street	Adjacent to I-44 interchange and Mercy Hospital; Adjacent to residential areas	New Construction	None	Yes	Moderate	Yes--adjacent open space
Site 6 Mercy Park	Memorial site of former Mercy Hospital; Next to the Cunningham Park	New Construction	None	Yes	Excellent	Yes-adjacent park and open space

[1/] Downtown Joplin includes potential sites at Virginia St and 5th St buildings, Union Depot, and in the general area

[2/] These distinctions are made within 0.5 mile radius of the general site location

Source: Creative Learning Alliance and ConsultEcon, Inc.

Table II-2
Potential Locations Traffic and Accessibility
Discovery Center

	Travel, Traffic and Accessibility		
	Accessibility	**Visibility and Prominence**	**Parking Availability and Quantity**
Site 1 Downtown Joplin[1/]	Centrally located in Joplin metro area	Moderate--Virginia Ave is a secondary street, there is possible Main Street frontage	Yes
Site 2 Joplin Union Depot	Centrally located in Joplin metro area, but not directly on S. Main street	Limited--Low visibility with buildings fronting road and poor sight lines	Yes
Site 3 Joplin Public Library	Located in the southeast of Joplin, not directly accessible by I-44	Moderate--20th St and Connecticut St are not main roads, but still frequently traveled	Yes--Room for Parking Lot, no street parking,
Site 4 I-44 and Rangeline	Site is nearby to exit 8 on I-44, it is near I-44, Rangeline Rd north south corridor	Good	Yes--Room for Parking Lot, no street parking,
Site 5 I-44 and Main Street	Moderate	Moderate	Yes--Room for Parking Lot, no street parking,
Site 6 Mercy Park	Mercy Park is on Maiden Lane, a main north/south thoroughfare It also connects to many neighborhoods	Moderate--Maiden Lane is not the main road in Joplin, but is frequently traveled	Would require parking lot, nearby parking lots are inaccessible by foot

[1/] Downtown Joplin includes potential sites at Virginia St and 5th St buildings, Union Depot, and in the general area

[2/] These distinctions are made within 0.5 mile radius of the general site location

Source: Creative Learning Alliance and ConsultEcon, Inc.

Table II-3
Potential Locations Surrounding Development
Discovery Center

	Surrounding Development		
	Nearby Public Arts and Cultural Land Uses [2/]	**Nearby Restaurants, Retail and Infrastructure** [2/]	**Adjacent Hotel and Accommodations** [2/]
Site 1 Downtown Joplin[/1]	Near to Spiva Arts Center and the Cultural Center (in development)	Close to small businesses and local restaurants/cafes	Distant from major hotels by I-44, exit 8
Site 2 Joplin Union Depot	None	None, closest would be downtown	Distant from major hotels by I-44, exit 9
Site 3 Joplin Public Library	Near Public Library	None, closest would be commercial areas along Rangeline Road	Approximately 2 miles away from major hotels by I-44, exit 8
Site 4 I-44 and Rangeline	None	Yes	Yes--adjacent to major hotels by I-44, exit 8
Site 5 I-44 and Main Street	Next to Wildcat Glades Conservation and Audubon Center	No restaurants or retailers Adjacent to Mercy Hospital	Approximately 3 miles away from major hotels by I-44, exit 8
Site 6 Mercy Park	Next to public park and public memorial	Close to Freeman Hospital, Elementary School, Freeman Business Center, Walmart and Grocery Stores	Approximately 4 miles away from major hotels by I-44, exit 8

[1/] Downtown Joplin includes potential sites at Virginia St and 5th St buildings, Union Depot, and in the general area

[2/] These distinctions are made within 0.5 mile radius of the general site location

Source: Creative Learning Alliance and ConsultEcon, Inc.

Table II-4
Potential Locations Market Proximity
Discovery Center

	Market Proximity and Competition				
	Positive Contribution to Adjacent Areas	Tourism & Economic Impacts	Community Benefits	Capacity to Fulfill Mission	Potential Complementary and/or Competitive Facilities
Site 1 Downtown Joplin[1]	Strong--would contribute to downtown arts and cultural districts, nearby cultural center (in development)	Strong	Strong	Strong	Complementary: Spiva Art Center, the Cultural Center, Route 66 Competitive: None
Site 2 Joplin Union Depot	Limited--isolated location, so would have limited contribution to adjacent commercial uses	Moderate	Moderate	Moderate	Complementary: None Competitive: None
Site 3 Joplin Public Library	Would benefit the library by creating a destination place for local families to visit--the library and the children's museum. Would make destination very community-oriented	Strong	Strong	Strong	Complementary: Public Library Competitive: None
Site 4 I-44 and Rangeline	Limited--largely standalone facility with little to none interaction with surrounding area	Moderate	Moderate	Moderate	Complementary: None Competitive: None
Site 5 I-44 and Main Street	Limited--largely standalone facility with little interaction with surrounding area	Moderate	Moderate	Moderate	Complementary: Wildcat Glades Conservation and Audubon Center, Joplin Family YMCA Competitive: None
Site 6 Mercy Park	Would complement the existing park Act as a community asset in relation to the memorial	Strong	Strong	Strong	Complementary: Aquatic Park, public park, elementary schools Competitive: None

[1/] Downtown Joplin includes potential sites at Virginia St and 5th St buildings, Union Depot, and in the general area
[2/] These distinctions are made within 0.5 mile radius of the general site location
Source: Creative Learning Alliance and ConsultEcon, Inc.

Potential Location Review

The market potential and community benefits of the Discovery Center will greatly benefit from a synergistic relationship with its surroundings and nearby land uses; which is why proximity to established cultural or community facilities is an important location criterion. For instance, families often visit parks, libraries, conservation areas, and arts organizations together. Therefore, one of these cultural sites could give the center a "family outing" identity—allowing families to go to the park / library / conservation area and the center. Specifically, Locations One, Three, Five and Six are near to these types of uses. Family

outings are often based on activities that the group can do together, and it is often a different trip type than going shopping or running errands. Given the commercial strip of shopping plazas and food places near Location Four, the identity of the Discovery Center could be degraded as commercial in nature rather than as a family space or as a key part of the Joplin Community. Additionally, out of town tourists would also benefit if the Discovery Center is located near other attractions, restaurants, or unique Joplin offerings because it would be easy to visit multiple sites or attractions.

A central location in Joplin has the benefit of being accessible in all directions, while a periphery location implies a longer drive for some residents on the opposite side of the urbanized area compared to those who reside on the same side as the attraction. The following is a summary of benefits of each potential location:

- **Location 1**: A downtown location would have strong community identity, would be easy to access from local neighborhoods and highway, and would complement existing cultural and art facilities downtown.
- **Location 2**: Joplin Union Depot is an existing historic structure with adjacent land and parking potential. It has good accessibility, but its visibility is poor, and adjacent and nearby uses are not supportive of its reuse as a Discovery Center. Adaptive reuse may well prove to be expensive on a per square foot cost, but this assumption would have to be verified by professional architecture and engineering investigations into its physical feasibility and costs to reuse.
- **Location 3**: Located near to the Public Library would have placemaking benefits for the library, which is currently in a fairly residential area. Near the library could have community oriented feeling, a pro for Joplinites but a potential con for attracting tourists.
- **Location 4**: Location near commercial sites and the highway could make trips to the Center easy for residents and tourists. It could be more challenging to have a community identity away from key community sites.
- **Location 5**: Location near commercial sites, hospital, and the highway could make trips to the Center easy for residents and tourists. The center could foster a community identity by building relationships with complimentary facilities
- **Location 6**: A location next to Mercy Park would have strong community identity and would complement the project's mission. The area is easily accessed from local neighborhoods and the highway. The proximity of the park and waterpark makes for a family destination. It would be away from commercial sites, decreasing the economic impact of the Center.

Competitive Context for Regional Discovery Centers and Children's Museums

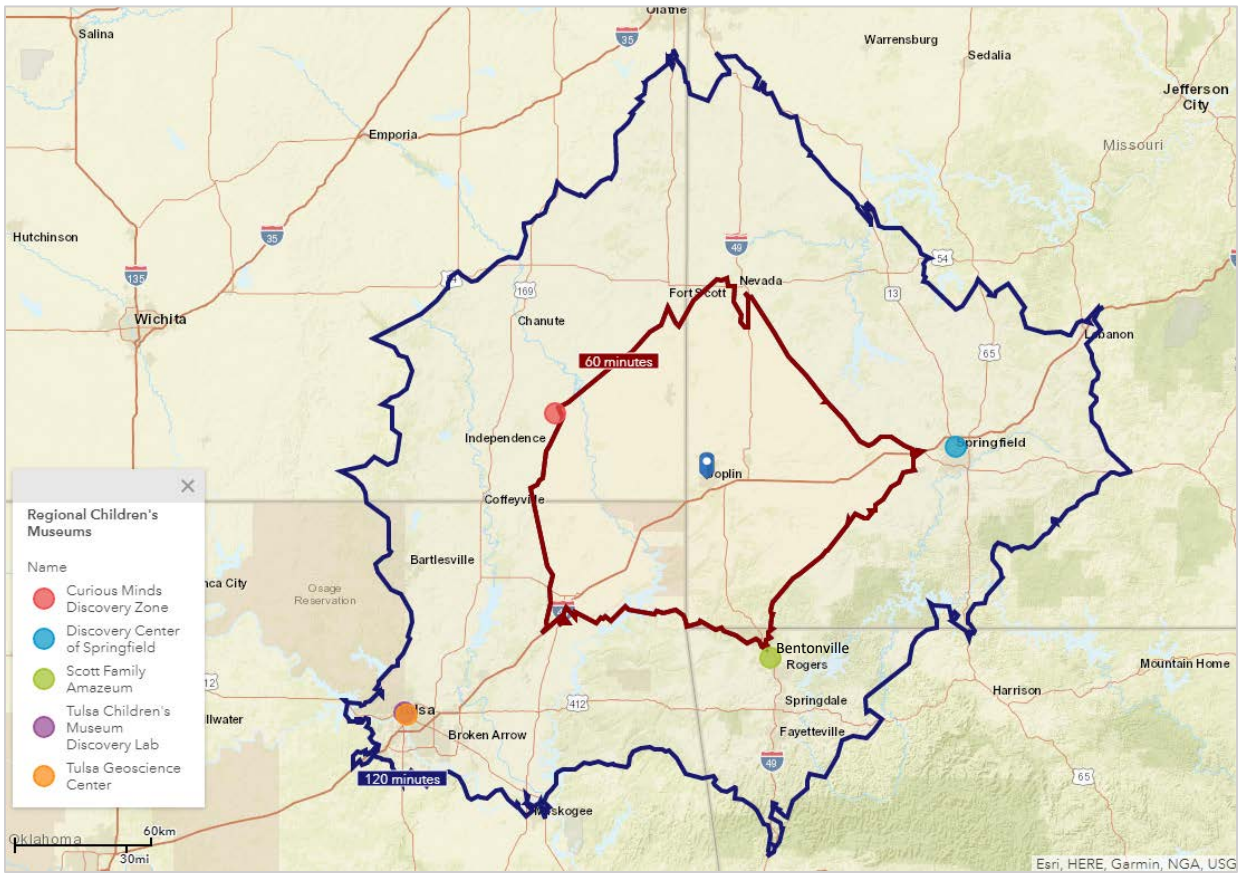
The proposed Discovery Center will serve a wide region. Within an extended 2-hour drive time region, there are few discovery centers and children's museums. Therefore, the Discovery Center in Joplin will serve not only its local and surrounding areas but will also have attendance potential from more distant areas in all directions. In this regional context, Joplin is located in the middle of five prominent mid-western cities—Oklahoma City, OK; Wichita, KS; Saint Louis, MO; Kansas City, MO; and Little Rock, AR. While these metro areas offer family oriented educational attractions, the area in the middle with Joplin at its epicenter lacks an educationally oriented attraction such as the proposed Discovery Center. This situation identifies a regional need for the Discovery Center.

The map in **Figure II-4** shows the discovery centers and children's museums within a two-hour drive of Joplin. Currently, there are no discovery centers and children's museums in Joplin or its region. There are five discovery centers and children's museums within this two hour radius from Joplin. They are listed below:

- Scott Family Amazeum, in Bentonville, AR
- Tulsa Children's Museum Discovery Lab, in Tulsa, OK
- Tulsa Geoscience Center in Tulsa, OK
- Curious Minds Discovery Zone, Parsons, KS
- Discovery Center of Springfield, Springfield, MO

People would have to travel approximately over an hour from Joplin to reach the closest: Curious Minds Discovery Zone in Parsons, KS and the Scott Family Amazeum in Bentonville, AR. The Discovery Center of Springfield is a bit longer drive.

Figure II-4
Discovery Centers and Children's Museums within a Two-Hour Drive Time of Discovery Center



Source: ESRI, Facilities Listed, and ConsultEcon, Inc.

Within the four-state area (Missouri, Kansas, Oklahoma, and Arkansas) the Association of Children's Museums has a total of 13 registered children's museums, and the Association of Science and Technology Centers has a total of 15 registered science/discovery museums. Many of the discovery centers and children's museums are located within the larger cities of their home state.

Missouri:

- The Discovery Playhouse in Cape Giradeau, MO
- Planet Play in Kansas City, MO
- The Magic House, St. Louis Children's Museum in St. Louis, MO

- HealthWorks! Kids' Museum in St. Louis, MO
- Bootheel Youth Museum in Malden, MO
- Discovery Center of Springfield, Inc. in Springfield, MO
- Saint Louis Science Center in St. Louis, MO
- Science City at Union Station in Union Station, MO
- Museum of Art and Archaeology in Columbia, MO

Arkansas:

- Arkansas Arts Center in Little Rock, AR
- Museum of Discovery in Little Rock, AR
- Mid-America Science Museums in Hot Springs, AR
- Museum of Discovery in Little Rock, AR
- Scott Family Amazeum in Bentonville, AR

Kansas:

- Kansas Children's Discovery Center in Topeka, KS
- Wonderscope Children's Museum of Kansas City in Shawnee, KS
- Exploration Place in Wichita, KS
- Cosmosphere in Hutchinson, KS
- Exploration Place, The Sedgwick County Science and Discovery Center in Wichita, KS
- Flint Hills Discovery Center
- Sternberg Museum of Natural History in Hays ,KS
- University of Kansas Natural History Museum in Lawrence, KS
- Curious Minds Discovery Zone in Parsons, KS

Oklahoma:

- Edmond Historical Society in Edmond, OK
- Tulsa Historical Society and Museum in Tulsa, OK
- Oklahoma WONDERtorium in Stillwater, OK
- Science Museum Oklahoma in Oklahoma City, OK
- Tulsa Children's Museum Discovery Lab in Tulsa, OK

Overall, discovery centers and children's museums are common throughout the quad-state area. However, there are none that are local in the Joplin region, so a Discovery Center as proposed could add to the existing network of Midwestern discovery centers and children's museums, benefitting children and caregivers alike.

Summary

The following summarizes community needs and project benefits of the Discovery Center:

- **Educational opportunities**—the Center could serve as an educational and professional development resource for current and future generations. Specifically, the Discovery Center has the opportunity to provide science lab space for elementary aged children and provide additional arts programming that may not be available in all schools in the region.
- **Family Resource**—currently, there are limited options where family activities and children's play can take place, and the Center could act as a key space for families to gather and spend time together.
- **Economic benefits—**The Discovery Center could support the area's economic development in several ways. The Discovery Center would be a visitor attraction that attracts new visitors and provides a destination for area residents to visit rather than traveling to facilities outside of the area. The Discovery Center will burnish the area's brand as an attractive place to live and visit. It will support positive educational outcomes for area children in their formative years. The Discovery Center will also add to the existing roster of educational and cultural attractions, which could spur further development in addition to complementing the existing mix.

The Creative Learning Alliance identified six potential locations for the proposed Center, which include Downtown Joplin, Joplin Public Library, I-44 and Rangeline Road, I-44 and Main Street and Mercy Park. In order to have the most impact on the community and local economy, the location of the Discovery Center should be a place that has a sense of community identity, is accessible by walking and driving, and is close to other activities, community areas and businesses.

Potential Discovery Center Locations. Following is a summary of six potential locations for the Discovery Center as identified by the Creative Learning Alliance:

- **Downtown**— A downtown location would have strong community identity; be easy to access from local neighborhoods and highway; and would complement existing cultural and art facilities downtown. Investigations of capital costs and efficiency of space needed.
- **Former Union Station**— Location lacks visibility and positive adjacent and nearby uses. Adaptive reuse of this facility could be very expensive. Discovery Center spaces would have to fit within the existing structures rooms and spaces which would likely not create optimal use of the space.
- **Joplin Public Library**— Location near Public Library would have placemaking benefits for the area and enhance as a community destination. New construction would allow optimum design and allow for future expansion.
- **I-44 and Rangeline Rd**— Location near commercial sites. Highway proximity provides easy regional access. More challenging to create a community identity aw*ay from key community sites. Centralized locations are preferable to city edges.*
- **I-44 and Main St**— Location near commercial sites and hospital is positive. Highway proximity provides easy regional access. More challenging to create a community identity away from key community sites. Centralized locations are preferable to city edges.
- **Mercy Park**— A location next to Mercy Park would have strong community identity and would complement the project's mission. The area is easily accessed from local neighborhoods and the highway. The proximity of the park and waterpark makes for a family destination. Securing a site and accessibility / visibility must be addressed.

Regional Discovery Centers and Children's Museums. The Discovery Center will fill a void in the regional array of available discovery centers and children's museums. From a competitive perspective, there are three discovery centers and children's museums in an hour or 75 minute drive time. Tulsa has two facilities in about a two hour drive from Joplin. Overall, this regional context provides an excellent opportunity for the Discovery Center to meet the needs of the local area as well as families residing within a one-hour drive of the site.

Section III
MARKET CONTEXT

The proposed Center will serve residents, and to a lesser extent regional residents and tourists. Ultimately, the geographic reach and available markets for educational visitor attractions depend on the size, quality, and type of products and services offered, the accessibility and location of the attraction, the presence of other competitive attractions, regional transportation networks, and the marketing efforts of the organization.

RESIDENT MARKET

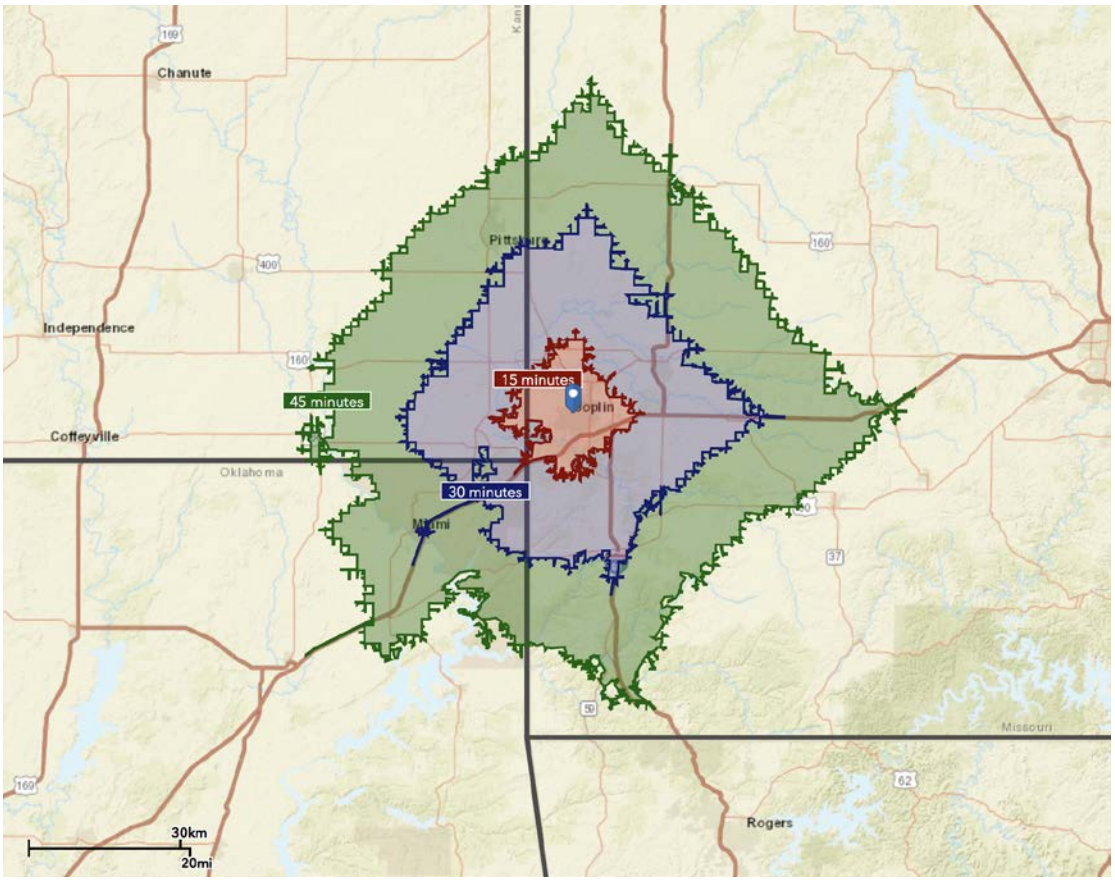
The Resident Market Area for this type of attraction is defined as the area whose residents would visit the Discovery Center as a primary purpose or as an important part of a day trip. Resident Markets are analyzed within a "gravity model" context, which means that the closer residents live to an attraction, the more likely they are to visit. On its periphery, the resident market changes over to the visitor – or tourist – market.

Resident Market Definition

Joplin is in the center of a region that extends its influence to a 45-minute drive time. The demographic characteristics of the local Resident Market have been analyzed to inform the analysis of future attendance potential. The Resident Market Area has been defined as a 45-minute drive from Joplin City Hall[2]. The Resident Market Area was further subdivided into Primary, Secondary, and Tertiary Market Areas, where the Primary Market Area is defined as a 0 to 15 minute drive to the City Hall, the Secondary Market Area is defined as the 15 to 30-minute drive time to the center of Joplin, less the Primary Market Area, and the Tertiary Market Area is defined as the area more than 30 minutes, but less than 45 minutes driving from the proposed site. **Figure III-1** is a map showing the Resident Market Area definition.

[2] Since the Creative Learning Alliance does not have a designated site, the Resident Market analysis is based on a central Joplin location—the City Hall in downtown.

Figure III-1
Resident Market Area Definition
Discovery Center



Source: ESRI and ConsultEcon, Inc.

Area	Color	Definition
Primary Market Area		0 to 15-minute drive time
Secondary Market Area		15 to 30-minute drive time
Tertiary Market Area		30 to 45-minute drive time

Population Trend

Data in **Table III-1** show the population trend in the Resident Market Area, based on 2010 census data with population estimates for 2018 and projections for 2023. In 2018 the Resident Market Area had a total population of about 287,000 people, which is projected to grow by approximately 1.6 percent, to 292,000 people by 2023. By comparison, these projected growth rates are slightly slower than the State of Missouri and the United States as a whole, where the population is projected to grow 2.4 percent and 4.2 percent, respectively.

Table III-1
Resident Market Area Population Trend, 2010, 2018, and 2023
Discovery Center

Resident Market Segment	2010	2018	2023	Percent Change 2018 to 2023
Primary Market Area				
0 to 15-minute drive time	87,524	93,289	96,978	4.0%
Secondary Market Area				
15 to 30-minute drive time	77,438	80,279	81,530	1.6%
Tertiary Market Area				
30 to 45-minute drive time	113,325	114,406	114,023	-0.3%
Total Resident Market Area	**278,287**	**287,974**	**292,531**	**1.6%**
State of Missouri	***5,988,927***	***6,223,738***	***6,370,820***	***2.4%***
United States	***308,745,538***	***330,088,686***	***343,954,683***	***4.2%***

Source: US Census Bureau; Esri; and ConsultEcon, Inc.

Age Profile

Data in **Table III-2** summarize the age profile for the population in the Resident Market for the proposed Discovery Center. The data show that the age profile in the Resident Market Area is younger when compared to the State of Missouri and the United States as a whole. The Median age in the Resident Market Area is 37.6, compared to 38.3 in the United States, 39.0 in Missouri.

Table III-2
Resident Market Area Median Age Profile, 2018
Discovery Center

Resident Market Areas	Median Age	0 to 17	18 to 24	25 to 34	35 to 54	55+
Primary Market	37.3	23.0%	10.5%	14.2%	23.6%	28.7%
Secondary Market	38.2	24.6%	9.3%	12.8%	24.0%	29.3%
Tertiary Market	37.3	22.7%	12.2%	13.2%	22.2%	29.7%
Total Resident Market	**37.6**	**23.3%**	**10.9%**	**13.4%**	**23.1%**	**29.3%**
State of Missouri	***39.0***	***21.9%***	***10.4%***	***13.3%***	***24.4%***	***30.0%***
United States	***38.3***	***22.1%***	***10.6%***	***13.7%***	***25.0%***	***28.6%***

Source: US Census Bureau; Esri; and ConsultEcon, Inc.

Population of Children

Data in **Table III-3** show the estimated population of children in both the Resident Market Area in the year 2018. The population of Children aged 0 to 4, and 5 to 9 is estimated at 19,100 each, representing slightly more than half of the total Resident Market Area population. Children aged 0 to 9 are often frequent visitors to Discovery Centers, and the total Resident Market has a large population of children that age. The 0-4 cohort is expected to shrink slightly by 2023, but the 5-9 cohort is expected to grow.

The Resident Market Areas have comparable proportions of children when compared to the State of Missouri and the United States as a whole. Though the Resident Market Area is expected to have higher growth in the Children population in comparison to the State.

Table III-3
Population of Children in the Resident Market Area, 2018-2023
Discovery Center

Resident Market Segment	Ages 0-4	Ages 5-9	Ages 10-12	Ages 13-17	Total Ages 0-17
2018					
Primary Market Area	6,141	6,141	3,615	5,573	21,470
Secondary Market Area	5,627	5,769	3,405	5,245	20,046
Tertiary Market Area	7,361	7,166	4,276	6,754	25,557
Total Resident Market	**19,100**	**19,100**	**11,300**	**17,600**	**67,100**
State of Missouri	*372,800*	*382,100*	*235,200*	*375,400*	*1,365,500*
United States	*19,968,400*	*20,460,500*	*12,584,100*	*20,302,700*	*73,315,700*
2023					
Primary Market Area	6,304	6,314	3,846	5,999	22,463
Secondary Market Area	5,528	5,806	3,589	5,665	20,588
Tertiary Market Area	7,149	7,228	4,424	6,920	25,721
Total 45 Minute Drive	**19,000**	**19,300**	**11,900**	**18,600**	**68,800**
State of Missouri	*376,300*	*381,600*	*239,900*	*389,200*	*1,387,000*
United States	*20,712,700*	*20,686,000*	*12,863,500*	*20,929,400*	*75,191,600*
Percent Change 2018-2023					
Primary Market Area	2.7%	2.8%	6.4%	7.6%	4.6%
Secondary Market Area	-1.8%	0.6%	5.4%	8.0%	2.7%
Tertiary Market Area	-2.9%	0.9%	3.5%	2.5%	0.6%
Total Resident Market	**-0.5%**	**1.0%**	**5.3%**	**5.7%**	**2.5%**
State of Missouri	**0.9%**	**-0.1%**	**2.0%**	**3.7%**	*1.6%*
United States	**3.7%**	**1.1%**	**2.2%**	**3.1%**	*2.6%*

Note: Total population numbers are rounded to nearest hundred.
Source: U.S. Census Bureau, American Community Survey Estimates 2018-2023, ESRI and ConsultEcon, Inc.

Children and the Local School System

With many young families in the area, Joplin is a growing region with developing amenities and excellent schools. The Joplin public school system serves both Jasper and Newton counties and educates approximately 7,700 K-12 students. It is one of the larger school systems in the area. In addition, there are many smaller school systems in the area, as well as private, parochial, and home-school options for parents.

Household Profile

Attendance to discovery centers and children's museums is largely made up of children and their families. Data in **Table III-4** summarize the household profiles for the Resident Market Area, including the number of households, the number of family households, and the average household size. The data show that the Resident Market Area is family-oriented, with an estimated 66.3 percent of the households identified as families compared to, 64.7 percent of Missouri Households, and 65.8 percent of United States Households. The average household size is relatively similar in the Resident Market Areas, the State, and the Country as a whole.

Table III-4
Household Characteristics in Resident Market Area, 2018
Discovery Center

Resident Market Segment	Estimated Number of Households	Estimated Number of Family Households	Percent of Familes to Total Households	Average Household Size
Primary Market Area	37,616	23,714	63.0%	2.42
Secondary Market Area	29,601	21,383	72.2%	2.68
Tertiary Market Area	44,070	28,699	65.1%	2.52
Total Resident Market Area	**111,287**	**73,796**	**66.3%**	**2.53**
State of Missouri	***2,459,948***	***1,591,925***	***64.7%***	***2.46***
United States	***124,110,001***	***81,631,156***	***65.8%***	***2.59***

Source: U.S. Census Bureau, ESRI, and ConsultEcon, Inc.

Income Profile

The amount of income that a household has is one indicator of a household's ability to visit educational attractions such as the Discovery Center, with regard to a household's availability and amount of disposable income and leisure time. Further, higher incomes may also indicate a higher level of education, and, therefore, a greater interest in visiting such an educational attraction. Data in **Table III-5** summarize several key income factors in the Resident Market Area and Comparison Market Area, including the distribution of

households across income cohorts, Median Household Income, Average Household Income, and Per Capita Income. An estimated 56.9 percent of households in the Resident Market Area have an annual household income of less than $50,000, which is slightly higher compared to 47.0 percent of households in the State, and 42.7 percent of households in the United States as a whole. Households in the Resident Market Area had a median household income of approximately $52,900, on par with the State but slightly lower the United States as a whole. Given that the majority of households are making less than $50,000 annually it would be critical to have competitive ticket pricing at the Discovery Center. In order to be inclusive of the entire greater-Joplin community and to increase attendance numbers.

Table III-5
Household Income Profile in Resident Market Area, 2018
Discovery Center

Resident Market Segments	Less than $25,000	$25,000-$49,999	$50,000-$74,999	$75,000-$99,999	$100,000+	Median Household Income	Average Household Income	Per Capita Income
Primary Market Area	25.1%	30.2%	19.0%	10.5%	15.3%	$44,106	$62,469	$25,606
Secondary Market Area	23.6%	28.9%	19.7%	12.7%	15.1%	$47,071	$61,921	$23,058
Tertiary Market Area	30.8%	30.4%	18.5%	10.0%	10.3%	$39,025	$52,061	$20,388
Total Resident Market	**27.0%**	**29.9%**	**19.0%**	**10.9%**	**13.2%**	**$42,617**	**$58,196**	**$22,820**
State of Missouri	***21.7%***	***25.3%***	***18.9%***	***12.6%***	***21.5%***	***$52,772***	***$72,777***	***$29,180***
United States	***20.6%***	***22.1%***	***17.6%***	***12.5%***	***27.2%***	***$58,100***	***$83,694***	***$31,950***

Source: U.S. Census Bureau, ESRI, and ConsultEcon, Inc.

TOURISM MARKET

Following is a review of the characteristics of the tourist market in the state of Missouri and the Joplin area[3]. For the Discovery Center, key tourist market segments include:

- Overnight destination visitors to the Joplin area, including:
  - Visitors staying in area hotels, motels, and/or other paid lodging
  - Visitors staying with friends and relatives (VFR's) in private homes
- Day trip and pass through tourists, including:
  - Missouri residents from outside of the defined Resident Market Area
  - Kansas, Arkansas, or Oklahoma residents that are at least 50 miles away, but not within the Resident Market.[4]

Currently, the Joplin CVB has limited information on the volume of visitors to Joplin and visitor characteristics, so tourism patterns and data for the state will be used to provide insights to Joplin's tourism patterns.

Missouri Tourism

The State of Missouri in general is not regarded as a major national or international tourism destination but its major cities and certain destinations such as Branson have very strong tourism patterns. Regionally there is considerable travel to and within Missouri and tourism has an important role in the state and local economies.

Visitor Volume and Key Metrics

There were an estimated 41.7 million visitors to the State in FY 2016.[5] The state has been experiencing growing visitation since FY2010, at an average rate of 990,000 additional visitors per year. If this trend continues, Missouri will welcome 45.4 million visitors by

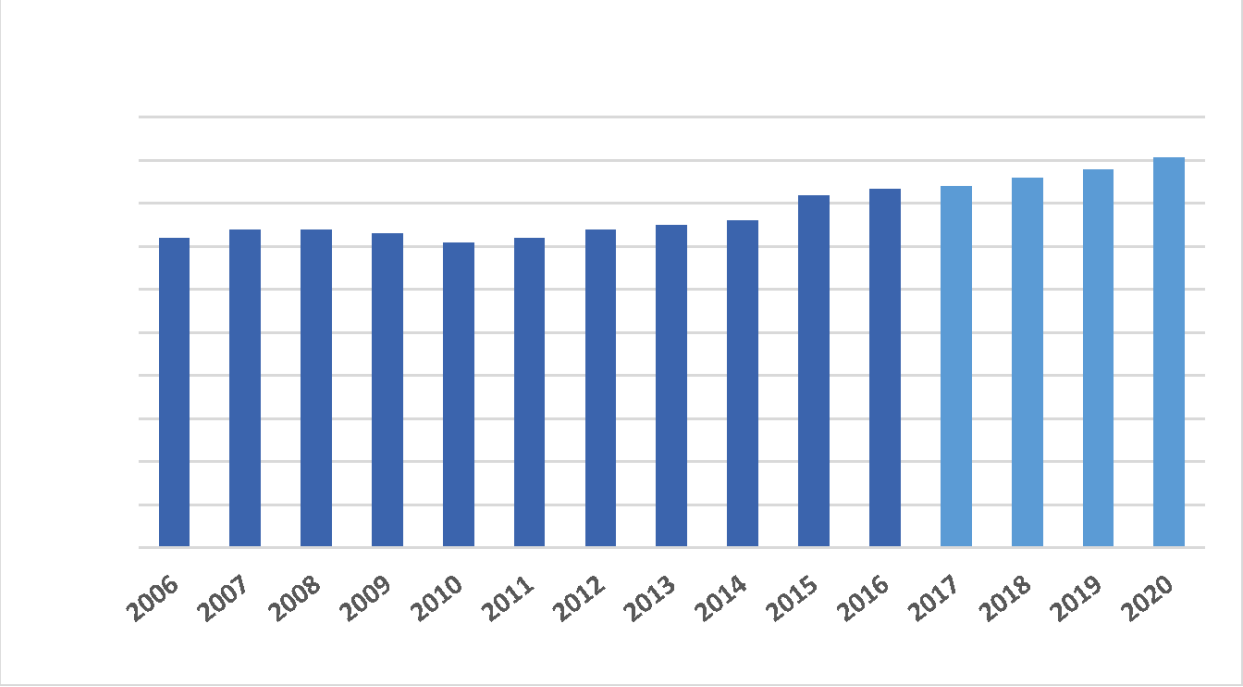
[3] The terms tourist, traveler and visitor are used interchangeably in this section

[4] Due to Joplin's proximity to the states of Kansas, Arkansas, and Oklahoma, it is reasonable that residents of those states could take a day trip to Joplin that live outside of the Resident Market area.

[5] FY2016 ran from July 1, 2015 through June 30, 2016 in Missouri, from *Missouri Division of Tourism Annual Report FY 2016*

2020. The chart in **Figure III-2** shows the trends and the forecast for visitation in Missouri, from FY 2006 to 2020.

Figure III-2
Forecast of Total Visitation to Missouri
Discovery Center



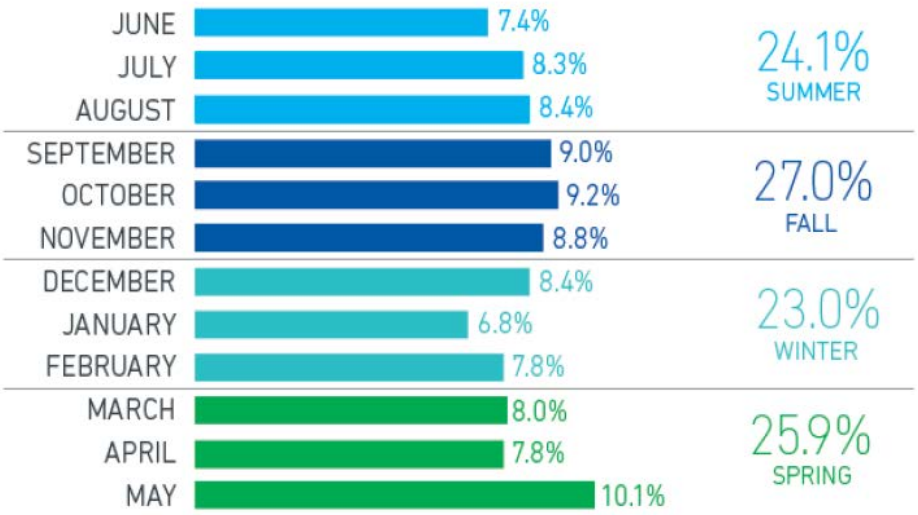
Source: Tourism Economics, Missouri Division of Tourism and ConsultEcon, Inc.

Demographic and trip characteristics of Missouri FY2016 travelers include: average age is 43 years old; traveling in a group of four total people; and, stay for 2.7 nights. Of total travel parties, 33 percent are families traveling with children, which is the target tourist group for the Discovery Center.

Seasonality of Visitation

Missouri has relatively stable visitation throughout different seasons. According to the data in **Figure III-3—**the most popular seasons for visits to Missouri are fall and spring. The stability of visitation in Missouri would show that there is a constant stream of visitors to the state, and that visitation to the Discovery Center would not fluctuate greatly between months.

Figure III-3
Missouri Tourism by Season, FY 2016
Discovery Center

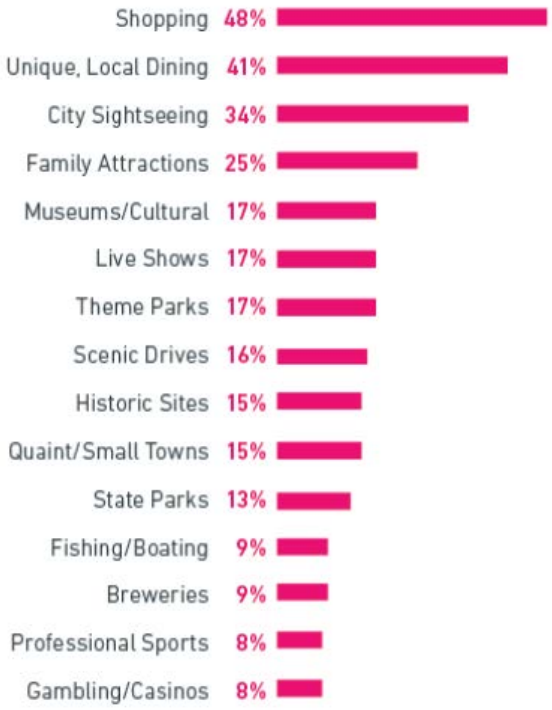


Source: Missouri Division of Tourism

Trip Activities

According to a survey completed by the Missouri Division of Tourism, a quarter of Missouri tourists are looking to attend family attractions. Additionally, 17 percent of respondents also were interested in visiting museums or having cultural experiences on their leisure trips. The results of the Missouri Division of Tourism Survey on what visitors do on their trip to Missouri is summarized in **Figure III-4**.

Figure III-4
Missouri Tourism Popular Trip Activities, FY 2016
Discovery Center

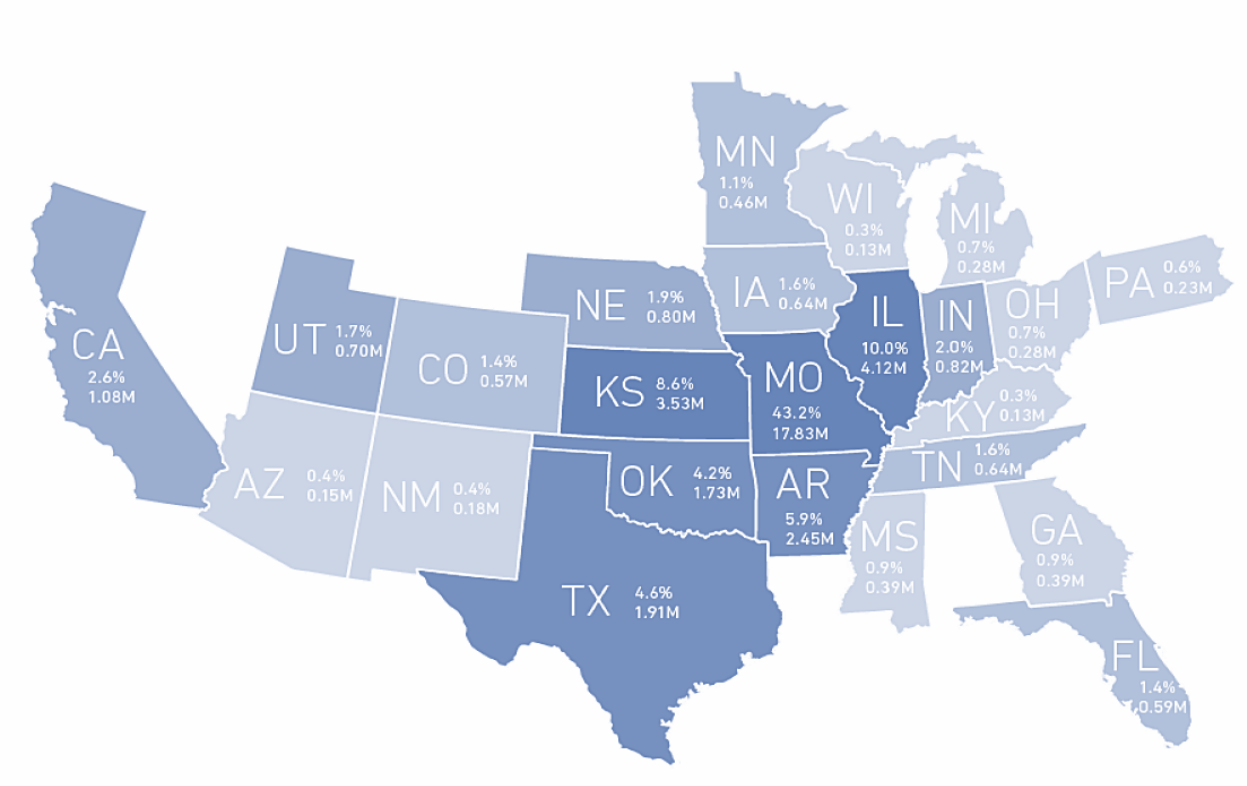


Source: Missouri Division of Tourism

Visitor Origin

The majority of visitors to Missouri are coming from its border States, particularly Kansas, Illinois and Arkansas. Most tourism to Missouri happens from within the state—in FY 2016, 17.83 million tourists were from Missouri itself. Overall, Missouri appears to be a very regional tourist destination, drawing most visitors from the Midwest and West South Central. The information in **Figure III-5** shows the percentage and total estimate of visitors by state.

Figure III-5
Forecast of Total Visitation to Missouri, FY 2016
Discovery Center



Source: Missouri Division of Tourism

Regional and County Level Tourism

Joplin is located in southern Jasper County and northern Newton County, and its influence as a central place spans to the outer counties of Barton and McDonald. In total, the regional counties of Barton, Jasper, Newton and McDonald have been estimated to receive nearly one million visitors in 2016. The data in **Table III-6** is a summary of the number of visitors to each county and each county's population count for 2016.

Table III-6
Tourism to Barton, Jasper, Newton and McDonald County, MO in 2016
Discovery Center

	Population	Visitors/ Tourists	Ratio Visitors to Population
Barton County	11,859	51,200	4.32
Jasper County	119,298	348,700	2.92
Newton County	58,219	447,500	7.69
McDonald County	22,767	87,900	3.86
Total	***212,143***	***935,300***	***4.41***

Source: Joplin CVB, U.S. Census Bureau, and ConsultEcon, Inc.

For the four-county area, there is a ratio of 4.41 visitors per resident. Combined, Jasper and Newton Counties are estimated to have had a total of 796,200 visitors, which is the majority of visitors to the four-county area.

Tourism in Joplin

Joplin is considered a "Small Town America" type destination. Drawing on its Americana themes with its connection to Route 66, Bonnie and Clyde, mining and former Boomtown history makes it a good destination for out of towners or those visiting their family and friends.

Visitation to Joplin Estimate

A total tourist visitation estimate to the city of Joplin is not available. To determine a reasonable estimate of the number of visitors to Joplin, several key indicators were used: regional tourist numbers, county tourist numbers, hotel occupancy in Joplin, and estimates of day trip and overnight visitors from available reports by the Joplin CVB. The following is a breakdown of these sources which will be summarized to provide for the purposes of this report an estimate of total number of visitors to Joplin in 2017.

Joplin Tourism Estimate based on Fair Share of Four County Tourism Data

If the average ratio of 4.41 visitors per resident for the four-county area were applied to the population in Joplin, the city would have had an estimated 230,600 visitors in 2016. As the location for many tourism attractors, this approach to estimating number of tourists probably underestimates the potential number of tourists to Joplin.

Joplin Overnight Tourism Estimate Based on Accommodations Used

Estimating tourists based on accommodations used is a typical technique. Following is this approach.

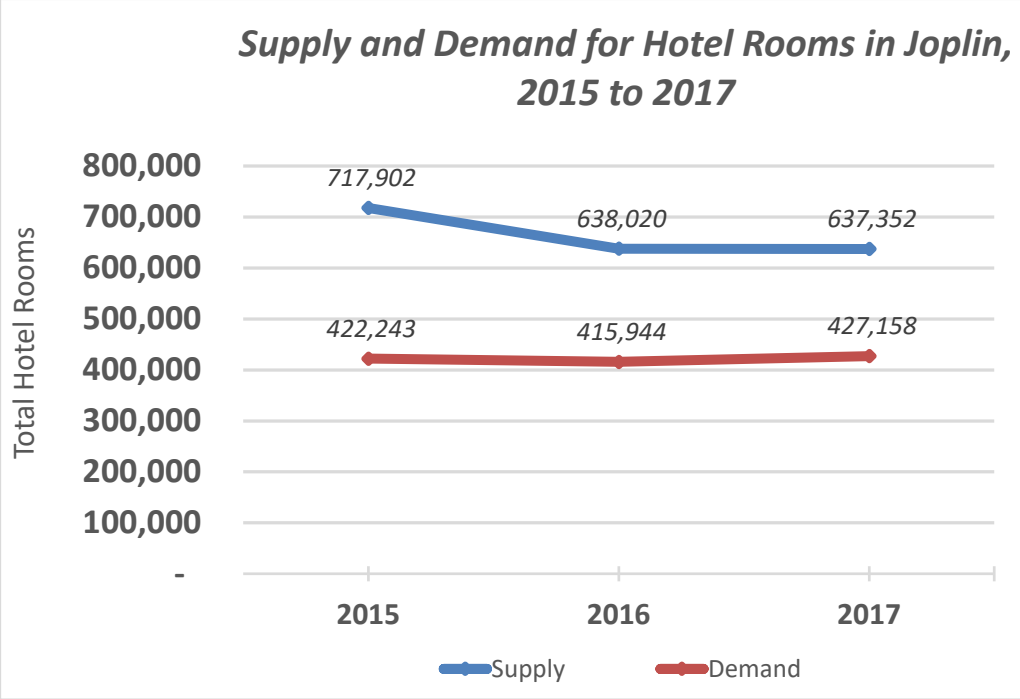
Visitors in Paid Lodging and Accommodations There were 23 hotels in Joplin as of 2017. However, in previous years there had been some closures. The newest hotel is the Holiday Inn Express, which was completed in early 2018. With the new Holiday Inn Express, CVB data indicates approximately 2,000 total rooms in Joplin. Occupancy rates tend to be 55 to 69 percent as of 2017. ADR[6] is lower than state average at $85.15 per night, compared to $99.38 for Missouri. The data in **Figure III-6** shows that while supply has decreased, demand for room nights has been relatively stable in the past three years. With the increase in high quality rooms in 2018, room demand may be expected to increase somewhat.

Given that there were 415,940 room nights, it can be estimated that visitors stayed for 2.7 nights[7], this suggests that there were approximately 154,050 visitors or tourists staying in paid accommodations.

[6] ADR is "Achieved Daily Rate" or, the average revenue per room per day.

[7] The estimation of number of nights stayed is derived from the number of nights stayed for all Missouri tourists in 2016

Figure III-6
Joplin Lodging Room Nights Supply and Demand, 2017
Discovery Center



Source: Missouri Hotel and Lodging Association STR Report, 2017 and ConsultEcon, Inc.

Visiting Friends and Relatives In addition to leisure tourists, there certainly is a substantial visiting friend and relative (VFR) market segment because of the resident population. A major source of travelers to any city or region is VFRs. As indicated in statewide tourism data, VFRs are a significant source of overnight leisure travelers. A consistent pattern has been shown through surveys and studies throughout the United States that the ratio of VFRs to population usually falls in a range of one-half to two VFRs per resident. Most areas have a one to one ratio of VFRs to population. The variance can be attributed to the attractiveness of the area for visitors (resort areas tend to have high ratios of VFRs) as well as accessibility and social patterns. A reasonable estimate, therefore, for the local area as represented by the Primary Resident Market Area (15 minute drive time) is one VFR per person, which suggests a total of 93,000 visiting friends and relatives based on current Primary Resident Market population estimates, of which about 52,000 VFRs for the City of Joplin alone. VFRs are often good prospects to visit an attraction, because the

local resident is often seeking things to do with their out-of-town guests, and either attends with the guests, or directs them to attractions of which they are particularly proud. Because many of the households in the Resident Market Area are family households, it is reasonable to assume that VFRs will include family groups with children, reinforcing the family segment for family-oriented visitor attractions, recreation and entertainment.

Estimated Overnight Visitor Volume to Joplin. From the estimated numbers of visitors staying in paid accommodations, and VFRs, an estimate of 250,000 annual overnight visitors to Joplin is reasonable. Also, in locations such as Joplin with direct access to major interstate highways, pass-through travelers can sometimes become a factor in future visitor attraction attendance potential.

Pass-Through Travelers

Persons traveling through Joplin who have the potential to make an opportunistic visit to a visitor attraction comprise a potential market segment for the proposed Discovery Center. Therefore, significant signage and wayfinding signs are essential to maximize visitation potential from pass-through travelers, as well as to inform destination visitors and residents about the project. Joplin is located at the crossroads of Interstate 49, Interstate 44 and Route 66; these are heavily trafficked roadways that carry potential visitors.

Day Trip Tourists

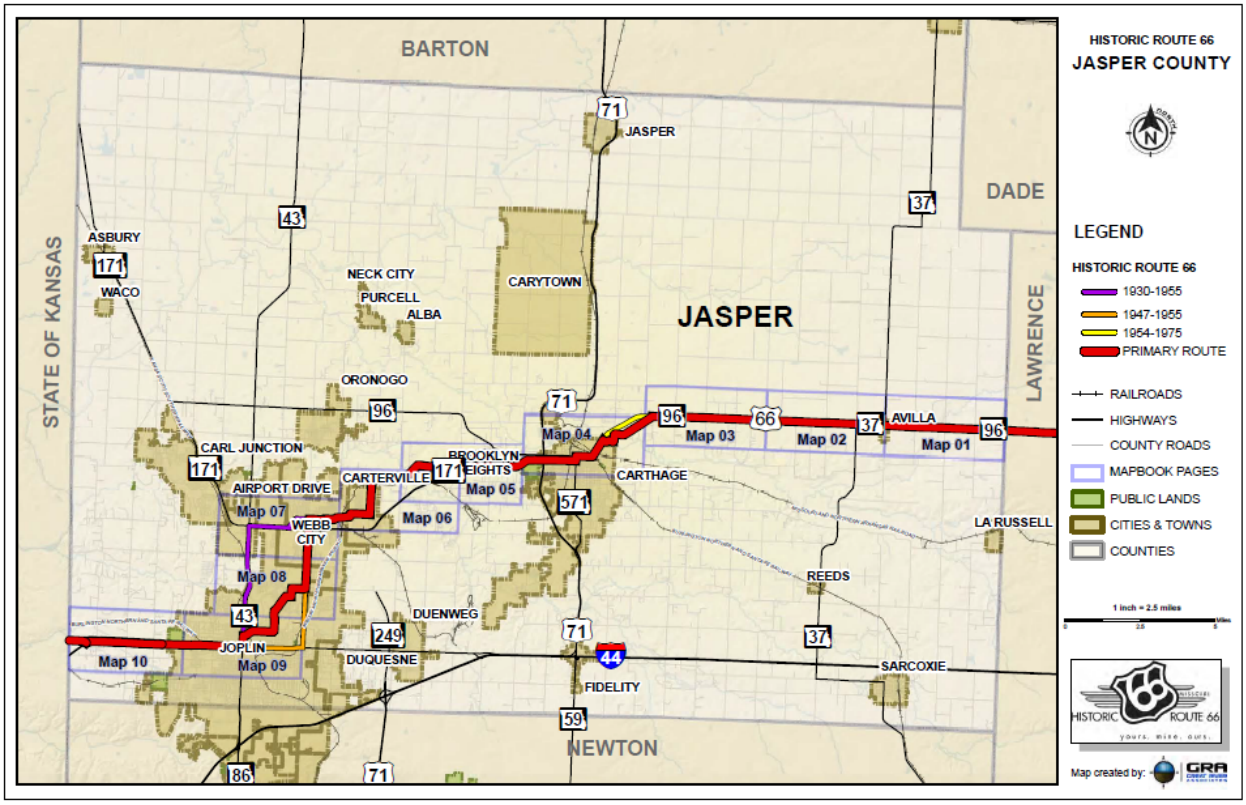
It should be noted that in addition to overnight travelers there are day trip travelers that are generally considered to be non-commuting trips of 50 or more miles each way. There is currently no directly applicable data on this market segment in Joplin. However, because there are several children's museum and Discovery Centers on the periphery of the 60 minute drive time from Joplin, this market segment will not be a major factor in the Discovery Center attendance pattern. However, its impact is included in the estimates of potential market support presented later in this report.

Segments of Joplin Tourism

Route 66 an Important Joplin Tourism Asset

Historic Route 66 passes through Joplin and is a visitor draw from national and international markets and is an important aspect of Joplin's community identity. Figure III-7 shows the Route 66 path through the heart of Joplin.

Figure III-7
Map of Route 66 in the Joplin Area



Source: *Historic Route 66 Yours Mine Ours*; Jasper County MO

Route 66 Visitor Segment In 2017, the Joplin CVB estimates there were 7,000 to 8,000 visitors to Joplin who were specifically traveling along Route 66. The route once extremely popular as a primary travel route for American tourists, is increasing in popularity for international tourists interested in "Americana". The American Route 66 travelers tend to be an older demographic, and are also typically on the road to experience Americana. However, there are few Route 66 iconic attractions in Joplin, which limits the number of

travelers that stay the night. If the Discovery Center had themes regarding the role of Route 66 in Joplin's history, it could make for an interesting attraction to Route 66 tourists that are traveling with children.

Motor Coach Segment In 2017, Joplin welcomed approximately 3,900 motor-coach group tourist equivalent people on day trips and an additional 16,300 tourists on overnight stays per the Joplin CVB. In total, motor-coach tourism brought approximately 20,200 group tour visitors to Joplin via motor-coach travel groups. This is typically however not a strong segment for a discovery center.

International Visitors According to VisaVue and the U.S. Department of Commerce and Tourism Economics Joplin received 19,085 international visitors from 107 different countries in 2016. The most common country of origin was Canada, Mexico and the United Kingdom. International tourists to Joplin had an economic impact of $5.3 million dollars. Note that there may be overlap with the Route 66 and Motor Coach segments.

Arts and Economic Prosperity

The arts are a significant contributor to Joplin's economy. The impact is documented in the 2017 report: *The Arts and Economic Prosperity® 5* which was conducted by Americans for the Arts, the nation's nonprofit organization for advancing the arts in America. This study was one of 341 cities and regions for which impacts of culture and the arts was studied for fiscal year 2015. While this study focuses largely on adult and family markets, it is indicative of the importance of these activities. Following is a summary of impacts from the report:

> *Arts & Economic Prosperity 5* provides evidence that the nonprofit arts and culture sector is a significant industry in the City of Joplin—one that generates $5.4 million in total economic activity. This spending—$1.8 million by nonprofit arts and cultural organizations and an additional $3.6 million in event-related spending by their audiences—supports 191 full-time equivalent jobs, generates $3.4 million in household income to local residents, and delivers $452,000 in local and state government revenue.

The majority (an estimated 85.5 percent of direct spending) arts is by local residents with the remainder by tourists. This finding reinforces the understanding that there is strong local interest in culture in Joplin.

Summary

Resident Market

- The resident market is defined as 45-minute drive to Joplin and is further divided into the following—Primary Market Area: 0 to 15-minute drive; Secondary Market Area: 15 to 30-minute drive; and the Tertiary Market Area: 30 to 45-minute drive time.
- The Total Resident Market Area is estimated to be a population of 287,900 people with a median age of 37.6 and an average household size of 2.53 people.
- The percentage of number of family households in the Total Resident Market is high, at 66.3 percent of total households. There is a total of 67,100 children living in the Resident Market Area, and that population is projected to grow by 2.5 percent by 2023. Overall, the Resident Market has a significant population of families and children to support the Discovery Center. However, the capture of this market is dependent on how the Discovery Center markets and positions itself within the Joplin community.
- There is a considerable difference between the median and average household income, and the per capita income in the Resident Market compared to the State and the Country as a whole. It is the reality in the Joplin area that most households are earning less than $50,000 annually. For the Discovery Center to draw in resident visitors it will have to be prudent when selecting ticketing options and pricing, in order to not price out certain households in the community.

Tourist Market

- In FY 2016, Missouri received 41.7 million visitors to the state, a high for the state that has been increasing in total visitors since FY 2010. The median age of Missouri travelers is 43 years old, and approximately one-third of Missouri tourists are families. While on their leisure trip, 25 percent of visitors report attending family attractions and 17 percent of visitors report visiting museums/cultural attractions. The state does not have extreme seasonality and has a relatively constant stream of visitors.
- While Joplin is a regional destination with its "Small Town America" charm, connection to Route 66 and its local history, the City of Joplin has limited tourism information. Based on the best available data, a reasonable estimate of traveler volume is 250,000 annual visitors including persons who stayed in paid accommodations and VFRs.

Section IV
PRELIMINARY PROJECT DESCRIPTION

For the purposes of this analysis and to inform design development moving forward, a preliminary project description for the proposed Discovery Center has been established. The project description identifies the facility concept, potential programming, facility size and conceptual program of spaces. It is based on the available resident and tourist markets, competitive context, the input of the community open house, the preliminary attendance potential analyses, and the consultant's general knowledge of discovery centers and the museum industry. This preliminary project description is the basis for the attendance potential analysis and the preliminary operating plan. As visitor experience planning and architectural programming advance, the project description and program of spaces would also be refined.

Project Concept

The Discovery Center will be an interactive, hands-on learning experience for families and children. A focus on STEAM related experiences is desired by the community. The STEAM acronym describes a popular concept in discovery centers and children's museums in recent years – Science, Technology, Engineering, Art and Math. Experiences and exhibits that bring together these topics in engaging and thought provoking ways can meet the child development aspirations of the project and also become a highly repeatable and popular destination for local residents, area-wide residents on day trips and for tourists visiting the area. In addition, interpretive themes relevant to Joplin hold great interest. These might include geology and mining, Route 66, agriculture, weather and the living world. Chosen themes would be interpreted and experiences planned through the STEAM informal education approach. In addition to permanent exhibits, the Discovery Center would present externally and internally produced changing exhibits in a gallery specially designed to host to provide new reasons to revisit and to serve niche audiences.

Program of Spaces

Data in **Table IV-I** identify the recommended types of spaces in the proposed Discovery Center and show a range of potential square footage for each space. Major program areas include exhibits, supportive public spaces and non-public spaces such as administrative, exhibit creation and repair, receiving and storage and building infrastructure. Based on this analysis of the program of spaces, the total building area required for the proposed Discovery Center may range from 17,000 square feet to 23,000 square feet with a mid-range of 20,000. About 40 percent of the space would be exhibit areas and 20 percent supportive public spaces.

Table IV-1
Conceptual Program of Spaces of the Proposed Discovery Center
Illustrative for Analytic Purposes Only

	Area in Square Feet			Percent to	
Program Areas	Low Range	Mid Range	High Range	Mid Range Total	Notes
Exhibit Areas					
Permanent Exhibits	6,000	7,000	8,000	35.2%	
Changing Exhibit	1,200	1,350	1,500	6.8%	
Total Exhibit Areas	**7,200**	**8,350**	**9,500**	**42.0%**	
Public Areas					
Lobby/Reception/ Ticketing	800	1,000	1,200	5.0%	
Classroom / Birthday	600	700	800	3.5%	One or two classrooms, divisible to birthday party rooms
Theater	800	900	1,000	4.5%	50 to 100 seating capacity / flexible use?
Restrooms	450	525	600	2.6%	
Food Service / Lunch Room	450	525	600	2.6%	
Gift Shop	400	500	600	2.5%	
Total Public Areas	**3,500**	**4,150**	**4,800**	**20.9%**	
Non-Public Areas					
Office Space	1,200	1,400	1,600	7.0%	
Staff / volunteers kitchen / Restrooms/ Lockers	500	550	600	2.8%	
Exhibit Storage/Prep	500	750	1,000	3.8%	
HVAC	500	750	1,000		
Custodial/Maintenance	500	600	700	3.0%	
Total Non-Public Areas	**3,200**	**4,050**	**4,900**	**20.4%**	
Total Net Building Area	**13,900**	**16,550**	**19,200**	**83.3%**	
Gross up @ 20%	2,780	3,310	3,840	16.7%	
Total Gross Building Area	**16,680**	**19,860**	**23,040**	**100.0%**	
Rounded	***17,000***	***20,000***	***23,000***		

Source: ConsultEcon, Inc.

Potential for Outdoor spaces

Many discovery centers have successfully incorporated additional outdoor elements to their visitor experience and this should be considered as well depending on the setting and land availability. While not included in the program of spaces, an outdoor area, or even a rooftop deck could add additional visitor experience, serve to alleviate crowding on the busiest days and offer a place for events and programming.

Land Requirement

The land for the proposed Discovery Center should include sufficient space to accommodate the building, as well as space for parking and any outdoor programming. A facility located in a greenfield location will differ in land requirement from a downtown location. Approximately 60 to 75 parking spaces for visitors, staff and volunteers are required. Assuming 300 square feet per parking space, including circulation space for vehicles, the parking area would require 18,000 to 23,000 square feet of space. Another consideration is opportunity for building expansion. This might indicate an allowance of a 50 percent increase in building footprint and parking requirement.

Based on the scale of building and parking requirements and flexibility for outdoor programming and future expansion, the land required for the proposed Discovery Center in a suburban location could range from 2.0 to 3.5 acres. In an urban context, land requirement would be lower as the Discovery Center could be laid out in a multi-story configuration and parking would be on-street and in nearby parking ramps. As noted a potential for a downtown facility is to have a rooftop outdoor area to complement the indoor spaces.

Prototypical Development Costs

Discovery Center and museum development costs are often higher than other types of developments due to their unique architecture and exhibit spaces that increase the cost of fitting out and finishing the building to museum quality standards for collections and exhibitions. Development costs for discovery centers typically fall in a range of costs from

$450 to $600 or more, depending on the capital needs for the project. Development costs typically include costs associated with:

- Acquisition of land and/or buildings
- Construction costs and contingency for building renovation or new construction
- Design, financing, permitting costs and contingency
- Costs associated with pre-opening operations
- Endowment and fundraising expenses

Summary

Based on this analysis of the program of spaces, the total building area required for the proposed Discovery Center may range from 17,000 square feet to 23,000 square feet with a mid-range of 20,000. About 40 percent of the space would be exhibit areas and 20 percent supportive public spaces. Based on the scale of building and parking requirements and flexibility for outdoor programming and future expansion, the land required for the proposed Discovery Center in a suburban location could range from 2.0 to 3.5 acres. In an urban context, land requirement would be lower as the Discovery Center could be laid out in a multi-story configuration and parking would be on-street and in nearby parking ramps.

Section V

ATTENDANCE PROJECTIONS AND OPERATING CAPACITY

Following is an evaluation of the attendance projections and operating capacity of the proposed Discovery Center. This analysis will require refinement as the project moves into later programming, design and implementation phases.

Attendance and Operating Assumptions

The proposed Discovery Center would operate under the norms of visitor attractions, discovery centers and museums nationally, adjusted for local conditions. Project assumptions relating to the facility and market for the proposed Discovery Center are as follows:

- The Discovery Center is assumed to operate as an independent organization. For analytical purposes this operating analysis evaluates the Discovery Center is assumed to be a stand-alone 20,000 square foot facility as described in Section V of this report.
- The Discovery Center will be well designed and constructed. It will be of a scale in size and in quality to be recognized regionally as a facility of excellence.
- The Discovery Center will be open year-round, 6.5 days a week. This is typical of the educational attraction industry. In addition, special events and facility rentals could occur at the facility when they do not disrupt regular visitation. The project will be used for special events and cultural activities after hours to promote community support and generate additional income. Educational groups will be invited to visit at discounted prices, and will receive a worthwhile and enjoyable educational experience. Community outreach will be a cornerstone of the programming effort.
- The Discovery Center will develop a marketing program to achieve and maintain attendance and continually attract new visitors from both resident and tourist markets. Ticket pricing will be attractive and commensurate with overall visitor experience and value delivered. The project will also be managed to provide dynamic and effective educational programs and dramatic and continually evolving new exhibits. The travelling (changing) exhibit gallery is recommended in order to attract new visitors and repeat visitation.
- The Discovery Center will be well managed. The structure, its exhibits, finishes, mechanical equipment and support systems will be well maintained to minimize insurance risks and unexpected repair and maintenance expenditures. Maintaining the exhibits in excellent condition is an important component of customer

satisfaction. For changing exhibit galleries, change-outs would occur on certain weekdays when attendance is lower; for exhibit repairs and maintenance, this would occur during open hours or after hours when necessary.

Attendance Potential

The Discovery Center has attendance potential from both resident and visitor markets. A repeat attendance pattern locally can be developed, and the "critical mass" of attraction elements can be created to also attract out-of-town visitors, typically those visiting local friends and relatives. The estimate of attendance potential at the Discovery Center has been prepared through a "gravity model" analytical approach. That is, the propensity to visit the Discovery Center is strongest among people who reside the closest – Joplin residents and residents of other communities within a short drive away.

Benchmark educational attraction data for comparable facilities is provided in **Appendix A**. These data provide insights to the experience of individual institutions, and as a whole their experience is an input to the attendance and operational assumptions and analyses of this report.

Data in **Table V-1** provide a summary of the derivation of the attendance potential estimate for the Discovery Center, based on the data and analyses contained in this report.

The market capture rate for the total Resident Market Area is estimated at 18 percent to 24 percent of total residents. The attendance analysis suggests strong repeat visitation patterns particularly among members and school group use. Discovery Centers attract attendance mostly from residents residing within a short to medium drive time; considering that there are few attractions in Joplin and that existing drive times to attractions are fairly long, it is reasonable that some people will drive longer distances to reach the Discovery Center. In addition to people who reside in the area, the Discovery Center will draw attendees who are staying overnight in the area typically with friends and relatives as well as some destination tourists particularly visiting Joplin for other regional events such as third Thursday, Joplin Memorial Run, Joplin Airshow, etc.

Table V-1
Stabilized Attendance Potential
Discovery Center

	Projected 2021 Market Population	Market Capture Rates Low	Market Capture Rates High	Visitation Range Low Range Attendance	Visitation Range Mid Range Attendance	Visitation Range High Range Attendance	Percent of Total Attendance
Resident Market							
Primary Resident Market 0 to 15-minute drive time	97,000	25.0%	35.0%	24,250	29,100	33,950	36.6%
Secondary Resident Market 15 to 30-minute drive time	82,000	20.0%	25.0%	16,400	18,450	20,500	23.2%
Tertiary Resident Market 30 to 45-minute drive time	114,000	15.0%	20.0%	17,100	19,950	22,800	25.1%
Total Resident Market	293,000	19.7%	26.4%	57,750	67,500	77,250	85.0%
		Tourist Market as a Percent of Total Attendance					
Tourist Market		15.0%	15.0%	10,191	11,912	13,632	15.0%
Total Stabilized Attendance Potential Range				67,941	79,412	90,882	100.0%
Mid Range Attendance [1/]				**68,000**	**79,000**	**91,000**	

[1/] Rounded to nearest 1,000

Source: ConsultEcon, Inc.

An attendance potential range has been established for total stabilized attendance. Stabilized attendance levels are typically achieved in the third or fourth year after opening. Attendance potential at the Discovery Center in a stable year (Year 3) is estimated at 68,000 to 91,000, with a mid-range "best estimate" of 79,000.

While the majority of the visitation will come from the resident market area, as noted the Discovery Center will be able to attract additional visitors from travelers to the area. Estimated at a mid-range of 12,000 attendees, the travel market is estimated to have the potential to account for 15% of total annual attendance.

The range in the estimate of attendance will vary due to the following factors:

- The location and characteristics of the site selected for the Discovery Center;
- Ease of access such as sufficient parking for visitors;
- How well facility and visitor experience concepts are translated into the visitor experience;
- Ticket pricing policies;
- The extent of special events and exhibits;
- Quality of operations;
- Success of membership development efforts;
- The amount and quality of marketing employed (including pre-opening marketing);
- Changes in the economic environment generally; and,
- The variation in market acceptance of the project that may occur.

This analysis is limited by the early conceptual nature of the project. As planning moves forward and more definitive program, design and operating plans are created, additional refinement of the attendance potential will be warranted.

Five-Year Attendance Pattern

For a project of this type, attendance in the first years of opening is typically higher than in later stabilized years due to market excitement created by the presence of a new attraction. Attendance of 15 percent above stabilized attendance could be anticipated during the opening year. Data in **Table V-2** show an estimated five-year attendance trend, with an early year surge and visitation subsiding after opening.

Table V-2
Multi-Year Attendance Potential
Discovery Center

	Early Year Attendance Surge		Stable Year		
	YEAR 1	**YEAR 2**	**YEAR 3**	**YEAR 4**	**YEAR 5**
Percentage of Stabilized Attendance	*115%*	*105%*	*100%*	*100.5%*	*101.0%*
Mid Range Attendance Potential	**90,850**	**82,950**	**79,000**	**79,395**	**79,790**
Low Range Attendance Potential	78,200	71,400	68,000	68,340	68,680
High Range Attendance Potential	104,650	95,550	91,000	91,455	91,910

1/ Stabilized attendance expected to occur in Year 3. This analysis assumes that the full facility will be open at Year One of operations.

Source: ConsultEcon, Inc.

Physical Planning Parameters

The information provided by data in **Table V-3** uses the estimated stabilized attendance potential range to prepare physical planning parameters for the Discovery Center. It should be emphasized that these are prepared for planning purposes and to verify the recommended project scale from a market perspective. The analysis also uses a factor of peak in-house attendance to estimate parking demand. Given this context, a facility in-house population analysis has been prepared that uses the estimate of the attendance during the peak month (estimated at 14 percent of annual attendance and typically achieved in July), a high week during that period (28%) and a strong day in that week (20 percent of weekly attendance, most likely a Saturday) to arrive at an appropriate "peak day" attendance level for the Discovery Center. A factor of peak in-facility population of 28 to 34 percent of that day's total attendance is then estimated, based on an assumed length of stay of 2.0 to 2.5 hours. These factors provide an estimate of the "in-house" population,

which is useful for facility sizing and throughput analysis. At peak periods, the facility would have an estimated 170 to 210 visitors in-house under a mid-range attendance scenario.

Table V-3
High Day Facility Parameters
Discovery Center

Annual Visitation / Factor		Low- Range Attendance [1/] 68,000	Mid- Range Attendance [1/] 79,000		High- Range Attendance [1/] 91,000
High Month at	14% of Attendance	9,520	11,060		12,740
High Week at	28% of High Month	2,666	3,097		3,567
High Day at	20% of High Week	533	619		713
Length of Stay		**2 hour stay**	**2 hour stay**	**2.5 hour stay**	**2 hour stay**
Length of Stay / Percent In-house		28%	28%	34%	28%
High in-house population		149	173	211	200
Visitor High Period Parking Demand [2/]		59	69	84	80
Public Space Sizing					
Public Space per Attendee	**25 SF/attendee**				
Range of Public Circulation Space (Rounded to Nearest 100)		3,700 SF	4,300 SF	6,300 SF	5,000 SF
Facility Sizing [3/]		**2.5 Times**	**2.5 Times**	**2.5 Times**	**2.5 Times**
Total Facility Net Size Range		9,250 SF	10,750 SF	15,750 SF	12,500 SF
Gross up @ 20%					
Total Facility Net Size Range		**11,100 SF**	**12,900 SF**	**18,900 SF**	**15,000 SF**

1/ Early year attendance may be fifteen percent higher or more.

2/ Based on 95 percent auto usage during high daytime periods. 2.5 persons per vehicle. Plus 5% turnover requirement. Staff and volunteer demand would generate additional demand for parking.

3/ These are broad planning parameters to test facility sizing. Non-circulation space includes exhibit footprint, back of house and so forth.

Source: ConsultEcon, Inc.

Ensuring adequate parking will also be critical to the market and operating success of the Discovery Center. The facility parking demand analysis in Table VI-3 for the Discovery Center indicates, based on the mid-range in-house attendance scenario, that an estimated

69 to 84 parking spaces would be required at peak periods.[8] The estimate of visitor parking demand does not include employee or volunteer parking, parking for special events, or bus parking. Employee and volunteer parking could add a need for 25 or more additional parking spaces.

Summary

An attendance potential range has been established for total stabilized attendance. Stabilized attendance levels are typically achieved in the third or fourth year after opening. Attendance potential at the Discovery Center in a stable year (Year 3) is estimated at 68,000 to 91,000, with a mid-range "best estimate" of 79,000. Most of the visitors would come from the resident market area with a small proportion of visitors that are tourists, usually visiting friends and relatives. At peak periods, the facility would have an estimated 170 to 210 visitors in-house under a mid-range attendance scenario requiring between an estimated 69 to 84 parking spaces at peak periods plus upwards of 25 spaces for staff and volunteers.

[8] The parking demand analysis is based on 95 percent automobile usage during peak periods and an average of 2.5 persons per vehicle.

Section VI
OPERATING POTENTIAL

This section provides an operational analysis of the Discovery Center, based on the preliminary project description and the mid-range of the attendance projections. As project planning advances, this analysis will need to be refined based on changes to the project concept and programming.

Benchmark educational attraction data for comparable facilities is provided in **Appendix A**. These data provide insights to the experience of individual institutions, and as a whole their experience is an input to the attendance and operational assumptions and analyses of this report.

Operating Revenues

Operating revenues of the Discovery Center will be derived mainly from admission ticket sales, but substantial additional revenue will be derived from sources such as gift shop sales, memberships, and use of the facility for day camps, after school programming, and birthday parties. Following is a review of the revenue potential of the Discovery Center.

Ticket Revenues

Data in **Table VI-1** present the assumed cost and distribution of tickets and ticket sales by visitor type as well as membership estimates. Members are assumed to enter free of charge with purchase of their annual membership. Ticket prices are assumed to be $8.00 for both adults and children. This ticket pricing policy is designed to reflect the quality experience proposed, but also to encourage strong attendance levels. Average per capita admissions revenue is a product of ticket prices and the mix of ticket types sold (adults, children, members etc.). Ticket price assumptions used in this report are in current dollars. Ticket prices are assumed to increase at a rate of 5 percent every other year.
Free / complimentary attendance would include attendances sponsored by a targeted grant or gift, special programs or free attendance periods, and other complimentary tickets.

Also included in this category are children under the age of 1 who would attend for free. The plan also includes a number EBT discounted tickets as well as an assumption of an average 3 percent discount to the overall achieved per-capita ticket price to reflect various ticket price discounts could be offered as attendance incentives and/or community benefits. Student group attendance will be an important component of visitation. The fees for student groups would be expected to range from a standard school group rate to discounted tickets to free attendance.

Data in **Table VI-2** present the five-year assumed distribution of attendance, tickets and ticket sales by type as well as memberships.

Memberships

Memberships can be an important revenue source. Membership to the Discovery Center has the potential to be substantial, because the type of educational offerings proposed are very repeatable, and the price of a family membership versus the price of general admission will be favorable. Free admission with the purchase of a membership is an important economic incentive for becoming a member. Data in Table VII-1 also review the membership estimates for the Discovery Center. This analysis has assumed that about 30 percent of attendance will be derived from members, based on about 1,100 memberships in a stable year, of which about 96 percent would be family memberships (offering free admission any open day of the year) and the remainder supportive memberships. Based on the value of a visit to the Discovery Center and the number of memberships forecast, an average of $133 per membership is estimated in current dollars. An assumed 48 sponsor and patron memberships are also incorporated in this analysis.

Table VI-1
Stable Year Admissions Analysis
Discovery Center

Per Capita Ticket Revenue

	% to Total Attendance	Attendance By Type	Achieved Ticket Price [3/]	Achieved Per Capita	Achieved Per Cap % to Subtotal
Adults	20.0%	15,800	$8.00	$1.60	40.8%
Children (1-10)	20.0%	15,800	$8.00	$1.60	40.8%
Student / School Group	10.0%	7,900	$4.00	$0.40	10.2%
Inclusive / Affordable	8.0%	6,320	$4.00	$0.32	8.2%
Members	30.0%	23,700	$0.00	$0.00	0.0%
Birthday Parties / Facility Rentals	5.0%	3,950	$0.00	$0.00	0.0%
Program / Camp Attendees [2/]	3.0%	2,370	$0.00	$0.00	0.0%
Free/Complimentary [3/]	4.0%	3,160	$0.00	$0.00	0.0%
Subtotal	**100.0%**	**79,000**		**$3.92**	**100.0%**
Other Discounts as a % of achieved per capita ticket revenue			-3.0%	($0.12)	
Total [4/]	**100.0%**	**79,000**		**$3.80**	

Memberships Estimates	Total	Membership Types	Percent to Total	Estimated Number of Memberships	Avg. Price By Type
No. of Member Attendances	23,700	Family	95.0%	1,131	$120
Average Annual Attendances Per Membership [5/]	20	Sponsor	4.0%	48	$250
Est. Total Memberships	**1,190**	Patron	1.0%	12	$500
		Total	**100.0%**	**1,191**	**$129.07**
Potential Membership Revenue	$153,510	**Rounded:**			**$129.00**

[1/] Inclusive / affordable ticket prices might be available for example to EBT Card Holders, through libraries etc..

[2/] Program attendee revenue is not admission ticket based, and is included separately.

[3/] Includes complimentary tickets, children under one year old, VIPs, etc.

[4/] Achieved ticket prices in current dollars, with assumed inflation rate thereafter.

[5/] Typical families assumed at 4 persons.

Source: ConsultEcon, Inc.

Table VI-2
Attendance, Ticket Revenue and Membership Assumptions
Discovery Center

% to Total Attendance		Year 1	Year 2	Stable Year 3	Year 4	Year 5
Adult		24.0%	23.0%	20.0%	20.0%	20.0%
Children (2-10)		24.0%	22.0%	20.0%	20.0%	20.0%
Student Group		9.0%	9.5%	10.0%	10.0%	10.0%
Indusive / Affordable		8.0%	8.0%	8.0%	8.0%	8.0%
Members		25.5%	27.0%	30.0%	30.0%	30.0%
Birthday Parties / Facility Rentals		4.0%	4.5%	5.0%	5.0%	5.0%
Program / Camp Attendees [1/]		2.0%	2.5%	3.0%	3.0%	3.0%
Free/Complimentary [2/]		3.5%	3.5%	4.0%	4.0%	4.0%
Total		**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Attendance By Type						
Adult		21,804	19,079	15,800	15,879	15,958
Children (2-10)		21,804	18,249	15,800	15,879	15,958
Student Group		8,177	7,880	7,900	7,940	7,979
Indusive / Affordable		7,268	6,636	6,320	6,352	6,383
Members		23,167	22,397	23,700	23,819	23,937
Birthday Parties / Facility Rentals		3,634	3,733	3,950	3,970	3,990
Program / Camp Attendees [1/]		1,817	2,074	2,370	2,382	2,394
Free/Complimentary [2/]		3,180	2,903	3,160	3,176	3,192
Total		**90,850**	**82,950**	**79,000**	**79,395**	**79,790**
Ticket Price Analysis [3/]						
Adult		$8.00	$8.00	$8.40	$8.40	$8.80
Children (2-10)		$8.00	$8.00	$8.40	$8.40	$8.80
Student Group		$4.00	$4.00	$4.20	$4.20	$4.40
Indusive / Affordable		$4.00	$4.00	$4.20	$4.20	$4.40
Members		$0.00	$0.00	$0.00	$0.00	$0.00
Birthday Parties / Facility Rentals		$0.00	$0.00	$0.00	$0.00	$0.00
Program / Camp Attendees [1/]		$0.00	$0.00	$0.00	$0.00	$0.00
Free/Complimentary [2/]		$0.00	$0.00	$0.00	$0.00	$0.00
Less Coupons & Discounts @	-3.0%	($0.14)	($0.13)	($0.12)	($0.12)	($0.13)
Per Capita Average Revenue		**$4.38**	**$4.17**	**$3.99**	**$3.99**	**$4.18**
Membership Analysis						
Membership Attendance		23,167	22,397	23,700	23,819	23,937
Individual & Family Memberships		1,160	1,120	1,190	1,190	1,200
Average Membership Fee [3/]		**$129.00**	**$129.00**	**$135.00**	**$135.00**	**$142.00**

[1/] Program attendee revenue is not admission ticket based, and is included separately.

[2/] Includes complimentary tickets, children under two years old, VIPs, etc.

[3/] Ticket prices and membership fees in current dollars in Year 1. Ticket prices and membership fees are assumed to increase at a rate of 3.02% every other year, thereafter.

Source: ConsultEcon, Inc.

Operating Assumptions

Data in **Table VI-3** provide a range of operating and revenue factors for the operating and financial analysis.[9] These assumptions form the basis for the revenue potential for the Discovery Center. In general, they are informed by the experience of comparable facilities nationally and regionally. Other revenue assumptions are described in more detail below.

Retail and Other Sales

Gift shop sales are an important revenue source for educational and cultural attractions. Following is a discussion of some of the issues relating to retail shop sales volume. Visitor spending of $1.00 per capita is assumed for the gift store for all visitors plus 5 percent additional sales as a percentage of total visitor retail sales from those not visiting the Discovery Center, just the store. Cost of goods sold is estimated at 50 percent of gross sales. The per capita sales estimates used in this report are typical of educational attractions that offer a fully stocked and professionally operated gift shop.

Food Service

Educational attraction visitors typically desire a drink or a light snack when they visit. However, economies of scale dictate that profitably operating extensive food service facilities typically requires higher attendance than the attendance potential at the Discovery Center. As there are limited food service offerings nearby, this analysis assumes food service in the form of a kiosk or food cart at the facility, which would serve light snacks and beverages to visitors and potentially could also serve nearby land uses. The food service at this scale is typically operated by a local subcontractor caterer or restaurant.

[9] Annual inflation rate is assumed at 2 percent and Year 1 data is presented in 2018 dollars.

Table VI-3
Operations Analysis Assumptions in Current Dollars
Discovery Center

General		**Notes**
Total Building Area	20,000	square feet
Interior Exhibit Size	8,350	square feet
Site Size	1.5	acres
Number of Dedicated Parking Spaces	50	for visitors, staff and volunteers
Mid-Range Attendance	79,000	Stable Year
Inflation	2.0%	
Annual Attendance Growth after Year 3	0.5%	
Admission Fees and Revenue		
Ticket Price	$8.00	Adults and Children
Per Capita Ticket Revenue	$3.80	
Ticket and Membership Price	5.0%	Increase Every Other Year
Coupons & Discounts	-3.0%	of Achieved Per Capita Ticket Revenue
Family & Supportive Memberships		
Number of Family & Supportive Memberships	1,190	Stable Year
Average Membership Fee	$129	Year 1
Annual Attendances Per Membership	20	
Retail		
Per Capita Retail Sales	$1.00	
Cost of Goods Sold as a % of Retail Sales	50%	
Outside Sales as a Percent of Retail Sales	5%	
Food Service [1/]		
Per Capita Food Cart / Vending Sales	$1.25	
Facility Share of Gross Sales [1/]	11%	

Table VI-3 (Continued)
Operations Analysis Assumptions in Current Dollars
Discovery Center

Day Camps		
Number of Weeks of Day Camp Per Year	8	Day camps offered during the summer and
Average Campers per Week	30	during school breaks.
Estimated Total Campers	240	Each camper averages 5 days on-site
Average Gross Revenue per Camper per Week	$300	
Add-On & After School Programs		
Number of Add-On Program Days Per Year	150	Programs offered in addition to individual
Average Attendees per Add-On Program	14	and school group museum admission, such
Total Program Attendees	2,130	as after school programs, program for home
Average Gross Revenue per Attendee	$12	schoolers, and other enrichment programs.
Birthday Parties & Facility Rentals		
Number of Parties & Rentals Per Year	150	Includes small-scale private events, such as
Average Number of Attendees Per Rental	22	birthday parties.
Total Birthday Party & Facility Rental	3,300	
Average Gross Revenue Per Rental	$300	
Other Revenue As a % of Earned Revenue	2%	

[1/] Food service is represented by a limited menu food cart. Assumes that food cart is accessible by both museum visitors and non-visitors. Assumes outside caterer provides food service.

Source: ConsultEcon, Inc.

Based on these factors, per transaction food service sales are estimated at $1.25 per capita. The Discovery Center's net proceeds are assumed at 11 percent of gross food sales. These food service performance factors are typical of educational attractions that offer professionally operated supplementary food service. Actual food service results will vary based on the final size of the food service offerings, the menu offered, the periods it is open (days and hours of the day), the extent of vending offered, and the type of contractual relationship that is established with an outside vendor. Generally, at the Discovery Center's scale of size and attendance, food service is provided more as a visitor amenity than as a major profit center. Ultimately, the focus should be on providing the best food service value at a break even or modest positive cash flow.

Camps and Other Programs

The Discovery Center is advised to offer day camps and add-on programming, which will generate additional revenue beyond gate admissions revenue, and provide a valued community service. There are assumed to be 8 weeks of day camp during the summer, with an average of 30 campers per week. The average gross revenue per camper per week is $300.

Add-on and after school programs would include drop-in and scheduled programming and after school programs at the Discovery Center. There are assumed to be 150 add-on programs per year. There are assumed to be an average of 13 attendees per add-on program, paying $15.00 inclusive of Discovery Center admission. These attendees are counted in the attendance analysis as program and camp attendees. Camps and programs will ramp up during the first few years of operations, but will be operating at full capacity by the stable year.

Birthday Parties and Facility Rentals

In addition to programs, private group rentals such as birthday parties should be offered. Birthday parties and facility rentals are an important revenue source for Educational attractions. This analysis assumes 150 birthday parties and rentals in a mid-range scenario in a stable year with an average gross revenue per birthday party / rental of $300.

Other Revenues

These may include stroller rentals, locker rentals, and sponsorships with advertising benefits, interest on accounts, and other miscellaneous revenues. These are estimated to be 2 percent of total earned revenue.

Revenue Potential Summary

Data in **Table VI-4** present an estimate of revenue potential in a stable year, based on the attendance potential, ticket pricing, membership, and other revenue assumptions. The initial years of operation benefit from higher attendance levels than is expected in the stable year. The earned revenue estimate is shown in both current dollars and future dollars, assuming a 2 percent annual inflation rate. The actual dollar amounts for Year 1 and subsequent years will depend on future rates of inflation, project performance, and the number of years the project takes to develop before opening.

The stable year earned revenue potential for the Discovery Center is estimated to be approximately $716,000 in current dollars based on the findings and assumptions of this report.

Table VI-4
Earned Revenue Potential
Discovery Center

	YEAR 1	YEAR 2	Stable YEAR 3	YEAR 4	YEAR 5	Stabilized Year	Stable Year
TOTAL ATTENDANCE	90,850	82,950	79,000	79,395	79,790	79,000	**Percent to Total**
REVENUE [1/]						**In Current Dollars**	
Ticket Revenue	$398,323	$345,984	$315,409	$316,986	$333,733	$303,161	42.3%
Family & Supportive Membership Revenue	149,640	144,480	160,650	160,650	170,400	154,412	21.6%
Gross Retail	95,393	88,839	86,301	88,467	90,686	82,950	11.6%
Food Service Net Revenue	12,492	11,634	11,301	11,585	11,875	10,863	1.5%
Day Camps [2/]	36,000	55,080	74,909	76,407	77,935	72,000	10.1%
Add-On Programs [3/]	20,364	23,180	26,593	27,275	27,975	25,560	3.6%
Birthday Parties & Facility Rentals [3/]	51,000	52,020	56,182	57,305	58,451	54,000	7.5%
Other Revenue	14,244	13,384	13,503	13,627	14,252	12,979	1.8%
TOTAL EARNED REVENUE	**$777,455**	**$734,601**	**$744,848**	**$752,303**	**$785,307**	**$715,925**	**100.0%**

[1/] Year 1 Revenue in current dollars, with assumed inflation rate thereafter, with the exception of ticket revenue and membership fees which are assumed to

[2/] Camps assumed to start in Year 1 at 50% capacity, in Year 2 at 75% capacity, and continue in Years 3 through 5 at full capacity.

[3/] Add-On and After School Programs and Birthday Parties & Facility Rentals assumed to ramp up to Year 3 to full capacity.

Source: ConsultEcon, Inc.

OPERATING AND MANAGEMENT PROFILE

The operating expense estimates for the Discovery Center were prepared to reflect the proposed facility program as informed by the experience of other facilities comparable to the Discovery Center. The expenses reflect a tightly operated project with a "bottom line" orientation. Inputs to the operating expenses analyses include the experience of comparable facilities and the proposed "metrics" of the facility – its size, program and attendance potential. It should be noted, however, that each comparable facility has its unique characteristics, programs and operating procedures – the experience of other comparable facilities should be regarded as a guide for planning only. Increasingly detailed operating expense plans can be made in subsequent planning, design and construction phases.

Personnel

Personnel are a key component to an operating plan for educational attractions. The proposed program for the Discovery Center indicates a need for approximately 11 full-time and 20 part-time positions for a total of 21.0 full time equivalent (FTE) employees. In addition, a number of part-time volunteers are assumed to support some of the positions as shown by data in **Table VI-5**. The estimated salary budget for the personnel is approximately $753,000 in current dollars with an estimated average taxes and fringe of 18 percent of total salaries in addition. The salaries assumed in this analysis are prototypical for the industry and are not meant to set the compensation for a particular position. Overall, they are indicative of the salaries that should be anticipated for the Discovery Center. Paid staff positions would be supplemented by volunteers, who would have interpretive duties as well as assisting with education, visitor services, marketing, events and other important functions. The total payroll for the Discovery Center, based on this staffing profile, is estimated at $890,000 inclusive of overhead and benefits. Personnel direct salary and fringe benefit costs including seasonal and intern wages are approximately 66 percent of total facility operating expenses.

Table VI-5
Proposed Personnel Plan in Current Dollars
Discovery Center

Title/Position	Number of Full-Time	Number of Part-Time	Number of Part-Time Volunteers	Assumed Full Time Equivalent (FTE) Annual Salary	Total Salary	Function
Administration, Finance & Operations						
Children's Museum Director	1			$85,000	$85,000	Carries out policies set forth by Museum board of directors, supervises entire museum operation, personnel hiring, leads fundraising and development.
Controller		1		$50,000	$25,000	Manages budget, accounts payable and receivable, payroll and financial reports.
Development Director / Membership Manager	1			$60,000	$60,000	Coordinate contributed revenue budget, manage development campaigns and activities including special donor events. Works with development director to manage contributed revenue and special activities for members.
Office Manager	1			$32,000	$32,000	Provide administrative, financial, and operations staff with support in back of house and administrative activities, bookkeeping
Operations Director and Store Manager	1			$40,000	$40,000	Manages museum store, buying, merchandising recruit and train volunteers, oversee volunteers & floor staff, scheduling oversee admissions department.
Volunteer Coordinator		1		$30,000	$15,000	Coordinates schedules and assignments of volunteers, trains volunteers, interns, and other temporary and seasonal staff across museum departments and areas of operations.
Information Technology		1		$45,000	$22,500	Manages internal information networks.
Facilities / Maintenance Manager	1			$45,000	$45,000	Interface with facility contractors and museum personnel, supervise building personnel, assist in selected mechanical & facility repairs.
Custodians		2		$25,000	$25,000	Maintain facility and exterior areas.
Marketing & Events						
Marketing and Events Manager	1			$45,000	$45,000	Carries out major marketing and event coordination, develops promotional materials.
Marketing Assistant		1	1	$32,000	$16,000	Assist with marketing and development mailings, prepare and support special events, miscellaneous duties.
Event Assistant		1	2	$28,000	$14,000	Assist with special events, facility rentals, birthday parties, misc. duties.

Table VI-5 (Continued)
Proposed Personnel Plan in Current Dollars
Discovery Center

Title/Position	Number of Full-Time	Number of Part-Time	Number of Part-Time Volunteer Positions	Assumed Full Time Equivalent (FTE) Annual Salary	Total Salary	Function
Programs & Exhibits						
Programs & Exhibits Manager	1			$48,000	$48,000	Develop, plan & maintain exhibits & exhibit floor, oversee program development / staff. 'Implement after-school and camp programs and assist in educational programming development.
Exhibit technicians		1		$35,000	$17,500	Maintain on-site exhibits for safety and functionality.
Lead Educator	1			$36,000	$36,000	Develop and plan educational programming.
Education Assistant		1	4	$28,000	$14,000	Support after-school and camp programs, and assist with birthday parties. Support regular museum education staff. Maintain education exhibits, [illegible]
Visitor Experiences						
Floor Staff - Full Time	2			$28,000	$56,000	Manage visitor experiences and assist during daytime and evening events.
Floor Staff - Part Time		6	10	$26,000	$78,000	Manage visitor experiences and assist during daytime and evening events as well as assist with birthday parties.
Cashiers - Admissions/Retail - Full Time	1			$24,000	$24,000	Stock retail, admissions & cashier; support floor staff as necessary.
Cashiers - Admissions/Retail - Part Time		5	4	$22,000	$55,000	Stock retail, admissions & cashier; support floor staff as necessary.
Total Salaries					$753,000	
Taxes & Fringe Estimated at	18%				$135,540	Benefit amounts and ratio to salaries is based on the planned employee mix.
Total Salaries, Taxes & Fringe					$888,540	
Total Personnel	**11**	**20**				
FTE Equivalent Positions [1/]	**21.0**					
Number of PT Volunteer Positions			**21**			
Avg. annual hours worked:			300	[2/]		It should be noted that this is a core of volunteers making substantial time investments in the museum. In addition, there will likely be a large number of other volunteers who work on a lesser level for special events, programs and fundraisers.
Volunteers needed to fill each part time positions:			3.5			
Total Volunteers Needed			74			

[1/] FTE -- Full Time Equivalent positions are estimated based on full time personnel plus part time workers at 50% of full time.
[2/] Average hours per volunteer based on 50 weeks at 6 hours per week.
Source: American Alliance of Museums National Comparative Museum Salary Survey, 2014; ConsultEcon, Inc.

Non-Personnel Operating Expenses

Data in **Table VI-6** provide a stable year attendance operating expense estimate in current dollars based on detailed factors for individual expense items for the Discovery Center. Expense categories include the following:

Exhibit Reinvestment and Maintenance

Reinvestment in the exhibits is essential to maintaining a "fresh" face to the public and in keeping all exhibits in good working order. The full replacement of exhibit areas over time would be based on new capital campaigns, and the costs would be a capitalized expenditure. Annual repair and improvement however should be budgeted as a recurring and ongoing process. This operation expense schedule budgets for an annual sum estimated on a per-attendee basis to reflect the wear and tear on the exhibit areas.

Changing Exhibitions Procurement

The lease and/or production of changing exhibits is an increasingly important component of educational attraction operations nationally. Changing / traveling exhibits help an educational attraction to offer new subjects and concepts to the public. Temporary exhibits produced in-house provide an opportunity to focus on local topics and to utilize in-house expertise and creativity. Traveling and temporary exhibitions also helps to generate new and repeat visitation. Several changing exhibits would be expected to be offered annually. This budget accounts for a certain annual allocation for such purposes, based on industry standards for traveling and temporary exhibit programs.

Table VI-6
Stable Year Operating Expenses in Current Dollars
Discovery Center

Project Parameters					
Museum Gross Square Footage	20,000				
Museum Exhibit Square Footage	8,350				
Annual Attendance	79,000				
Full-Time Equivalent Employees (FTEs)	21.0				
Volunteer Part Time Workers	74.0			See Personnel Schedule	**Percent To Total**
Detailed Budgetary Analysis	**Annual Amount**			**Expense Factors** [1/]	
Full and Part-Time Personnel	$753,000			See Personnel Schedule	55.7%
Personnel Taxes & Fringe	135,540		18.0%	Based on employee mix	10.0%
Professional Services	21,000	@	$1,000	Per FTE	1.6%
Development Activities	20,000			Budgeted	1.5%
Supplies, Materials & Birthday Party Expenses	31,500	@	$1,500	Per FTE	2.3%
Travel & Staff Development, Dues & Subscriptions	5,250	@	$250	Per FTE	0.4%
Communications / Online / Website	15,750	@	$750	Per FTE	1.2%
Postage & Shipping	2,100	@	$100	Per FTE	0.2%
Equipment Rental/ Lease	15,750	@	$750	Per FTE	1.2%
Advertising	59,250	@	$0.75	Per Attendee	4.4%
Printing & Publications	19,750	@	$0.25	Per Attendee	1.5%
Events and Programs	15,000			Budgeted	1.1%
Changing Exhibits	20,000			Budgeted	1.5%
Exhibit Reinvestment / Maintenance	39,500	@	$0.50	Per Attendee	2.9%
Retail Cost of Goods Sold (COGS)	41,475	@	50%	Of Gross Retail Sales	3.1%
Volunteer uniforms, gratuities & social events	7,400		$100	Per Volunteer PT	0.5%
Utilities	45,000	@	$2.25	Per Interior SF	3.3%
Insurance	25,000	@	$1.25	Per Interior SF	1.8%
Repairs & Maintenance Interior & Exterior	30,000	@	$1.50	Per Interior SF	2.2%
Other Miscellaneous / Contingency	10,000	@	$0.50	Per SF	0.7%
Subtotal Operating Expenses	**$1,312,265**				**97.1%**
Capital Reserves	**$39,368**			**3% of Total Op. Expenses**	**2.9%**
Total Operating Expenses	**$1,351,633**				**100.0%**
Operating Analysis					**% to Total**
Operating Expense Per Gross SF	$68			Personnel Costs	65.7%
Operating Expense Per Exhibit SF	$162				
Operating Expense Per Visitor	$17			Non Personnel Costs	34.3%
Attendees Per FTE	3,762				
Op. Exp. Per FTE	$64,363			Taxes & Fringe per FTE	$6,454
Square Feet Per FTE	952			Taxes & Fringe Per Employee	$4,372

[1/] Factors are based on industry standards and the specific attributes of the project and local conditions.

[2/] Capital Reserves include funds for equipment replacements and minor capital for building improvements.

Source: ConsultEcon, Inc.

Supplies and Materials

Supplies and materials include consumable items such as office supplies, custodial and building maintenance supplies, paper products, educational aids and exhibit consumables. Factors for supplies and materials have been provided for office, curatorial and educational/programming functions.

Advertising, Printing and Publications

Advertising, printing and publications include the design, production and distribution expenses for online, newspaper, broadcast or billboard advertising, and printed matter including office stationary and letterhead, press release packages and educational kits. Direct marketing and printing costs do not include associated personnel costs (which are included with personnel). The Discovery Center is expected to receive significant free publicity by local media stations and sources initially and over time. Cooperative marketing through the Joplin Convention and Visitors Bureau as well as regional and statewide visitor information and marketing channels is recommended.

Professional Services

Professional services include consulting fees, tax preparation and auditing, legal fees, and temporary office services, consulting contracts for marketing, benefits, information technology etc. These services are estimated on a per FTE basis.

Other Administrative Expenses

Other administrative expenses include communications expenses, postage and shipping, equipment rental, travel and development, dues and subscriptions, volunteer supplies and events, and other costs. Estimated other administrative expenses were based on the scale of the Discovery Center and industry experience. Other operating costs account for operating contingencies and discretionary departmental expenses.

Utilities, Repairs and Maintenance, and Insurance

The utility costs for the Discovery Center were estimated on a preliminary basis from comparable discovery center and children's museum data. The utilities budget includes electricity costs, air handling (HVAC), exhibit and general lighting, as well as other uses, energy for heating and cooling, public services, and charges for sewerage. Repairs and maintenance were based on a new building or newly renovated building, and insurance costs are based on typical amounts for educational attractions. Outside services may include trash hauling, landscape maintenance etc.

Gift Store Operations

The gift store is assumed to be set-up and operated by the Discovery Center and include diverse merchandise supporting the facility visitor experiences. Gift store personnel costs are included in the administration and retail staffing estimates. Cost of Goods Sold (COGS) is assumed at 50 percent of gross retail revenues.

Capital Reserves

A capital reserves fund should be in place to cover major non-recurring expenses for mechanical, electrical and plumbing repairs and maintenance contracts. These costs are expected to be less during the early years of operation due to new construction and extended warranty periods. Capital reserves may also contribute to future changing exhibits, minor building improvements and replacement of large equipment under heavy use such as exhibit lighting and HVAC units. This reserve can also double as an operating expense contingency fund in emergencies. Contributions to this fund are usually made from surplus net operating income, but can also be funded through fundraising. An annual budget of approximately 3 percent of total operating expenses for replacement reserves is included in this operating plan. This equals about $39,000 annually.

Non-Personnel Expense Budget

In a stable year of operations, the non-personnel expenses are estimated to total $424,000 annually in current value of the dollar. In addition, $39,000 is budgeted annually for Capital Reserves.

Total Operating Expenses

Based on project size, attendance and operating approach, a Total Operating Budget of $1,352,000 in current value of the dollar is estimated for the Discovery Center.

Operating Expense Profile

Data in **Table VI-7** summarize the operating expense trend for the first five years of operations.

Table VI-7
Estimated Operating Expenses
Discovery Center

Operating Expenses [1/]	YEAR 1	YEAR 2	Stable YEAR 3	YEAR 4	YEAR 5	Stabilized Year in Current Dollars	Percent to Total
Personnel Expenses	$888,540	$906,311	$924,437	$942,926	$961,784	$888,540	65.7%
Advertising, Printing & Publications	90,850	84,609	82,192	84,255	86,367	$79,000	5.8%
Administrative	118,750	121,125	123,548	126,018	128,539	$118,750	8.8%
Exhibits, Events & Programs	80,425	78,005	77,510	79,270	81,069	$74,500	5.5%
Retail COGS	47,696	44,420	43,151	44,234	45,343	$41,475	3.1%
Occupancy	110,000	112,200	114,444	116,733	119,068	$110,000	8.1%
Subtotal Operating Expenses	**$1,336,261**	**$1,346,669**	**$1,365,281**	**$1,393,435**	**$1,422,169**	**$1,312,265**	**97.0%**
Capital Reserves [2/]	$40,088	$40,400	$40,958	$41,803	$42,665	$40,155	3.0%
Total Operating Costs	**$1,376,349**	**$1,387,069**	**$1,406,239**	**$1,435,238**	**$1,464,835**	**$1,352,420**	**100.0%**

[1/] Year 1 shown in current dollars with assumed inflation rate thereafter.
[2/] Capital Reserves include funds for equipment replacements and minor capital for building improvements.
Source: ConsultEcon, Inc.

Project Net Operating Income Potential

The Discovery Center has substantial capacity to generate earned revenue. At the same time, this is a complex and labor-intensive operation. Based on the detailed revenue potential and operating expense analyses presented earlier, data in **Table VI-8** provide combined operating revenue and operating expense estimates for the Discovery Center as stand-alone operation, based on a mid-range attendance scenario. In the early years of the project, when attendance is higher than in a stable year, earned revenue may be higher than the stabilized operating year. Over a five-year period there will be some variability in net operating income based on the years' individual circumstances. Different attendance levels would create somewhat different operating profiles and would require different operating plans.

In a stabilized year, the non-earned revenue requirement is approximately $636,000 for breakeven operations. The analysis indicates that stable year earned revenues represent 45 percent of total needed revenues to support operations in a stable year (including capital reserves). This operating model, however, does not account for building rent or land lease, which if required would increase operating costs and the amount of Non-Earned Revenues required. While some comparable institutions have lower earned revenue ratios and some have higher ratios, this 45 percent ratio is typical of educational attractions depending on their circumstances.

Table VI-8
Net Income Summary
Discovery Center

	YEAR 1 [1/]	YEAR 2	Stable YEAR 3	YEAR 4	YEAR 5	Stable Year in Current Dollars
Earned Revenue	$777,455	$734,601	$744,848	$752,303	$785,307	$715,925
Operating Expenses	$1,336,261	$1,346,669	$1,365,281	$1,393,435	$1,422,169	$1,312,265
Capital Reserves	$40,088	$40,400	$40,958	$41,803	$42,665	$40,155
Net Operating Income Before Non-Earned Revenues	**($598,894)**	**($652,468)**	**($661,391)**	**($682,935)**	**($679,527)**	**($636,495)**
Non-Earned Revenue Requirement	$598,894	$652,468	$661,391	$682,935	$679,527	$636,495
Net Income After Non-Earned Revenue Requirement	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

[1/] Year 1 shown in current dollars with assumed inflation rate thereafter.
Source: ConsultEcon, Inc.

Non-Earned Revenue Requirement

The Discovery Center will, and must, be active in generating substantial contributed (non-earned) revenues for the facility. The facility is expected to engage in ongoing fundraising, to establish financial reserves and endowment, and to secure operating grants and government sector support. Virtually all educational attractions require contributed revenues, including gifts, grants, and endowments, to supplement earned revenues. Contributed revenues should be targeted at levels higher than contained herein, as these would allow more robust levels of service provision, would create revenues to cover shortfalls in earned revenue that may occur, and could contribute to increasing the financial reserves and endowment the Discovery Center should build over time.

Summary

Based on the analysis in this report, Discovery Center has the potential to operate successfully over time, if the assumptions regarding quality of facility development, operations and fundraising are met. This project will derive substantial income from admission tickets, memberships, programs and retail; however, active and successful fundraising is necessary to sustain the Discovery Center. In this scenario, Discovery Center earns about $716,000 or 55 percent of the revenues needed to support the facility's $1.31 million annual operating costs. A directed set of fundraising and giving programs will be needed in addition. The operating plan is based on stable year performance. The operating profile of the facility is similar to many of the comparable educational attractions, whose operating profiles and strategies have been used in preparing the operating plan. Diversified and creative sources of revenue and sound fiscal management will assist the Discovery Center to sustain its operations.

APPENDIX A

BENCHMARK EDUCATIONAL ATTRACTION DATA

Table A-1
Benchmark Attractions
Discovery Center

Museum Name:	City:	State:	Total reported attendance for on-site visits (all locations):	Total FTE (full-time equivalent) Staff [2]	Total reported square feet	Total Operating Income:(US Museums 990: Part 1, line 12)	Total Earned Income (Reported)	Earned Income per Attendee	Total Operating Expenses:(US Museums 990: Part 1, line 18)	Operating Expense per Attendee	Operating Expense per FTE	Operating Expense per Square Foot
Children's Museum of Eau Claire	Eau Claire	WI	68,000	9	15,000	$459,721	$248,297	$3.65	$468,776	$6.89	$52,086	$31.25
Hands On Children's Museum	Olympia	WA	297,676	45	28,000	$3,055,255	$2,229,254	$7.49	$2,802,527	$9.41	$62,978	$100.09
Interactive Neighborhood for Kids	Gainesville	GA	70,000	9	24,000	$473,227	$422,883	$6.04	$458,654	$6.55	$53,959	$19.11
LaunchPAD Children's Museum	Sioux City	IA	44,000	8	10,000	$1,137,620	$407,073	$9.25	$576,994	$13.11	$72,124	$57.70
Lincoln Children's Museum	Lincoln	NE	150,000	19	72,000	$1,329,452	$1,120,380	$7.47	$1,423,895	$9.49	$74,942	$19.78
San Luis Obispo Children's Museum	San Luis Obispo	CA	55,000	7	8,400	$380,242	$314,118	$5.71	$490,513	$8.92	$70,073	$58.39
Scott Family Amazeum	Bentonville	AR	302,000	41	55,000	$3,926,000	$2,463,000	$8.16	$2,491,000	$8.25	$61,506	$45.29
The Children's Museum of Greater Fall River	Fall River	MA		4	30,000	$169,990	$85,769	NA	$190,009	NA	$54,288	$6.33
The Children's Museum of Green Bay	Green Bay	WI	69,103	12	15,000	$530,979	$263,318	$3.81	$942,716	$13.64	$78,560	$62.85
The Discovery Center of the Southern Tier	Binghamton	NY		18		$868,460	$676,441	NA	$905,964	NA	$51,769	NA
The Sandbox Children's Museum	Hilton Head Island	SC	25,000	5	2,500	$330,095	$133,460	$5.34	$284,170	$11.37	$56,834	$113.67
Wise Wonders Children's Museum	Billings	MT	15,000	3	3,200	$124,113	$32,883	$2.19	$54,990	$3.67	$18,330	$17.18
Wonderfeet Kids' Museum	Rutland	VT	14,945	4	3,000	$223,134	$62,258	$4.17	$186,757	$12.50	$46,689	$62.25
Kidzu Children's Museum	Chapel Hill	NC	75,000	24	11,396	$910,819	$324,225	$4.32	$855,667	$11.41	$36,411	$75.08
Above & Beyond Children's Museum	Sheboygan	WI	32,000	7	12,000	$226,753	$138,752	$4.34	$266,981	$8.34	$41,074	$22.25
Children's Museum of Science and Technology	Troy	NY		15	12,000	$796,323	$275,012	NA	$901,893	NA	$60,126	$75.16
expERIEnce Children's Museum	Erie	PA	55,000	9	12,000	$475,866	$172,906	$3.14	$366,457	$6.66	$40,717	$30.54
Mt. Pleasant Discovery Museum	MT PLEASANT	MI	45,000	8	12,000	$329,935	$252,775	$5.62	$525,038	$11.67	$65,630	$43.75
Northwoods Children's Museum	Eagle River	WI	27,242	7	12,000	$277,416	$232,724	$8.54	$334,177	$12.27	$47,740	$27.85
Kidcity Children's Museum	Middletown	CT	99,747	10	13,500	$733,784	$715,352	$7.17	$816,115	$8.18	$85,907	$60.45
Children's Discovery Museum of the Golden Crescent	Victoria	TX		5	15,000	$884,317	$198,486	NA	$258,250	NA	$51,650	$17.22
Kids 'N' Stuff	Albion	MI		6	15,000	$195,592	$63,789	NA	$228,389	NA	$38,065	$15.23
Lynn Meadows Discovery Center	Gulfport	MS	93,000	17	15,000	$1,036,229	$851,854	$9.16	$1,322,273	$14.22	$80,138	$88.15
Discovery Place Kids-Rockingham	Rockingham	NC	30,883	6	17,300	$852,930	$191,235	$6.19	$1,452,004	$47.02	$242,001	$83.93
Children's Museum & Theatre of Maine	Portland	ME	114,000	18	17,570	$1,329,541	$874,655	$7.67	$1,221,731	$10.72	$67,874	$69.54
OH WOW!	Youngstown	OH	64,000	9	17,820	$482,457	$235,199	$3.67	$719,300	$11.24	$84,624	$40.36
Kearney Area Children's Museum	Kearney	NE	53,000	10	18,000	$301,243	$106,125	$2.00	$266,041	$5.02	$28,004	$14.78
McKenna Children's Museum	New Braunfels	TX	86,000	8	18,000	$750,000	$500,000	$5.81	$500,000	$5.81	$62,500	$27.78
Children's Museum of Southern Minnesota	Mankato	MN	96,000	21	22,000	$1,780,611	$222,772	$2.32	$1,096,101	$11.42	$52,195	$49.82
Discovery Center	Murfreesboro	TN	70,000	9	24,000	$473,227	$422,883	$6.04	$458,654	$6.55	$53,959	$19.11
Average			***82,064***	***12***	***18,300***	***$828,177***	***$474,596***	***$5.57***	***$762,201***	***$10.97***	***$63,092***	***$46.72***
Median			***68,000***	***9***	***15,000***	***$506,718***	***$258,047***	***$5.71***	***$512,519***	***$9.49***	***$55,561***	***$43.75***

[1] Data is MSA Population from 2010 US Census, except where cities are part of very large MSAs, in which case County population data are considered more appropriate for comparison purposes.

[2] FTE is calculated as full-time staff plus one-half part-time staff.

Source: ACM Data Query of selected museums, survey responses from 2016; US Census 2010; and ConsultEcon, Inc.

APPENDIX B

ASSUMPTIONS

1. The size and design of the Discovery Center will create a high quality, stimulating attraction with broad-based audience appeal and a distinctive image. The Discovery Center will be a unique attraction in the region and the nation. This distinction will give it further visibility as a "must-see" attraction. The entrances to the site will be highly visible and well signed.
2. The Discovery Center will be competently and effectively managed. An aggressive promotional campaign will be developed and implemented. This program will be targeted to prime visitor markets. The admission price will be consistent with the entertainment and educational value offered, and with current attraction admissions prices for other comparable visitor attractions.
3. There will be no physical constraints to impede visitors to the Discovery Center, such as major construction activity. Changes in economic conditions such as a major recession or major environmental problems that would negatively affect operations and visitation will not occur in the near future.
4. Every reasonable effort has been made in order that the data contained in this study reflect the most accurate and timely information possible and it is believed to be reliable. This study is based on estimates, assumptions and other information developed by ConsultEcon, Inc. from its independent research efforts, general knowledge of the industry, and consultations with the client. No responsibility is assumed for inaccuracies in reporting by the client, its agents and representatives, or any other data source used in the preparation of this study. No warranty or representation is made that any of the projected values or results contained in this study will actually be achieved. There will usually be differences between forecasted or projected results and actual results because events and circumstances usually do not occur as expected. Other factors not considered in the study may influence actual results.
5. Possession of this report does not carry with it the right of publication. This report will be presented to third parties in its entirety and no abstracting of the report will be made without first obtaining permission of ConsultEcon, Inc., which consent will not be unreasonably withheld.
6. This report may not be used for any purpose other than that for which it was prepared. Neither all nor any part of the contents of this study shall be disseminated to the public through advertising media, news media or any other public means of communication without the prior consent of ConsultEcon, Inc.
7. This report was prepared during August through April 2018. It represents data available at that time.