DEPARTMENT OF CULTURAL AFFAIRS
STATE OF NEW MEXICO

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OFFICE OF ARCHAEOLOGICAL STUDIES

July 17, 2026

Dear Stakeholder:

The *Star Axis Feasibility Study*, compiled by AEA Consulting, arrives at a fascinating crossroads for the cultural landscape of New Mexico, providing several operational blueprints for Charles Ross's monumental earthwork near Anton Chico. While the report maps out a state-run infrastructure framework as its baseline scenario, a practical examination of the site's unique physical and logistical realities suggests that direct state ownership introduces substantial, long-term liabilities. Star Axis, while a unique and impressive land art installation, faces constraints regarding potential visitation and access. The high-desert location requires navigating unpredictable unpaved roads, and the study notes that the structure presents significant challenges for standard accessibility compliance. When combined with a projected annual operating deficit—modeled at over $98,000, sole state management presents a highly challenging operational framework.

Stepping back to view this project within the broader scope of regional priorities, public leadership faces incredibly tough decisions about where and how to invest finite cultural dollars to serve the broadest possible visitor base. The existing network of state cultural facilities already faces heavy demands for its resources. Committing significant capital and administrative capacity to a remote, physically restricted property, which may face capacity constraints compared to other state cultural assets, forces difficult trade-offs against the urgent operational, preservation, and maintenance needs of established museums and historic sites that currently serve the public. While the study demonstrates that the state could technically step into an operational role, doing so successfully depends entirely on robust legislative support and long-term funding commitments, both of which remain to be seen in a highly competitive fiscal environment.

A more sustainable and fiscally responsible path forward may lie in a partnership model. By allowing a dedicated private foundation or non-profit entity to manage daily operations and hospitality, the project retains the necessary administrative nimbleness while protecting public funds from indefinite operational exposure. Under this partnership framework, the public sector could still play a powerful, collaborative role by anchoring public engagement where it is most logistically viable, provided the necessary legislative backing is secured.

Ultimately, the *Star Axis Feasibility Study* serves as a conceptual guide rather than an immediate mandate, mapping out choices that require careful deliberation over time. This document is intended to initiate a thoughtful, collaborative dialogue about what is genuinely sustainable for New Mexico. You are invited to review these findings not as a conclusion, but as an open floor for a vital conversation about the future of our shared cultural landscape.

Sincerely,

D Garcia y Griego

Debra Garcia y Griego



State of New Mexico
Star Axis Feasibility Study

AEA Consulting × NEW MEXICO DEPARTMENT OF CULTURAL AFFAIRS

June 16, 2026

Confidential

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Project Background

Star Axis is a monumental land art project by American artist Charles Ross located in the desert of New Mexico near the town of Anton Chico. It's one of the most ambitious and long-term earthworks ever undertaken—part sculpture, part observatory, and part architectural alignment with the cosmos.

As construction continues and the project nears completion, the Department of Cultural Affairs (DCA) would like to understand what the potential for the site will be, including partnerships, programming, educational initiatives and exhibitions.

Once the opportunities are defined, the DCA needs to understand what organizational and resource implications would be needed to support the site and its initiatives to ensure that the site creates a legacy and becomes a beacon of cultural tourism within the State of New Mexico.

Key outcomes of this work include:

- A market assessment outlining the opportunities, communities, cultural network, and State-wide initiatives that Star Axis could tap into to reach audiences
- Financial implications for an off-site visitor center, located near Star Axis but in a slightly more accessible location, with an operating budget of approximately $919,000, including a staff of 4 FTE. Highly focused on driving earned revenue through parking fees, seasonal/special events, retail and concessions, and premium experiences. The base case operating budget projects $885,000 of earned revenue through these sources
- An off-site visitor center site assessment and high-level space plan



Star Axis Visitor Experience Concept

To enable an experience that engages a broader set of visitors, we have envisioned a “Star Axis Complex” that would include:

- Star Axis itself
- the existing 1,500 sf Element House – designed by architects MOS) that houses overnight guests
- a new Visitor Center – allowing for deeper engagement from day-trip guests and providing support space for other programs and activities on/near site *(see page 5 for more details)*. The Visitor Center could be located either “on-site” (potentially to the north of Element House) or “off-site” (potentially near the turn-off to Star Axis on US-84, or further away along the highway).

The impacts of the collective operation of these elements are included in the business model discussed in Projected Financial Implications section of this document, which focus on an off-site visitor center operations. The financial implications of an on-site visitor center can be found in the Appendix.



Star Axis
(via staraxis.org)



Element House
(via elementhouse.org)

Summary Recommendations

Based on the analysis conducted during the work of this report, we would put forward the following three core recommendations to ensure a future Star Axis experience is set for success:

- **Ensure the future Star Axis operations are right-sized to likely demand** – The experience of the Star Axis site delivers a core part of its draw – but it not positioned in close proximity major population areas, nor directly on major transit corridors. Our analysis suggests a base case visitorship between 20,000 and 40,000 per year, given appropriate marketing and outreach – meaning the resulting operations need to be scaled at a level that can be sustainable at those figures. (It is also important to note that the Star Axis concept is developed as a more intimate experience – not one scaled to be a draw for thousands or even hundreds of people per day.)
- **Identify an off-site visitor center location to provide greater connective points** – An off-site visitor center, closer to population centers or transportation corridors, would provide additional opportunities for engagement and interpretation.
- **Leverage the holistic benefits of Star Axis** – This report identifies artistic, educational, social, and environmental benefits, as well as economic impacts from the future operations. A state-run (or privately-run facility with significant state contributions) would need these to demonstrate return for the ongoing investment required to sustain (or backstop) operations; a privately-run operation may instead leverage these to make a philanthropic case for ongoing support.

The base case in this report discusses a state-run operation with an off-site visitor center, though we explore what alternative models – in particular, operation through a private entity – may prove to be more practical. We have also identified key risks and mitigating strategies that are worth considering as the State and Star Axis move forward.



AEA Consulting

Summary of Market Assessment

Please see the Appendix for more details

02

Star Axis can create public benefit as a pillar of artistic practice, multi-dimensional educational subject, motivation for conservation, and as a magnetic destination

Public Benefit Value	Star Axis Alignment
Artistic Value Nurturing and sustaining the cultural and creative industries ecosystem	• **Unique and powerful concept:** the possibility of translating celestial phenomena into a physical experience at human scale • **Inspiration for New Mexican artists:** core concept is powerful enough to inspire artists and creators: visitors may feel compelled to continue in this specifically New Mexican tradition of art-making and can apply learnings to their practices in unexpected ways • **Partnership with New Mexico museums** around interpretation and art-based tourism
Educational Value Building capabilities and promoting active citizenship	• **Multi-faceted resource:** an educational resource for the understanding of astrological phenomena, our relationships to the stars, the application of mathematics to art and sculpture, land conservation, and sustainable energy • **Aligned with curricula:** Nearby K-12 and higher education institutions have curricula and programs that could benefit from interaction with Star Axis
Social and Community Values Strengthening community revitalization, belonging, and social inclusion	• **Center for group and spiritual visits** such as summer solstice or group star viewings that foster a greater sense of belonging and togetherness for people who live in rural New Mexico • **Rural revitalization:** the site can draw visitors to rural towns such as Las Vegas and Santa Rosa, providing work and sustenance for their communities
Environmental Values Fostering strong sense of place and enhancing livability	• **Conservation:** as with many other examples of land art, Star Axis can motivate for conservation of land around the site, such as easements and dark sky regulation • **Sustainable energy:** the site can be an example for successful use of sustainable energy, as in the Element House, which lodges overnight visitors to Star Axis
Economic Value Stimulating innovation and fostering international engagement	• **International land art reputation:** builds New Mexico's international reputation for outdoor recreation, contemporary art, and, specifically, land art • **Pillar for multi-day visits** and visitor journeys in New Mexico that lead to increased visitor spending • **Synergy with focus industries**, including aerospace, energy, film and television, and outdoor recreation

Source: AEA Analysis

Challenges and vulnerabilities to owning and operating Star Axis center around remoteness, accessibility, funding, and governance

Challenges and vulnerabilities

Visitor policy

- **Tension must be resolved between premium visitation and general admission**
- Other similar land art sites are operated with limited and exclusive admission policies
- Artist intent is for limited and intimate overnight visits
- Maximization of public benefit by State requires higher investment in amenities, accessible ticket price, and expanded visitation availability

Geographic and physical accessibility

- **Access road** that leads visitors from State Route 84 to Star Axis is a dirt and can be **difficult to drive** in wet and unfavorable weather
- **Lack of public transportation** requires car ownership or privately-arranged shuttle to visit Star Axis
- Most of Star Axis' **built spaces are not designed to be ADA accessible** – changes that improve accessibility would come at the cost of aesthetics and the original design
- Limited nearby lodging and amenities may be limiting factor

Governance and funding

- Funding the operation of remote land art sites **requires institutional and philanthropic support** – visitor fees rarely cover more than a fraction of operating costs
- Will require **coordination and sourcing of supporting partners**
- Public-private partnership is common for similar sites: state ownership or policy preserves the land and non-profit operator manages operations
- Clear stakeholder responsibilities must be defined and met

Limited state capacity

- State ownership may lead to **bureaucratic challenges given limited resources** and capacity for site operations
- State ownership introduces recurring concern of **needing to justify arts and culture spending**

Source: AEA Analysis

Potential Star Axis visitors could include individuals within driving distance, New Mexico residents, students, and tourists

Data on population, education, and tourism help define the addressable audience for Star Axis and bounds on visitation levels



Population within driving distance to Star Axis

- **More than 1.68 million people live within a three-hour drive of Star Axis**, including Albuquerque, Santa Fe, and Las Vegas
- Approximately 6.6 million live within 5 hours driving to Star Axis, extending into Colorado Springs, El Paso, and Lubbock
- Car travel is the dominant mode of transportation for New Mexico visitors (71% of survey respondents)
- Star Axis is accessible from State Route 84, which connects Interstates 25 and 40; last-mile access requires a car



New Mexico Population

- **New Mexico's population grew by just 1.7% between 2015 and 2024 from 2.08 to 2.12 million**
- New Mexico's population has grown more diverse, more urban, and older over the past 10 years
- Population plateauing is driven by out-migration, birth rate declines, and low economic ranking



Education Audience

- There are **121,200 students enrolled in the five focus counties around Star Axis;** largest concentrations in Bernalillo and Santa Fe
- School enrollment in the state fell 11% over from 2015 and 2024
- **Star Axis intersects with New Mexico's K–12 science curriculum** at multiple grade levels and **several STEM-focused and arts-focused schools and higher education institutions** sit within a two-hour drive radius



Tourism

- In 2024 New Mexico broke tourism records for the third consecutive year: **visitor spending grew by $1.4 billion between 2019 and 2024, from $7.4 billion to $8.8 billion**
- **In 2024, New Mexico had 4.2 million visitors**: nearly twice the state's population
- Hotel Occupancy rates in Albuquerque and Santa Fe are below the 70–75% range generally associated with supply-constrained conditions

Source: AEA Analysis

Economic impact data underscores the importance of arts and culture in New Mexico; Star Axis fits in the ecosystem of attractions in New Mexico…

… and benchmarks provide lessons and models for potential ownership, operation, and governance of the Star Axis Site



Economic Impact of Arts & Culture in New Mexico

- Arts and culture generated **more than $740 million in direct economic activity in FY2022** in New Mexico
- Arts and culture in New Mexico generated **$106.1 million in tax revenue** for local, state and federal government
- Arts and hospitality account for 10% of New Mexico's jobs



New Mexico Arts & Culture Participation

- **8.2 million people attended in-person arts and culture events** in New Mexico in 2022
- **82%** of attendance was **by New Mexico locals**



Star Axis synergies

- **Other NM arts and culture organizations present potential synergies with Star Axis through tourism, programs, and research**
- Star Axis fits neatly into many existing New Mexican visitor journeys and can collaborate with other organizations on interpretation of Charles Ross' art, New Mexico's art history, astronomy and cosmology, and the inclusion of different perspectives
- Star Axis connects with the interests of the State of New Mexico's Economic Development Department's Target Industries: aerospace and energy (sciences), film and television, and outdoor recreation



Learnings from Benchmarks

- Governance models vary and include sole non-profit owner and operator, operating license issued by government to non-profit operator, federal agency ownership and management, lease to a non-profit operator, and public university ownership with philanthropic support
- The State government has multiple tools for engagement: for New Mexican benchmarks, the state used easements to protect landscapes
- Earned income alone does not cover operating costs at benchmark remote or access-controlled sites

Source: AEA Analysis

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Demographic Overview

New Mexico's population is plateauing and becoming more diverse, urban, and older; housing values have increased, as households increased and vacancy rates declined

Demographic Trends and Drivers

Demographic Shifts

- **Plateauing population growth:** NM population grew 1.7% from 2015 to 2024
- **Aging population:** population 60+ grew, population <19 and 20-29 decreased
- **Increasing diversity:** From 2015-2024, Native American population grew 6%, Hispanic population increased 4%
- **Urban growth concentration** including Bernalillo and Santa Fe counties

Demographic Drivers

- Low population in New Mexico growth is driven by:
  - **Out-migration** through domestic migration losses
  - **Birth rate decline** and accelerating natural population decrease
  - **Low economic ranking** and higher economic desirability in neighboring states

Housing and Household Trends

- **Number of housing units increased by 5.2%** from 2015 to 2024
- **Vacancy rates declined across New Mexico,** especially in rural areas
- **Average household size in New Mexico decreased** over the past 10 years
- **Median household values of owner-occupied units grew by 55%** from 2015 to 2024

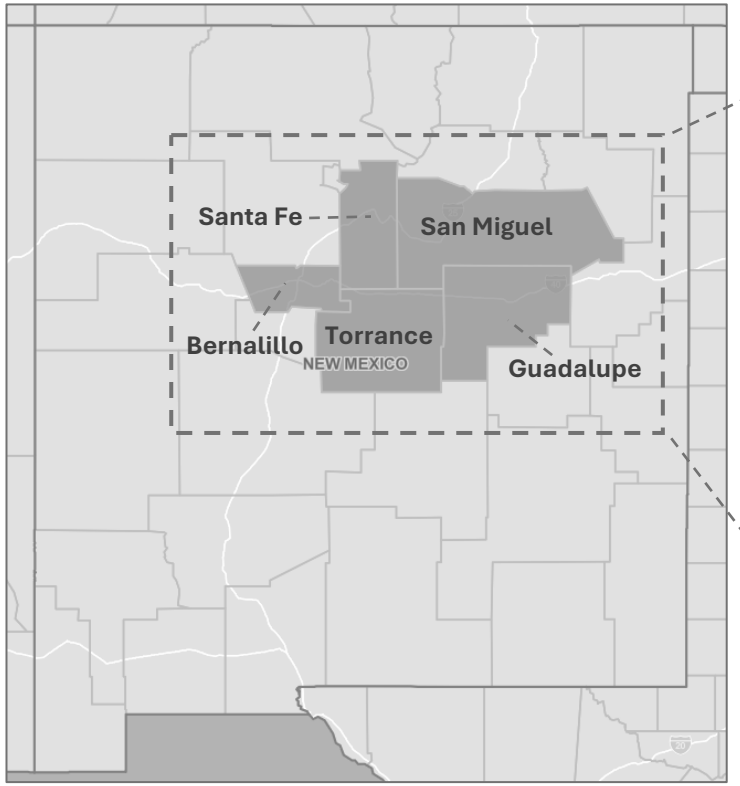
Income and Poverty Conditions

- **Nominal median income grew by 42%** between 2015 and 2024
- The share of **population living with income below the poverty level decreased** between 2015 and 2024 by 3% across the state – decreases were larger in San Miguel and Torrance counties, but increased in Guadalupe

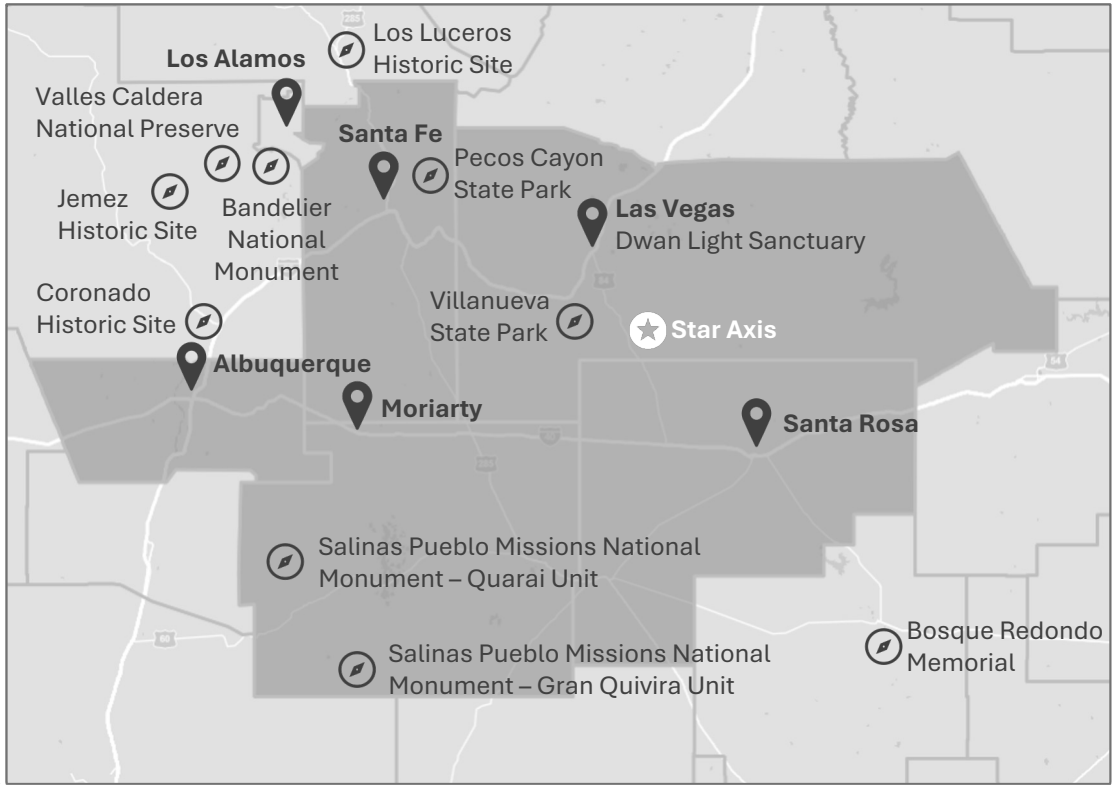
Source: AEA Analysis, US Census Bureau; New Mexico Legislative Finance Committee Policy Spotlight – State Population Trends, April 2021

San Miguel County, where Star Axis is located, and 4 additional nearby counties with notable locations were selected for demographic and economic review

State of New Mexico and Focus Counties



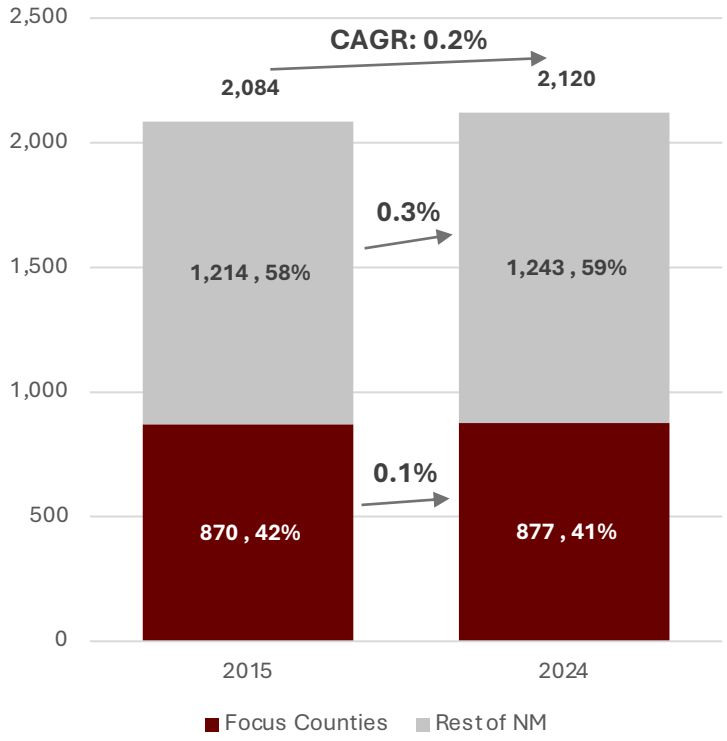
Focus Counties and Notable Locations



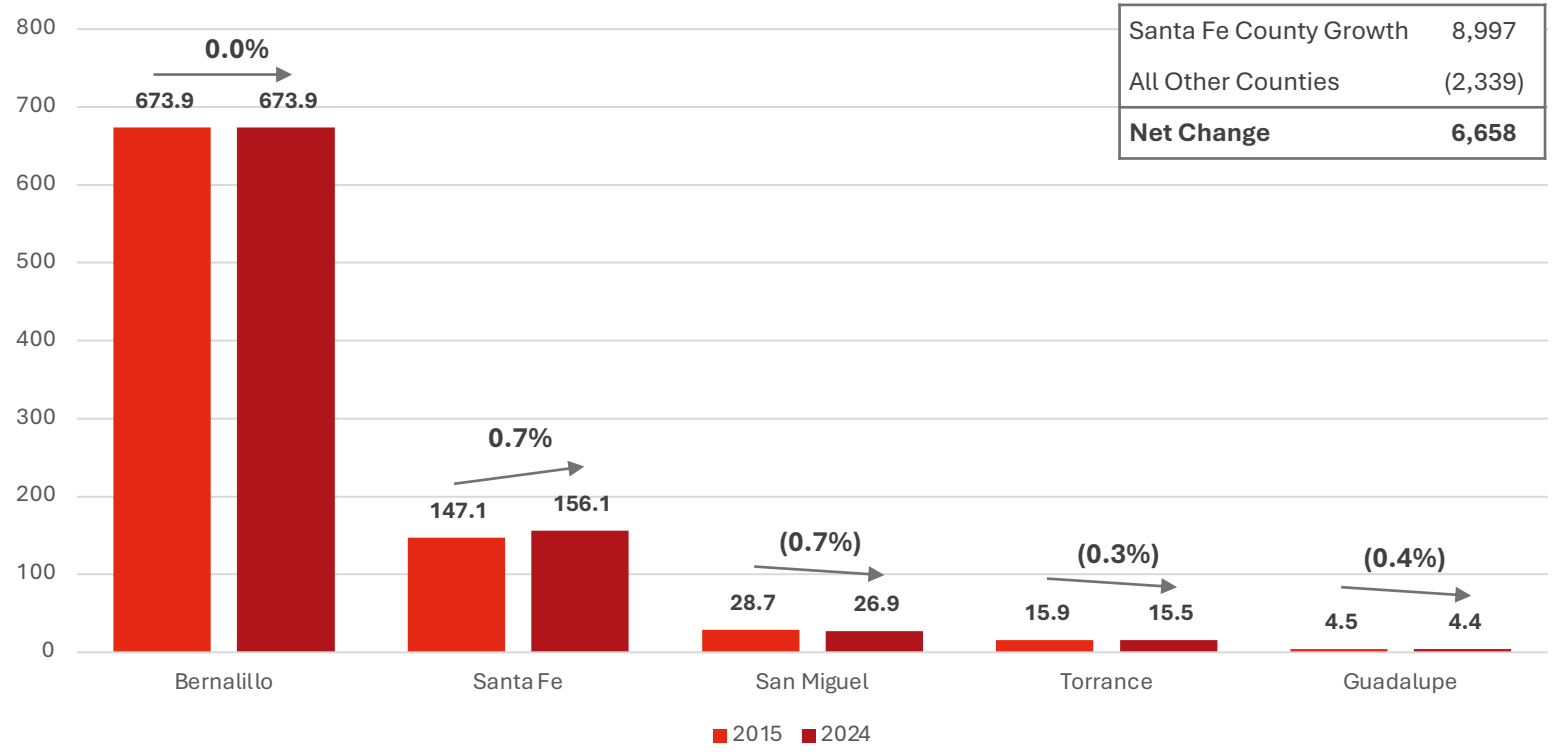
Source: US Census Bureau Maps, Google Maps

Focus county population grew modestly between 2015 and 2024: higher growth in Santa Fe County offset population declines in most other counties except Bernalillo

New Mexico Population (Thousands)



Focus County Populations (Thousands)



Population Change (2015–24)

Santa Fe County Growth	8,997
All Other Counties	(2,339)
Net Change	**6,658**

Source: US Census Bureau

AEA Consulting

Education Overview

Star Axis could be positioned to benefit students and programs in the arts and sciences in New Mexico as an immersive and hands-on learning experience

Star Axis Alignment for Education in New Mexico

Star Axis aligns with Art and Science Curricula

- As an example of sculpture or land art, Star Axis can serve as a **destination for arts students,** especially those studying the tradition of land art in the United States and New Mexico's role and history within the movement
- Star Axis can be used as an **immersive experience for STEM and astronomy students** to better understand the Earth's relationship to stars, the sun, and astrological cycles

Breadth of Potential Education Partners

- Star Axis can partner with K-12 schools with strong STEM focuses and STEM magnet schools as a **field trip destination and case study** for teachers in physics, astronomy, and math
- The **stars and the solar system are featured throughout the New Mexico K-12 STEM curriculum**, appearing at least once in elementary, middle, and high school
- **4-year institutions** such as St. John's College, UNM, and IAIA are **within a 2-hour drive radius with strong STEM or arts focuses**

Enrollment Trends

Declining School Enrollment from pre-K to College

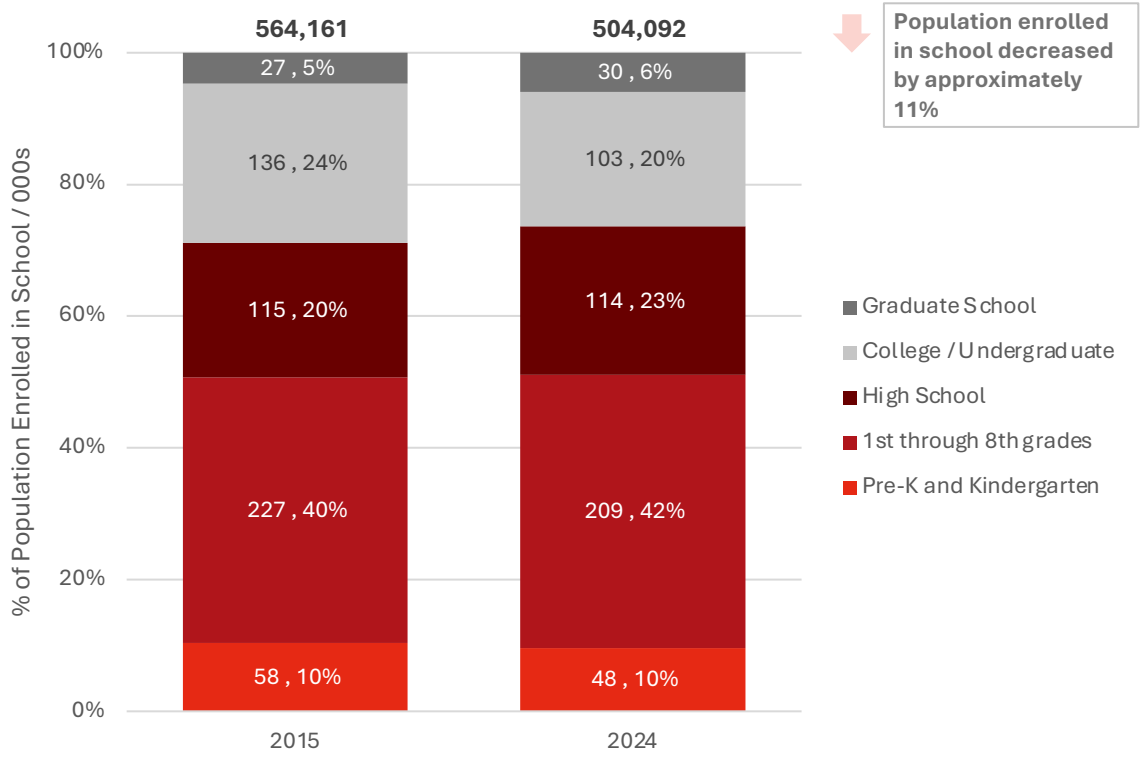
- **Education / school enrollment has declined** by approximately 11% between 2015 and 2024
- This trend is pronounced in the college and undergraduate population, which declined by 24% and in pre-K and Kindergarten, which declined by 17%
- The only group which grew during this time was graduate students: it grew by 12%, and represented 6% of enrollments in 2024

Source: AEA Analysis

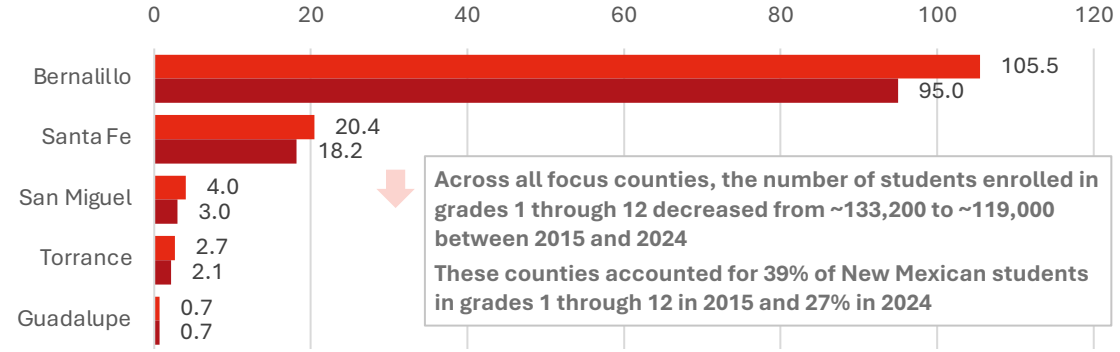
The largest share of potential Star Axis visitors from school settings are in Bernalillo and Santa Fe counties: grade school students in these two counties total 113,200

Approximately 85% of students from the five focus counties are in or near Albuquerque (in Bernalillo County), which is roughly two hours away (driving) from Star Axis

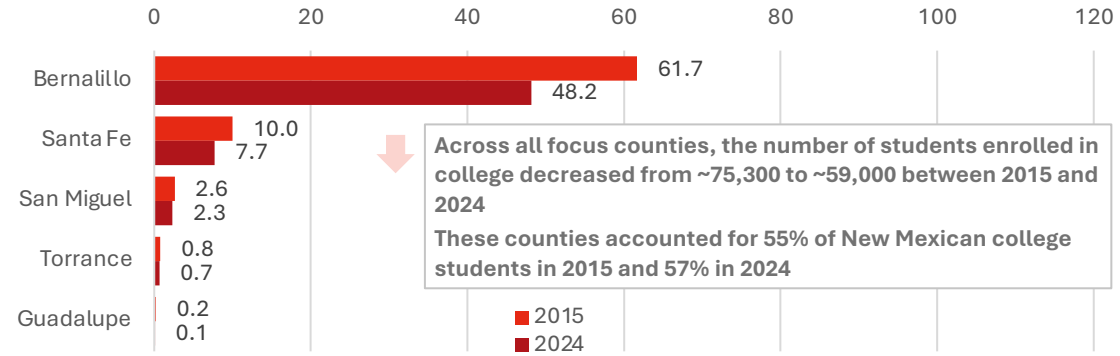
New Mexico Population Enrolled in School



Focus County School-Enrolled Population – Grades 1 through 12 (Thousands)



Focus County School-Enrolled Population – College (Thousands)



Source: US Census Bureau

New Mexico's STEM-focused schools and programs may benefit from educational experiences centered on Star Axis, from learning materials to school trips

K–12 / High schools with strong STEM focus

- **Albuquerque Institute of Math & Science (AIMS), Albuquerque:** Public charter, rigorous math- and science-centered curriculum
- **The ASK Academy, Rio Rancho:** Public charter specializing in engineering and biomedical STEM pathways, project-based learning
- **Academy for Technology and the Classics, Santa Fe:** College-prep charter with emphasis on technology and classical curriculum
- **La Cueva High School, Albuquerque:** Comprehensive high school recognized as one of the state's better STEM high schools.
- **Los Alamos High School, Los Alamos:** Serves a major national-lab community, included in STEM-school directories for its advanced math and science offerings

Albuquerque Public Schools STEM magnets

- **San Antonito STEM Magnet Elementary School:** Nationally certified STEM magnet emphasizing environmental and integrated STEM
- **Inez Elementary Science & Technology Magnet School:** Elementary magnet with strong focus on science, technology, and their applications
- **Nex+Gen Academy, Albuquerque:** Project-based APS high school recognized among public STEM-focused schools in the state

Independent / private schools strong in STEM

- **Albuquerque Academy, Albuquerque:** Consistently ranked among the top STEM schools in New Mexico
- **United World College–USA, Montezuma:** International boarding school with strong IB science and math offerings
- **Santa Fe Preparatory School, Santa Fe:** College-prep with rigorous math and science and high overall STEM ranking in NM
- **Sandia Preparatory School, Albuquerque:** Independent school with strong STEM coursework and labs

System-wide Public School Programs

- **Early College Academy, Albuquerque:** Part of a district early-college STEM/tech pathway, lets students earn college credit while in high school
- **"Engineering the Future" K–12 STEM pathway:** Runs across Mission Avenue Elementary, Garfield STEM Magnet & Community School (middle), and Valley High School (high), focused on engineering design and real-world problem solving

Source: Perplexity AI search for New Mexico K-12 STEM schools and programs

AEA Consulting

Arts and Culture Economic Impact

Arts, culture, and hospitality are economic engines, accounting for 10% of New Mexico employment; arts and culture generates more than $740 million in direct spending

Impact of Arts on the New Mexico Economy

Direct Economic Impact

- According to the AEP6 survey, **arts and culture generated more than $740 million in direct economic activity** in FY2022 in New Mexico
- This includes both **expenditure by arts organizations** ($267.5 million) **and event-related expenditure** by visitors ($473.4 million)
- Arts and culture in New Mexico generated **$106.1 million in tax revenue** for local, state and federal government
- Arts and hospitality account for 10% of New Mexico's jobs

Art Event Attendance

- **8.2 million people attended in-person arts and culture events** in New Mexico in 2022
- **82%** of attendance was **by New Mexico locals**
- The 18% of non-local attendees account for nearly half of event-related expenditure, as non-locals spend nearly three time more per event than locals

Source: AEP6, US Census Bureau

According to the AEP6 survey, arts and culture generated more than $740 million in direct economic activity in FY2022 in New Mexico

Arts and Economic Prosperity 6 (AEP6): Facts and Figures for New Mexico (FY2022)

Direct Economic Activity

$267.5 million	Expenditure by arts organizations in New Mexico
+	
$473.4 million	Event-related expenditure by audiences in New Mexico
=	
$740.9 million	Total direct economic activity by the arts in New Mexico

Tax Revenue

$106.1 million	Tax revenue generated for local, state, & federal government by arts and culture

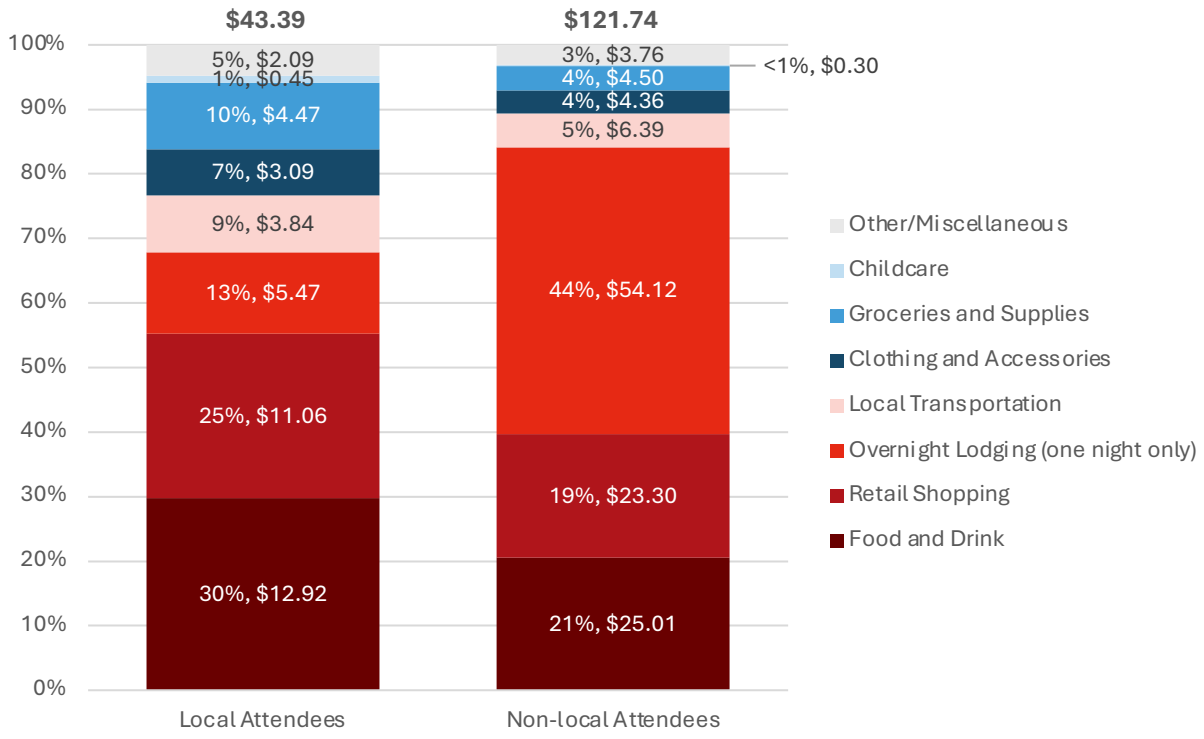
Attendance

8.2 million	Attendees to in-person arts and culture events in New Mexico
82%	of attendance by locals

Source: Americans for the Arts, Arts and Economic Prosperity 6 Survey for New Mexico

Event-related expenditure accounts for 64% of direct economic activity for arts and culture in New Mexico and nearly half of this comes from non-local attendees

Categories of Event-Related Expenditures in New Mexico (FY2022)



Event-related Expenditure by Non-locals on Arts and Culture in New Mexico

64% of direct economic activity comes from event-related expenditure...

45% ... of which nearly half comes from non-local attendees...

2.8x ... who spend nearly three times more than local attendees per event

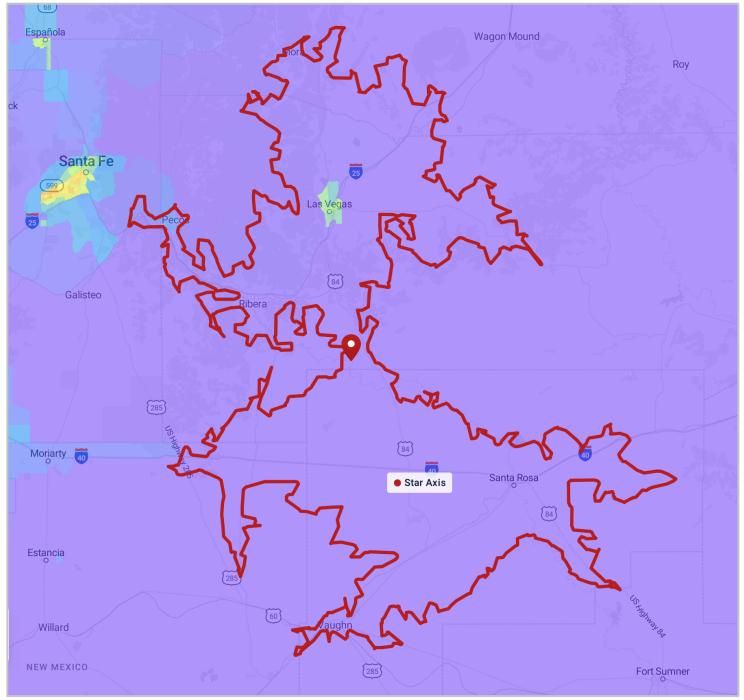
Source: Americans for the Arts, Arts and Economic Prosperity 6 Survey for New Mexico

AEA Consulting

Travel and Tourism

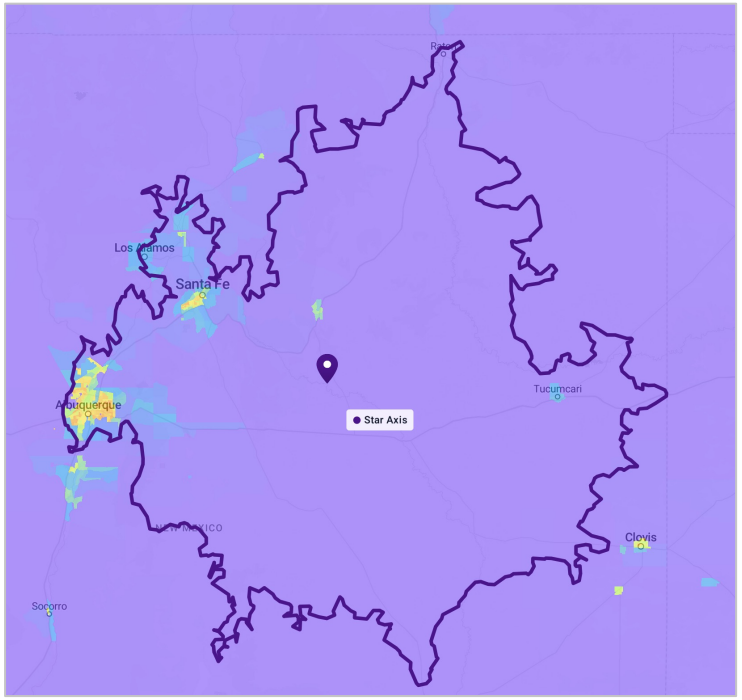
Over 1.68 million people live within a 3-hour drive to Star Axis: key cities and towns within this radius are Albuquerque, Santa Fe, Las Vegas, Roswell, Clovis, and Amarillo

1-Hour Drive Radius



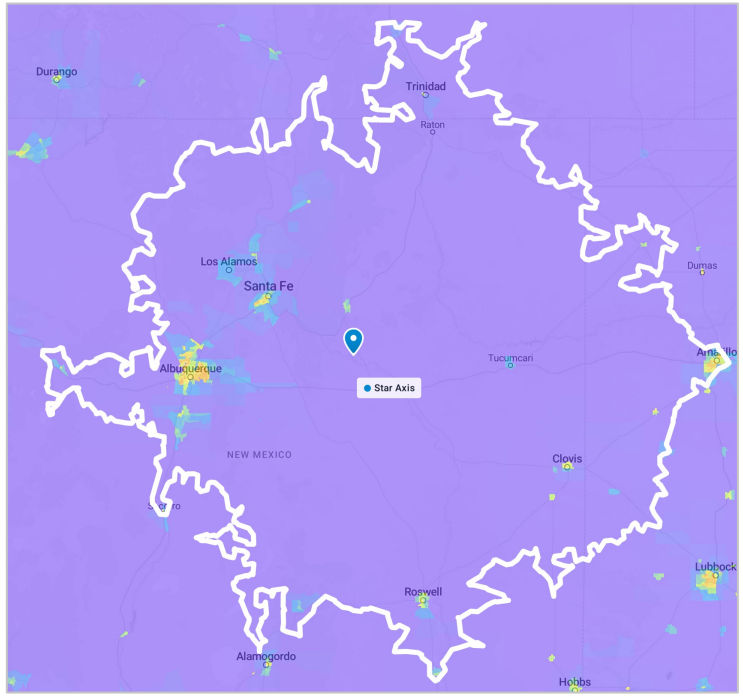
Population: 22,728

2-Hour Drive Radius



Population: 1,039,770

3-Hour Drive Radius



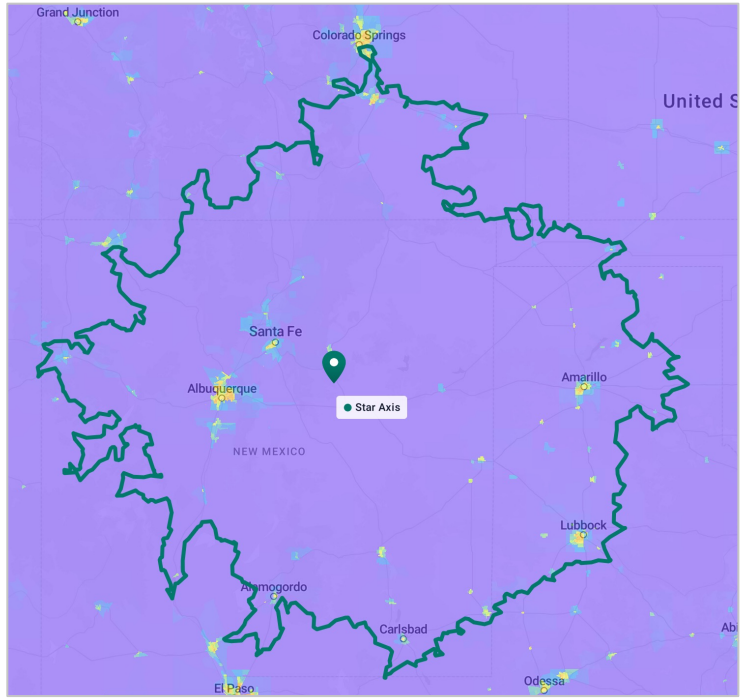
Population: 1,680,589

Source: Smappen, US Census Bureau

Note: Tecolotito, New Mexico, was used as a proxy for Star Axis drive time to factor out the drive from State Route 85 through the ranch to the Element House

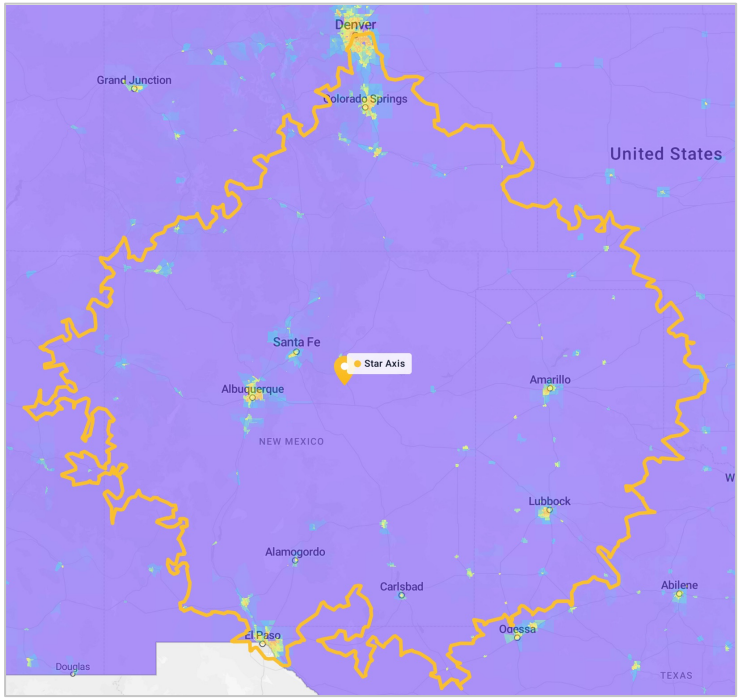
Over 6.61 million people live within a 5-hour drive radius of Star Axis – this expanded range includes Colorado Springs, part of Denver, El Paso, and Lubbock

4-Hour Drive Radius



Population: 2,894,851

5-Hour Drive Radius



Population: 6,611,133

Source: Smappen, US Census Bureau

Note: Tecolotito, New Mexico, was used as a proxy for Star Axis drive time to factor out the drive from State Route 85 through the ranch to the Element House

A scan of NM Tourism strategies identifies four gaps which Star Axis addresses: new demand generators, seasonality reduction, geographic dispersal, and dark skies

Star Axis Relevance to NM Tourism Strategic Gaps

New Distinctive Demand Generator

Star Axis Relevance

There are no comparable assets to Star Axis in New Mexico that combine art / sculpture, outdoor recreation, and a dark sky experience

Background

Development and Diversification of New Products is a key feature of Albuquerque's 10-Year Destination Master Plan, which focuses heavily on Route 66

Seasonality Reduction

Star Axis Relevance

Given New Mexico's climate, the celestial nature of the experience, and the additional benefit of amenities at the Element House, Star Axis could be a year-round attraction

Background

The Taos Destination Stewardship Plan (DSP) identifies shoulder seasons as a structural gap and a need for seasonal diversification

Growth in Under-Visited Areas

Star Axis Relevance

Star Axis is in an under-visited county with no current tourism anchor

Background

According to NMTD's website, visitor spending in Bernalillo and Santa Fe counties in 2024 was $2.8 and $1.2 billion, respectively – this is significantly higher than the $115.3 million spent in San Miguel County, where Star Axis is located

Dark Sky and Immersive Experiences

Star Axis Relevance

Star Axis is designed around a celestial experience and a potential dark sky or near dark sky site

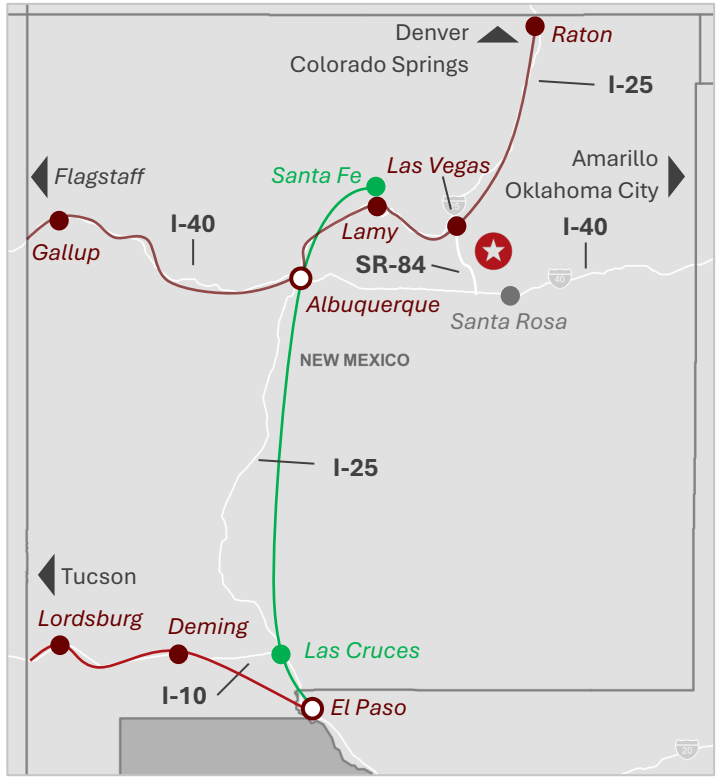
Background

The Taos DSP identifies dark sky tourism as an opportunity and is beginning to take measures to become Dark Sky Certified

Source: Taos Destination Stewardship Plan (2024), Visit Albuquerque Master Plan (2024-2034), New Mexico Tourism Department

Cars are the most popular form of transportation to destinations across New Mexico and Star Axis is accessible via the state's two largest interstate highways

Interstate Highways and Amtrak Routes



Legend

- *Inter-state Amtrak stop / route*
- *Thruway Connecting Service stop / route*
- *Stop with inter-state and thruway service*
- *City, no train stop*
- *Star Axis*

Star Axis is accessible from State Route 84 (SR-84) which connects I-25 and I-40

Car: two main interstate highways – I-25 and I-40 – run through New Mexico

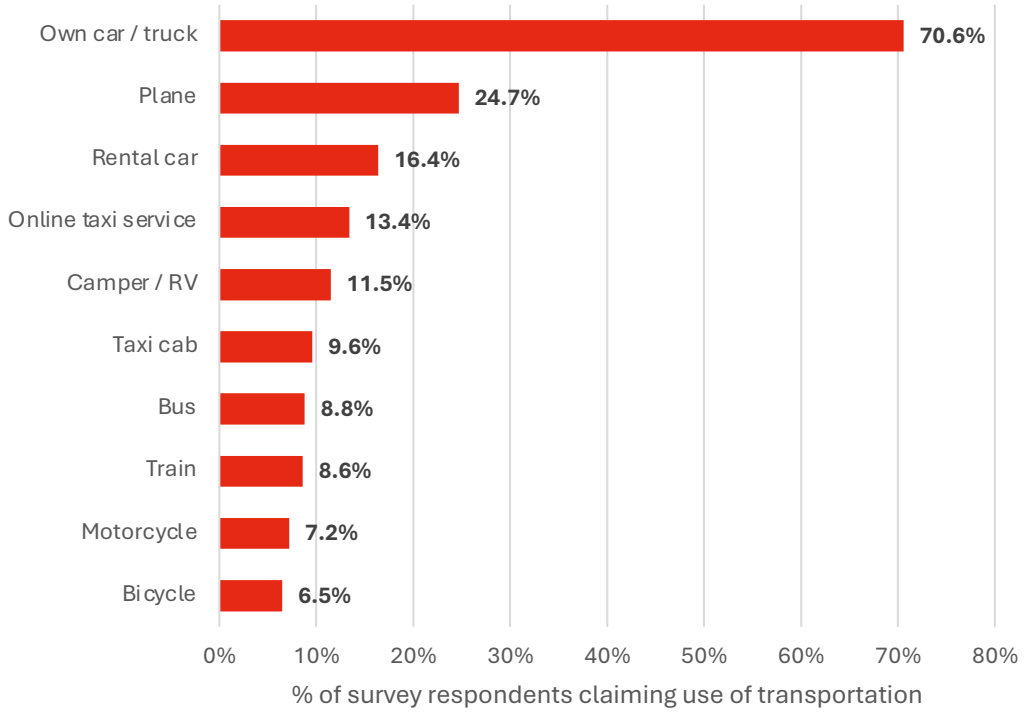
Train: Amtrak routes run along New Mexico's key interstate highways

A major Amtrak train route runs from Chicago, through Kansas City, Albuquerque, (and also in New Mexico: Las Vegas, Lamy, Gallup) Flagstaff, and ends in Los Angeles

Plane: Airports in Albuquerque and Santa Fe – ABQ has more traffic

Bus: Greyhound station in Albuquerque

Transportation to Destinations in NM(2022)



Source: New Mexico Tourism Department – Tourism Economy Indicators
Note: Locations of cities, Star Axis, and train routes are approximate

Last mile travel to Star Axis requires a car, regardless of how visitors arrive in New Mexico – shuttles or transportation services could facilitate day or overnight visits

Potential Visitor Journeys to Star Axis

Journey	Visitor Type	Likelihood / Frequency
Fly into Albuquerque or Santa Fe and rent car to Star Axis	International or domestic outside of reasonable drive radius	High
Drive from home / vacation location to Star Axis (whether car, van, or private charter)	Regional travelers, road-trippers, groups	High
Amtrak into Las Vegas and rent car to Star Axis	Domestic / regional travelers	Low
Greyhound Bus into Albuquerque and rent car to Star Axis	Budget domestic / regional travelers	Low

Given its remote location, **travel to Star Axis is contingent on car access**

One way to facilitate transportation to Star Axis might be to offer shuttle services at cost to visitors or groups from key ports such as Albuquerque, Santa Fe, and Las Vegas

Source: AEA Analysis

AEA Consulting

Cultural Asset Mapping

Star Axis fits neatly into other New Mexican visitor journeys and can collaborate with other organizations on interpretation and the inclusion of different perspectives

Strategic Observations on Partnerships and Synergies

Visitor Journeys and Tourism Circuits

To maximize visitor interest, Star Axis can be embedded in established New Mexico tourism circuits.

While most mapped organizations could contribute to a Star Axis visitor journey, three circuits are most relevant:

- Northern New Mexico Science and Landscapes: including Lightning Field, Bandelier, Valles Caldera, Ghost Ranch, Bradbury Science Museum, and Los Alamos History Museum
- New Mexico Cosmos: including Chaco Culture, El Morro, and the NRAO Very Large Array
- New Mexico Contemporary Arts: including SITE Santa Fe, MoCNA, Museum of Indian Arts & Culture, and Indian Pueblo Cultural Center

Interpreting Charles Ross and Star Axis

Besides the Star Axis experience itself, there is value in:

- Interpreting Charles Ross and his mathematical approach to art
- Explaining the natural and cosmological patterns and cycles embedded in the art
- Situating Star Axis in the broader context of the land art movement and practices of solar and stellar observation

This can be done, at least to some extent, through partners who have expertise in these domains.

Star Axis should also be connected to the Dwan Light Sanctuary, highlighting Charles Ross connection to New Mexico and the uniqueness of New Mexican art's connection to the sun and stars.

Value of Indigenous Perspective

AEA's consultations made clear the value of partnering with Indigenous perspectives.

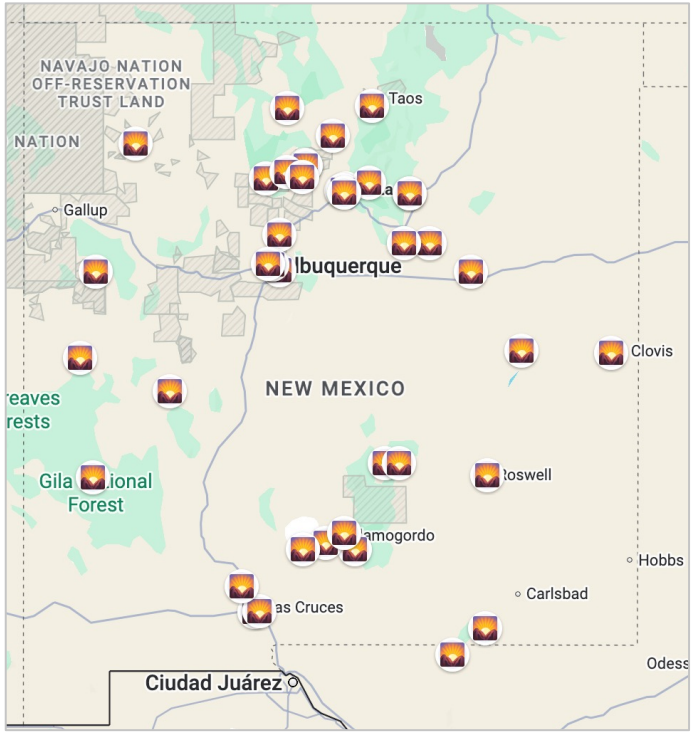
Four of the prioritized organizations provide pathways to address this:

- IAIA / MoCNA's expertise in contemporary Indigenous artistic practice
- MIAC in material culture and cosmological tradition
- IPCC in Pueblo cosmology and land-based practices
- Chaco in the built evidence of ancestral astronomical knowledge

Source: AEA Analysis

A Total of 33 sites and organizations across New Mexico were mapped – the following slides focus on 15 in more detail that are most relevant thematically or geographically

33 cultural assets mapped across New Mexico



Focus sites

Lightning Field
IAIA Museum of Contemporary Native Arts (MoCNA)
Indian Pueblo Cultural Center
Museum of Indian Arts & Culture
SITE Santa Fe
Santa Fe Institute
New Mexico Museum of Natural History and Science
New Mexico Museum of Space History
Ghost Ranch (Georgia O'Keeffe's House)
Chaco Culture National Historical Park
Bandelier National Monument
Bradbury Science Museum
Dwan Light Sanctuary
NRAO Very Large Array
El Morro National Monument

Rest of sites

Los Alamos Nature Center, operated by PEEC
Valles Caldera National Preserve
Los Alamos History Museum
White Sands National Park
Carlsbad Caverns National Park
Jemez Historic Site
Los Luceros Historic Site
Coronado Historic Site
Guadalupe Mountains National Park
Pecos Canyon State Park
Gila National Forest
Lincoln Historic Site
Fort Stanton
Fort Selden Historic Site
Bosque Redondo Memorial

Villanueva State Park
Taylor-Mesilla Historic Site
Santa Rosa Lake State Park

Source: Google Maps, AEA Analysis

Star Axis connects with the interests of professionals and companies in the State of New Mexico's Economic Development Department's (EDD) designated Target Industries

Star Axis connects to the NM State EDD's designated target industries as a thematically resonant visitor destination, point of attraction for professionals considering a career in New Mexico, and as an asset in its state-wide film and television strategy

Aerospace and Energy



What's already there

- **Three Research National Laboratories:** Los Alamos National Laboratory, Sandia National Laboratories, and Air Force Research Laboratory
- **Three US Air Force bases:** Holloman, Kirtland, and Cannon
- **Spaceport America:** the world's first purpose-built commercial spaceport and active test facility
- **Growing energy sector:** large untapped solar capacity and a growing wind and biothermal energy sector

How Star Axis connects

- Star Axis may be point of attraction for professionals, especially those in aerospace who already have an interest in physics, mathematics, and the sky
- Star Axis can be developed as an asset for STEM education
- The Element House runs on renewable energy and is an example of sustainable architecture

Film and Television



What's already there

- **Filming locations:** Film New Mexico's website features more than 6,000 filming locations, with a focus on natural beauty and historic sites
- **Investment from film partners:** Recent investments from companies including Netflix, NBCUniversal, and 828 productions make New Mexico a leader in film and television
- **Production incentives,** including a refundable tax credit and uplift zones outside of Santa Fe and Albuquerque

How Star Axis connects

- Star Axis can be a signature film site, with potentially iconic spaces within the sculpture itself – the tunnel, various chambers, and upper room – within the Element House, and around the ranch

Outdoor Recreation



What's already there

- **Five National Forests:** Carson (northern), Cibola (central-west), Gila (southwest), Lincoln (southeast), and Santa Fe (north-central)
- **Fifteen National Parks and monuments:** including signature sites such as Carlsbad Caverns, White Sands, and Bandelier
- **Thirty-Four State Parks:** popular for hiking, fishing, and camping
- **Twenty-six wilderness areas** that protect New Mexico's nature

How Star Axis connects

- Star Axis can become a key destination for locals and visitors to New Mexico who prioritize unique outdoor recreation activities, especially for those seeking stargazing, nature retreats, and dark sky experiences

Source: New Mexico Economic Development Department, Film New Mexico, AEA Analysis

Note: Additional Target Industries include intelligent manufacturing, sustainable and green energy, biosciences, sustainable and value-added agriculture, cybersecurity, and global trade

AEA Consulting

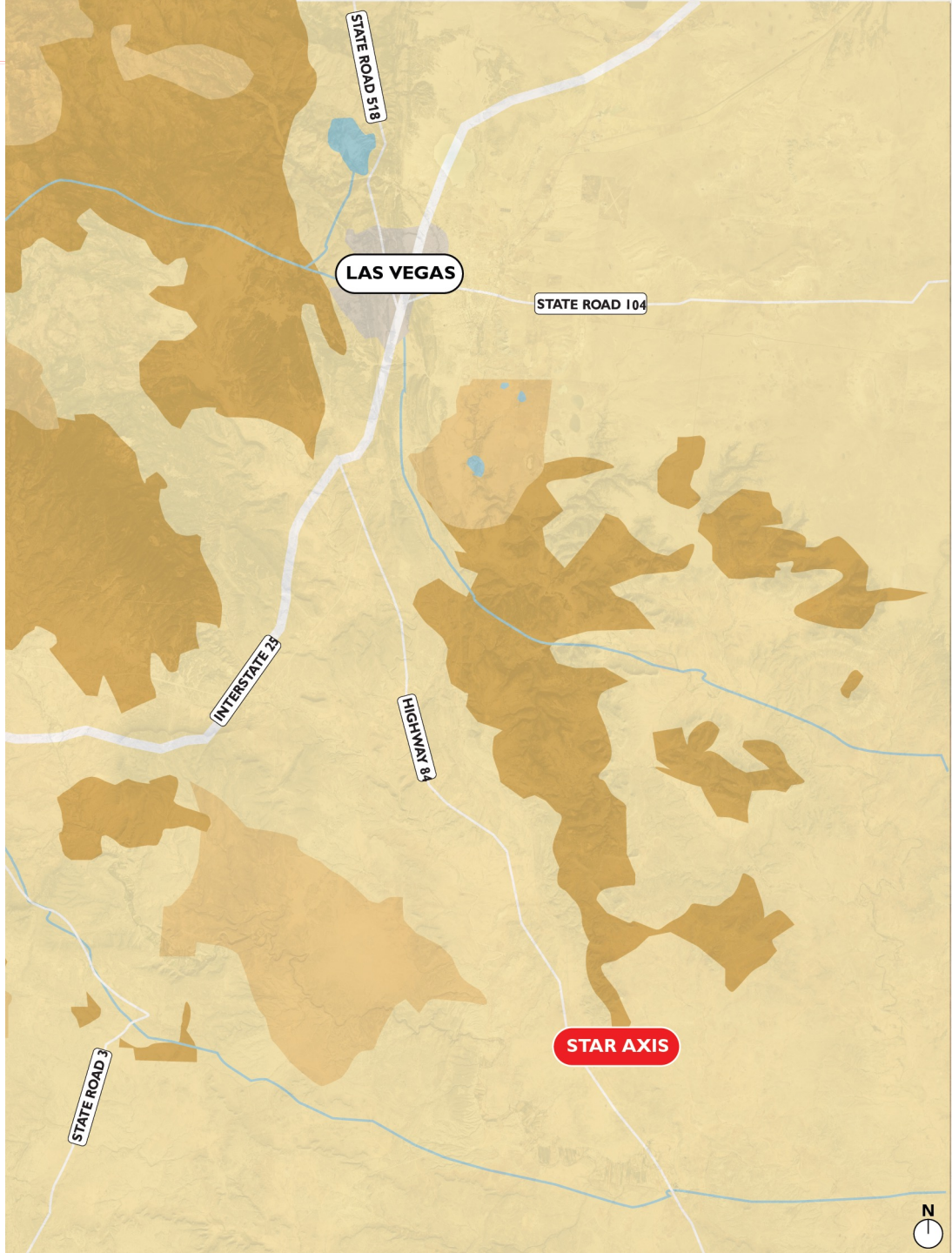
Site Assessment

03

Introduction

The site assessment integrates local knowledge to help identify the site's existing conditions, climate conditions, and site criteria for a visitation experience at Star Axis. Building on AEA and SSA's overnight stay at Star Axis and Element House on October 15, 2026, accompanied by Charles Ross, and Jill O'Bryan, and informed by the other aspects of this study, this assessment combined direct site observation with broader strategic planning. The results identify potential scenarios for different visitor groups while remaining sensitive to environmental conditions, infrastructure limitations, cultural landscape, and contemporary stewardship of Charles Ross' intent.

Based on the analysis of the different governance models and an understanding of the site conditions, access challenges, and operational needs associated with Star Axis, a Site Organization Diagram identifies necessary components for various Visitation Experience Scenarios. Each scenario considers how different user groups, from educational programs and private tours to overnight guests, may interact with the site, and what infrastructure and amenities would be required to support them. By looking at on-site and off-site access strategies, visitor center locations, parking, shuttle service, amenities, and accessibility needs in order to better understand how the site could function at different scales while balancing preservation, visitor experience, and operational feasibility.

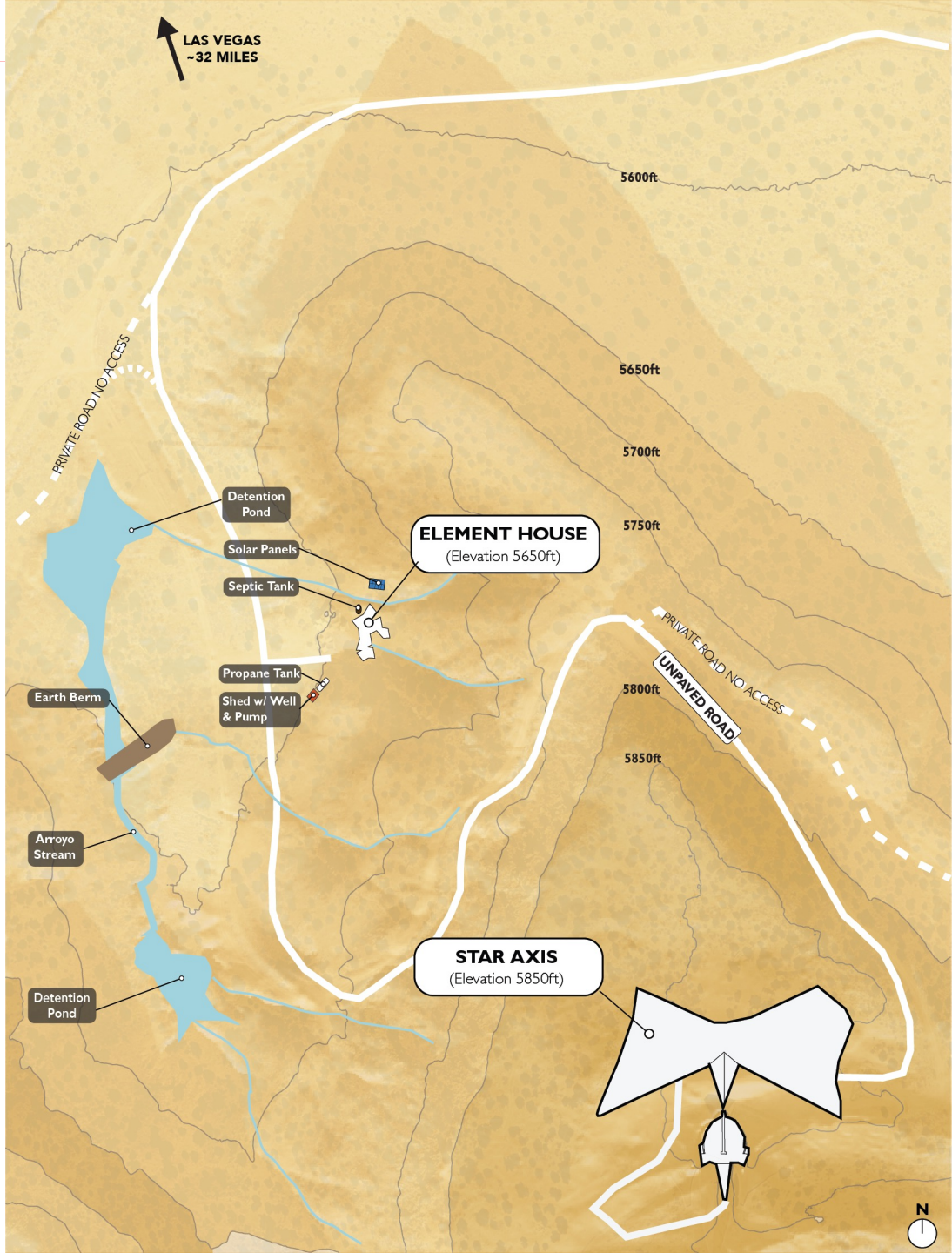


Existing Conditions

Overview

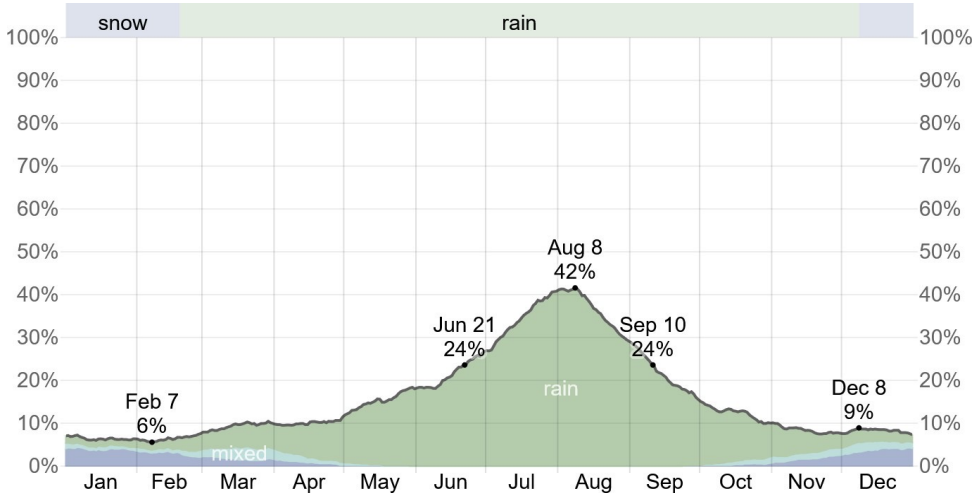
Star Axis is located near Anton Chico, New Mexico, approximately 30 miles south of Las Vegas, New Mexico, and roughly two miles from Highway 84. The land art sits along a mesa in an isolated high-desert landscape and is made primarily with granite and sandstone. Conceived by Charles Ross in 1971 and under construction since 1976, Star Axis is deeply tied to the surrounding landform, sky, and astronomical alignment. Element House is an existing approximately 1,500-square-foot building located about one mile northwest of Star Axis that has been used as an on-site support structure and overnight accommodation associated with the land art. From Element House to the top of Star Axis, the site rises approximately 200 feet, with the two areas connected by a one-mile dirt road.

The surrounding area is sparsely populated, with Anton Chico serving as a small rural community within a larger landscape of long travel distances, limited infrastructure, and expansive views. The site's high-elevation, semi-arid climate is characterized by strong sun exposure, wind, seasonal temperature swings, limited precipitation, and cold nighttime conditions. These conditions create both experiential opportunities and operational constraints, including considerations related to access, water, shade, fire risk, emergency response, visitor orientation, and the preservation of solitude and awe within the landscape.

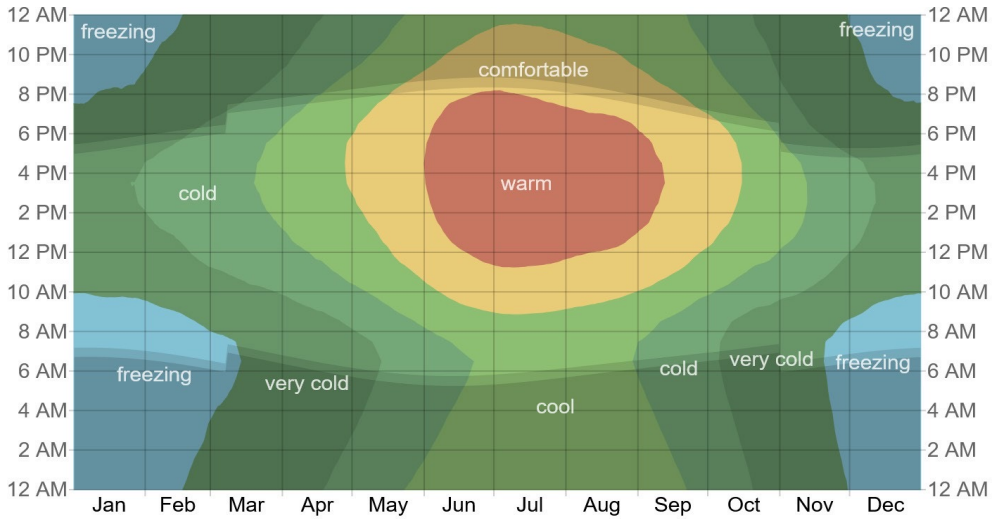


SSA
sam sterling architecture

Climate & Dark Skies



Daily Precipitation Chances Annually *(Chart from Weather Spark, Data from NASA MERRA-2 Modern-Era Retrospective Analysis)*



Hourly Temperatures Annually *(Chart from Weather Spark, Data from NASA MERRA-2 Modern-Era Retrospective Analysis)*

Overview

Sitting at about 5,800ft in elevation, the site's high-elevation, cold, semi-arid climate features considerable differences in temperature, wind, and precipitation. Temperatures at Star Axis are cold at night, with lows in the 20s, and warm during the day, with highs in the mid-80s. Due to the site's exposed location, there is a prevailing wind from the open plains to the west at around 11 mph. Precipitation overall is light and variable, with total annual snowfall of just above 1 inch, and rain averaging around 12 inches.

New Mexico is known for its expansive dark skies, especially in its rural and high-desert regions where low population density, open horizons, and low light pollution create exceptional conditions for viewing the night sky. These qualities are central to the experience of Star Axis, where darkness, celestial movement, and astronomical alignment are part of the artwork's relationship to the landscape. Preserving dark sky conditions will be an important consideration for any future visitation planning, including site lighting, visitor orientation, safety, and overnight use. Skies on site are classified as Bortle 2 on the dark-sky ranking system, making it an ideal spot for nighttime visits and potential official dark-sky park certification.

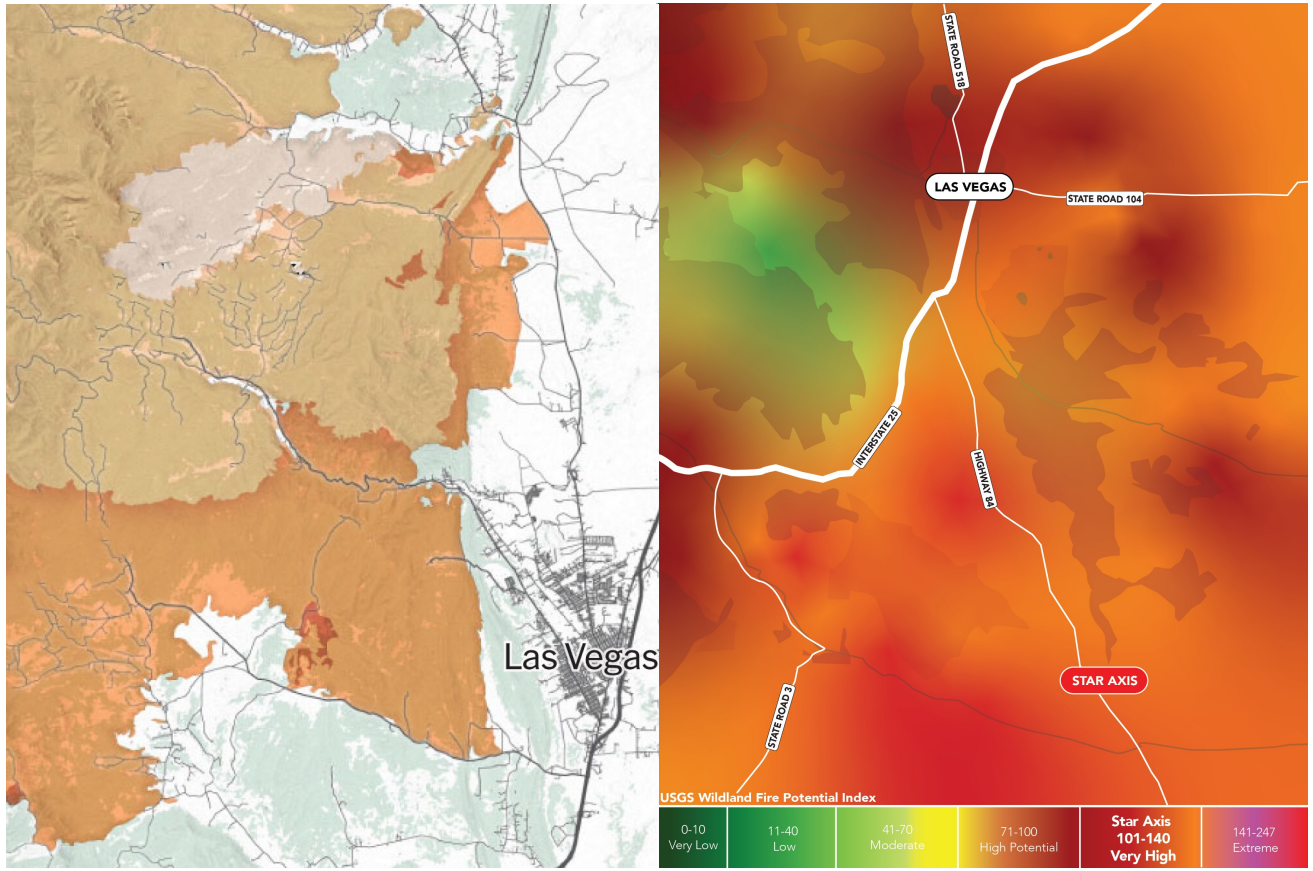


Bortle Dark Sky Scale *(Graphic from European Southern Observatory)*

Fire Risk

The risk of wildfire at Star Axis is very high due to the site's exposed, windy location, limited access, the dryness of the vegetation, and the lack of fire-preventive infrastructure. Using data collected from the USGS WFPI (wildfire potential index), current vegetation flammability at Star Axis and the surrounding area is marked as very high, with an average index number of 135. In the event of a wildfire, access for firefighting is limited, as the Star axis lacks paved roads and hydrants. The nearest station is a volunteer fire station 17 miles away in Tecolote, with considerable response times. In light of these circumstances, Star Axis will need fire protection to ensure visitor safety.

These risks are exemplified by the 2022 Calf Canyon Hermits' Peak fire, which originated as two escaped prescribed fires that burned an area slightly over ¼ the size of the US state of Delaware. In the mountains north of Star Axis. The fire destroyed over 900 structures, contaminated groundwater, and caused severe flooding and erosion on nearby mountainsides, forcing communities and portions of nearby Las Vegas to evacuate with some never returning. Large, high-intensity destructive burns, like the one seen in 2022, are expected to become more frequent in the region where Star Axis resides as the climate warms, further highlighting the need for fire-preventive infrastructure.



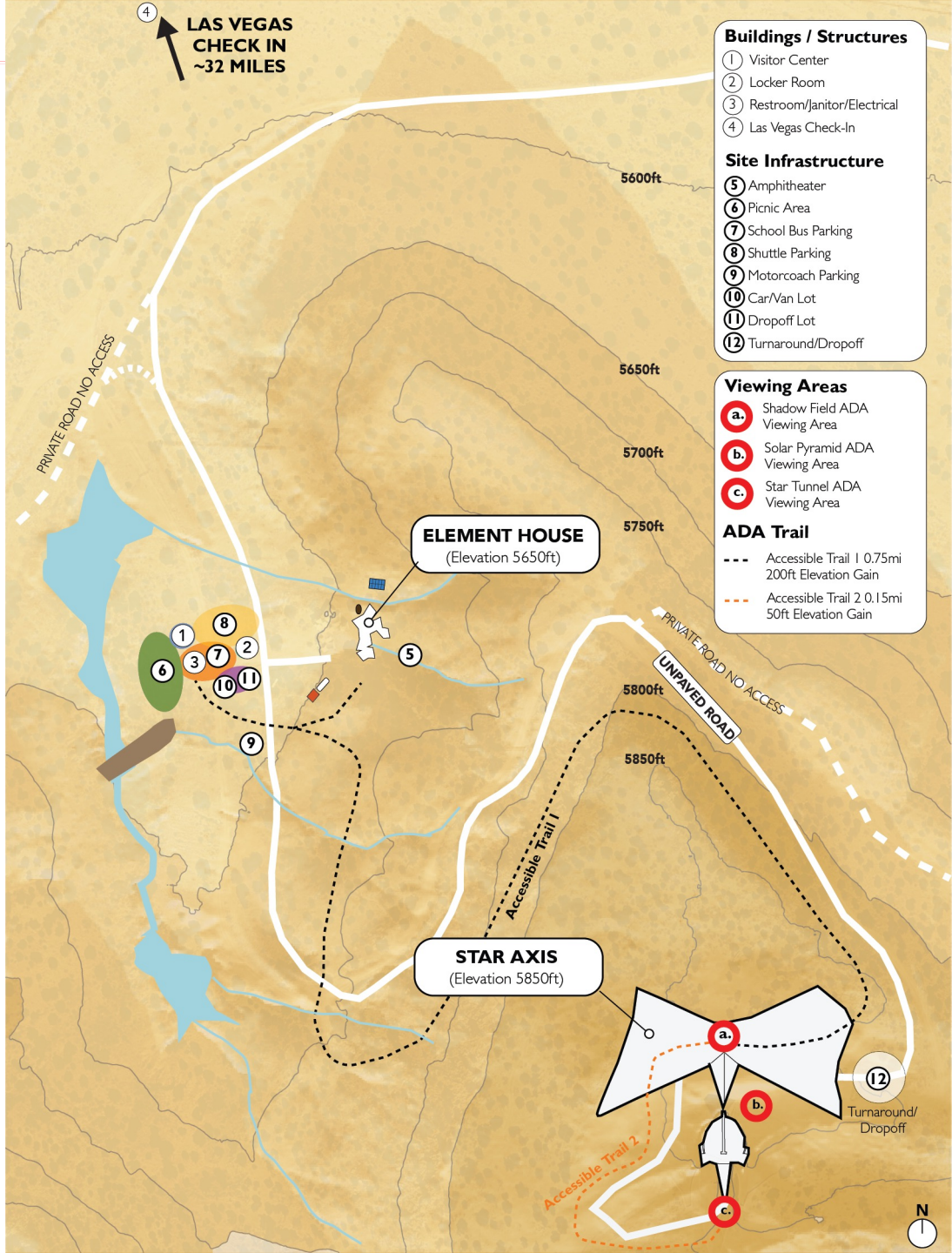
Visitor Experience Scenarios

SCENARIOS	GROUP SIZE	PARKING / ACCESS	SITE AMENTITIES	COST
1. Education / School Groups Larger daytime visits for students, using Star Axis as an immersive learning experience at the intersection of art, astronomy, mathematics, landscape, and New Mexico cultural history.	50-100 people	**Bus Parking Lot** -2 Full Size School Buses (50 people per bus)	**Building / Structures** 1. Visitor Center 2. Locker Storage 3. Restroom/Janitor/Electrical 4. Las Vegas Check-In / Office / Misc 5. Existing Element House **Outdoor Space** 1. Outdoor amphitheater 2. Picnic Area 3. School Bus Parking 4. Shuttle Parking 5. Special Event Motorcoach Parking 6. Van/Car Parking w/ 3-4 additional maintenance parking 7. Dropoff Area / Turnaround	
2. Overnight Visits **(Based on current Lightning Fields model)** Small, reservation-based groups focused on an intimate overnight experience shaped by solitude, sunset, night sky, sunrise, and direct engagement with the work.	6 people	**A. On-Site Car Parking Lot** -Personal vehicles park directly at an on-site parking lot **B. Las Vegas Shuttle** -Las Vegas Van Shuttle from check-in at 515 Railroad Ave in Las Vegas.		
3. Private Tours **(Venues, Tour Companies, Art Councils, Fundraisers)** Curated visits for arts groups, tour companies, donors, cultural partners, or fundraisers, with guided interpretation around Charles Ross, land art, cosmology, and New Mexico visitor journeys.	20-30 people	2-3 Vans 2 Shuttle Buses		
4. Special Event **(1-2 times a year)** Infrequent, higher-capacity gatherings such as solstice programs, donor events, or public cultural events, likely supported by shuttle access to reduce site impact and protect the visitor experience.	100+ people	Shuttle Bus from Las Vegas 515 Railroad Ave Building		
Overview The summary scenario identifies the parking and access requirements needed to accommodate the full range of visitor experience scenarios. Based on the combined needs of school groups, overnight visitors, private tours, and special events, this scenario establishes an overarching assumption for vehicle spaces, bus parking, shuttle access, van drop-off, and turnaround areas. These totals serve as a baseline for evaluating site capacity, circulation, infrastructure needs, and potential site impacts.		**Parking Totals** **M. 10-12 vehicle spaces** **N. 1 School Buses + turnaround** **O. 2 Shuttle Buses** **P. 2-3 Vans**		

Proposed
Site Organizational Diagram

Overview

The Site Organizational Diagram translates the Summary Scenario from the previous page into a preliminary site framework for supporting the range of anticipated visitor experiences. Rather than presenting separate options tied to individual scenarios, the diagram begins to identify shared access, parking, service, and amenity considerations that may be needed across school groups, overnight visits, private tours, and special events. These suggested components – visitor arrival and circulation, shuttle and bus access, limited on-site vehicle parking, van and car parking, support areas, and outdoor gathering or interpretive spaces – are intended as a conceptual planning tool. They should be further tested and refined through future programming, design development, site capacity studies, and operational planning.



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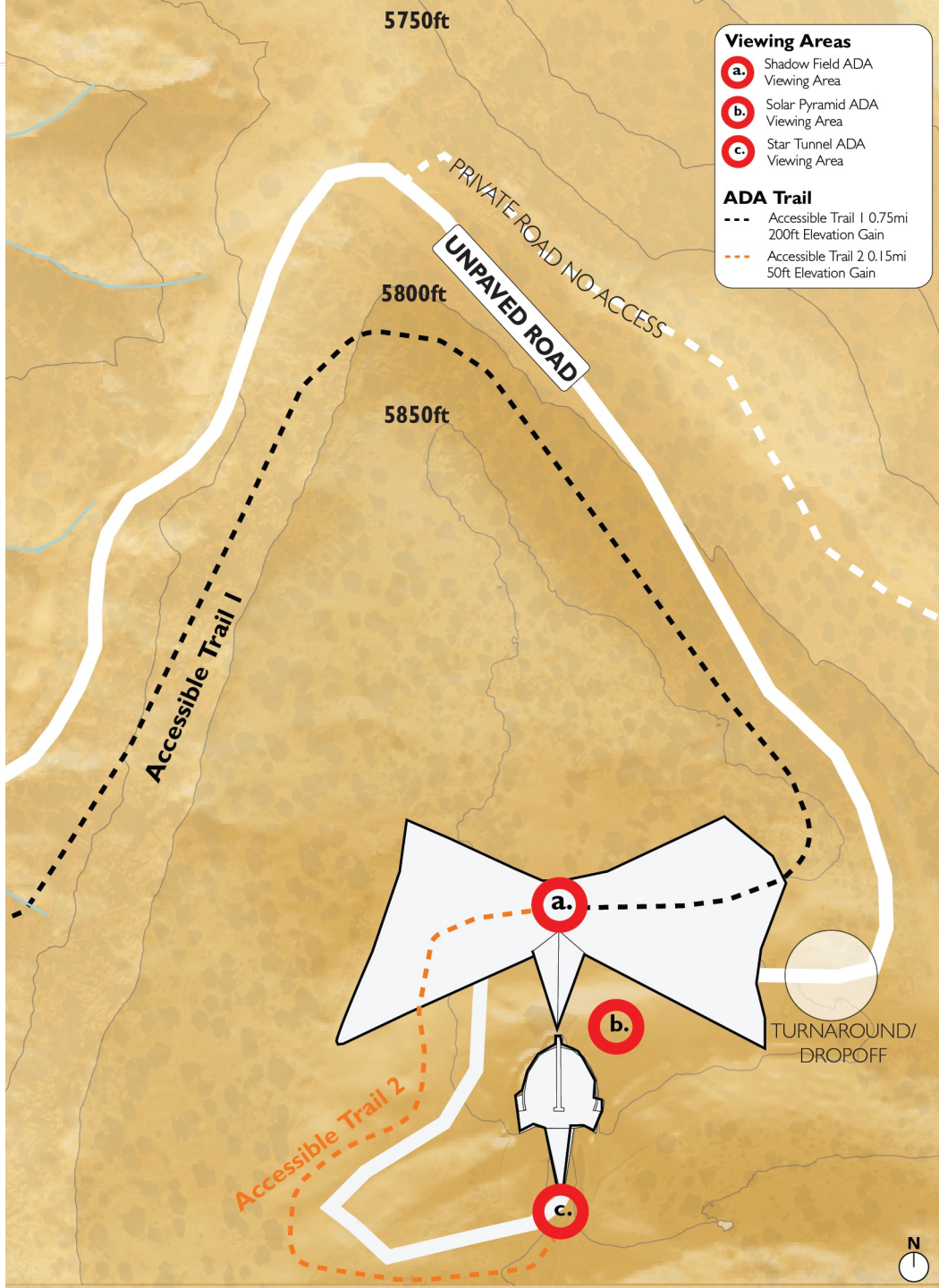
Proposed
ADA Accessibility

Overview

ADA accessibility at Star Axis is addressed through a review of existing stair conditions, current code requirements, and designated accessible viewing areas across the site.

The stairs within the Star Tunnel include 163 steps, with 8-inch risers and 14-inch treads, and do not include intermediate landings. Per the 2021 IBC, the current applicable code, stair risers are generally limited to a maximum height of 7 inches, with treads required to be a minimum of 11 inches deep. The code also requires landings at the top and bottom of stairways, with the vertical rise between landings generally limited to 12 feet. Therefore, while the existing 14-inch treads exceed the minimum tread depth, the 8-inch risers exceed the allowable riser height, and the continuous run of 163 stairs without intermediate landings does not align with current stairway requirements.

For visitors using wheelchairs or with significant mobility restrictions, three main accessible areas should be identified on site: the West Apse, where visitors can look over the Ellipse Wall and down into the Star Tunnel; the base of the exterior stairs along the spine of the Solar Pyramid, where the alignment with Polaris can be viewed; and the Shadow Field, a broad, relatively flat surface from which visitors can experience the Solar Pyramid, celestial alignments, and changing sky conditions. Where feasible, access to the Hour Chamber inside the Solar Pyramid may also be accommodated with assistance, allowing visitors to look out and experience one hour of the Earth's rotation.



AEA Consulting

Space Plan
Visitor Center

04

Visitor Center Space Plan

We explored two visitor center scenarios during this process: an off-site visitor center (serving as a transportation hub and interpretation space closer to larger population centers – in this case, in Las Vegas, NM) and an on-site visitor center (deeper interpretation space adjacent to Star Axis itself). **The base case financial projections consider an off-site visitor center**, though the alternative on-site model is considered in Section 8 of this report.

As such, we have developed a space plan for a Visitor Center that would supplement Star Axis and the Element House – providing an opportunity for visitors and tour groups to orient themselves before experiencing Star Axis more fully via a welcome & orientation gallery and a screening room that could double as a place for tour groups to gather. The space would also house an archival space to continue to steward information about the project's history for future visitors, researchers, and historians.

Other visitor amenities like restrooms, and support spaces for operating staff would also be housed at the Visitor Center. A lobby space could also be used to host occasional events, though we would not anticipate that as a major use case.

	Square Feet
Programming Spaces	
Welcome & orientation gallery	750
Screening room	1,000
Archive & project history room	500
Front-of-house Spaces	
Lobby / reception / retail nook	1,000
Restrooms	600
Support Spaces	
Administrative Offices	250
Loading	200
Other support spaces	250
Net Square Feet	**4,550**
Grossing Factor (circulation, structure)	*25%*
Gross Built Square Feet	**5,688**
Exterior	
Shuttle staging	
Parking	

SWOT A: Off-Site Visitor Center

Strengths

- Serves as a transportation hub with shuttle service to Star Axis
- Reduces physical impact on the Star Axis site
- Easier to design for ADA accessibility compliance
- Allows for expanded interpretation, programming, and exhibitions

Weaknesses

- Non-optimal location may fail to capture sufficient visitor traffic
- Risk of being seen as a rest stop rather than a Star Axis destination
- Competition with other regional attractions for visitor time and attention
- Operational and maintenance costs may affect long-term sustainability

Opportunities

- Greater visibility and exposure to tourist traffic near Santa Fe/Albuquerque
- Connects to statewide tourism campaigns and cultural itineraries
- Partnership opportunities with local businesses, hotels, and institutions
- Gateway to Star Axis and broader themes of art, science, and space

Threats

- Experience may feel fragmented across two separate locations
- Interpretation may be less impactful without proximity to the site
- Risk of underutilisation if poorly programmed or located
- Adds an extra step to the visitor journey
- Additional capital and operational costs of a second facility

SWOT B: On-Site Visitor Center

Strengths

- Integrates interpretation directly with the Star Axis experience
- Reinforces Star Axis as a destination in its own right
- Centralises operations (staffing, ticketing, visitor services) in one location

Weaknesses

- Environmental factors (e.g. weather) may impact visitor access
- Liability risks if accessibility and safety are not addressed
- Infrastructure may not align with the artist's vision for Star Axis
- Site constraints limit accessibility improvements (terrain challenges)
- Remote location makes staffing and operations more challenging

Opportunities

- Develop additional site-specific programming (guided experiences, education)
- Partner with academic, scientific, and cultural institutions
- Growing demand for destination-based, experiential travel in New Mexico
- Connection to other similar destinations across the State

Threats

- May detract from the visual impact and integrity of the Star Axis experience
- Remote location makes staffing and long-term operations more challenging

AEA Consulting

Potential Ownership Models and Implications

05

Potential Governance Models for Star Axis Overview

Based on stakeholder consultations and an emerging understanding of the challenges and opportunities presented by Star Axis ownership and operations, AEA identified the following three governance models as paths to explore as part of the feasibility study:

1. **State-owned and operated**: The State would own and operate Star Axis through the Department of Cultural Affairs, taking full responsibility for all day-to-day operations, ongoing maintenance of the site and sculpture, and delivery of visitor services including staffing, programming, and supporting infrastructure.
2. **Privately-owned and operated**: A private entity — most likely the existing foundation or a new not-for-profit — would take full responsibility for all operations, ongoing maintenance, and the delivery of visitor services including staffing, programming, and supporting infrastructure.
3. **Privately-owned and operated, with State support**: A private entity would own and operate Star Axis as in Option 2. The State would play a supporting role by providing targeted resources to address key challenges such as infrastructure, public access, transportation support, partnerships with public institutions, and grants for specific projects.

The base case discussed in the financial implications section that follows considers a facility that is State-owned and operated, though an alternative scenario that is privately owned and operated is considered in Section 8 of this report.



SWOT 1: State-Owned & Operated

Strengths

- Supports long-term stewardship and preservation of the site
- Integration with statewide tourism, education, and cultural initiatives
- Reduces risk of commercialisation pressures
- Facilitates collaboration with public institutions (universities, schools, museums)
- Adds to the State's cultural portfolio

Weaknesses

- Public funding subject to shifting political priorities
- Competing demands on public resources in the cultural sector
- ADA and safety limitations create State liability risks
- Bureaucratic complexity limits operational flexibility
- Dependence on annual State budget cycles
- May lack specialised expertise for a unique site like Star Axis

Opportunities

- Partnerships with schools, universities, and museums
- Connects to statewide tourism campaigns and initiatives
- Potential access to financial support focused on land art

Threats

- Changes in tourism trends and perceptions may affect visitation
- Political priority shifts could reduce or eliminate funding

SWOT 2: Privately-Owned & Operated

Strengths

- Integrates interpretation directly with the Star Axis experience
- Reinforces Star Axis as a stand-alone destination
- Centralises operations (staffing, ticketing, visitor services)
- Greater operational flexibility in staffing, revenue, and programming
- Direct control over artist's vision and visitor experience

Weaknesses

- Revenue volatility due to economic or tourism fluctuations
- Competition with other State destinations for visitor attention
- Risk of perceived exclusivity or limited accessibility
- Operational and maintenance costs may impact profitability

Opportunities

- Position Star Axis as a premium destination experience
- Attract private investment and philanthropy
- Flexibility to adapt quickly to market trends and visitor needs

Threats

- Full financial risk falls on the private owner/operator
- Limited access to public funding sources
- Potential tension between revenue generation and public access
- Reliance on consistent visitor demand
- Need for strong marketing and brand-building

SWOT 3: Privately-Owned, with State Support

Strengths

- Combines private operational flexibility with public support
- Shared responsibility reduces financial risk vs. fully private or State models
- Access to public funding for infrastructure and accessibility
- Enhanced visibility through State tourism and other departments

Weaknesses

- Public funding subject to shifting political priorities
- Coordination complexity between private and public partners
- Potential misalignment between public and private priorities
- Dependence on continued State support for certain functions
- Possible constraints tied to public funding requirements (e.g. accessibility)

Opportunities

- Easier access to public grants, capital funding, and transportation support
- Stronger integration into State tourism and cultural initiatives
- Can position Star Axis as a premier cultural and experiential destination

Threats

- Private-public disagreements could jeopardise operations
- State withdrawal would leave the private operator fully exposed
- Dependence on political continuity for long-term viability

AEA Consulting

Projected Financial Implications

06

Projected Attendance

Total projected attendance:
32,538 visitors per year

Assumptions

- Total accounts for all visits to Star Axis, whether for general tours, non-tour visitation, overnight stays (premium experiences), or special events.
- All visitor categories operate 361 days per year, except for the premium experiences, which operate seasonally (184 days per year)
- 3 tours per day
- 10 car-loads per day; approximately 2.5 people per car

The breakdown for each of the categories can be found in the following slides.

Attendance Driver	Assumption	Year 1	Year 2	Year 3	Year 4	Year 5
GENERAL TOURS						
Operating days / year	**361**	**361**	**361**	**361**	**361**	**361**
Tours per day	**3**	**3**	**3**	**3**	**3**	**3**
Capacity per tour	**40**	**40**	**40**	**40**	**40**	**40**
Tour utilization	**50%**	**50%**	**50%**	**50%**	**50%**	**50%**
Annual Tour Visitors	**—**	**21,660**	**21,660**	**21,660**	**21,660**	**21,660**
NON-TOUR VISITORS						
Operating days / year	361	361	361	361	361	361
Drop-in visitors / day (one car-load)	10	10	10	10	10	10
Avg occupancy (persons/car)	2.5	2.5	2.5	2.5	2.5	2.5
Annual Non-Tour Visitors	**—**	**9,025**	**9,025**	**9,025**	**9,025**	**9,025**
SPECIAL EVENTS						
Events per year	**15**	**15**	**15**	**15**	**15**	**15**
Attendees per event	**72**	**72**	**72**	**72**	**72**	**72**
Annual Special Event Visitors	**—**	**1,080**	**1,080**	**1,080**	**1,080**	**1,080**
PREMIUM EXPERIENCES						
Available nights / year	**184**	**184**	**184**	**184**	**184**	**184**
Total capacity	**6**	**6**	**6**	**6**	**6**	**6**
Annual Premium Visitors	**—**	**773**	**773**	**773**	**773**	**773**
Total Annual Attendance	**—**	**32,538**	**32,538**	**32,538**	**32,538**	**32,538**

Source: Star Axis Visitor Center Financial Model v1 – Attendance tab.

Attendance

Alternative Scenarios

The base case attendance model projects 32,538 annual visitors across four visitor categories: guided tours (21,660), non-tour drive-up visitors (9,025), special events (1,080), and premium overnight experiences (773). The scenarios below illustrate how visitation could vary under more conservative or optimistic assumptions.

Downside

A downside scenario would result in **17,195 visitors per year** with the following assumptions:

- 2 tours per day (instead of 3 in the base case)
- Only one car-load per day on non-tour visitors

The rest of the visitation assumptions for premium experiences and special events would remain the same.

Upside

An upside scenario could result in **over 40,000 visitors per year**, based on the benchmark median (see next page). However, it is important to note that some of the benchmarks likely receive significant visitation likely because they are national parks or monuments.

Attendance

Benchmarks

While attendance figures are not as readily available for similar organizations to Star Axis, the below reflects visitation for similar land art sites or national monuments located in remote locations. It is important to note that a lot of national monuments are free to the public and open 365 days a year and likely receive high visitation because of that.

Site	Type	Location	Days Open/Yr	Annual Visitation	visitors (approx)	Season (×7/12)	Visitation Year
Land Art Comps							
Lightning Field (Dia)	Land art	Quemado, NM	184	1,104	92	*n/a*	2026 cap.
Chinati Foundation	Land art / museum	Marfa, TX	260	*N/A*	*N/A*	*n/a*	*n/a*
Judd Foundation (Marfa)	Land art / artist site	Marfa, TX	288	*N/A*	*N/A*	*n/a*	*n/a*
Sun Tunnels (Dia)	Land art	Lucin, UT	365	*N/A*	*N/A*	*n/a*	*n/a*
Spiral Jetty (Dia)	Land art	Rozel Point, UT	365	*N/A*	*N/A*	*n/a*	*n/a*
NM National Park Service Sites							
Chaco Culture NHP	Nat'l Historical Park	Nageezi, NM	365	29,816	2,485	17,393	2025
Aztec Ruins NM	Nat'l Monument	Aztec, NM	365	38,636	3,220	22,538	2025
El Morro NM	Nat'l Monument	Ramah, NM	365	48,797	4,066	28,465	2025
Capulin Volcano NM	Nat'l Monument	Capulin, NM	365	89,489	7,457	52,202	2025
El Malpais NM (reference)	Nat'l Monument	Grants, NM	365	151,998	12,667	88,666	2025
Average			*365*	*71,747*	*5,979*	*41,853*	
Median			*365*	*48,797*	*4,066*	*28,465*	
Minimum			*365*	*29,816*	*2,485*	*17,393*	

Summary of Projected Financial Results
Off-Site Visitor Center

In the base operating year (year 3) for Star Axis with an off-site Visitor Center, after elements of the operating model have stabilized, it is projected to have **$983,300** of operating expenses, with associated earned revenues of **$884,600.** ***A total operating gap of ($98,700) is projected in the base year case.*** This gap requires annual fundraising to sustain operations.

It is assumed that there will be a capital expenditure/reserve fund of $9,800 annually.

All expense and revenue drivers are detailed in the following section.

Inflation is excluded from all calculations.

$ in 000's	1	2	3	4	5
Income					
Seasonal and Special Events	86.4	86.4	86.4	86.4	86.4
Retail and Concessions	63.5	63.5	63.5	63.5	63.5
Premium Experiences	193.2	193.2	193.2	193.2	193.2
Shuttle Service	541.5	541.5	541.5	541.5	541.5
Total Earned Income	**884.6**	**884.6**	**884.6**	**884.6**	**884.6**
Expenses					
Program Expenses					
Seasonal and Special Events	45.0	45.0	45.0	45.0	45.0
Exhibitions	50.0	50.0	50.0	50.0	50.0
Shuttle Service	140.9	140.9	140.9	140.9	140.9
Program Expenses	**235.9**	**235.9**	**235.9**	**235.9**	**235.9**
General & Administrative					
Salaries	378.7	378.7	378.7	378.7	378.7
Benefits	113.8	113.8	113.8	113.8	113.8
HR Expenses	**492.4**	**492.4**	**492.4**	**492.4**	**492.4**
Facilities	28.4	28.4	28.4	28.4	28.4
Utilities	17.1	17.1	17.1	17.1	17.1
Insurance	21.0	21.0	21.0	21.0	21.0
Security	63.9	63.9	63.9	63.9	63.9
Building Expenses	**130.4**	**130.4**	**130.4**	**130.4**	**130.4**
Marketing	40.2	48.2	48.2	48.2	48.2
Development	11.2	12.2	12.2	12.2	12.2
IT	14.1	14.1	14.1	14.1	14.1
Other Admin.	49.5	50.0	50.0	50.0	50.0
Other Expenses	**115.0**	**124.6**	**124.6**	**124.6**	**124.6**
Total G&A Expense	**737.8**	**747.4**	**747.4**	**747.4**	**747.4**
Total "Cash" Expense	**973.7**	**983.3**	**983.3**	**983.3**	**983.3**
Capital Expenditure / Reserve	9.7	9.8	9.8	9.8	9.8
Free Cash Flow Surplus/(Gap)	**(89.1)**	**(98.7)**	**(98.7)**	**(98.7)**	**(98.7)**
Potential Fundraising Mix					
Target Annual Fundraising	89.1	98.7	98.7	98.7	98.7
Surplus / (Gap)	—	—	—	—	—

Source: AEA Consulting projections.

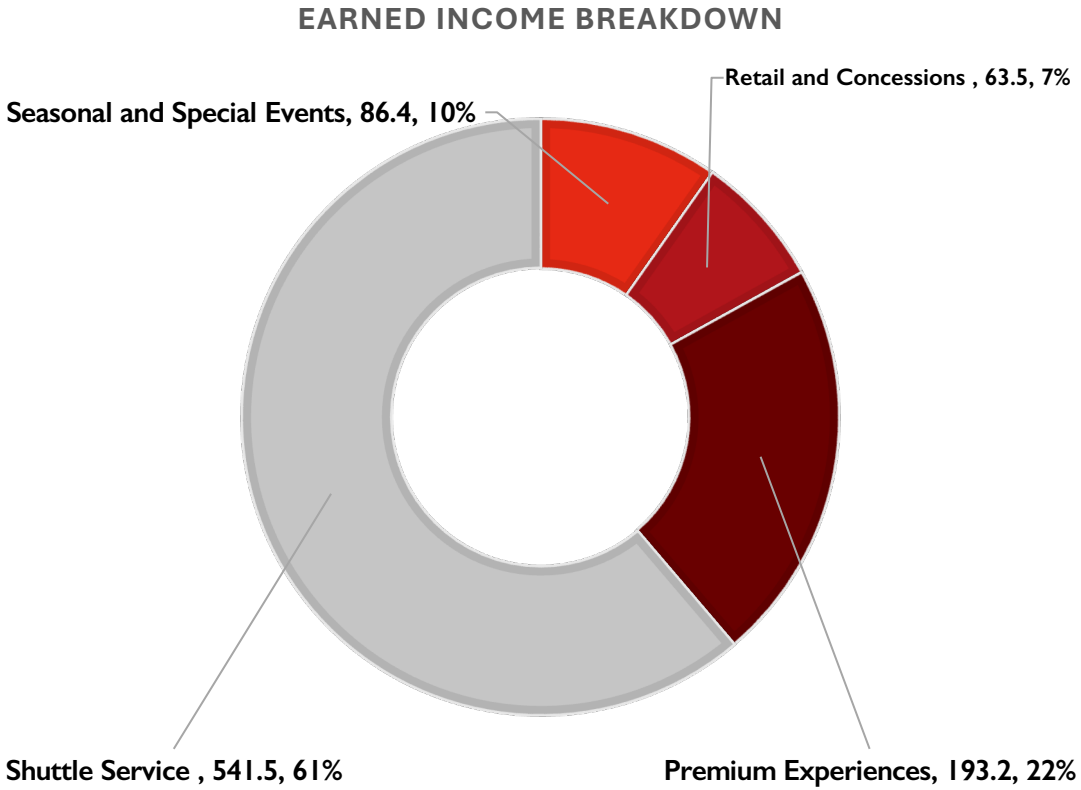
Summary of Projected Financial Results | Off-Site Visitor Center
Earned Income

The base case operating year earned income is projected to be $884,600

Earned Revenue for Star Axis is generated from:

- Shuttle Service: 61% ($541,500)
- Premium Experiences (overnight stays): 22% ($193,200)
- Seasonal and Special Events: 10% ($86,400)
- Retail and Concessions: 7% ($63,530)

Note: The Shuttle Service would only be available in the case of an off-site visitor center. If the visitor center is on-site, it is assumed that people will drive themselves.



Premium Experiences

Total projected Premium Experiences Income: $193,200 / year

Assumptions

- Cost of overnight experience at Element House priced at $250, which aligns to DIA's *Lightning Field*, given the similarity of the model
- Maximum capacity is 6 people per night, but occupancy rate will be closer to 70% assuming approximately 4 people come per night
- Operating 184 days a year, seasonally, which aligns to DIA's *Lightning Field*

Metric	Assumption	Year 1	Year 2	Year 3	Year 4	Year 5
Available nights / year	184 nights	184	184	184	184	184
Total capacity per night	6 guests	6	6	6	6	6
Occupancy rate	70%	70%	70%	70%	70%	70%
Annual premium visitors	—	773	773	773	773	773
Average ticket price	$250 / guest	$250	$250	$250	$250	$250
Total Annual Revenue	**—**	**$193,200**	**$193,200**	**$193,200**	**$193,200**	**$193,200**

Source: Star Axis Visitor Center Financial Model v1 – Premium Experiences tab.

Shuttle Service

Total projected Shuttle Service Income (Year 3, Stable Year): $541,500 / year

Assumptions

- $25 fee per rider for a roundtrip
- 3 roundtrip shuttle trips per day, aligning with 3 tours a day
- Capacity per shuttle is 40 riders, with approximately 50% capacity filled
- Visitors would have to take the shuttle from the Visitor Center to get to Star Axis, given lack of parking on site.

Shuttle Metric	Assumption	Year 1	Year 2	Year 3	Year 4	Year 5
Days operating / year	361	361	361	361	361	361
Shuttles per day	2	2	2	2	2	2
Capacity per shuttle	40	40	40	40	40	40
Trips per shuttle / day	3	3	3	3	3	3
Utilization per trip	50%	50%	50%	50%	50%	50%
Riders per trip	—	20	20	20	20	20
Total Annual Riders	—	21,660	21,660	21,660	21,660	21,660
Shuttle fee per rider	$25	$25	$25	$25	$25	$25
Annual Shuttle Revenue	—	$541,500	$541,500	$541,500	$541,500	$541,500

Source: Star Axis Visitor Center Financial Model v1 – Shuttle Service tab.

Special Events & Seasonal Programming

Total projected Special Events and Seasonal Programming Income (Year 3, Stable Year): $86,400

Assumptions

- Focused on celestial happenings (e.g. spring equinox, summer solstice, etc.) about 15 per year
- Higher capacity than tours given "special event" with 120 seats available
- Average ticket price: $80, based on selected benchmarks and ticket price for special events. Would include food and beverages and access to a special activation and program

Metric	Assumption	Year 1	Year 2	Year 3	Year 4	Year 5
Number of seasonal events / year	15 events	15	15	15	15	15
Total venue capacity per event	120 seats	120	120	120	120	120
Occupancy rate	60%	60%	60%	60%	60%	60%
Attendees per event	72 attendees	72	72	72	72	72
Total annual attendees	—	1,080	1,080	1,080	1,080	1,080
Average ticket price	$80 / ticket	$80	$80	$80	$80	$80
Total Annual Revenue	**—**	**$86,400**	**$86,400**	**$86,400**	**$86,400**	**$86,400**

Benchmark	Type	Avg Ticket
NM Dark Sky Parks (Chaco, Capulin, El Morro)	Public star party	$0
Chinati Foundation Solstice viewing	Public viewing	$0
NM Museum of Natural History (evening program)	Museum mid-tier	$35
Typical museum night w/ astronomer	Museum mid-tier	$45
Cleveland Museum of Art — Solstice	Premium museum gala	$150
The Lightning Field (Dia) — overnight	Land art destination	$250
James Turrell's Roden Crater — private access	Land art premium	$3,500
Average		**$569**
Avg ex. Roden Crater outlier		**$80**

Source: Star Axis Visitor Center Financial Model v1 – Special Events tab.

Retail & Concessions

Total projected Retail and Concessions Income (Year 3, Stable Year): $63,530 / year

Assumptions

- Average transaction size: $20 (includes basic concessions and/or some light merchandise)
- Because light concessions and merch will be offered, the cost of goods sold is 45%
- 25% conversion to buyers given limited options nearby for F&B and length of journey to get to Star Axis

Metric	Assumptions	Year 1	Year 2	Year 3	Year 4	Year 5
Base annual general attendance	30,685 visitors	30,685	30,685	30,685	30,685	30,685
Other visitors (special events)	1,080 visitors	1,080	1,080	1,080	1,080	1,080
Conversion rate to buyers	25%	25%	25%	25%	25%	25%
Total annual buyers	—	7,941	7,941	7,941	7,941	7,941
Average transaction size	$20	$20	$20	$20	$20	$20
Gross revenue	—	$158,825	$158,825	$158,825	$158,825	$158,825
Cost of goods sold (45%)	45%	($71,471)	($71,471)	($71,471)	($71,471)	($71,471)
Other costs (15%)	15%	($23,824)	($23,824)	($23,824)	($23,824)	($23,824)
Net Shop Contribution	—	$63,530	$63,530	$63,530	$63,530	$63,530

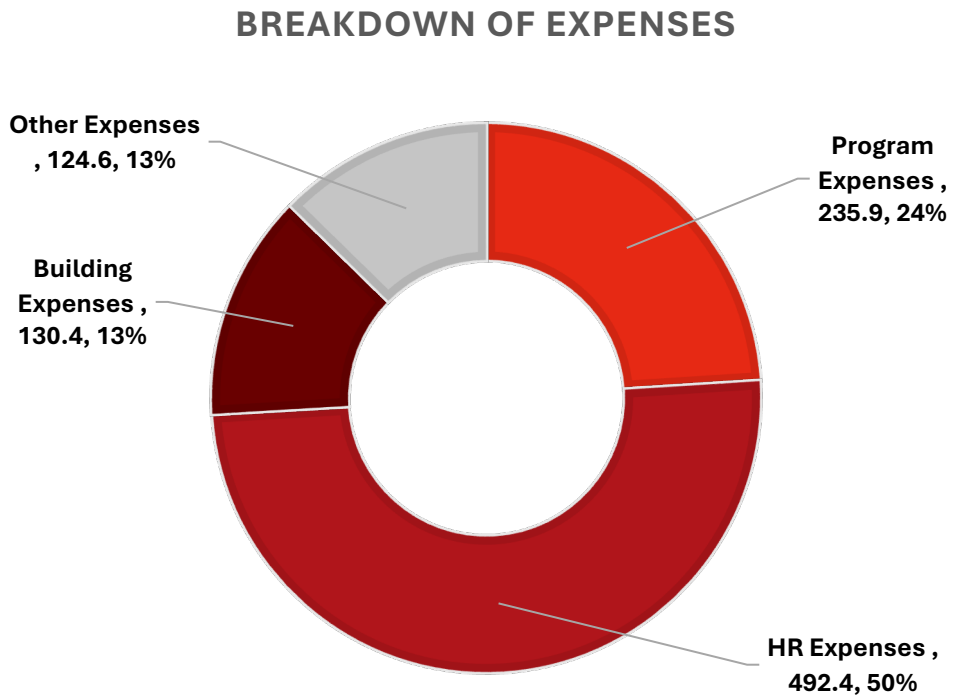
Source: Star Axis Visitor Center Financial Model v1 – Retail and Concessions tab.

Summary of Projected Financial Results | Off-Site Visitor Center Expenses

The base case operating year expenses is projected to be $983,293

Expenses for Star Axis is generated from:

- Human Resources (HR): 50% ($492,404)
- Program Expenses: 24% ($235,880)
- Building Expenses: 13% ($130,419)
- Other GA Expenses, which include admin, marketing and development: 13% ($124,589)



Programming Expenses

Total projected Programming Costs (Year 3): $95,000 / year

Assumptions

- Seasonal and special events would likely include a speaker, some type of activation, and additional food and beverage
- 1 annual exhibition
- $50/square foot for exhibition costs given smaller scale of the space and content that is aimed to complement and not detract from the main attraction, which is Star Axis itself

Cost Item	Assumption	Year 1	Year 2	Year 3	Year 4	Year 5
SPECIAL EVENTS						
Number of Events	15 events	15	15	15	15	15
Speaker Fee	$1,000 / event	$15,000	$15,000	$15,000	$15,000	$15,000
Other Costs	$2,000 / event	$30,000	$30,000	$30,000	$30,000	$30,000
Total Special Events Expense	—	**$45,000**	**$45,000**	**$45,000**	**$45,000**	**$45,000**
EXHIBITIONS						
Exhibition Sq Ft	750 sq ft					
Annual Exhibits	1 / year	1	1	1	1	1
Cost per Sq Ft	$50 / sq ft	$50	$50	$50	$50	$50
Cost per Exhibit	—	$50,000	$50,000	$50,000	$50,000	$50,000
Total Exhibition Expense	—	**$50,000**	**$50,000**	**$50,000**	**$50,000**	**$50,000**
Total Programming Expenses	—	**$95,000**	**$95,000**	**$95,000**	**$95,000**	**$95,000**

Source: Star Axis Visitor Center Financial Model v1 – Shuttle Service tab.

Shuttle Service

Total projected Shuttle Service Costs (Years 3): $140,880 / year

Assumptions

- Star Axis would run and manage its own shuttle service; if it chose to outsource it, the costs may be likely to shift
- 8-hour shifts per drive (includes any preparation that needs to occur before and after they start and end the tours)
- $25/hour wages based on market rates
- 1 driver per shift; 2 shifts per day

	Assumption	Year 1	Year 2	Year 3	Year 4	Year 5
FUEL						
Fuel per shuttle / day	$40.00 / day					
Annual Fuel Cost	—	**$28,880**	**$28,880**	**$28,880**	**$28,880**	**$28,880**
INSURANCE						
Insurance per vehicle	$6,000 / yr					
Annual Insurance Cost	—	**$12,000**	**$12,000**	**$12,000**	**$12,000**	**$12,000**
MAINTENANCE						
Maintenance per vehicle	$4,000 / yr					
Annual Maintenance Cost	—	**$8,000**	**$8,000**	**$8,000**	**$8,000**	**$8,000**
DRIVERS						
Annual Driver Cost	—	$92,000	$92,000	$92,000	$92,000	$92,000
Total Annual Shuttle Cost	—	**$140,880**	**$140,880**	**$140,880**	**$140,880**	**$140,880**

Source: Star Axis Visitor Center Financial Model v1 – Shuttle Service tab.

HR Expenses

Total Projected HR Costs (Year 3): $492,404 / year

Assumptions

- Star Axis staff focusing on operations and public programs will total 4 administrative FTE, plus part-time staff for cleaning, security, and tour guide / docent roles
- Benefits are assumed at 35% of employee salary
- Docents would be paid at $18/ hour

HR Cost Item	Year 1	Year 2	Year 3	Year 4	Year 5
Total FTE	**4**	**4**	**4**	**4**	**4**
Total Salaries	$325,000	$325,000	$325,000	$325,000	$325,000
Total Benefits (35%)	$113,750	$113,750	$113,750	$113,750	$113,750
Docents / Tour Guide Salaries	$53,654	$53,654	$53,654	$53,654	$53,654
Total HR Costs	**$492,404**	**$492,404**	**$492,404**	**$492,404**	**$492,404**

Source: AEA Consulting projections.

HR Expenses

Staffing Structure Assumptions

Full-time Staff

Administration

- Executive Director
- Head of Development and Marketing

Exhibitions and Public Programs

- Site Manager

Education & Visitor Experience

- Education and Visitor Services Manager

Part-Time

Tours

- Docent / Tour Guide (2)

Cleaning & Security

- Cleaning Staff (1)
- Security Staff (2)

Source: AEA Consulting projections.

Building Costs

Total Projected Annual Building Costs: $130,419

Assumptions

Based on the space plan on page 5, we have assumed the following as multiples of the square footage:

- Cleaning supplies: 1.0x
- Repair & maintenance: 1.5x
- Utilities: 3x based on regional benchmark averages scale
- Security Infrastructure: 2.5x
- Insurance costs are based on benchmark costs for similar sites

Cleaning Staff

- Assumed 3 hours per shift; 1 shifts per day; 2 people per shift
- $16/hour wage

Security Staff

- Assumed 6 hours per shift
- 1 guard per shift
- $18/hour wage

	Year 1	Year 2	Year 3	Year 4	Year 5
FACILITIES					
Cleaning Supplies	$5,688	$5,688	$5,688	$5,688	$5,688
Cleaning Staff	$14,220	$14,220	$14,220	$14,220	$14,220
Repair & Maintenance	$8,531	$8,531	$8,531	$8,531	$8,531
Annual Total Facilities	**$28,438**	**$28,438**	**$28,438**	**$28,438**	**$28,438**
Utilities	$17,063	$17,063	$17,063	$17,063	$17,063
Insurance	$21,020	$21,020	$21,020	$21,020	$21,020
SECURITY					
Security Staff	$49,680	$49,680	$49,680	$49,680	$49,680
Security Infrastructure	$14,219	$14,219	$14,219	$14,219	$14,219
Annual Total Security	**$63,899**	**$63,899**	**$63,899**	**$63,899**	**$63,899**
Total Annual Building Costs	**$130,419**	**$130,419**	**$130,419**	**$130,419**	**$130,419**

Source: AEA Consulting projections.

Other Administrative Costs

Total Projected Annual Administrative Costs: Year 1: $115,003 | Years 2–5: $124,589

Assumptions

- Administrative and Professional Services (legal, accounting, consulting) are represented as 5% of overall budget
- $6,000 for administrative supplies
- Marketing expenses are based on the benchmark median and IT expenses are based on the benchmark minimum.
- Development expenses are based on the benchmark median as percent of total expenses (11%), deducted HR costs counted elsewhere.
- Salaries are not included.

Cost Item	Year 1	Year 2	Year 3	Year 4	Year 5
MARKETING					
Marketing Baseline	$40,199	$48,239	$48,239	$48,239	$48,239
Annual Total Marketing	**$40,199**	**$48,239**	**$48,239**	**$48,239**	**$48,239**
DEVELOPMENT					
Total Development Budget (11% of budget)	$ 106,165	$ 107,210	$ 107,210	$ 107,210	$ 107,210
Less: Development Salaries	($95,000)	($95,000)	($95,000)	($95,000)	($95,000)
Annual Total Development	**$ 11,165**	**$ 12,210**	**$ 12,210**	**$ 12,210**	**$ 12,210**
ADMIN & PROFESSIONAL SERVICES					
Admin Supplies	$6,000	$6,000	$6,000	$6,000	$6,000
Professional Services (5% of budget)	$ 43,493	$ 43,994	$ 43,994	$ 43,994	$ 43,994
Annual Total Admin & Prof. Services	**$49,493**	**$49,994**	**$49,994**	**$49,994**	**$49,994**
IT					
Annual Total IT	**$14,146**	**$14,146**	**$14,146**	**$14,146**	**$14,146**
Total Annual Administrative Costs	**$ 115,003**	**$ 124,589**	**$ 124,589**	**$ 124,589**	**$ 124,589**

Source: AEA Consulting projections.

Administrative Expenses

Benchmarks

Marketing

Marketing assumptions are based on the average of the set of benchmarks below with available information. It is important to note that this may need to better align with available State resources for marketing and may require some additional investment upfront to generate expectation and excitement around the opening of the site to the public.

Development

The Development assumptions were calculated based on the available information for the benchmarks below and their spend on fundraising. The average percentage spend of total expenses was used as the base assumption for the model.

	Location	Operating Expenses	Earned Revenue	Advertising & promotion expenses	Professional Fees	Professional Fees/Operating Expenses (%)	Office Expense	IT	Fundraising Expenses	Fundraising Expenses as % of total
Chinati Foundation	Marfa, TX	$ 3,707,604	$ 262,170	$ 3,426	$ 138,895	4%	$ 44,019	$ 14,146	$ 419,300	11%
Triple Aught Foundation	New York, NY	$ 1,339,180	$ 67,659	$ 710	$ 134,151	10%	$ 7,753			
Holt Smithson Foundation	Santa Fe, NM	$ 983,989	$ 69,199		$ 51,781	5%				
Judd Foundation	New York, NY	$ 6,614,881	$ 295,957	$ 82,005	$ 123,265	2%	$ 222,408		$ 694,378	10%
Average				$ 28,714	$ 112,023	5%	$ 91,393	$ 14,146	$ 556,839	11%

AEA Consulting

Key Risks and Sensitivities

07

Key Risks & Sensitivities

Remoteness of the Location and Lack of Sufficient Visitors

Star Axis' remote location can pose the biggest challenge when it comes to visitorship. While there is a culture of driving in New Mexico, people may still feel disinclined to drive all the way to the site. Making sure that the shuttle service is reliable and accessible may help make it easier for people to visit. Investing in a Visitor Center near the site, but in a location that is visible and more accessible could help draw people to the site.

Accessibility

Star Axis as is originally conceived is not ADA accessible. Adapting the site to be ADA-compliant would require significant modifications to the work, likely changing the intended nature of it. While there may be ways of making other related spaces accessible, like an off-site visitor center where people can still learn about Star Axis, not making the site itself accessible may pose liability issues and could result in public backlash. Ensuring that there are other ways in which people can engage with the work or learn about it while also being transparent about the physical challenges of experiencing the site is important. Alternatively, conversations with the artist should be had to discuss the implications of making adaptations.

Marketing

A unique experience like Star Axis should be accompanied by a robust marketing strategy that not only targets cultural tourists, but also locals. The marketing strategy should include an approach to social media, media/press relations, and advertising. Targeted marketing for locals is key to ensure repeat visitation, while marketing outside of Santa Fe, Albuquerque, Las Vegas, and New Mexico generally is also important to draw in visitors from neighboring cities and states. Leveraging partnerships with tour companies focused on art tours, magazines, hotels and advertising through them and other similar institutions may also broaden Star Axis' reach.

Political Challenges

In the case that Star Axis were acquired by the State, political challenges could have an impact on the site's bottom line. Ensuring that Star Axis is delivering positive social and economic impact, in line with the needs and desires of the community, through its programming and exhibitions can help demonstrate the value of continuing to fund the organization.

Key Risks & Sensitivities

Leveraging Cultural Tourism to Ensure Visitation

Star Axis' long-term viability depends in part on successfully embedding itself within New Mexico’s broader cultural tourism ecosystem. New Mexico draws significant art and culture tourists — anchored by institutions in Santa Fe and Taos — but Star Axis must actively position itself as a destination on established cultural itineraries rather than relying only on organic discovery. Failure to build relationships with tour operators, cultural travel agencies, hotel concierges, and regional arts networks risks leaving visitation below the thresholds required to sustain operations. Alignment with existing trails such as the New Mexico Arts Trail or regional astronomy and dark-sky tourism circuits could meaningfully expand reach as well.

Benchmarks were selected to represent a variety of ownership, operating, and visitor models as well as varying levels of earned income sufficiency and accessibility

Criteria	The Lightning Field	City	Ghost Ranch	Stonehenge / English Heritage	Chaco Culture NHP	McDonald Observatory
Ownership Entity	Dia Art Foundation (Nonprofit)	Triple Aught Foundation (Nonprofit)	Presbyterian Church Foundation	Historic England (Government Agency)	Federal Government (NPS)	University of Texas at Austin (State)
Operating Entity	Dia Art Foundation (Nonprofit)	Triple Aught Foundation (Nonprofit)	National Ghost Ranch Foundation (Nonprofit)	English Heritage (Registered Charity)	National Park Service (Federal)	UT Austin College of Natural Sciences
Governance Structure	Dia Foundation Board; no formal site-specific body	Triple Aught Foundation Board	21-member Board of Directors; leased from Church	7 to 15 Trustees appointed by Historic England; 10-to-20-year Property Licence	NPS; tribal consultation committee	Advisory Board of Visitors (no fiduciary role); UT oversight
Land Protection Mechanism	Conservation easement on surrounding ranch land (State of New Mexico)	Part of Bureau of land Management National Monument land	Conservation easements on 6,000 acres (NM Land Conservancy)	Property Licence from Historic England; Secretary of State guardianship	Federal ownership; Adjacent Bureau of Land Management protection program	University landholding; IDA Dark Sky Reserve
State / Government Role	NM State provided $500K easement on landowner's property	Basin and Range National Monument was created by Presidential Proclamation	NM State provided $921K easement funding (phase 1)	Core owner; Historic England appoints trustees; funds capital	Primary owner and operator; federal budget appropriation	State university owner; state research and operating support
Primary Revenue Sources	Philanthropy; admission fees	Philanthropy; admission fees	Program service (~60%); philanthropy (~25%)	Membership; admissions; retail and catering; philanthropy	Entrance fees; federal appropriations	Admissions and programs; gifts; institutional funding (UT)
Earned Income Self-Sufficiency	Low: fees cover a fraction of costs	Low: fees cover a fraction of costs	Moderate: earned income leads; deficit in FY2024	High: fully self-funding since FY2023	Low: federal appropriations dominant	Low: admissions cover a fraction; relies on philanthropy
Access Model	Reservation only; 1,098 maximum visitors/year; overnight only	Reservation only; limited to 3-hour visits, 6 visitors per day, November to May	Reservation; 300+ programs; overnight accommodation	Timed ticketing; ~1.3M visitors/year; exclusive evening access available	Open with entry fee; ~42K visitors/year; camping	Ticketed; 75,000+ visitors/year; no on-site lodging
Remoteness & Infrastructure	Very remote; cabin with meals; staff transport from Quemado	Very remote with no habitable structures	Remote; full lodging, dining, museums, retail on-site	Accessible; modern visitor center; shuttle; café, retail	Remote; poor roads; visitor center; camping; no lodging	Remote; visitor center; no on-site lodging

See Appendix for more details on benchmarks.

Source: AEA Analysis

AEA Consulting

Alternative Ownership Model & Financial Implications

08

AEA Consulting

Privately-Owned and Operated

Summary of Projected Financial Results
Privately-Owned and Operated

This scenario assumes a lighter organizational structure, where the Element House and overnight stays would be the focus of the experience, with seasonal/special events occurring a few times per year. This model would be like DIA's *Lightning Field*.

In the base operating year (year 3) for Star Axis if privately-owned and operated with a lighted structure, after elements of the operating model have stabilized, it is projected to have **$277,800** of operating expenses, with associated earned revenues of **$279,600.** ***A total operating surplus of $1,800 is projected in the base year case.***

In Year 1, a small gap of ($5,100) is projected in Year 1 as marketing costs are higher than in subsequent years, reducing to ($1,700) in Year 2 and turning to a surplus of $1,800 from Year 3 onwards.

It is assumed that there will be a capital expenditure/reserve fund of $2,800 annually.

All expense and revenue drivers are detailed in the following section.

Inflation is excluded from all calculations.

$ in 000's	1	2	3	4	5
Income					
Seasonal and Special Events	86.4	86.4	86.4	86.4	86.4
Premium Experiences	193.2	193.2	193.2	193.2	193.2
Total Earned Income	**279.6**	**279.6**	**279.6**	**279.6**	**279.6**
Expenses					
Program Expenses					
Seasonal and Special Events	45.0	45.0	45.0	45.0	45.0
Program Expenses	**45.0**	**45.0**	**45.0**	**45.0**	**45.0**
General & Administrative					
Salaries	115.0	115.0	115.0	115.0	115.0
Benefits	40.3	40.3	40.3	40.3	40.3
HR Expenses	**155.3**	**155.3**	**155.3**	**155.3**	**155.3**
Facilities	12.7	12.7	12.7	12.7	12.7
Utilities	4.6	4.6	4.6	4.6	4.6
Insurance	5.7	5.7	5.7	5.7	5.7
Security	30.7	30.7	30.7	30.7	30.7
Building Expenses	**53.7**	**53.7**	**53.7**	**53.7**	**53.7**
Marketing	24.0	20.6	17.1	17.1	17.1
Development	0.0	0.0	0.0	0.0	0.0
IT	0.0	0.0	0.0	0.0	0.0
Other Admin.	6.8	6.7	6.7	6.7	6.7
Other Expenses	**30.8**	**27.3**	**23.8**	**23.8**	**23.8**
Total G&A Expense	**239.7**	**236.3**	**232.8**	**232.8**	**232.8**
Total "Cash" Expense	**284.7**	**281.3**	**277.8**	**277.8**	**277.8**
Capital Expenditure / Reserve	2.8	2.8	2.8	2.8	2.8
Free Cash Flow Surplus/(Gap)	**(5.1)**	**(1.7)**	**1.8**	**1.8**	**1.8**
Potential Fundraising Mix					
Target Annual Fundraising	5.1	1.7	1.8	1.8	1.8
Surplus / (Gap)	—	—	3.7	3.7	3.7

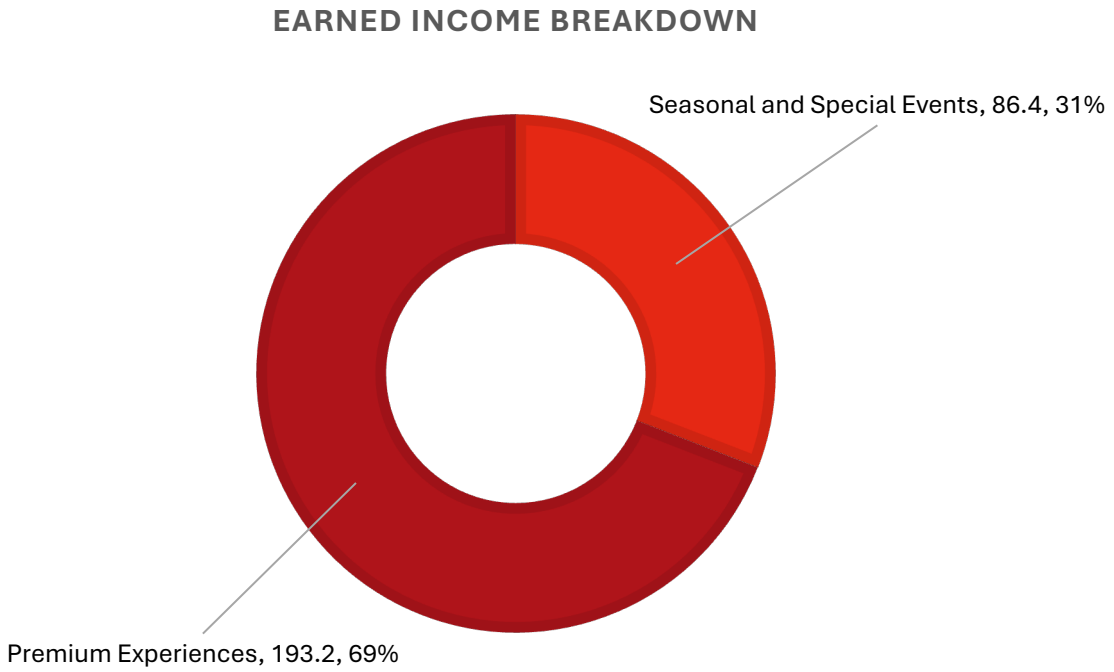
Source: AEA Consulting projections.

Summary of Projected Financial Results | Privately-Owned and Operated Earned Income

The base case operating year earned income is projected to be $279,600

Earned Revenue for Star Axis is generated from:

- Premium Experiences (overnight stays): 69% ($193,200)
- Seasonal and Special Events: 31% ($86,400)

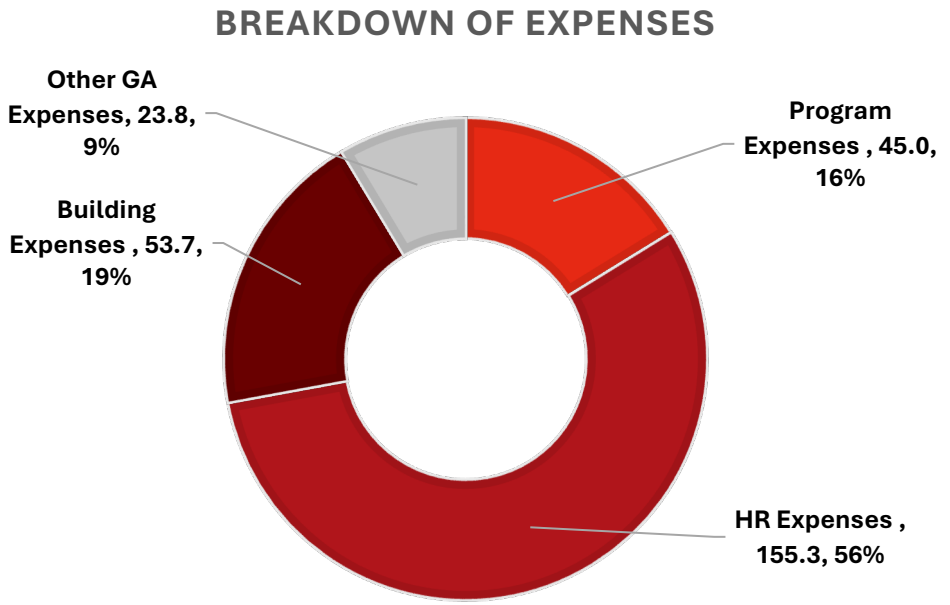


Summary of Projected Financial Results | Privately-Owned and Operated Expenses

The base case operating year expenses is projected to be $277,762

Expenses for Star Axis is generated from:

- Human Resources (HR): 56% ($155,250)
- Building Expenses: 19% ($53,706)
- Other GA Expenses, which include admin, marketing and development: 9% ($23,806)
- Program Expenses: 16% ($45,000)



HR Expenses

Total Projected HR Costs (Year 3): $155,250 / year

Assumptions

- Star Axis staff focusing on operations and will total 1.5 administrative FTE, plus part-time staff for cleaning (1) and security (1)
- Benefits are assumed at 35% of employee salary

HR Cost Item	Year 1	Year 2	Year 3	Year 4	Year 5
Total FTE	**1.5**	**1.5**	**1.5**	**1.5**	**1.5**
Total Salaries	$115,000	$115,000	$115,000	$115,000	$115,000
Total Benefits (35%)	$40,250	$40,250	$40,250	$40,250	$40,250
Total HR Costs	**$155,250**	**$155,250**	**$155,250**	**$155,250**	**$155,250**

Source: AEA Consulting projections.

HR Expenses

Staffing Structure Assumptions

Full-time Staff

Exhibitions and Public Programs

- Site Manager

Part-Time

Administration

- Executive Director

Cleaning & Security

- Cleaning Staff (1)
- Security Staff (1)

Source: AEA Consulting projections.

Building Costs

Total Projected Annual Building Costs: $53,706

Assumptions

Based on the square footage of the Element House (1,543 square feet), we have assumed the following as multiples of the square footage:

- Cleaning supplies: 1.0x
- Repair & maintenance: 1.5x
- Utilities: 3x based on regional benchmark averages scale
- Security Infrastructure: 2.5x
- Insurance costs are based on benchmark costs for similar sites

Cleaning Staff

- Assumed 3 hours per shift; 1 shifts per day; 1 person per shift
- $16/hour wage

Security Staff

- Assumed 8 hours per shift
- 1 guard per shift
- $18/hour wage

	Year 1	Year 2	Year 3	Year 4	Year 5
FACILITIES					
Cleaning Supplies	$1,543	$1,543	$1,543	$1,543	$1,543
Cleaning Staff	$8,832	$8,832	$8,832	$8,832	$8,832
Repair & Maintenance	$2,315	$2,315	$2,315	$2,315	$2,315
Annual Total Facilities	**$12,690**	**$12,690**	**$12,690**	**$12,690**	**$12,690**
Utilities	$4,629	$4,629	$4,629	$4,629	$4,629
Insurance	$5,703	$5,703	$5,703	$5,703	$5,703
SECURITY					
Security Staff	$26,827	$26,827	$26,827	$26,827	$26,827
Security Infrastructure	$3,858	$3,858	$3,858	$3,858	$3,858
Annual Total Security	**$30,685**	**$30,685**	**$30,685**	**$30,685**	**$30,685**
Total Annual Building Costs	**$53,706**	**$53,706**	**$53,706**	**$53,706**	**$53,706**

Source: AEA Consulting projections.

Other Administrative Costs

Total Projected Annual Administrative Costs: Year 1: $32,788 | Year 2: $29,297 | Years 3–5: $25,806

Assumptions

- Administrative and Professional Services (legal, accounting, consulting) are represented as 2% of overall budget, aligning with the minimum spend of the benchmarks
- $1,000 for administrative supplies
- Marketing expenses are based on the benchmark minimum
- Professional services are 2% of the total budget
- $2,000 for IT expenses
- Salaries are not included

Cost Item	Year 1	Year 2	Year 3	Year 4	Year 5
MARKETING					
Marketing Baseline	$23,982	$20,556	$17,130	$17,130	$17,130
Annual Total Marketing	**$23,982**	**$20,556**	**$17,130**	**$17,130**	**$17,130**
ADMIN & PROFESSIONAL SERVICES					
Admin Supplies	$1,500	$1,500	$1,500	$1,500	$1,500
Professional Services (2% of budget)	$5,306	$5,241	$5,176	$5,176	$5,176
Annual Total Admin & Prof. Services	**$6,806**	**$6,741**	**$6,676**	**$6,676**	**$6,676**
IT					
Annual Total IT	**$2,000**	**$2,000**	**$2,000**	**$2,000**	**$2,000**
Total Annual Administrative Costs	**$32,788**	**$29,297**	**$25,806**	**$25,806**	**$25,806**

Source: AEA Consulting projections.

Administrative Expenses

Benchmarks

Marketing

Marketing assumptions are based on the average of the set of benchmarks below with available information. It is important to note that this may need to better align with available State resources for marketing and may require some additional investment upfront to generate expectation and excitement around the opening of the site to the public.

Development

No development (fundraising) costs are assumed in the privately-owned and operated model. The private owner is expected to generate sufficient earned revenue to cover operating costs without relying on philanthropic fundraising as a structural budget line item.

	Location	Operating Expenses	Earned Revenue	Advertising & promotion expenses	Professional Fees	Professional Fees/Operating Expenses (%)	Office Expense	IT	Fundraising Expenses	Fundraising Expenses as % of total	Year
Chinati Foundation	Marfa, TX	$ 3,707,604	$ 262,170	$ 3,426	$ 138,895	4%	$ 44,019	$ 14,146	$ 419,300	11%	2024
Triple Aught Foundation	New York, NY	$ 1,339,180	$ 67,659	$ 710	$ 134,151	10%	$ 7,753				2024
Holt Smithson Foundation	Santa Fe, NM	$ 983,989	$ 69,199		$ 51,781	5%					2024
Judd Foundation	New York, NY	$ 6,614,881	$ 295,957	$ 82,005	$ 123,265	2%	$ 222,408		$ 694,378	10%	2023/2024
Average				$ 28,714	$ 112,023	5%	$ 91,393	$ 14,146	$ 556,839	11%	
Median				$ 3,426	$ 128,708	5%	$ 44,019	$ 14,146	$ 556,839		
Min				$ 710	$ 51,781	2%	$ 7,753	$ 14,146	$ 419,300		

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State-Owned and Operated Onsite Visitor Center

Summary of Projected Financial Results
On-Site Visitor Center

In the base operating year (year 3) for Star Axis with an on-site Visitor Center, after elements of the operating model have stabilized, it is projected to have **$842,400** of operating expenses, with associated earned revenues of **$772,700.** ***A total operating gap of ($69,700) is projected in the base year case.***

In Year 1, a gap of ($60,100) is also projected as Year 1 marketing costs are lower than in subsequent years.

It is assumed that there will be a capital expenditure/reserve fund of $8,400 annually.

All expense and revenue drivers are detailed in the following section.

Inflation is excluded from all calculations.

$ in 000's	1	2	3	4	5
Income					
Seasonal and Special Events	86.4	86.4	86.4	86.4	86.4
Retail and Concessions	63.5	63.5	63.5	63.5	63.5
Premium Experiences	193.2	193.2	193.2	193.2	193.2
Parking Fee	429.6	429.6	429.6	429.6	429.6
Total Earned Income	**772.7**	**772.7**	**772.7**	**772.7**	**772.7**
Expenses					
Program Expenses					
Seasonal and Special Events	45.0	45.0	45.0	45.0	45.0
Exhibitions	50.0	50.0	50.0	50.0	50.0
Program Expenses	**95.0**	**95.0**	**95.0**	**95.0**	**95.0**
General & Administrative					
Salaries	378.7	378.7	378.7	378.7	378.7
Benefits	113.8	113.8	113.8	113.8	113.8
HR Expenses	**492.4**	**492.4**	**492.4**	**492.4**	**492.4**
Facilities	28.4	28.4	28.4	28.4	28.4
Utilities	17.1	17.1	17.1	17.1	17.1
Insurance	21.0	21.0	21.0	21.0	21.0
Security	63.9	63.9	63.9	63.9	63.9
Building Expenses	**130.4**	**130.4**	**130.4**	**130.4**	**130.4**
Marketing	40.2	48.2	48.2	48.2	48.2
Development	11.2	12.2	12.2	12.2	12.2
IT	14.1	14.1	14.1	14.1	14.1
Other Admin.	49.5	50.0	50.0	50.0	50.0
Other Expenses	**115.0**	**124.6**	**124.6**	**124.6**	**124.6**
Total G&A Expense	**737.8**	**747.4**	**747.4**	**747.4**	**747.4**
Total "Cash" Expense	**832.8**	**842.4**	**842.4**	**842.4**	**842.4**
Capital Expenditure / Reserve	8.3	8.4	8.4	8.4	8.4
Free Cash Flow Surplus/(Gap)	**(60.1)**	**(69.7)**	**(69.7)**	**(69.7)**	**(69.7)**
Potential Fundraising Mix					
Target Annual Fundraising	60.1	69.7	69.7	69.7	69.7
Surplus / (Gap)	—	—	—	—	—

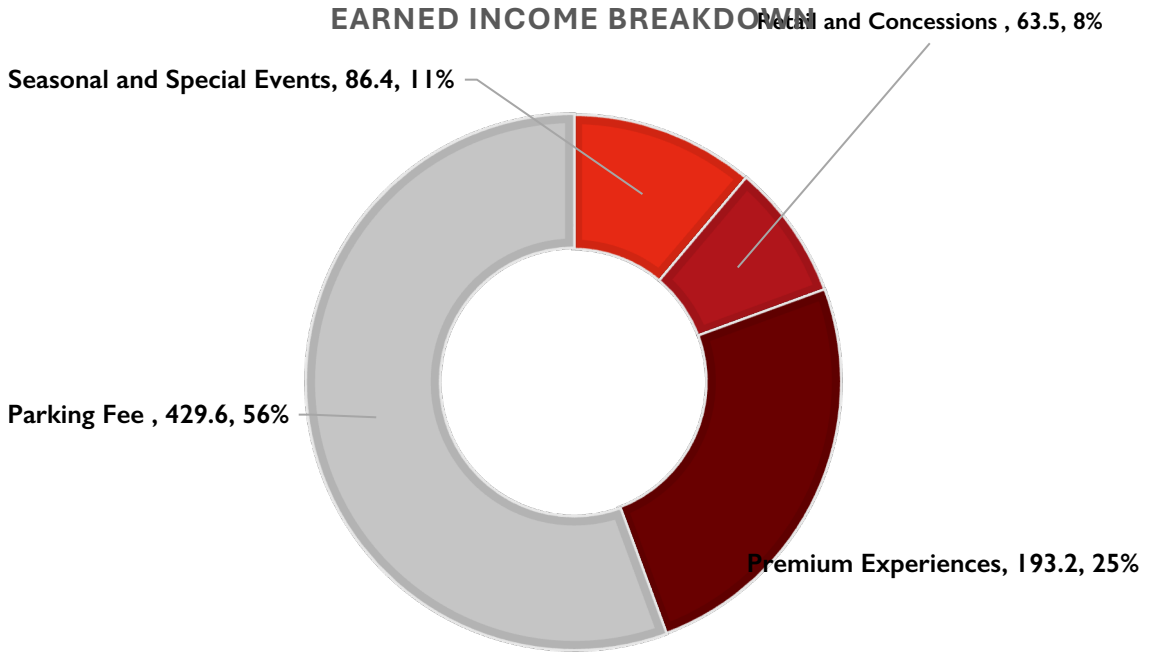
Source: AEA Consulting projections.

Summary of Projected Financial Results | On-Site Visitor Center
Earned Income

The base case operating year earned income is projected to be $772,720

Earned Revenue for Star Axis is generated from:

- Premium Experiences (overnight stays): 25% ($193,200)
- Parking Fee: 56% ($429,590)
- Seasonal and Special Events: 11% ($86,400)
- Retail and Concessions: 8% ($63,530)



Parking Fee

Total projected Parking Revenue (Years 3): $429,590 / year

Assumptions

- Star Axis would charge a parking fee on property of $35, based on benchmarks
- Assumes 2.5 people per car and approximately 85 visitors a day, including people visiting the site for a tour and those that are not doing a tour (see attendance figures on page 8)

Assumptions	1	2	3	4	5
Days operating per year	361	361	361	361	361
Cost per car	$35	$35	$35	$35	$35
Total visitors per day	85	85	85	85	85
Number of cars per day	34	34	34	34	34
Annual Parking Revenue	**$429,590**	**$429,590**	**$429,590**	**$429,590**	**$429,590**

Comparable Sites — Parking / Entrance Fee Benchmarks

Site	Type	Fee	Basis
National Monuments (avg)	Federal / NPS	$20	per vehicle
Colorado National Monument	Federal / NPS	$25	per vehicle (7-day)
Sunset Crater Volcano NM	Federal / NPS	$25	per vehicle (7-day)
National Parks (most expensive)	Federal / NPS	$35	per vehicle (7-day)
Padre Island National Seashore	Federal / NPS	$10	per vehicle (1-day)
NM State Parks (all)	State / NM	$5	per vehicle (day-use)
AZ State Parks (avg of range)	State / AZ	$18	per vehicle (day-use)
CA State Parks (avg of typical)	State / CA	$15	per vehicle (day-use)
Anza-Borrego Desert SP (CA)	State / CA	$10	per vehicle (day-use)
Oregon State Parks	State / OR	$10	per vehicle (day-use)
Average		$17	

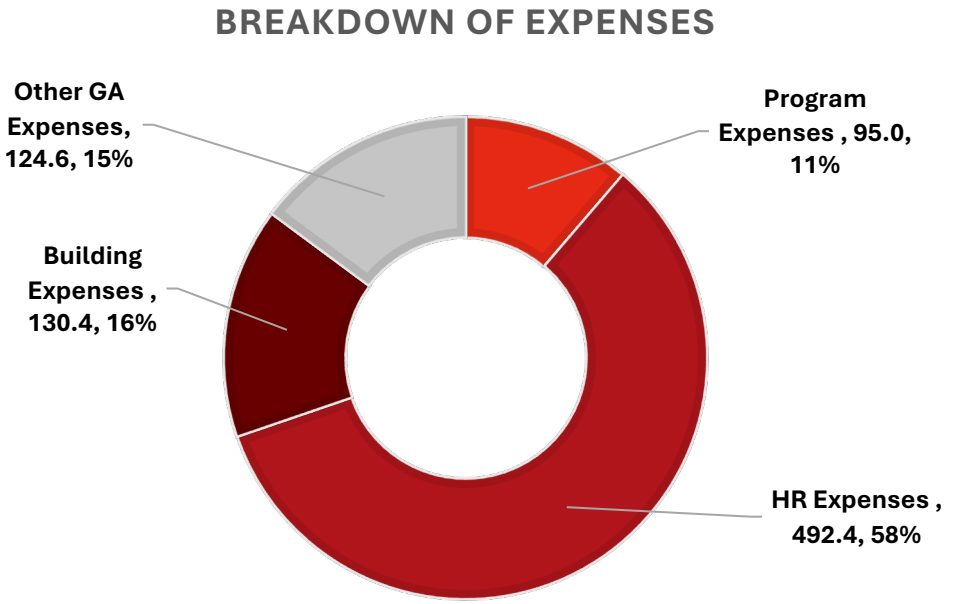
Source: Star Axis Visitor Center Financial Model v1 – Shuttle Service tab.

Summary of Projected Financial Results | On-Site Visitor Center Expenses

The base case operating year expenses is projected to be $842,413

Expenses for Star Axis is generated from:

- Human Resources (HR): 58% ($492,404)
- Building Expenses: 15% ($130,419)
- Other GA Expenses, which include admin, marketing and development: 15% ($124,589)
- Program Expenses: 11% ($95,000)



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